



Proposed Residential Development at Land East of Knowsley Lane, Knowsley

Transport Assessment

Report Control

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1. Introduction

- 1.1. Astute Transport Planning has been appointed by Hallam Land Management Ltd (hereafter referred to as Hallam Land) to provide highways and transportation advice in support of an outline planning application for a proposed residential-led development on safeguarded land east of Knowsley Lane, Knowsley.
- 1.2. The proposed development site is located within the jurisdiction of Knowsley Metropolitan Borough Council (KMBC), who act as both the local planning and highway authority. Due to the proposed development site's relative proximity to the M57 which forms part of the Strategic Road Network, National Highways (NH) is also a key consultee for this planning application.
- 1.3. This Transport Assessment (TA) provides information on the traffic and transport planning aspects of the development proposals and forms supplementary information to assist in the determination of a planning application.

Development Site

- 1.4. The proposed development site is located on land east of Knowsley Lane, Knowsley. The site is part of a safeguarded allocation identified under Policy SUE1 of the Knowsley Local Plan Core Strategy (adopted January 2016) with an estimated capacity of 1,093 dwellings. Further safeguarded land is located to the northeast, on the eastern side of Ormskirk Road. The image in **Figure 1.1** shows an approximate red line boundary for the planning application.

Figure 1.1: Proposed Development Site Location (Source: OpenStreetMap)



- 1.5. As shown, the site is bound by a mixture of existing residential properties and open land. The proposed development is located to east of the M57, south of Knowsley Village and to the west of Knowsley Park.
- 1.6. Knowsley Lane runs in an approximate north-south alignment along its western boundary and Home Farm Road runs in an approximate east-west alignment along a portion of the site's northern boundary.

Proposed Development

- 1.7. The development description for the proposed development has been included below:

Outline application, including detailed access to but not within the site, for the erection of up to 700 dwellings together with public open space, landscaping, new vehicular access junctions, active travel links, sustainable urban drainage systems and other associated works.

- 1.8. As explained later in this report, this TA has adopted a development quantum of 750 dwellings which is in excess of the quantum of development sought through this planning application. As a result, the traffic impact assessment has been undertaken on a robust basis.
- 1.9. The site is to be served by two single vehicular accesses from Knowsley Lane. Additional active travel linkages to Home Farm Road, and an active travel linkage / emergency access to Parklands are also proposed with detail of these to be reserved until a later planning application.
- 1.10. The parameters plan for the proposed development, along with an indicative masterplan, has been included as **Appendix A** of this report.

Scoping of Report

- 1.11. This TA has been prepared in accordance with guidance provided by the Ministry of Housing, Communities and Local Government (MHCLG) in their 'Travel Plans, Transport Assessment and Statements' (2014) document, as well as paying due notice to the Department for Transport's (DfT) now superseded 'Guidance on Transport Assessments' document.
- 1.12. The scope of this report has been informed by scoping correspondence and discussions with both KMBC and NH. A Transport Access and Appraisal document prepared by consultant Fore Consulting was submitted to both authorities to set out the development proposals in detail and provide a proposed scope of works. This document is provided as **Appendix B** of this report.
- 1.13. KMBC's response to this scoping document has been included as **Appendix C**.
- 1.14. WSP on behalf of National Highways provided a Transport Access and Appraisal Review, issued in March 2025, in relation to the proposed development which has been included as **Appendix D** of this report.



1.15. Following this introduction, the report provides the following information:

- **Section 2: Policy Context** - presents an overview of relevant national and regional policy and frames the context in which the proposed development will be appraised and assessed.
- **Section 3: Baseline Conditions** - provides a review of the baseline conditions in the vicinity of the proposed development site.
- **Section 4: Accessibility by Sustainable Modes of Transport** - provides a detailed review of the site's accessibility by sustainable modes of transport.
- **Section 5: Development Proposals** - details the development proposals, including the access strategy.
- **Section 6: Traffic Impact Assessment Methodology** - provides the approach and methodology adopted for the traffic impact assessment of the proposed development.
- **Section 7: Traffic Impact Assessment Results and Discussion** - reviews the results and projected vehicle trip movements of the residential development and the net change. Taken into consideration are the likely effects of the proposed development upon the operation of the surrounding transport networks.
- **Section 8: Summary and Conclusions.**



2. Policy Context

Introduction

- 2.1. This Section of the report reviews the national planning policy guidance, regional and local guidance relevant in the context of the proposed development.

National Planning Policy Framework (NPPF)

- 2.2. The National Planning Policy Framework (NPPF), originally published in March 2012 and most recently updated as of December 2024, sets out the government's planning policies for England and how these are expected to be applied. At the heart of the Framework is a presumption in favour of sustainable development.
- 2.3. As part of promoting sustainable transport, paragraph 115 of the updated NPPF states that in assessing applications for development, it should be ensured that:
- a) *'sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;*
 - b) *safe and suitable access to the site can be achieved for all users;*
 - c) *the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*
 - d) *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach'.*
- 2.4. Paragraph 116 goes on to state that, *'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe, taking into account all reasonable future scenarios'.*

Planning Practice Guidance: Travel Plans, Transport Assessments and Statements

- 2.5. In March 2014 the MHCLG published guidance on the overarching principles on Travel Plans, Transport Assessments and Transport Statements
- 2.6. Within this guidance it is specified that a Travel Plan is a long-term management strategy for integrating proposals for sustainable travel into the planning process.



2.7. It is also detailed that a Travel Plan can positively contribute to a range of benefits, including the below:

- Encouraging sustainable transport;
- Lessening traffic generation and its detrimental impacts;
- Reducing Carbon Emissions and climate impacts;
- Creating accessible, connected, and inclusive communities;
- Improving health outcomes and quality of life;
- Improving road safety; and
- Reducing the need for new development to increase existing road capacity or provide new roads.

Department for Transport (DfT) Circular 01/2022 - Strategic Road Network and the Delivery of Sustainable Development

- 2.8. Published in December 2022, the DfT Circular 01/2022 policy guides how National Highways (NH) should engage with planning authorities, shape sustainably minded development, and manage its strategic road network (SRN) to support economic growth while accommodating zero-emission vehicles and HGV drivers.
- 2.9. The policy encourages early, collaborative planning with NH to minimise delays and optimise transport solutions. It also ensures key developments properly integrate sustainable travel, EV infrastructure, and HGV facilities helping deliver decarbonisation and strategic planning goals. Furthermore, it marks a clear paradigm shift in UK transport planning, moving away from road expansion to vision-led development aligned with sustainability.
- 2.10. DfT Circular 01/2022 outlines the purpose of the SRN and its support in delivering sustainable development. Paragraph 4 confirms that, *'The principal purpose of the SRN is to enable safe, reliable, predictable, efficient, often long distance, journeys of both people (whether as drivers or passengers) and goods in England'*.
- 2.11. In relation to the assessment of development proposals, it encourages collaboration, a vision-led approach and development that can be made sustainable and provides opportunities to maximise alternative modes of travel other than the car.
- 2.12. Paragraph 12 states that, *'New development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable'*. In this regard the supporting Transport Assessment outlines how the development site can be suitably accessed by pedestrians, cyclists and public transport users, and included is a Framework Travel Plan that will be implemented to discourage car use to the site.



Planning for the Future

- 2.13. Planning for the Future, originally published in August 2020 and significantly updated in January 2023, represents a sweeping overhaul of England's planning system, aiming to pivot toward a simpler, zoning-led, design-focused, and digitally transparent framework. It promises to accelerate housing delivery and infrastructure provision, but its success depends heavily on local authority capacity, effective design safeguards, and careful democratic oversight.
- 2.14. The 'Planning for the Future' guidance document outlines how NH will engage with the planning system. It outlines how NH will share knowledge, experience and evidence, engage early, work openly and collaboratively. The guidance also confirms the steps offered to ensure a suitable level of assessment is undertaken to support development proposals and confirms that development will only be refused if a severe impact upon the safe operation of the SRN is expected.
- 2.15. Our approach to this planning application has been in-line with the principals of this guidance, discussing the proposals with NH at an early stage and agreeing the scope of our work. Noting the findings of our Transport Assessment, we have concluded that the impact of the development proposals upon the safe operation of the SRN would not be severe.

Knowsley Replacement Unitary Development Plan (UDP)

- 2.16. The Knowsley Replacement UDP was adopted in June 2006 but much of it has been replaced by the Local Plan Core Strategy. There are 39 UDP Policies that continue to be applicable, with those relevant to transport detailed below.
- 2.17. **Policy T5** 'Location of Major Traffic Generating New Development' states that:
- "Major developments should be or be capable of being located within safe and convenient walking distance of public transport facilities (defined as being no more than 400 metres from a bus stop and/or 800 metres from a rail station or Merseytram stop)". include*
- 2.18. It goes on to state that:
- "Developments that are likely to generate significant movement of freight or other vehicular traffic should be located at sites, which have good access to, and which will not cause an unacceptable amount of congestion on the rail network or the Strategic Road Network as indicated on the Proposals Map".*
- 2.19. The policy concludes, stating that:
- "Where a site for a proposed major development is not already within safe and convenient walking distance of a station, stop or interchange on passenger rail, bus or tram networks, planning permission will only be granted if improvements to the public transport network are made. There may also be a requirement for improvements to the*



Strategic Road Network. All such improvements should be made prior to the completion of the development to provide for satisfactory accessibility for all."

2.20. The objective of the policy is to provide realistic alternatives to the private car.

2.21. **Policy T6** sets out the Council's approach to car and cycle parking standards.

2.22. **Policy T7** 'New Development and Walking and Cycling Routes' states that:

"New development should preserve and where possible enhance the walking & cycling network, as it can help enhance and provide access to green corridors & the countryside as well as promoting and encouraging exercise and healthy living for all.

In considering proposals for new development which will block (either partially or wholly) an existing right of way or other existing or proposed walking or cycling route, a balanced consideration of the following factors will be undertaken:

- a) The contribution that the route makes or will make to the walking and/or cycling network in the area and the harm that would be caused to accessibility between existing uses in the surrounding area if the route were no longer available; and*
- b) Any benefits to community safety or security that could arise from the closure of the route".*

2.23. It should be noted that there are no Public Rights of Way within the site.

2.24. **Policy T8** 'Transport Assessments' notes that applications for major traffic generating developments will need to be accompanied by a Transport Assessment to enable the implications of the development upon the transport networks to be assessed. It states that:

"Development proposals that would prejudice the primary function of any part of the highway network (i.e. the motorway, trunk road, primary and local highway network) by generating a material increase in traffic, which would overload the access to, or any part of the network, will not be permitted, unless the necessary mitigation measures required are undertaken".

2.25. **Policy T9** 'Travel Plans' states that major traffic generating development proposals will require the submission and implementation of a Travel Plan and are encouraged to be as sustainable and innovative as possible.

Knowsley Local Plan Core Strategy

2.26. Knowsley Metropolitan Borough Council (KMBC) adopted the Local Plan Core Strategy in January 2016, it sets out the vision, objectives and policies which will guide future developments within Knowsley up to the year 2028.



- 2.27. **Policy CS2** of the Knowsley Local Plan Core Strategy outlines the Development Principles which underpins any and all new development in Knowsley. It provides a framework to ensure that all development contributes positively to creating sustainable, inclusive, and well-connected communities. In relation to accessibility by sustainable modes of transport Principle 3 of Policy CS2 states:

"Principle 3: Reduce the need to travel and increase accessibility by:

- a) Selecting locations that reduce the need to travel, especially by car, and enable people as far as possible to meet their needs locally;*
- b) Assisting the Council in achieving a shift towards more sustainable modes of transport for people, goods and freight;*
- c) Encouraging safe and sustainable access for all, particularly by promoting the use of public transport, walking and cycling between homes and employment; and*
- d) Supporting the provision and retention of shared space, community facilities and other local services (such as local shops, health facilities, education provision, meeting places, sports venues, cultural buildings, public houses and places of worship)."*

- 2.28. The development principles in Policy CS2 seek to deliver sustainable communities and create healthy environments in Knowsley, in line with national policy. Policy CS2 indicates that the Council will support development in accessible locations that aim to reduce reliance on private cars, promote public transport, and encourage walking and cycling.

- 2.29. **Policy CS7** of the Knowsley Local Plan Core Strategy concerns Transport Networks, and the policy addresses the overall transport strategy for the area, the requirements for new development and strategic transport schemes and programmes. In relation to the overall transport strategy, Policy CS7 states that:

"Planning powers and other interventions will be used to support a sustainable and integrated transport system that will:

- a) Support the economy by facilitating efficient movement of people and goods within the borough and linking to Liverpool City Centre, the Port of Liverpool, Liverpool John Lennon Airport and other destinations in the surrounding area;*
- b) Help meet the development needs of the borough through to 2028;*
- c) Ensure people can get to where they need to by a choice of walking, cycling and public transport;*
- d) Enhance road safety;*



- e) *Seek to reduce carbon emissions; and*
- f) *Improve the health and wellbeing of local people”.*

2.30. In relation to requirements for new development, **Policy CS7** states that:

“New development will be required to be:

- a) *Located and designed to prioritise accessibility and sustainable modes of travel through a choice of walking, cycling, public transport, and incorporate access for private vehicles. Where deficiencies are identified, developer contributions will be required to improve the accessibility of the location;*
- b) *Located and designed to ensure that larger scale proposals (attracting a lot of visitors, customers and/or employees) are located in the most accessible locations;*
- c) *Where subject to a planning application, accompanied (except in the case of smaller scale proposals) by Transport Assessments and/or Travel Plans;*
- d) *In compliance with adopted cycle, car, disabled and service vehicle parking standards for different types and scales of new development;*
- e) *Inclusive of measures that will mitigate carbon emissions and improve air quality where appropriate; and*
- f) *Consistent with safeguarding arrangements that secure the operational integrity and safety of Liverpool John Lennon Airport”.*

2.31. With regard to strategic transport schemes, Policy CS7 states that the Council will collaborate with partners to implement schemes which that align with the priorities of the Local Transport Plan. These include improvements to local bus services and infrastructure, such as upgraded bus stations, stops, and laybys, as well as expanded walking and cycling routes integrated into the Green Infrastructure network, and the deployment of infrastructure to support low-emission vehicles.

2.32. **Policy SUE1** of the Knowsley Local Plan Core Strategy covers the Sustainable Urban Extensions - Development Principles for the borough. The policy outlines sites that have been removed from Green Belt, and those that have been allocated to meet development requirements. Land at Knowsley Village, the location of the Proposed Development is land safeguarded for residential development.



Ensuring a Choice of Travel Supplementary Planning Document (SPD)

- 2.33. The Ensuring a Choice of Travel Supplementary Planning Document (SPD) provides guidance that supports the policies set out in the Knowsley Replacement Unitary Development Plan (UDP). Its primary aim is to demonstrate how new development can meet the accessibility requirements outlined in Knowsley's Development Plan. The SPD is designed to help developers ensure that their proposals are accessible, encourage sustainable travel choices, and reduce traffic congestion and vehicle-related pollution. A central goal of the document is to promote a wide range of travel options for all new developments.
- 2.34. The SPD includes the Council's parking standards, which must be applied to new developments. It also outlines the expected content of Transport Assessments and Travel Plans that accompany planning applications.
- 2.35. In addition, the SPD introduces the Minimum Accessibility Standard Assessment (MASA); a standardised tool for evaluating site accessibility. Developed in collaboration with other Merseyside authorities, MASA helps assess how well a proposed development supports access by walking, cycling, and public transport. The assessment results may inform any developer contributions required by the Council to improve infrastructure for sustainable travel modes.

Merseyside Local Transport Plan (LTP3)

- 2.36. The Merseyside LTP3 was published in 2011 by the Merseyside Transport Partnership, the document outlines a strategy to shape transport via Merseytravel up to around 2040 covering Knowsley, Liverpool, Sefton, St Helens, Wirral, and Halton. The plan envisions *"a city region committed to a low-carbon future, which has a transport network and mobility culture that positively contributes to a thriving economy and the health and wellbeing of its citizens and where sustainable travel is the option of choice"*.

- 2.37. Six goals are set out within the LTP3, to support the city region and achieve the transport vision:

"One – Help create the right conditions for sustainable economic growth by supporting the priorities of the Liverpool City Region, the Local Enterprise Partnership and the Local Strategic Partnerships.

Two – Provide and promote a clean, low emission transport system which is resilient to changes to climate and oil availability.

Three – Ensure the transport system promotes and enables improved health and wellbeing and road safety.

Four – Ensure equality of travel opportunity for all, through a transport system that allows people to connect easily with employment, education, healthcare, other essential services and leisure and recreational opportunities.

Five – Ensure the transport network supports the economic success of the city region by the efficient movement of people and goods.



Six – Maintain our assets to a high standard”.

- 2.38. As will be set out in this TA, the proposed development will help to support these goals, in particular through ensuring that the proposed residential site will be connected to sustainable transport networks and be designed to facilitate the efficient and safe movement of people via walking, cycling, and public transport.
- 2.39. There is a Liverpool City Region Combined Authority Draft Local Transport Plan that was published in October 2024 for public consultation. The plan is currently being finalised for later in 2025 and will outline the Combined Authority's plans for transport in Liverpool City Regions across Halton, Knowsley, Liverpool, Sefton, St Helens, and the Wirral up to 2040.

Summary

- 2.40. Having set out the policy context in which the proposed development is to be assessed, the next Section of this report details the baseline highway conditions in the vicinity of the proposed development site, considering the configuration and injury accident record of the existing network.



3. Baseline Conditions

- 3.1. This Section of the report discusses the existing site and its operations, describes the local highway network and reviews the injury accident record on the immediate highway network.

Existing Site

- 3.2. The site is situated along the southern edge of the settlement of Knowsley, approximately 680m northeast of the boundary of Stockbridge Village and about 9km northeast of Liverpool city centre.
- 3.3. To the west, the site is bordered by Knowsley Lane, while Home Farm Road defines its northern edge and also crosses the site. The M57 motorway lies to the west, providing access to Aintree in the north and Whiston Cross in the south.
- 3.4. Covering around 33.6 hectares, the site comprises several field parcels separated by hedgerows. Two wooded areas, known as Spookies Wood, occupy the central part of the site, which also contains ponds and drainage ditches. An overhead telecommunications line runs through the centre of the site in a generally north–south direction.
- 3.5. The site boundaries are defined as follows:
- North: Bordered by Home Farm Road, with residential properties beyond forming part of the southern edge of Knowsley.
 - East: Adjacent in the northeast to a commercial area, with the remaining boundary bordering Ash Plantation woodland, which is part of Knowsley Park. Beyond lies Ormskirk Road and the wider grounds of Knowsley Park, a Registered Park and Garden, Local Wildlife Site, and Geological Site.
 - South: Defined by a stone wall and trees, adjoining the grounds of Knowsley Park and Knowsley Hall, located southeast of the site.
 - West: Adjacent to Knowsley Lane, with woodland, and the M57 motorway beyond.
- 3.6. There are no Public Rights of Way (PRoW) within the site. However, Bridleway KN5/1 runs just outside the western boundary, heading west along Fluker's Brook Lane before turning north alongside the M57. National Cycle Network Route 862 passes approximately 360 metres west of the site, adjacent to the motorway.
- 3.7. The site forms part of the only safeguarded land identified under Policy SUE1 of the Knowsley Local Plan Core Strategy (adopted January 2016). The full safeguarded area covers 58.9 hectares, with the primary proposed use being residential development, supporting an estimated capacity of 1,093 dwellings.
- 3.8. An aerial view of the site's location including an approximate red line boundary is provided in **Figure 3.1**.



Figure 3.1: Aerial View of Site Location (Source: Google Earth)



Local Highway Network

- 3.9. Knowsley Lane runs along the western border of the site and is formed of a single carriageway with a width of circa 7m and is subject to a 30mph speed restriction. To the south, approximately 50m following the T-junction with Fluker's Brook Lane, the B5202 Knowsley Lane is subject to a 40mph speed restriction.
- 3.10. Home Farm Road fronts the site to the north and is formed of a single carriageway with a width of circa 5.5m and is subject to a 20mph speed restriction.
- 3.11. Several key existing junctions on the highway network in the immediate vicinity of the site are detailed below. Further detailed assessment of the operation of these junctions is presented in later Sections of this report.



Knowsley Lane/ Home Farm Road - Priority T-Junction

- 3.12. Knowsley Lane and Home Farm Road form a priority T-junction to the immediate northwest corner of the site. An aerial image of this junction is shown in **Figure 3.2**.

Figure 3.2: Knowsley Lane / Home Farm Road (Source: Google Earth)



- 3.13. Home Farm Road forms the minor arm of the junction with priority given to traffic along Knowsley Lane. Dropped kerbs and tactile paving are provided to assist pedestrians crossing Home Farm Road at this location.

Knowsley Lane/ School Lane - Priority Junction

- 3.14. Knowsley Lane and School Lane form a priority junction circa 1km to the north of the site. An aerial image of this junction is shown in **Figure 3.3**.



Figure 3.3: Knowsley Lane/ School Lane (Source: Google Earth)



- 3.15. The existing arrangements comprise a priority-controlled junction with minor entrance and exit arms from School Lane that are separated by a village green (The Maypole Green) with priority given to traffic along the major arm, Knowsley Lane. School Lane benefits from a relatively wide bell-mouth onto Knowsley Lane which has dedicated left and right turning lanes.

Knowsley Lane/ Stockbridge Lane - Priority T-Junction

- 3.16. Knowsley Lane and Stockbridge Lane form a priority T-junction approximately 1.5km to the south of the site. An aerial image of this junction is shown in **Figure 3.4**.



Figure 3.4: B5194 Knowsley Lane / B5194 Stockbridge Lane (Source: Google Earth)



- 3.17. The B5194 Stockbridge Lane forms the minor arm of the junction with priority given to traffic on Knowsley Lane. The junction is characterised by a relatively wide bell-mouth.

Knowsley Lane / George Hale Avenue / Primrose Drive - Four Arm (Signal Controlled) Junction

- 3.18. This signal-controlled junction is located approximately 2km southeast of the proposed development site and is formed of four arms. An aerial image of this junction is shown in **Figure 3.5**.



Figure 3.5: Knowsley Lane / George Hale Avenue / Primrose Drive Four Arm Junction (Source: Google Earth)



- 3.19. Knowsley Lane forms the eastern and western arms of the junction with dedicated left and right turn pockets provided in the centre of the junction to assist traffic in turning onto George Hale Avenue to the north and Primrose Drive to the south. Beyond this junction Knowsley Lane continues eastwards and provide onward connections to Prescot and M57 Junction 2.
- 3.20. George Hale Avenue forms the northern arm of the junction and is a private road that connects to the Knowsley Hall Estate. Primrose Drive forms the southern arm of the junction and connects with the A57 Liverpool Road and Huyton to the further south.
- 3.21. Signal controlled pedestrian crossing facilities are provided on the Knowsley Lane and Primrose Drive arms of the junction. These crossings include dropped kerbs, tactile paving, and push-button facilities to enable the junction's signal configuration to respond dynamically to demand from pedestrians. Advance stop lines (ASL) are in place on the Knowsley Lane and Primrose Drive arms of the junction to assist cyclists in positioning themselves at the front of a vehicle queue on this approach.

Strategic Road Network

- 3.22. The M57 is situated approximately 300m west of the site. Several key existing connections to SRN in the surrounding area of the site are detailed below.



Randles Farm Interchange - M57 Junction 4

- 3.23. Randles Farm Interchange is a partially signalised roundabout gyratory located around 3km to the north-west of the site. An aerial image of this junction is shown in **Figure 3.6**.

Figure 3.6: Randles Farm Interchange (Source: Google Earth)



- 3.24. The Randles Farm Interchange is made up of two circulatory lanes and five arms, the A5207 Moorgate Road South arm situated to the north, School Lane arm located to the east, the M57 Junction 4 southern slip roads make up the southeast arm, the A580 East Lancashire Road western slip roads comprising the southwest arm, and the M57 northern slip roads making up the northwest arm.
- 3.25. Improvement works for this junction and the A580 to the north are currently being delivered and include the full signalisation of the circulatory. Drawings provided by KMBC showing these committed works have been provided as **Appendix E**.

Seth Powell Way/ Stockbridge Lan/ Waterpark Drive - M57 Junction 3

- 3.26. This junction is a priority controlled roundabout located circa 3km to the southwest of the site. An aerial image of this junction is shown in **Figure 3.7**.



Figure 3.7: B5194 Stockbridge Lane / A526 Seth Powell Way / Waterpark Drive / M57 Junction 3 Roundabout Junction (Source: Google Earth)



- 3.27. The M57 slip roads form the northern arm of the junction Seth Powell Way arm provides direct access onto the A57 Liverpool Road to the south. Signal controlled pedestrian crossing facilities are provided on this arm.

Forest House Interchange - M57 Junction 2 (Western Roundabout)

- 3.28. The western roundabout of Forest House Interchange forms a priority-controlled roundabout junction located circa 4km to the southeast of the site. An aerial image of this junction is shown in **Figure 3.8**.

Figure 3.8: Forest House Interchange - M57 Junction 2 (Western Roundabout) (Source: Google Earth)



- 3.29. The western Forest House Interchange roundabout is made up of two circulatory lanes and five arms, with the A57 Liverpool Road making up the eastern and the southwestern arms, the M57 Junction 2 northern slip roads arm situated to the north, Kings Drive making up the southeast arm, and the B5194 Knowsley Arm making up the western arm.
- 3.30. Continuing east on the A57 Liverpool Road provides a direct connection to Warrington via Prescott, Rainhill and the Rainhill Stoops Interchange which links to the M62. To the west, the A57 Liverpool Road runs straight into Liverpool through Kensington.
- 3.31. Heading northbound on the M57 provides connections to the Randles Forest Interchange at Junction 4 and connections to Aintree further north. The B5194 Knowsley Lane arm, as formerly asserted provides direct access to



into Knowsley. The Kings Drive arm connects to the Kings Business Park and has priority controlled crossing facilities with blister surface tactile paving.

Forest House Interchange - M57 Junction 2 (Eastern Roundabout)

- 3.32. The eastern roundabout of Forest House Interchange forms a partially signalised controlled interchange roundabout junction circa 4kms to the southeast of the site. An aerial image of this junction is shown in **Figure 3.9**.

Figure 3.9: Forest House Interchange - M57 Junction 2 (Eastern Roundabout) (Source: Google Earth)



- 3.33. The western Forest House Interchange roundabout is made up of two circulatory lanes and seven arms, with the A57 Liverpool Road making up the eastern and the southwestern arms, the M57 Junction 2 southern slip roads arm situated to the northwest, the Paddock Road arm to the north, the A58 arm to the northeast, the extension of Liverpool Road arm is to the southeast, and the B5199 Huyton Lane Arm makes up the southern arm.
- 3.34. Both the eastern and southwestern A57 Liverpool Road arms are priority controlled. As with the eastern Forest House Interchange roundabout, continuing east on the A57 Liverpool Road provides a direct connection to Warrington via Prescott, Rainhill and the Rainhill Stoops Interchange which links to the M62. To the west, the A57 Liverpool Road runs straight into Liverpool through Kensington. There is an additional arm from the western Forest House Interchange roundabout that is an extension of Liverpool Road that provides access to several residential house; it does not allow vehicular access onto the A57 Liverpool Road directly.



- 3.35. The M57 Junction 2 southern slip roads are both priority controlled and have crossing facilities with blister surface tactile paving. Going southbound on the M57 provides connections to the Tarbuck Roundabout at Junction 1 which presents access to Huyton and Whiston as well as links onto the M62.
- 3.36. The Paddock Road arm is priority controlled and has crossing facilities with blister surface tactile paving. The arm connects to a private road network within the Knowsley Hall estate.
- 3.37. The entry lanes for the A58 are priority controlled, and the exit lanes onto the interchange roundabout are signal controlled with pedestrian crossing facilities with blister surface tactile paving. The Huyton Lane arm is priority controlled and has pedestrian crossing facilities with blister surface tactile paving and a refuge island; continuing southwest from this arm runs straight into Huyton.

Injury Accident Analysis

- 3.38. The approach to the Injury Accident Analysis was informed by feedback provided from National Highways via WSP following their Transport Access & Appraisal note review. An analysis of collision data, including causality analysis to identify if there are any patterns or trends, has been carried out using CrashMap on the local highway network and using STAT19 data for the Strategic Road Network (SRN).

Local Highway Network

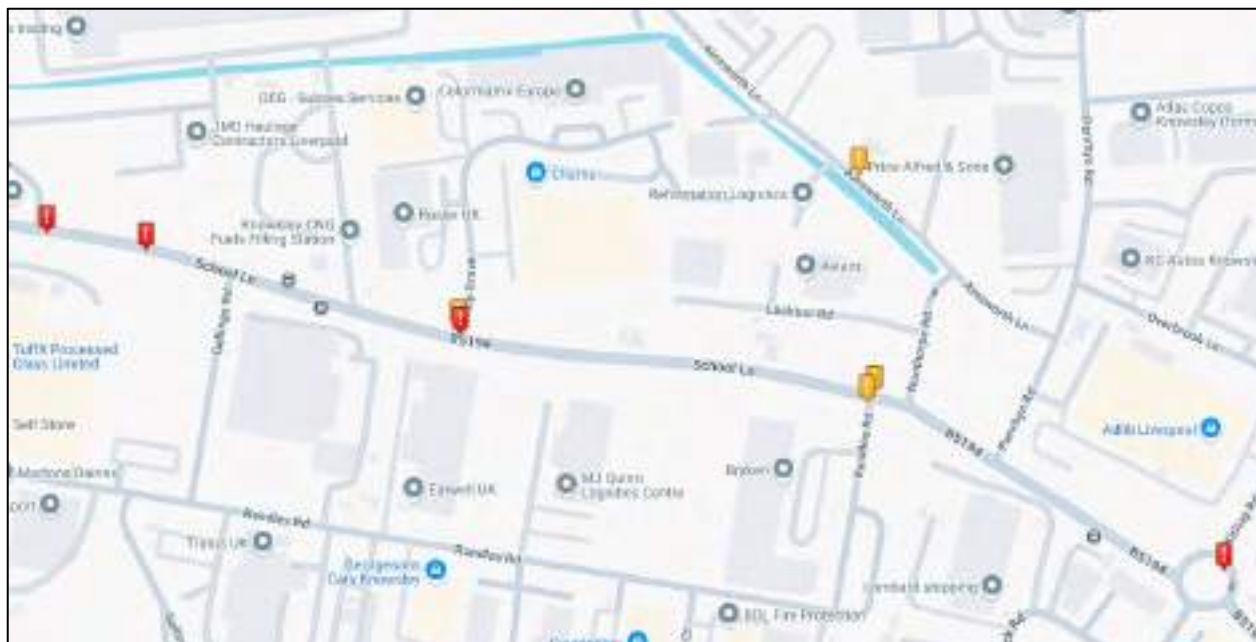
- 3.39. A review of traffic collision data for the most recent five-year period available has been conducted for a study area on the local highway network in the vicinity of the site. The study area for the local network comprises of:
- School Lane
 - Knowsley Lane / B5194 Knowsley Lane
 - Sugar Lane
 - Home Farm Road
 - Stockbridge Lane
- 3.40. This information has been sourced using data from crashmap.co.uk, which relies on the annually published Road Safety Data published by the Department for Transport (DfT). As of writing this report the available data published by the DfT for most recent five-year period is between 2019-2023.



School Lane (Western)

- 3.41. An extract from the CrashMap website for the western section of School Lane is shown in **Figure 3.10**.

Figure 3.10: Traffic Collision Data for B5194 School Lane (Western) for 2019-2023 (Source: CrashMap)



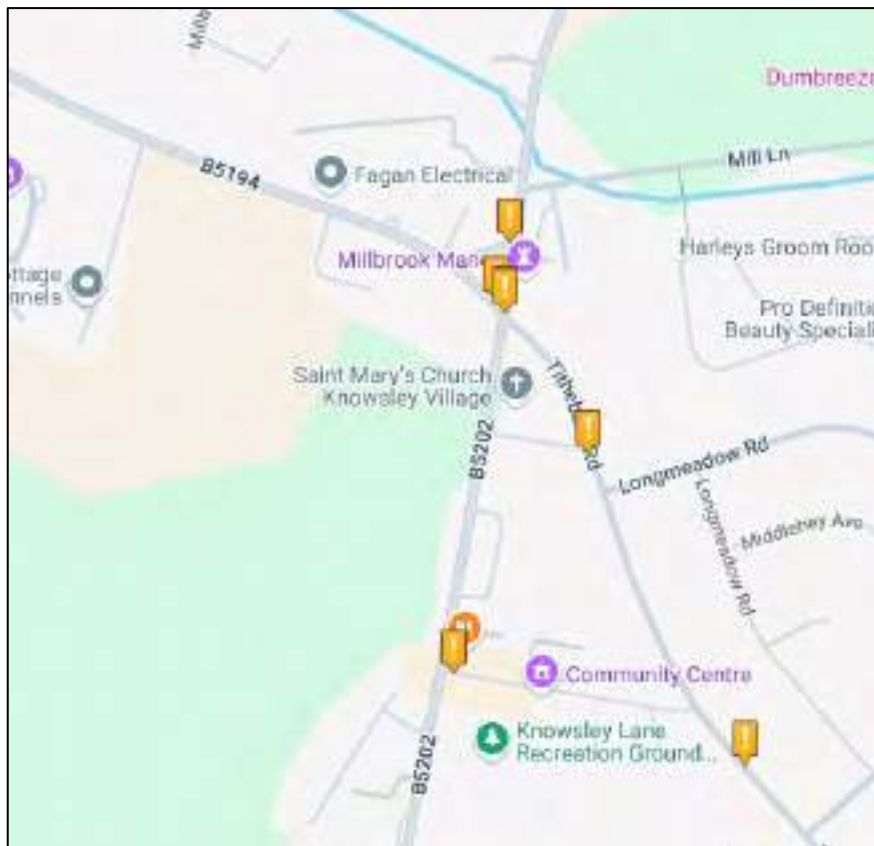
- 3.42. As shown in **Figure 3.10**, two incidents were recorded along this stretch of School Lane, two at the School Lane and Unity Grove T-junction, two at the B5194 School Lane/ Randles Road/ Nunthorpe Road staggered junction, and one was recorded at the School Lane/ Caddick Road/ Kitling Road roundabout junction during the most recently available five-year period. Three of the incidents were classified as slight in severity, and four of the incidents were classified as severe. Three of the serious accidents involved a cyclist casualty, and one of the slight accidents involved a pedestrian.

School Lane, Knowsley Lane and Tithebarn Road

- 3.43. An extract from the CrashMap website for the eastern section of B5194 School Lane and the B5194 School Lane priority junction with Knowsley Lane is shown in **Figure 3.11**.



Figure 3.11: Traffic Collision Data for B5194 School Lane (Eastern) and Priority Junction with Knowsley Lane for 2019-2023 (Source: CrashMap)



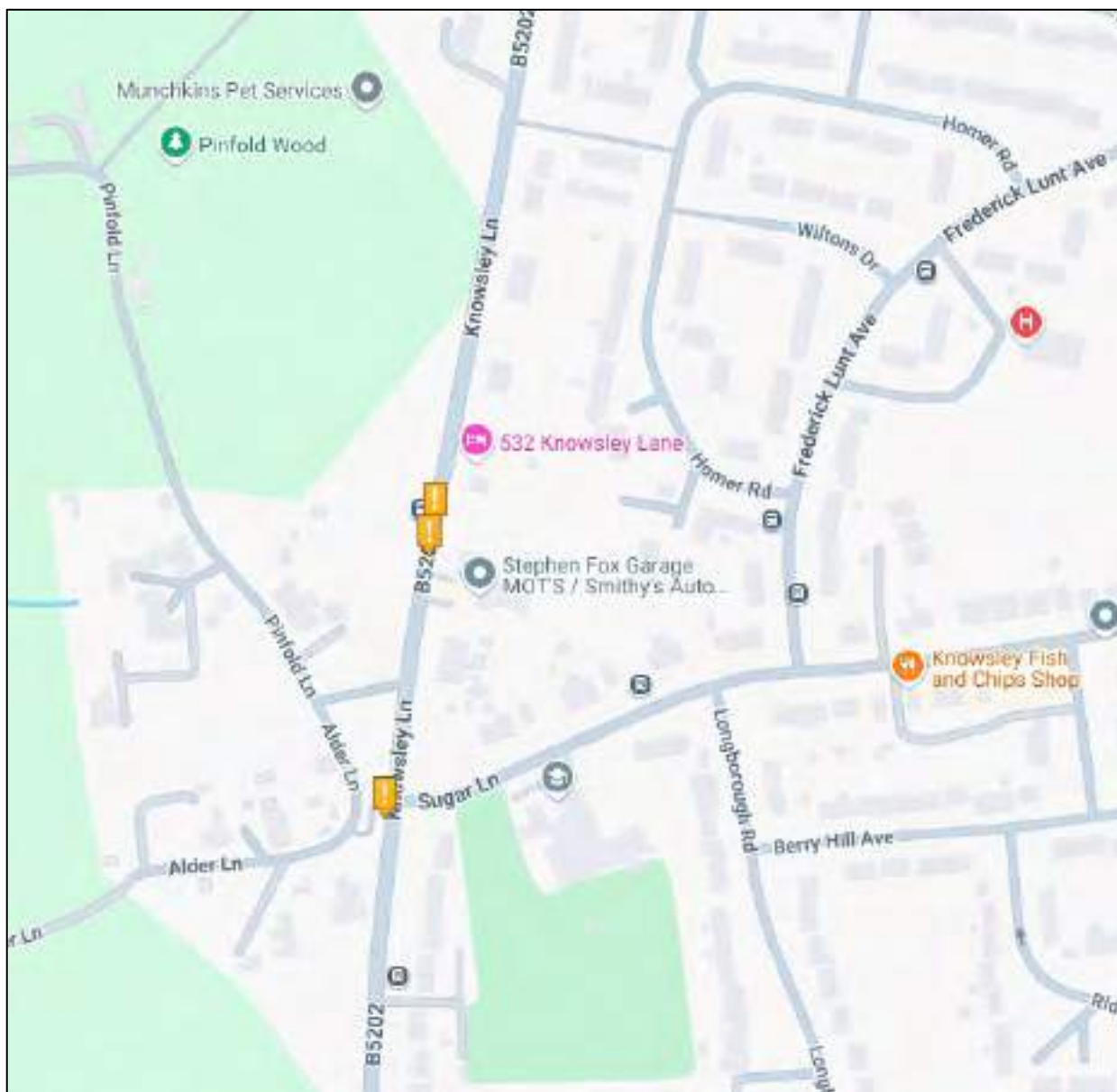
- 3.44. As shown in **Figure 3.11**, four incidents were recorded at the Knowsley Lane/ School Lane junction. A single incident was recorded on Shop Road at its junction with Knowsley Lane during the most recently available five-year period. The severity of all the incidents were classified as slight, none of the incidents involved a cyclist, and one of the recorded accidents involved a pedestrian.



Knowsley Lane and Sugar Lane

3.45. An extract from the CrashMap website for Knowsley Lane and Sugar Lane is shown in **Figure 3.12**.

Figure 3.12: Traffic Collision Data for Knowsley Lane and Sugar Lane for 2019-2023 (Source: CrashMap)



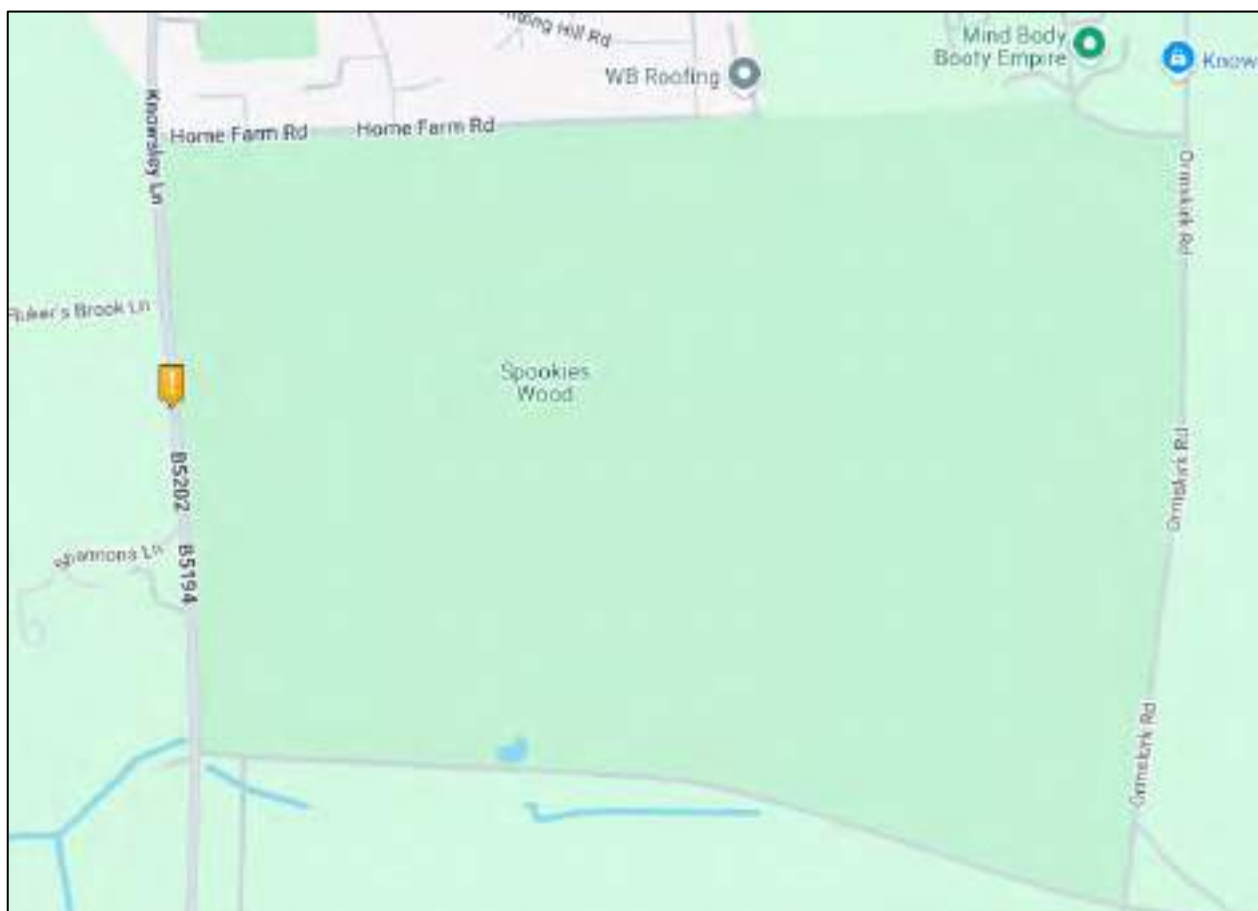
3.46. As shown in **Figure 3.12**, three incidents were recorded along this section of Knowsley Lane including a single injury accident recorded at the T-junction with Sugar Lane during the most recently available five-year period. The severity of all the incidents were classified as slight, none of the incidents involved a cyclist or a pedestrian.



Knowsley Lane and Home Farm Road

- 3.47. An extract from the CrashMap website for Knowsley Lane and Home Farm Road are shown in **Figure 3.13**.

Figure 3.13: Traffic Collision Data for Knowsley Lane and Home Farm Road for 2019-2023 (Source: CrashMap)



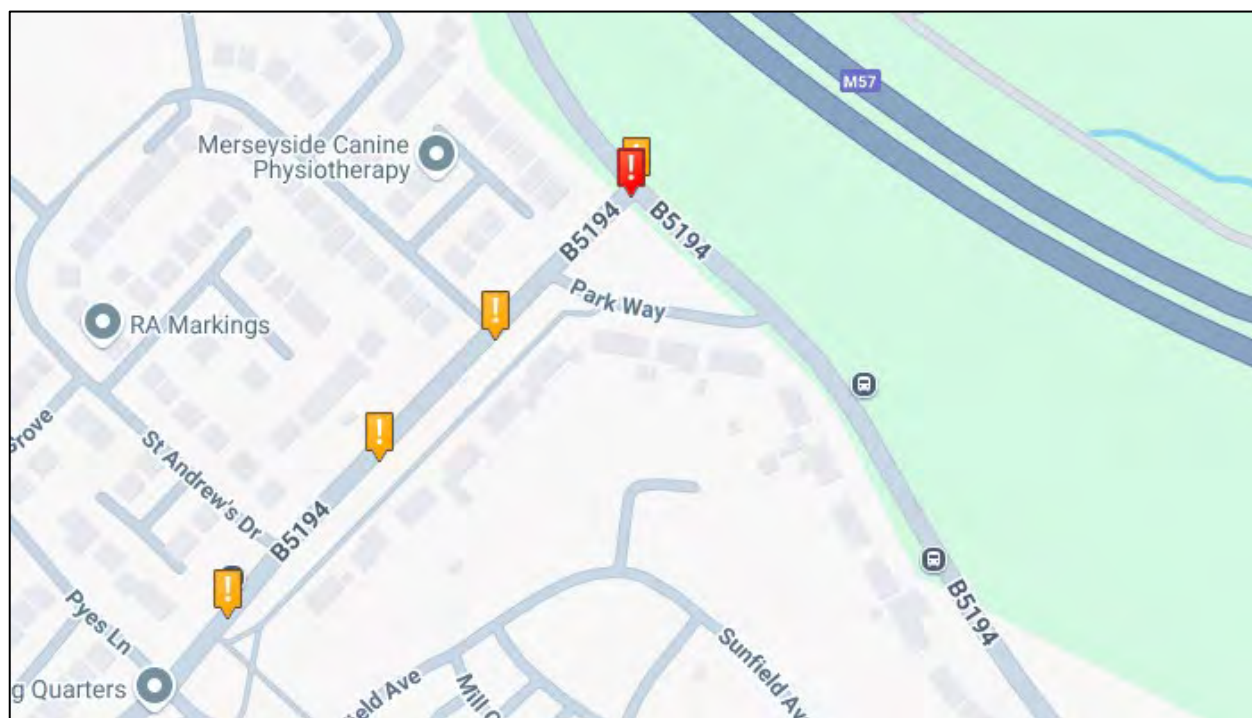
- 3.48. As shown in **Figure 3.13**, one incident was recorded along this stretch of Knowsley Lane during the most recently available five-year period. The severity of the incident was classified as slight, and the incident did not involve a cyclist or a pedestrian. No collisions were documented during the most recently available five-year period for Home Farm Road.



Stockbridge Lane and Knowsley Lane

3.49. An extract from the CrashMap website for the Knowsley Lane/ Stockbridge Lane junction is shown in **Figure 3.14**.

Figure 3.14: Traffic Collision Data for B5194 Stockbridge Lane and Priority Junction with B5194 Knowsley Lane for 2019-2023 (Source: CrashMap)



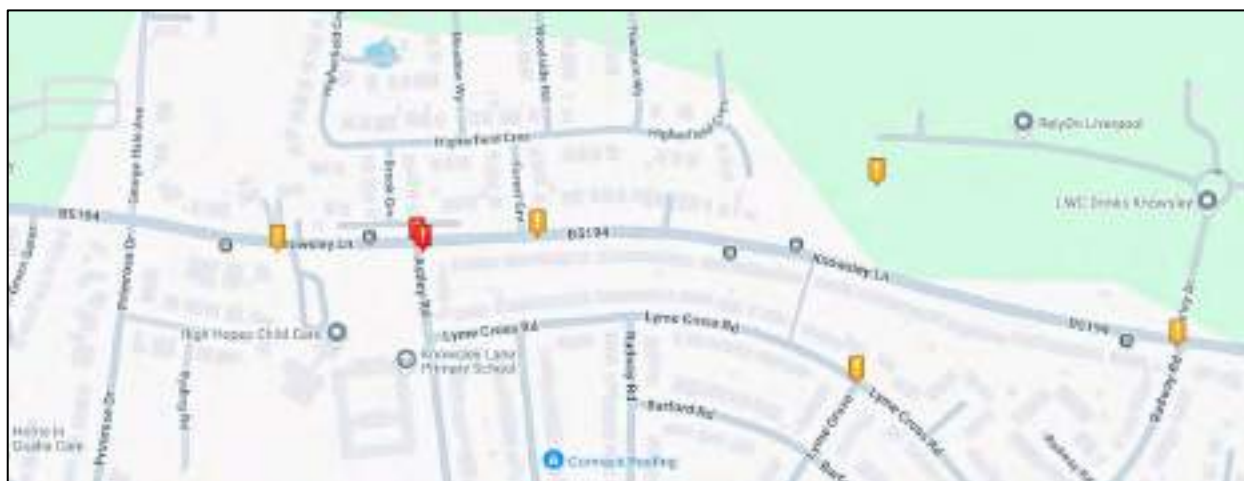
3.50. As shown in **Figure 3.14**, three incidents were recorded along this section of Stockbridge Lane, and two were recorded at the T-junction with Knowsley Lane during the most recently available five-year period. Four of the incidents were classified as slight, and one of the incidents was classified as severe. Two of the slight accidents involved a pedestrian casualty, two of the slight accidents involved a cyclist casualty, and the serious accident involved a pedestrian.



Knowsley Lane and Primrose Drive

- 3.51. An extract from the CrashMap website for Knowsley Lane and the signal controlled four arm junction of Knowsley Lane/ Primrose Drive/ George Hale Avenue is shown in **Figure 3.15**.

Figure 3.15: Traffic Collision Data for B5194 Knowsley Lane and B5194 Knowsley Lane / Georger Hale Avenue / Primrose Drive Four Arm Junction for 2019-2023 (Source: CrashMap)



- 3.52. As shown in **Figure 3.15**, five incidents were recorded along this section Knowsley Lane, and there has not been any recorded incidents at the Knowsley Lane/ Primrose Drive/ George Hale Avenue junction during the most recently available five-year period. In total three of the incidents were classified as slight, and two of the incidents were classified as severe. One of the slight accidents involved a cyclist casualty; none of the recorded accidents involved a pedestrian.

Local Highway Network Overview

- 3.53. Across the local highway network, the injury accident record included 26 incidents in the study area during the latest available five-year period. Of these, 19 were classified as 'slight' severity and seven as 'serious'. There were no fatalities recorded. A summary of the accidents per annum is provided in **Table 3.1**.

Table 3.1: Collision Data Summary for the Local Highway Network Study Area for 2019-2023

Year	Slight	Serious	Fatal	Total
2019	5	1	0	6
2020	2	1	0	3
2021	2	1	0	3
2022	5	1	0	6
2023	5	3	0	8
Total	19	7	0	26

- 3.54. Whilst all traffic accidents are regrettable, the rate of accidents over the most recently available five-year period is not considered to be indicative of any underlying highway safety issues on the local highway network. Therefore,



there is no evidence to suggest that the proposed development would have any detrimental impact on highway safety.

Strategic Road Network (SRN)

3.55. A review of traffic collision data for the most recent six-year period available has been conducted for a study area of the SRN in the vicinity of the site. The study area for the SRN comprises of:

- Randles Farm Interchange - M57 Junction 4
- Seth Powell Way / Stockbridge Lane/ Waterpark Drive - M57 Junction 3
- Forest House Interchange - M57 Junction 2

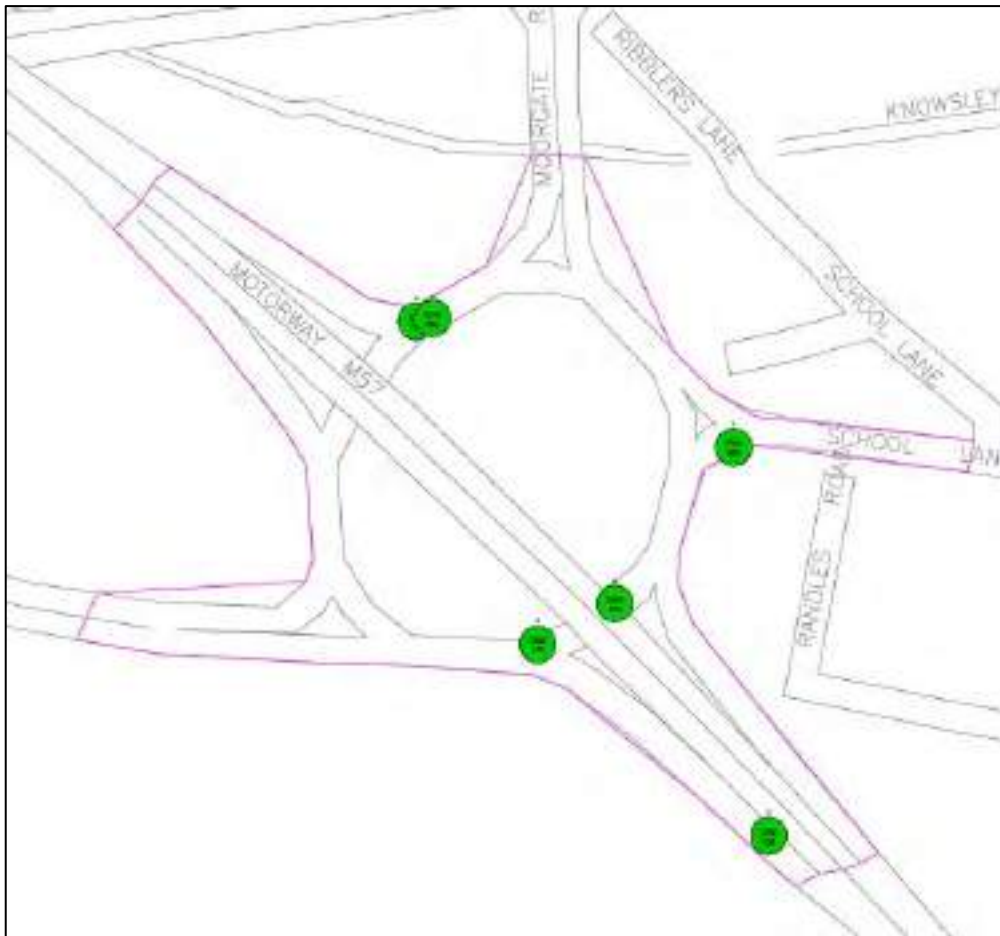
3.56. This information has been sourced using STAT19 data requested directly from Knowsley Metropolitan Borough Council (KMBC); they provided STAT19 data from the start of 2020 to the most recently recorded incidents within 2025. The STAT19 incident reports has been included as **Appendix F** of this report.

Randles Farm Interchange - M57 Junction 4

3.57. An image from the STAT19 data provided from KMBC showing the location of the accidents that occurred on the Randles Farm Interchange and the connecting M57 Junction 4 slip roads for most recent six-year period between 2020 - 2025 is shown in **Figure 3.16**.



Figure 3.16: Traffic Collision Locations for Randles Farm Interchange / M57 Junction 4 for 2020-2025
 (Source: STAT19 / KMBC)



- 3.58. As shown in **Figure 3.16**, six incidents have been noted on the Randles Farm Interchange and the connecting M57 Junction 4 slip roads during the most recently available six-year period. A summary of the six incidents is provided in **Table 3.2**.

Table 3.2: Traffic Collision Data for Randles Farm Interchange / M57 Junction 4 for 2020-2025 (Source: STAT19 / KMBC)

Reference	Date	Severity	Lighting	Weather	Road Surface	Description
2101450	15/07/2021	Slight	Daylight	Fine	Dry	Car 1 was stationary waiting to enter roundabout. Car 2 continued straight on the carriageway colliding into rear of car 1.
2200626	11/03/2022	Slight	Daylight	Rain	Wet	A van/goods vehicle (less than 3.5 tonnes) collided with a car when changing lanes on slip road.
2201780	15/07/2022	Slight	Daylight	Fine	Dry	Drunk driver collided with lamp post off the carriageway at entrance of the roundabout.
2202363	23/09/2022	Slight	Daylight	Fine	Dry	A motorbike (50-125cc) was riding around the circulatory lane of the roundabout. A car entered the roundabout from motorway off slip without seeing the motorbike and they collided.
2402163	03/10/2024	Slight	Daylight	Fine	Dry	Disengaged driver collided with sign off the carriageway on the island of the roundabout.
2500975	14/05/2025	Slight	Daylight	Fine	Dry	Car 1 was stationary waiting to proceed on the roundabout. Car 2 continued straight on the carriageway colliding into rear of car 1.

3.59. Analysis of the STAT19 collision reports summarised in **Table 3.2** highlights that the majority of collisions were affected by driver behaviour such as drivers failing to look properly, or drivers misjudging other road users' paths or speeds, driving under the influence, or experiencing a medical event suggesting a pattern of human error or intervention rather than systemic infrastructure faults. There were no identifiable trends within the data to suggest any recurring issues related to the physical condition, design, or layout of the highway network.



Seth Powell Way/ Stockbridge Lane/ Waterpark Drive - M57 Junction 3

- 3.60. An image from the STAT19 data provided from KMBC showing the location of the accidents that occurred on the Seth Powell Way/ Stockbridge Lane/ Waterpark Drive roundabout for the most recent six-year period between 2020-2025 is shown in **Figure 3.17**.

Figure 3.17: Traffic Collision Locations for Stockbridge Lane / A526 Seth Powell Way / Waterpark Drive / M57 Junction 3 Roundabout for 2020-2025 (Source: STAT19 / KMBC)



- 3.61. As shown in **Figure 3.17**, three incidents were recorded on the Stockbridge Lane / A526 Seth Powell Way / Waterpark Drive / M57 Junction 3 roundabout during the most recently available six-year period. A summary of the three incidents is provided in **Table 3.3**.



Table 3.3: Traffic Collision Data for Stockbridge Lane / A526 Seth Powell Way / Waterpark Drive / M57 Junction 3 Roundabout for 2020-2025 (Source: STAT19 / KMBC)

Reference	Date	Severity	Lighting	Weather	Road Surface	Description
2101854	09/09/2021	Serious	Daylight	Fine	Wet	Cyclist was riding around the circulatory lane of the roundabout. A car entered the roundabout without seeing the cyclist and they collided.
2203147	07/12/2022	Slight	Daylight	Other	Wet	Car 1 is waiting to pull out of Stockbridge Lane onto Waterpark Drive. Car 2 exited the roundabout with its nearside indicator still flashing. Car 1 observed car 2 with its nearside indicator still flashing and does not anticipate vehicle 2 continuing straight on the carriageway. Car 1 pulled out into the path of car 2.
2301483	28/04/2023	Slight	Daylight	Fine	Dry	Driver of car 2 approached the roundabout on single carriageway with car 1 behind. Car 2 stops and car 1 collided into rear of car 2.

- 3.62. Analysis of the STAT19 collision reports summarised in **Table 3.3** highlights that the majority of collisions involved driver behaviours such as drivers failing to look properly, or drivers misjudging other road users' paths or speeds suggesting a pattern of human error rather than systemic infrastructure faults. There were no identifiable trends within the data to suggest any recurring issues related to the physical condition, design, or layout of the highway network.

Forest House Interchange - M57 Junction 2

- 3.63. An image from the STAT19 data provided from KMBC showing the location of the accidents that occurred on the Forest House Interchange and the connecting M57 Junction 2 slip roads for most recent six-year period is shown in **Figure 3.18**.



Table 3.4: Traffic Collision Data for Forest House Interchange / M57 Junction 2 for 2020-2025 (Source: STAT19 / KMBC)

Reference	Date	Severity	Lighting	Weather	Road Surface	Description
2002118	14/10/2020	Slight	Daylight	Fine	Dry	Driver of a car loses concentration and collided into two parked cars.
2100783	04/05/2021	Slight	Daylight	Fine	Wet	Cyclist was riding around the outer circulatory lane of the roundabout. A car attempted to exit the roundabout without seeing the cyclist and they collided.
2101032	26/05/2021	Slight	Daylight	Fine	Dry	A car and a van/goods vehicle (less than 3.5 tonnes) collided on the circulatory lanes of the roundabout.
2101205	23/06/2021	Slight	Daylight	Rain	Wet	A car was continuing straight, travelling south on the M57 carriageway. The car hit standing water under a bridge and veered onto the hard shoulder and collided with a barrier.
2101413	25/06/2021	Slight	Daylight	Rain	Wet	A van/goods vehicle (less than 3.5 tonnes) was stationary waiting to enter roundabout, and a car continuing straight on the carriageway collided into rear of the van/goods vehicle.
2102312	24/10/2021	Serious	Dark / lights lit	Fine	Dry	Collision involving three police cars in pursuit of a stolen car. Stolen car was speeding and driving on the wrong side of the road/roundabout.
2102597	18/11/2021	Slight	Dark / lights lit	Fine	Dry	Car 1 was stationary waiting to enter roundabout. Car 2 continued straight on the carriageway colliding into rear of car 1.
2200386	29/01/2022	Slight	Dark / lights lit	Fine	Dry	A van/goods vehicle (less than 3.5 tonnes) collided with a car when changing lanes at roundabout exit.
2200820	30/03/2022	Slight	Daylight	Fine	Dry	A motorbike (50-125cc) attempted to move off to enter roundabout. A car continued straight on the carriageway colliding into rear of the motorcycle.
2201347	04/06/2022	Serious	Dark/ lights lit	Fine	Dry	A rider of a motorbike (125-500cc) struggled to negotiate the bend on the approach to the Forest House Interchange and came off their motorbike.
2201444	15/06/2022	Slight	Daylight	Fine	Dry	Car 1 collided with a car 2 when changing lanes at roundabout exit.
2201905	14/07/2022	Slight	Daylight	Fine	Dry	Driver of a car does not see a cyclist in their lane and collided with the cyclist on the bend of the roundabout.
2202172	02/09/2022	Slight	Daylight	Fine	Dry	A car continued straight on the nearside circulatory lane of the roundabout. A van/goods vehicle (less than 3.5 tonnes)



Reference	Date	Severity	Lighting	Weather	Road Surface	Description
						attempted to cross lanes and exit the roundabout however they collided with the car.
2202281	13/09/2022	Slight	Daylight	Fine	Dry	Car driver struggled to negotiate the left bend on the northwest bound junction 2 slip road off the M57 and collided with the offside bollard/barrier.
2202387	26/09/2022	Slight	Daylight	Fine	Wet	A rider of a motorbike (50-125cc) struggled to negotiate the bend on the approach to the Forest House Interchange due to the wet surface of the road and came off their motorbike.
2203278	21/12/2022	Slight	Daylight	Fine	Wet	Rider of an E-scooter crossed the carriageway using the signalised pedestrian crossing. As the rider entered the central reservation the lights changed to red for pedestrians and green for vehicles but the rider continued to cross. A car attempted to continue straight on the carriageway and colliding into the E-scooter and its rider.
2300222	23/01/2023	Slight	Daylight	Fine	Dry	Car 1 performed an emergency stop on the approach to the roundabout. Car 2 attempted to stop however collided into rear of car 1.
2301061	10/05/2023	Slight	Daylight	Fine	Wet	A van/goods vehicle (less than 3.5 tonnes) attempted to turn left from the minor arm of a T-junction and did not give way. The van/goods vehicle collided into the path of a car traveling across the major arm.
2301730	20/07/2023	Slight	Daylight	Fine	Dry	Car 1 continued straight on the nearside circulatory lane of the roundabout. Car 2 attempted to cross lanes and exit the roundabout to join M57 northbound slip road however they collided with the car 1.
2302296	26/09/2023	Slight	Daylight	Fine	Dry	Car 1 was stationary waiting to enter roundabout. Car 2 continued straight on the carriageway colliding into the rear of car 1.
2302520	21/10/2023	Slight	Daylight	Fine	Wet	Car attempted to leave the motorway too late at the junction and in excess of the speed limit. Collided with bollard in the carriageway and tree off the carriageway.
2302778	10/11/2023	Slight	Daylight	Fine	Wet	Car driver struggled to reduce speed and negotiate the left bend on the northwest bound junction 2 slip road off the M57 and collided with another car.
2401589	14/07/2024	Slight	Daylight	Fine	Dry	A motorbike (50-125cc) attempted to slow down on the approach to the roundabout. A car continued straight on the carriageway colliding into rear of the motorbike.



Reference	Date	Severity	Lighting	Weather	Road Surface	Description
2401594	21/07/2024	Slight	Daylight	Fine	Dry	Driver of a car collided into the back of a parked and unattended car.
2402284	18/10/2024	Slight	Daylight	Fine	Dry	Car 1 attempted to slow down on the approach to the roundabout. Car 2 continued straight on the carriageway colliding into rear of the car 1.
2402550	18/11/2024	Slight	Dark/ lights lit	Rain	Wet	Car attempted to slow down on the approach to the roundabout. Van/ goods vehicle 1 (less than 3.5 tonnes) attempted to slow down on the approach to the roundabout. Van/ goods vehicle 2 (less than 3.5 tonnes) continued straight on the carriageway colliding into rear of the van/ goods vehicle 1. The collisions shunted van/ goods vehicle into the rear of the car.
2402614	26/11/2024	Slight	Daylight	Fine	Wet	Car 3 attempted to slow down on the approach to the junction 2 slip road as they continued traveling northbound; positioned in front of car 1. Car 2 was in a separate lane attempting to overtake car 1 and car 3. Car 1 attempted to change lanes into the path of car 2 and the cars collided; the ensuing impact caused car 1 to also collide into car 3.
2500476	22/02/2025	Slight	Dark/ lights lit	Fine	Dry	Car 1 was continuing northbound on the M57 carriageway as car 2 attempted to join the motorway from the junction 2 slip road. As car 2 attempted to merge onto the motorway they collide with car 1 .

- 3.65. Analysis of the STAT19 collision reports summarised in **Table 3.4** highlights that the majority of collisions involved driver error such as drivers failing to look properly, or drivers misjudging other road users' paths or speeds, or drivers experiencing a medical event suggesting a pattern of human error or intervention rather than systemic infrastructure faults. There were no identifiable trends within the data to suggest any recurring issues related to the physical condition, design, or layout of the highway network.
- 3.66. A summary of the accidents per annum using the traffic collision data for the most recent and complete five-year period of 2020 - 2024 is provided in **Table 3.5**.



Table 3.5: Yearly Collision Data Summary for the Forest House Interchange / M57 Junction 2

Year	Slight	Serious	Fatal	Total
2020	1	0	0	1
2021	5	1	0	6
2022	8	1	0	9
2023	6	0	0	6
2024	5	0	0	5
Total	25	2	0	27

- 3.67. As shown in **Table 3.5**, no fatal accidents were recorded and only two serious collision were reported within the study area during the most recent five year period. The absence of fatalities and low recorded serious incidents are a positive indicator in terms of overall road safety. The average traffic accident per annum for the Forest House Interchange equates to 5 incidents a year.
- 3.68. Whilst all traffic accidents are regrettable, the rate of accidents over the most recently available six-year period is not considered to be indicative of any underlying highway safety issues on the network. Therefore, there is no evidence to suggest that the proposed development would have any detrimental impact on highway safety.

SRN Overview

- 3.69. Across the SRN, the injury accident record included 35 incidents in the study area during for the most recent and complete five-year period of 2020 - 2024. Of these, 32 were classified as 'slight' severity, 3 as 'serious', and there were no fatalities recorded. A summary of the accidents per annum is provided in **Table 3.6**.

Table 3.6: Collision Data Summary for the SRN Study Area for 2020-2024

Year	Slight	Serious	Fatal	Total
2020	1	0	0	1
2021	6	2	0	8
2022	12	1	0	13
2023	7	0	0	7
2024	6	0	0	6
Total	32	3	0	35

- 3.70. These incidents represent a snapshot of road safety performance within the area and provide valuable insight into the nature and severity of collisions occurring on the study area on the SRN. As shown in **Table 3.6**, no fatal accidents were recorded within the study area during the most recent and complete five-year period of 2020 - 2024. The average traffic accident per annum for the SRN study network equates to 7 incidents a year.
- 3.71. Analysis of the STAT19 collision reports across the SRN study area revealed that the majority of collisions involved driver behaviours suggesting a pattern of human error or intervention. There were no identifiable trends within the data to suggest any recurring issues related to the physical condition, design, or layout of the highway network.
- 3.72. Whilst all traffic accidents are regrettable, the rate of accidents over the most recently available five-year period is not considered to be indicative of any underlying highway safety issues on the three junctions considered.



Therefore, there is no evidence to suggest that the proposed development would have any detrimental impact on highway safety.

Summary

- 3.73. This Section of the report has provided a review of the baseline highway conditions in the vicinity of the proposed development site.
- 3.74. A description of the highway network in the immediate vicinity of the site has been provided. An analysis of the injury accident record has been undertaken and on the basis of the available information and the rate of incidents per annum, no existing underlying highway safety issues have been identified. There is therefore no reason to believe that this situation would worsen as a result of the proposed development.
- 3.75. Having outlined the baseline conditions in proximity to the proposed development site, the next Section of this report explores the sites accessibility by sustainable modes of transport.



4. Accessibility by Sustainable Modes of Transport

Introduction

- 4.1. Current local and national transport policy states that new developments should be designed to encourage more trips to be made by sustainable modes including walking, wheeling, cycling, multi-modal, or on shared/public transport. This approach maximises social inclusion and helps to minimise the number of single occupancy car journeys. Providing travel choice is policy compliant and critical considering today's progressive and dynamic society, specifically where policy seeks to achieve the Net Zero Carbon target for the UK by 2050.
- 4.2. One of the primary factors to be considered when considering the suitability of a new development is its proximity, accessibility, and connectivity in relation to key local facilities by non-car modes.
- 4.3. Importantly the NPPF goes on to note at Paragraph 110 that *"opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making"*.
- 4.4. This section of the report is a review of the proposed development site's accessibility by sustainable modes, including walking, wheeling, cycling and public transport.

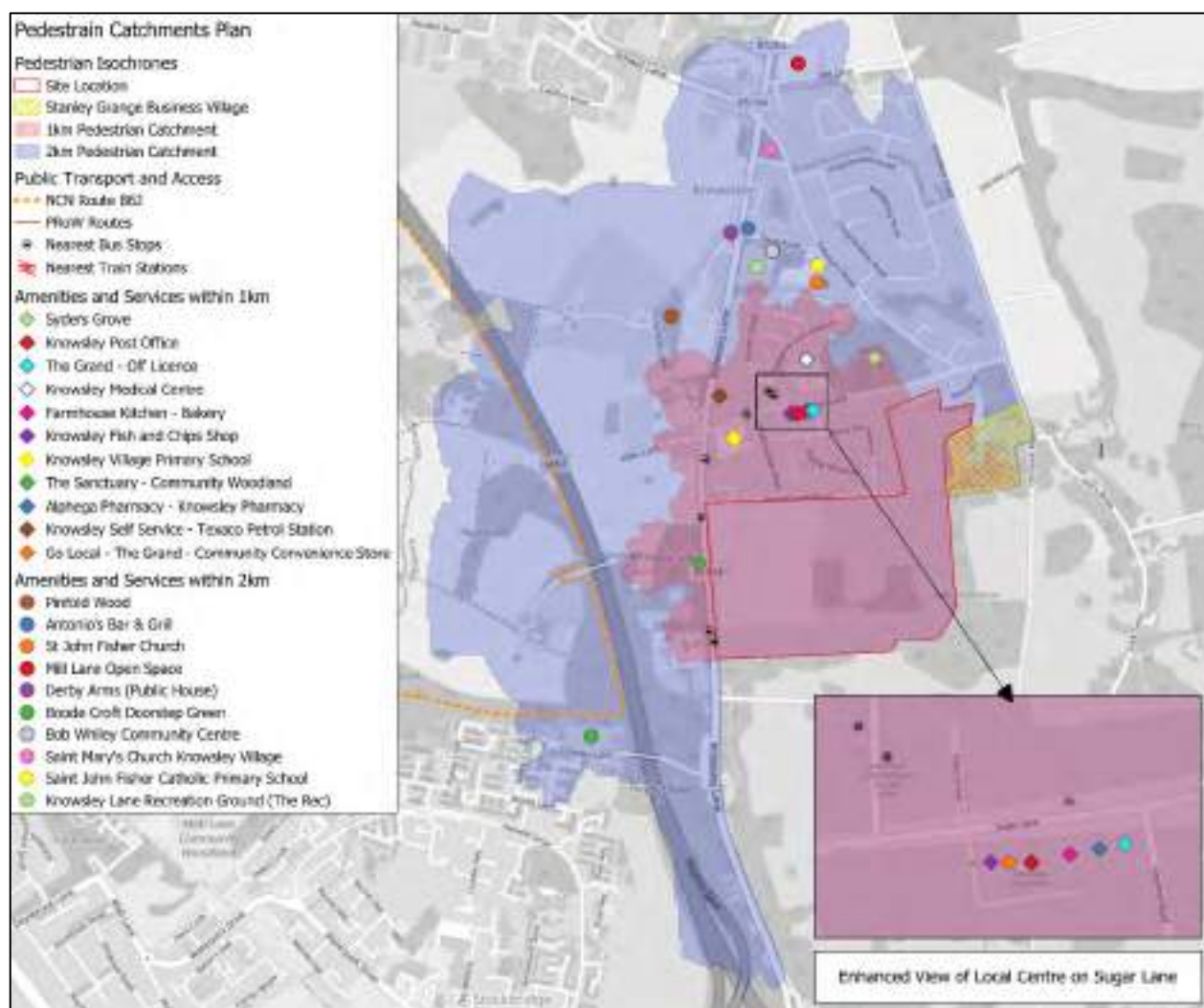
Walking Accessibility

- 4.5. The Institution of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot' (2000) contains suggested acceptable walking distances for pedestrians, without mobility impairment, traveling to common facilities. The guidelines suggest that an acceptable walking distance for commuting / school purposes is 1km, with a preferred maximum distance of 2km.
- 4.6. The site is well located in relation to local facilities within a convenient walk time based on existing infrastructure, such that future residents and users of the site will have the opportunity to access key services via active travel modes. It is quite likely that Knowsley Village will attract walking trips to and from the site due to the local amenities and destinations such as:
 - The Knowsley Village Primary School, and a local village centre on Sugar Lane circa 500m north of the centre of the site. The local village centre includes a post office, off licence, bakery, fish and chips shop, pharmacy, salon, barbers and a convenience store.
 - The Knowsley Medical Centre on Fredrick Lunt Avenue circa 650m north of the centre of the site.
 - The Saint John Fisher Catholic Primary School and Knowsley Lane Recreation Ground on Shop Road circa 1.1km north of the centre of the site.



- 4.7. The site is demonstrated to be well located to access the nearby local facilities and services within and around Knowsley. **Figure 4.1** highlights the areas and local amenities that are reachable within 1km and 2km walking catchments, which equates to approximately 12 and 25-minute walks respectively.

Figure 4.1: Walking Isochrones Catchment Plan with Amenities (Source: OpenStreetMap/QGIS)



- 4.8. As shown, the majority of Knowsley village is within a short walking distance of the site, which encompasses a range of residential areas and local amenities.
- 4.9. In addition to the adopted footpath network, the site is situated in close proximity to KMBC's Public Rights of Way (PRoW) network, further supporting pedestrian movements for residents and users of the site. In particular, the site benefits from footpaths KN/3/1, KN/3/2, KN/2/1, KN/8/2 which run from Knowsley Lane to the School Lane offering a low traffic route toward Knowsley Business Park. The location of these PRoWs, as identified by the KMBC, are shown in **Figure 4.2**.



Figure 4.2: Extract from KMBC's PRoW Mapping (Source: highways.knowsley.gov.uk)



- 4.10. The proposed development also benefits from access to bridleways KN/5/1 and KN/1/1 that run from the western side of Knowsley Lane opposite the site and travels across the M57 providing links to Stockbridge Village as well as continuing north parallel to the M57 towards the Knowsley Business Park.
- 4.11. On the basis of the above review, walking is considered a viable mode for residents and users of the site. The existing pedestrian network would also support those using walking as part of a multi-modal journey that includes the use of public transport.



Local Walking Routes

- 4.12. Based on our assessment, it is clear that there will be a strong demand for pedestrians to walk from the site, across Home Farm Road and towards Sugar Lane via a number of alternative routes. These routes are assessed in turn below, considering the infrastructure parameters supported by Active Travel England.

Home Farm Road to Sugar Lane via Berry Hill Avenue

- 4.13. Starting the route from Home Farm Road, as indicated in **Figure 4.3** below, the road is lightly trafficked, is lit and provides a footway with dropped kerbs at crossings.

Figure 4.3: Home Farm Road T-Junction with Berry Hill Avenue (Source: Google Earth)



- 4.14. Continuing onto Berry Hill Avenue, as can be seen at **Figure 4.4** below, there is street lighting and the road provides footways on either side of the carriageway with dropped kerbs at the crossing with Riding Hill Road.



Figure 4.4: Berry Hill Avenue T-Junction with Riding Hill Road (Source: Google Earth)



- 4.15. At the Berry Hill Avenue T-junction with Fountain Road, shown in **Figure 4.5**, it can be seen that both roads are lit and have footways on either side of the carriageway along with dropped kerbs at the crossing. There are also secondary footways along Fountain Road set back from the road.

Figure 4.5: Berry Hill Avenue T-Junction with Fountain Road (Source: Google Earth)



- 4.16. At the Fountain Road T-junction with Sugar Lane, presented in **Figure 4.6**, it can be seen that both roads are lit, that the footways on either side of the carriageway continue onto Sugar Lane with dropped kerbs at the junction, and moreover, the footways along Sugar Lane increase in width up to the local centre.

Figure 4.6: Sugar Lane T-Junction with Fountain Road (Source: Google Earth)



- 4.17. It can be concluded therefore that the walking route from Home Farm Road to Sugar Lane via Berry Hill Avenue and Fountain Road provides a safe route for pedestrians, apart from the missing provision of tactile paving at junctions. It is proposed that this be funded as part of the development proposals.

Home Farm Road to Sugar Lane via Longborough Road

- 4.18. Starting the route from Home Farm Road at the T-junction with Longborough Road, as can be seen from **Figure 4.7** below, the road has ample lighting and footways on either side of the carriageway with dropped kerbs at the crossing.

Figure 4.7: Home Farm Road T-Junction with Longborough Road (Source: Google Earth)



- 4.19. At the Longborough Road T-junction with Berry Hill Avenue, presented in **Figure 4.8**, it can be seen that both roads are well lit and have footways on either side of the carriageway along with dropped kerbs at the crossing.

Figure 4.8: Longborough Road T-Junction with Berry Hill Avenue (Source: Google Earth)



- 4.20. At the Longborough Road T-junction with Sugar Lane, depicted in **Figure 4.9**, the footways along Longborough Road meet with the footway along the western side of Sugar Lane. Along this stretch of Sugar Lane the footways are set back from the road. The footways are well maintained, have dropped kerbs at the crossing and good lighting.



Figure 4.9: Longborough Road T-Junction with Sugar Lane (Source: Google Earth)



B5202 Knowsley Lane to Sugar Lane

- 4.21. Starting the route from Knowsley Lane, as indicated in **Figure 4.10** below, the road is lit and provides footways on either side of the road. The junction is served by dropped kerbs and tactile paving.

Figure 4.10: B5202 Knowsley Lane T-Junction with Home Farm Road (Source: Google Earth)



- 4.22. At the Knowsley Lane T-Junction with Sugar Lane, as shown in **Figure 4.11** below, both roads have footways on either side of the carriageway and have priority controlled pedestrian crossings supported with pedestrian refuge islands with the associated dropped kerbs and tactile paving to enable safe access across the T-junction and across Knowsley Lane.



Figure 4.11: B5202 Knowsley Lane T-Junction with Sugar Lane (Source: Google Earth)



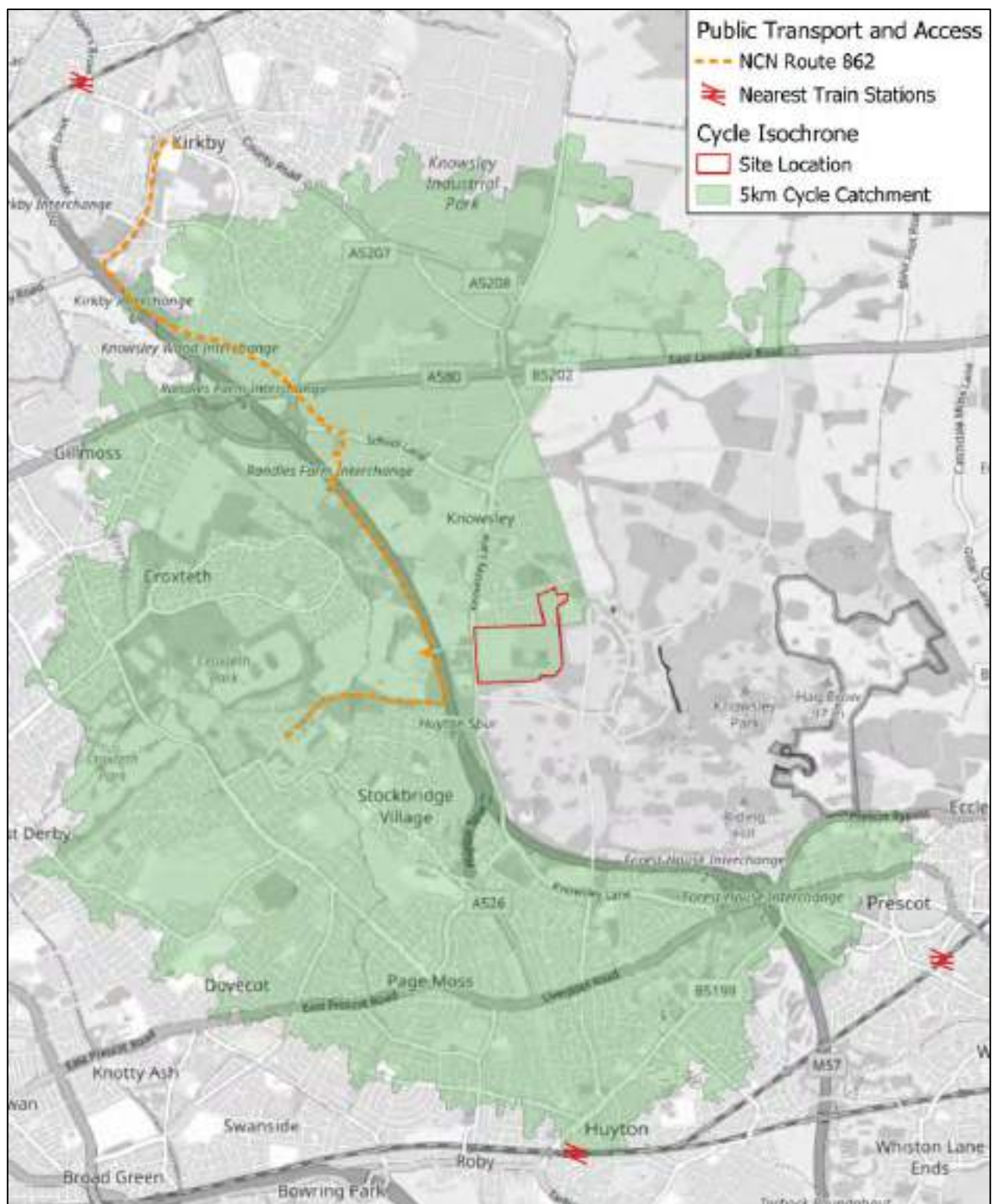
Summary

- 4.23. From our review of the existing local routes from our site to the nearby local school, Knowsley Village Primary School, and the local centre along on Sugar Lane, it has been concluded that the routes are direct, step-free, have appropriate lighting provided, and the footways join together with other pedestrian facilities as part of a connected network.
- 4.24. There is scope to improve some of the uncontrolled pedestrian crossings with tactile paving to ensure surfaces and routes are suitable and intuitive for all road/footway users.

Cycling Accessibility

- 4.25. An alternative mode of travel to the site would be achieved by bicycle. Cycling is increasingly being recognised as a viable alternative to the car and there has been sustained growth in cycling as both a mode of travel and leisure activity.
- 4.26. The DfT's Local Transport Note 1/20 Cycle Infrastructure Design notes that many utility cycle journeys are under 3 miles (5 km), which equates to a circa 25-minute journey. Consequently, cycling has the potential to replace short car journeys, particularly those under 5km. At a leisurely cycle speed of 12km per hour this would equate to a journey of around 25 minutes. **Figure 4.12** shows the extent of the cycling catchment of the site.



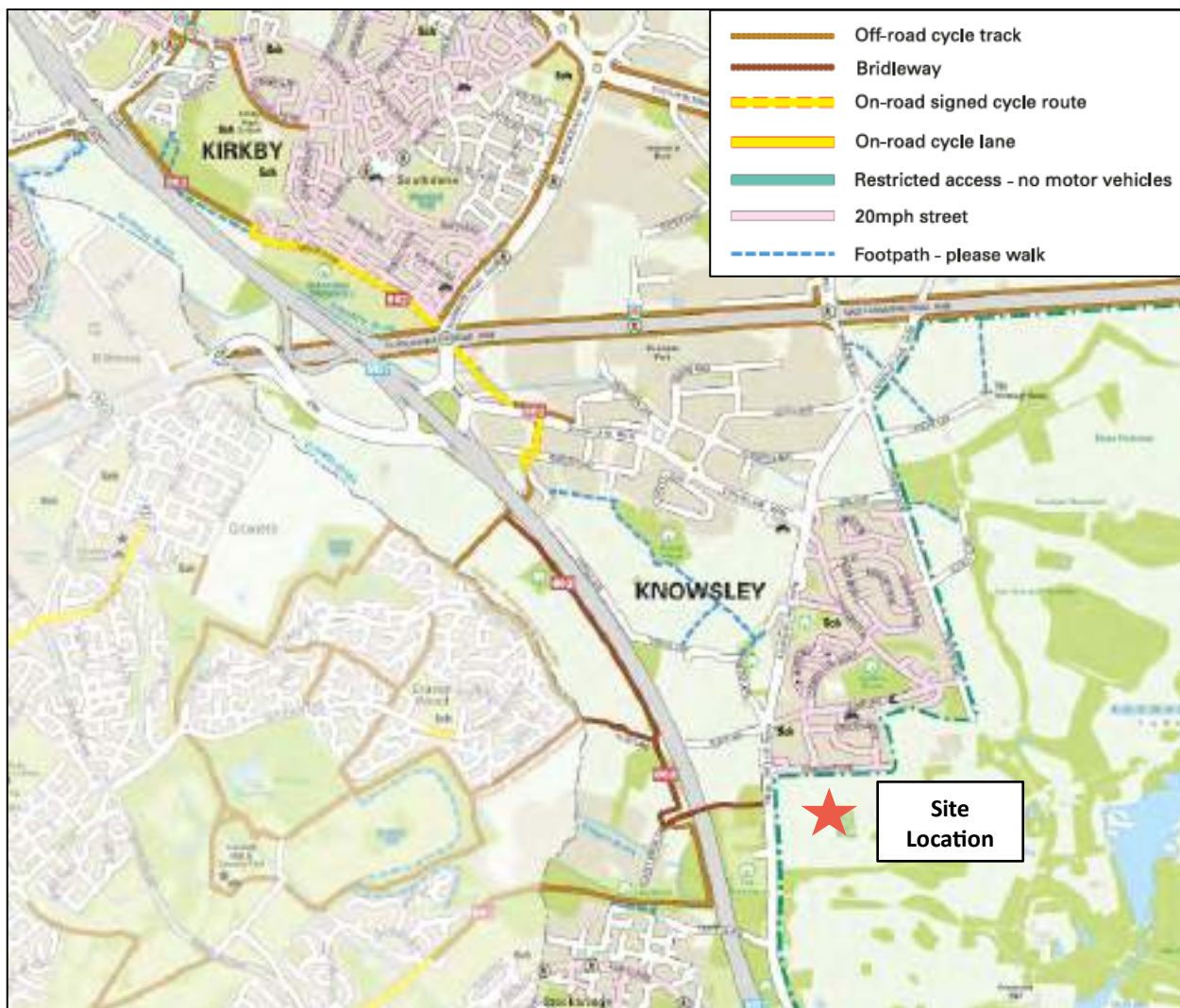
Figure 4.12: Cycling Isochrones Catchment Plan

4.27. **Figure 4.12** illustrates the extent of the 5km cycling catchment of the site. This confirms that areas including Knowsley, Stockbridge Village, Croxteth, Page Moss, and parts of Knowsley Industrial Park, Huyton, and Prescott are all within cycling distance of the site.



- 4.28. National Cycle Network (NCN) Route 862 is shown in close proximity to the site in **Figure 4.12**, the route is approximately 360m west of the site, adjacent to the western side of the M57. The route provides a mostly traffic free connection between Kirkby and Stockbridge Village.
- 4.29. A network of cycle routes and infrastructure, as identified by the Merseytravel, is present near the vicinity of the site; this is shown in **Figure 4.13**.

Figure 4.13: Extract from Merseytravel's Knowsley Cycle Network Map
(Source: merseytravel.gov.uk/active-travel/cycling)



- 4.30. As shown in **Figure 4.13**, the site is situated in close proximity to a bridleway connection that runs from the western side of Knowsley Lane, opposite the development site, across the M57 providing links to the off-road cycle tracks within Stockbridge Village. This bridleway also continues north along the Gellings Greenway that runs parallel to the M57 and joins with an off-road cycle track to the east to link with the on-road signed cycle route through Knowsley Business Park. From Knowsley Business Park an on-road signed cycle routes continues northwest and connects with the off-road cycle tracks either side of East Lancashire Road as well as continues into Kirkby.



Local Cycling Routes

- 4.31. Based on our review of the cycling accessibility of the local area for the site, the nearby destinations cyclists are likely to travel to are the Knowsley Business Park and other employment opportunities within the large industrial estate to the northwest of the site. Below is a review of the existing local routes to these destinations taking guidance from the policy principles of Active Travel England.

Parklands to Kitling Road (Knowsley Business Park Access) via Ormskirk Road

- 4.32. As will be discussed in **Section 5** of this report, an active travel connection from the site onto Parklands has been recommended. As shown in **Figure 4.14**, Parklands is a well-lit and quiet residential road with an approximate width of 5.5m which would safely accommodate on-road cyclists.

Figure 4.14: Parklands (Source: Google Earth)



- 4.33. At the Parklands T-junction with Sugar Lane, represented in **Figure 4.15**, Parklands has a large bell-mouth giving drivers traveling along Sugar Lane clear sight lines. Sugar Lane is a well-lit and maintained quiet road with an approximate width of 5.5m which would safely accommodate on-road cyclists.



Figure 4.15: Sugar Lane T-Junction with Parklands (Source: Google Earth)



- 4.34. Ormskirk Road, displayed in **Figure 4.16**, is a lit, well maintained, quiet residential and rural road with a width of circa 5.5m which would accommodate on road cyclists.

Figure 4.16: Ormskirk Road (Source: Google Earth)



- 4.35. The Ormskirk Road / B5202 Knowsley Lane / Kitling Road Roundabout, exhibited in **Figure 4.17**, is a well-maintained junction with good visibility, lighting, and road width to accommodate on road cyclists.

Figure 4.17: Ormskirk Road / B5202 Knowsley Lane / Kitling Road Roundabout (Source: Google Earth)



- 4.36. Kitling Road, shown in **Figure 4.18**, is a well-lit and paved, quiet industrial road with estimated width of 7m which would accommodate on road cyclists.

Figure 4.18: Kitling Road (Source: Google Earth)



- 4.37. Based on the above assessment, it is concluded that this route provides a suitable and safe route for cyclists to take between the site and the large employment area to the north.

B5202 Knowsley Lane to Randles Road (Knowsley Business Park Access) via Gellings Greenway

- 4.38. As will be discussed in the **Section 5** of this report, it is proposed that a 4m wide shared footway/cycleway will be provided parallel to Knowsley Lane and within the application site. Provision will be made to allow cyclists to cross from the site, over Knowsley Lane and into Flukers Brook Lane. As shown in **Figure 4.19**, the B5202 Knowsley Lane is well-lit and with an approximate width of 7m. Flukers Brook Lane is a paved lane with an approximate width of 4m which would accommodate on road cyclists.

Figure 4.19: Knowsley Lane T-Junction with Flukers Brook Lane (Source: Google Earth)



- 4.39. The Gellings Greenway, as presented in **Figure 4.20**, is a traffic-free paved route with a width of circa 4m. At connections points on the route, there are A-frame access barriers to prevent motorcycles entering the path while enabling cyclists to maintain access.



Figure 4.20: Gellings Greenway Link to Alder Lane (Source: Google Earth)



- 4.40. As shown in **Figure 4.21**, the Gellings Greenway connects with a layby just off Gellings Lane via an A-frame access barrier. The layby has an approximate width of 6.5m, and Gellings Lane has an approximate width of 4m. Both are paved and offer sufficient space for on-road cyclists.

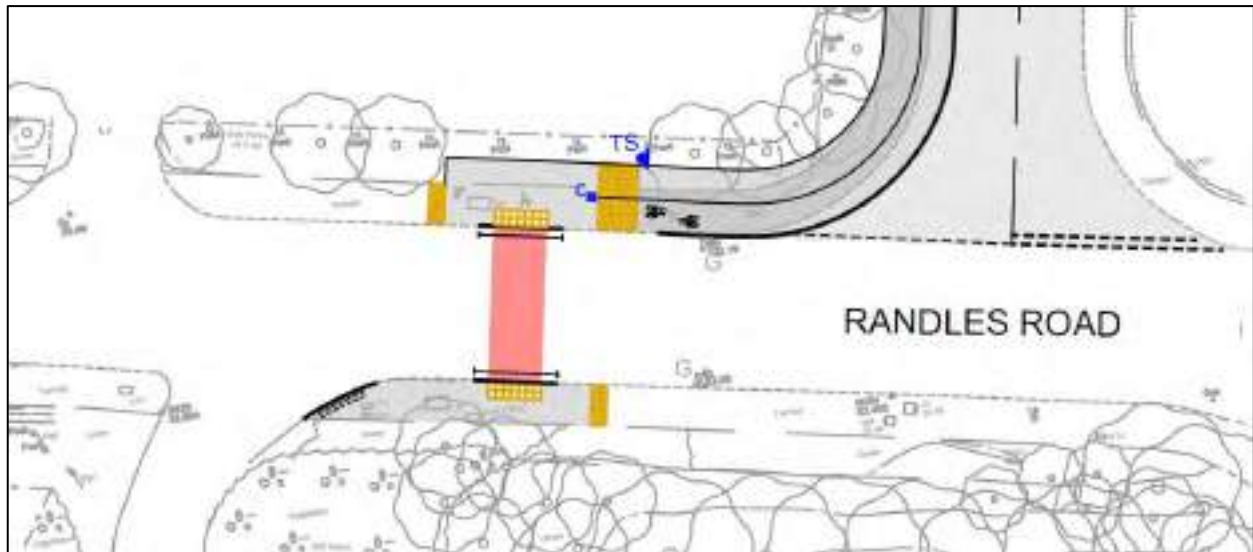
Figure 4.21: Gellings Greenway Connection to Gellings Lane (Source: Google Earth)



- 4.41. Following on from Gellings Lane is Randles Road, Randles Road is well paved, offers consistent lighting, and has an approximate width of 9m offering ample space for on road cyclists. Randles Road and connecting roads to the north are included within the planned M57 Junction 4 Committed Improvement Works, a section of the plan showing the intended enhancements is shown in **Figure 4.22**.



Figure 4.22: Section of General Arrangement Plan for M57 Junction 4 Interchange Improvement Scheme (Source: KMBC)



- 4.42. The M57 Junction 4 Committed Improvement Works will offer a cyclist and pedestrian crossing on Randles Road, as well as a dedicated cycleway that links with this crossing and carries on northwest onto School Lane, Ribbles Lane, and connects with the cycling infrastructure at the Moorgate Road North/A580 East Lancashire Road/Moorgate Road South 4-arm junction. The full M57 Junction 4 Committed Improvement Works plan is provided in **Appendix E**.
- 4.43. There is therefore an alternative safe route for cyclists to access the employment area to the north which is primarily off-road.

Local Walking Routes Summary

- 4.44. From our review of the existing local cycle routes from the site to Knowsley Business Park it has been determined that the routes are direct, step-free, are appropriately lit, have suitable surfacing, and the connections along the routes join together as part of a connected network.
- 4.45. The Parklands to Kitling Road (Knowsley Business Park Access) via Ormskirk Road route offers a quiet and direct route along residential and rural roads leading into Knowsley Business Park. The Knowsley Lane to Randles Road (Knowsley Business Park Access) via Gellings Greenway route offers a safe and mostly off-road route that takes slightly more time to travel into Knowsley Business Park.

Bus Accessibility

- 4.46. The nearest bus stop (Knowsley Park, opposite Home Farm Road) heading northbound is located approximately 400m from the centre of the site along Knowsley Lane circa 50m to the north of the B5202 Knowsley Lane and Home



Farm Road T-junction. The nearest bus stop (Knowsley Lane / Sugar Lane) heading southbound is located further north along Knowsley Lane, approximately 450m from the centre of the site.

- 4.47. There are additional bus stops located south along Knowsley Lane, approximately 550m from the centre of the site; within approximately 70m to the south of the B5202 Knowsley Lane and Shannons Lane T-junction.



- 4.48. All of these bus stops can be accessed via the pedestrian and cycle infrastructure located within the vicinity of the site. **Table 4.1** provides a summary of the services available from the nearest bus stops to the development, as well as highlights the frequency of these services.

Table 4.1 Frequency per Hour of Existing Bus Services Operating in the Vicinity of the Site

Service No	Route	Weekday (per hour)			Saturday (per hour)			Sunday (per hour)
		AM Peak	PM Peak	Evening	AM Peak	PM Peak	Evening	
217 / 217A	Bootle Bus Station - Leathers Lane	2	2	1	2	2	1	1
217 / 217A	Huyton Bus Station - Linnet Way Leathers Lane - Kirkby Bus Station	2	2	1	2	2	1	1
297	Kirkby Bus Station - St Helens via Knowsley Industrial Park, Prescot, Whiston Hospital, and Grange Park	Departs: 08:10, 09:10, and 10:10	Departs: 12:10, 14:10, 16:15, and 17:15	-	-	-	-	-
297	Ste Helens - Kirkby Bus Station via Grange Park, Whiston Hospital, Prescot, and Knowsley Industrial Park	Departs: 07:45, 09:44, and 11:44	Departs: 13:44, 15:49, and 16:49	-	-	-	-	-

- 4.49. As can be seen from **Table 4.1**, the site is well connected to the local bus network and the regular services provide access to a variety of key employment, leisure and retail destinations including Bootle, Huyton, Kirkby, St Helens, Grange Park, Whiston Hospital, Prescot, and Knowsley Industrial Park.
- 4.50. On the basis of the above, and the relatively short walking distances between the site and the nearby bus stops, the site is considered to be accessible by bus.
- 4.51. However, it should be noted that the proposal includes the provision of a bus route passing around the site to improve penetration. This would enter and exit the site via Knowsley Lane and is discussed in more detail in **Section 5** of this report.

Rail Accessibility

- 4.52. The nearest railway station to the site is Huyton Station located approximately 5.2km to the south of the site. This can be reached from the site via a 17-minute cycle, or a 26-minute bus journey on the 217 bus service that runs from the bus stops on Knowsley Lane. The station offers up to nine services an hour to destinations such as Wigan, Blackpool, Preston, Liverpool, St Helens, and Manchester. The station has 12 bike stands within the car park for those incorporating cycling to and from the station as part of their multi-modal journey.



- 4.53. Headbolt Lane Station sits approximately 6.7km to the northwest of the site. This can be reached from the site via 23-minute cycle, or a 34-minute bus journey on the 217 bus services that runs from the bus stops on Knowsley Lane.
- 4.54. The primary operator from this station is the Northern Line from the Merseyrail Network that travels between Headbolt Lane and Liverpool Central with services typically operating every 15 minutes on weekdays and Saturdays. On Sundays, the service generally operates every 30 minutes. The Northern Line route from Headbolt Lane Station also encompasses stops such as Kirkby, Fazakerley, Rice Lane, Kirkdale, Sandhills, and Moorfields.
- 4.55. Headbolt Lane Station also offers a train service operated by Northern which travels to Blackburn via Wigan, Atherton, Salford, Manchester, Burnley, and Accrington; with services typically operating every hour on weekdays and Saturdays.
- 4.56. Kirkby Station sits approximately 7km to the northwest of the site. This can be reached from the site via 24-minute cycle, or a 29 minute bus journey on the 217 bus services that runs from the bus stops on Knowsley Lane. It only offers the Northern Line rail service from the Merseyrail Network.
- 4.57. Both stations have eighty sheltered and CCTV monitored stands / racks available for cycle storage for those incorporating cycling to and from the station as part of their multi-modal journey. At Headbolt Lane Station the shelter is at the station next to the booking office, and at Kirkby Station the bike shelter is within the station car park.
- 4.58. It is therefore considered that the site is accessible by rail for site users using rail as part of a multi-modal journey.

Minimum Accessibility Standard Assessment (MASA)

- 4.59. As per the requirements KMBC's Ensuring a Choice of Travel SPD, an accessibility assessment using the MASA tool has been carried out and has been included as **Appendix G** of this report.
- 4.60. This assessment shows that the proposals meet at least the minimum criteria for scoring in the MASA assessment, including for pedestrian, cycling, public transport and car parking infrastructure.

Active Travel England Checklist

- 4.61. A completed version of Active Travel England's Planning Application Assessment Toolkit is provided as **Appendix H** of this report.

Summary

- 4.62. This Section of the report has demonstrated that the proposed development site is located in an area with accessibility to a range of sustainable modes of transport, and that the site would not be overly reliant on single-occupancy car travel.



- 4.63. Having outlined the accessibility of the site, the next Section of this report provides detailed information on the development proposals.



5. Proposed Development

- 5.1. This Section of the report provides a description of the proposed development, including access strategy, and other measures to encourage sustainable travel.

Proposed Development

- 5.2. The development description for the proposed development has been included below:

Outline application, including detailed access to but not within the site, for the erection of up to 700 dwellings together with public open space, landscaping, new vehicular access junctions, active travel links, sustainable urban drainage systems and other associated works.

- 5.3. Notwithstanding the above, this TA has adopted a development quantum of 750 dwellings which is excess of the quantum of development sought through the planning application. As a result, the traffic impact assessment has been undertaken on a robust basis.
- 5.4. The parameters plan for the proposed development, along with an indicative masterplan, has been included as **Appendix A** of this report.

Access Strategy

- 5.5. The site is to be served by two ghost-island priority-controlled junctions onto Knowsley Lane plus active travel linkages to Home Farm Road. The design aims to minimise impact on the existing hedgerow along the eastern side of Knowsley Lane.
- 5.6. A General Arrangement of the proposed points of access with Knowsley Lane is shown in **Drawing A25007-0100-001-P01**. In addition to the proposed vehicle accesses, several active travel connections are also shown, these will be achieved by providing additional gaps in the hedgerow and include:
- Active travel connection to Fluker's Brook Lane between the two proposed access junctions.
 - A connection plus pedestrian refuge on Knowsley Lane to assist pedestrians in crossing to the carriageway to the western footway and existing bus stop.
 - A 4m shared footway/ cycleway corridor running north-south along the back on the existing hedgerow. To the north this will connect in with Home Farm Lane via a further gap in the hedgerow. To the south the shared provision will connect with Knowsley Lane and existing bus stop provision.



5.7. With reference to the proposed Framework Plan, the development will seek to support active and shared travel both within the site itself and via connections to existing infrastructure, in addition to the points of access and shared footway/ cycleway detailed above, the following options are shown:

- A potential active travel connection onto Parklands at the north-east corner of the site. As shown, subject to Reserved Matters, this location could also be considered for emergency vehicle access.
- An onward connection to Ross Close/ Sugar Lane. It is acknowledged that this connection is outside of the application red line boundary so will not be directly delivered by the proposed development. However, this is known to be an existing well-used route and the indicative layout seeks to facilitate access to this.
- Several indicative active travel connections onto Home Farm Road to facilitate connections to the north for these users, including shops located on Sugar Lane and educational opportunities.

5.8. Whilst only provided for illustrative purposes at this stage of the planning process, the indicative masterplan pays due cognisance to the need to provide accessibility throughout the proposed development site. Potential options to ensure that the site meets these requirements are listed below:

- Off-carriageway cycle route running north-south along the site frontage with Knowsley Lane.
- A bus route through the proposed and following a main estate road that connects with both proposed access points with Knowsley Lane. Further discussions with KMBC, MerseyTravel and bus operators will be required on this matter.
- Traffic free routes throughout the site to assist in permeability for non-motorised users. This include north-south and east-west connections. A circular route around the perimeter of the site is also shown.



6. Traffic Impact Assessment Methodology

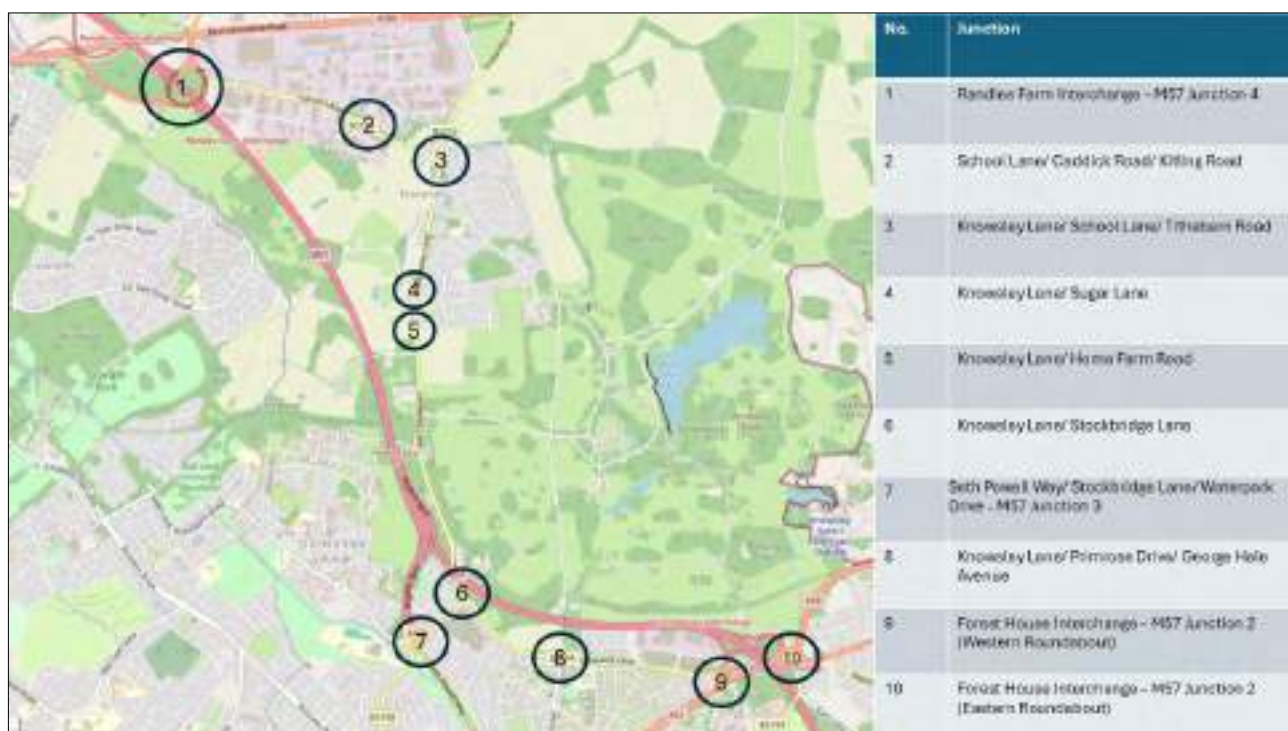
Introduction

- 6.1. This Section of the report outlines the methodology used to undertake an assessment of the proposed development's relative impact of the local highway network.

Study Area

- 6.2. The adoption of this study area for the assessment of the site has been agreed with KMBC and National Highways as part of the pre-application process.
- 6.3. **Figure 6.1** provides a location map of the junctions that form the agreed study area for this assessment.

Figure 6.1: Adopted Study Network



Baseline Traffic Flows and Network Peak Hours

- 6.4. The assessment of the junctions listed above has been informed by traffic surveys undertaken across Wednesday 12th and Thursday 13th February 2025, with the full traffic count data included as **Appendix I** of this report. The dates of these surveys were agreed with KMBC.



- 6.5. It should be noted that two junctions required additional surveys undertaken on 11th March 2025 due to a combination of equipment failure and damage sustained to cameras. The impacted junctions are listed below:
- J5: Knowsley Lane/ Home Farm Road
 - J8: Knowsley Lane/ Primrose Drive/ George Hale Avenue
- 6.6. A snapshot survey of the Knowsley Lane/ Stockbridge Lane junction was undertaken at the same time as the resurveys listed above to assist with validation. A comparison between the surveyed February and March 2025 traffic flows revealed only minor variation between the two survey dates confirming that the use of the March 2025 remains robust and consistent with other surveyed junctions.
- 6.7. For the purposes of this assessment, the typical weekday AM and PM peak periods have been considered to assess the impact of the proposed development on the operation of the local highway network.
- 6.8. These periods typically experience the greatest level of background traffic demand and as a result these will be the most sensitive to additional vehicles on the network resulting from the proposed development.
- 6.9. From the traffic surveys, the following weekday peak hours were identified:
- AM Peak Hour – 08:00-09:00.
 - PM Peak Hour – 16:30-17:30.
- 6.10. The surveyed traffic flows have been converted to Passenger Car Units (PCU) which is a standard approach to traffic impact assessment. PCUs are a metric that represents the relative effect of a vehicle on traffic flow compared to a standard passenger car. Since different vehicles occupy different road space, PCUs are used to standardise these effects.
- 6.11. The 2025 Survey traffic flows for the above peak hours are presented in **Figure 1**.

Assessment Scenarios

- 6.12. The traffic flow scenarios adopted for this assessment are detailed below:
- **2028 Opening Year** - this scenario has been adopted for the projected year of opening at the site and will be used to assess junctions along the M57 motorway. This assessment year aligns with NH's requirements as set out in their policy guidance document 'Planning for the Future'. In accordance with this guidance, this scenario assumes the full build out and occupation of the proposed development.



- **2030 Future Year** - will be adopted for the assessment of junctions forming part of the local road network and falling under the jurisdiction of KMBC. This scenario represents a position that is five years post-registration of the planning application for the proposals and is a standard approach to assessing the impact of traffic from a proposed development on local roads.
- **2035 Future Year** - this further future year assessment has been adopted to meet the requirements of NH's previously referenced guidance which states that a future year scenario should be considered for the SRN that is *"either a date ten years after the date of registration of the associated planning application or the end of the Local Plan period (whichever is greater)"*. It has been adopted for Junction 2-4 of the M57.

6.13. Details on the committed development and background growth assumptions used to inform these adopted assessment scenarios are provided below:

Committed Development

6.14. A comprehensive list of committed development schemes in the vicinity of the proposed development site has been provided by planning consultant Pegasus, acting on behalf of the applicant. Following a review of these schemes, the following have been included in our assessment:

- 18/00062/HYB - Land at Knowsley Lane, Huyton: the transport evidence submitted in support of this planning application included an assessment of the western roundabout of M57 Junction 2. Corresponding development trips are provided for this junction.
- 22/00099/FUL - Former Contract Chemicals Site Penrhyn Road: development traffic flows for this committed scheme are provided within the supporting transport evidence and encompass Randles Farm Interchange (M57 Junction 4); School Lane/ Caddick Road/ Kitling Road and; Knowsley Road/ School Lane/ Tithebarn Road.

6.15. Traffic flows for the committed schemes listed above are included in **Figure 2**. As detailed above, planning application 18/00062/HYB assigned traffic to the western roundabout of M57 Junction 2. For the purposes of the assessment of the proposed development, these trips have been further assigned to the eastern roundabout of Junction 2 using turning flow proportions.

6.16. With the exception of the eastern roundabout of M57 Junction 2, committed development flows were only assigned to the junctions considered in the relevant TA's for each planning application. As detailed later in this Section, traffic growth factors have been used across the network to ensure that the assessment accounts for any potential uplift in flows as a result of committed development.



6.17. For completeness, the full list of committed schemes that were not directly inputted into the adopted traffic flow scenarios is listed below along with reasons for their exclusion:

- 19/00243/OUT & 21/00929/REM - Vacant Land at Junction Of Moorgate Road/ M57 Slip Road And School Lane: no detailed assessment of any of the junctions adopted for the TA were included within the submission evidence. As a result, this committed scheme has not been directly included in the traffic impact assessment of the proposed development.
- 19/00684/FUL - Whitakers Garden Centre, Liverpool Road, Prescott: the transport evidence submitted in support of this committed scheme did not consider junctions within the study network adopted for this assessment of the proposed development.
- 20/00379/FUL – The Web Complex, Admin Road, Knowsley Industrial Park: the supporting transport evidence concluded that this scheme would generate fewer vehicle trips when compared with the previous extant consent at the site. As a result of this, the scheme has a reduced impact on the local highway network when compared with the previous use at the site and no detailed traffic impact assessment was undertaken to support the application.
- 22/00163/FUL - Land bounded by Villiers Road & Penrhyn Road: the supporting transport evidence submitted as part of the planning application for this scheme concluded that there would be no material impact as a result of the proposals on the local highway network. The trip forecasts presented did not exceed 30 two-way trips within an hour and as a result no further detailed traffic impact assessment was undertaken.
- 22/00766/SO - Land at Larkins Farm, Gellings Lane: similarly, no planning application has been submitted for this scheme, and it is not considered that there would be any material change in traffic flows within the study network proposed to be adopted for this assessment.
- 22/00348/FUL - Land bounded by East Lancashire Road, Ormskirk Road and Knowsley Lane: the supporting transport evidence for this planning application did not consider any of the junctions within the study network adopted for this assessment of the proposed development.
- 23/02008/FUL – Land at Coopers Lane, Knowsley: this scheme is a battery storage facility and as a result will only generate a nominal level of traffic, primarily associated with maintenance activity. Furthermore, no Transport Assessment or Statement was submitted in support of the application confirming its minimal vehicle trip generation potential.
- 23/01197/FUL – Land to the North East of the Junction of Gale Road and Admin Road, Knowsley Industrial Park: the supporting transport evidence submitted as part of the planning application



concluded that this scheme would only generate limited vehicle trips on the surrounding highway network. The trip forecasts presented did not exceed 30 two-way trips within either of the peak hours assessed. As a result, with the exception of a capacity test of the site access junction, no further detailed traffic impact assessment was undertaken.

- 23/00456/FUL - Vacant Land at Alchemy Way, Knowsley Industrial Park: the transport evidence submitted in support of the planning application for this committed scheme concluded that the development would only generate minimal vehicle trips. As a result, no detailed assignment or assessment of development traffic was presented.
- 24/00142/SO - Land north of Cut Lane Kirkby: no formal planning application has been submitted for this scheme. However, given the nature, scale and location of this potential development, it is considered that it will not result in any material increase in vehicle trips within the identified study network.

Background Traffic Growth

- 6.18. As detailed above, several future assessment years have been adopted in order to assess the relative impact of traffic from the proposed development.
- 6.19. In order to uplift background traffic flows, growth factors have been calculated using Version 8.1 of the TEMPRO database using the middle super output area in which the site is located ('Knowsley 005').
- 6.20. To account for traffic associated with committed development 18/00062/HYB, and to avoid double counting of background traffic, growth factors using the alternative assumptions function within TEMPro have been derived for use in the assessment of the two roundabouts associated with M57 Junction 2.
- 6.21. The forecast growth factors adopted for this assessment are presented in **Table 6.1**.

Table 6.1: TEMPRO Growth Factors - NTM adjusted (Knowsley 005)

Years	Peak Hour		Peak Hour - Alternative Assumptions	
	AM Peak	PM Peak	AM Peak	PM Peak
2025-2028	1.0385	1.0377	1.0322	1.0315
2025-2030	1.0643	1.0631	1.0537	1.0528
2025-2035	1.1200	1.1172	1.1019	1.0996



Baseline 'Without Development' Traffic Flow Scenarios

- 6.22. The surveyed traffic flows presented in **Figure 1** have been uplifted using the growth factors presented in **Table 6.1**. These growthed traffic flows have been combined with the committed development flows shown in **Figure 2** to generate the 'Without Development' traffic scenarios previously outlined in this Section. For the purposes of this assessment, forecast traffic from committed developments has been included in all scenarios.
- 6.23. The 2028 Opening Year 'Without Development' traffic flow scenario is shown in **Figure 3**.
- 6.24. The 2030 Future Year 'Without Development' traffic flow scenario is shown in **Figure 4**.
- 6.25. The 2035 Future Year 'Without Development' traffic flow scenario is shown in **Figure 5** for M57 Junctions 2-4.

Proposed Development Trip Generation

- 6.26. To ensure that this TA and the proposed development comply with national policy requirements, a Vision-led approach to forecasting traffic has been adopted. The adopted methodology is detailed below, and adopts the following key principals:
- Vehicle trip rates forecast using the TRICS database.
 - Trip types determined using data from the National Travel Survey.
 - Local employment and education trip types determined using a combination of National Travel Survey data and Census data.
 - Discounting of local education and employment trips recognising the accessibility of these opportunities by sustainable modes of transport.

Vehicle Trips Forecasts TRICS

- 6.27. The industry standard TRICS database of surveyed sites has firstly been interrogated to forecast vehicle trips for 750 residential dwellings. As noted previously in this report, the proposed development is for a maximum of 700 dwellings and as a result, these trip forecasts are considered to be robust.
- 6.28. The TRICS filtering function has been used to find comparable existing development sites with similar locational and accessibility characteristics.
- 6.29. Full details of the parameters used in this exercise can be found in the TRICS outputs included as **Appendix J**, with a summary of the forecast trip rates and generation for the weekday AM and PM peak hours provided in **Table 6.2**. The peak hours reflect those identified for the highway network through the 2025 survey flows. As detailed above,



these are periods during which the highway network is typically most sensitive to additional demand and as such, represents a reasonable worst case approach to assessment.

- 6.30. As noted previously, the planning application to which this TA relates seeks consent for 700 residential dwellings. As a result, the forecast vehicle trips for this assessment are considered to be robust.

Table 6.2: Proposed Development Trip Rates and Trip Generation - TRICS Baseline Vehicle Trips

		AM Peak (08:00-09:00)			PM Peak (16:30-17:30)		
		Arr	Dep	Total	Arr	Dep	Total
750 Dwells	Trip Rate	0.150	0.392	0.542	0.321	0.168	0.489
	Trip Gen	113	294	407	240	126	366

- 6.31. As shown in **Table 6.2**, when assessed on a generic basis, the proposed development is expected to generate 407 two-way vehicle movements in the AM peak and 366 two-way vehicle movements in the PM peak.
- 6.32. The following paragraphs detail adjustments made to these forecasts to account for local context and the vision for the proposed development itself.

Trip Types - Journey Purpose

- 6.33. The vehicle trips forecast for the proposed development have been further disaggregated into trip types based on journey purpose. This information is useful in understanding the likely distribution and assignment of vehicles across the local highway network. It has also informed the mode shift assumptions used in this assessment which are explored in further detail below.
- 6.34. Information derived from the National Travel Survey has been used to forecast the journey purpose of vehicle trips. For the purposes of this assessment three key journey purposes have been extracted, Education, Escort Education (i.e. accompanying an individual to or from educational establishment) and Employment. It should be noted, that for the purposes of this assessment other trip types recorded by the National Travel Survey such as Leisure and Retail, have been treated as Employment which is considered to be robust approach.



- 6.35. The trip type proportions are outlined in **Table 6.3**. As shown an adjustment has then been made to exclude Education trips as these would be typically undertaken by individuals who do not own a vehicle i.e. children.

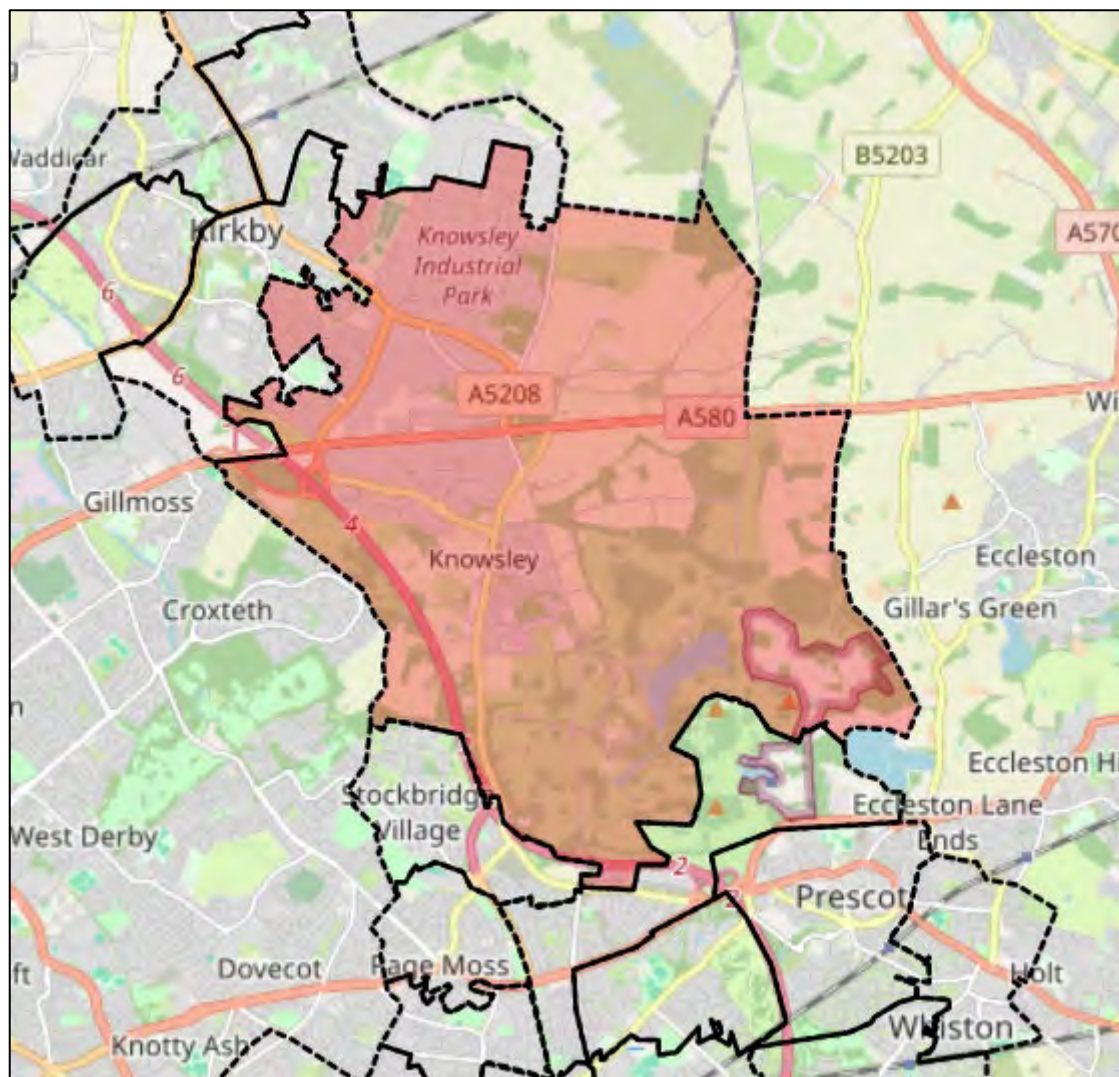
Table 6.3: Forecast Trip Types

	From National Travel Survey		Adjusted to exclude Education trips as not trip generators	
	AM	PM	AM	PM
Employment	47%	87%	65%	94%
Escort Education	25%	6%	35%	6%
Education	28%	7%		

Trip Types- Local Adjustments

- 6.36. As previously detailed in this report, the site benefits from access to a range of educational and employment opportunities. To ensure that these opportunities are reflected in our assessment, the Employment and Education trip types detailed above have been further disaggregated to account for local conditions.
- 6.37. As detailed later in this Section, 2011 Census data has been adopted to forecast the distribution of Employment trips to and from the site. This data revealed that a significant proportion (21.7%) of residents in MSOA Knowsley 005 were also employed within the same catchment area. An image of the boundary of the MSOA is provided in **Figure 6.1**, which shows that the MSOA encompasses the extensive employment opportunities offered by Knowsley Industrial Park to the north.



Figure 6.1: MSOA Knowsley 005 Catchment Area (Source: TRICS)

- 6.38. **Table 6.4** presents the further disaggregation of the Employment and Education trip types adopted for this assessment.
- 6.39. As shown below, the proportion of Local Employment trips has been determined on the basis of the aforementioned Census data.
- 6.40. To account for the nearby primary schools of Saint John Fisher and Knowsley Village, it has been assumed that 50% of education trips will access these facilities and have been classified as Local Primary School trip types. This assumption is considered reasonable for the purposes of this assessment and broadly reflects the split in year groups between primary and secondary schools.

Table 6.4: Forecast Trip Types - Local Opportunities

Trip Type	Sub-Trip Type	%	AM Peak (08:00-09:00)	PM Peak (16:30-17:30)
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			Arr	Dep	Total	Arr	Dep	Total
Employment	Journey to Work Data	78.3%	57	149	206	176	92	268
	Local Employment	21.7%	16	41	57	49	26	74
	Total		73	191	264	225	118	343
Education	Education (Other)	50%	20	52	71	8	4	12
	Local Primary Schools	50%	20	52	71	8	4	12
	Total		39	103	143	16	8	24

Mode Shift - Local Trips

- 6.41. A further adjustment to the forecast vehicle trips for the proposed development has been made to account for employment and education opportunities accessible from the site by sustainable modes of transport.
- 6.42. The local employment and education opportunities in the vicinity of the site are considered to provide the greatest opportunities for a shift away from single-occupancy car travel.
- 6.43. As detailed previously, two primary schools are located within walking and cycling distances of the site. The site is committed to providing active travel connections to Home Farm Road to serve desire lines to and from these locations.
- 6.44. The local employment opportunities to the north of the site are accessible by bicycle and by public transport. As outlined previously, it is proposed that bus services are diverted through the proposed site to ensure accessibility by this mode.
- 6.45. In light of the above, a 50% reduction in local employment and education vehicle trips is considered to be achievable. And the resulting discount in these trips is shown in **Table 6.5**.

Table 6.5: Local Trips - Future Baseline

Sub Trip Type	Future Mode Share	AM Peak (08:00-09:00)			PM Peak (16:30-17:30)		
		Arr	Dep	Total	Arr	Dep	Total
Local Employment	50%	8	21	29	24	13	37
Local Primary Schools	50%	10	26	36	4	2	6

Proposed Development Trip Distribution and Assignment

- 6.46. Three distinct distribution profiles have been adopted to reflect the different trip types adopted for this assessment; these are outlined below:

Employment



- 6.47. An employment distribution profile has been forecast using 2011 Census Journey to Work data from MSOA Knowsley 005. The assignment of trips has been forecast based on optimal routing between the site and the recorded areas of employment. The assignment calculations are included as **Appendix K** of this report.
- 6.48. The adopted employment distribution profile is shown in **Figure 6**. For the purposes of this assessment, it has been assumed education trips not assigned to local primary school will adopt a similar distribution profile as the employment trips.
- 6.49. The combined non-local educational and employment trips assigned to the study network using this distribution profile are shown in **Figure 7**.

Local Employment

- 6.50. The forecast vehicle trips for local employment opportunities within MSOA Knowsley 005 have been assigned to the study network with a distribution profile calculated using turning count surveys.
- 6.51. The adopted local employment distribution profile is shown in **Figure 8** and **9** for the AM and PM peaks respectively.
- 6.52. The assignment of Local Employment trips is shown in **Figure 10**.

Local Primary Schools

- 6.53. The forecast vehicle trips associated with the two local primary schools have been assigned to Sugar Lane as this is the most direct manner in which to access these facilities. This adopted distribution profile is shown in **Figure 11** and the assignment of these trips is shown in **Figure 12**.



Total Development

6.54. The total of the forecast traffic flows to the proposed development is shown in **Figure 13**.

'With Development' Traffic Flow Scenarios

6.55. The total proposed development flows in **Figure 13** have been added to the aforementioned 'Without Development' scenarios to generate the three key 'With Development' scenarios:

- The 2028 Opening Year 'With Development' traffic flow scenario is shown in **Figure 14**.
- The 2030 Future Year 'With Development' traffic flow scenario is shown in **Figure 15**.
- The 2035 Future Year 'With Development' traffic flow scenario is shown in **Figure 16** for M57 Junctions 2-4.

Summary

- 6.56. This Section of the report has outlined the manner in which the 'Without Development' and 'With Development' scenarios have been generated. These scenarios enable the relative impact of development traffic on the operation of the local highway network to be assessed and understood.
- 6.57. The next Section of this report presents the results and discussion of the traffic impact assessment of the proposed development at key junctions using these traffic flow scenarios.



7. Traffic Impact Assessment Results and Discussion

Introduction

- 7.1. This Section of the report presents and discusses the traffic impact assessment of the proposed development. It firstly considers the relative increases in traffic forecast to occur across the study network as a result of the proposed development before presenting the results of further detailed assessments at key locations.

Percentage Impact Across Study Network

- 7.2. **Table 7.1** has been prepared to provide an overview of the relative increases in traffic forecast to occur across the junctions forming the study network for this assessment.

Table 7.1: Proposed Development Percentage Impact Table

No.	Junction	2030 Without Dev.		Dev. Trips		Per min.		% impact	
		AM	PM	AM	PM	AM	PM	AM	PM
1	Randles Farm Interchange - M57 Junction 4	4684	4824	121	122	2.0	2.0	2.6%	2.5%
2	School Lane/ Caddick Road/ Kitling Road	883	825	127	129	2.1	2.2	14.4%	15.6%
3	Knowsley Lane/ School Lane/ Tithebarn Road	1405	1404	167	177	2.8	2.9	11.9%	12.6%
4	Knowsley Lane/ Sugar Lane	1533	1510	208	189	3.5	3.1	13.6%	12.5%
5	Knowsley Lane/ Home Farm Road	1524	1433	209	189	3.5	3.2	13.7%	13.2%
6	Knowsley Lane/ Stockbridge Lane	1953	1910	133	134	2.2	2.2	6.8%	7.0%
7	Seth Powell Way/ Stockbridge Lane/ Waterpark Drive - M57 Junction 3	3444	3362	49	49	0.8	0.8	1.4%	1.5%
8	Knowsley Lane/ Primrose Drive/ George Hale Avenue	1590	1604	84	85	1.4	1.4	5.3%	5.3%
9	Forest House Interchange - M57 Junction 2 (Western Roundabout)	4836	4554	68	69	1.1	1.1	1.4%	1.5%
10	Forest House Interchange - M57 Junction 2 (Eastern Roundabout)	5248	5312	51	32	0.9	0.5	1.0%	0.6%

- 7.3. As shown in **Table 7.1**, the relative impact of the proposed development varies across the junction and broadly reflects each junction's proximity to the site as well as its scale and baseline traffic demand.



- 7.4. On review of the above and in light of observations of the operational performance of the highway network, the Forest House Interchange arrangement, comprising the western and eastern roundabouts of M57 Junction 2 have not been subject to further detailed assessment.
- 7.5. As detailed above, these two junctions are forecast to accommodate a maximum relative increase in traffic of just 1.5% which occurs at the western roundabout in the PM peak. The relative impact is even lower for the eastern roundabout with a relative increase in traffic of just 1% in the AM peak and 0.6% in the PM peak. As detailed within Institute of Environmental Management and Assessment (IEMA) Guidelines, "day-to-day variation of traffic on a road is frequently at least + or -10%", which suggests that proposed development traffic would have an imperceptible impact on this part of the highway network.
- 7.6. Furthermore, additional vehicles at these two junctions as a result of the proposed development are forecast to equate to a maximum of around one additional vehicle every minute for this part of the network. Again, this further confirms that the proposed development's impact would be imperceptible to other road users and would not have any impact on operational performance of this infrastructure.

J1: Randles Farm Interchange - M57 Junction 4

- 7.7. As detailed previously, a committed improvement scheme is to be delivered for Randles Farm Interchange which has been adopted for the basis of this assessment as these works are projected to be in place prior to the opening of the proposed development.
- 7.8. To this end, Astute has liaised with both NH and KMBC on the traffic modelling work undertaken to support these committed schemes. KMBC provided a LinSig model of the junction which included the full package of works across the circulatory of the junction and included the A580 junction to the north.
- 7.9. A cordoned version of the model has been developed for this assessment which excludes the A580 signal junction as this is outside of the agreed study network. It should also be noted that some further minor amendments have been made to the lane configuration within the model with reference to Royal Haskoning drawing PC3016-RHD-PD-J4-DR-D-011 S4 P05. Details of these changes are noted within the model itself to assist the reviewer.
- 7.10. Due to the nature of the model, it is not considered appropriate to use the PRC optimisation tool within LinSig. Instead, manual adjustments to signal timings have been made to limit queuing traffic exceeding the capacity of the circulatory as far as practicable. This has largely been achieved by holding back traffic on the approaches to the circulatory and as is detailed below, the model calculates a relatively high queue on the A580 Bypass arm of the junction. However, this situation is present in both the 'Without Development' and 'With Development' scenarios and the focus of this assessment is therefore the relative impact of traffic from the proposed development.



- 7.11. Summary tables of the modelling are presented below and focus on the approaches to the junction and worst-case capacity and queuing indicators. To assist the reader, extracts from the model have been included as **Appendix L** of this report to illustrate the modelled performance of the junction in further detail.
- 7.12. The full LinSig modelling outputs have been included as **Appendix M** of this report.
- 7.13. LinSig expresses capacity using Degree of Saturation (DoS) values and also provides Mean Maximum Queue (MMQ) values for lanes and approaches to a junction. The software also provides a calculated Practical Reserve Capacity (PRC) value for the junction as a whole to indicate the level of available capacity. The PRC value is calculated via a formula that includes the worst-case DoS value across all lanes of the modelled junction and as a result, in certain situations should be treated with the appropriate level of caution.

2028 Opening Year

- 7.14. The committed improvement works at Randles Farm Interchange have been first tested under the forecast 2028 Opening Year traffic conditions. **Table 7.2** has been prepared to provide a summary of the key results of the capacity assessment for the scenario and includes both the 'Without Development' and 'With Development' scenarios.

Table 7.2: Randles Farm Interchange - 2028 Opening Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)
Moorgate	13	89.3	12	80.5	12	82.3	12	82.4
School Lane	6	82.4	12	90.9	6	82.4	13	92.1
M57 Northbound Offslip	31	96.0	16	86.0	43	100.2	16	86.0
A580 Slip	124	147.8	35	104.1	132	150.8	37	104.5
M57 Southbound Offslip	16	105.9	6	69.4	20	110.1	7	82.0
PRC	-64.3		-15.6		-67.6		-16.1	

- 7.15. As shown in **Table 7.2**, the addition of traffic from the proposed development is not forecast to result in any material change the operation of Randles Farm Interchange in the 2028 Opening Year scenario.



2035 Future Year Assessment

- 7.16. The junction has been further tested using traffic flows forecast for the 2035 Future Year scenario with the key results of presented in **Table 7.3**.

Table 7.3: Randles Farm Interchange - 2035 Future Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)
Moorgate	18	96.3	14	86.7	19	97.2	14	88.6
School Lane	7	88.6	20	97.5	7	88.6	31	102.0
M57 Northbound Offslip	60	103.5	21	92.5	60	103.5	21	92.5
A580 Slip	165	169.5	59	112.1	172	172.7	61	112.1
M57 Southbound Offslip	24	113.8	8	88.4	29	117.9	11	95.8
PRC	-88.3		-24.5		-91.9		-29.8	

- 7.17. As shown in **Table 7.3**, the addition of traffic from the proposed development is not forecast to result in any material change the operation of Randles Farm Interchange in the 2035 Future Year scenario.

Merge-Diverge Assessment

- 7.18. In accordance with NH's requirements, a merge-diverge assessment of the M57 slip roads at Junction 4 has been undertaken using the guidance provided in Design Manual for Roads and Bridges (DMRB) CD122. The guidance contained within this document can be used to determine the type of merge or diverge arrangement that is required based on the relationship between traffic joining or leaving the motorway and the mainline flows.
- 7.19. For ease of reference, the applicable merging and diverging diagrams contained within CD122 have been reproduced in **Figures 7.1** and **7.2** respectively.



Figure 7.1: Motorway Merge Layout Guidance (source CD122)

Figure 3.12b Motorway merging diagram

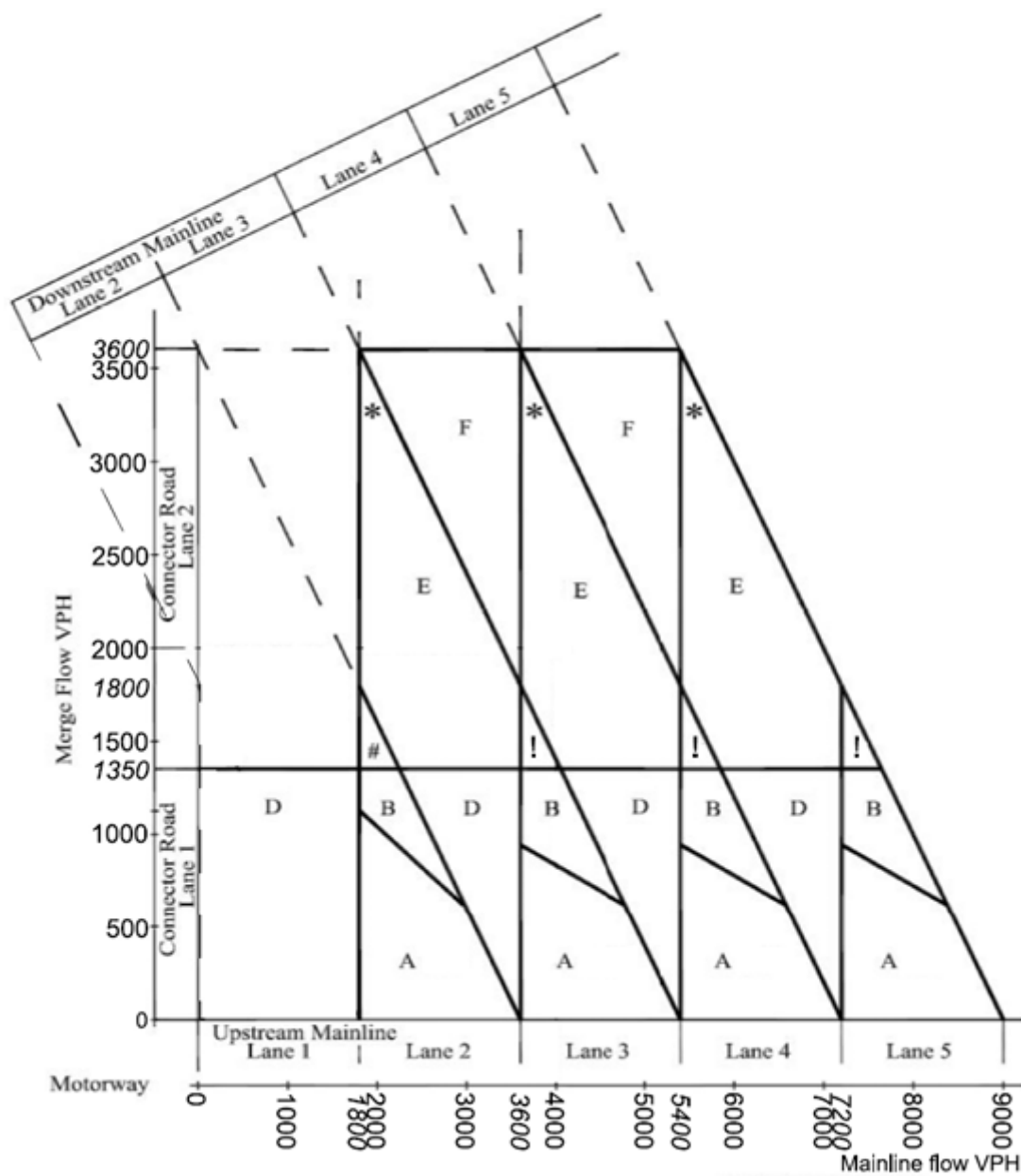
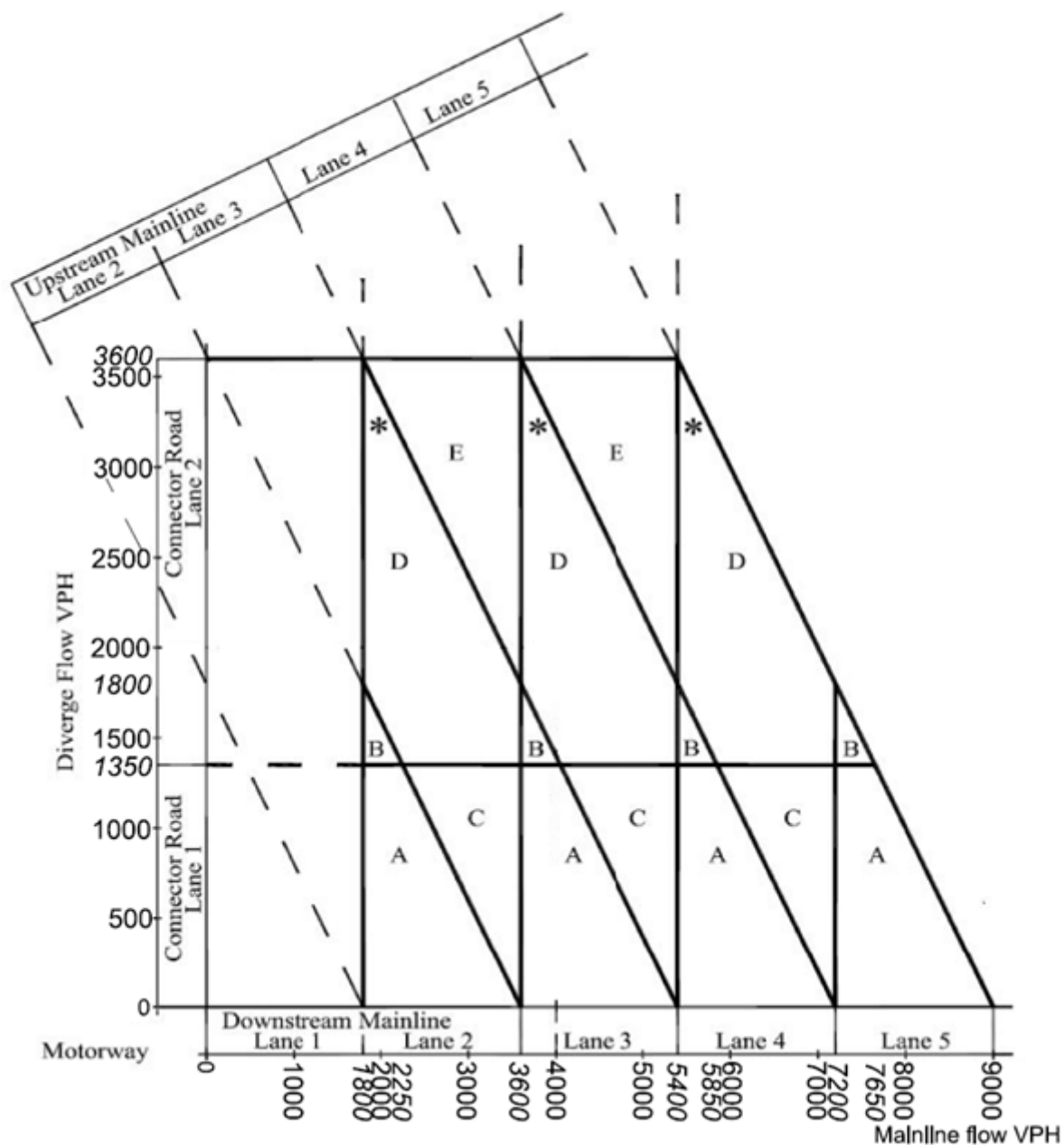


Figure 7.2: Motorway Diverge Layout Guidance (source CD122)

Figure 3.26b Motorway diverging diagram



- 7.20. **Table 7.4** has been prepared to show the merging and diverging requirements of the M57 Junction 4 sliproads under both 'Without Development' and 'With Development' traffic flow conditions.

Table 7.4: Randles Farm Interchange Merge-Diverge CD122 Requirements

2028 Opening Year										
		Vehicles Per Hour	Without Development				With Development			
			AM	CD122	PM	CD122	AM	CD122	PM	CD122
M57 Nthbound	Merge	Mainline	2609	A	3190	A	2609	A	3190	A
		Merging	254		474		278		485	
	Diverge	Mainline	2609	D	3190	D	2609	D	3190	D
		Diverging	2004		1471		2004		1471	
M57 Sthbound	Merge	Mainline	3407	E	2941	E	3407	E	2941	E
		Merging	1583		1907		1583		1907	
	Diverge	Mainline	3407	C	2941	C	3407	C	2941	C
		Diverging	326		379		335		401	
2035 Future Year										
		Vehicles Per Hour	Without Development				With Development			
			AM	CD122	PM	CD122	AM	CD122	PM	CD122
M57 Nthbound	Merge	Mainline	2815	A	3636	A	2815	A	3636	A
		Merging	274		509		298		520	
	Diverge	Mainline	2971	D	3547	D	2971	D	3547	D
		Diverging	2160		1584		2160		1584	
M57 Sthbound	Merge	Mainline	3675	E	2609	E	3675	E	2609	E
		Merging	1708		2052		1708		2052	
	Diverge	Mainline	3675	C	2796	C	3675	C	2796	C
		Diverging	350		408		359		430	

- 7.21. As shown in **Table 7.4**, the CD122 merging and diverging requirements remain unchanged between the 'Without Development' and 'With Development' scenarios.

J2: School Lane/ Caddick Road/ Kitling Road

- 7.22. The capacity of the School Lane/ Caddick Road/ Kitling Road roundabout junction has been tested within the JUNCTIONS 11 software package.
- 7.23. The software expresses capacity using a Ratio to Flow (RFC) value for each arm of the junction and a corresponding queue value which is given in PCUs.



- 7.24. The junction has been tested using the forecast 2030 Future Year scenario traffic flows for both the 'Without Development' and 'With Development' forecasts. The full JUNCTIONS modelling outputs for this assessment have been included as **Appendix N** of this report with **Table 7.5** providing a summary of the results.

Table 7.5: School Lane/ Caddick Road/ Kitling Road - 2030 Future Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	Queue	RFC	Queue	RFC	Queue	RFC	Queue	RFC
School Lane (E)	0	0.25	0	0.08	1	0.32	0	0.11
Caddick Road	0	0.03	0	0.12	0	0.03	0	0.13
School Lane (W)	0	0.26	0	0.23	0	0.29	0	0.29
Kitling Road	0	0.11	0	0.19	0	0.11	0	0.20

- 7.25. As shown in **Table 7.5**, the junction operates within capacity in both the 'Without Development' and 'With Development' traffic flow scenarios.

J3: Knowsley Lane/ School Lane/ Tithebarn Road

- 7.26. The capacity of the Knowsley Lane/ School Lane/ Tithebarn Road staggered priority crossroads junction has been tested in JUNCTIONS 11 for the 2030 Future Year 'Without Development' and 'With Development' traffic flow scenarios.
- 7.27. The full JUNCTIONS modelling outputs for this assessment have been included as **Appendix O** of this report with **Table 7.6** providing a summary of the results.

Table 7.6: Knowsley Lane/ School Lane/ Tithebarn Road- 2030 Future Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	Queue	RFC	Queue	RFC	Queue	RFC	Queue	RFC
Tithebarn Road	1	0.44	0	0.22	1	0.50	0	0.29
Knowsley Lane (N)	0	0.13	0	0.03	0	0.13	0	0.03
School Lane	1	0.34	8	0.92	1	0.50	40	1.20
Knowsley Lane (S)	0	0.03	1	0.06	0	0.03	0	0.06

- 7.28. As shown in **Table 7.6**, the junction is forecast to operate within capacity during the AM peak hour even with the addition of traffic from the proposed development.



- 7.29. However, the modelling results suggest that under the forecast traffic flow conditions for the PM peak in the 'Without Development' the western School Lane approach to the junction is at or approaching capacity. With the addition of traffic from the proposed development, queueing on this arm is forecast to increase for the right turn movement from this approach onto Knowsley Lane.

Proposed Mitigation

- 7.30. To address capacity constraints forecast to occur at the Knowsley Lane/ School Lane/ Tithebarn Road junction, package of mitigatory works has been developed and is shown in **Drawing A25007-0101-002**.
- 7.31. As shown, this proposes the part-signalisation of the junction which includes the signalisation of the School Lane approach. This approach avoids a direct impact on the Maypole Green which is a key heritage asset. A pedestrian crossing facility is shown for the northern Knowsley Lane arm of the junction.
- 7.32. The proposed design of the junction of the reconfigured Knowsley Lane/ School Lane junction is supported by a LinSig modelling exercise, the results of which are summarised in **Table 7.7**. The full LinSig Outputs have been included as **Appendix P** of this report.

Table 7.7: Knowsley Lane/ School Lane2030 Future Year (Proposed Mitigation)

Arm	'With Development' + Mitigation			
	AM		PM	
	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)
Knowsley Lane (N)	10	55.8	16	81.2
Knowsley Lane (S)	8	44.5	7	45.9
School Lane	4	52.1	11	82.2
PRC	61.3		9.5	



J4: Knowsley Lane/ Sugar Lane

- 7.33. The capacity of the Knowsley Lane/ Sugar Lane priority T-junction has been tested in JUNCTIONS 11 for the 2030 Future Year 'Without Development' and 'With Development' traffic flow scenarios.
- 7.34. The full JUNCTIONS modelling outputs for this assessment have been included as **Appendix Q** of this report with **Table 7.8** providing a summary of the results.

Table 7.8: Knowsley Lane/ Sugar Lane - 2030 Future Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	Queue	RFC	Queue	RFC	Queue	RFC	Queue	RFC
Sugar Lane	1	0.49	1	0.41	1	0.59	1	0.48
Knowsley Lane	0	0.29	0	0.26	0	0.36	0	0.30

- 7.35. As shown in **Table 7.8**, the junction operates well within capacity in both the 'Without Development' and 'With Development' traffic flow scenarios.

J5: Knowsley Lane/ Home Farm Road

- 7.36. The capacity of the Knowsley Lane/ Home Farm Road priority T-junction has been tested in JUNCTIONS 11 for the 2030 Future Year 'Without Development' and 'With Development' traffic flow scenarios.
- 7.37. The full JUNCTIONS modelling outputs for this assessment have been included as **Appendix R** of this report with **Table 7.9** providing a summary of the results.

Table 7.9: Knowsley Lane/ Home Farm Road- 2030 Future Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	Queue	RFC	Queue	RFC	Queue	RFC	Queue	RFC
Home Farm Road	0	0.12	0	0.06	0	0.13	0	0.06
Knowsley Lane	0	0.11	0	0.06	1	0.14	0	0.08

- 7.38. As shown in **Table 7.9**, the junction operates well within capacity in both the 'Without Development' and 'With Development' traffic flow scenarios.



J6: Knowsley Lane/ Stockbridge Lane

- 7.39. The capacity of the Knowsley Lane/ Stockbridge Lane priority T-junction has been tested in JUNCTIONS 11 for the 2030 Future Year 'Without Development' and 'With Development' traffic flow scenarios.
- 7.40. The full JUNCTIONS modelling outputs for this assessment have been included as **Appendix S** of this report with **Table 7.10** providing a summary of the results.

Table 7.10: Knowsley Lane/ Stockbridge Lane- 2030 Future Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	Queue	RFC	Queue	RFC	Queue	RFC	Queue	RFC
Stockbridge Lane	140	1.72	100	1.65	222	2.39	179	2.29
Knowsley Lane	59	1.13	97	1.21	112	1.26	137	1.30

- 7.41. As shown in **Table 7.10**, the junction is forecast to experience capacity pressures in both the 'Without Development' and 'With Development' traffic flow scenarios.
- 7.42. A proposed mitigation scheme has been developed that seeks to enhance the existing priority arrangement at this location. A General Arrangement of the proposed reconfiguration of the Knowsley Lane/ Stockbridge Lane junction is shown in **Drawing A25007-0102-001**. As shown this arrangement proposes the following alterations:
- A ghost island right turn on Knowsley Lane.
 - Widening of the Stockbridge Lane approach.
 - As requested by KMBC, a pedestrian refuge island on Knowsley Lane to facilitate connections to the north. as indicated, onward connections on the northern side of the carriageway are to be delivered by KMBC.



- 7.43. A supporting capacity assessment undertaken in JUNCTIONS has been undertaken of the proposed package of mitigatory works and the results of this modelling are summarised in **Table 7.11**. The full JUNCTIONS outputs have been included as **Appendix T** of this report.

Table 7.11: Knowsley Lane/ Stockbridge Lane- 2030 Future Year (Proposed Mitigation)

Arm	'With Development'			
	AM		PM	
	Queue	RFC	Queue	RFC
Stockbridge Lane	175	1.90	119	1.68
Knowsley Lane	12	0.92	12	0.92

- 7.44. As shown in **Table 7.11**, whilst the proposed reconfiguration of the junction continues to operate with some capacity pressures in both the weekday AM and PM peak hours. Whilst there are some increases in queuing on the Stockbridge Lane, the cumulative queuing across the junction is reduced when compared to the 'Without Development' assessment of the existing junction layout.

J7: Seth Powell Way/ Stockbridge Lane/ Waterpark Drive - M57 Junction 3

- 7.45. The capacity of the Seth Powell Way/ Stockbridge Lane/ Waterpark Drive roundabout has been tested in JUNCTIONS 11 for both the 2028 Opening Year and 2035 Future Year 'Without Development' and 'With Development' traffic flow scenarios.
- 7.46. The full JUNCTIONS modelling outputs for this assessment have been included as **Appendix U** of this report with **Table 7.12** providing a summary of the results of the 2028 Opening Year scenario.

Table 7.12: Seth Powell Way/ Stockbridge Lane/ Waterpark Drive (M57 Junction 3) - 2028 Opening Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	Queue	RFC	Queue	RFC	Queue	RFC	Queue	RFC
Stockbridge Lane	4	0.80	5	0.83	5	0.84	5	0.84
Seth Powell Way	5	0.85	7	0.88	6	0.86	8	0.90
Waterpark Drive	10	0.93	4	0.80	11	0.94	4	0.82
M57 Slips	1	0.56	1	0.57	1	0.56	1	0.58

- 7.47. As shown in **Table 7.12**, in the 2028 Opening Year scenario, the junction is forecast to operate with some capacity pressures in the AM and PM peak hours with the calculated RFC values indicating that several arms operate at or close to capacity. However, there is no material change in the operation of the junction with the addition of traffic from the proposed development.



7.48. **Table 7.13** provides a summary of the results of the 2035 Future Year scenario.

Table 7.13: Seth Powell Way/ Stockbridge Lane/ Waterpark Drive (M57 Junction 3) - 2035 Future Year

Arm	'Without Development'				'With Development'			
	AM		PM		AM		PM	
	Queue	RFC	Queue	RFC	Queue	RFC	Queue	RFC
Stockbridge Lane	8	0.90	9	0.92	11	0.94	11	0.94
Seth Powell Way	11	0.94	16	0.97	13	0.95	20	0.99
Waterpark Drive	31	1.03	7	0.88	35	1.04	8	0.90
M57 Slips	2	0.61	2	0.63	2	0.61	2	0.64

7.49. As shown in **Table 7.13**, in the 2035 Future Year scenario, the capacity pressures at the junction continue but with no material change in the junction's operation between the 'Without Development' and 'With Development' traffic flow scenarios.

J8: Knowsley Lane/ Primrose Drive/ George Hale Avenue

7.50. The junction has been modelled using signal timing information provided by KMBC.

7.51. The junction has been tested using the forecast 2030 Future Year scenario traffic flows for both the 'Without Development' and 'With Development' forecasts. The full LinSig modelling outputs for this assessment have been included as **Appendix V** of this report with **Table 7.14** providing a summary of the results.

Table 7.14: Knowsley Lane/ Primrose Drive/ George Hale Avenue - 2030 Future Year

Arm	'Without Development'				'With Development' - Alternate Staging			
	AM		PM		AM		PM	
	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)
Knowsley Lane (E)	62	116.8	72	117.4	11	60.4	12	61.5
Primrose Drive	41	117.7	24	115.0	12	86.6	8	80.1
Knowsley Lane (W)	70	118.0	76	117.5	18	85.3	19	85.6
George Hale Avenue	0	3.5	0	7.4	0	2.5	0	4.9
PRC	-31.1		-30.5		4.0		5.1	

7.52. As indicated, the 'With Development' scenario has also been modelled with an alternate staging arrangement that reduces the number of stages from four to three.



- 7.53. This has been undertaken to optimise to the performance of the model under these forecast traffic conditions as the junction performance was shown to deteriorate with the introduction of traffic from the proposed development. Increases in the over cycle time of the junction to a maximum of 120 seconds were also shown to mitigate the impact of the proposed development, but the overall performance is better with the reduction in number of stages so this has been presented in the table above.
- 7.54. As shown, the additional demand forecast to be generated by the proposed development can be accommodated by the existing junction layout.

Proposed Site Access Junctions

- 7.55. The capacity of the proposed site access junctions have been tested in JUNCTIONS 11 for the 2030 Future Year 'With Development' traffic flow scenarios.
- 7.56. For the purposes of this assessment, arrivals and departures forecast to be generated by the proposed development have been evenly split between the two junctions. A single model has been used to test the capacity of the two proposed site access junctions.
- 7.57. The full JUNCTIONS modelling outputs for this assessment have been included as **Appendix W** of this report with **Table 7.15** providing a summary of the results of the 2030 Future Year. F

Table 7.15: Knowsley Lane/ Proposed Site Access- 2030 Future Year

Arm	'With Development'			
	AM		PM	
	Queue	RFC	Queue	RFC
Proposed Site Access	1	0.54	0	0.26
Knowsley Lane	0	0.05	0	0.12

- 7.58. As shown, the proposed site access junctions are forecast to operate within capacity.

Summary

- 7.59. The results and discussion above have provided an overview of the relative impact of the proposed development on the operation of the local highway network. Interventions are required at several locations, but with these in place the additional traffic demand generated by the proposals can be accommodated.
- 7.60. Furthermore, there is no evidence to suggest that the proposed development would have any negative impact on highway safety.



8. Summary and Conclusions

Transport Assessment Summary

- 8.1. Astute Transport Planning has been appointed by Hallam Land to provide highways and transportation advice in support of a planning application for a proposed residential-led development on land at east of Knowsley Lane, Knowsley.
- 8.2. This Transport Assessment includes the following principal findings:
- In accordance with planning policy guidance, which promotes sustainable development, the site has been demonstrated to be accessible on foot, by bicycle and by public transport with safe and convenient access available to a range of surrounding services, amenities, and employment opportunities.
 - A review of historical collision data has demonstrated that there are no existing accident blackspots in the vicinity of the site. Based upon the findings of the traffic impact assessment, it has been concluded that there is no reason to believe highway safety would be worsened as a result of the development proposals.
 - Junction capacity assessments have been undertaken at key locations, including an allowance for committed developments and background traffic growth in the local area. The results of these assessment have indicated that there are some capacity pressures on the local road network but the impact of the proposed development can be suitably mitigated.
 - Based upon the results of the junction capacity assessments it was also concluded that the proposed development would not result in any reduction in the safe operation of the surrounding highway network.
 - It was therefore concluded that the residual cumulative impact of the development on the local highway network could not be considered severe.

Transport Assessment Conclusions

- 8.3. The NPPF states that, 'development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe'.
- 8.4. This report has demonstrated that the proposed development would have no material impact on the operation of the local highway network. There is also no reason to believe that it will have a detrimental impact upon highway safety. As such the impact of the development cannot be concluded to be severe.



- 8.5. The site therefore accords with relevant guidance and there are no reasons why the planning application should be refused on highway or transportation grounds.



DRAWINGS



EXISTING BUS STOP

PROPOSED GAP IN HEDGEROW TO CONNECT WITH HOME FARM ROAD

PROPOSED UNCONTROLLED CROSSING POINT WITH REFUGE

PROPOSED DEVELOPMENT ACCESS

PROPOSED RIGHT TURN LANE (GHOST ISLAND JUNCTION)

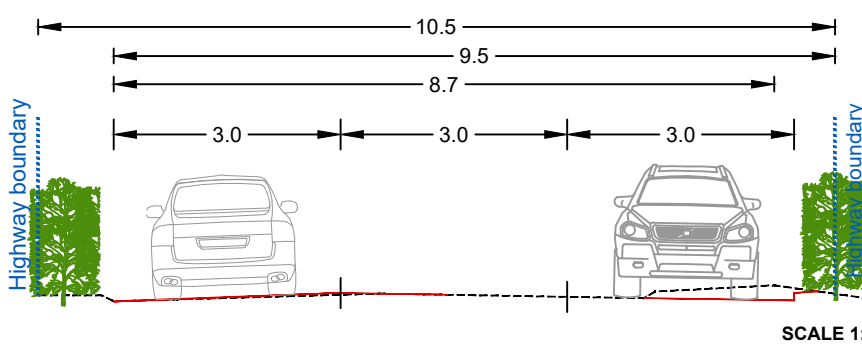
FLUKER'S BROOK LANE

PROPOSED RIGHT TURN LANE (GHOST ISLAND JUNCTION)

PROPOSED FLUKER'S BROOK LANE PEDESTRIAN ACCESS CUTTING

EXISTING LOCATION OF SPEED LIMIT CHANGE

TYPICAL PROPOSED HIGHWAY CROSS SECTION A-A



EXISTING HEDGEROW UNALTERED

WESTERN KERB LINE UNALTERED

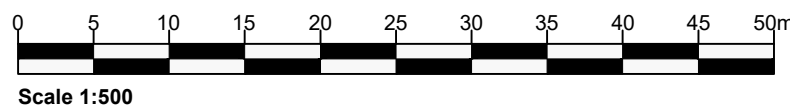
PROPOSED DEVELOPMENT ACCESS

PROPOSED RIGHT TURN LANE (GHOST ISLAND JUNCTION)

PROPOSED DEVELOPMENT

PROPOSED EXTENSION OF 30MPH MAXIMUM SPEED LIMIT - EXACT EXTENT TO BE AGREED

SHANNONS LANE



- Notes:
- This is not a construction drawing and is intended for illustrative purposes only.
 - White lining is indicative only.
 - Dimensions are in meters, unless stated otherwise.
 - The design speed is 30mph, adopting Manual for Streets standards.

- Legend:
- APPROXIMATE HIGHWAY BOUNDARY
 - EXISTING CARRIAGEWAY (APPROXIMATE AFFECTED EXTENT)
 - NEW CARRIAGEWAY
 - EXISTING HEDGEROW RETAINED (SHALL BE CUT BACK TO THE HIGHWAY BOUNDARY)
 - NEW REPLACEMENT HEDGEROW (SET BACK FROM JUNCTION VISIBILITY SPLAYS)
 - JUNCTION VISIBILITY SPLAYS (2.4m X 43.0m)
 - INDICATIVE PROPOSED 4.0m WIDE SHARED USE FOOTWAY & CYCLEWAY PROVISION

P01	Minor design team alterations.	16.07.25	AR	OM	OM
P0	First issue.				
Rev	Amendments	Date	By	Chk	Auth



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Planning

Client
HALLAM LAND MANAGEMENT LTD

Project
LAND EAST OF KNOWSLEY LANE, KNOWSLEY

Drawing Title
KNOWSLEY LANE PROPOSED ACCESS
GENERAL ARRANGEMENT

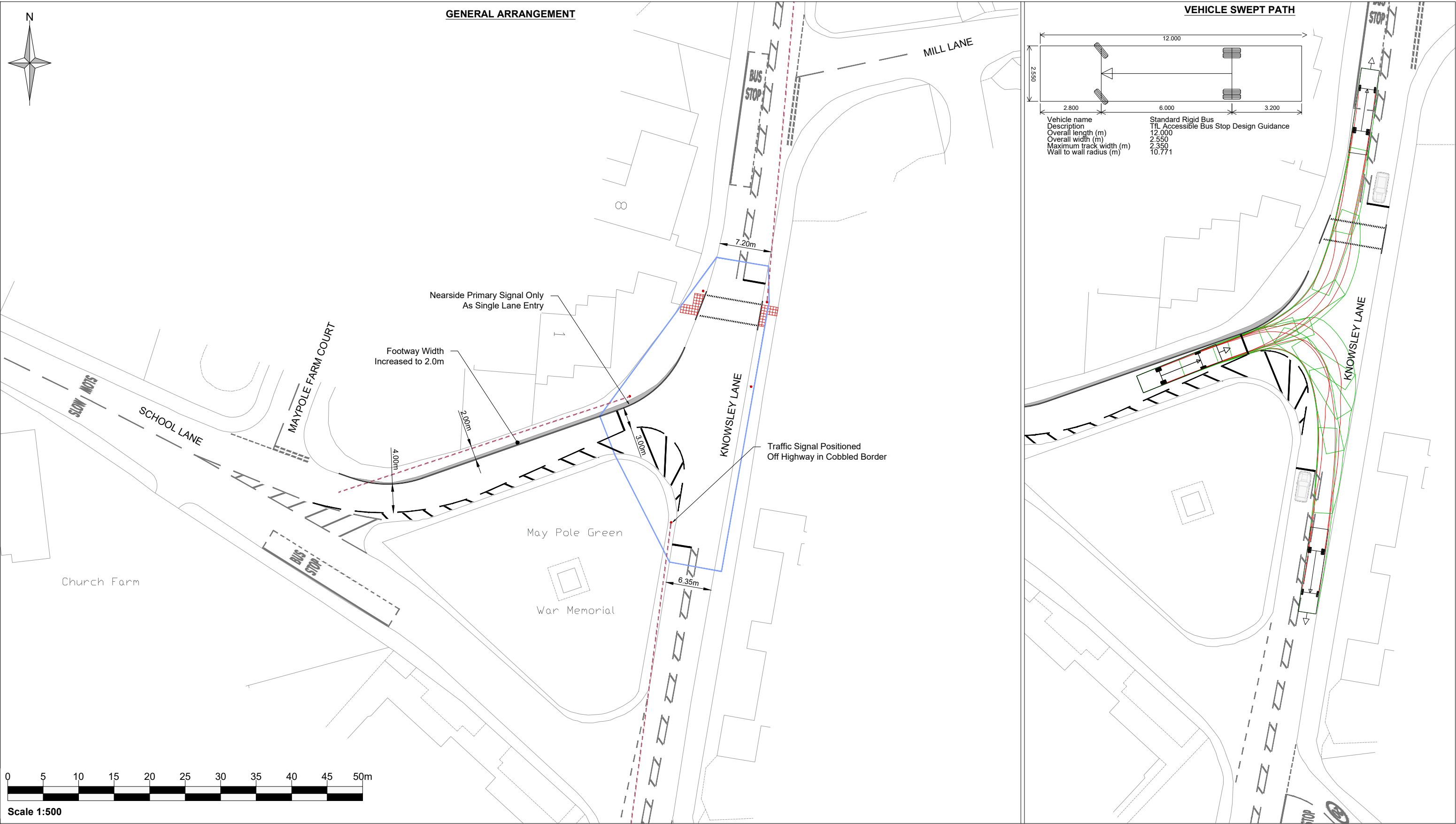
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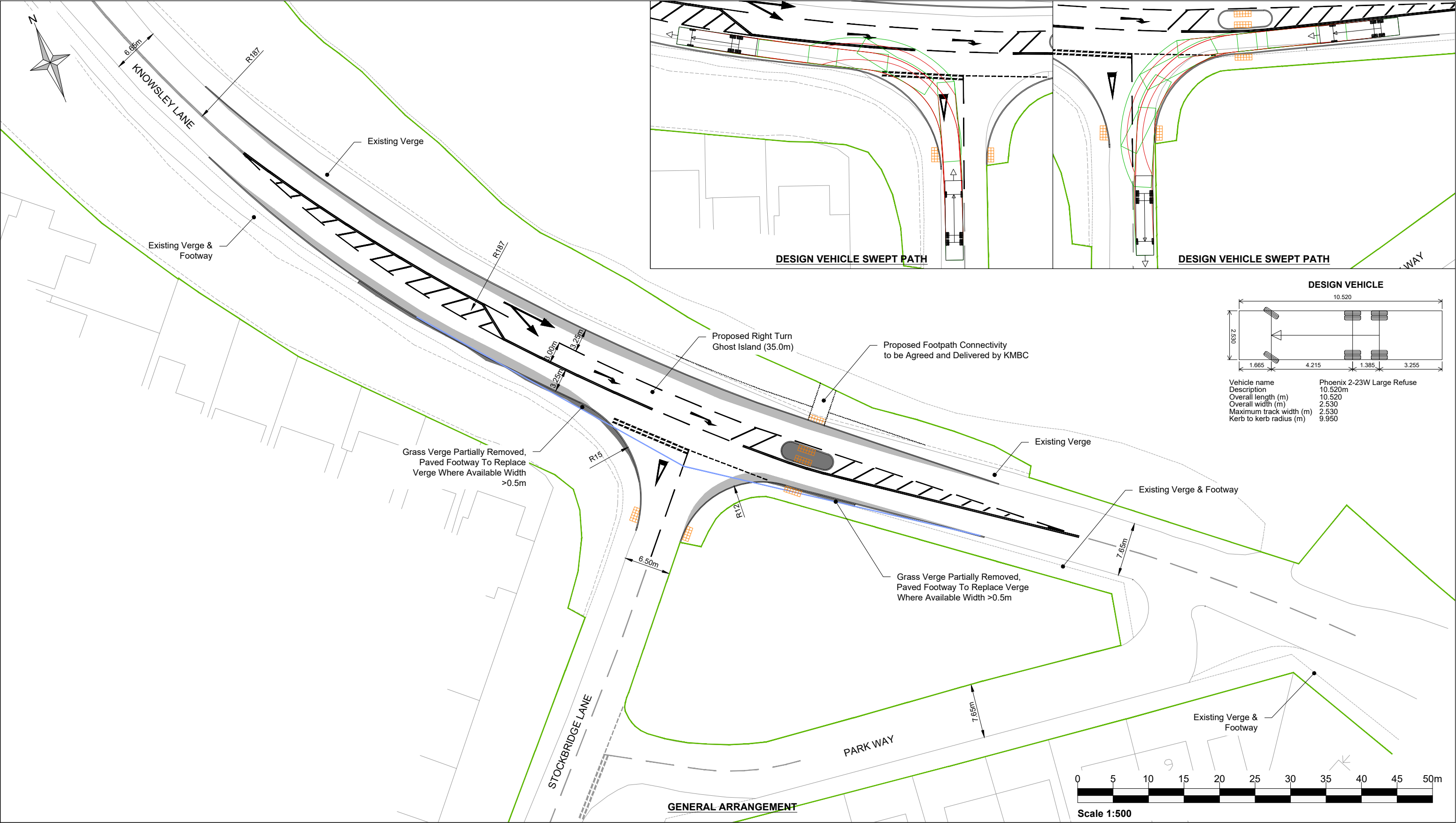
Drawing Number
A25007-0100-001

Rev
P01



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www.astutetransport.com						Project LAND EAST OF KNOWSLEY LANE, KNOWSLEY					
Drawing Status & Suitability Code											
Drawn AR			Checked OM			Drawing Title SCHOOL LANE (MEMORIAL) JUNCTION PROPOSED ALTERATIONS GENERAL ARRANGEMENT - SINGLE LANE ENTRY					
Date 14.07.25			Date 14.07.25								
Drawing Number A25007-0101-002				Rev. P01		Scale 1:50 @ A3		Astute Project No. A25007			
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P0 First issue.											
Rev		Amendments				Date		By		Chk Auth	

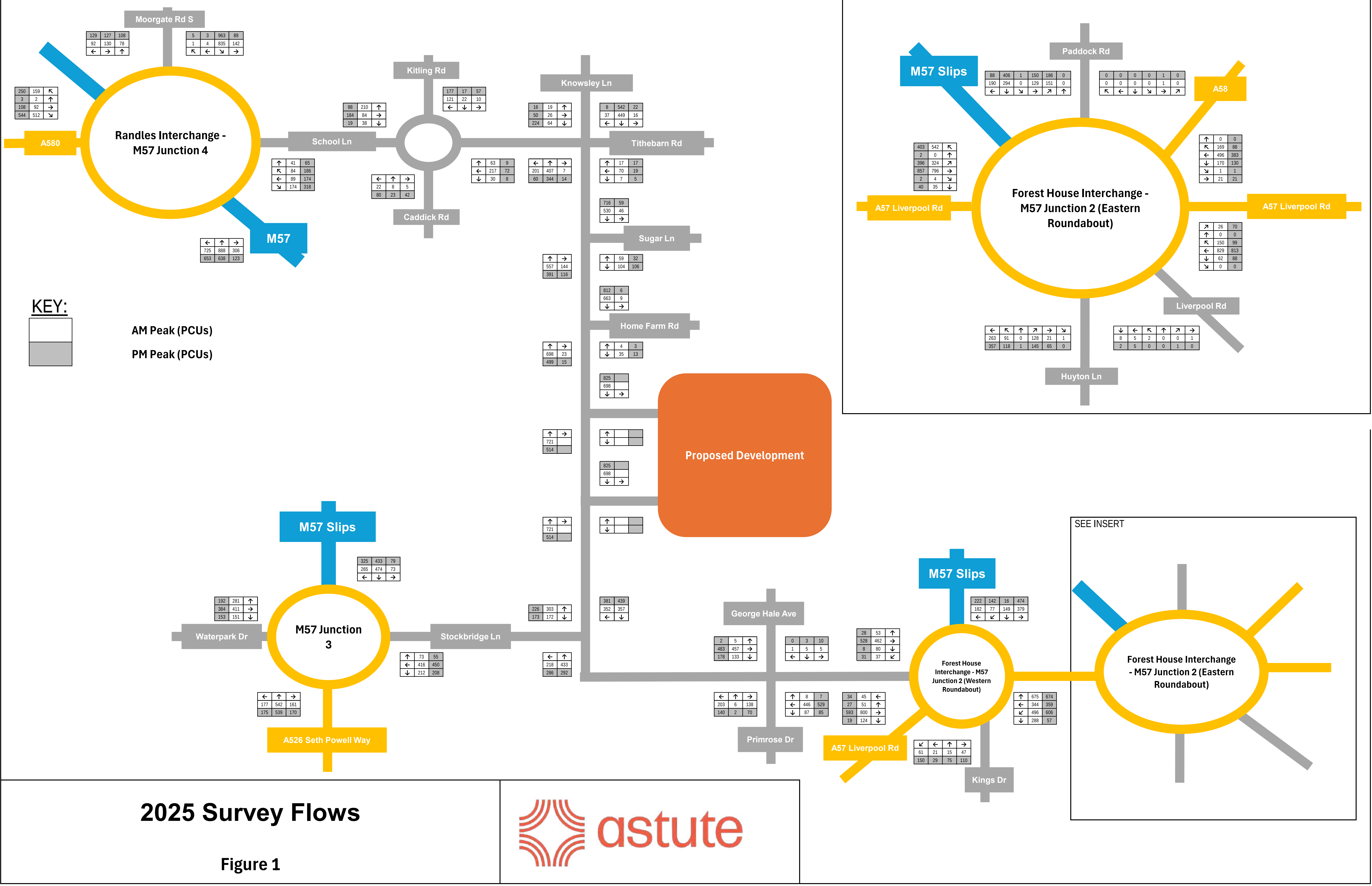
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	INDICATIVE PROPOSED TRAFFIC SIGNAL LOCATION	
	PROPOSED CONTROLLED CROSSING POINT	
	JUNCTION INTERVISIBILITY	
	FORWARD VISIBILITY SPLAY TO PRIMARY SIGNAL HEAD (43m SSD)	

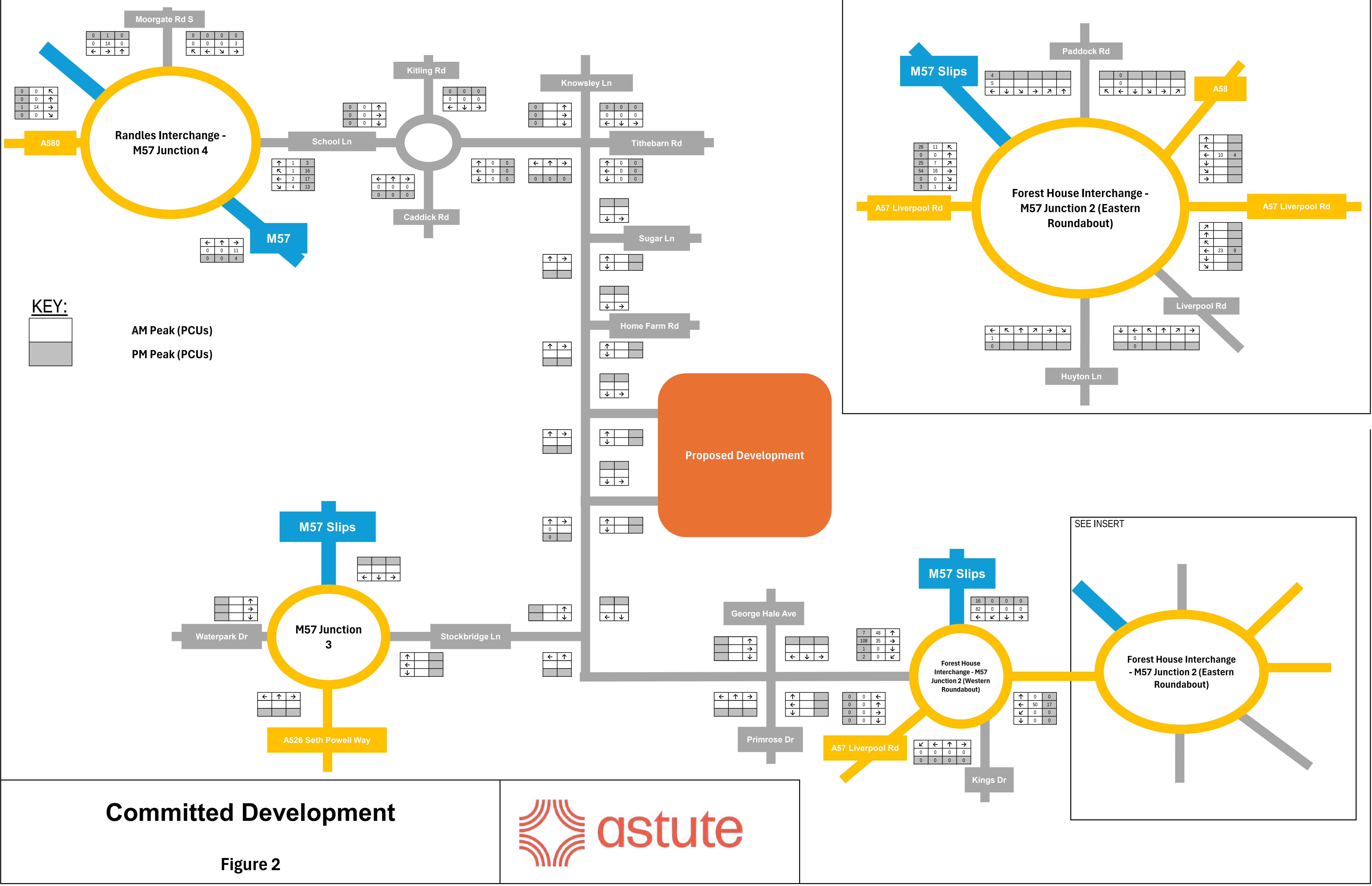


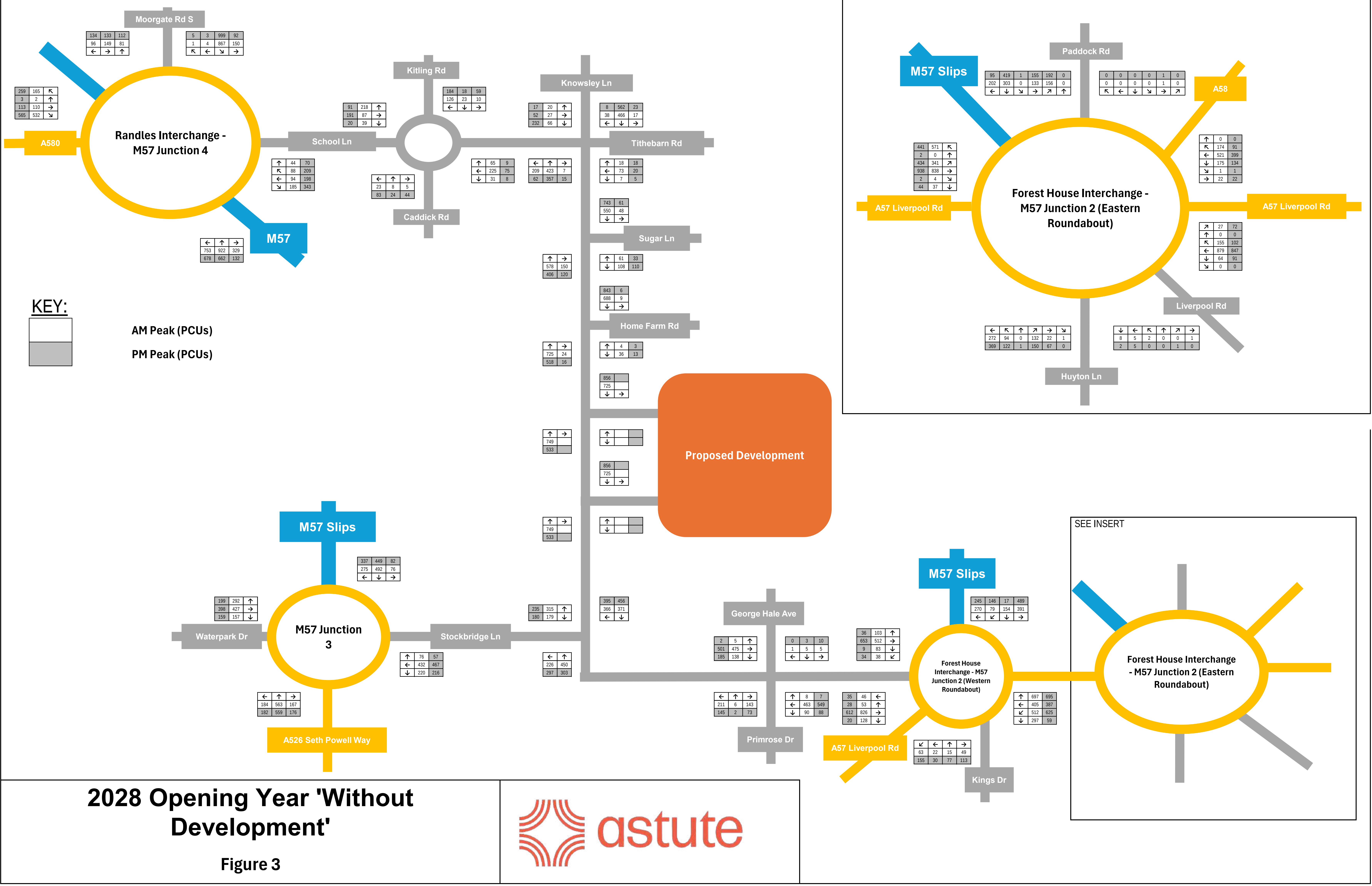
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www.astutetransport.com		Project LAND EAST OF KNOWSLEY LANE, KNOWSLEY		
Drawing Status & Suitability Code		Drawing Title STOCKBRIDGE LANE JUNCTION PROPOSED ALTERATIONS GENERAL ARRANGEMENT		
Drawn AR	Checked OM	Drawing Title STOCKBRIDGE LANE JUNCTION PROPOSED ALTERATIONS GENERAL ARRANGEMENT		P01 Minor design team alterations. 24.07.25 AR OM OM P0 First issue. Rev Amendments Date By Chk Auth
Date 14.07.25	Date 14.07.25			
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FIGURES









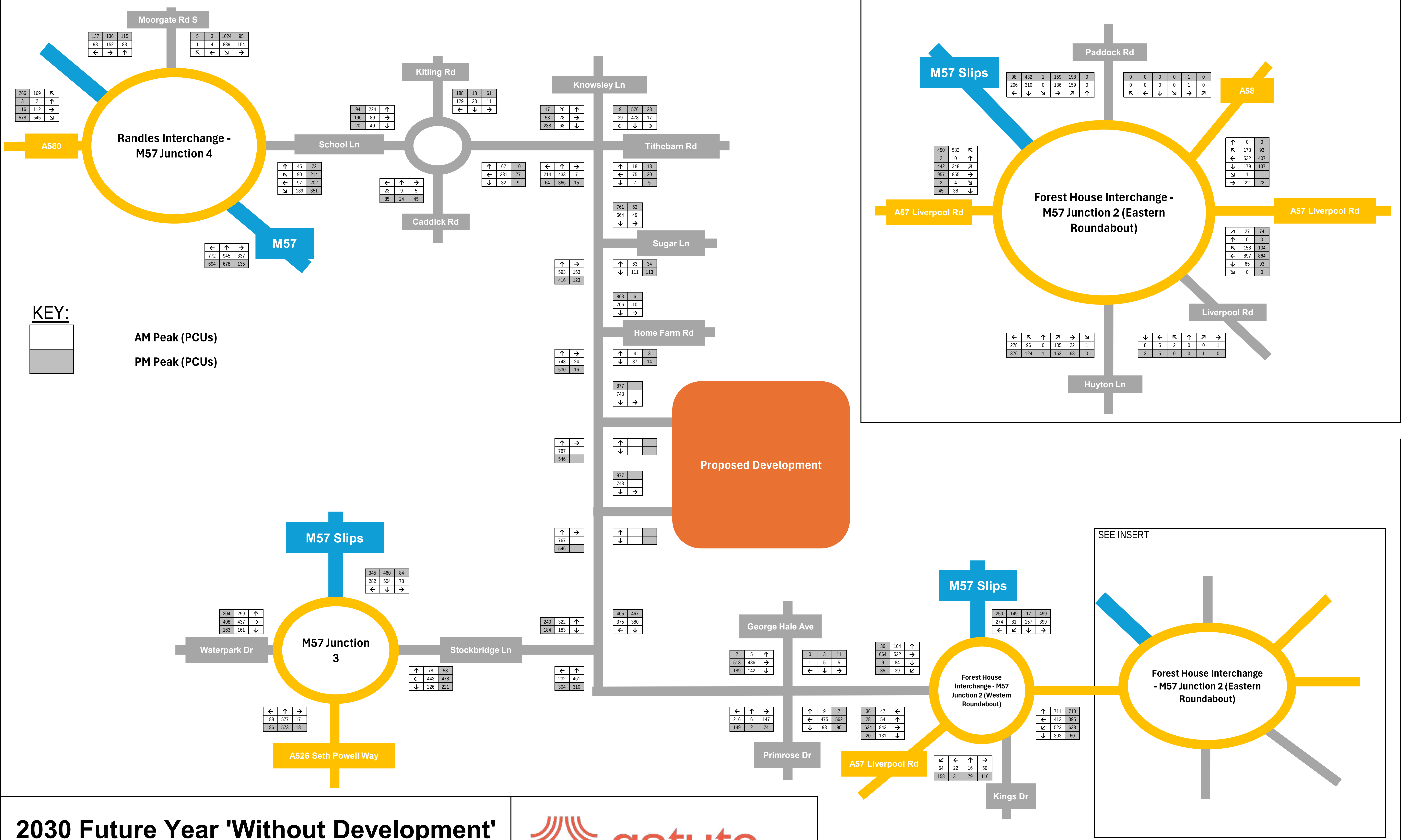
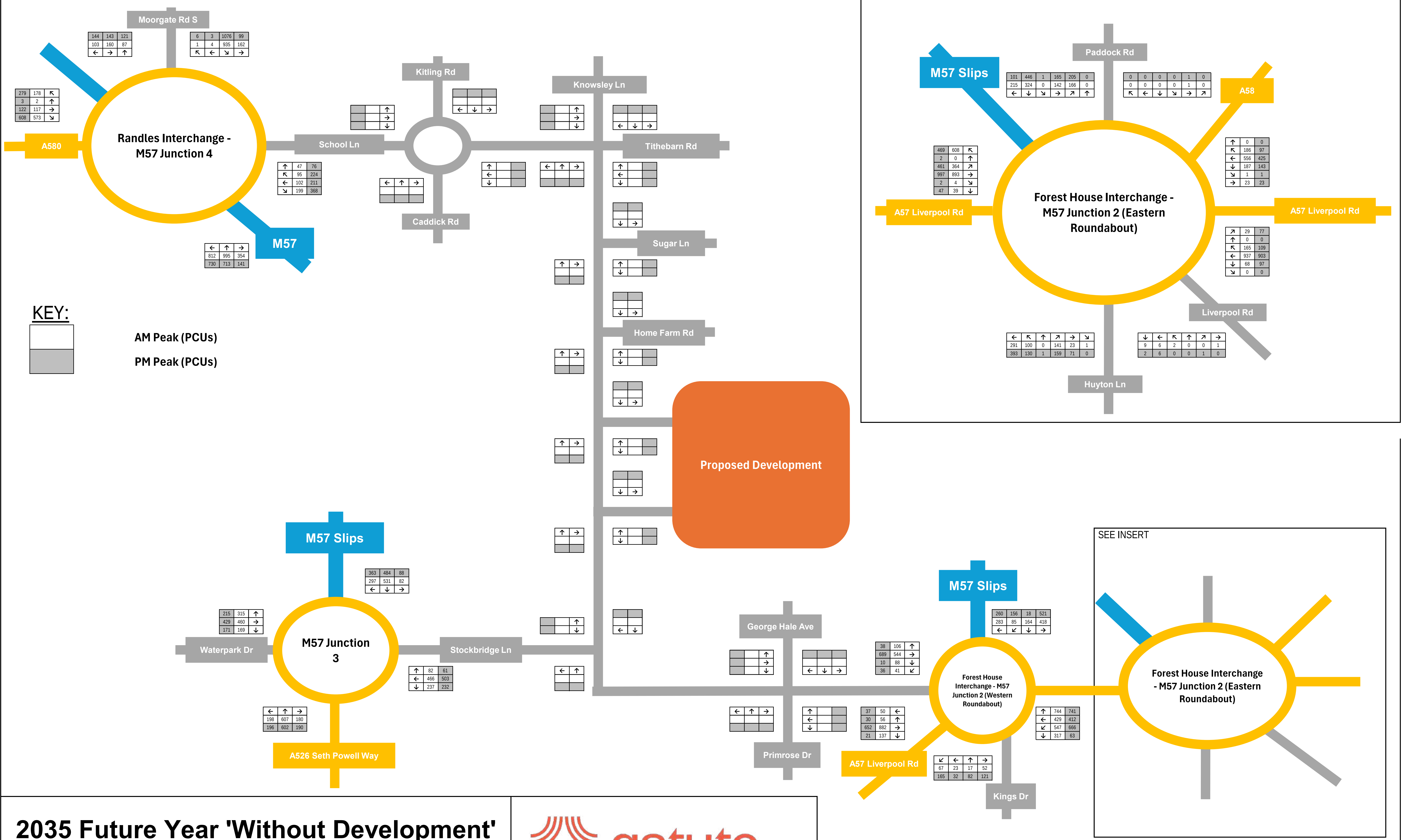
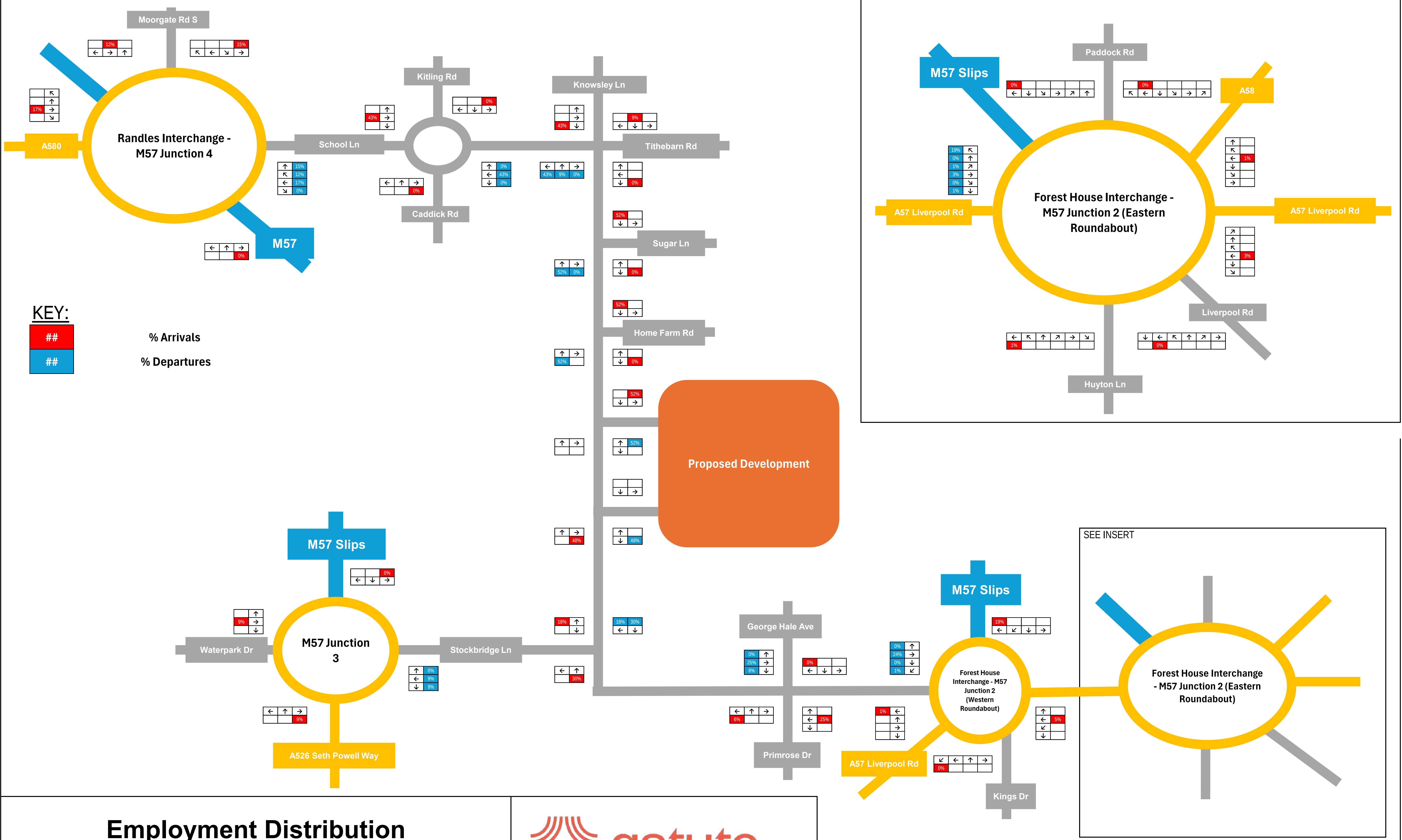


Figure 4



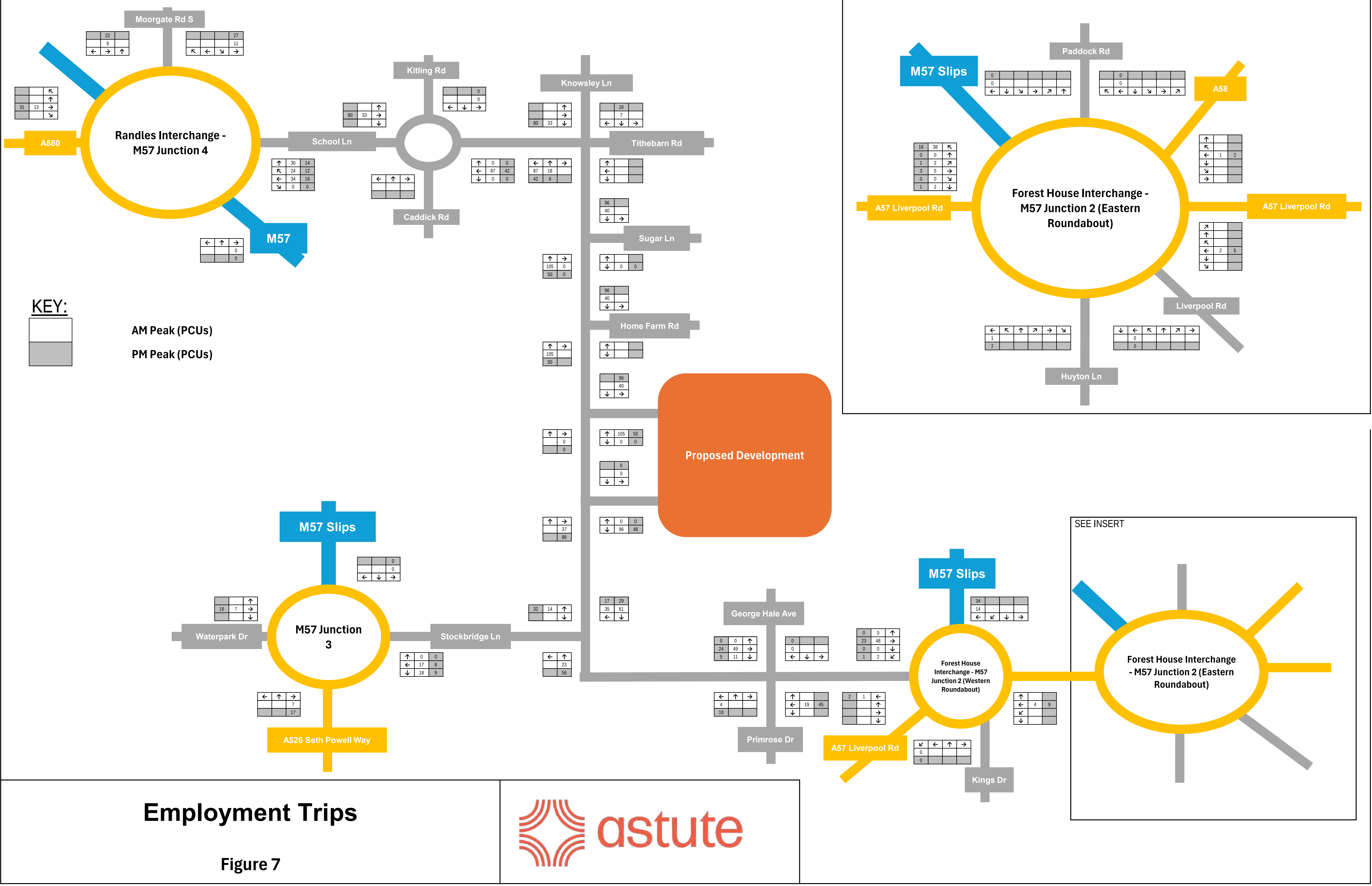


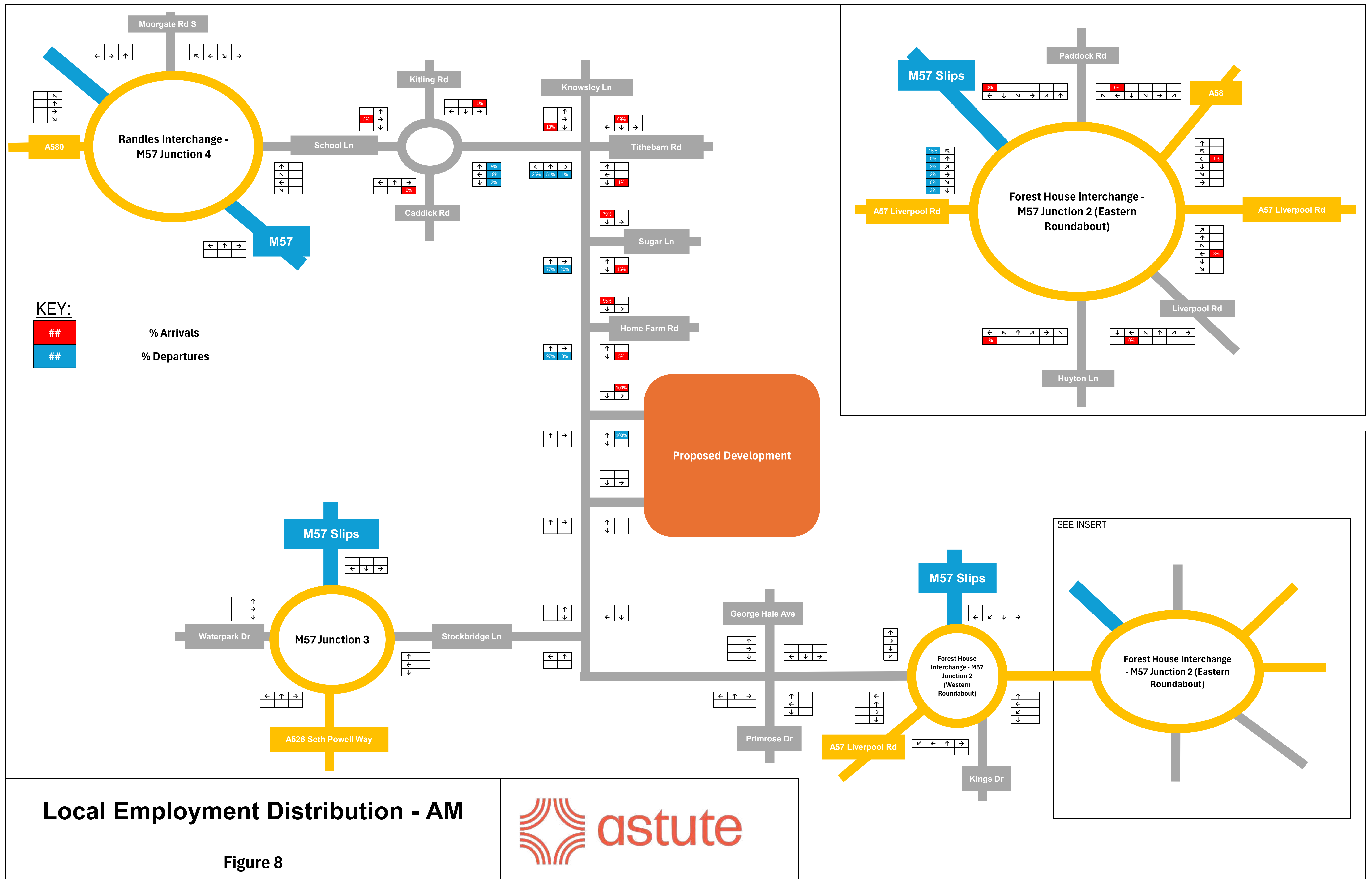


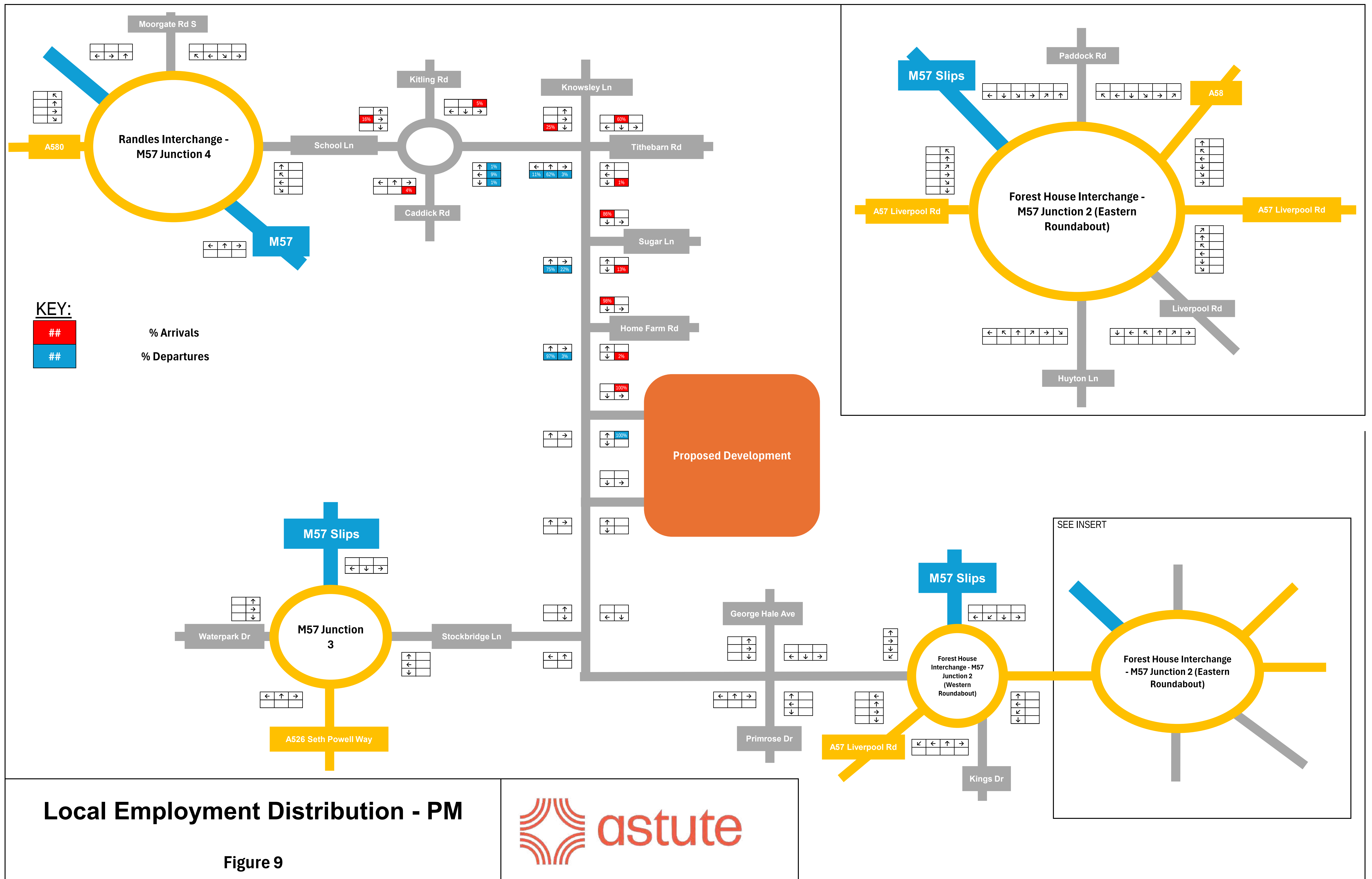
Employment Distribution

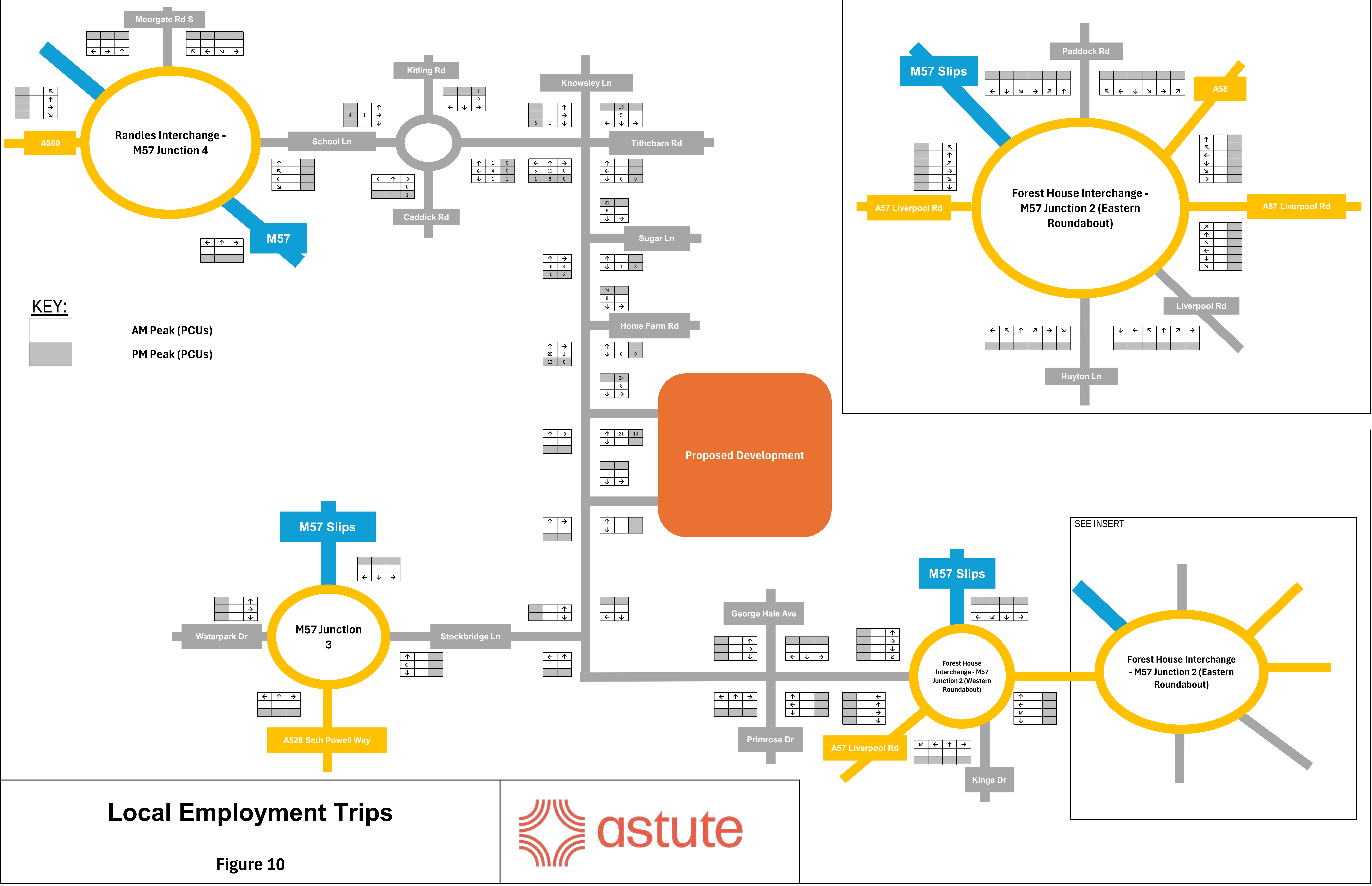
Figure 6

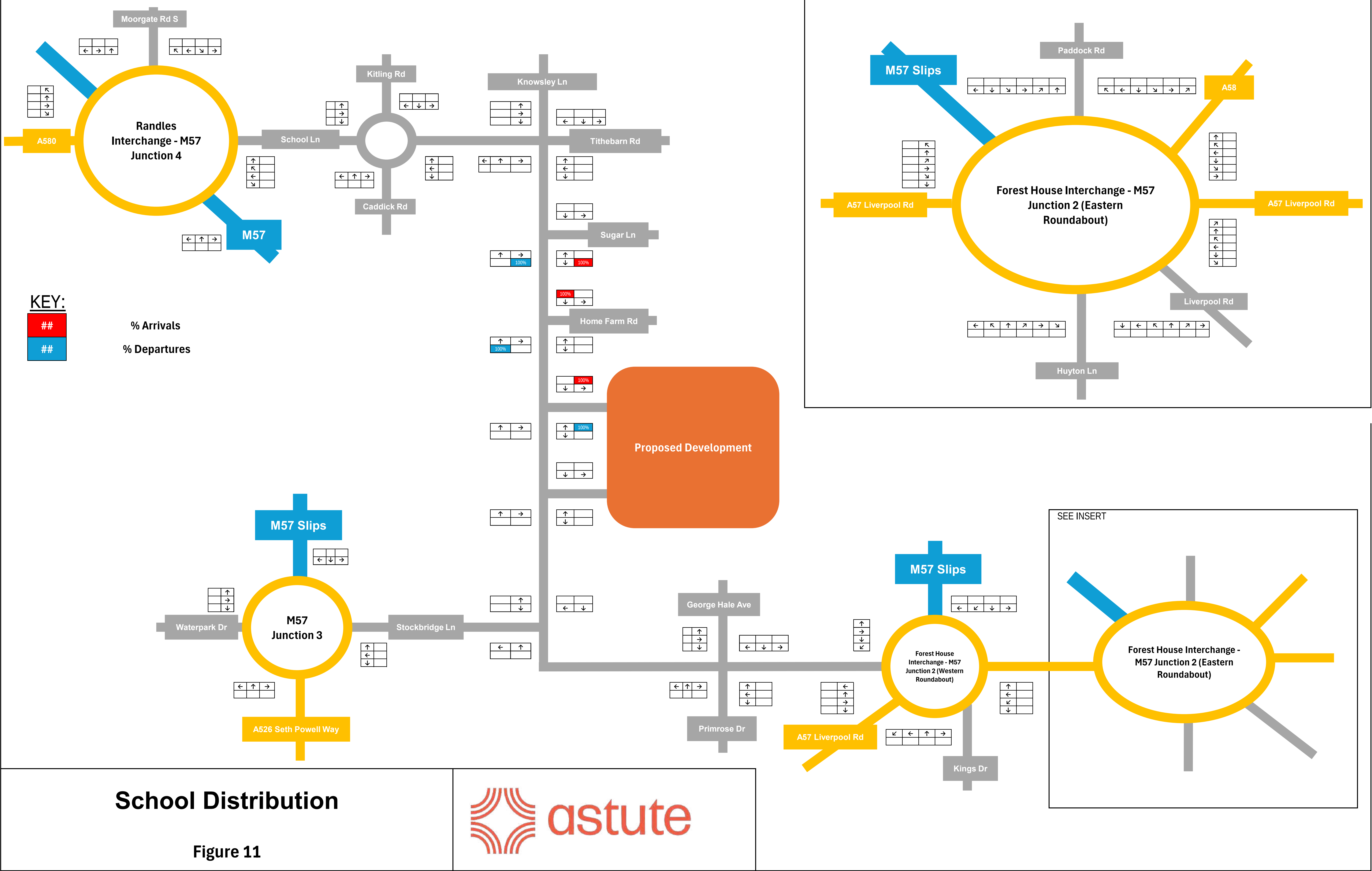


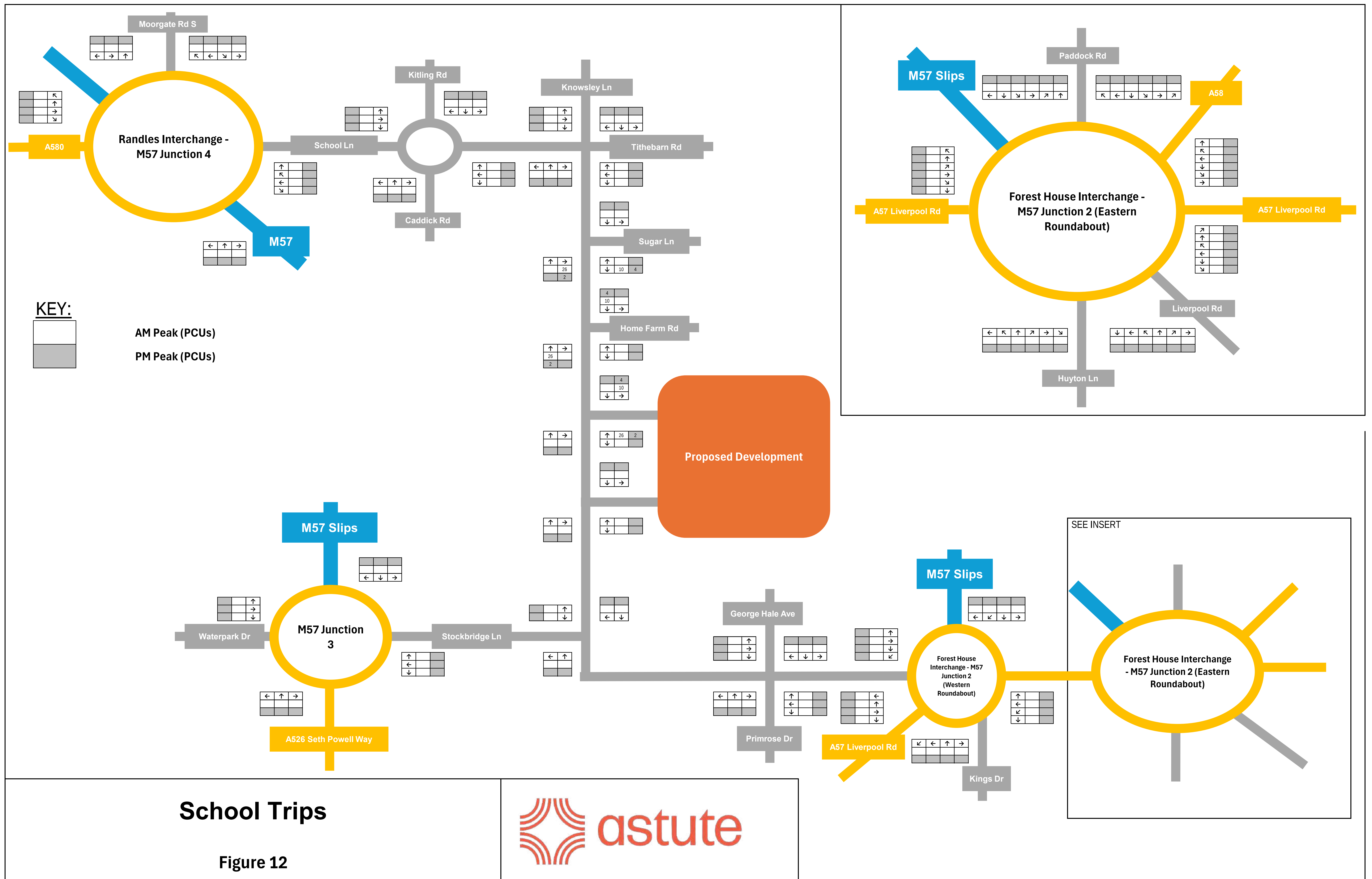


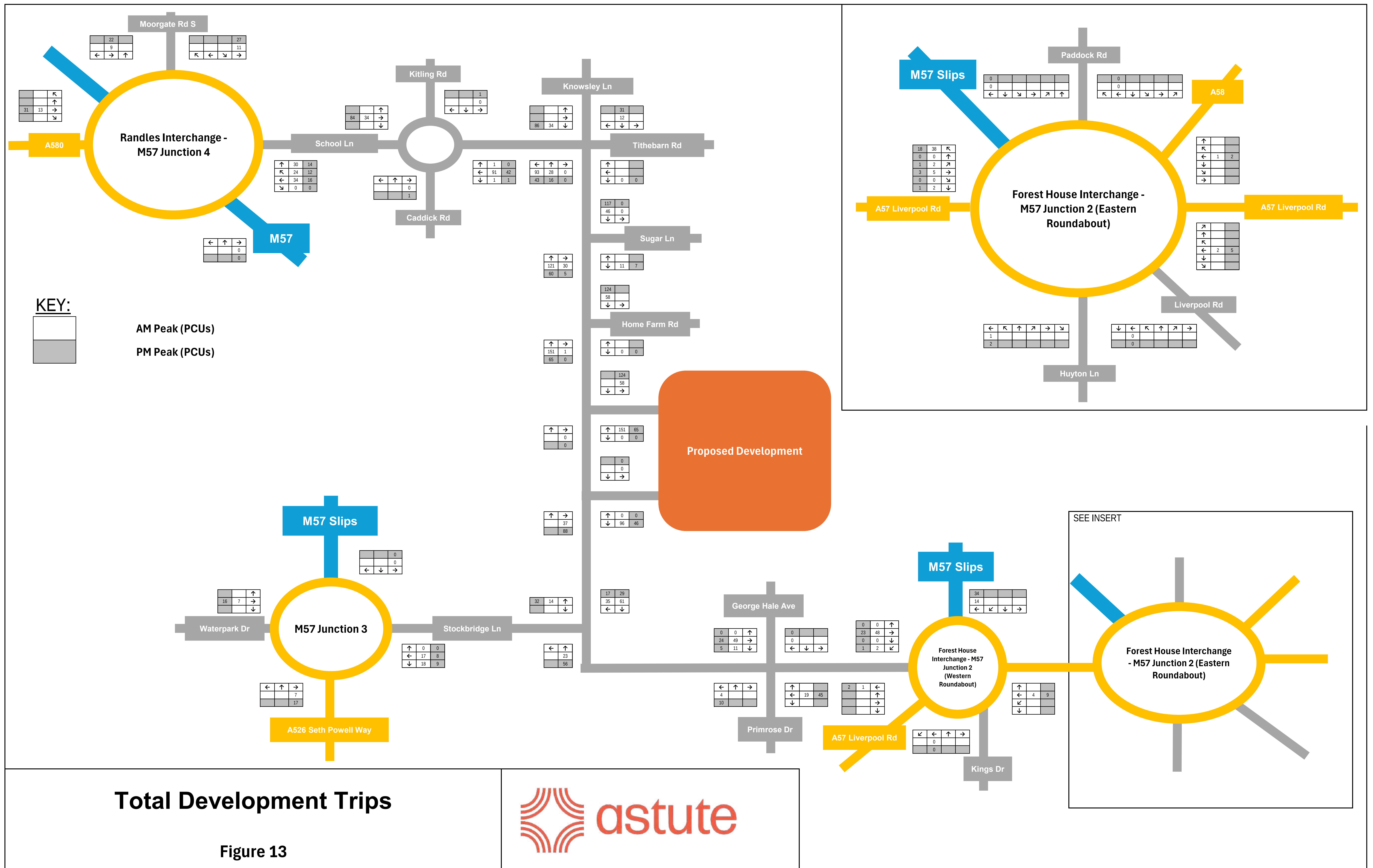


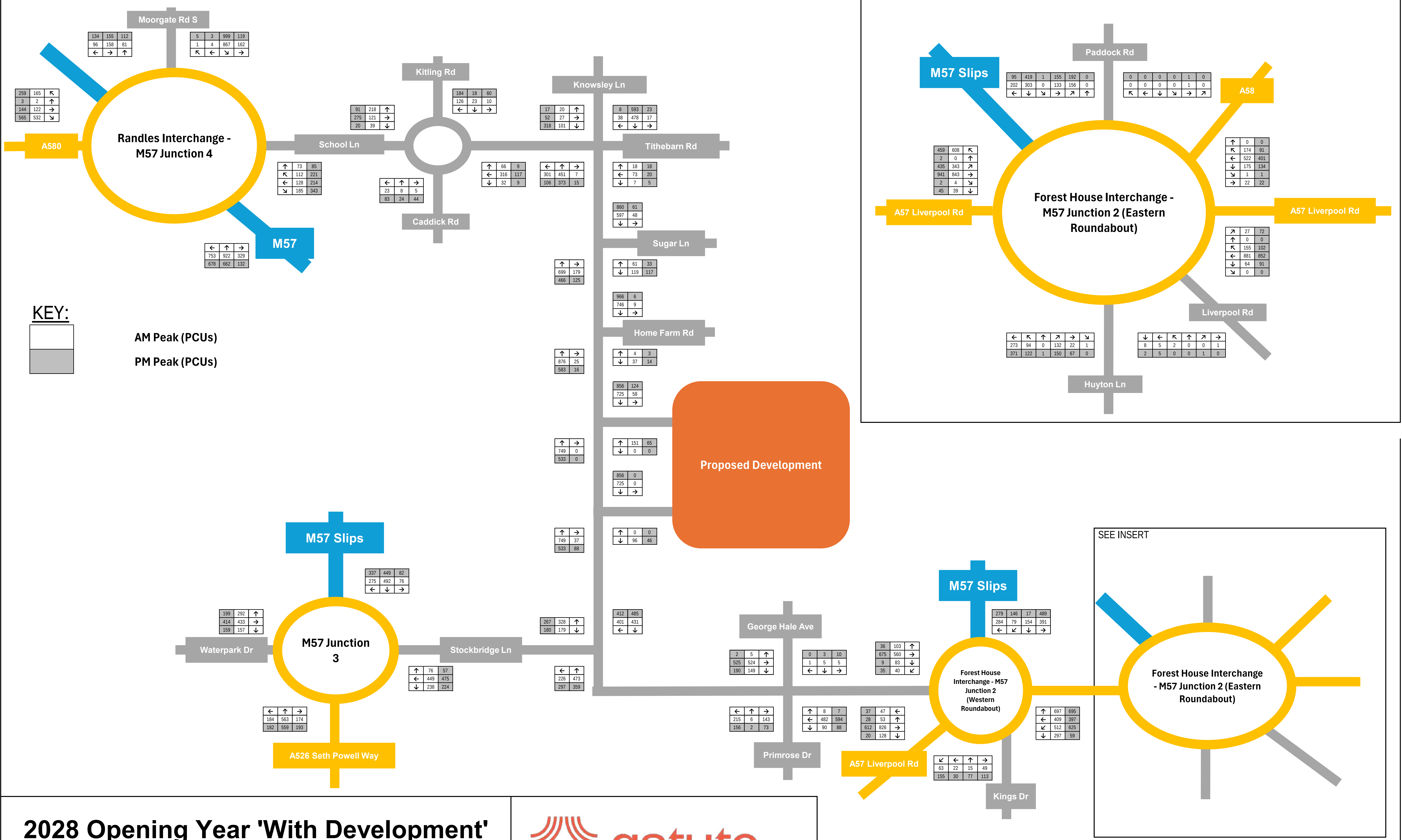


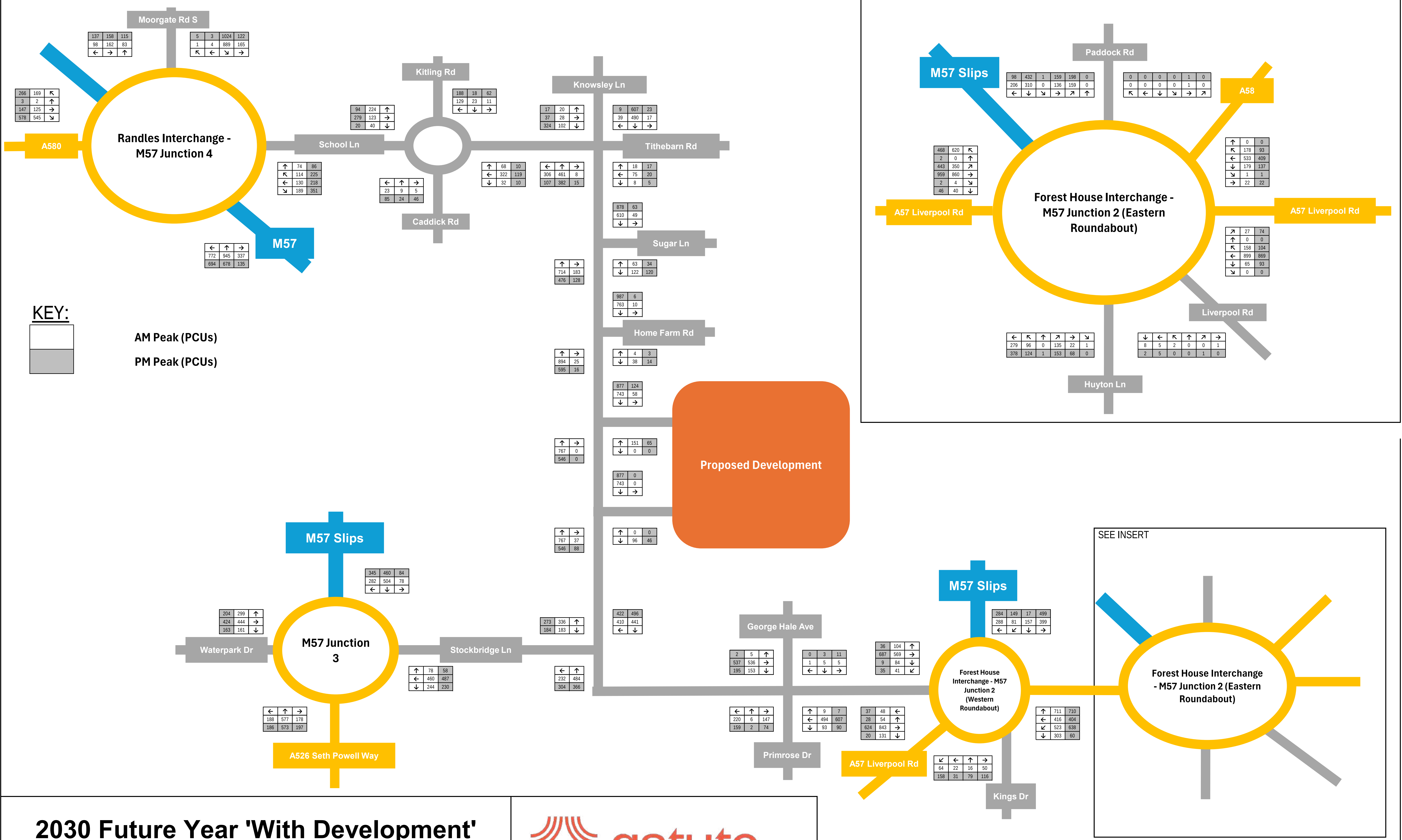








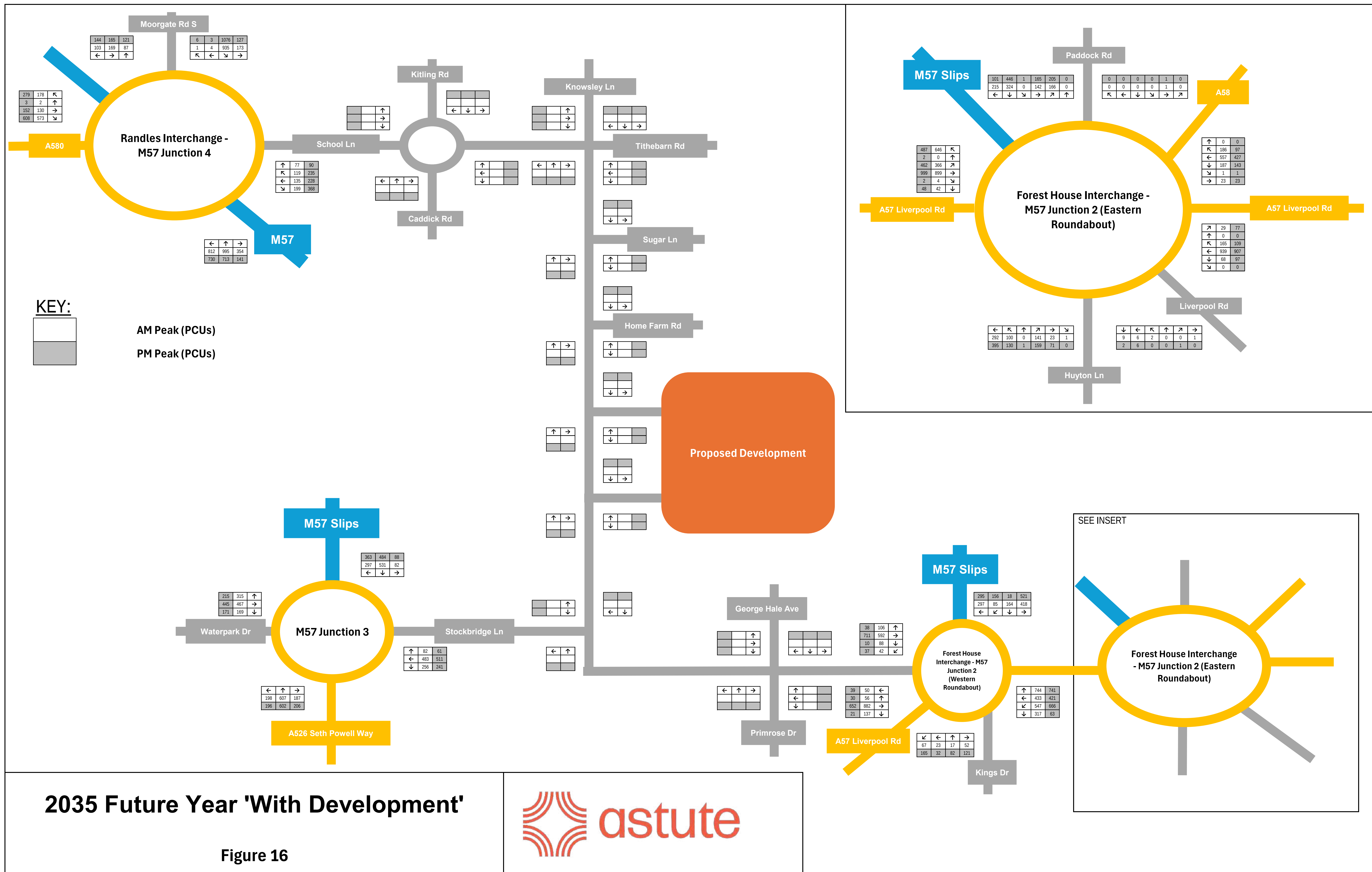




2030 Future Year 'With Development'

Figure 15





APPENDICES



Appendix A

Parameters Plan and Illustrative Masterplan





- Application Boundary
- Existing Pedestrian Route Though Ross Close Playing Field
- Existing Public Right Of Way
- Existing Bus Stops
- Proposed Vehicle Access Point
- Indicative Active Travel Access Points
- Indicative Active Travel/ Emergency Access Point
- Indicative Bus Route including shared pedestrian/cycle route
- Shared Pedestrian/Cycle Route
- Shared Leisure Route
- Indicative Informal Routes
- Existing Trees & Vegetation
- Indicative Proposed Trees
- Proposed new hedge along Knowsley Lane
- Public Open Space
- Indicative NEAP (play area)
- Indicative Kick About Space
- Indicative Community Orchard
- Key Marker Buildings

Drawing Title
Illustrative Framework Plan

Project
Land East of Knowsley Lane, Knowsley

Date 01/08/2025 Scale 1:1500@A1 Drawn by EF Approved by JSB

Project No 333102382 Drawing No 0112 Revision

Client
Hallam Land



Stantec UK Limited

100 Barbirolli Square

Manchester

M2 3PW

T: 0161 245 8900

stantec.com/uk





Revision

Note

Date

Drn

Key:

Application Boundary

Land Use Parameters

Proposed residential development up to 2.5 storeys*. Maximum height 12.5m from above proposed ground levels.

Proposed residential development up to 2 storeys*. Maximum 9m from above proposed ground levels.

Proposed green infrastructure **

Retained woodland

Indicative alignment of internal roads

Access Parameters

Proposed Vehicle Access Points

Indicative Active Travel Access Points

Indicative Active Travel/ Emergency Access Point

* including roads, footpaths, private drives, incidental open space, and other associated infrastructure

**including amenity space, children's play provision, landscape planting, existing hedgerows, footpaths/cycleways, drainage, and other associated infrastructure

Drawing Title
Parameters Plan

Project
Land East of Knowsley Lane, Knowsley

Date	Scale	Drawn by	Approved by		
01/08/2025	1:1500@A1	EF	JSB		
Project No	Drawing No	Revision			
333102382	0113				
Client					
Hallam Land					

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Appendix B

Transport Access and Appraisal Review (Fore Consulting)



Hallam Land Management Ltd
Land at Home Farm Road, Knowsley

Transport Access and Appraisal

13 June 2022
Version 1.0
Issue





Contents

1	Introduction	1
2	Existing Situation	2
3	Transport and Planning Policy	6
4	The Allocation Proposals	11
5	Transport Impacts	14
6	Summary	19

Figures

Figure 1: Site Location

Figure 2: Walking Catchment

Figure 3: Cycle Catchment

Figure 4: Trip Distribution (Arrivals)

Figure 5: Trip Distribution (Departures)

Figure 6: AM Peak Hour Development Flows

Figure 7: PM Peak Hour Development Flows

Drawings

4111/100/P/001: Knowsley Lane Access Junction - General Arrangement

4111/100/P/002: Knowsley Lane Access Junction - Engineering Layout

4111/100/P/003: Knowsley Lane Access Junction - Swept Path Analysis

Appendices

Appendix A: Road Safety Data

Appendix B: TRICS Output

1 Introduction

1.1 Commission

Fore Consulting Limited (Fore) is instructed by Hallam Land Management Ltd to provide advice in relation to transport and access matters associated with the promotion of land at Home Farm Road, Knowsley for residential development.

1.2 The Site

The site comprises 33.58 hectares of land, bound to the north by Home Farm Road, and to the west by Knowsley Lane.

The location of the site is indicated on Figure 1.

1.3 Purpose of this Report

The purpose of this report is to identify the key transport and highways issues that may affect the future delivery of development on the site, to enable the land to be promoted for future residential use.

1.4 Structure of this Report

This report is set out as follows:

- Chapter 2 describes the existing transport networks in the vicinity of the site.
- Chapter 3 outlines the national and local transport planning context for the site.
- Chapter 4 presents an outline of the proposals and describes how the site may be accessed by all modes of transport.
- Chapter 5 estimates the likely transport impacts of the proposals, and considers the potential impact on the surrounding highway network.
- Chapter 6 summarises and concludes the outcomes of the report.

2 Existing Situation

2.1 Introduction

This Chapter provides a general overview of the proposed site and a description of the existing transport networks within the local vicinity. This is undertaken to provide context for the proposed site and to allow potential ‘gaps’ or ‘pinch-points’ to be identified.

2.2 The Site and Existing Land Use

The site comprises 33.58 hectares of land south of Knowsley village. The site is bound to the north by Home Farm Road and to the west by Knowsley Lane.

The site is adjacent to Knowsley Park Registered Park and Garden to the east and Knowsley Village Conservation Area to the north. It was removed from the Green Belt upon adoption of the Knowsley Core Strategy in January 2016, and forms part of a ‘safeguarded land’ allocation with the notional capacity to provide a total of 1,093 residential dwellings to meet local housing need.

It is understood that the site is an agricultural use, and therefore generates minimal traffic movements for the majority of the year.

2.3 Pedestrian Access

Although walking distances vary between individual and circumstances, 2.0km represents a distance that would be accepted for commuting and other journey purposes¹. Figure 2 shows walking distance isochrones, measured from the centre of the site.

There are local amenities and destinations within Knowsley village that are likely to attract walking trips to and from the proposed site. Specifically, these include:

- A primary school and a local village centre (including convenience retail, post office and pharmacy) on Sugar Lane within a walk of approximately 350m north of the site.
- A medical centre on Frederick Lunt Avenue approximately 500m north of the site.
- A further primary school and recreation ground at Shop Road, approximately 950m north of the site.

¹ *Guidelines for Providing Journeys on Foot*, Chartered Institution of Highways and Transportation, 2000, p49.

Within Knowsley, pedestrian footways are found adjacent all local roads, street lighting is provided and crossing points are typically present at junctions and other locations on the local highway network where there is an adjacent footpath.

There are no existing Public Rights of Way (PRoW) within close proximity of the site.

2.4 Cycle Access

Figure 3 illustrates the isochrone of an 8.0km cycling distance, which is a distance typically accepted as suitable for cycling². This demonstrates:

- The village of Knowsley can be reached within convenient cycling distance of the site, including a number of key amenities such as Knowsley Business Park.
- The catchment also covers a number of local towns including: Prescot (including rail stations served by trains to Liverpool, Wigan and Preston), Whiston, Huyton, Kirkby and Liverpool suburbs.

Given the surroundings, off-road cycle infrastructure is limited and generally cyclists would therefore share the carriageway with other road users.

2.5 Public Transport

2.5.1 Bus Services

The nearest bus stops to the site are located on Knowsley Lane, adjacent to the site.

Bus service 217 / 227 serves these stops, running between Kirkby and Huyton with options for onwards interchange to a wide range of local, regional and national destinations by bus or rail. The buses operate Monday to Friday with a service approximately every 15 minutes. During weekends a half hourly service is provided.

2.5.2 Rail Services

Huyton is the nearest railway station to the site, located approximately 4.6km to the south of the site. The station is on the Liverpool to Wigan Line and Stephenson's Liverpool to Manchester Line. The station has regular services of approximately 20-30 minutes to Liverpool, Manchester and Wigan. The 217/227 bus services provide a direction connection from the site to Huyton station, taking approximately 15 minutes.

² Integrating Cycling into Development Proposals, Cycling England, 2009.

2.6 Highway Network

2.6.1 Strategic Highway Network

Forming part of the Strategic Road Network, the M57 is located approximately 300m west of the site, and is accessed to the south via Junctions 2 and 3, and to the north via Junction 4.

2.6.2 Knowsley Lane

Knowsley Lane is a single carriageway road that runs north-south to the west of the site. It provides access north to Knowsley village, Knowsley Business Park and the A580 whilst to the south it provides access to the M57 Junctions 2 and 3. There is an existing farm access to the site from Knowsley Lane.

In the vicinity of the site the carriageway is approximately 7m wide and subject to a 40mph speed limit which changes to 30mph approaching the junction with Home Farm Road.

Along the frontage of the site there is an existing footway, and continuing south the road is rural in character with grass verges and hedgerows.

2.6.3 Home Farm Road

Home Farm Road runs along the northern boundary of the site. The road provides direct access to residential properties adjacent, as well as residential streets at Loughborough Road and Berry Hill Avenue, from Knowsley Lane.

Approximately 55m east of the junction with Berry Hill Avenue, Home Farm Road continues as a private road to the east. The carriageway width is approximately 5m and subject to a 30mph speed limit. Street lighting and footways are provided along the northern side of the carriageway only.

2.6.4 B5194 School Lane

School Lane is a single carriageway road to the north of Knowsley, effectively continuing Knowsley Lane to M57 Junction 4. School Lane forms a priority-controlled junction with Knowsley Lane approximately 1.25km north of the site. The road is subject to a 40mph speed limit and footways are provided along the northern side of the carriageway.

2.6.5 Road Safety

For the purposes of this assessment, personal injury accident data has been obtained³ for the highway network in the vicinity of the site, for the most recently available five-year period (between 1 January 2017 and 31 December 2021).

The data is summarised at Appendix A and demonstrates that one accident was recorded through the period, on Knowsley Lane along the western boundary of the site. The accident was a collision between 3 vehicles, and resulted in slight injuries. No other accidents were recorded in the vicinity of the site; specifically, no serious injuries or fatalities were recorded.

On this basis, there is no pattern of accidents on the highway network in the immediate vicinity of the site which suggests a specific existing road safety issue, and which in turn could be exacerbated by changes in traffic flows associated with the allocation proposals.

2.7 Summary

The site forms an extension to Knowsley village. A range of existing amenities and bus stops would be accessible on foot or by cycle from the site. Based on an initial review, the existing highway network appears suitable for the purposes of accessing residential development on the site.

³ www.crashmap.co.uk

3 Transport and Planning Policy

3.1 Introduction

This Chapter identifies national and local transport policy that is relevant to the proposals.

3.2 National Policy

3.2.1 National Planning Policy Framework

The National Planning Policy Framework⁴ (NPPF) was published by the Ministry of Housing, Communities and Local Government in July 2021. It sets out national planning policy for England and in particular how the planning system is to contribute to achieving sustainable development through the following interdependent and mutually supportive objectives:

“a) an economic objective - to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) a social objective - to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being; and

c) an environmental objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy”.

The NPPF notes however that:

“These objectives should be delivered through the preparation and implementation of plans and the application of the policies in this Framework; they are not criteria against which every decision can or should be judged. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account, to reflect the character, needs and opportunities of each area”.

⁴ National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2021.

Specifically in relation to transport, Paragraph 104 states that transport issues should be considered from the earliest stages of development proposals, so that:

- “a) the potential impacts of development on transport networks can be addressed;*
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised - for example in relation to the scale, location or density of development that can be accommodated;*
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;*
- d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account - including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places”.*

Paragraphs 110 and 111 state:

“In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- a) appropriate opportunities to promote sustainable transport modes can be - or have been - taken up, given the type of development and its location;*
- b) safe and suitable access to the site can be achieved for all users;*
- c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*
- d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree”.*

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe”.

3.2.2 Planning Practice Guidance

Planning Practice Guidance⁵ was published by the Department for Communities and Local Government on 6 March 2014. Specifically, it identifies the key issues that should be considered when developing the transport evidence base to support a Local Plan⁶:

- *assess the existing situation and likely generation of trips over time by all modes and the impact on the locality in economic, social and environmental terms.*
- *assess the opportunities to support a pattern of development that, where reasonable to do so, facilitates the use of sustainable modes of transport.*
- *highlight and promote opportunities to reduce the need for travel where appropriate.*
- *identify opportunities to prioritise the use of alternative modes in both existing and new development locations if appropriate.*
- *consider the cumulative impacts of existing and proposed development on transport networks.*
- *assess the quality and capacity of transport infrastructure and its ability to meet forecast demands.*
- *identify the short, medium and long-term transport proposals across all modes.*

3.3 Local Policy

3.3.1 Knowsley Local Plan Core Strategy 2016

Knowsley Metropolitan Borough Council (KMBC) adopted the Local Plan Core Strategy in January 2016, which sets out how growth and development will take place to 2028 to guide future development within the borough.

The following policies are of relevance to the proposals from a transportation perspective:

Policy CS2 Principle 3: Reduce the need to travel and increase accessibility

- *“Selecting locations that reduce the need to travel, especially by car, and enable people as far as possible to meet their needs locally;*

⁵ *Planning Practice Guidance*, Department of Communities and Local Government, 2014.

⁶ Paragraph reference: 54-003-2014010.

- *Assisting the Council in achieving a shift towards more sustainable modes of transport for people, goods and freight;*
- *Encouraging safe and sustainable access for all, particularly by promoting the use of public transport, walking and cycling between homes and employment; and*
- *Supporting the provision and retention of shared space, community facilities and other local services (such as local shops, health facilities, education provision, meeting places, sports venues, cultural buildings, public houses and places of worship)."*

Paragraph 5.69 notes that:

"A key aspect of the Knowsley Local Plan will be to support a sustainable transport system and geographical pattern of development which minimises the need to travel and will help grow the borough's economy, ensuring that jobs, shops and services are accessible to all, leading to a lesser reliance on the car for travel. This will help to improve the environment and the health and wellbeing of residents."

Policy CS7: Transport Networks

"New development will be required to be:

- *Located and designed to prioritise accessibility and sustainable modes of travel through a choice of walking, cycling, public transport, and incorporate access for private vehicles. Where deficiencies are identified, developer contributions will be required to improve the accessibility of the location;*
- *Located and designed to ensure that larger scale proposals (attracting a lot of visitors, customers and/or employees) are located in the most accessible locations;*
- *Where subject to a planning application, accompanied (except in the case of smaller scale proposals) by Transport Assessments and/or Travel Plans;*
- *In compliance with adopted cycle, car, disabled and service vehicle parking standards for different types and scales of new development;*
- *Inclusive of measures that will mitigate carbon emissions and improve air quality where appropriate; and*
- *Consistent with safeguarding arrangements that secure the operational integrity and safety of Liverpool John Lennon Airport."*

3.4 Summary

The site fully accords with the relevant national and local transport policy outlined above. It is well located in relation to existing public transport, walking and cycle networks, ensuring sustainable access within the local area and beyond is possible. Future residents would have a choice of modes to undertake journeys for a range of purposes.

4 Site Proposals

4.1 Introduction

This Chapter describes how future residential development on the site may be accessed by all modes of transport. Consideration has been given to ensure that the site is accessible by a range of sustainable travel modes using the following approach:

- High quality walking and cycling infrastructure. Convenient connections for walking and cycling trips to the wider networks will be a vital component of the transport strategy. The aim will be to maximise the proportion of trips that can be made locally on foot or by cycle, minimising the need to travel by motorised modes.
- Public transport solutions. Bus stops are located conveniently located to the west of the site, and the intention is therefore to build on the existing provision and ensure buses are a feasible and attractive travel option for future residents.
- Effective management and promotion of sustainable travel options through comprehensive travel planning that will be implemented as part of future development on the site. This will include a robust framework for identifying targets, and monitoring progress to ensure targets are achieved.
- Thoughtful master planning to make provision for convenient and accessible walking and cycling routes within the site. This would also include careful consideration of appropriate levels of car parking to be provided.

Having regard to the above, a high-level strategic assessment of the likely transport impacts of future redevelopment of the site has been undertaken to inform the development of an outline transport strategy. The initial assessment and measures to be considered as part of the transport strategy for the site are discussed in remainder of this document.

4.2 Proposed Land Use

The site comprises around 33.58ha of land to the south of Knowsley village, located east of Knowsley Lane and south of Home Farm Road. The site is currently in agricultural use and as such, currently generates minimal vehicle movements.

The proposals are not confirmed in detail at this stage; however, it is anticipated that the site could accommodate around 800 houses to meet local housing need.

4.3 Vehicular Access

It is proposed to provide vehicular access to the site via two junctions with Knowsley Lane to the west of the site.

The precise vehicular access arrangements will be confirmed in detail at the appropriate stage of the planning process; however, following an initial assessment, it is considered that suitable vehicular access can be achieved as follows:

- The carriageway of Knowsley Lane can be widened along the site frontage, within either public highway or land controlled by the promoter. It is proposed that two priority-controlled junctions with ghost island right-turn facilities will be provided to access the site on Knowsley Lane.
- At each access junction, suitable visibility and geometric standards can be achieved to safely and efficiently accommodate future traffic flows plus changes in traffic associated with the future development.
- The works comprise provision to accommodate right turning vehicles to Fluker's Brook Lane from Knowsley Lane.
- A pedestrian crossing island can be provided on Knowsley Lane, to the north of the proposed northern site access. This safely accommodates pedestrians crossing to the bus stop on Knowsley Lane.
- Specifically, the residential access roads will be 5.5m wide and 2.0m wide footways (as a minimum) will be provided on each side of the access roads.

In addition, an alternative access for emergency vehicles could feasibly be provided from Home Farm Road or Parklands.

Preliminary layouts for these junctions are demonstrated on Fore Drawings 4111/100/001 to 4111/100/003.

The land adjacent to the highway along the frontage of the site is under the control of the promoter, and therefore access is deliverable.

4.4 Sustainable Access

4.4.1 Pedestrian and Cycle Access

The site layout will be designed to maximise pedestrian and cycle connectivity, both within the site and to the wider area. It is proposed that pedestrians and cyclists will be able to access the site as follows:

- Knowsley Lane - the proposed vehicular access junctions on Knowsley Lane will be available for use by pedestrians and cyclists. It would be feasible to permit use of an alternative access for emergency vehicles via Home Farm Road or Parklands by pedestrians and cyclists.
- Pedestrian and cycle access only can be accommodated on Home Farm Road to connect the site with Knowsley village. This could include access points onto Home Farm Road / Ross Close (with access onto Sugar Lane) and Parklands within land controlled by the promoter

The precise proposals are not confirmed at this stage of the planning process; however, the intention is to provide a safe and attractive environment for walking and cycling, to encourage and maximise the proportion of local journeys that can be made by foot or by cycle.

All roads within the site will include 2.0m wide footways (as a minimum), with appropriate pedestrian crossing facilities provided at junctions.

Adequate, secure and covered cycle parking will be provided within the curtilage of dwellings to be constructed, in accordance with prevailing policy requirements.

4.4.2 Public Transport

Existing bus services stop adjacent the site on Knowsley Lane, providing regular connections to Kirkby and Huyton. To build on the existing bus provision, consideration will be given to:

- Ensuring pedestrian connections to bus stops are as convenient and direct as possible.
- Supporting bus services through the promotion of sustainable travel options via the implementation of travel planning measures, which can be secured through future planning permission for development on the site.

The precise package of measures necessary can be discussed and agreed with the bus operator and local highway authority at the planning application stage, as the appropriate stage of the planning process.

5 Transport Impacts

5.1 Introduction

This Chapter sets out an estimate of the likely transport impacts associated with the proposals. At this stage, 800 residential dwellings on the site are assumed.

5.2 Vehicle Trip Generation

For the purposes of this assessment, the transport impacts of the proposals during the weekday AM and PM peak periods have been considered, to represent the maximum impact expected on the local transport network. Average vehicle trip rates have been derived from the TRICS database, following interrogation for multi-modal survey sites based on the criteria set out in Table 1.

Table 1: TRICS Search Criteria

TRICS Land Use Category	Residential (03) / Houses Privately Owned (A)
Parameter	Number of Dwellings
Actual Range	134 to 918 (units)
Range Selected by User	100 to 1817 (units)
Survey Days	Monday to Friday
Location	Edge of Town
Population within 5 miles	Less than 100,000
Calculation Factor	1 Dwelling

The resulting trip rates are set out in Table 2 for the weekday AM peak period (07:00-09:00) and weekday PM peak period (16:00-18:00). Vehicle trip generation has been calculated by applying the vehicle trip rates to the number of residential dwellings proposed. The full TRICS output is presented at Appendix B.

Table 2: Weekday Peak Period Vehicle Trip Generation

Time		Vehicle Trip Rates (per Dwelling)			Vehicle Trip Generation (800 Dwellings)		
		Arr.	Dep.	Total	Arr.	Dep.	Total
Weekday AM Peak Period	07:00-08:00	0.059	0.277	0.336	47	222	269
	08:00-09:00	0.157	0.383	0.540	126	306	432
Weekday PM Peak Period	16:00-17:00	0.272	0.160	0.432	218	128	346
	17:00-18:00	0.344	0.168	0.512	275	134	410

The peak hours for the allocation proposals would be:

- Weekday development AM peak hour: 08:00 to 09:00 hours.
- Weekday development PM peak hour: 17:00 to 18:00 hours.

5.3 Person Trip Generation by Mode

2011 Census data⁷ has been used to estimate the baseline mode share for the proposals. The mode share for the lower layer super output area (MSOA) within which the site is located has been used (Knowsley 005). In this way, the mode share considered represents the likely travel characteristics of future residents of the site at peak times.

The mode share represents the ‘baseline’ that could be expected without implementation of travel planning measures to encourage the use of sustainable modes to travel to and from the site, which is likely to be required as part of any future planning application.

The resulting baseline peak hour person trip generation by mode is set out in Table 3 for the weekday AM and PM peak hours.

Table 3: Weekday Peak Hour Person Trip Generation by Mode

Mode	Mode Share (%)	AM Peak Hour			PM Peak Hour		
		Arr.	Dep.	Total	Arr.	Dep.	Total
Train	4.2%	5	13	18	12	6	17
Bus	11.1%	14	34	48	30	15	45
Taxi	2.7%	3	8	12	7	4	11
Motorcycle	0.4%	1	1	2	1	1	2
Car driver	56.7%	71	174	245	156	76	232
Car passenger	8.9%	11	27	39	25	12	37
Bicycle	2.1%	3	7	9	6	3	9
On foot	13.8%	17	42	60	38	19	56
Total	100%	126	306	432	275	134	410

⁷ Dataset QS701EW, ‘method of travel to work’. Includes all usual residents aged 16 to 74. Categories ‘Not in employment’, ‘Work mainly at or from home’ and ‘Other method of travel to work’ are removed for the purposes of this assessment.

5.4 Vehicle Trip Distribution and Traffic Assignment

Vehicle trip distribution associated with the proposed development has been estimated based on 2011 Census data⁸. The destination of travel to work for people who live in the Knowsley 005 medium layer super output area (MSOA) has been considered. This MSOA is the MSOA within which the site is located, and therefore the analysis reasonably represents the anticipated travel patterns of future residents of development on the site.

The number of trips to each MSOA has been calculated as a percentage of the total number and then assigned to routes on the local highway network to derive the trip distribution from the proposed development. Where a choice of routes is available, the proportion of trips using each route has been split to reflect the likely preferred choice of the drive time and drive distance.

The distribution of vehicle trips departing and arriving at the site is presented on Table 4, and on Figure 4 and Figure 5. Internal trips have been divided between Knowsley village centre and Knowsley Business Park.

Table 4: Vehicle Trip Distribution Summary

Ref.	Route	Distribution (%)
1	A580 East Lancashire Road west	7%
2	M57 north	17%
3	A5207 Moorgate Road	3%
4	A5208 Coopers Lane	2%
5	A580 East Lancashire Road east	5%
6	A58	3%
7	Liverpool Road east	2%
8	Huyton Lane	2%
9	M57 south	15%
10	Liverpool Road west	0%
11	Primrose Drive	7%
12	Seth Powell Way	10%
13	Waterpark Drive	8%
14	M57 north Junction 3	0%
99	Internal	19%
Total		100%

⁸ Dataset reference WU03EW: *Location of usual residence and place of work by method of travel to work*

For the purposes of this assessment, development traffic has been evenly split between the two proposed access points. The resulting traffic flows are demonstrated on Figure 6 and Figure 7 for the weekday development AM and PM peak hours, respectively.

5.5 Off-Site Impacts

Based on the estimated development traffic flows, Table 5 illustrates the changes in traffic flows at key junctions to illustrate the potential scale of impact, assuming 800 dwellings are provided as part of the proposals.

Table 5: Development Traffic at Key Junctions

Junction	Development Traffic Flows (Two-Way Flows)	
	AM Peak Hour	PM Peak Hour
Knowsley Lane / School Lane	192	182
Knowsley Lane / Ormskirk Road Roundabout	31	29
East Lancashire Road / Knowsley Lane	6	14
East Lancashire Road / Ormskirk Road / Coopers Lane	24	15
M57 Junction 4	121	114
Knowsley Lane / Stockbridge Lane	199	189
Seth Powell Way / Stockbridge Lane / Waterpark Drive Roundabout (M57 J3)	79	75
Knowsley Lane / Primrose Drive / George Hale Avenue	120	114
Liverpool Road / Knowsley Lane / Kings Drive (M57 J2 west Roundabout)	89	85
Liverpool Road / A58 / Huyton Lane (M57 J2 east Roundabout)	71	44

The assessment demonstrates the following:

- Development of the site as anticipated would generate around 400 vehicle movements during the AM and PM peak hours. Beyond the access junctions, the nature of the highway networks is such that traffic impacts are likely to be dispersed relatively quickly, to the north and south.
- The impacts on specific junctions would be limited. The Knowsley Lane / Stockbridge Lane junction would be associated with the highest peak hour impacts. On average, the increase equates to around 3 vehicles per minute at peak times, and majority of

trips associated with development on the site would be journeys travelling through the junction, rather than turning movements. Such an impact is therefore not considered to represent a significant issue in terms of junction operation.

- A similar overall impact could be anticipated at the Knowsley Lane / School Lane junction, though a higher proportion of trips would be turning movements at peak times (predominantly turning left to School Lane from Knowsley Lane, and vice versa). Given the junction layout, left turns to School Lane from Knowsley Lane are effectively the priority movement at the junction. The key impact is therefore vehicles turning right to School Lane during the PM peak hour; on average 2 additional vehicles per minute would be expected at peak times. Similarly, such an impact is not considered to represent a significant issue in terms of the operation of the wider network.
- The maximum impacts on all slip roads at the M57 Junctions 2, 3 and 4 is around 50 vehicles at the Junction 4 northbound slip road. At all other slip road connections to the M57 at these locations, the impact is lower.

Overall, given the above, it is considered that the estimated changes in traffic flows would be of a scale that either is not significant in terms of operation of the wider network, or could be mitigated if necessary following detailed capacity assessment and discussion with the highway authorities, which is most appropriately undertaken at the planning application stage.

On this basis, there is no barrier in transport and highways terms to the site being allocated for residential use.

6 Summary

This document has been prepared to guide the promotion of land south of Home Farm Road, Knowsley, for residential use.

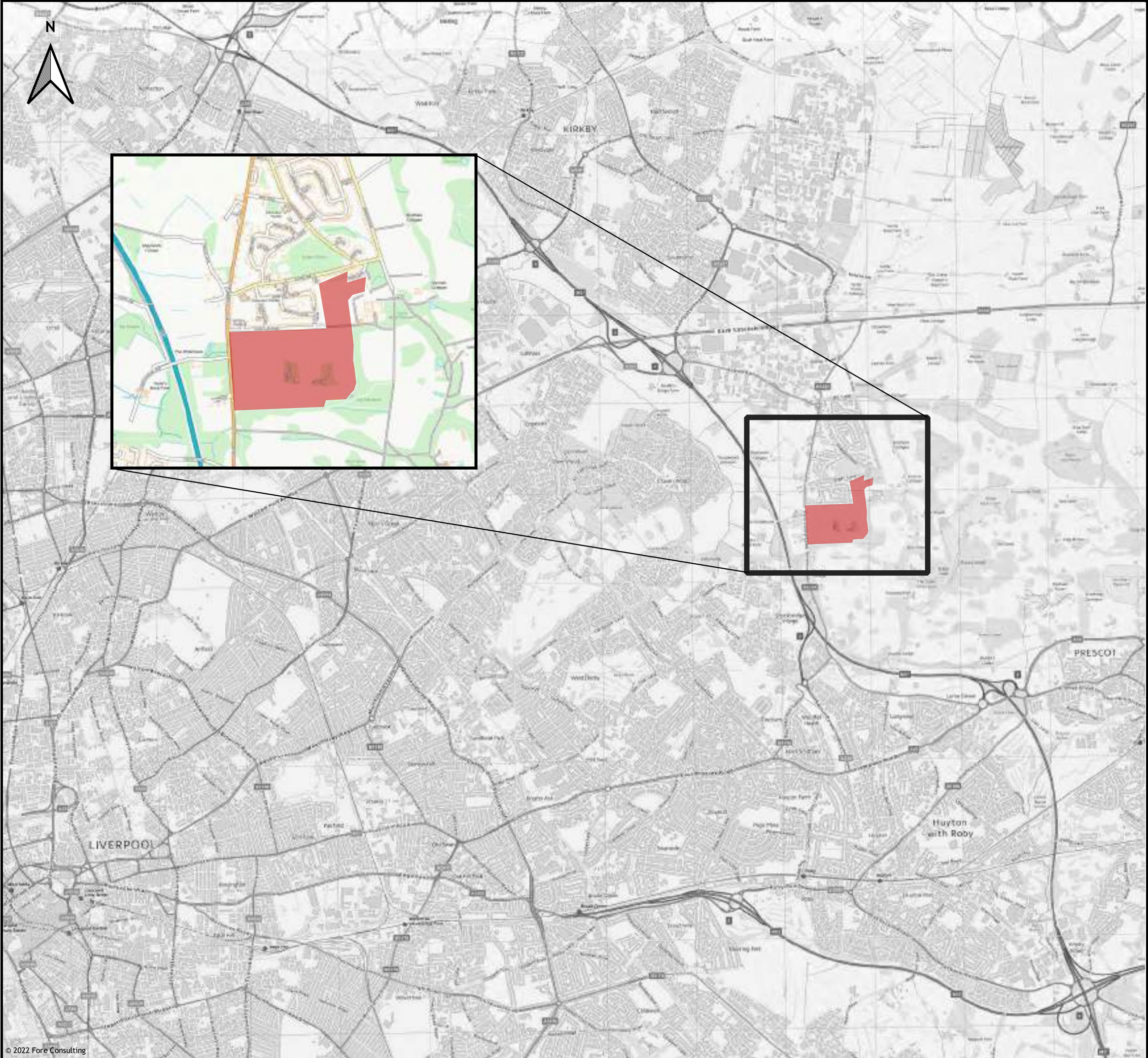
This report has examined the existing transport networks in the vicinity of the site, considered relevant national and local transport planning policy, outlined the development proposals and suggested possible access arrangements, and assessed the likely transport impacts associated with future development of up to 800 dwellings.

Based on the work undertaken, it is considered that the proposed site can be safely accessed by pedestrians, cyclists and vehicles. In particular:

- A wide range of amenities exist locally, and bus stops are located adjacent the site. There is clear opportunity for residents of the site to walk, cycle or use public transport to travel. Pedestrian and cycle access can be accommodated from Home Farm Road, to ensure direct and convenient connections and encourage local journeys to be undertaken on foot or by cycle (rather than by private car).
- The proposals accord with national and local transport planning policy. In particular, future residents of development on the site would have a choice of modes to travel for all key journey purposes.
- Satisfactory vehicular access can be achieved from Knowsley Lane. A preliminary layout has been identified, the design of which is suitable for the intended purpose in accessing residential development. The necessary works can be delivered on land under the control of the developer and/or adopted public highway, and therefore access to the land is considered to be deliverable.
- The impact of traffic flows associated with future development on the site will be assessed in detail at the planning application stage. At present, it is considered that the site is unlikely to represent a significant impact on the operation of the local highway network without any adverse impacts on the safe and free flow of traffic.

Overall, it is considered that the site is suitable in transport and highways terms for residential development on the scale envisaged.

Figures



Key:

Site Location

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Client:
Hallam Land Management Ltd

Project:
Land at Home Farm Road, Knowsley

Figure Title:
Site Location

Scale:
1:70,000

Figure Status:
Issue

Job Number:
4111

Figure Number:
Figure 1



Key:

Site Location

Walking Isochrones

0.5km

1.0km

2.0km

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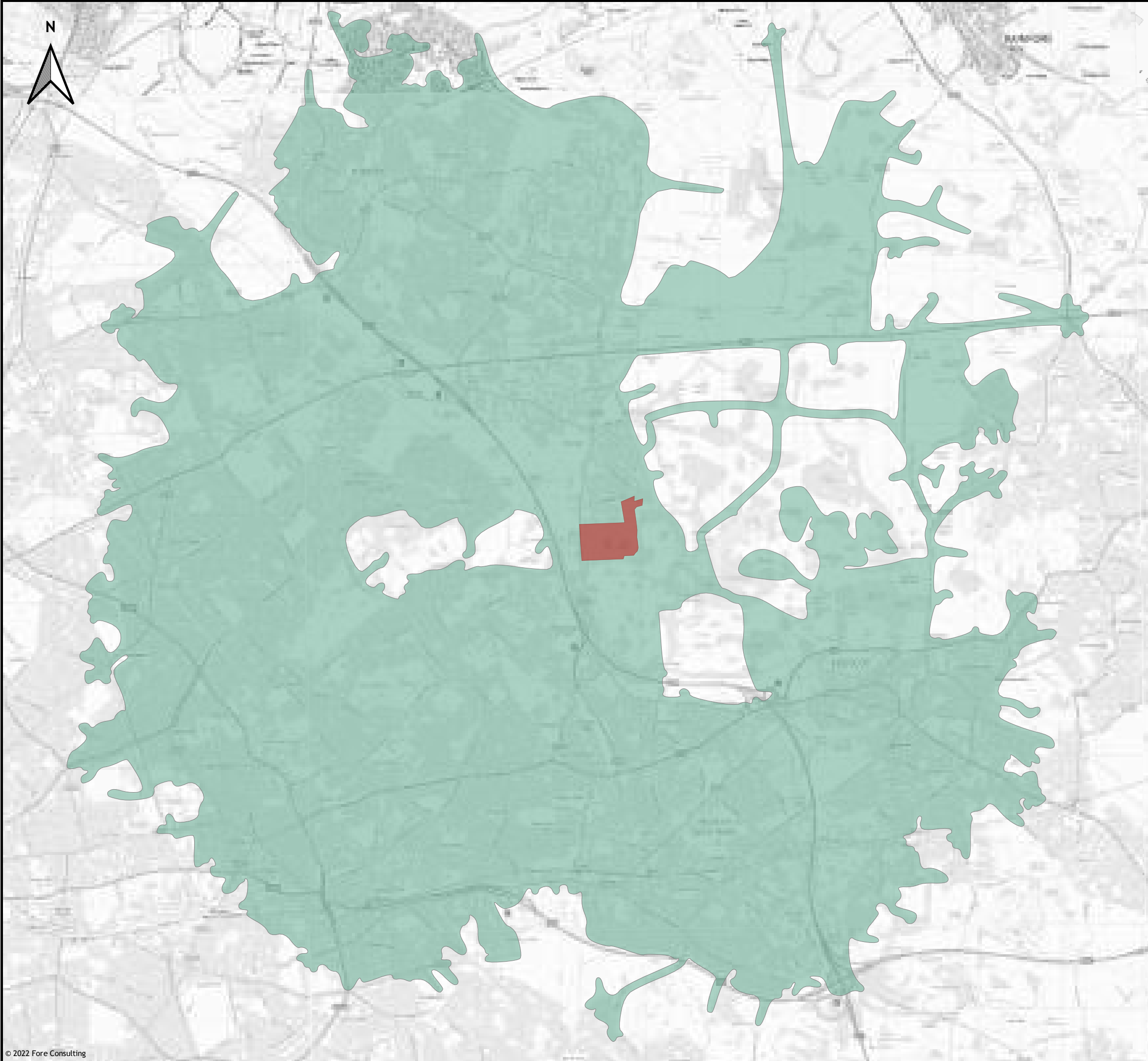
Figure Title:
Walking Catchment

Scale:
1:22,000

Figure Status:
Issue

Job Number:
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Figure Number:
Figure 2



Key:

- Site Location
- 8.0km Cycling Isochrone

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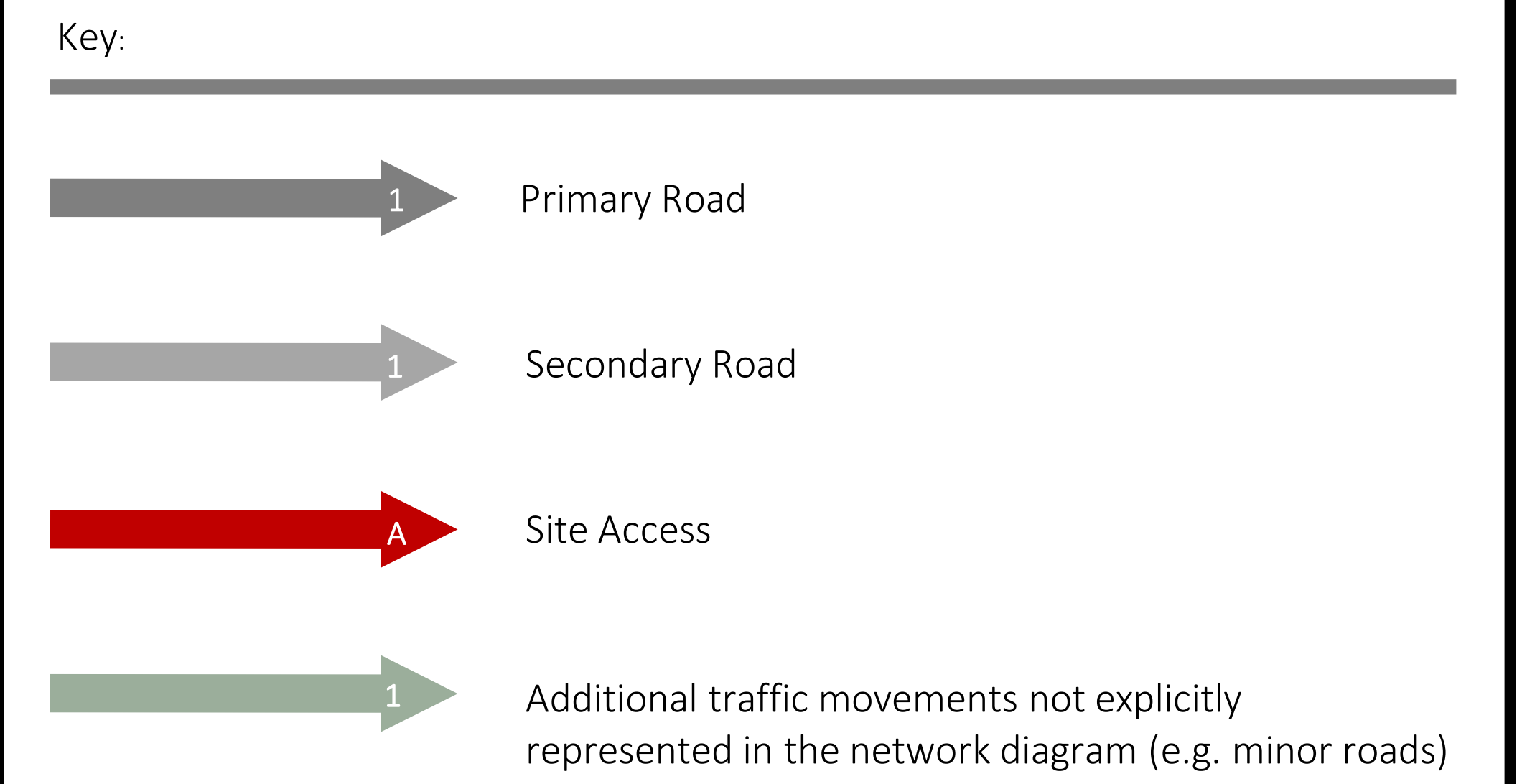
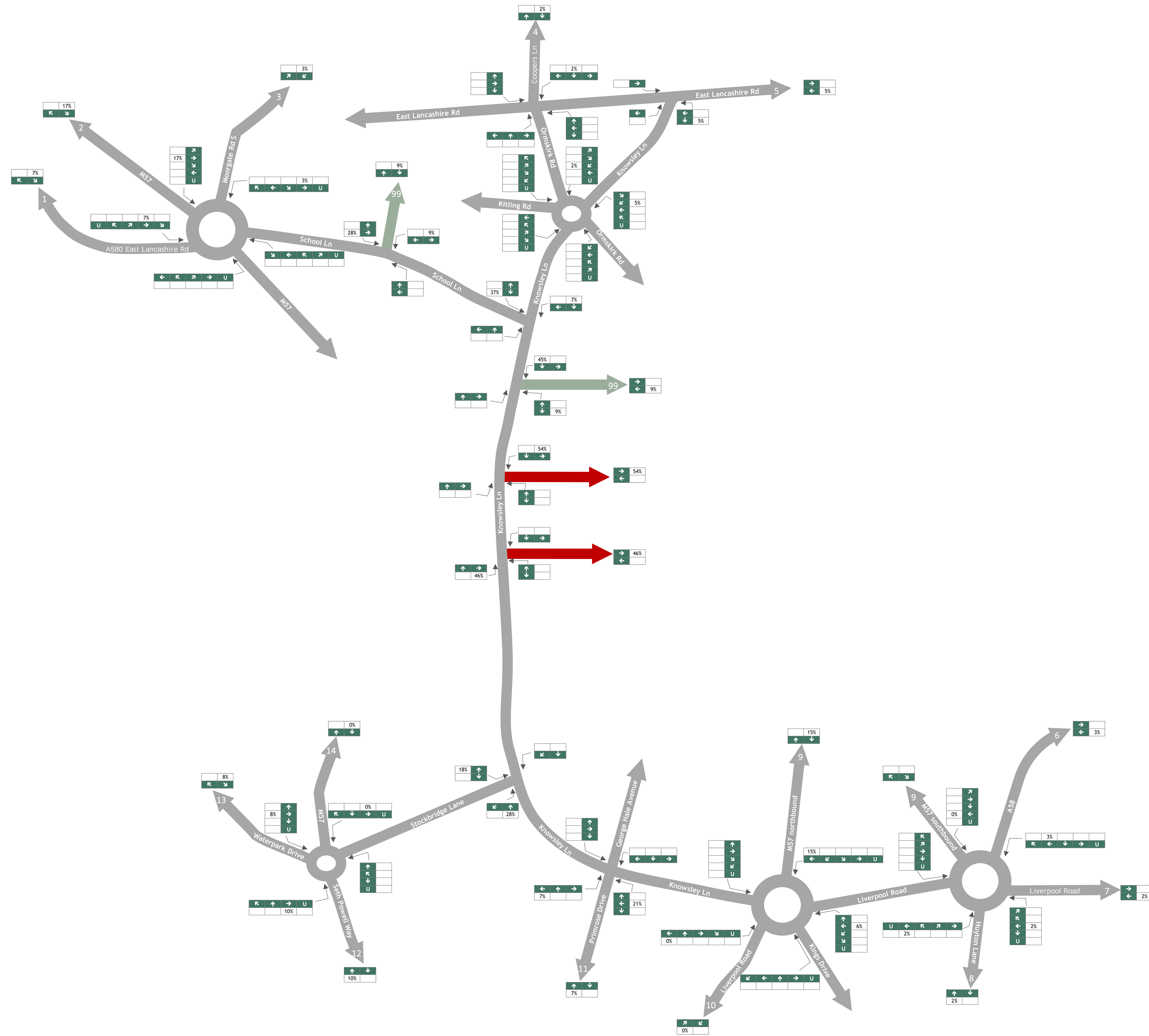
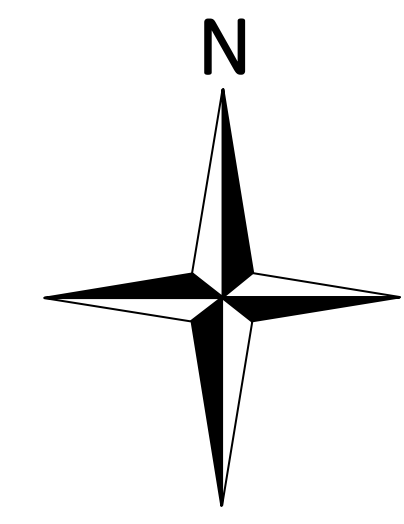
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Project:
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Figure Title:
Cycle Catchment

Scale: 1:75,000	Figure Status: Issue
Job Number: 4111	Figure Number: Figure 3



Note: The number in each arrowhead relates to the route reference used in the

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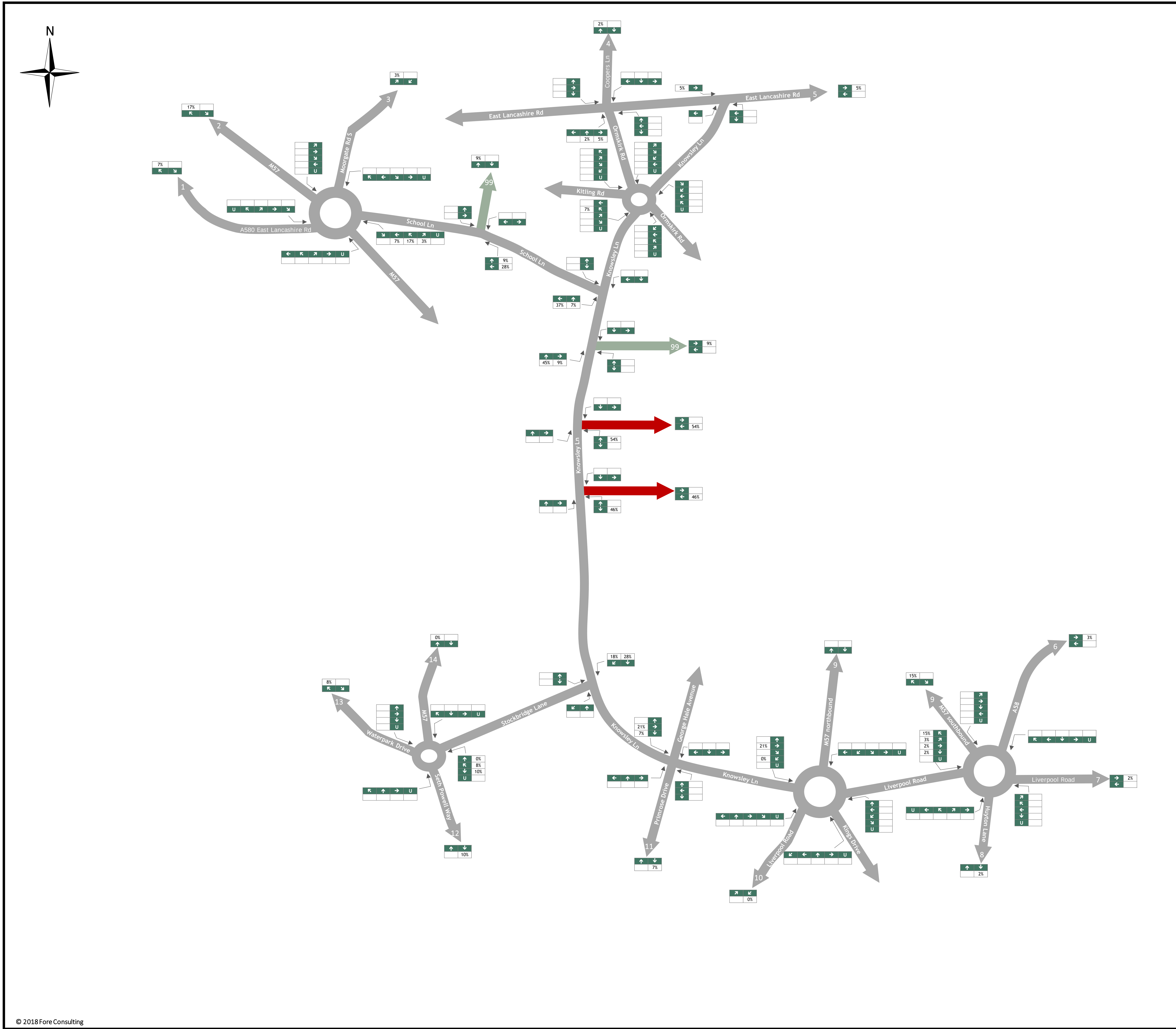
Figure Title:
Trip Distribution (Arrivals)

Scale:
Not to scale

Figure Status:
Issue

Job Number:
4111

Figure Number:
Figure 4



Key:

1

Primary Road

1

Secondary Road

A

Site Access

1

Additional traffic movements not explicitly represented in the network diagram (e.g. minor roads)

Note: The number in each arrowhead relates to the route reference used in the

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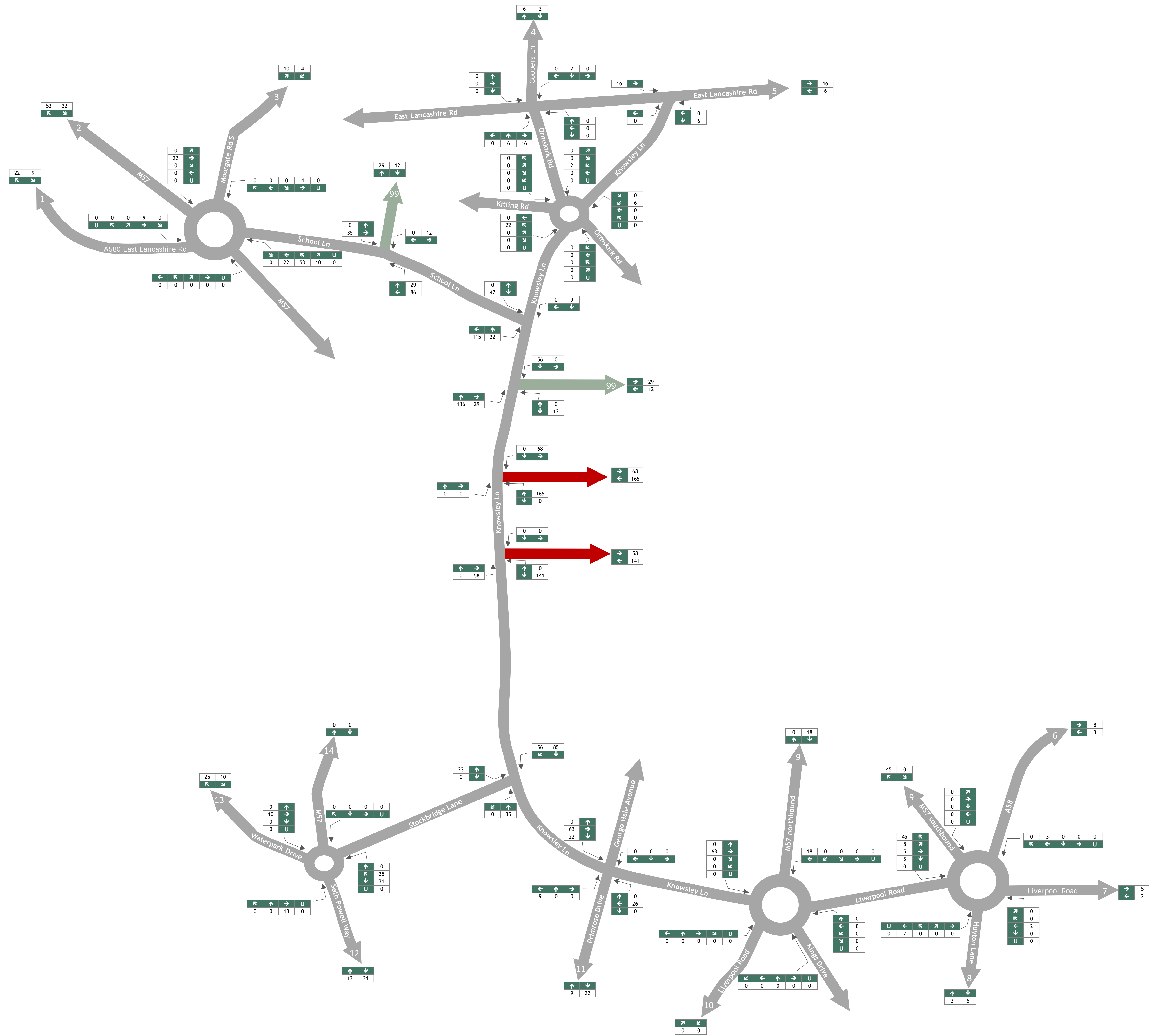
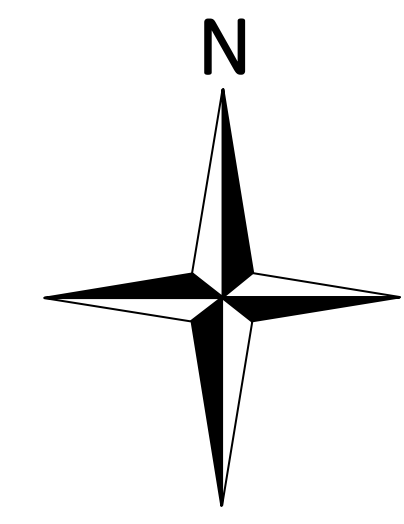
Figure Title:
Trip Distribution (Departures)

Scale:
Not to scale

Figure Status:
Issue

Job Number:
4111

Figure Number:
Figure 5



Key:

- Primary Road
- Secondary Road
- Site Access
- Additional traffic movements not explicitly represented in the network diagram (e.g. minor roads)

Note: The number in each arrowhead relates to the route reference used in the

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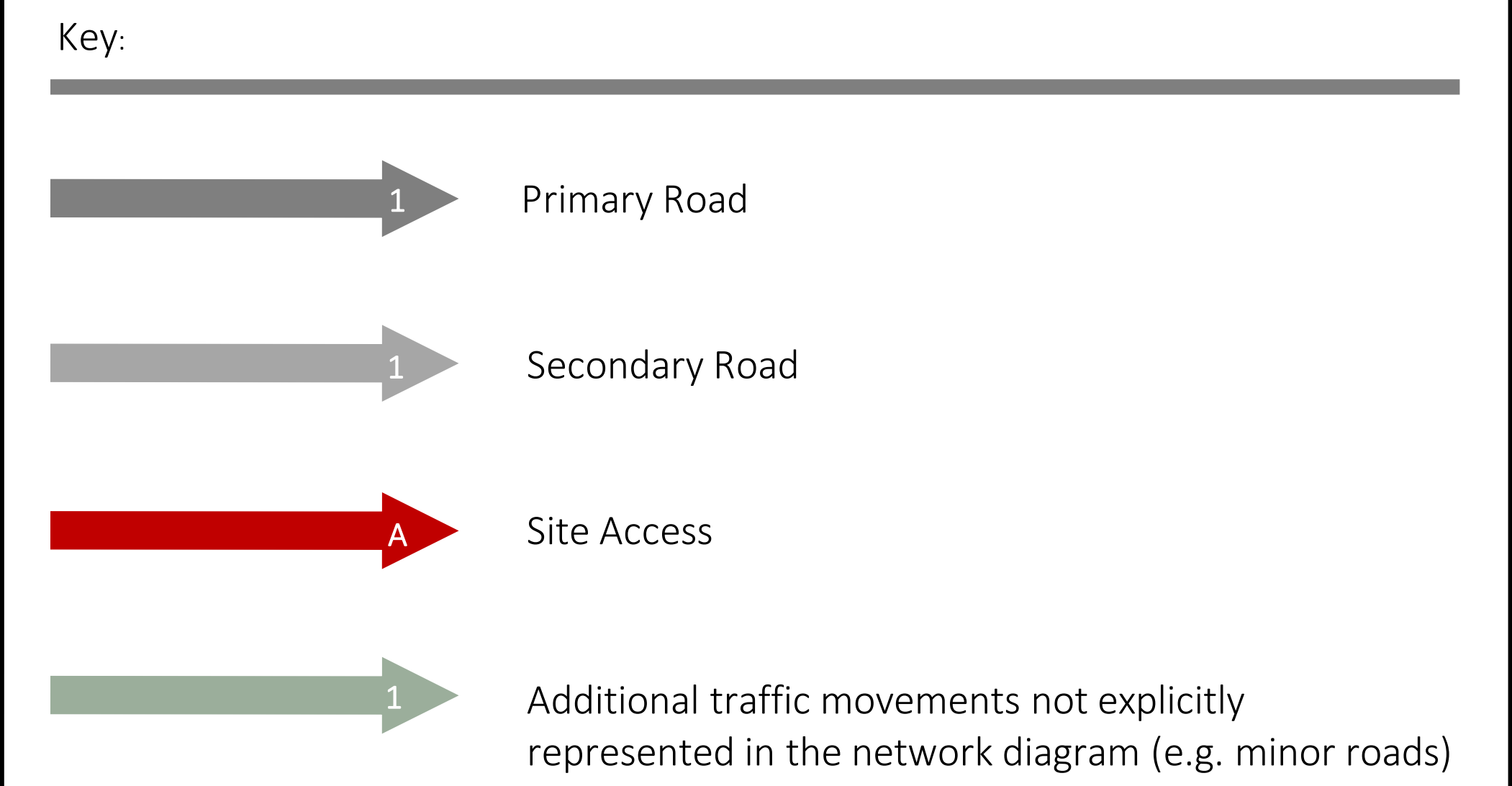
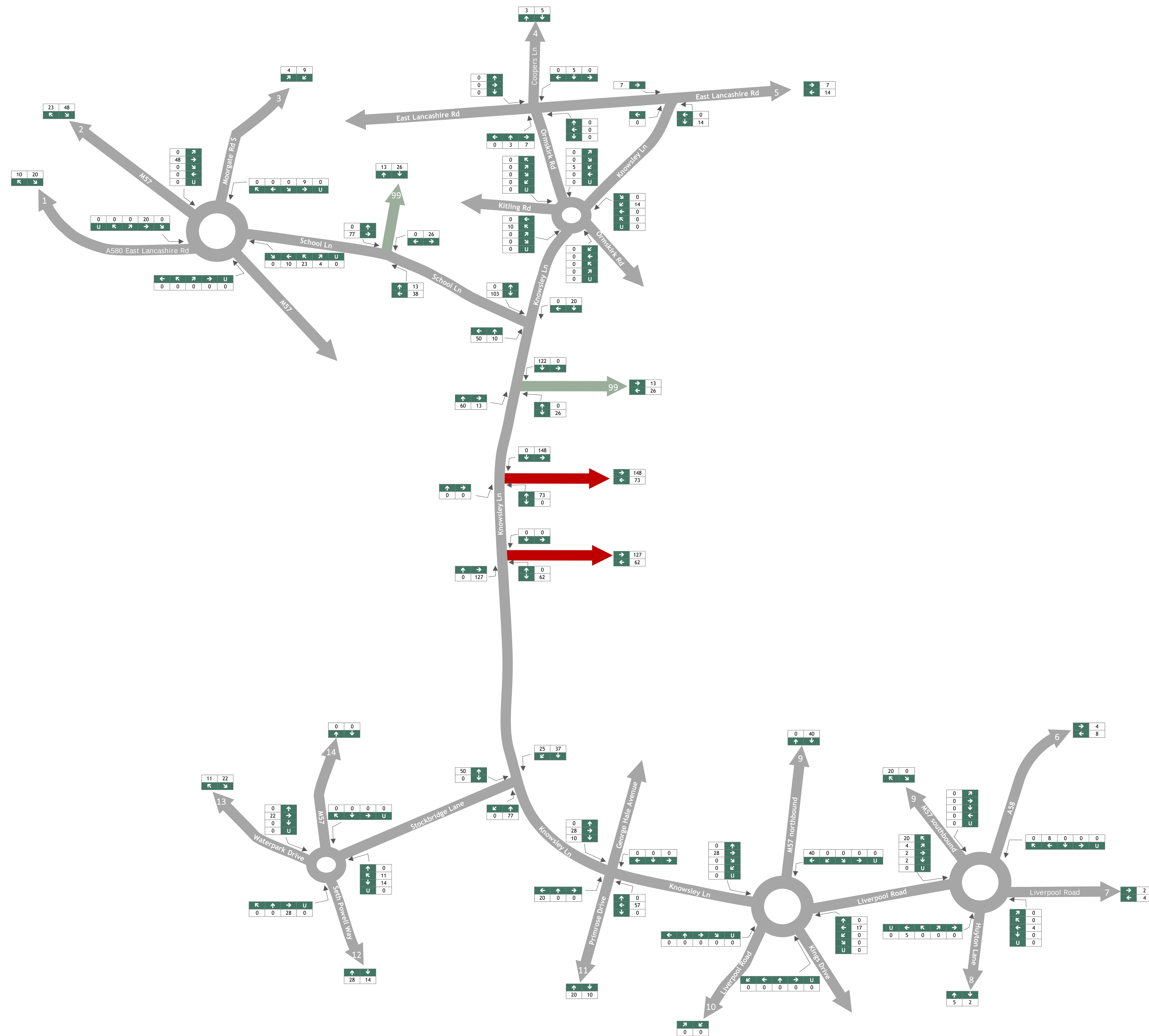
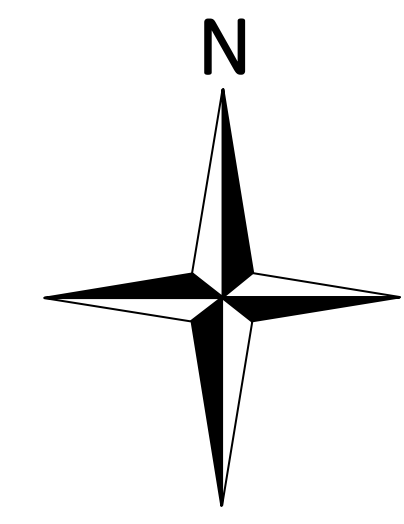
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Hallam Land Management Ltd

Project:
Land at Home Farm Road, Knowsley

Figure Title:
Development Traffic Flows
AM Peak Hour

Scale: Not to scale	Figure Status: Issue
Job Number: 4111	Figure Number: Figure 6



Note: The number in each arrowhead relates to the route reference used in the

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Hallam Land Management Ltd

Project:
Land at Home Farm Road, Knowsley

Figure Title:
Development Traffic Flows
PM Peak Hour

Scale:
Not to scale

Figure Status:
Issue

Job Number:
4111

Figure Number:
Figure 7

Drawings

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N O T E S

GENERAL NOTES

a.

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1.

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- SPECIFICATION FOR HIGHWAY WORKS (SHW);
- MANUAL FOR STREETS (MFS); AND
- METROPOLITAN BOROUGH OF KNOWSLEY (MBK) DESIGN GUIDE AND SPECIFICATION.

2.

FOOTPATH GRADIENT AT TACTILE PAVING TO BE A MAXIMUM OF 1:12.

3.

EXISTING VEGETATION, FOOTWAY AND OTHER PHYSICAL FEATURES TO BE REMOVED WITHIN THE AREA OF WORKS.

4.

ALL KERBS TO BE HB WITH 125mm KERB CHECK, EXCEPT DROPPED KERBS.

5.

ALL IRONWORK WITHIN EXTENT OF WORKS TO BE LOWERED / RAISED AS REQUIRED.

6.

ALL PROPOSED ROAD MARKINGS TO BE IN ACCORDANCE WITH THE FOLLOWING:

- TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS (TSRGD);AND
- TRAFFIC SIGNS MANUALS CHAPTER 5 - ROAD MARKINGS.

7.

KNOWSLEY LANE PROPOSED DESIGN SPEED: 30mph
PROPOSED ACCESS ROADS DESIGN SPEED: 30mph

KEY

CARRIAGEWAY

FOOTWAY

TACTILE PAVING (UNCONTROLLED CROSSING)

GRASS VERGE

	REV	DESCRIPTION	DATE	BY	Client: HALLAM LAND MANAGEMENT LTD	Drawing Title GENERAL ARRANGEMENT	Fore Consulting Limited 1st Floor, 15 St Paul's Street Leeds LS1 2JG 0113 2460204 enquiries@foreconsulting.co.uk www.foreconsulting.co.uk	Fore		
					Project LAND AT HOME FARM ROAD KNOWSLEY					
PRELIMINARY						Drawn by ML	Checked by AS	Issue Date 06.04.2022	Scale 1:500	Format A1
						Job Number 4111	Drawing Number 100-P-001	Revision -		

File name: E:\4111 Home Farm Road\4111-100-P-001 GENERAL ARRANGEMENT.dwg Plot date: 07 April 2022 09:07:39

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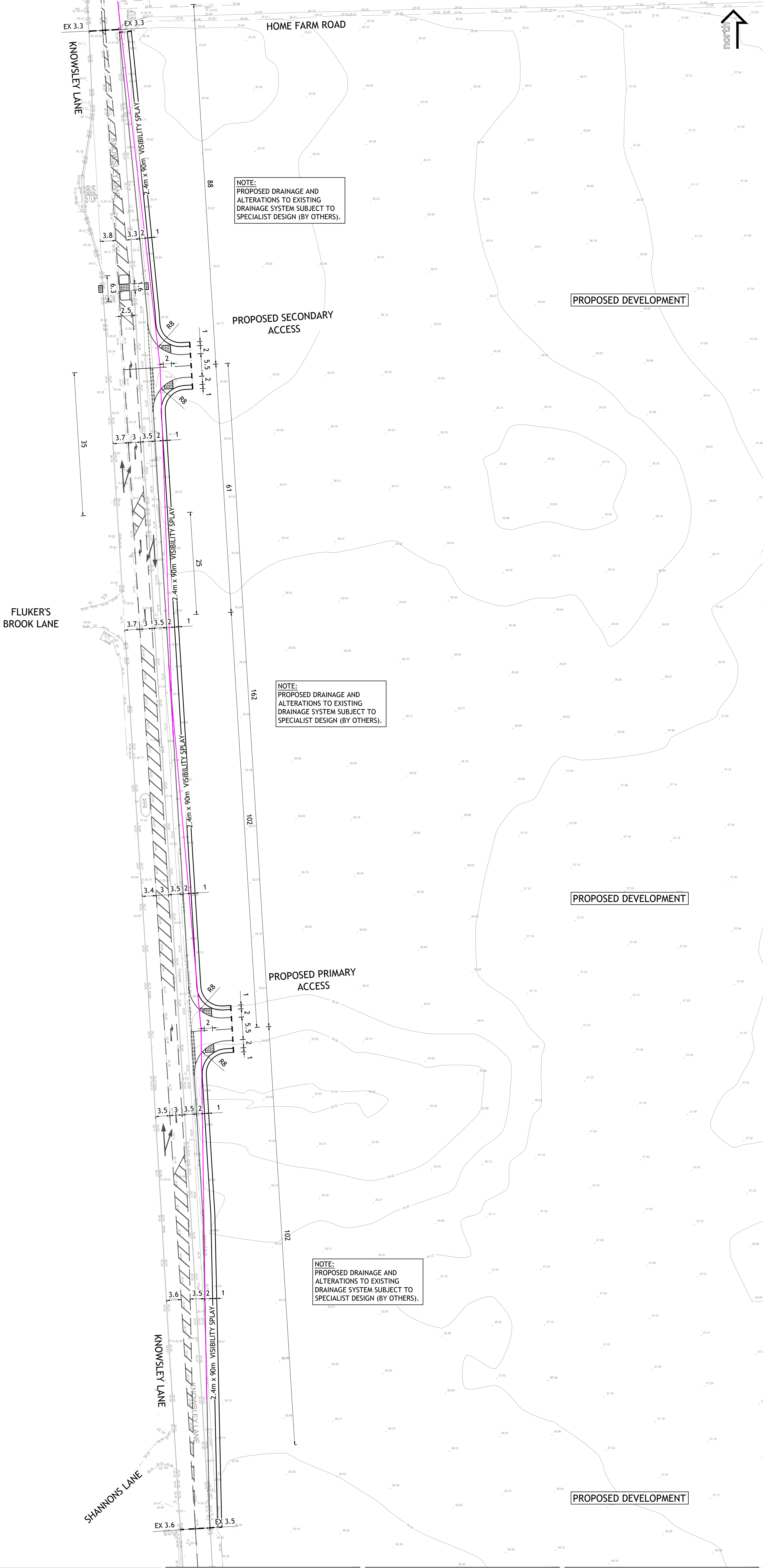
6.

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- TRAFFIC SIGNS MANUALS CHAPTER 5 - ROAD MARKINGS.

7.

KNOWSLEY LANE PROPOSED DESIGN SPEED: 30mph
PROPOSED ACCESS ROADS DESIGN SPEED: 30mph



REV	DESCRIPTION	DATE	BY

Client:	HALLAM LAND MANAGEMENT LTD	Drawing Title	ENGINEERING LAYOUT
Project	LAND AT HOME FARM ROAD KNOWSLEY		

Drawn By	ML	Checked by	AS	Issue Date	06.04.2022	Scale	1:500	Format	A1
Job Number	4111	Drawing Number	100-P-002						

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- SPECIFICATION FOR HIGHWAY WORKS (SHW);
- MANUAL FOR STREETS (MFS); AND
- METROPOLITAN BOROUGH OF KNOWSLEY (MBK) DESIGN GUIDE AND SPECIFICATION.

2. SWEPT PATH ANALYSIS PERFORMED USING AUTODESK VEHICLE TRACKING 2019 SOFTWARE.

KEY

WHEEL TRACK LINES

VEHICLE MOVEMENT ENVELOPE

10.22

1.565 3.882 1.318

Phoenix 2-20W (with Elite 2 6x2ML chassis)

Overall Length 10.220m

Overall Width 2.530m

Overall Body Height 3.211m

Min Body Ground Clearance 0.416m

Track Width 2.530m

Lock to lock time 4.00s

Kerb to Kerb Turning Radius 9.450m

	REV	DESCRIPTION	DATE	BY	Client:	Drawing Title	Fore Consulting Limited 1st Floor, 15 St Paul's Street Leeds LS1 2JG 0113 2460204 enquiries@foreconsulting.co.uk www.foreconsulting.co.uk Fore					
					HALLAM LAND MANAGEMENT LTD	SWEPT PATH ANALYSIS RCV						
					Project							
					LAND AT HOME FARM ROAD KNOWSLEY							
						PRELIMINARY						
						Drawn by ML	Checked by AS	Issue Date 06.04.2022	Scale 1:500	Format A1		
						Job Number 4111	Drawing Number 100-P-003	Revision -				

File name: E:\4111 Home Farm Road\4111-100-P-003 SWEPT PATH ANALYSIS.dwg Plot date: 07 April 2022 09:08:39

Appendix A

Road Safety Data



Alder Ln

Bedward Electrical
Contractors

orough Rd

Riding Hill Rd

Chill Out Spa

Cybertill

Knowsley Bridal Suite

Jack's Bro

Home Farm Rd

Home Farm Rd

Knowsley Ln

Ormskirk Rd

Fluker's Brook Ln

Spookies
Wood

Carpet Cleaner H

Croxteth Park Storage

B5202
B5194

Ormskirk Rd

Ormskirk Rd

M57

Croxteth Ln

Appendix B

TRICS Outputs

Calculation Reference: AUDIT-752701-220503-0524

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	WS WEST SUSSEX	1 days
04	EAST ANGLIA	
	NF NORFOLK	3 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 432 to 984 (units:)
 Range Selected by User: 400 to 1100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 22/09/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	2 days
Wednesday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	4 days
Directional ATC Count	1 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town	5
--------------	---

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	3
Out of Town	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3 5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	2 days
125,001 to 250,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	4 days
No	1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	5 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
-----------------------	-----	--

LIST OF SITES relevant to selection parameters

1	NE-03-A-02 HANOVER WALK SCUNTHORPE	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	Edge of Town No Sub Category Total No of Dwellings: 432 Survey date: MONDAY 12/05/14		Survey Type: MANUAL
2	NF-03-A-22 ROUND HOUSE WAY NORWICH CRINGLEFORD	MIXED HOUSES & FLATS	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings: 984 Survey date: TUESDAY 13/10/20		Survey Type: MANUAL
3	NF-03-A-23 SILFIELD ROAD WYMONDHAM	MIXED HOUSES & FLATS	NORFOLK
	Edge of Town Out of Town Total No of Dwellings: 514 Survey date: WEDNESDAY 22/09/21		Survey Type: MANUAL
4	NF-03-A-29 BEAUFORT WAY GREAT YARMOUTH BRADWELL	MIXED HOUSES	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings: 486 Survey date: WEDNESDAY 22/09/21		Survey Type: DIRECTIONAL ATC COUNT
5	WS-03-A-11 ELLIS ROAD WEST HORSHAM S BROADBRIDGE HEATH	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 918 Survey date: TUESDAY 02/04/19		Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	667	0.059	5	667	0.277	5	667	0.336
08:00 - 09:00	5	667	0.157	5	667	0.383	5	667	0.540
09:00 - 10:00	5	667	0.122	5	667	0.147	5	667	0.269
10:00 - 11:00	5	667	0.106	5	667	0.118	5	667	0.224
11:00 - 12:00	5	667	0.112	5	667	0.119	5	667	0.231
12:00 - 13:00	5	667	0.128	5	667	0.131	5	667	0.259
13:00 - 14:00	5	667	0.128	5	667	0.135	5	667	0.263
14:00 - 15:00	5	667	0.157	5	667	0.174	5	667	0.331
15:00 - 16:00	5	667	0.238	5	667	0.171	5	667	0.409
16:00 - 17:00	5	667	0.272	5	667	0.160	5	667	0.432
17:00 - 18:00	5	667	0.344	5	667	0.168	5	667	0.512
18:00 - 19:00	5	667	0.276	5	667	0.169	5	667	0.445
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.099			2.152			4.251

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 432 - 984 (units:)
 Survey date range: 01/01/14 - 22/09/21
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 5
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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Registered Address: 1st Floor, 15 St Pauls Street, Leeds LS1 2JG, United Kingdom
VAT Registration No. 105 0341 75

Appendix C

KMBC Scoping Response





Highway Observations Memo

Transportation and Traffic Services

Date:	20 th December 2024
To:	Planning Services
Planning App. No:	24/00044/PREAPP
Proposal:	800 Dwellings
Location:	Land off Knowsley Lane, Knowsley Village

☒ Highway Pre-application Advice

The scale of the proposed development is considered to have the potential to have a significant impact upon the surrounding highway network. The general principles of the Transport Access and Appraisal note are accepted. As stated within the document, any application should be accompanied with a full Transport Assessment, which should include junction capacity assessment at the following junctions as a minimum:

- Site Accesses
- Knowsley Lane / School Lane
- M57 Junction 4
- Knowsley Lane / Stockbridge Lane
- Seth Powell Way / Stockbridge Lane / Waterpark Drive Roundabout (M57 J3)
- Knowsley Lane / Primrose Drive / George Hale Avenue
- Liverpool Road / Knowsley Lane / Kings Drive (M57 J2 west Roundabout)
- Liverpool Road / A58 / Huyton Lane (M57 J2 east Roundabout)

The application should also be accompanied by a completed Active Travel England toolkit. Highways would expect to see an improvement in the pedestrian provision along Knowsley Lane north of Home Farm Road.

Based upon the information provided, the principle of the access points appear acceptable, subject to assessment, however, the 30mph speed limit on Knowsley Lane would need to be extended beyond the southernmost access.

Limited comment is made on the internal site layout masterplan at this stage. The dimensions proposed for the residential access road of 5.5m carriageway, plus 2 x 2m footways is accepted. The spine road through the site would need to be increased to 7.3m to cater for buses, and will require an off-road shared footway/cycleway to meet the needs of LTN 1/20 as a minimum.

The local amenities are limited, and it is clear that the existing shopping parade at Sugar Lane would see significant increase in vehicular trips. Opportunities for expansion of parking provision here should be explored.

Appendix D

National Highways / WSP Highway Advice on TAA





National Highways

LAND AT HOME FARM, KNOWSLEY – RESIDENTIAL DEVELOPMENT

Transport Access and Appraisal Review





National Highways

LAND AT HOME FARM, KNOWSLEY – RESIDENTIAL DEVELOPMENT

Transport Access and Appraisal Review

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. UK0029842.4592

OUR REF. NO. NW 147

DATE: MARCH 2025



National Highways

LAND AT HOME FARM, KNOWSLEY - RESIDENTIAL DEVELOPMENT

Transport Access and Appraisal Review

WSP

8 First Street

Manchester

M15 4RP

Phone: +44 161 200 5000

WSP.com



QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	05.03.2025			
Date				
Prepared by	AM / NT			
Signature				
Checked by	EST			
Signature				
Authorised by	NM			
Signature				
Project number	UK002983.4592			
Report number	NW 147			
File reference				



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1.3 ALLOCATION STATUS	1
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1 INTRODUCTION

1.1 PREAMBLE

1.1.1. National Highways have been appointed by the Secretary of State as a strategic highway company under the provisions of the Infrastructure Act 2015. National Highways is responsible for operating, maintaining, and improving the Strategic Road Network (SRN) in England, in accordance with the License issued by the Secretary of State for Transport (April 2015) and Government policies and objectives.

1.1.2. National Highways' approach to engaging with the planning system is governed by the advice set out in:

The Strategic Road Network: Planning for the Future – A guide to working with National Highways on Planning Matters (October 2023).

1.1.3. The document is written in the context of statutory responsibilities as set out in National Highways' License, and considering Government policy and regulation, including the:

- National Planning Policy Framework (NPPF);
- Town and Country Planning Development Management (Procedure) Order (England) 2015 (DMPO); and
- DfT Circular 01/2022 The Strategic Road Network and the Delivery of Sustainable Development ("the circular").

1.1.4. As a statutory consultee in the planning system; National Highways have a regulatory duty to co-operate. Consequently, National Highways are obliged to consider all proposals received and to provide appropriate, timely and substantive responses.

1.1.5. National Highways' desire to be a proactive planning partner goes beyond the statutory role, but follows the spirit of the license which stipulates that National Highways should:

"Support local and national economic growth and regeneration."

1.2 TASK OVERVIEW

1.2.1. Astute Transport Planning have been appointed by Hallam Land Management Ltd to provide transport and access advice in relation to land at Home Farm Road, Knowsley for residential development. The Transport Access and Appraisal (TAA) submitted to National Highways has been produced by Fore Consulting Limited (Fore), dated 2022, to identify the key transport and highway issues to enable the land to be promoted for future residential use.

1.2.2. WSP have been commissioned by National Highways, working on the North West Spatial Planning Framework, to review the TAA note to understand the assessment that is to be undertaken and how the proposed development may impact the SRN. In addition, comments and advice will be provided on the parameters to be incorporated into a forthcoming Transport Assessment (TA).

1.3 ALLOCATION STATUS

1.3.1. The proposed development is currently being used for agricultural land. The TAA states that the land was previously allocated as Green Belt land, however, was removed upon adoption of the Knowsley Local Plan Core Strategy in January 2016.



- 1.3.2. The land sits within Policy SUE1 'Sustainable Urban Extensions and Safeguarded Land' and is identified as 'Land at Knowsley Village', with a prospect to provide a total of 1,093 residential dwellings to meet local housing needs.
- 1.3.3. The site has been identified as 'Safeguarded Land' meaning that the site is not allocated for development before 2028. The Core Strategy states that development in this location will only be granted following a future review of the Local Plan.

1.4 TECHNICAL INFORMATION

- 1.4.1. The following documents have been provided by Astute to undertake this review:
 - 2022-06-13_Transport and Access Appraisal_v1.0.pdf (note that the document has been produced by Fore Consulting, dated 2022).
 - HDC Observation Memo_24 00044 PREAPP.doc

2 POLICY

2.1.1. The following national and local transport policy documents have been considered when preparing the Scoping Note:

- National Planning Policy Framework (2021).
- Planning Practice Guidance (2014).
- Knowsley Local Plan Core Strategy (2016).

WSP Comment:

Since the production of the TAA, various policy documents have been updated, including NPPF that has most recently been updated in February 2025 and Planning Practice Guidance, which was updated in February 2024.

Other national and regional planning policy documents should also be considered when developing the TA, including, but not limited to:

- **Active Travel England Standing Advice Note: Active Travel and Sustainable Development (2023);**
- **LTN 1/20 Cycle Infrastructure Design (2020);**
- **Knowsley Council Supplementary Planning Documents; and**
- **Knowsley Unitary Development Plan.**

In addition, a full review of Circular 01/2022 and Planning for the Future (2023) document should be undertaken when developing the TA due to the close proximity of the SRN.

3 EXISTING SITE CONDITIONS

3.1 SITE LOCATION

- 3.1.1. The proposed development site is located within the village of Knowsley, it is approximately 7km west of St Helens and 11km from Liverpool City Centre.
- 3.1.2. The M57, which forms part of the SRN, is approximately 300m west of the site. The M57 Junction 3 is approximately 3km south-west of the site, the M57 Junction 4 (Randles Farm Interchange) is approximately 3km north-west of the development and the M57 Junction 2 (Forest House Interchange) is approximately 4km south-east of the development.
- 3.1.3. Locally, the site is bounded to the north by Home Farm Road, to the west by B5202 Knowsley Lane and green fields/open space to its remaining boundaries.
- 3.1.4. Figure 3-1 shows the location of the site plan.

Figure 3-1 - Site Location Plan

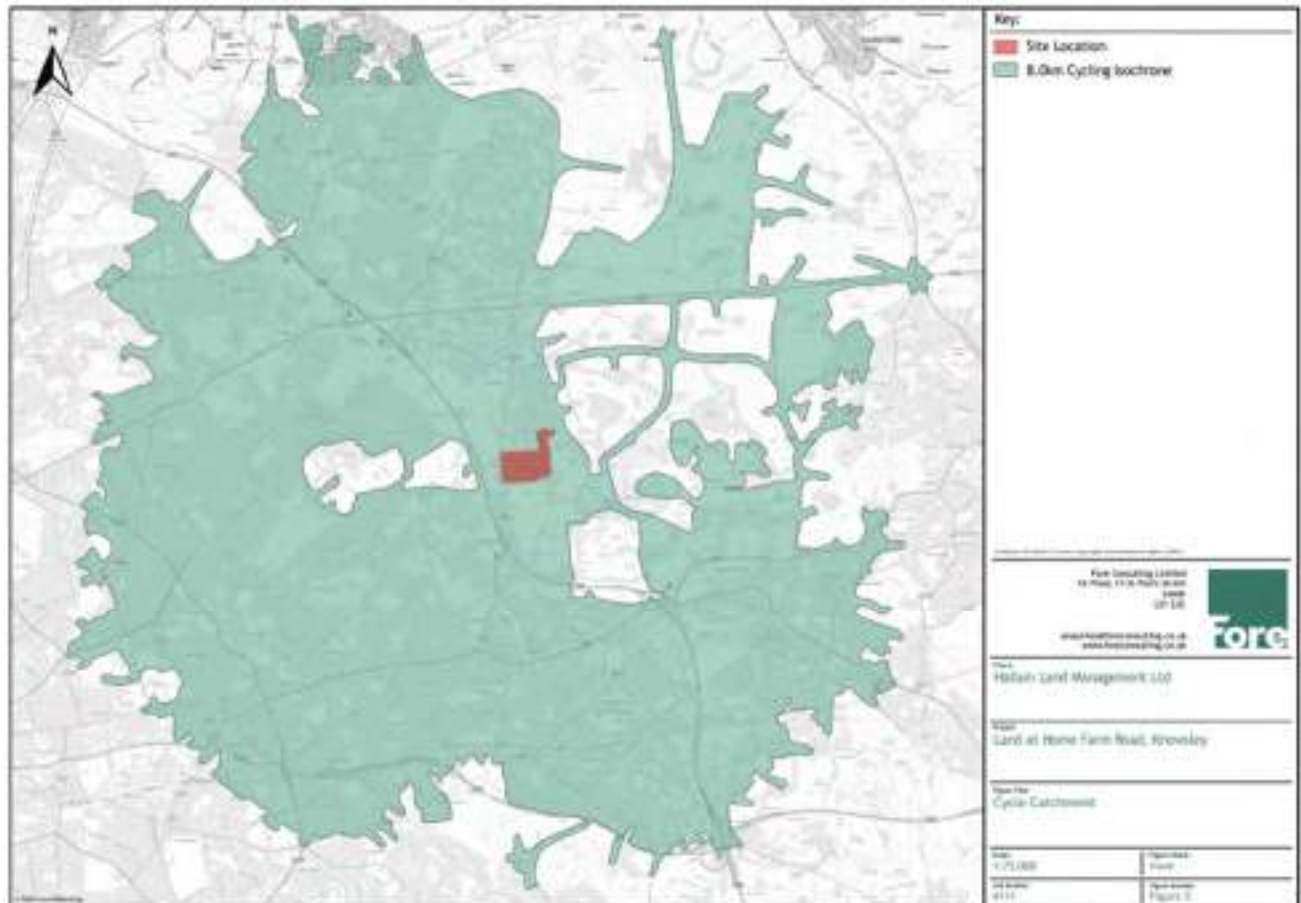


- 3.1.5. The TAA states that the site is 33.58ha of land, which is currently agricultural use and is located adjacent to Knowsley Park Registered Park and Garden, to the east, and Knowsley Village Conservation Area, to the north.

Cycle Access

- 3.2.5. Fore have produced a map with an 8km cycling distance isochrone from the centre of the site. They have stated that this would be accepted as a suitable distance to cycle. Though off-road cycle infrastructure is limited, cyclists would share the carriageway with other road users. Figure 3-3 shows the cycle distance from the site.

Figure 3-3 - 8km cycle distance from site



- 3.2.6. Within the isochrone, the village of Knowsley can be reached, which provides access to key amenities including Knowsley Business Park.
- 3.2.7. Also, the isochrone covers several local towns including:
- Prescott;
 - Whiston;
 - Huyton;
 - Kirkby; and
 - Liverpool suburbs.

Public Transport

- 3.2.8. The TAA also has listed the nearest bus stops, which are located on Knowsley Lane, adjacent to the site. The bus stops serve the 217 and 227 bus routes, which run between Kirkby and Huyton, these operate Monday to Friday with a service ~every 15 minutes and half hourly on weekends.



Additionally, it identifies Huyton as the nearest railway station which is approximately 4.6km to the south of the site.

WSP Comment:

WSP acknowledges that the TAA is high level at this stage and was produced in 2022. It is expected that as the TA develops, a review of the current existing conditions is included. Within the section, the existing operation of the M57 Junctions 4, 3 and 2 should be included, noting any observed queuing on the slip roads.

In addition, if walking, cycling and public transport isochrones are included in the forthcoming TA, they should be accurate of the conditions available from the site. For example, the walking isochrone appears to show pedestrians being able to walk along the M57 motorway.

3.3 BASELINE TRAFFIC CONDITIONS

3.3.1. No baseline traffic conditions information is included in the TAA.

WSP Comment:

As well as existing walking, cycling and public transport opportunities available from the site, WSP would expect Astute to include the following when developing their TA:

- **Current traffic flows on links and at junctions within the study area based on recent survey data.**
- **Queue length survey data for SRN study area junctions.**
- **Identification of SRN peak hours.**

Due to the time passed since the production of this TAA, and the change of consultant, WSP recommend that Astute engage with National Highways to agree the scope of their assessment before preparing their TA.

3.4 COLLISION DATA ANALYSIS

3.4.1. The TAA includes personal injury accident data for the most recently available five-year period (1st January 2017 and 31st December 2021).

3.4.2. The data was collected for the highway network in the vicinity of the site, this analysis identified there was one collision in the five years. This collision occurred on Knowsley Lane along the western boundary of the site, which occurred between three vehicles and was of slight severity.

WSP Comment:

WSP acknowledge that the TAA is now a few years old. It is expected that the production of the TA provides an up-to-date analysis of collision data, including causality analysis to identify if there are any patterns or trends, which could be exacerbated by the proposed development and requires further investigation.

The analysis of collision data should also include the SRN (specifically M57 Junctions 4, 3 and 2) using STATS19 data.

4 DEVELOPMENT PROPOSALS

4.1 PROPOSED USE

- 4.1.1. Within the TAA, the 'Site Proposals' section of the report highlights that consideration has been given to ensure that the site is accessible by a range of sustainable travel modes including:
- High quality walking and cycling infrastructure.
 - Public transport solutions.
 - Effective management and promotion of sustainable travel options.
 - Thoughtful master planning.
- 4.1.2. The TAA states that the site is anticipated to accommodate around 800 houses (although proposals are not confirmed in detail at this stage).

4.2 ACCESS

Vehicular Access

- 4.2.1. Vehicular access to the site will be provided via two junctions with Knowsley Lane to the west of the site.
- 4.2.2. The TAA states that more precise vehicular access arrangements will be confirmed in more detail at the appropriate state of the planning process. Though following an initial assessment, vehicular access will be achieved by:
- Widening the carriageway of Knowsley Lane along the site frontage, within either public highway of land controlled by the Applicant. It is proposed that two priority-controlled junctions with ghost island right-turn facilities will be provided to access the site on Knowsley Lane.
 - Provision to accommodate right turning vehicles to Fluker's Brook Lane from Knowsley Lane.
 - Installation of a pedestrian crossing island on Knowsley Lane, to the north of the proposed northern site access, to allow pedestrians to safely access the bus stop on Knowsley Lane.
 - The residential access roads within the site will be 5.5m wide and include 2.0m wide footways (as a minimum) on each side of the access roads.
 - Emergency access to be provided from Home Farm Road or Parklands.

Pedestrian and Cycle Access

- 4.2.3. The TAA states that the site layout has been designed to maximise pedestrian and cycle connectivity. It is noted that these designs are not confirmed at this state. The following access for pedestrian and cyclists has been identified:
- Knowsley Lane via the proposed access points; and
 - Pedestrian and cycle access only on to Home Farm Road to connect the site with Knowsley village. This could include access points onto Home Farm Road / Ross Close (with access onto Sugar Lane) and Parklands within land controlled by the promoter.

Public Transport

- 4.2.4. The document, produced by Fore, states that the development is going to build on existing bus provisions, mentioned in 3.2.8. It is stated that, at this stage, there has been no discussions with bus operators and local highway authorities, but this will be done at planning application state. Currently, this is planned to be done by:



- Ensuring pedestrian connections to bus stops are as convenient and direct as possible.
- Supporting bus services through the promotion of sustainable travel options via the implementation of travel planning measures, which can be secured through future planning permission for development on the site.

WSP Comment:

WSP acknowledge that the information contained in the TAA is high level at this stage and was produced in 2022 and that the site will be developed through thoughtful master planning, which should be developed from a vision for the site in line with DfT Circular 01/2022.

When developing the TA, it is recommended that mitigation measures are included that seek to mitigate any impacts on the SRN. It is noted that there is route choice from the site, which provides access to M57 Junctions 4, 3 and 2. It is important that robust measures are incorporated into the design of the development so that residents preferred mode choice is sustainable and active travel modes rather than the private car.

5 TRAFFIC IMPACTS

- 5.1.1. The TAA provides a section in the document setting out the likely transport impacts associated with the proposed development.

5.2 VEHICLE TRIP GENERATION

- 5.2.1. The AM and PM peak periods have been considered in the TAA, as part of the scoping exercise, and multi-modal average vehicle trip rates derived from the industry recognised TRICS database, as follows:

Figure 5-1 – TRICS Outputs

Time		Vehicle Trip Rates (per Dwelling)			Vehicle Trip Generation (800 Dwellings)		
		Arr.	Dep.	Total	Arr.	Dep.	Total
Weekday AM Peak Period	07:00-08:00	0.059	0.277	0.336	47	222	269
	08:00-09:00	0.157	0.383	0.540	126	306	432
Weekday PM Peak Period	16:00-17:00	0.272	0.160	0.432	218	128	346
	17:00-18:00	0.344	0.168	0.512	275	134	410

- 5.2.2. The TAA states that the peak hours to be used in the assessment are:

- Weekday development AM peak hour – 08:00 – 09:00.
- Weekday development PM peak hour – 17:00 – 18:00.

WSP Comment:

WSP note the multi-modal assessment, which is suitable, and the peak hours of the TRICS outputs are to be taken forward for inclusion in the analysis. However, it is requested that an up-to-date TRICS assessment is carried out when developing the TA due to the time that has passed since the production of this TAA.

5.3 PERSON TRIP GENERATION BY MODE

- 5.3.1. The TAA has utilised 2011 Census data to estimate the baseline mode share for the proposals using the lower layer super output area (MSOA) Knowsley 005. The TAA considers that the mode share represents the likely travel characteristics of future residents of the site at peak times.
- 5.3.2. The resultant baseline by mode is set out in Figure 5-2, which is taken from the TAA:

Figure 5-2 – Weekday Peak Hour Person Trip Generation by Mode

Mode	Mode Share (%)	AM Peak Hour			PM Peak Hour		
		Arr.	Dep.	Total	Arr.	Dep.	Total
Train	4.2%	5	13	18	12	6	17
Bus	11.1%	14	34	48	30	15	45
Taxi	2.7%	3	8	12	7	4	11
Motorcycle	0.4%	1	1	2	1	1	2
Car driver	56.7%	71	174	245	156	76	232
Car passenger	8.9%	11	27	39	25	12	37
Bicycle	2.1%	3	7	9	6	3	9
On foot	13.8%	17	42	60	38	19	56
Total	100%	126	306	432	275	134	410

WSP Comment:

WSP note that the TAA states that the ‘lower’ layer super output area has been utilised and presume that is a typing error and should state the ‘middle’ output area.

Knowsley 005 is acceptable for use in the assessment.

5.4 VEHICLE TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

- 5.4.1. 2011 Census data has been utilised for the location of usual residence and place of work by method of travel to work. The number of trips to each MSOA has been calculated as a percentage then assigned to routes on the local highway network.
- 5.4.2. The TAA states that where route choice is available, the proportion of trips using each route has been split to reflect the likely preferred choice of the drive time and drive distance and for the purposes of the assessment, development traffic has been split evenly between the two proposed access points. The distribution is as follows:

Figure 5-3 – Vehicle Trip Distribution Summary

Ref.	Route	Distribution (%)
1	A580 East Lancashire Road west	7%
2	M57 north	17%
3	A5207 Moorgate Road	3%
4	A5208 Coopers Lane	2%
5	A580 East Lancashire Road east	5%
6	A58	3%
7	Liverpool Road east	2%
8	Huyton Lane	2%
9	M57 south	15%
10	Liverpool Road west	0%
11	Primrose Drive	7%
12	Seth Powell Way	10%
13	Waterpark Drive	8%
14	M57 north Junction 3	0%
99	internal	19%
Total		100%

WSP Comments:

The distribution appears logical at this stage; however, evidence should be provided as to how the routing assignment has been determined (i.e. through the use of Google routing software or TomTom data).

5.5 OFF-SITE IMPACTS

- 5.5.1. The TAA assigns the anticipated number of vehicles, for 800 dwellings, on the local highway network and SRN based on the distribution generated. The following table outlines the development traffic assigned to key junctions, which is taken from the TAA:

Figure 5-4 – Development Traffic at Key Junctions

Junction	Development Traffic Flows (Two-Way Flows)	
	AM Peak Hour	PM Peak Hour
Knowsley Lane / School Lane	192	182
Knowsley Lane / Ormskirk Road Roundabout	31	29
East Lancashire Road / Knowsley Lane	6	14
East Lancashire Road / Ormskirk Road / Coopers Lane	24	15
M57 Junction 4	121	114
Knowsley Lane / Stockbridge Lane	199	189
Seth Powell Way / Stockbridge Lane / Waterpark Drive Roundabout (M57 J3)	79	75
Knowsley Lane / Primrose Drive / George Hale Avenue	120	114
Liverpool Road / Knowsley Lane / Kings Drive (M57 J2 west Roundabout)	89	85
Liverpool Road / A58 / Huyton Lane (M57 J2 east Roundabout)	71	44

5.5.2. The TAA continues by summarising the impacts of the proposed development. A summary is provided below:

- The development would generate around 400 vehicle movements in the AM and PM peak hours and beyond the access junctions, the traffic impacts are likely to disperse relatively quickly to the north and south.
- The impacts on specific junctions would be limited. On average, the increase equates to around 3 vehicles per minute at peak times and the majority of trips would be journeys travelling through the junction rather than turning movements. Such an impact is not considered to represent a significant issue in terms of junction operation.
- Maximum impacts on all slip roads at M57 Junctions 2, 3 and 4 is around 50 vehicles at the Junction 4 northbound slip road. At all other slip road connections to the M57, the impact is lower.

WSP Comment:

WSP do not agree with the summary of impacts at junctions within the study area, more specifically the SRN junctions. The two-way development traffic anticipated at M57 Junction 4 in the AM peak is 121 vehicles and 114 vehicles in the PM peak, whilst M57 Junction 2 is 89 (west roundabout) and 71 (east roundabout) vehicles in the AM peak and 85 (west roundabout) and 44 (east roundabout) in the PM peak.

The development of the TA should include junction assessments looking at the impact of the proposal on the SRN junctions.

WSP note that no trips have been assigned to M57 Junction 3 and would comment that this junction could be utilised for access to and from the development, depending on the direction of travel (in acknowledgement that Junction 3 is not an all-movements junction). Is it requested that evidence of how the traffic is assigned is provided in the TA.

Other points to note:

WSP would recommend that further discussions are held between National Highways and the Applicant to further develop the parameters of the TA. This should include, but is not limited to:

- Confirmation of committed and relevant developments nearby, not allocated in the Local Plan, in line with Circular 01/2022, to be included. This should be discussed and agreed with the Local Planning Authority, with confirmation included in the TA.
- Consider the appropriate parameters for an 'Opening Year' assessment in line with the DfT Circular 01/2022. The opening year should assess the full build out of the development.
- Details of mitigation measures, including preliminary design if appropriate, of both on-site and off-site measures that will encourage sustainable travel and/or mitigate vehicular impact.
- A merge-diverge assessment should be carried out for the slips roads at M57 Junction 2 and Junction 4.

- 5.5.3. As the site has been identified as 'Safeguarded Land', meaning that the site is not allocated for development before 2028, it is requested that clarification is provided as to how the Local Planning Authority will review and assess any forthcoming planning application for this site, Depending on how the Local Planning Authority review a planning application for this site, this will influence the sections within Circular 01/2022 that the development of the TA will need to adhere to.

6 CONCLUSION

- 6.1.1. Astute Transport Planning have been appointed by Hallam Land Management Ltd to provide transport and access advice in relation to a proposed residential development on land at Home Farm Road, Knowsley.
- 6.1.2. National Highways has been consulted by Astute to agree the parameters to be included in a forthcoming Transport Assessment for the site, noting that the scoping information was produced in 2022 by Fore Consulting. WSP have been commissioned by National Highways, working on the North West Spatial Planning Framework, to review the scoping information contained in the submitted report.
- 6.1.3. Following the review of the submitted information, there are a number of outstanding points that require further information and development of the parameters to be included in the forthcoming Transport Assessment. This includes the following:
- Up-to-date policy section to be provided, which includes DfT Circular 01/2022 and Planning for the future documents.
 - Baseline traffic conditions to include current traffic flows, queue length survey data of the SRN junctions and existing operation of the SRN.
 - Up to date collision data analysis to be provided including the SRN using STATS 19 data.
 - TRICS assessment to be updated.
 - Evidence to be provided for the routing assignment of the trip distribution and include M57 Junction 3.
 - Confirmation of committed developments to be included, through liaison with the Local Planning Authority.
 - Confirmation of opening year of development, which should be used in the assessment and include full build out of the proposal.
 - Merge-Diverge Assessment to be undertaken of SRN Junctions M57 Junctions 4 and 2.
 - How the Local Planning Authority will review and assess the site in light of the land being allocated as 'Safeguarded Land' and not allocated for development before 2028.
- 6.1.4. It is recommended that a meeting is offered to Astute to discuss with WSP and National Highways the points outlined in this review.



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Manchester
M15 4RP

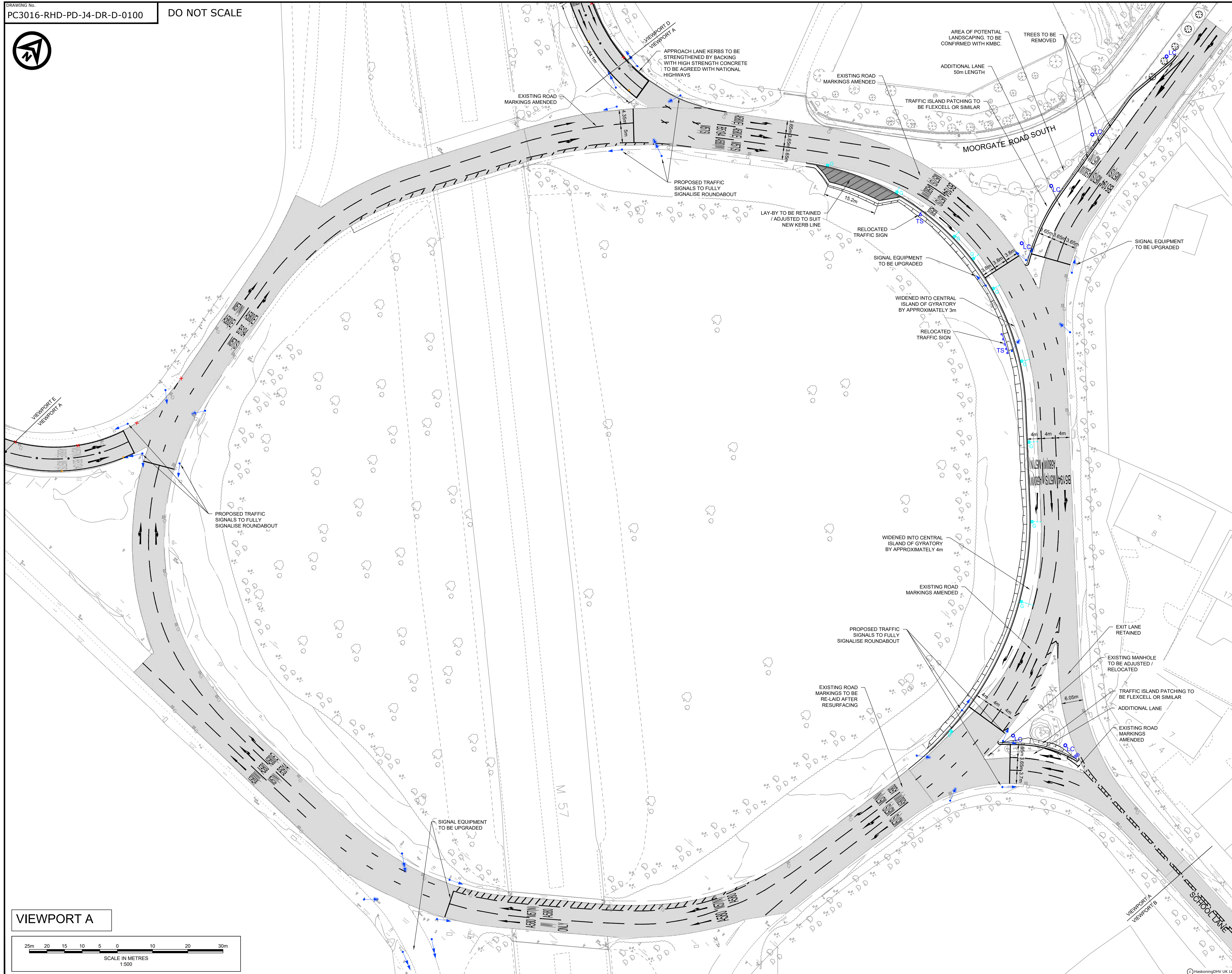
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Appendix E

M57 Junction 4 Committed Improvement Works

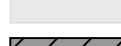
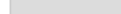


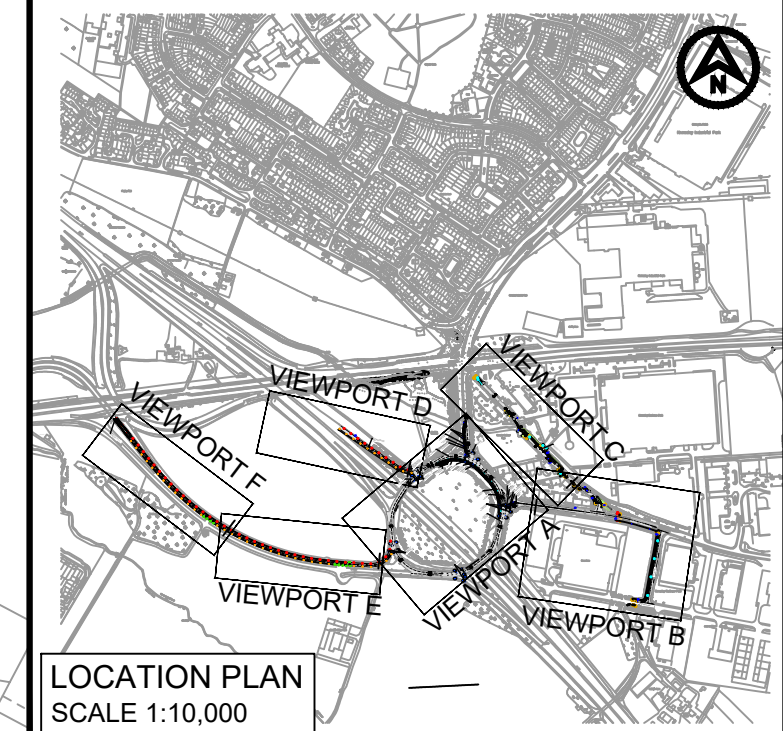


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KEY

	PROPOSED KERB LINE
	EXISTING TOPOGRAPHICAL SURVEY
	PROPOSED ROAD MARKING
	AREA OF FULL CARRIAGEWAY CONSTRUCTION
	AREA OF CARRIAGEWAY RESURFACING
	AREA OF VEHICULAR CROSSING CONSTRUCTION
	AREA OF FOOTWAY CONSTRUCTION
	
	EARTHWORKS - CUT
	EARTHWORKS - FILL
	PROPOSED GULLY AND LEAD
	PROPOSED TRAFFIC SIGN
	RELOCATED RETRO-REFLECTIVE BOLLARD, WITH KEEP LEFT ASPECT
	PROPOSED TRAFFIC SIGNALS
	PROPOSED LIGHTING COLUMN. SEE ENVEURO DRAWING EVO02023476-LD-001
	PROPOSED ROAD STUDS



P05	26.03.24	S4 - UPDATES TO CLIENT COMMENTS	AJ	DJ	DJ
P04	09/01/24	S4 - UPDATES TO DESIGN XREF	AJ	DJ	DJ
P03	15/09/23	S4 - UPDATED TO CLIENT COMMENTS	SS	MB	DJ
P02	13/06/23	S3 - UPDATED TO CLIENT COMMENTS	MB	DJ	DJ
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REV	DATE	DESCRIPTION	BY	CHK	APP

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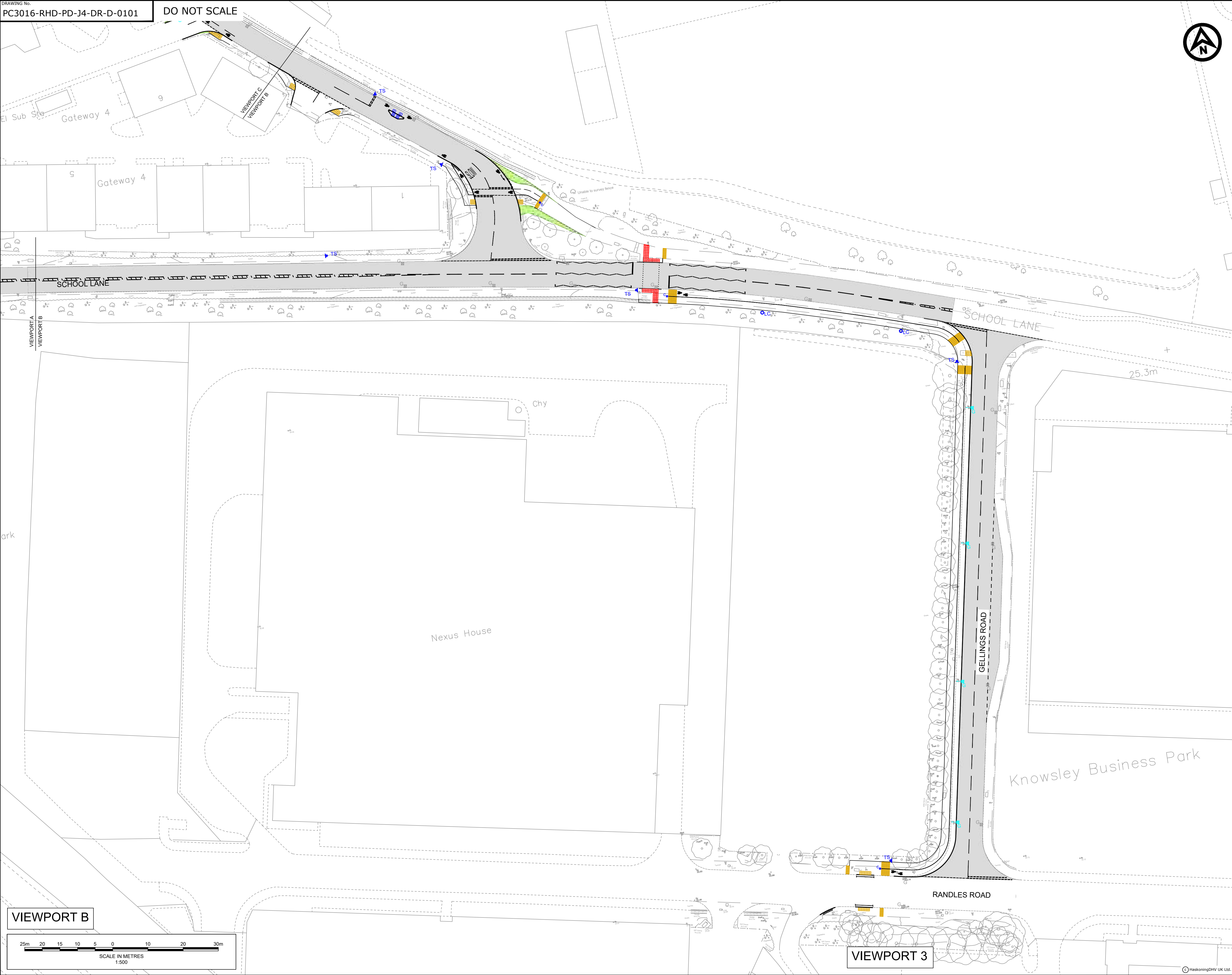
M57 JUNCTION 4 INTERCHANGE

GENERAL ARRANGEMENT
PLAN
SHEET 1 OF 4



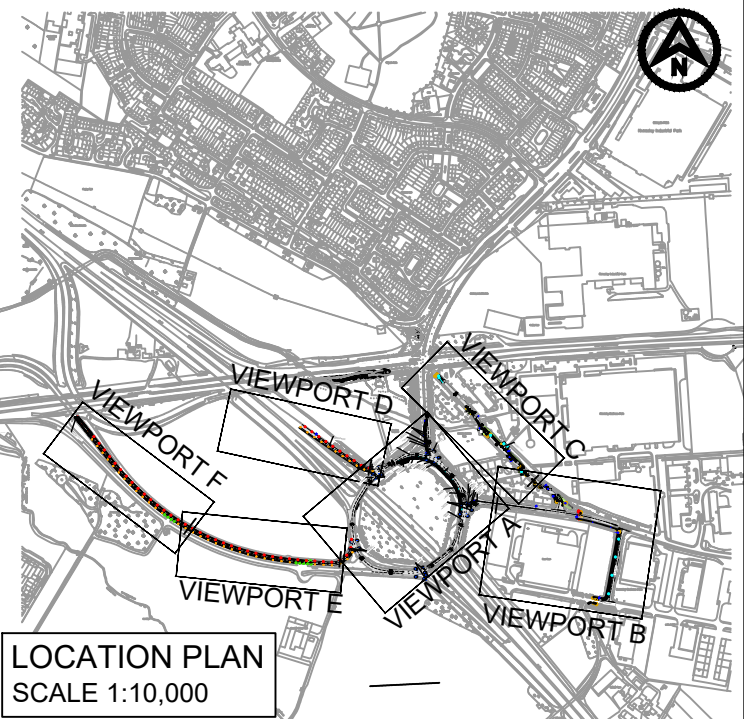
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MB	PV	DJ
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JAN 23	1:500	PC3016
DRAWING No.	SUITABILITY	REVISION
PC3016-RHD-PD-J4-DR-D-0100	S4	P05

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- KEY
- PROPOSED KERB LINE
 - EXISTING TOPOGRAPHICAL SURVEY
 - PROPOSED ROAD MARKING
 - AREA OF CARRIAGEWAY RESURFACING
 - AREA OF FOOTWAY CONSTRUCTION
 - PROPOSED GULLY AND LEAD
 - PROPOSED TRAFFIC SIGN
 - RELOCATED RETRO-REFLECTIVE BOLLARD, WITH KEEP LEFT ASPECT
 - PROPOSED LIGHTING COLUMN, SEE ENRVED DRAWING EVO20023476-LD-001
 - PROPOSED CYCLEWAY BOLLARD
 - BUFF COLOURED CYCLEWAY CORDUROY TACTILES
 - BUFF COLOURED BUSTER TACTILES
 - RED COLOURED BUSTER TACTILES
 - RED COLOURED SURFACING
 - EXISTING GULLY FOR INFORMATION



P03	07/08/24	DRAWING UPDATED TO SUIT COMMENTS	AJ	DJ	DJ
P02	30/04/24	S4 - LAYOUT AMENDED	AJ	DJ	DJ
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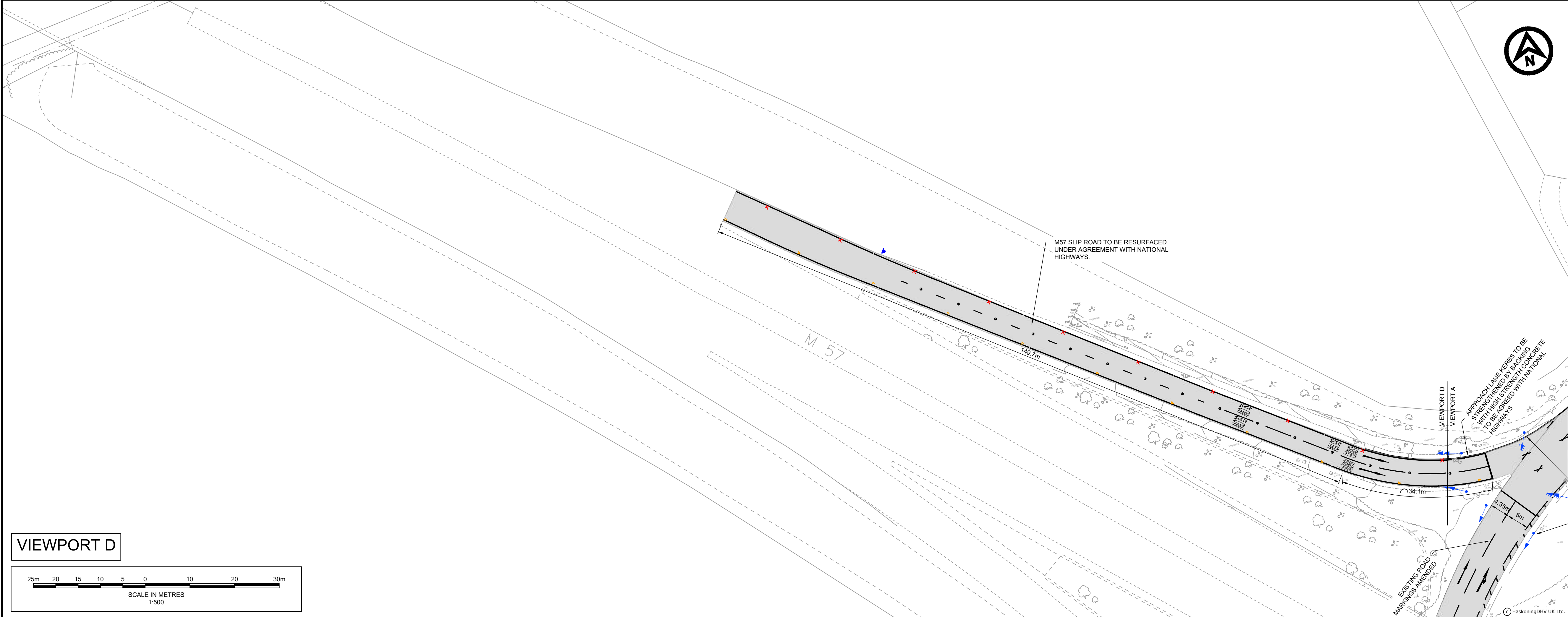
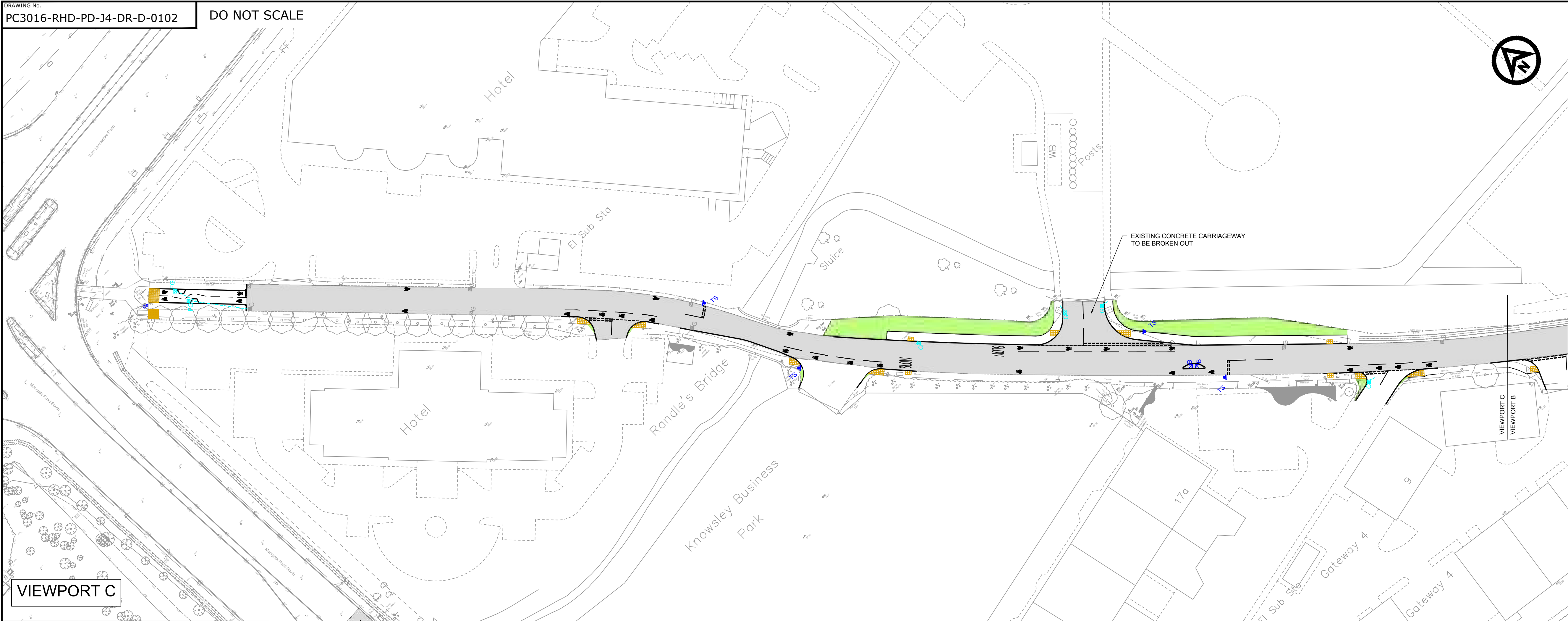


PROJECT	M57 JUNCTION 4 INTERCHANGE
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TITLE	GENERAL ARRANGEMENT PLAN SHEET 2 OF 4
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DATE	MAR 24	SCALE AT A1	1:500	PROJECT NUMBER	PC3016
DRAWING No.	PC3016-RHD-PD-J4-DR-D-0101	SUITABILITY	S4	REVISION	P03



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- PROPOSED ROAD MARKING
- AREA OF CARRIAGEWAY RESURFACING
- AREA OF FOOTWAY CONSTRUCTION
- GRASS VERGE
- BUFF COLOURED CYCLEWAY CORDUROY TACTILES
- BUFF COLOURED BLISTER TACTILES
- PROPOSED GULLY AND LEAD
- PROPOSED FOOTWAY GULLY AND LEAD
- PROPOSED TRAFFIC SIGN
- RETRO-REFLECTIVE BOLLARD, WITH KEEP LEFT ASPECT
- PROPOSED TRAFFIC SIGNALS
- PROPOSED CYCLEWAY BOLLARD
- PROPOSED ROAD STUDS
- EXISTING GULLY WITHIN RESURFACING EXTENTS TO BE RESET.

LOCATION PLAN
SCALE 1:10,000

REVISIONS

REV	DATE	DESCRIPTION	BY	CHK	APP
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P03	07/08/24	DRAWING UPDATED TO SUIT COMMENTS	AJ	DJ	DJ
P02	30/04/24	S4 - LAYOUT AMENDED	AJ	DJ	DJ
P01	26/03/24	S4 - FIRST ISSUE	AJ	DJ	DJ

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CLIENT

PROJECT

TITLE

GENERAL ARRANGEMENT PLAN
SHEET 3 OF 4

Drawn by AJ
Checked by DJ
Approved by DJ

DATE MAR 24
SCALE AT A1 1:500
PROJECT NUMBER PC3016

DRAWING No. PC3016-RHD-PD-J4-DR-D-0102
SUITABILITY S4
REVISION P04

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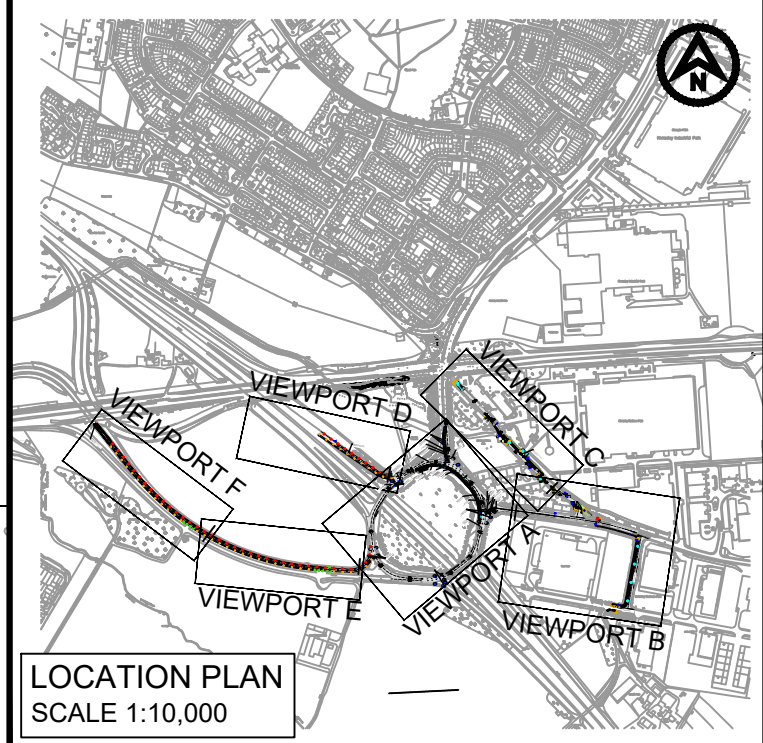
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 - PROPOSED TRAFFIC SIGN
 - PROPOSED TRAFFIC SIGNALS
 - PROPOSED ROAD STUDS



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PROJECT
M57 JUNCTION 4 INTERCHANGE

TITLE
**GENERAL ARRANGEMENT PLAN
SHEET 4 OF 4**

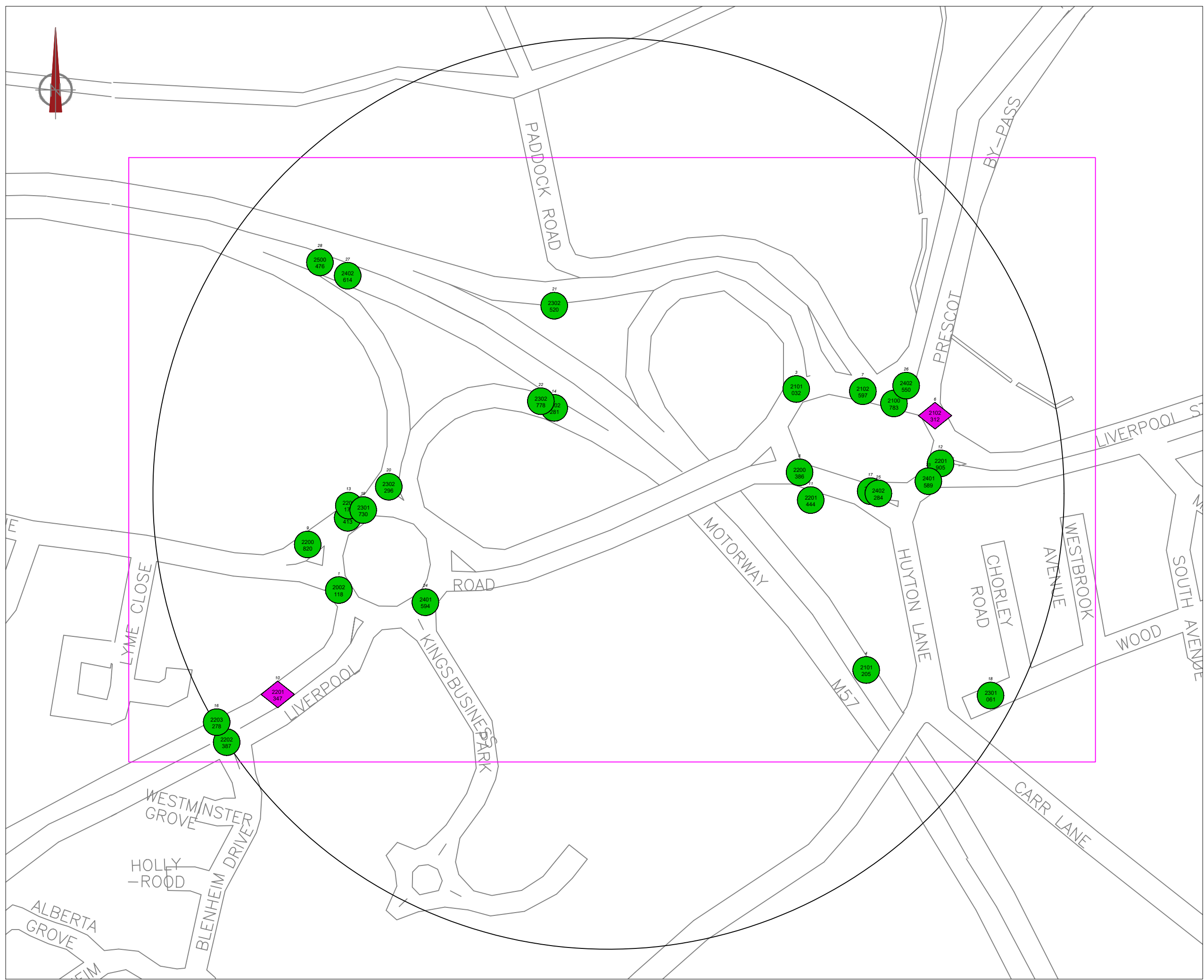


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DRAWING No.	PC3016-RHD-PD-J4-DR-D-0103	SUITABILITY	S4	REVISION	P05

Appendix F

STAT19 Collision Reports





- NOTES:
- KEY:
- 1 Accident Locations
 - 1 Serious Accident Locations

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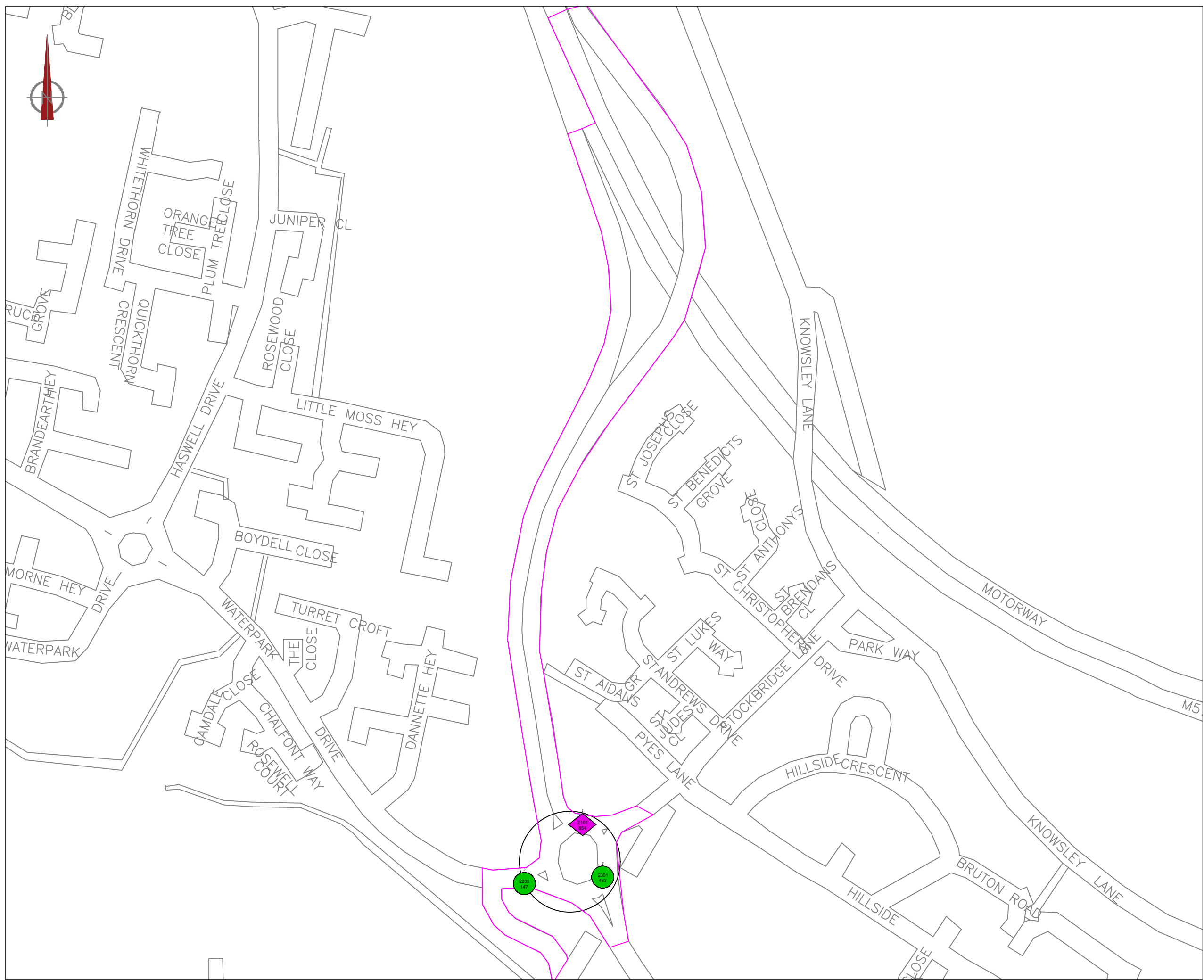
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SHEET 1 of 3			
PROJECT NAME:			
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PT/TM/8377/01			0
SMC	LB	LB	NTS
DRAWN:	CHECKED:	APPROVED:	
JUL 25	JUL 25	JUL 25	SCALE @A3:
DATE:	DATE:	DATE:	



- NOTES:
- KEY:
- Accident Locations
 - ◆ Serious Accident Locations

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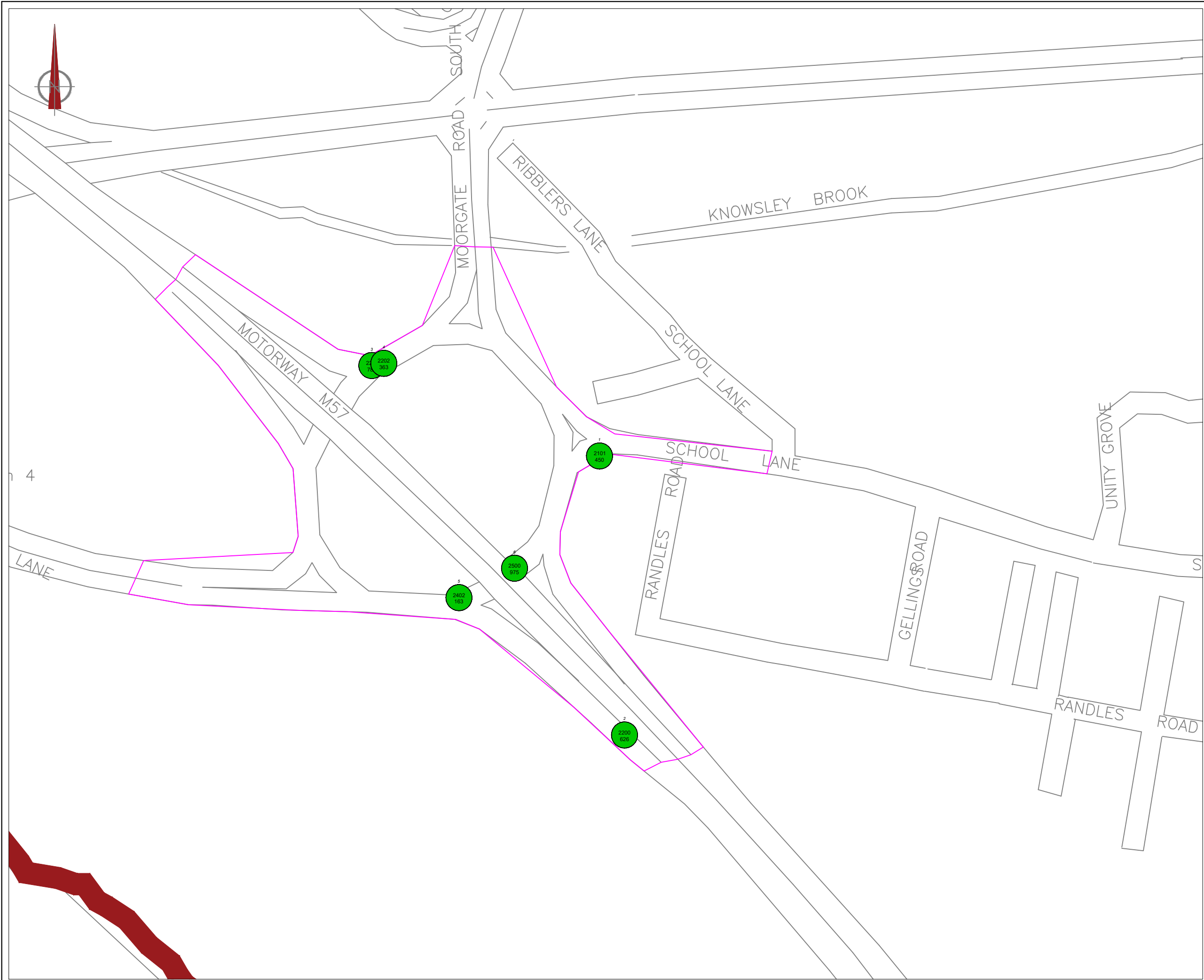
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M57 Junction 3 Accident Data			
PROJECT NAME:			
SHEET 2 of 3			
PROJECT NAME:			
PT/TM/8377/02			0
DRAWING NUMBER:			REV:
SMC	LB	LB	NTS
DRAWN:	CHECKED:	APPROVED:	
JUL 25	JUL 25	JUL 25	SCALE @A3:
DATE:	DATE:	DATE:	



NOTES:

KEY:

Accident Locations

No reproductions without Authority.

Do not scale, use only figured dimensions.

The contractor is to check all dimensions on site and report any discrepancies to the Project Manager or Site Supervisor. This drawing is to be read in conjunction with all other standard documentation.

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REV	DESCRIPTION	BY	DATE
FOR INFORMATION			

STATUS:

**HIGHWAYS & CAPITAL DELIVERY
NETWORK MANAGEMENT TEAM**
PO Box 21 | Archway Road | Huyton | L36 9YU
www.knowsley.gov.uk

M57 Junction 4 Accident Data

PROJECT NAME:

SHEET 3 of 3

PROJECT NAME:

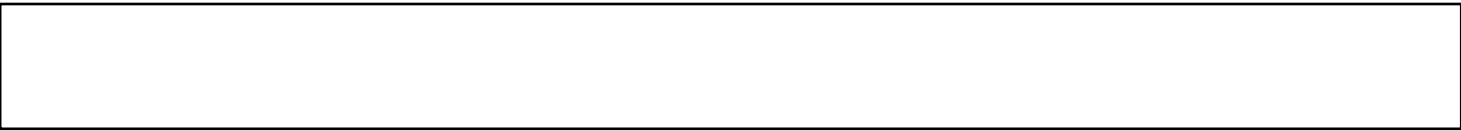
PT/TM/8377/03

0

DRAWING NUMBER:

REV:

SMC	LB	LB	NTS
DRAWN:	CHECKED:	APPROVED:	
JUL 25	JUL 25	JUL 25	
DATE:	DATE:	DATE:	SCALE @A3:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street
1		E08000011	2002118	Slight	Wednesday	14/10/2020	10:00	345205 / 392572		

1st Rd: B5202 2nd Rd:

Location: STREET RECORD KNOWSLEY LANE

Speed		C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
30 MPH		Single c'way	Not JCT		Daylight		Fine	Dry	None	None	None	None		
Veh	Vehicle type		Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car		No	Going ahead	S N	On main	Not at	No	None	No	None	Untra.	u/k	-ve
2	Car		No	Parked	P P	On main	Not at	No	None	No	None	Untra.	u/k	N/R
3	Car		No	Parked	P P	On main	Not at	No	None	No	None	Male	30	-ve
Cas No	Veh ref	Cas Class		Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement		Ped location	School Pupil		
1	3	Passenger		Female	24	Slight	Rear	Not ped	Not ped		Not ped	Other		
2	3	Passenger		Female	28	Slight	Front	Not ped	Not ped		Not ped	Other		

Description: DRIVER OF VEHICLE 1 LOSES CONCENTRATION ANC COLLIDES INTO VEHICLE 2 AND THEN IN TO THE BACK OF VEHICLE 3

User Information:

2		E08000011	2100783	Slight	Tuesday	04/05/2021	12:10	345705 / 392740		
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1st Rd: A57 2nd Rd: A58

Location: LIVERPOOL ROAD and PRESCOT BYPASS

Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard	
40 MPH		Dual c'way		R'dabt Give		Daylight		Fine		Wet		None		None		None		None	
Veh	Vehicle type			Towing	Manoeuvre	Dir	Veh loc		Junct. loc	Skidding	Hit obj in	Left cway		Hit obj off	Sex	Age	B/T		
1	Car			No	Left turn	E W	On main		Leave r'about	No	None	No		None	Male	44	-ve		
2	Pedal Cycle			No	Going ahead	E W	On main		Mid junction	No	None	No		None	Male	49	N/A		
Cas No	Veh ref			Cas Class	Sex	Age	Severity		Car Pass	Ped Direction	Ped Movement		Ped location		School Pupil				
1	2			Drv/Rider	Male	49	Slight		No	Not ped	Not ped		Not ped		Other				

Description: CYCLIST V002 NAVIGATING ROUNDABOUT JUNCTION, AS V002 CYCLES ACROSS THE MOUTH OF THE JUNCTION FOR PRESCOT BYPASS V001 ATTEMPTS TO EXIT THE ROUNDABOUT ONTO PRESCOT BYPASS AND SIDE SWIPES V002 KNOCKING THE RIDER ONTO THE FLOOR. NEARSIDE OF V001 COLLIDED WITH THE OFFSIDE OF V002. RIDER SUSTAINED GRAZES AND BRUISES.

User Information:

3		E08000011	2101032	Slight	Wednesday	26/05/2021	20:21	345617 / 392753		
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1st Rd: A57 2nd Rd: M57

Location: LIVERPOOL ROAD and M57

Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard	
40 MPH		Dual c'way		R'dabt Give		Daylight		Fine		Dry		None		None		None		None	
Veh	Vehicle type			Towing	Manoeuvre	Dir	Veh loc		Junct. loc	Skidding	Hit obj in	Left cway		Hit obj off	Sex	Age	B/T		
1	Car			No	Going ahead	W E	On main		Mid junction	No	None	No		None	Female	22	N/C		
2	Van/Goods < 3.5t			No	Going ahead	W E	On main		Mid junction	No	None	No		None	Male	32	N/C		
Cas No	Veh ref		Cas Class	Sex	Age	Severity		Car Pass	Ped Direction		Ped Movement		Ped location		School Pupil				
1	2		Drv/Rider	Male	32	Slight		No	Not ped		Not ped		Not ped		Other				

Description: MINOR COLLISION ON ROUNDABOUT, DETAILS EXCHANGED AT SCENE. DRIVER OF V001 SUSTAINED WHIPLASH TYPE INJURY.

User Information:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street			
4		E08000011	2101205	Slight	Wednesday	23/06/2021	18:25	345680 / 392500					
1st Rd: M57 2nd Rd:													
Location: MARKER POST M57 B 7.5 DLS M57													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
70 MPH	Dual c'way	Not JCT		Daylight		Rain	Wet	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Going ahead	N S	On main	Not at	No	None	Nearside	Barr	Male	37	N/P
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	1	Drv/Rider	Male	37	Slight	No	Not ped	Not ped	Not ped	Other			
Description: V1 HAS BEEN TRAVELLING SOUTH ALONG THE M57. UPON REACHING JUNCTION 2 V1 HAS TRAVELLED UNDER THE BRIDGE AND HIT STANDING WATER. V1 HAS VEERED ONTO THE HARD SHOULDER THE NEARSIDE AND COLLIDED WITH THE ARMCO BARRIER BEFORE CONTINUING INTO BUSHES.													
User Information:													
5		E08000011	2101413	Slight	Friday	25/06/2021	13:30	345213 / 392637					
1st Rd: B5194 2nd Rd: A57													
Location: KNOWSLEY LANE and LIVERPOOL ROAD													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
30 MPH	Single c'way	R'dabt Give		Daylight		Rain	Wet	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Waiting	S N	On main	Ent r'about	No	None	No	None	Untra.	u/k	N/C
2	Van/Goods < 3.5t	No	Waiting	S N	On main	Ent r'about	No	None	No	None	Female	24	N/C
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	2	Drv/Rider	Female	24	Slight	No	Not ped	Not ped	Not ped	Other			
Description: V.002 STTIOANRY WAITING TO ENTER ROUNDABOUT, WHEN V.001 HAS COLLIDED WITH THE REAR.													
User Information:													
6		E08000011	2102312	Serious	Sunday	24/10/2021	20:50	345742 / 392729					
1st Rd: A57 2nd Rd: A58													
Location: LIVERPOOL ROAD and PRESCOT BYPASS													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
40 MPH	Dual c'way	R'dabt Give		Dark/lights lit		Fine	Dry	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Left bend	E W	On main	Ent r'about	No	None	No	None	Male	26	-ve
2	Car	No	Right bend	E W	On main	Mid junction	No	None	No	None	Male	42	-ve
3	Car	No	Right bend	W E	On main	Mid junction	No	None	No	None	Male	45	-ve
4	Car	No	Right bend	W E	On main	Mid junction	No	None	No	None	Male	39	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	1	Drv/Rider	Male	26	Serious	No	Not ped	Not ped	Not ped	Other			
2	2	Drv/Rider	Male	42	Serious	No	Not ped	Not ped	Not ped	Other			
3	3	Drv/Rider	Male	45	Slight	No	Not ped	Not ped	Not ped	Other			
4	4	Drv/Rider	Male	39	Slight	No	Not ped	Not ped	Not ped	Other			
5	1	Passenger	Female	24	Slight	Front	Not ped	Not ped	Not ped	Other			
Description: PURSUIT OF STOLEN VEHICLE ON FALSE REGISTRATION PLATES, PATROLS LOOK TO CONDUCT PRE EMPTIVE TACTICS TO PREVENT PURSUIT HOWEVER DRIVER OF V001 MAKES OFF AT SPEED PRIOR TO TACTICS AND THEN FAILS TO STOP FOR OFFICERS. FOLLOWING LENGTHY PURSUIT DRIVER OF V001 DRIVES ON WRONG SIDE OF THE ROAD PUTTING MEMBERS OF PUBLIC AT RISK, V001 TRAVELS WRONG SIDE OF A ROUNDABOUT HEADING IN DIRECTION OF JUNCTION 2 OF THE M57 POTENTIALLY TO DRIVE DOWN THE MOTORWAY CONTRA. PATROLS CONDUCT TACTICAL CONTACT TO END PURSUIT AND PROTECT MEMBERS OF PUBLIC, VEHICLE STOPPED AND DRIVER DETAINED OFFICERS INJURED AND DRIVER OF OFFENDING VEHICLE INJURED WITH SLIGHT INJUIRES HOWEVER NO MEMBER OF PUBLIC COME TO HARM.													
User Information:													



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street
7		E08000011	2102597	Slight	Thursday	18/11/2021	18:05	345677 / 392751		

1st Rd: A58 2nd Rd: A57

Location: A58 and LIVERPOOL ROAD

Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard	
40 MPH		Dual c'way		R'dabt ATS		Dark/lights lit		Fine		Dry		None		Ped Phas		None		None	
Veh	Vehicle type			Towing	Manoeuvre	Dir	Veh loc		Junct. loc	Skidding	Hit obj in	Left cway		Hit obj off	Sex	Age	B/T		
1	Car			No	Going ahead	N S	On main		Junt appr	No	None	No		None	Untra.	u/k	N/C		
2	Car			No	Waiting	N S	On main		Junt appr	No	None	No		None	Female	48	N/C		
Cas No	Veh ref			Cas Class	Sex	Age	Severity		Car Pass	Ped Direction	Ped Movement		Ped location		School Pupil				
1	2			Drv/Rider	Female	48	Slight		No	Not ped	Not ped		Not ped		Other				

Description: V002 IS STOPPED WAITING AT A JUNCTION WIT A ROUNDABOUT. V001 APPROACHES FROM BEHIND AND COLLIDES WITH VOO2 PUSHING IT INTO THE ROUNDABOUT. IT WAS NOT SAFE FOR V002 TO STOP SO THE DRIVER HAS COME BACK AROUND THE ROUNDABOUT BUT ON RETURNING TO THE COLLISION LOCATION, V001 WAS NOT PRESENT. DRIVER OF V002 RECEIVES A SORE NECK AS A RESULT OF THE COLLISION.

User Information:

8		E08000011	2200386	Slight	Saturday	29/01/2022	18:45	345620 / 392678		
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1st Rd: A57 2nd Rd: U

Location: HUYTON LANE and LIVERPOOL ROAD

Speed	C*Way	Jct Det/Ctrl	Lighting	Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard				
40 MPH	Roundabout	R'dabt	Give	Dark/lights lit	Fine	Dry	None	None	None				
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Van/Goods < 3.5t	No	Going ahead	W E	On main	Leave r'about	No	None	No	None	Male	56	N/C
2	Car	No	Going ahead	W E	On main	Leave r'about	No	None	Offside	None	Female	59	N/C
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	2	Drv/Rider	Female	59	Slight	No	Not ped	Not ped	Not ped	Other			

Description: THIS INCIDENT HAS BEEN REPORTED VIA SOH. IT WOULD APPEAR THAT V2 HAS TRAVELLED ALONG THE KNOWSLEY BYPASS TO THE ISLAND AT THE JUNCTION OF LIVERPOOL ROAD. AS V1 2 HAS GONE AROUND THE ISLAND WITH THE INTENTION TO HEAD ONTO LIVERPOOL ROAD IN THE GENERAL DIRECTION OF LIVERPOOL, V1 HAS PULLED OUT OF LIVERPOOL ROAD HEADING ONTO THE ISLAND. V2 HAS TAKEN UP A POSITION IN LANE 2 AND V1 HAS BEEN IN LANE 1. IT WOULD APPEAR THAT V1 HAS TRIED TO MOVE INTO LANE 2 AND HAS BEEN FLASHED BY THE DRIVER OF V2. AS BOTH V1 & V2 HAVE LEFT THE ISLAND TO TRAVEL OVER THE M57 MOTORWAY BRIDGE, V1 HAS MOVED OVER INTO LANE 2 COLLIDING WITH THE NEARSIDE OF V2. V2 HAS THEN MOUNTED THE CENTRAL RESERVATION.

User Information:

9		E08000011	2200820	Slight	Wednesday	30/03/2022	14:10	345177 / 392613		
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1st Rd: B5194 2nd Rd: A57

Location: KNOWSLEY LANE and LIVERPOOL ROAD

Speed		C*Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard				
30 MPH		Single c'way		R'dabt		Give		Daylight		Fine		Wet		None		None		None				
Veh	Vehicle type			Towing	Manoeuvre		Dir	Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex	Age	B/T
1	Car			No	Going ahead		W E	On main		Junt appr		No		None		No		None		Untra.	u/k	N/C
2	M/cycle 50-125cc			No	Start		W S	On main		Junt appr		No		None		No		None		Male	33	N/C
Cas No	Veh ref		Cas Class		Sex	Age	Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil					
1	2		Drv/Rider		Male	33	Slight		No		Not ped		Not ped		Not ped		Other					

Description: V002 WAS IN LANE 1 APPROACHING LIVERPOOL ROAD ROUNDABOUT. TRAFFIC PREVENTED V002 FROM ENTERING R/A AND WHEN THERE WAS SUFFICIENT SPACE V002 STARTED TO MOVE OFF, HOWEVER WAS STRUCK FROM BEHIND BY V001 CAUSING DAMAGE TO BOT VEHICLES AND SERIOUS INJURY TO DRIVER OF V002. V001 FTS

User Information:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street
10		E08000011	2201347	Serious	Saturday	04/06/2022	01:45	345150 / 392478		

1st Rd: A57 2nd Rd: U

Location: LIVERPOOL ROAD SEGMENT LIVERPOOL ROAD

Speed	C'Way	Jct Det/Ctrl	Lighting	Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard				
30 MPH	Dual c'way	R'dabt Give	Dark/lights lit	Fine	Dry	None	None	None	None				
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	M/cycle 125-500cc	No	Going ahead	S N	On main	Ent r'about	Yes	None	O/s & crossed	None	Male	33	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	1	Drv/Rider	Male	33	Serious	No	Not ped	Not ped	Not ped	Other			

Description: AT APPROXIMATELY 02:00 HOURS ON THE 04/06/22 JOSEPH CHALLIS ATTENDED AT HIS BROTHER SEAN LAWRENCE ADDRESS - 252 LIVERPOOL RD, HUYTON ON HIS MOTORBIKE TRIUMPH SPRINT WK02XKS AFTER HE ALLEGEDLY FLED FROM THREATS AND DAMAGE TO HIS ADDRESS FROM BROTHER KEVIN LAWRENCE. SEAN CAME OFF THE MOTORBIKE NEAR TO A ROUNDABOUT AT KINGS BUSINESS PARK AND INJURED HIS ARM.

User Information:

11		E08000011	2201444	Slight	Wednesday	15/06/2022	15:30	345630 / 392653		
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1st Rd: U 2nd Rd: U

Location: LAND ADJACENT TO ROUNDABOUT LIVERPOOL ROAD

Speed		C*Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard									
40 MPH		Roundabout		R'dabt ATS		Daylight		Fine		Dry		None		None		None		None									
Veh		Vehicle type		Towing		Manoeuvre		Dir		Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex		Age		B/T	
1		Car		No		Chg rt lane		W E		On main		Leave r'about		No		None		No		None		Untra.		u/k		N/C	
2		Car		No		Going ahead		W E		On main		Leave r'about		No		None		No		None		Female		32		N/C	
Cas No		Veh ref		Cas Class		Sex		Age		Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil							
1		2		Drv/Rider		Female		32		Slight		No		Not ped		Not ped		Not ped		Other							

Description: RTC SLIGHT INJURY - DASH CAM

VEH001 HAS BEEN IN LANE 1 OF 2, ON THE ROUNDABOUT ON LIVERPOOL ROAD, TOWARDS PRESCOT. VEH002 HAS BEEN IN LANE 2 OF 2, INTENDING TO GO STRAIGHT AHEAD TOWARDS PRESCOT. AS THE RED ATS HAS CHANGED TO GREEN, BOTH VEHICLES HAVE MOVED OFF AND VEH001 HAS THEN TURNED RIGHT, ACROSS THE PATH OF VEH002, INTENDING TO GO TOWARDS HUYTON - IN THE WRONG LANE, AND COLLIDED INTO THE FRONT NEARSIDE OF VEH002, CAUSING DAMAGE AND SLIGHT INJURY TO THE FSP AND DRIVER. COLLISION IS ON VEH002'S DASH CAM.

User Information:

12		E08000011	2201905	Slight	Thursday	14/07/2022	10:20	345747 / 392686		
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1st Rd: 2nd Rd:

Location: HUYTON LANE and LIVERPOOL ROAD

Speed	C*Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
30 MPH	0.00	R'dabt	Give	Daylight		Fine	Dry	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Right bend	E W	On main	Ent r'about	No	None	No	None	Male	45	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			

Description: CYCLIST ENTERS ROUND A BOUT IN CORRECT LANE. V001 ENTERES ROUND A BOUT , FAILING TO SEE CYCLIST , PULLS INTO PATH OF CYCLIST CAUSING COLLISION. CYCLIST FALLS TO FLOOR AND INCURS BRUISING.

User Information:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street		
13	E08000011		2202172	Slight	Friday	02/09/2022	18:00	345214 / 392648				
1st Rd: B5194 2nd Rd: A57												
Location: KNOWSLEY LANE and LIVERPOOL ROAD												
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard	
30 MPH	Single c'way	R'dabt	Give	Daylight		Fine	Dry	None	None	None	None	
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age B/T
1	Van/Goods < 3.5t	No	Chg lt lane	W N	On main	Leave r'about	No	None	No	None	Male	25 -ve
2	Car	No	Going ahead	W N	On main	Mid junction	Yes	None	Offside	None	Female	43 -ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil		
1	2	Drv/Rider	Female	43	Slight	No	Not ped	Not ped	Not ped	Other		
2	2	Passenger	Male	17	Slight	Front	Not ped	Not ped	Not ped	Other		
Description: VEHICLE 001 HAS BEEN IN THE NEARSIDE LANE OF THE ROUNDABOUT AND INDICATED TO TAKE THE EXIT ONTO THE MOTORWAY. VEHICLE 001 BELEIEVEDS HE HAS ENOUGH SPACE AND TIME TO MAKE THE TURN ACROSS THE PATH OF VEHICLE 002 HOWEVER VEHICLE 002 COLLIDES WITH THE FRONT OF VEHICLE 001 AND IS SENT VEERING OFF INTO THE CRASH BARRIER FOR THE MOTORWAY.												
User Information:												
14	E08000011		2202281	Slight	Tuesday	13/09/2022	12:50	345399 / 392736				
1st Rd: U 2nd Rd: M57												
Location: STREET RECORD M57 JUNCTION 2 NORTH BOUND TO A57 OFF SLIP												
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard	
70 MPH	Slip road	Other	Give	Daylight		Fine	Dry	None	None	None	None	
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age B/T
1	Car	No	Left bend	SE NW	On main	Leave main	No	Bollard	Offside	Barr	Male	47 -ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil		
1	1	Drv/Rider	Male	47	Slight	No	Not ped	Not ped	Not ped	Other		
Description: V1 HAS BEEN TRAVELLING NORTH ALONG THE M57, LIVERPOOL. V1 HAS LEFT THE MAIN CARRIAGEWAY AND ENTERED THE OFFSLIP AT JUNCTION 2. DRIVER HAS FAILED TO NEGOTIATE LEFT BEND ON SLIP ROAD AND TRAVELLED THE WRONG SIDE OF THE OFFSIDE ARMCO BARRIER, CAUSING DAMAGE.												
User Information:												
15	E08000011		2202387	Slight	Monday	26/09/2022	08:45	345104 / 392435				
1st Rd: U 2nd Rd: A57												
Location: BLENHEIM DRIVE and LIVERPOOL ROAD												
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard	
40 MPH	Single c'way	T/Stag	ATS	Daylight		Fine	Wet	None	Ped Phas	None	None	
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age B/T
1	M/cycle 50-125cc	No	Stop	NE SW	On main	Junt appr	No	None	No	None	Male	33 N/R
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil		
1	1	Drv/Rider	Male	33	Slight	No	Not ped	Not ped	Not ped	Other		
Description: MALE DRIVING MOTORCYCLE ALONG ROAD APPROACHING TRAFFIC LIGHT JUNCTION. MALE HAS LOST CONTROL STATES POSSIBLY DUE TO RAIN/SLIPPERY ROAD. MALE HAS COME OFF IN THE MIDDLE LANE OF A THREE LANE CARRIAGEWAY. MALE HAS INJURED RIGHT ANKLE.												
User Information:												

No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street			
16		E08000011	2203278	Slight	Wednesday	21/12/2022	15:40	345095 / 392453					
1st Rd: U 2nd Rd: A57													
Location: BLENHEIM DRIVE and LIVERPOOL ROAD													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
40 MPH	Single c'way	T/Stag	ATS	Daylight		Fine	Wet	None	Ped Phas	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Other: Scooter elect	No	Going ahead	S N	On main	Mid junction	No	None	No	None	Female	55	-ve
2	Car	No	Going ahead	W E	On main	Mid junction	No	None	No	None	Female	27	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	1	Drv/Rider	Female	55	Slight	No	Not ped	Not ped	Not ped	Other			

Description: RIDER OF E-SCOOTER CROSSING MAIN ROAD. LIGHT PHASING WAS ON RED ON ONE PART OF THE ROAD, AS THE RIDER ENTERED THE CENTRAL RESERVATION THE LIGHTS CHANGED TO GREEN BUT THE RIDER CONTINUED TO CROSS. V002 WASN'T ABLE TO SEE OR REACT TO V001 AND A COLLISION OCCURED.

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User Information:

17	E08000011		2300222		Slight		Monday	23/01/2023	15:40	345684 / 392661																	
1st Rd: U 2nd Rd: U																											
Location: HUYTON LANE and LIVERPOOL ROAD																											
Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard									
30 MPH		Single c'way		T/Stag Give		Daylight		Fine		Dry		None		None		None		None									
Veh		Vehicle type		Towing		Manoeuvre		Dir		Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex		Age		B/T	
1		Car		No		Stop		N S		On main		Junt appr		No		None		No		None		Female		47		N/C	
2		Car		No		Stop		N S		On main		Junt appr		No		None		No		None		Male		u/k		N/C	
Cas No		Veh ref		Cas Class		Sex		Age		Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil							
1		1		Drv/Rider		Female		47		Slight		No		Not ped		Not ped		Not ped		Other							

Description: RTC SLIGHT INJURY
CAR VS CAR
AN UNKNOWN HAS PERFORMED AN EMERGENCT STOP, CAUSING VEH001 TO COLLIDE INTO THE REAR OF IT, VEH002 HAS THEN COLLIDED INTO THE REAR OF VEH001. THE IP HAS BEEN LEFT SHAKING UP. THE UNKNOWN VEHICLE HAS DRIVEN OFF.

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User Information:

18	E08000011		2301061		Slight		Wednesday	10/05/2023	12:00	345792 / 392477												
1st Rd: U 2nd Rd: U																						
Location: DRIFFIELD ROAD and WOOD LANE																						
Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard				
30 MPH		Single c'way		X-Rds Give		Daylight		Fine		Wet		None		None		None		None				
Veh	Vehicle type			Towing	Manoeuvre		Dir	Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex	Age	B/T
1	Van/Goods < 3.5t			No	Start		N S	On main		Junt appr		No		None		No		None		Male	64	N/C
2	Car			No	Going ahead		E W	On main		Junt appr		No		None		No		None		Male	71	N/C
Cas No	Veh ref	Cas Class			Sex	Age	Severity	Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil						
1	2	Drv/Rider			Male	71	Slight	No		Not ped		Not ped		Not ped		Other						

Description: RTC SLIGHT INJURY
CAR VS VAN
V1 HAS FAILED TO GIVE WAY AT THE JUNCTION, AND PULLED OUT INTO THE PATH OF V2, WHICH HAD RIGHT OF WAY, COLLIDING INTO THE OFFSIDE BODY WORK. IP HAS SOFT TISSUE AND MUSCLE SORENESS. INDEPENDENTLY WITNESSED.

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User Information:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street
19		E08000011	2301730	Slight	Thursday	20/07/2023	21:10	345227 / 392644		

1st Rd: B5194 2nd Rd: A57

Location: KNOWSLEY LANE and LIVERPOOL ROAD

Speed		C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
40 MPH		Single c'way	R'dabt	Give	Daylight		Fine	Dry	None	None	None	None		
Veh	Vehicle type		Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car		No	Chg lt lane	S N	On main	Mid junction	No	None	No	None	Male	37	-ve
2	Car		No	Going ahead	S N	On main	Mid junction	No	None	No	None	Female	29	-ve
Cas No	Veh ref	Cas Class		Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement		Ped location	School Pupil		
1	2	Drv/Rider		Female	29	Slight	No	Not ped	Not ped		Not ped	Other		

Description: V001 AND V002 BOTH TRAVELLING LIVERPOOL ROAD - V001 TRAVELLING IN LANE 2, V002 TRAVELLING IN LANE 1 ACROSS ROUNDABOUT.

V001 HAS ATTEMPTED TO CUT ACROSS TO JOIN M57 NB SLIP ROAD, FROM LANE 2, WHICH IS DEDICATED LANE TO TRAVEL AHEAD ON TO LIVERPOOL ROAD, AND HAS FAILED TO SEE V002 IN LANE 1. HAS COLLIDED WITH OFFSIDE DOOR PANELS CAUSING DAMAGE TO VEHICLE AND SLIGHT INJURY TO DRIVER.

User Information:

20		E08000011	2302296	Slight	Tuesday	26/09/2023	17:00	345250 / 392665		
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1st Rd: U 2nd Rd: M57

Location: LIVERPOOL ROAD and M57

Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
30 MPH	Roundabout	R'dabt	Give	Daylight		Fine	Dry	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Waiting	E W	On main	Junt cleared	No	None	No	None	Male	u/k	N/C
2	Car	No	Waiting	NE W	On main	Junt cleared	No	None	No	None	Female	51	N/C
Cas No	Veh ref	Cas Class		Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil		
1	2	Drv/Rider		Female	51	Slight	No	Not ped	Not ped	Not ped	Other		
2	2	Passenger		Female	28	Slight	Front	Not ped	Not ped	Not ped	Other		
3	2	Passenger		Female	6	Slight	Rear	Not ped	Not ped	Not ped	Other		

Description: V2 WAS STOPPED AND THE ROUND ABOUT - V1 COLLIDED WITH THE REAR OF V2 - THEN LEFT THE SCENE WITHOUT STOPPTING

User Information:

21		E08000011	2302520	Slight	Saturday	21/10/2023	08:40	345399 / 392828		
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1st Rd: M57 2nd Rd: M57

Location: M57 JUNCTION 2 M57

Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
70 MPH	Slip road	Slip-Rd	Auth	Daylight		Fine	Wet	None	None	None		None	
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Going ahead	N S	On main	Ent from slip	Over	Bollard	O/s & rebound	Tree	Male	32	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	1	Drv/Rider	Male	32	Slight	No	Not ped	Not ped	Not ped	Other			

Description: V001 LEFT MOTORWAY TO LATE AT THE JUNCTION AND IN EXCESS OF THE SPEED LIMIT, VEHICLE HIT GRASS, INTO LEFT ARMCO, ACROSS TWO LANES OF SLIP, INTO A TREE BEFORE OVERTURNING.

User Information:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street				
22		E08000011	2302778	Slight	Friday	10/11/2023	14:10	345387 / 392742						
1st Rd: M57 2nd Rd: M57														
Location: M57 JUNCTION 4 M57														
Speed	C'Way		Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
70 MPH	Dual c'way		Slip-Rd	Give	Daylight		Fine	Wet	None	None	None	None		
Veh	Vehicle type		Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car		No	Left bend	N E	On main	Junt appr	No	None	No	None	Male	u/k	-ve
2	Car		No	Left bend	N E	On main	Junt appr	No	None	No	None	Male	50	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil				
1	2	Drv/Rider	Male	50	Slight	No	Not ped	Not ped	Not ped	Other				

Description: TRAINING SCHOOL INCIDENT - V001 HAS FAILED TO STOP INTIME AND COLLIDED WITH V002

User Information:

23	E08000011		2401589	Slight	Sunday	14/07/2024	14:35	345736 / 392670																			
1st Rd: U 2nd Rd: U																											
Location: HUYTON LANE and LIVERPOOL ROAD																											
Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard									
30 MPH		Single c'way		R'dabt Give		Daylight		Fine		Dry		None		None		None		None									
Veh		Vehicle type		Towing		Manoeuvre		Dir		Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex		Age		B/T	
1		Car		No		Going ahead		E W		On main		Junt appr		No		None		No		None		Female		32		-ve	
2		M/cycle 50-125cc		No		Going ahead		E W		On main		Junt appr		No		None		No		None		Female		42		N/P	
Cas No		Veh ref		Cas Class		Sex		Age		Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil							
1		2		Drv/Rider		Female		42		Slight		No		Not ped		Not ped		Not ped		Other							

Description: THE COLLISION OCCURRED WHEN VEHICLE 001, A FORD C-MAX DRIVEN BY CLAIRE O'MALLEY TRAVELLING WESTBOUND ALONG LIVERPOOL ROAD TOWARDS THE ROUNDABOUT AT THE JUNCTION WITH HUYTON LANE COLLIDED WITH THE REAR OF VEHICLE 002, A HONDA SH 125 AD-L DRIVEN BY KATIA REGINA DELL'ISOLA DE SOUSA ANDRADE TRAVELLING IMMEDIATELY AHEAD OF V001, HAVING FAILED TO LEAVE AN APPROPRIATE GAP BETWEEN THE VEHICLE AHEAD AS THEY APPROACHED AND NEGOTIATED THE GIVE WAY AT THE ENTRANCE TO THE ROUNDABOUT.

User Information:

24	E08000011		2401594		Slight		Sunday	21/07/2024	11:00	345283 / 392561																	
1st Rd: 2nd Rd:																											
Location: LIVERPOOL ROAD SEGMENT LIVERPOOL ROAD																											
Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard									
40 MPH		0.00		Not JCT		Daylight		Fine		Dry		None		None		None		None									
Veh		Vehicle type		Towing		Manoeuvre		Dir		Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex		Age		B/T	
1		Car		No		Going ahead		W E		On main		Not at		No		P'd veh u/l		No		None		Male		79		-ve	
Cas No		Veh ref		Cas Class		Sex		Age		Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil							
1		1		Drv/Rider		Male		79		Slight		No		Not ped		Not ped		Not ped		Other							

Description: DRIVER OF V001, TRAVELLING ALONG A 3 LANE DUAL CARRIAGEWAY, HAS COLLIDED INTO THE BACK OF A PARKED, UNATTENDED VEHICLE PARKED IN LANE ONE.

User Information:

25	E08000011		2402284		Slight		Friday	18/10/2024	08:52	345691 / 392659																	
1st Rd: U 2nd Rd: U																											
Location: HUYTON LANE and LIVERPOOL ROAD																											
Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard									
40 MPH		Single c'way		R'dabt Give		Daylight		Fine		Dry		None		None		None		None									
Veh		Vehicle type		Towing		Manoeuvre		Dir		Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex		Age		B/T	
1		Car		No		Going ahead		E W		On main		Ent r'about		No		None		No		None		Male		58		-ve	
2		Car		No		Going ahead		E W		On main		Mid junction		No		None		No		None		Male		36		-ve	
Cas No		Veh ref		Cas Class		Sex		Age		Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil							
1		2		Drv/Rider		Male		36		Slight		No		Not ped		Not ped		Not ped		Other							

Description: V001 SEES POLICE VEHICLE ON BLUE LIGHTS. DOES NOT SEE V002 HAS STOPPED AND V001 COLLIDED INTO THE REAR.

User Information:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street
26		E08000011	2402550	Slight	Monday	18/11/2024	16:45	345716 / 392756		

1st Rd: A58 2nd Rd: A57

Location: A58 and LIVERPOOL ROAD

Speed	C*Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
30 MPH	Dual c'way	R'dabt	ATS	Dark/lights lit		Rain	Wet	None	Ped Phas	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Van/Goods < 3.5t	No	Going ahead	E W	On main	Ent r'about	No	None	No	None	Male	21	-ve
2	Van/Goods < 3.5t	No	Going ahead	E W	On main	Ent r'about	No	None	No	None	Male	47	-ve
3	Car	No	Going ahead	E W	On main	Ent r'about	No	None	No	None	Male	57	-ve
Cas No	Veh ref	Cas Class		Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil		
1	1	Drv/Rider		Male	21	Slight	No	Not ped	Not ped	Not ped	Other		
2	2	Passenger		Male	41	Slight	Front	Not ped	Not ped	Not ped	Other		

Description: VEH003 STOPS FOR POLICE VEHICLE ON ROUNDABOUT, VEH003 FAILS TO NOTICE VEH002 STOPPING IN FRONT, THEN COLLIDES INTO REAR OF VEH002, WHICH IS THEN PUSHED INTO THE REAR OF VEH003.

User Information:

27		E08000011	2402614	Slight	Tuesday	26/11/2024	07:54	345213 / 392855		
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1st Rd: M1 2nd Rd:

Location: M57 JUNCTION 2 TO JUNCTION 3

Speed	C*Way	Jct Det/Ctrl	Lighting	Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard				
70 MPH	Dual c'way	Not JCT	Daylight	Fine	Wet	None	None	None	None				
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Chg rt lane	SE NW	On main	Not at	No	None	No	None	Untra.	u/k	N/C
2	Goods > 7.5t	No	Going ahead	SE NW	On main	Not at	No	None	No	None	Male	60	N/C
3	Car	No	Stop	SE NW	On main	Not at	No	None	No	None	Male	56	N/C
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	3	Drv/Rider	Male	56	Slight	No	Not ped	Not ped	Not ped	Other			

Description: X-REF 24000998403
SLIGHT INJURY FTS
3 VEHICLE RTC
V003 HAS BEEN SLOWING, POSITIONED IN FRONT OF V001. V001 HAS CHANGED LANES, INTO THE PATH OF V002, WHICH WAS PASSING, CAUSING AN IMPACT WITH V002. AS V001 HAS DONE THIS/ FTS, IT HAS ALSO STRUCK V003. DAMAGE CASUED TO V003 AND V002, DRIVER V003 REPORTING NECK PAIN.

User Information:

28		E08000011	2500476	Slight	Saturday	22/02/2025	17:25	345188 / 392867		
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1st Rd: M57 2nd Rd: M57

Location: STREET RECORD M57 JUNCTION 1 TO JUNCTION 2 ON SLIP

Speed		C*Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
70 MPH		Dual c'way	Slip-Rd	Give	Dark/lights lit		Fine	Dry	None	None	None	None		
Veh	Vehicle type		Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car		No	Chg rt lane	S N	On main	Enter main	No	None	No	None	Female	25	N/R
2	Car		No	Going ahead	S N	On main	Enter main	No	None	No	None	Female	43	N/R
Cas No	Veh ref	Cas Class		Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement		Ped location	School Pupil		
1	1	Drv/Rider		Female	25	Slight	No	Not ped	Not ped		Not ped	Other		

Description: V002 IS ON MOTORWAY WHEN V001 JOINS FROM JUNCTION 2, THE VEHICLES COLLIDE AND COME TO REST ON HARD SHOULDER , THERE ARE NO INJURIES REPORTED AT THE TIME OF POLICE ATTENDANCE

User Information:



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street			
1		E08000011	2101450	Slight	Thursday	15/07/2021	15:38	341967 / 396450					
1st Rd: B5194 2nd Rd: U													
Location: B5194 and SCHOOL LANE													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
30 MPH	Single c'way	R'dabt	Give	Daylight		Fine	Dry	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Going ahead	E W	On main	Junt appr	No	None	No	None	Male	64	N/C
2	Car	No	Waiting	E W	On main	Junt appr	No	None	No	None	Female	49	N/C
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	2	Drv/Rider	Female	49	Slight	No	Not ped	Not ped	Not ped	Other			
Description: V001 COLLIDED WITH REAR OF V002 ON APPROACH TO ROUNDABOUT. DRIVER OF VOO2 SUSTAINED WHIPLASH TYPE INJURY. DETAILS EXCHANGED AT SCENE.													
User Information:													
2		E08000011	2200626	Slight	Friday	11/03/2022	15:34	341990 / 396194					
1st Rd: M57 2nd Rd: M57													
Location: MOTORWAY BEAT MC1 M57 JUNCTION 3 TO JUNCTION 4													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
70 MPH	Slip road	Slip-Rd	ATS	Daylight		Rain	Wet	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Van/Goods < 3.5t	No	Chg rt lane	S N	On main	Not at	No	None	No	None	Male	19	N/C
2	Car	No	Going ahead	S N	On main	Not at	No	None	No	None	Male	36	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	2	Drv/Rider	Male	36	Slight	No	Not ped	Not ped	Not ped	Other			
2	2	Passenger	Female	8	Slight	Front	Not ped	Not ped	Not ped	Other			
Description: V001 HAS ENTERED SLIP ROAD FROM LANE 1 INTO 2 AND HAS COLLIDED WITH THE REAR OF V002.													
User Information:													
3		E08000011	2201780	Slight	Friday	15/07/2022	21:08	341758 / 396533					
1st Rd: M57 2nd Rd: U													
Location: M57 JUNCTION RANGLES FARM ISLA M62													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
70 MPH	Slip road	R'dabt	Give	Daylight		Fine	Dry	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Going ahead	N S	On main	Ent r'about	No	None	O/s & rebound	Lamp	Male	38	+ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	1	Drv/Rider	Male	38	Slight	No	Not ped	Not ped	Not ped	Other			
Description: DRIVER HAS COLLIDED WITH LAMP POST AT THE END OF THE OFF SLIP M57 S/B JCT 4. SLIGHT INJURY TO HAND. DRIVER BLEW 91UG AT THE ROAD SIDE AND HOSPITAL PROCEDURE COMMENCED BUT UNABLE TO OBTAIN BLOOD / URINE													
User Information:													
4		E08000011	2202363	Slight	Friday	23/09/2022	13:50	341769 / 396535					
1st Rd: M57 2nd Rd: A5207													
Location: STREET RECORD M57 JUNCTION 4 FROM JUNCTION 5 OFF SLIP and RANGLES FARM INTERCHANGE													
Speed	C'Way	Jct Det/Ctrl		Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
50 MPH	Slip road	R'dabt	Give	Daylight		Fine	Dry	None	None	None	None		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age	B/T
1	Car	No	Left turn	N E	On main	Ent r'about	No	None	No	None	Male	81	-ve
2	M/cycle 50-125cc	No	Going ahead	W E	On main	Mid junction	No	None	No	None	Male	26	-ve
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil			
1	2	Drv/Rider	Male	26	Slight	No	Not ped	Not ped	Not ped	Other			
Description: DRIVER OF VEHICLE EMERGED FROM MOTORWAY OFF SLIP ON TO ROUND ABOUT. MOTORCYCLE ON ROUNABOUT NOT SEEN, VEH COLLIDING WITH NS OF THE MOTORCYCLE													
User Information:													



No.	Area	L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street
5		E08000011	2402163	Slight	Thursday	03/10/2024	09:45	341838 / 396320		

1st Rd: M57 2nd Rd: U

Location: STREET RECORD M57 JUNCTION 4 FROM JUNCTION 5 OFF SLIP and RANGLES FARM INTERCHANGE

Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard				
60 MPH		Dual c'way		Slip-Rd Give		Daylight		Fine		Dry		None		None		None		None				
Veh	Vehicle type			Towing	Manoeuvre		Dir	Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex	Age	B/T
1	Car			No	Going ahead		S N	On main		Ent from slip		No		Kerb		Nearside		Sign		Male	47	-ve
Cas No	Veh ref		Cas Class		Sex	Age	Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil					
1	1		Drv/Rider		Male	47	Slight		No		Not ped		Not ped		Not ped		Other					

Description: V001 HAS HAD A 'BLACKOUT' BEHIND THE WHEEL CAUSING HIM TO OVERSHOOT THE JUNCTION AND END UP IN THE BUSHES ON THE ROUNDABOUT.

User Information:

6		E08000011	2500975	Slight	Wednesday	14/05/2025	05:40	341889 / 396347		
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1st Rd: U 2nd Rd: A580

Location: A580 and MOORGATE ROAD

Speed		C'Way		Jct Det/Ctrl		Lighting		Weather		Rd Surf		PedX - Human		- Phy Fac		Special		Hazard				
30 MPH		Roundabout		R'dabt ATS		Daylight		Fine		Dry		None		None		None		None				
Veh	Vehicle type			Towing	Manoeuvre		Dir	Veh loc		Junct. loc		Skidding		Hit obj in		Left cway		Hit obj off		Sex	Age	B/T
1	Car			No	Going ahead		E W	On main		Mid junction		No		None		No		None		Female	33	N/C
2	Car			No	Stop		E W	On main		Mid junction		No		None		No		None		Female	37	N/C
Cas No	Veh ref		Cas Class		Sex	Age	Severity		Car Pass		Ped Direction		Ped Movement		Ped location		School Pupil					
1	2		Drv/Rider		Female	37	Slight		No		Not ped		Not ped		Not ped		Other					

Description: V1 HAS REAR ENDED V2, CAUSING DAMAGE TO BOTH VEHICLES AND NECK/ BACK PAIN TO DRIVER V2.

User Information:

Appendix G

Minimum Accessibility Standard Assessment



Accessibility Assessment Form

Access on foot		Points	Score	Justification for Scoring	
Location	<u>Residential Development</u> : Is the site within 800m of a district or local centre (see Accessibility Maps) OR <u>Non-residential development</u> : Is the density of existing local housing (i.e. within 800m) more than 30 houses per hectare (see Accessibility Maps)	Yes	2	0	Exceed 800m
		No	0		
Internal layout	Does ‘circulation’ and access inside the sites reflect direct, safe and easy to use pedestrian routes for all, with priority given to pedestrians when they have to cross roads or cycle routes?	Yes	1	1	A range of footways and cycle routes will be provided within the site and to external destinations
		No	0		
External layout	Are there barriers between site and local facilities or housing, which restrict pedestrian access? Examples include no dropped kerbs at crossings or on desire lines; steep gradients; a lack of a formal crossing where there is heavy traffic; security concerns, e.g. lack of lighting	Yes	-1	1	Direct pedestrian links to the existing local centre on Sugar Lane. Suitable facilities generally but tactile paving to be provided as necessary.
		No	1		
	Total Score		2		
	Minimum score required		2		

Comments or action needed to correct any shortfall

Tactile paving is to be provided along the residential routes between the site and Sugar Lane as necessary.

Access by Cycle			Points	Score	Justification for Scoring
Location	<u>Residential Development:</u> Is the site within 1500m of a district or local centre (see Accessibility Maps) Or <u>Non-residential development:</u> Is the density of existing local housing (e.g. within 1500m) more than 30 houses per hectare (see Accessibility Maps)	Yes	2	2	The proposed residential site is between the 800m buffer, and the 1-mile buffer shown on Accessibility Map 1 included within Appendix C of Ensuring A Choice of Travel SPD.
		No	0		
Internal layout	Does 'circulation' and access inside the site reflect appropriate and direct cycle routes, with priority given to cyclists where they meet motor vehicles?	Yes	1	1	The planning application is an outline application, so the internal layout is to be determined but the principles of active travel are shown in the indicative masterplan which includes direct pedestrian and cycle routes.
		No	0		
External Access	Is the development within 400m of an existing or proposed designated cycle route and/ or proposes to create a link to a cycle route, or develop a route.	Yes	1	1	The site is located directly adjacent to NCN 862 which provides a direct route to a large employment site. The development will include a link to this route.
		No	-1		
Other	Development includes cycle parking, shower facilities. and lockers for cyclists.	Yes	1	1	The development will include cycle parking at key locations around the site.
		No	0		
	Total Score			5	
	Minimum score required			2	
Comments or action needed to correct any shortfall					

Access by Public Transport			Points	Score	Justification for Scoring
Location and access to public transport	Is the site within a 200m walk of a bus or tram stop, and/or within 400m of a rail station?	Yes	2	2	The proposed development will include bus stops within the site
		No	0		
	Are there barriers on direct pedestrian routes to bus or tram stops or rail stations e.g. a lack of dropped kerbs, footpaths less than 2m wide, a lack of formal crossings and / or bus stop infrastructure.	Yes	0	1	No, site benefits from existing bus infrastructure, and dropped kerbs. The internal layout will provide direct pedestrian routes along 2m wide footpaths to internal site bus stops.
		No	1		
Frequency	High (four or more bus or tram services or trains an hour)		2	1	The proposed site currently has access to the 217 and 217A bus services which runs on average twice an hour.
	Medium (two or three bus or tram services or trains an hour)		1		
	Low (less than two bus or tram services or trains an hour)		0		
Other	The proposal contributes to bus priority measures serving the site	Yes	1	0	
		No	0		
	The proposal contributes to bus stops, bus interchange, tram facilities or bus or rail stations in the vicinity and/or provides bus stops or bus interchange in the site	Yes	1	1	A road has been designed so that buses can safely access into the site via a loop
		No	0		
	The proposal contributes to an existing or new supported bus service	Yes	1	1	A bus contribution may be required, subject to negotiation
		No	0		
	Total Score			6	
	Minimum score required			6	

Comments or action needed to correct any shortfall

Provide bus access, kerbs, and shelters to bus stops within the site.

Consider contribution to redirect bus service.

Parking			Points	Score	Justification for Scoring	
Parking	The off-street parking provided is as advised in Section 4 for that development type	Yes	1	1	Car parking facilities will not exceed the council's maximum standards	
		No	0			
	The off street parking provided is less than 75% of the amount advised in Section 4 for that development type (or shares parking provision with another development).	Yes	2	0		
		No	0			
	For development in controlled parking zones:					
	Is the proposal for a car free development?	Yes	1		n/a	
		No	0			
	Does it support the control or removal of on-street parking spaces (include provision of disabled spaces) or contributes to other identified measures in the local parking strategy (including car clubs)	Yes	1		n/a	
		No	0			
	Total Score				1	
	Minimum score required				1	

Comments or action needed to correct any shortfall.

Appendix H

Active Travel England Checklist



Criterion	Description	Common Shortfalls	Rating	Appraiser Comments
Criterion	Description	Common Shortfalls	Pass	The Transport Assessment (TA) adopts a Vision-led approach to trip forecasting that seeks to embed and encourage a move away from single-occupancy car travel. This has a particular focus on active travel accessibility to nearby shops on Sugar Lane and educational opportunities offered by two primary schools within a short distance from the site. It is also considered that cycling offers a viable opportunity for access to employment opportunities, particularly to the north of the site. These trips will also be supported by public transport connectivity both existing and proposed. A baseline mode share figure is provided along with a Framework Travel Plan which provides the basis for a strategy to support and further encourage active travel journeys. The proposed development is seeking outline planning application with all matters reserved except for access. As such, the internal layout of the site has yet to be decided upon and further detail on internal active travel movements within the site can be provided at Reserved Matters stage.
1. Trip generation and assignment	Does the application appropriately forecast all day trips to, from and within the site by walking, wheeling and cycling?	Source data is not representative of the proposed development, is out-of-date or is confined to commuting journeys only. Forecasted trip generation is limited to motor vehicle traffic or peak hours only. Future year forecasts do not realise the potential of the development to support a greater number of walking, wheeling and cycling journeys or do not align with the national target (or any adopted local targets) that half of all journeys in towns and cities shall be walked, wheeled or cycled by 2030.	Pass	A qualitative analysis of local pedestrian, cycling, and public transport infrastructure has been presented in the TA. This has been supported with pedestrian and cycle catchment maps/ plans using isochrones. The mapping included within the TA provides an overview of nearby amenities, including shops and schools. An appraisal of local walking and cycling routes has been undertaken to review existing infrastructure provided for key desire lines to/ from the site. Infrastructure and crossing points in the nearby vicinity of the site have been reviewed. Noting the presence of good natural surveillance and street lighting if applicable. Overall, these routes are generally found to be of good quality but would benefit from minor improvements, such as the provision of tactile paving a key crossing points.

2. Active travel route audit	Has an appropriate assessment on the design and accessibility of existing active travel routes in the locality of the site been presented?	Local pedestrian and cycling routes are only identified in application documents by their location, with no assessment provided on whether these are safe, direct, convenient and accessible for people of all abilities (paragraph 82 of the National Design Guide) or coherent, direct, safe, comfortable and attractive (core design principles in LTN 1/20). Applications that include new dwellings have not demonstrated how local schools and colleges will be accessed by active travel modes. Qualitative analysis to inform any necessary improvements to the design and accessibility of key routes does not include maps, photographs and comments nor has regard to the following guidance, tools and plans in the assessment of key routes: • Inclusive Mobility (Chapters 3, 4, 6, 7 and 15; and Sections 5.2, 5.7, 9.1, 9.3, 9.4 and 9.7 as appropriate); • PAS 6463: Design for the Mind (Sections 5.2.1, 5.2.3, 6.4, 7.6.2, 7.6.3, 7.7 and 11.12); • LTN 1/20: Cycle Infrastructure Design (including Appendix A: Cycling Level of Service Tool; and Appendix B: Junction Assessment Tool); • the government's Walking Route Audit Tool; and • any adopted or emerging Local Cycling and Walking Infrastructure Plans (LCWIPs).	Pass	As above. Site internals to be addressed at Reserved Matters Stage.
3. Pedestrian access to local amenities	Are most buildings within 800m from a range of amenities (such as primary schools, parks, play areas, food shops, cafes and community buildings) using well-designed routes?	Trip lengths to key amenities as presented in application documents are based on straight-line distances from site boundaries or main access points. There are few everyday amenities within the recommended distance from most buildings using safe and accessible routes for pedestrians. Footpaths/ways to local amenities do not conform to the National Design Guide standards of being safe, direct, convenient and accessible for people of all abilities, which includes but is not limited to routes that: • have a minimum width of 2m, with limited pinch points no less than 1.5m; • are step-free; • have a smooth, even surface; • have seating at regular intervals; • are uncluttered; • have good natural surveillance and clear lines of sight; • have street lighting; • have wayfinding; and • have crossing points suitable for the speed and traffic flow of the road(s).	Pass	As above. Site internals to be addressed at Reserved Matters Stage.
4. Cycling accessibility	Are a range of local amenities, and town centres, railway stations, employment areas and the National Cycle Network as appropriate, accessible for cyclists using well-designed routes?	Cycle routes relied on by the development are not coherent, direct, safe, comfortable or attractive in line with the five core design principles and geometric requirements in LTN 1/20 (see Sections 4.2 and 5). This may be due to physical features, steps, steep gradients or surface quality; or the absence of ramps, lighting or appropriate crossing facilities. The development relies on shared use routes in full or intermittently, which conflicts with the clear position in paragraph 1.6.1 (2) of LTN 1/20 that cycles must be treated as vehicles and not as pedestrians. There is insufficient protection from motor traffic in accordance with the suitability and segregation standards in LTN 1/20 (see Figure 4.1 and Section 6) such that some potential cyclists would be excluded.	Pass	A qualitative analysis of local public transport infrastructure has been presented in the TA. This has been supported with pedestrian catchment maps/plans showing bus stop facilities in the vicinity of the site. A detailed table in the TA highlights the frequency per hour of existing bus services operating in the vicinity of the site. An option to divert or introduce a new bus service through the site is proposed to be explored to ensure that dwellings have ease of access to public transport.

5. Access to public transport	Are all buildings within 400m of a high-frequency bus stop or 800m of a rail/light rail station or tram stop, with appropriate facilities, using well-designed routes?	There are no public transport nodes with a regular service (this will differ between urban and rural areas) within the recommended distances. Local bus stops do not have good natural surveillance or do not provide seating, lighting, shelter, real-time passenger information and raised bus boarders or specialist kerbs. Local rail stations do not provide sufficient cycle parking, including spaces for non-standard cycles. Footpaths/ways to public transport nodes do not conform to the National Design Guide standards of being safe, direct, convenient and accessible for people of all abilities, which includes but is not limited to routes that: • have a minimum width of 2m, with limited pinch points no less than 1.5m; • are step-free; • have a smooth, even surface; • have seating at regular intervals; • are uncluttered; • have good natural surveillance and clear lines of sight; • have street lighting; • have wayfinding; and • have crossing points suitable for the speed and traffic flow of the road(s).	Pass	An appraisal of local routes has been undertaken to review existing infrastructure provided for key desire lines to/ from the site. These routes are generally found to be of good quality but would benefit from minor improvements, such as the provision of tactile paving a key crossing points.
6. Off-site transport infrastructure	Does the application include proposals to enhance local active travel and public transport infrastructure?	The application fails to identify necessary, directly related and proportionate improvements or contributions to: • footpaths/ways in line with the design standards identified in criteria 3 and 5; • cycling routes in line with LTN 1/20 standards identified in criteria 4; or • public transport infrastructure (where this is not provided on-site) that may include: new or extended services; seating, lighting, shelter, real-time passenger information and raised bus boarders or specialist kerbs at bus stops; and secure cycle parking with pumps and repair tools at rail stations and mobility hubs. The application fails to identify the mechanism to secure identified improvements and the trigger point(s) for delivery or payment. Proposed road/junction improvements do not prioritise pedestrian and cycling movements, including appropriate crossings.	Pass	The proposed development is seeking outline planning application with all matters reserved except access. As such, the internal layout of the site has yet to be decided upon. An illustrative framework has been provided that sets out key principles for permeability that could be provided as the site progresses. This includes walking and cycling routes throughout the site and active travel connections at various points along the site boundary.
7. Site permeability	Does the development prioritise pedestrian and cycle movements within the site?	Opportunities have been missed to maximise accessibility for active travel modes, including: • the development does not provide or safeguard pedestrian and cycling connections to neighbouring sites including future phases of development; • routes for pedestrians and cyclists are not at least as direct – and preferably more direct – than the equivalent by car; • routes are not fully accessible or do not have adjacent accessible alternatives (e.g. ramps alongside steps or bound paths next to unbound paths); • inappropriate or infrequent crossings are proposed (see Inclusive Mobility Sections 4.10-4.11, PAS 6463 Section 7.6.2, LTN 1/20 Table 10-2, Manual for Streets Section 6.3 and Manual for Streets 2 Section 9.3); • pedestrians and cyclists are not prioritised at side road crossing points (see LTN 1/20 Figure 10.13); • priority junctions have radii that interrupts the pedestrian desire line (see Manual for Streets Sections 6.3-6.4 and Manual for Streets 2 Section 9.4); • there are red/zero scores when applying the Junction Assessment Tool in LTN 1/20; • signalised junctions do not have pedestrian aspects on some arms; • where cyclists would mix with motor vehicles, lane widths are between 3.2m and 3.9m (paragraph 7.2.5 of LTN 1/20 identifies that such widths allow motor vehicles to drive alongside a cyclist without a safety margin for their comfort and protection); • there are unsafe or poorly signed transitions for cyclists when moving between cycleways on and off the carriageway; or • cycleways within commercial sites are not continuous through to cycle parking areas. Shared use routes for pedestrians and cyclists are proposed and these do not meet the limited situations listed in paragraph 6.5.6 of LTN 1/20. Where shared use routes are acceptable, their widths are below 3m (<300 cyclists per hour) or below 4.5m elsewhere, contrary to LTN 1/20 Table 6-3.	Pass	The proposed development is seeking outline planning application with all matters reserved except access. As such, the internal layout of the site has yet to be decided upon. As above, the illustrative framework has been provided that seeks to provide a basis for effective placemaking at Reserved Matters stage.

8. Placemaking	Does the development establish a strong sense of place, with well-designed streets, public spaces that feel safe and key amenities provided?	The design of streets does not encourage social interaction or create attractive, safe and accessible open spaces that would support an active life for everyone, contrary to the National Design Guide (See Part 2). This may include missed opportunities to incorporate green infrastructure / street trees, shared space residential streets (such as appropriately designed home-zones, mews and culs-de-sac), equipped play facilities, seating at regular intervals, and clear lines of sight to assist with orientation (including measures to prevent inconsiderate parking). Aspects of the proposed design give rise to personal and highway safety concerns, including: - streets, public transport nodes and other public spaces do not benefit from appropriate levels of natural surveillance and lighting; - the requirements of disabled people have not been appropriately considered; - the development includes 'blind-spots', sharp turns or high-sided boundary treatments; - the development does not provide continuous and legible routes or is not supported by an effective wayfinding strategy; or - residential or local streets encourage traffic movements through the site or are not designed for a 20mph speed limit (see Manual for Streets Section 7.4 for guidance on achieving appropriate traffic speeds). There are gaps in the provision of well-located, on-site amenities to support the quantum of development proposed, in conflict with paragraph 83 of the National Design Guide. For larger residential-led developments, this may include a lack of evidence that the applicant has utilised local authority pupil yield data (or the Department for Education's Pupil Yield Dashboard in the absence of such) to inform the need for new schools and early years settings.	Pass	The proposed development is seeking outline planning application with all matters reserved except access. As such, the internal layout of the site has yet to be decided upon. However, any future Reserved Matters application will pay due cognisance to local and national standards relating to these facilities
9. Cycle parking and trip-end facilities	Does the application provide the requisite amount and quality of cycle parking and trip-end facilities?	Cycle parking is not provided in accordance with up-to-date local standards, or Section 11 of LTN 1/20 in the absence of such. Details of accessibility, parking types and dimensions, security arrangements or lighting as appropriate is not provided (highly accessible cycle parking is essential for people with sensory and/or information processing differences and disabled cyclists who may be unable to walk very far or navigate a change in levels). For workplaces, public buildings (including those used for leisure and recreation) larger retail developments and other developments with communal parking: - internal cycle stores cannot be accessed from building frontages, are not step-free or require passing through more than two sets of doors; - a proportion of cycle parking (typically 5%) is not provided for non-standard cycles to accommodate people with mobility impairments, which is contrary to paragraph 11.3.2 of LTN 1/20 (Table 11-2 also advises on bay lengths and access aisle widths for larger cycles using Sheffield stands); or - high-quality facilities including showers, lockers, changing rooms and drying areas are not provided for cyclists in non-residential settings (see Section 11.7 of LTN 1/20, BREEAM guidance and any local standards). The quantum and quality of the cycle parking and trip-end facilities proposed does not align with travel plan targets for cycling or application objectives to deliver a sustainable form of development.	Pass	A Framework Travel Plan has been submitted with mode share targets and measures to embed active travel, alongside appropriate monitoring, and remedial strategies.

Appendix I

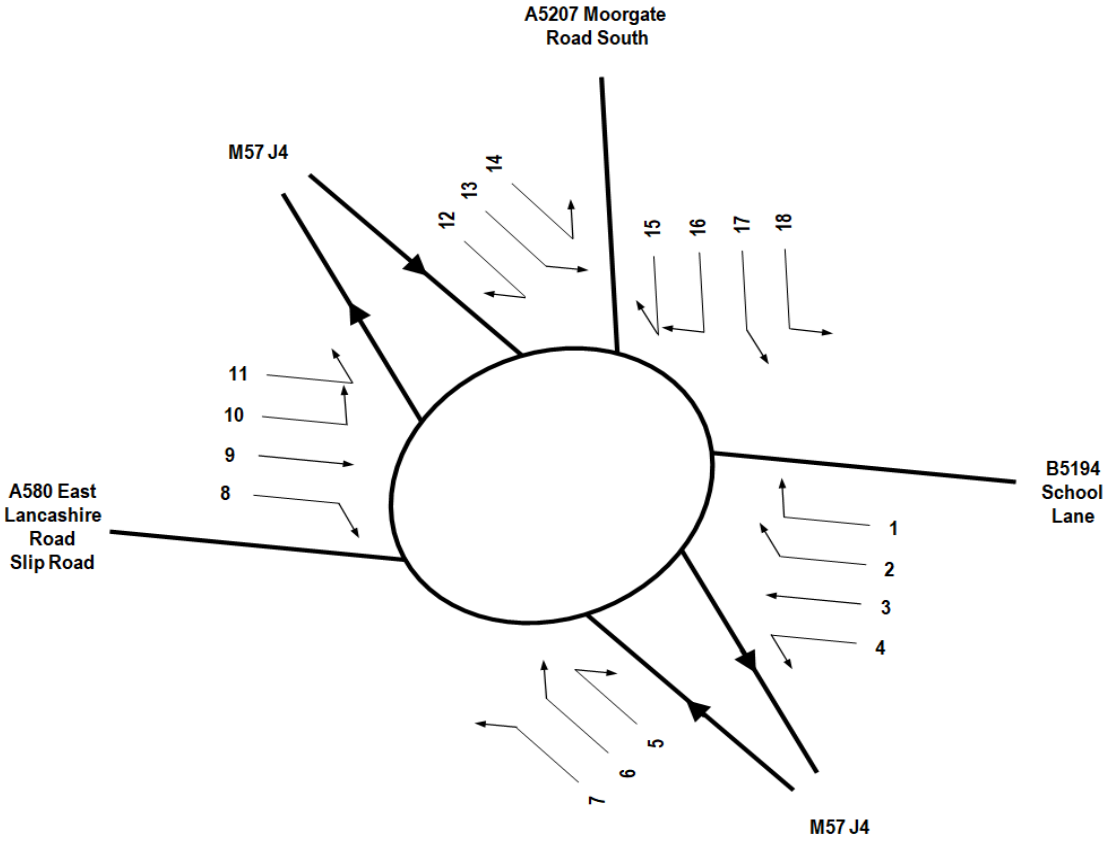
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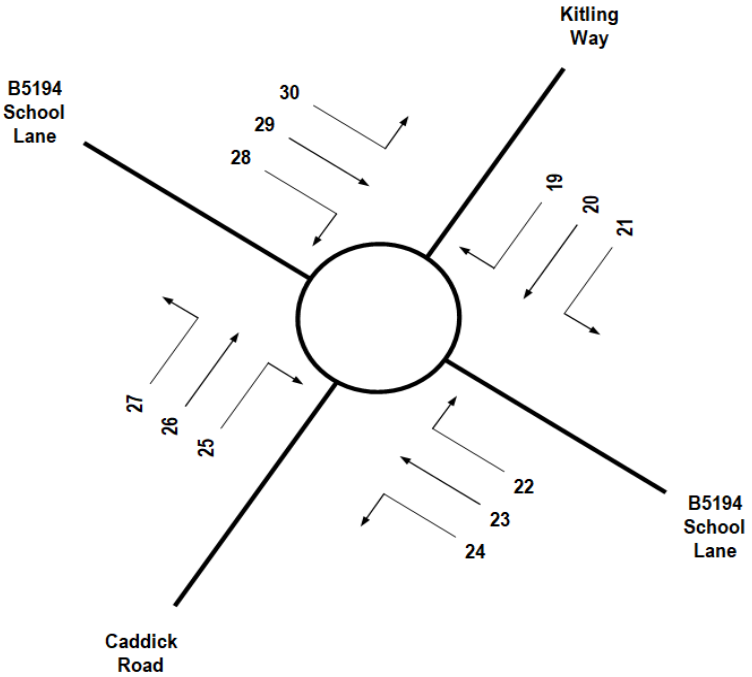
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Client:	Astute
Client Contact:	Oliver McLaughlin
Survey Location:	Knowsley
Date(s) of Survey:	Wednesday 12th February 2025 Thursday 13th February 2025 Tuesday 11th March 2025
Notes:	
On Site Supervisor:	David Cheng/Neil Harley
Data Checking:	David Cheng
Survey Reference:	24.121 Knowsley
Status:	Final
Date of Issue:	13th March 2025

JUNCTION 1



JUNCTION 2



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TRAFFIC MOVEMENT REFERENCE

JOB TITLE

24.121 KNOWSLEY

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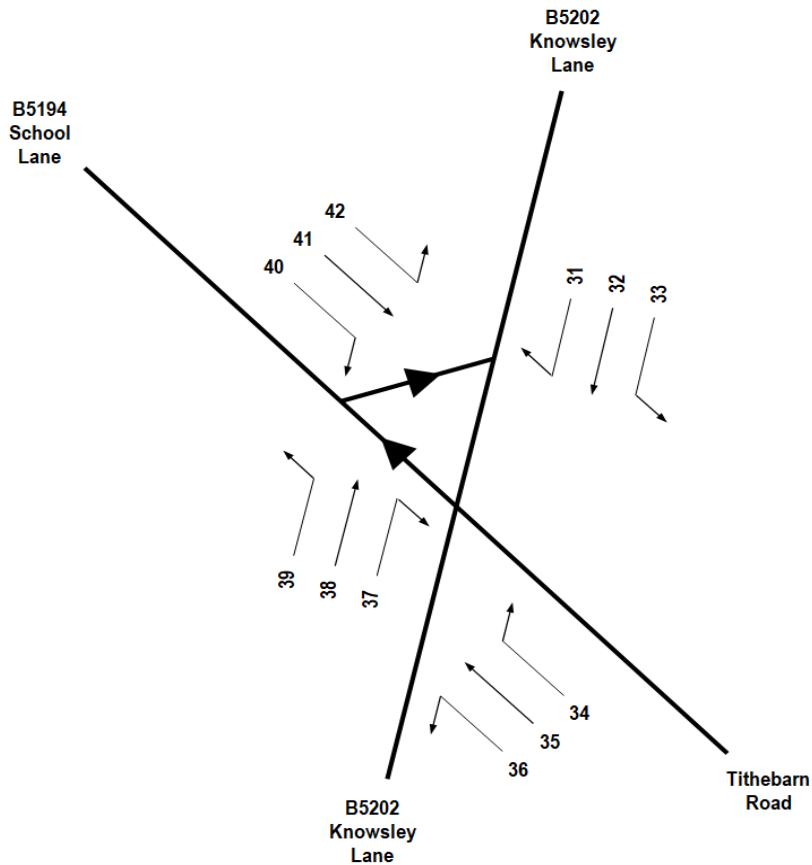
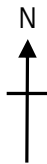
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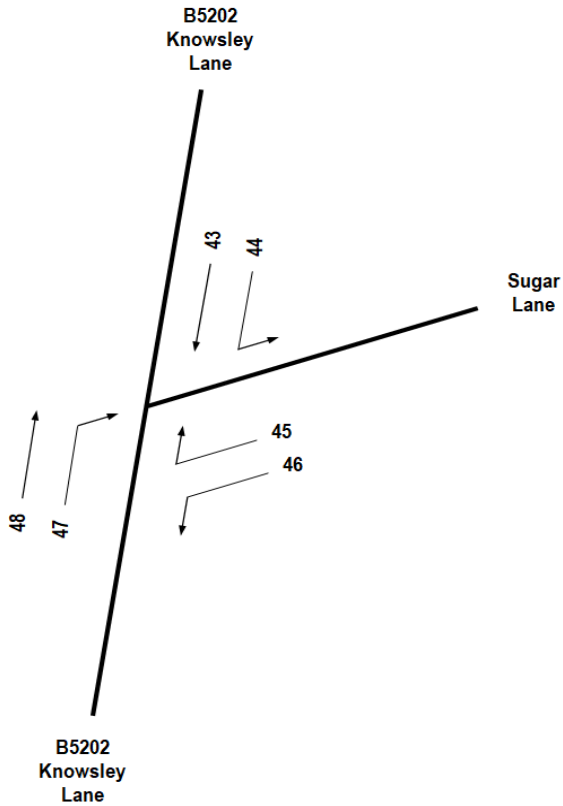
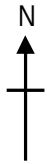
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JUNCTION 3



JUNCTION 4



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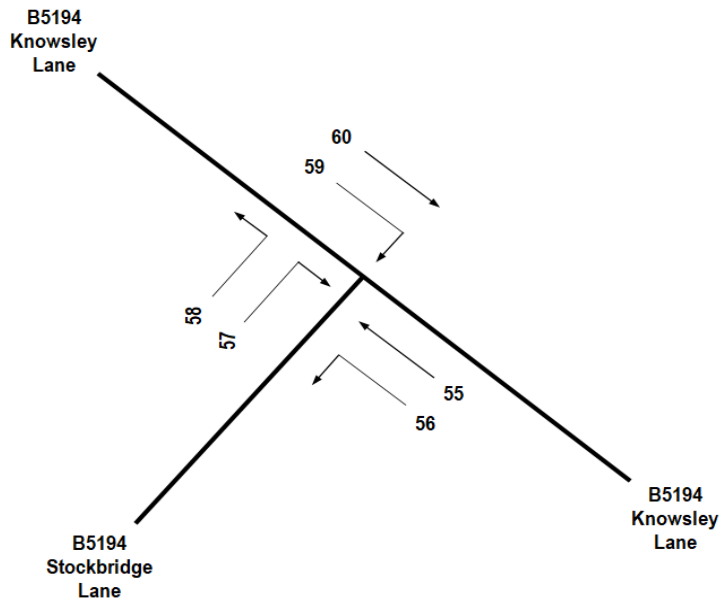
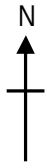
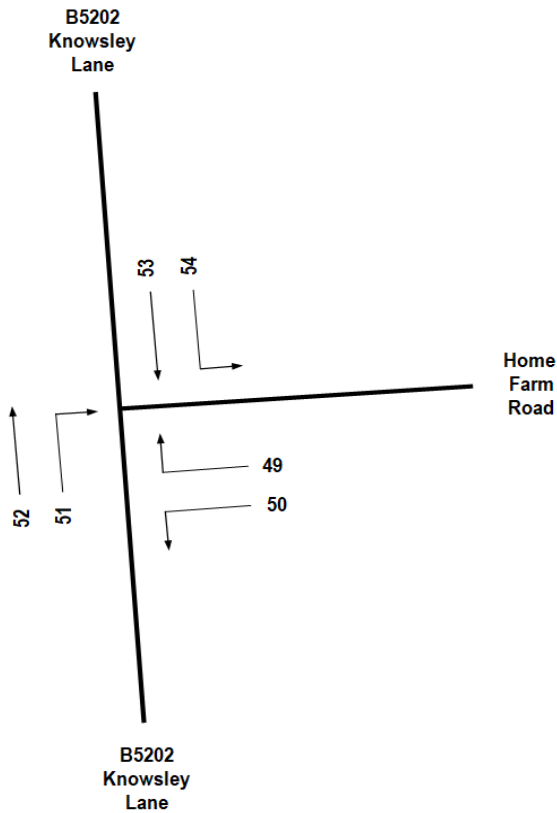
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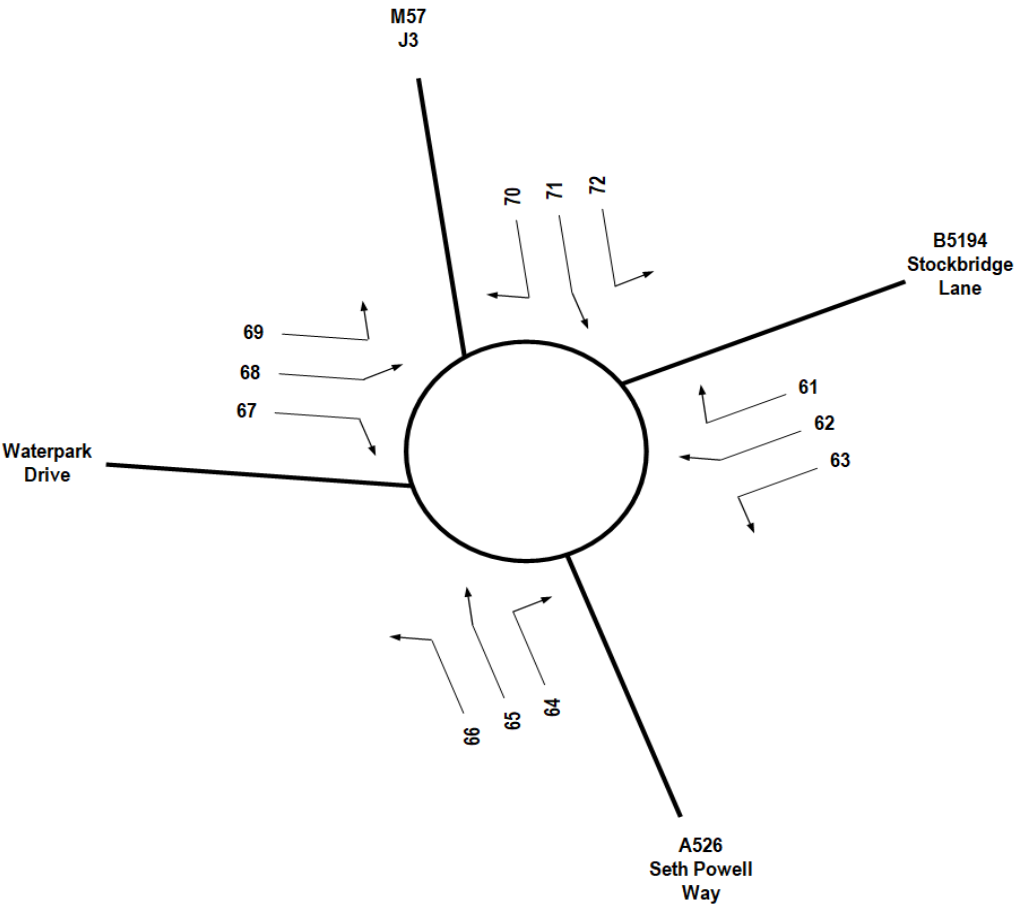
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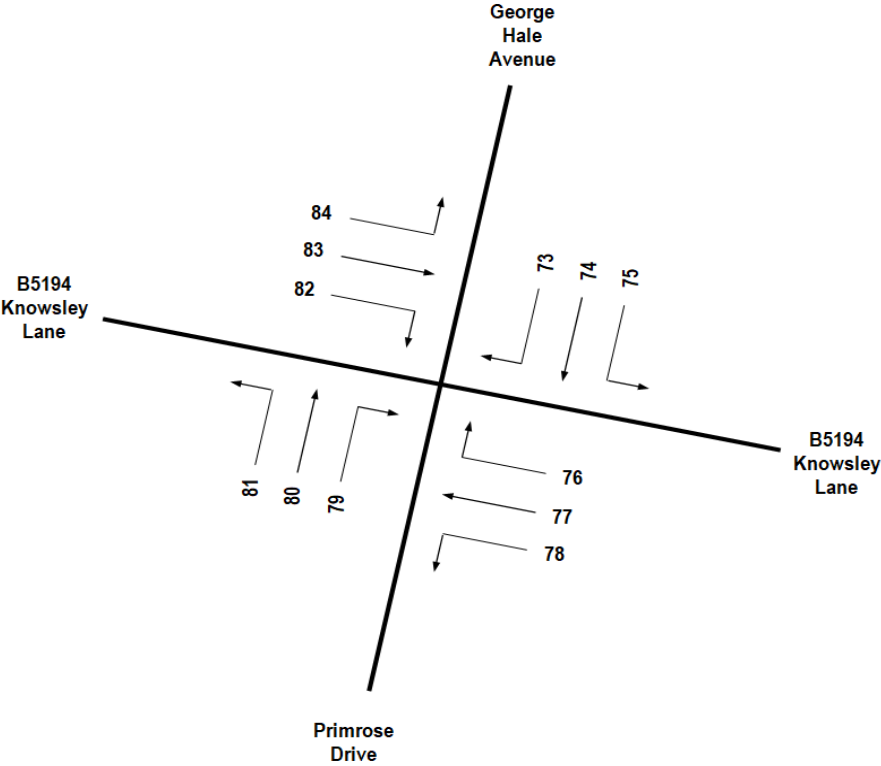
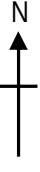
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JUNCTION 7



JUNCTION 8



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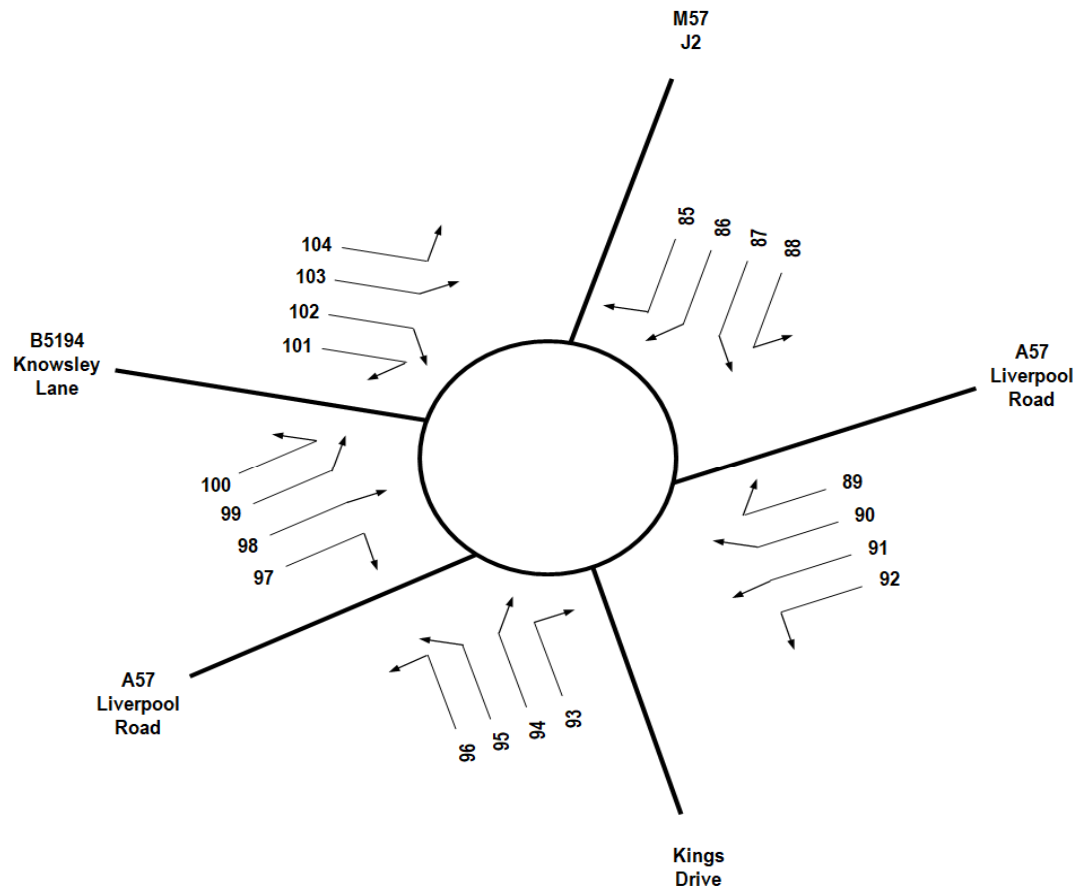
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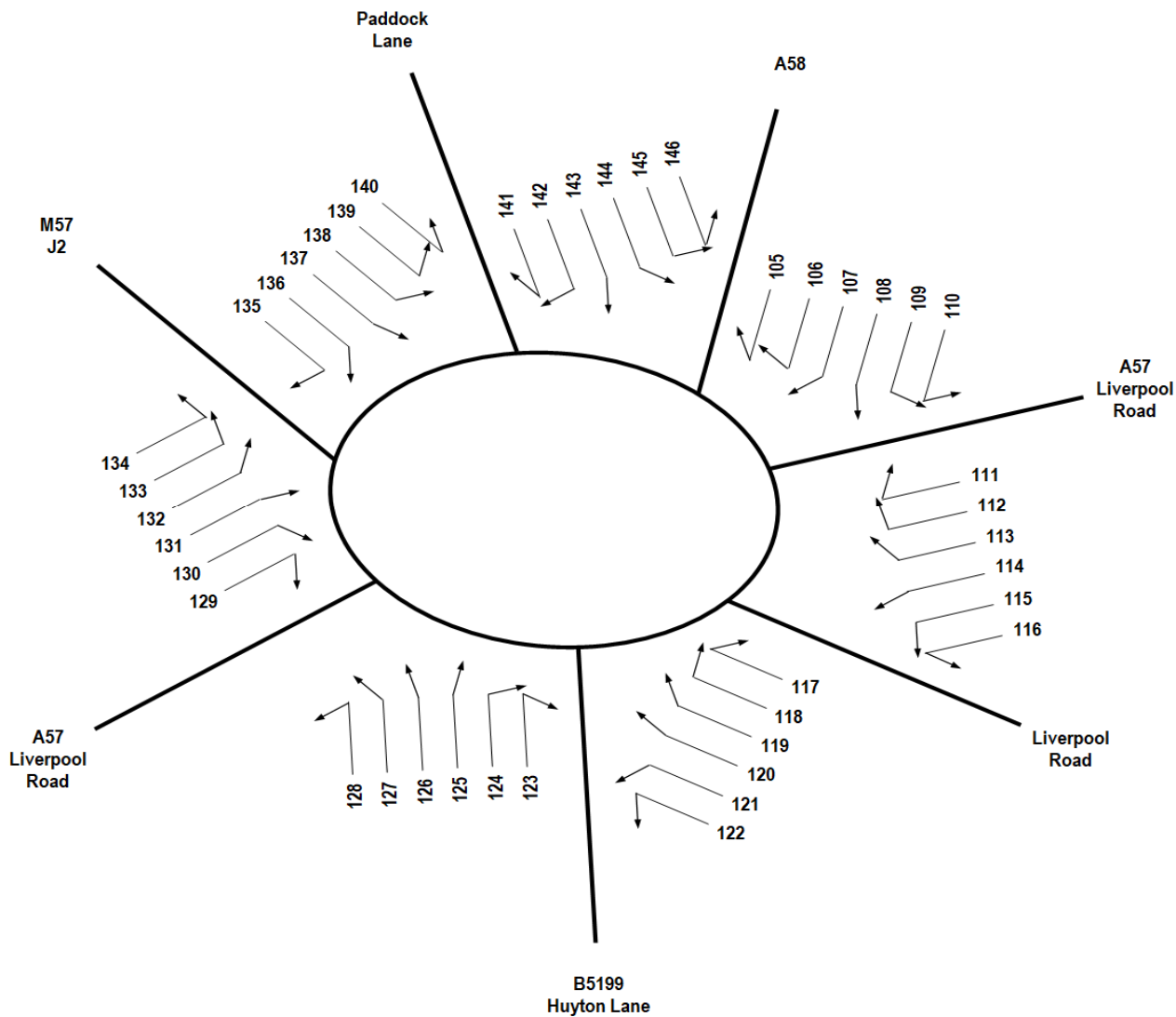
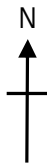
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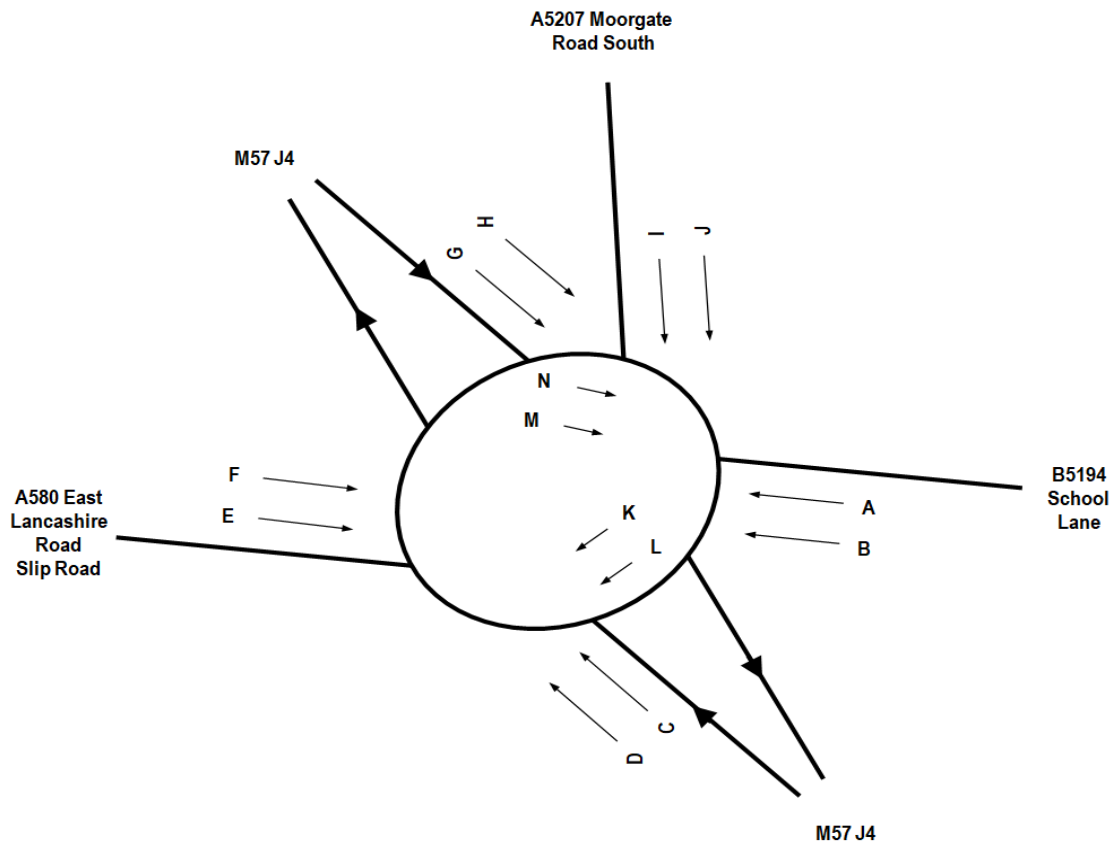
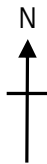
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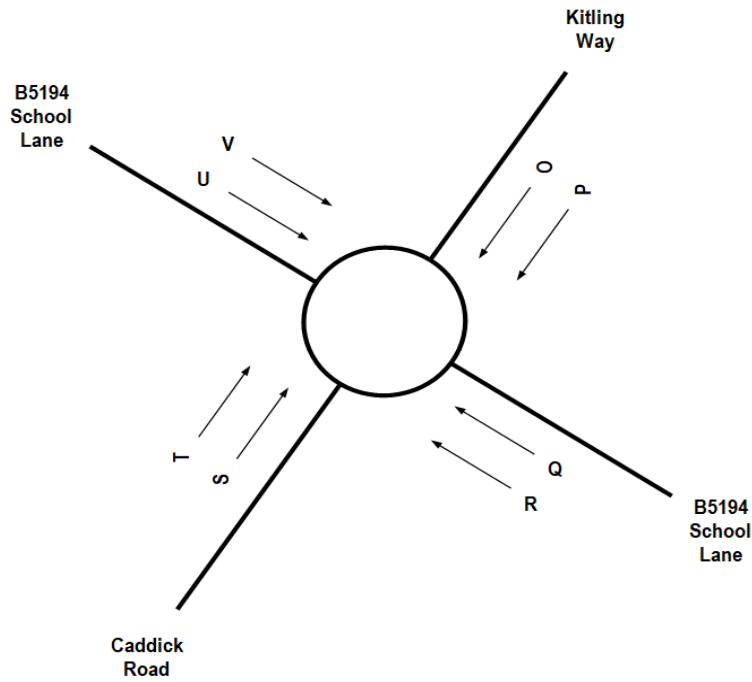
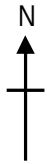
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JUNCTION 1



JUNCTION 2



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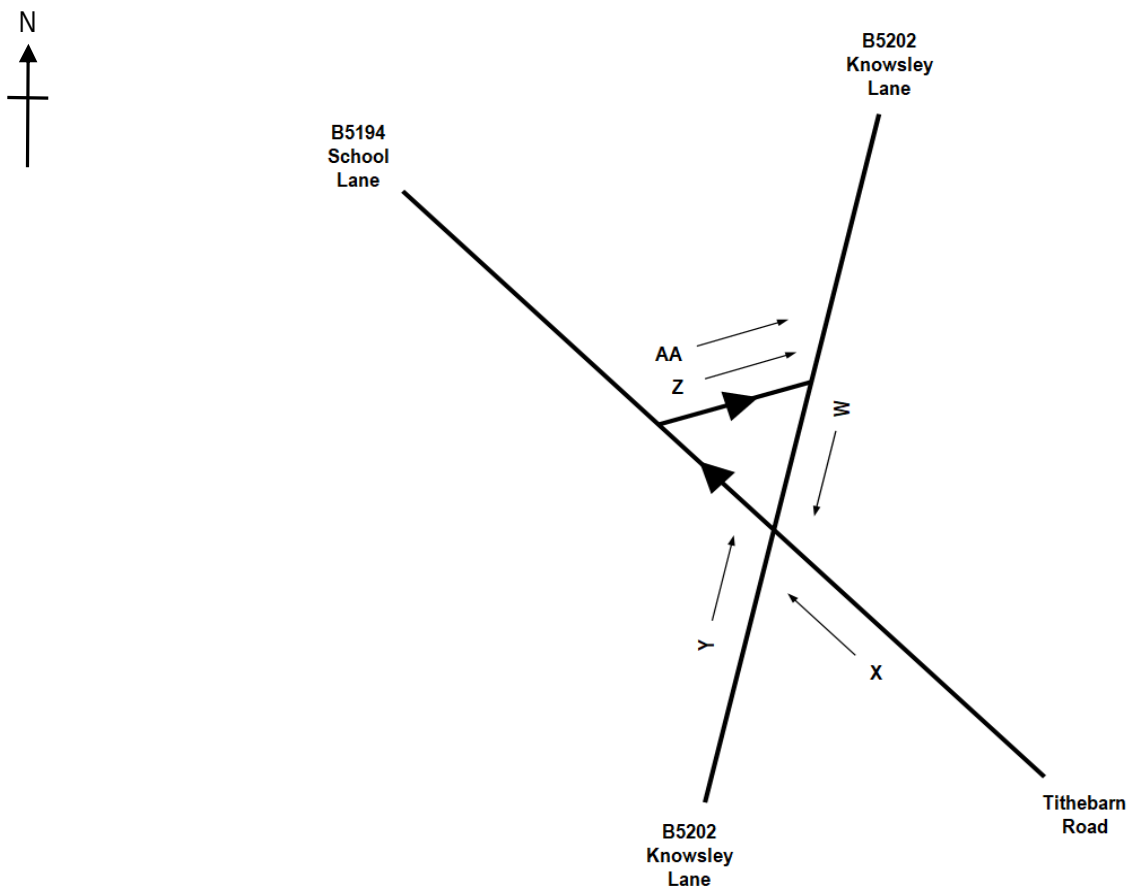
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W: www.transportds.co.uk
E: enquiries@transportds.co.uk

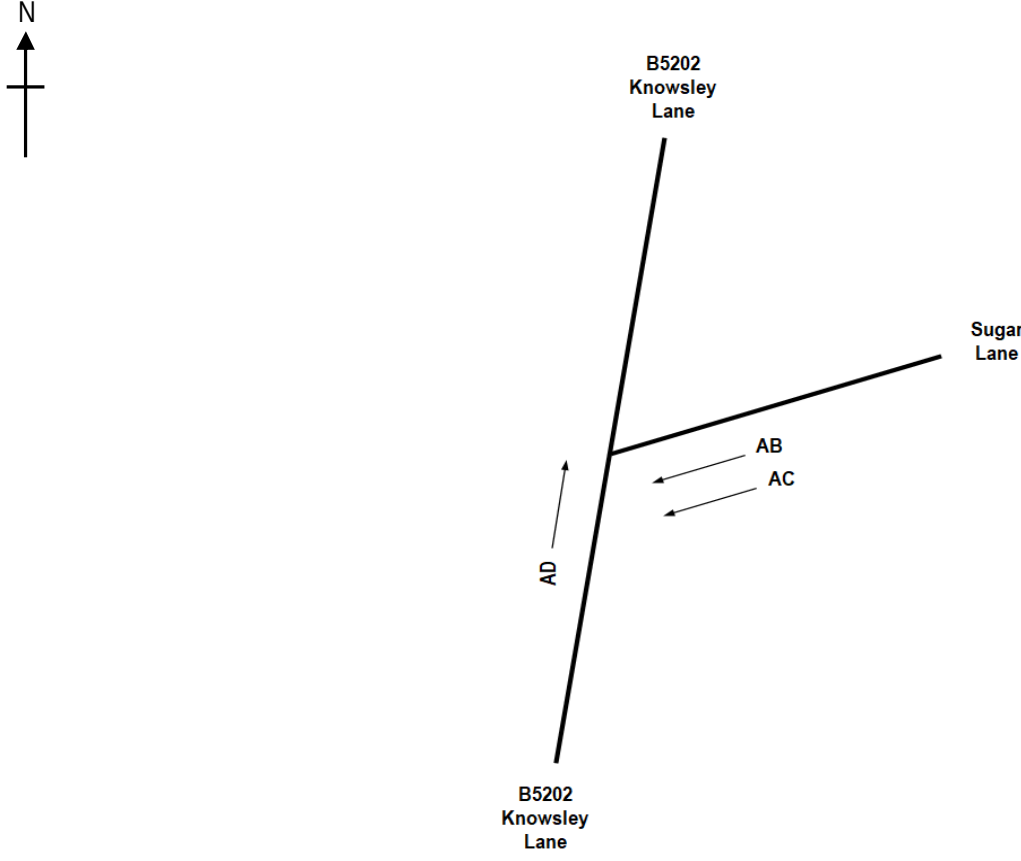
E: enquiries@transportos.co.uk
T: 0777 625 2475 T: 0794 007 1260

DRAWN BY CC	DATE FEB 2025	SCALE NTS	REF FIGURE 7
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JUNCTION 3



JUNCTION 4



DRAWING TITLE

QUEUE REFERENCE

JOB TITLE

24.121 KNOWSLEY

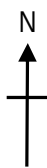
**Transport Data
Specialists Ltd**

W: www.transportds.co.uk
E: enquiries@transportds.co.uk

E: enquiries@transportos.co.uk
T: 0777 625 2475 T: 0794 007 1260

DRAWN BY CC	DATE FEB 2025	SCALE NTS	REF FIGURE 8
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JUNCTION 5



B5202
Knowsley
Lane

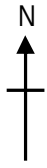
Home
Farm
Road

AF

AE

B5202
Knowsley
Lane

JUNCTION 6



B5194
Knowsley
Lane

AI

AH

AG

B5194
Stockbridge
Lane

B5194
Knowsley
Lane

DRAWING TITLE

QUEUE REFERENCE

JOB TITLE

24.121 KNOWSLEY

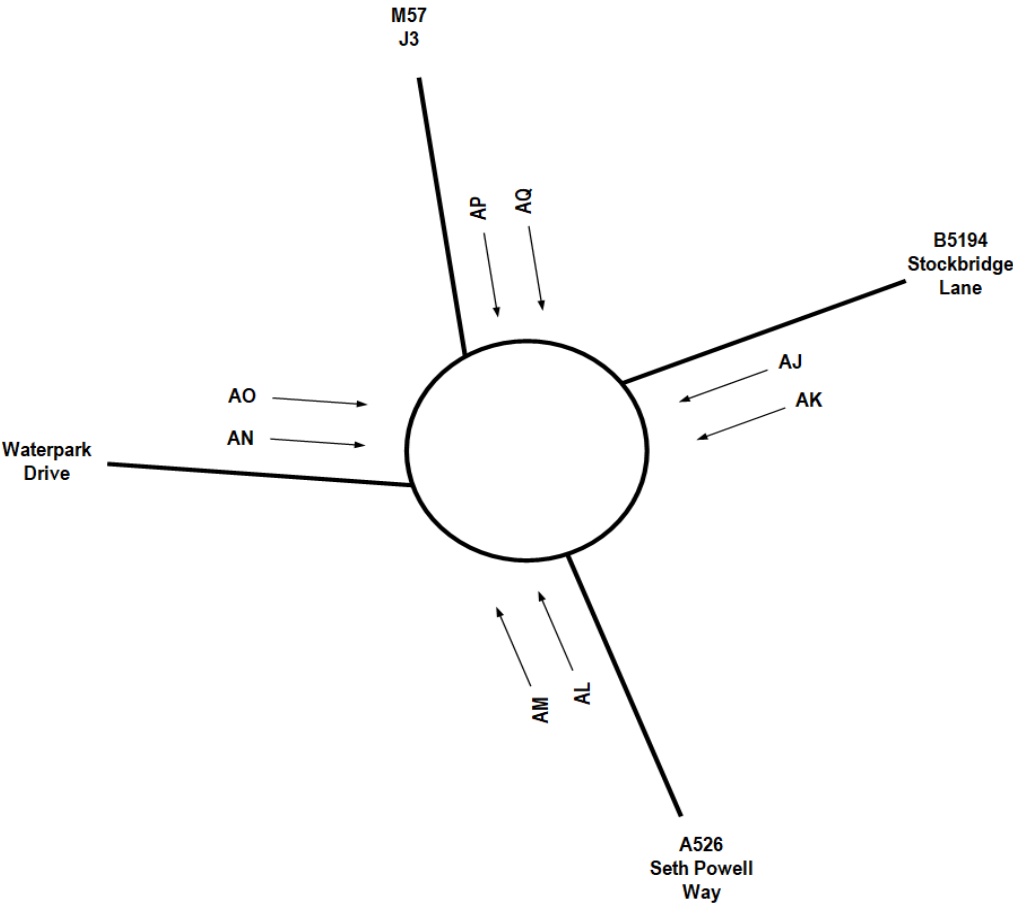
**Transport Data
Specialists Ltd**

W: www.transportds.co.uk
E: enquiries@transportds.co.uk

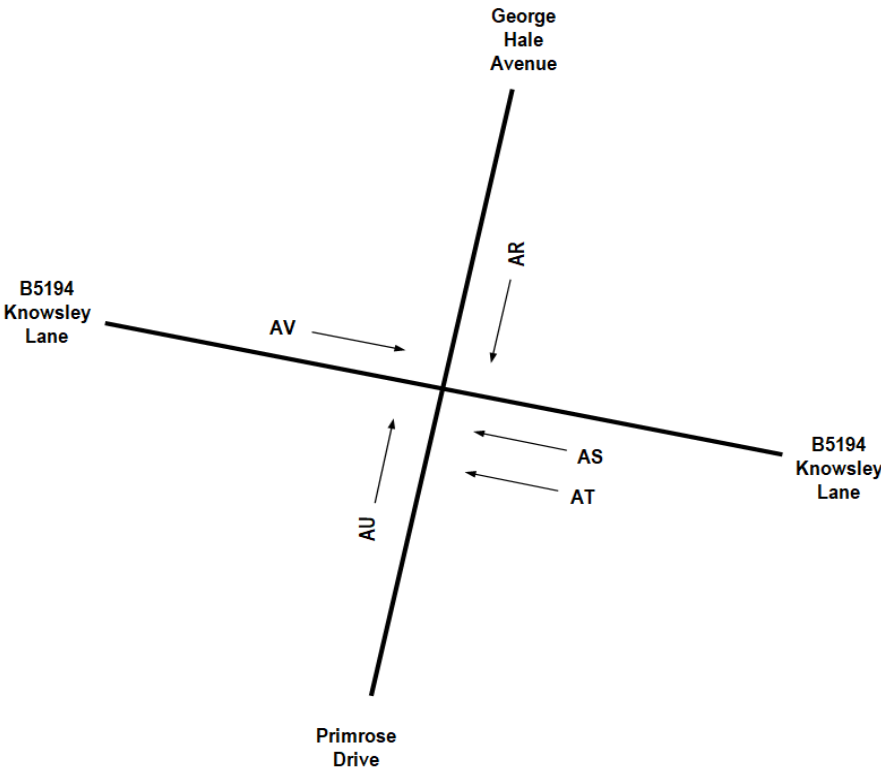
E: enquiries@transportos.co.uk
T: 0777 625 2475 T: 0794 007 1260

DRAWN BY CC	DATE FEB 2025	SCALE NTS	REF FIGURE 9
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JUNCTION 7



JUNCTION 8



DRAWING TITLE

QUEUE REFERENCE

JOB TITLE

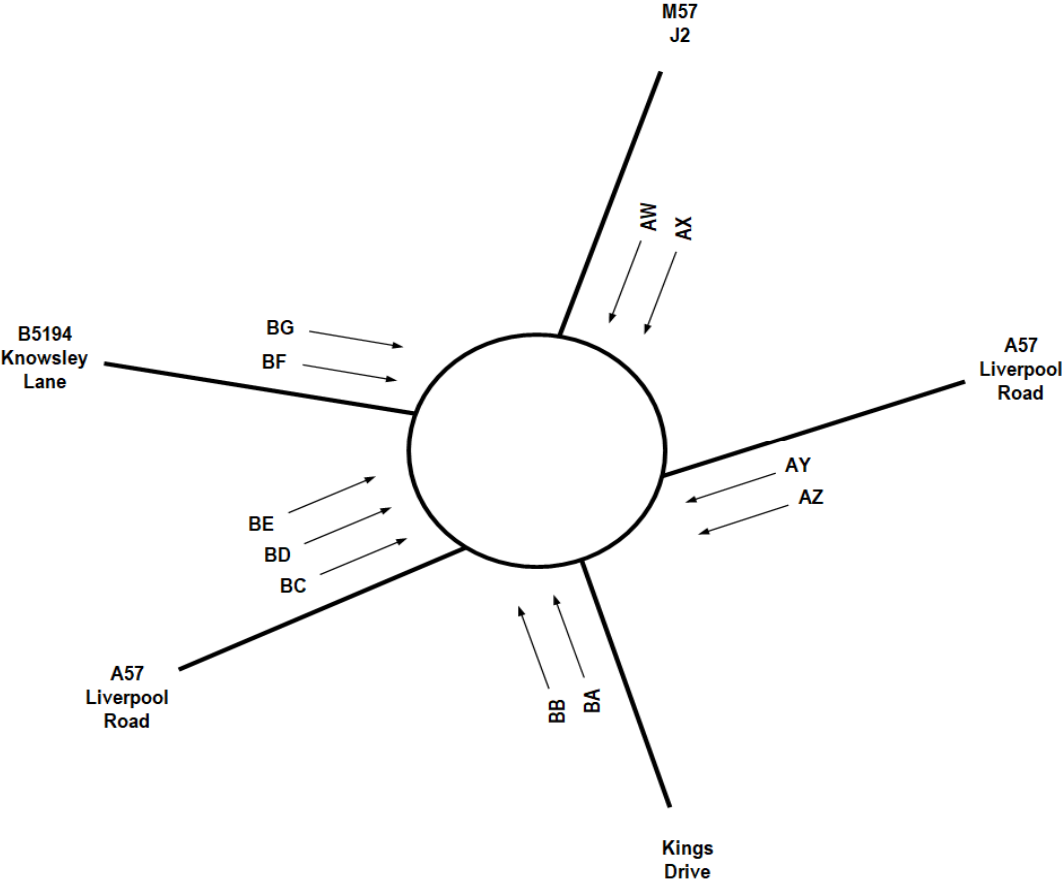
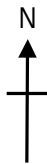
24.121 KNOWSLEY

**Transport Data
Specialists Ltd**

W: www.transportds.co.uk
E: enquiries@transportds.co.uk

E: enquiries@transportos.co.uk
T: 0777 625 2475 T: 0794 007 1260

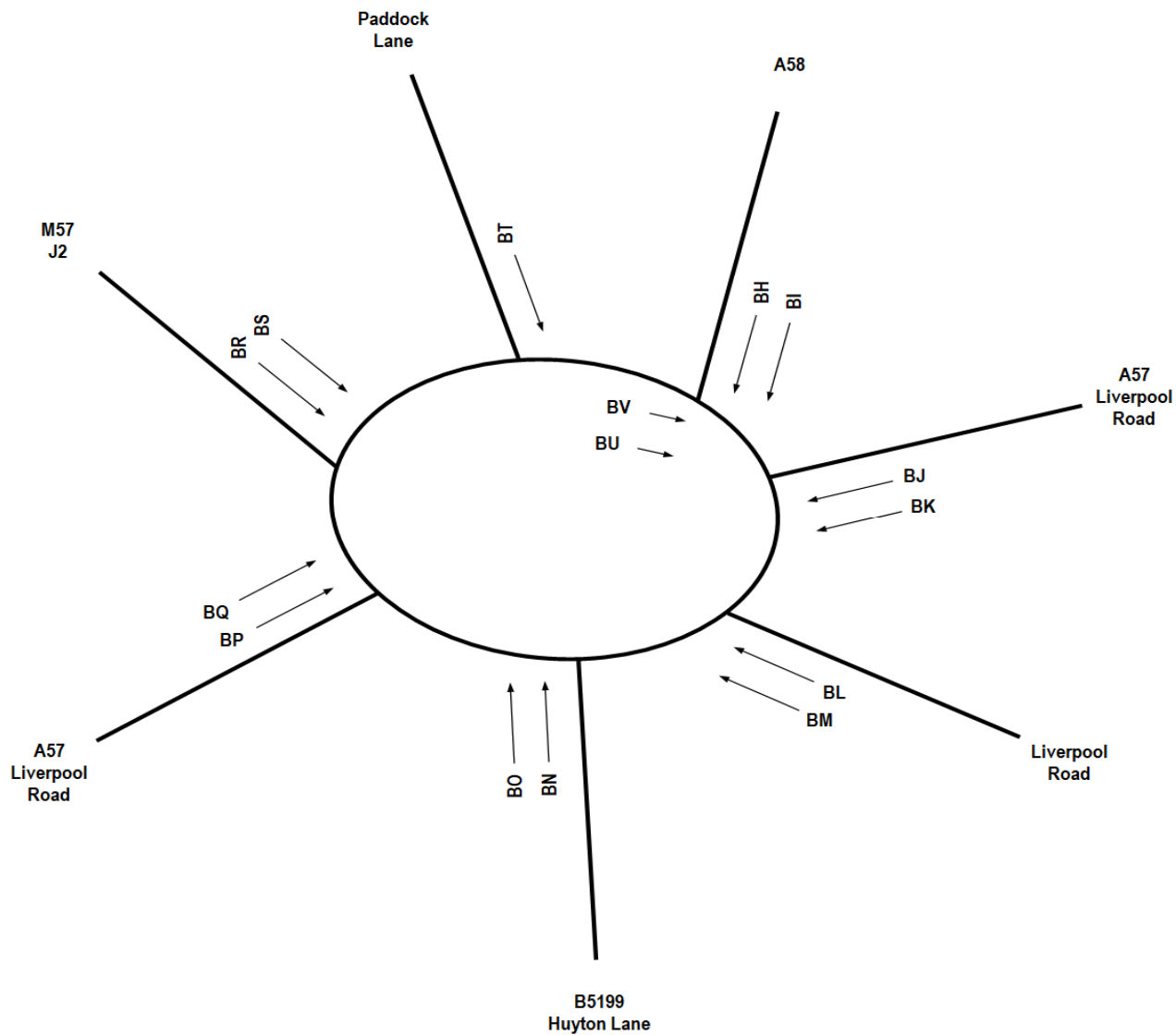
DRAWN BY CC	DATE FEB 2025	SCALE NTS	REF FIGURE 10
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DRAWING TITLE	QUEUE REFERENCE	Transport Data Specialists Ltd W: www.transportds.co.uk E: enquiries@transportds.co.uk
JOB TITLE	24.121 KNOWSLEY	

E: enquiries@transportos.co.uk
T: 0777 625 2475 T: 0794 007 1260

DRAWN BY CC	DATE FEB 2025	SCALE NTS	REF FIGURE 11
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DRAWING TITLE

QUEUE REFERENCE

JOB TITLE

24.121 KNOWSLEY

**Transport Data
Specialists Ltd**

W: www.transportds.co.uk
E: enquiries@transportds.co.uk

E: enquiries@transportos.co.uk
T: 0777 625 2475 T: 0794 007 1260

DRAWN BY CC	DATE FEB 2025	SCALE NTS	REF FIGURE 12
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Time Beginning	M57 J4/A5207 Moorgate Road South/B5194 School Lane/A580 East Lancashire Road Slip Road - Thursday 13th Februry 2025																																			
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	5	0	5	5	15	5	8	16	26	2	96	20	96	25	93	19	24	3	0	0	21	3	10	2	14	1	7	2	1	0	0	1	103	35	16	3
0715	2	2	13	5	18	0	12	20	46	3	118	20	164	15	87	12	13	0	0	0	27	7	20	2	39	2	14	1	1	0	0	0	134	33	20	2
0730	12	7	12	6	17	2	26	11	36	1	151	21	169	17	95	22	16	1	1	0	27	4	14	2	28	1	9	1	0	0	2	0	147	36	26	1
0745	6	1	13	4	11	4	32	5	59	8	180	16	191	14	89	26	32	1	0	0	38	10	17	2	27	2	12	1	0	0	1	0	128	38	34	4
0800	16	1	17	3	6	3	43	5	48	2	157	15	162	20	79	25	14	2	0	0	34	3	10	0	31	1	9	4	1	0	1	0	161	36	30	1
0815	6	0	19	1	14	1	28	8	89	7	178	29	157	17	94	18	27	3	1	0	34	3	20	2	39	1	14	2	0	0	0	0	161	36	29	3
0830	1	2	15	0	25	1	24	14	52	5	175	28	156	13	88	18	17	6	1	0	37	0	18	3	25	2	11	1	0	0	2	0	141	24	30	3
0845	10	1	15	5	32	1	17	4	63	13	170	32	116	17	75	27	10	1	0	0	32	5	16	9	27	0	24	3	0	0	1	0	100	40	25	7
0900	2	6	15	1	28	0	17	10	44	9	123	19	135	19	91	19	8	1	2	0	26	3	19	5	22	0	15	2	0	0	3	0	152	38	23	4
0915	12	2	8	5	8	0	14	6	36	15	120	27	108	12	51	16	27	4	1	0	30	6	20	1	16	3	18	0	1	0	0	0	121	30	15	2
0930	8	1	13	3	5	4	17	3	20	7	101	11	74	12	73	17	7	1	0	0	24	5	18	0	8	3	9	3	0	0	1	0	103	30	13	8
0945	6	1	10	3	4	0	15	5	29	8	85	31	87	16	63	24	18	0	1	0	19	4	13	3	15	2	15	4	0	0	1	0	69	31	18	2

Time Beginning	M57 J4/A5207 Moorgate Road South/B5194 School Lane/A580 East Lancashire Road Slip Road - Thursday 13th Februry 2025																																			
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	9	0	47	2	34	3	67	7	25	10	133	35	130	14	96	15	12	0	0	0	61	8	35	1	9	10	27	2	2	0	5	0	225	23	14	3
1615	19	0	32	1	22	0	59	6	11	9	150	19	125	11	135	6	11	1	1	0	49	2	35	3	17	4	22	1	2	0	2	0	179	19	21	1
1630	19	1	55	0	44	2	86	5	17	8	142	11	152	14	109	10	28	2	0	0	58	1	22	1	19	14	19	3	0	0	1	0	222	21	20	2
1645	6	1	43	1	42	3	47	1	26	7	140	11	140	17	125	14	19	1	1	0	55	5	37	3	18	5	30	3	3	0	1	0	208	22	16	2
1700	12	0	44	1	48	1	95	2	20	7	126	16	127	9	127	11	20	3	2	0	59	3	22	0	14	5	23	1	0	0	0	0	230	9	21	2
1715	24	0	34	3	18	5	62	6	12	2	130	12	136	9	103	5	25	2	0	0	56	2	36	2	8	10	20	1	0	1	1	0	177	11	14	3
1730	15	1	27	8	19	1	39	3	20	6	124	16	132	6	86	5	30	3	2	0	37	3	23	2	14	4	28	2	1	0	2	0	158	11	4	0
1745	3	0	21	1	26	0	25	1	15	3	140	5	108	5	106	10	6	0	1	0	38	2	31	2	5	6	31	2	2	0	1	0	119	7	12	0
1800	11	0	30	1	20	1	28	2	9	10	90	5	82	12	98	11	8	4	3	0	50	1	24	0	9	5	23	0	0	0	1	0	124	3	9	0
1815	10	1	8	1	12	1	19	6	14	6	73	5	93	7	65	4	15	0	1	0	48	1	16	2	14	6	17	0	2	0	3	0	89	11	13	0
1830	11	2	7	4	6	2	8	0	7	3	68	10	59	4	66	7	14	0	0	0	32	1	20	1	13	4	22	1	0	0	2	0	103	10	16	0
1845	6	0	9	3	13	2	11	1	12	3	81	8	68	6	71	15	24	1	0	0	34	4	15	3	7	2	21	0	1	0	1	0	81	11	12	0

Time Beginning	Kitling Road/B5194 School Lane/Caddick Road - Thursday 13th Feburary 2025																							
	19		20		21		22		23		24		25		26		27		28		29		30	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	17	6	3	0	1	0	6	0	25	4	9	2	1	0	0	1	5	1	17	0	8	3	20	4
0715	18	6	2	1	1	0	4	1	30	0	12	0	3	0	1	0	1	0	17	1	8	0	14	2
0730	34	1	6	0	0	0	9	0	47	2	7	0	2	0	3	0	2	1	8	0	6	3	28	4
0745	26	6	9	1	3	0	21	0	47	0	14	0	0	0	2	0	2	3	18	1	16	2	40	3
0800	22	2	3	0	2	0	19	0	58	4	10	0	0	0	1	1	2	3	8	2	13	1	46	3
0815	32	2	8	0	3	0	26	0	46	2	7	1	1	0	1	1	2	1	12	1	11	2	58	4
0830	24	5	6	0	1	0	8	1	38	0	5	0	1	0	1	0	4	2	4	0	32	2	31	5
0845	19	3	5	0	4	0	8	0	59	2	6	0	3	0	1	0	0	1	6	1	12	3	47	2
0900	18	5	0	0	1	0	11	0	36	2	4	0	0	0	2	0	5	1	7	1	26	3	32	8
0915	11	3	1	1	3	0	7	0	25	3	3	0	1	0	1	0	1	1	2	1	16	2	42	1
0930	14	5	2	1	3	0	2	0	22	1	0	1	2	0	0	0	3	2	1	0	9	0	21	5
0945	15	3	3	2	2	0	2	0	15	0	4	2	1	0	1	0	3	2	6	1	13	0	22	2

Time Beginning	Kitling Road/B5194 School Lane/Caddick Road - Thursday 13th Feburary 2025																							
	19		20		21		22		23		24		25		26		27		28		29		30	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	40	3	3	1	15	0	0	0	19	2	1	0	9	0	8	0	24	0	1	0	42	1	23	3
1615	34	3	1	0	6	0	0	0	21	2	3	0	10	0	6	0	21	0	3	0	35	1	14	0
1630	46	1	2	0	12	0	4	0	20	0	3	0	19	1	10	0	30	1	2	1	50	2	26	1
1645	29	0	2	0	12	0	5	0	9	0	3	0	7	0	5	0	15	0	3	1	33	0	23	1
1700	78	1	2	0	33	0	0	0	16	1	1	0	14	0	5	0	27	1	4	1	53	3	28	0
1715	18	1	9	1	0	0	0	0	23	1	1	0	0	0	1	1	4	0	2	1	34	2	7	0
1730	47	0	1	0	11	0	1	1	14	1	4	1	4	0	3	0	4	1	4	0	27	2	10	0
1745	21	1	1	0	0	0	0	0	26	0	7	0	4	0	2	0	1	0	4	1	23	0	10	0
1800	11	0	1	0	1	1	1	0	25	2	1	0	3	0	5	0	18	0	4	1	18	1	5	2
1815	4	0	1	0	0	0	0	0	15	1	0	0	0	0	0	0	4	0	0	0	32	1	6	2
1830	3	0	0	0	1	0	2	0	15	2	3	0	0	0	2	0	3	0	6	0	26	1	9	0
1845	5	2	0	0	1	0	0	0	21	1	2	0	3	0	1	0	5	0	7	0	20	0	6	1

Time Beginning	B5202 Knowsley Lane/Tithebarn Road/B5194 School Lane - Thursday 13th Feburary 2025																							
	31		32		33		34		35		36		37		38		39		40		41		42	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	2	2	43	2	2	0	5	0	6	0	0	0	1	0	63	1	30	2	6	2	6	0	1	1
0715	3	0	68	3	2	0	3	0	12	0	0	0	1	0	69	8	34	1	9	0	2	0	2	0
0730	4	0	103	6	0	1	3	0	8	0	1	0	0	0	111	10	47	2	6	1	1	0	3	2
0745	12	1	118	1	2	1	2	2	9	0	2	0	0	0	100	5	62	0	12	1	6	1	2	0
0800	11	2	98	6	1	0	2	0	19	0	0	0	2	0	91	4	53	1	15	1	1	0	3	0
0815	10	0	114	4	6	0	2	0	13	0	0	0	1	0	95	4	57	2	12	1	3	0	3	1
0830	5	0	115	3	5	1	3	0	11	0	1	0	2	0	98	6	34	2	15	1	12	1	7	0
0845	5	1	94	1	2	0	10	0	27	0	6	0	2	0	87	4	43	2	10	3	8	0	4	0
0900	5	1	79	1	4	1	5	1	9	0	1	0	0	0	50	3	37	1	14	3	12	0	1	0
0915	1	1	56	3	1	0	1	0	7	0	0	0	1	1	52	3	27	1	10	1	6	0	3	1
0930	0	0	52	3	3	0	2	0	5	0	1	1	2	0	55	5	17	3	9	1	2	0	3	0
0945	5	0	45	3	1	0	5	1	7	1	0	0	0	0	37	3	12	0	11	0	3	0	2	0

Time Beginning	B5202 Knowsley Lane/Tithebarn Road/B5194 School Lane - Thursday 13th Feburary 2025																							
	31		32		33		34		35		36		37		38		39		40		41		42	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	0	1	119	3	1	0	6	0	10	0	0	0	2	0	60	1	10	1	47	1	8	0	6	0
1615	1	2	118	2	2	1	3	0	9	0	0	0	2	0	73	3	14	0	47	1	8	0	3	0
1630	3	0	118	8	5	0	4	0	5	0	2	0	3	0	88	3	21	0	61	2	16	0	4	1
1645	2	0	135	9	6	0	4	0	3	0	2	0	4	0	90	3	12	1	38	1	10	0	1	1
1700	1	0	136	3	6	1	2	1	5	0	1	0	2	1	73	2	10	0	74	2	16	1	6	0
1715	0	1	111	1	3	0	3	1	6	0	0	0	3	0	75	1	15	0	39	1	6	0	1	0
1730	2	1	93	1	3	1	4	0	5	0	0	0	2	0	86	2	13	1	18	2	13	0	3	1
1745	4	0	79	0	4	0	3	0	8	0	2	0	4	0	68	0	21	0	23	0	6	0	4	0
1800	2	1	75	1	4	0	5	0	10	0	2	0	1	0	39	0	19	1	15	2	3	0	2	0
1815	2	1	70	0	6	0	2	0	9	1	2	0	2	0	40	1	4	0	20	1	7	0	5	0
1830	1	0	46	1	4	0	1	0	3	0	1	0	3	0	32	1	16	2	15	0	8	0	8	1
1845	5	1	37	1	1	0	6	0	10	0	1	0	0	4	32	0	14	0	14	0	6	0	2	0

Time Beginning	B5202 Knowsley Lane/Sugar Lane - Thursday 13th February 2025											
	43		44		45		46		47		48	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	56	3	4	1	9	0	13	1	9	0	83	3
0715	66	3	9	0	9	0	8	1	7	0	97	9
0730	112	9	6	0	18	2	22	0	11	0	147	10
0745	133	2	3	0	9	0	26	2	22	1	162	5
0800	119	7	10	0	10	0	29	1	14	0	134	5
0815	130	4	4	0	10	0	15	0	35	1	145	6
0830	115	4	13	0	16	0	27	1	46	0	133	9
0845	126	5	17	1	21	1	29	0	39	4	93	6
0900	99	2	8	2	14	0	16	0	28	1	80	4
0915	71	3	4	1	10	0	21	2	22	1	66	4
0930	60	4	5	1	10	2	23	0	18	2	66	7
0945	47	3	10	0	4	0	18	0	16	1	49	3
Time Beginning	B5202 Knowsley Lane/Sugar Lane - Thursday 13th February 2025											
	43		44		45		46		47		48	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	160	3	12	0	5	0	23	0	27	1	69	4
1615	146	4	16	0	7	1	18	1	28	0	90	1
1630	168	9	15	0	5	0	24	0	28	0	96	4
1645	154	11	11	0	10	0	29	0	28	1	96	3
1700	191	4	18	0	8	0	34	0	29	1	92	2
1715	151	2	13	1	9	0	17	1	27	0	87	1
1730	109	1	7	0	8	0	23	1	27	0	100	4
1745	80	2	16	0	9	0	22	0	37	0	91	1
1800	81	1	16	1	8	1	23	0	19	2	52	0
1815	84	2	14	0	6	0	18	0	21	0	49	2
1830	59	1	10	0	12	1	16	0	16	0	43	1
1845	49	1	8	0	8	0	20	0	18	0	37	0

Time Beginning	B5202 Knowsley Lane/Home Farm Road - Tuesday 11th March 2025											
	49		50		51		52		53		54	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	1	0	1	0	1	0	101	9	69	2	0	0
0715	1	0	1	0	0	0	162	7	105	4	0	0
0730	1	0	3	0	1	0	206	8	130	8	0	0
0745	1	0	6	0	4	0	242	3	124	5	0	0
0800	0	0	4	0	0	0	197	11	165	11	0	0
0815	0	0	6	0	7	0	198	4	139	13	1	0
0830	2	1	7	0	13	0	200	8	149	8	2	0
0845	0	0	18	0	3	0	204	10	138	4	6	0
0900	0	0	11	0	3	0	110	4	108	5	2	0
0915	0	0	0	0	5	0	117	9	83	5	1	0
0930	1	0	3	0	1	0	81	13	70	3	2	1
0945	0	0	3	1	1	0	58	6	74	7	0	0
Time Beginning	B5202 Knowsley Lane/Home Farm Road - Thursday 13th February 2025											
	49		50		51		52		53		54	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	3	0	1	0	5	0	90	5	179	4	1	0
1615	0	0	4	0	9	0	119	1	163	6	1	0
1630	2	0	3	0	4	0	123	3	193	8	1	0
1645	1	0	3	0	5	0	122	3	185	6	2	1
1700	0	0	4	0	5	0	120	4	223	5	0	0
1715	0	0	3	0	1	0	110	2	165	4	1	0
1730	2	0	2	0	8	0	133	3	135	2	2	0
1745	2	0	2	0	0	1	119	2	103	0	2	0
1800	1	0	6	1	3	0	73	1	98	2	1	0
1815	0	0	4	0	2	0	72	2	98	2	6	0
1830	0	0	1	0	6	0	59	1	74	1	0	0
1845	0	0	2	0	6	0	55	0	69	1	1	0

Time Beginning	B5194 Knowsley Lane/B5194 Stockbridge Lane - Wednesday 12th Februry 2025												Time Beginning	B5194 Knowsley Lane/B5194 Stockbridge Lane - Tuesday 11th March 2025												Time Beginning	Tuesday 11th March 2025			
	55				56				57					58				59				60					Rat-run 57	Rat-run 58		
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV		LV	HV	LV	HV	LV	HV	LV	HV									
0700	44	4	38	2	38	0	40	4	30	2	23	1	0700	-	-	-	-	-	-	-	-	-	-	-	-	0700	0	0	0	0
0715	68	5	30	1	51	3	46	7	49	3	46	2	0715	-	-	-	-	-	-	-	-	-	-	-	-	0715	1	0	1	0
0730	111	1	35	1	33	0	71	2	80	2	64	3	0730	-	-	-	-	-	-	-	-	-	-	-	-	0730	6	0	0	0
0745	122	2	38	1	38	0	70	1	72	4	72	5	0745	-	-	-	-	-	-	-	-	-	-	-	-	0745	4	0	2	0
0800	101	6	53	1	42	0	54	1	80	4	96	7	0800	92	8	47	2	42	1	97	4	89	3	76	7	0800	11	0	0	0
0815	94	3	51	2	38	1	87	1	75	3	69	5	0815	123	3	57	0	46	1	83	1	73	5	66	11	0815	6	0	1	0
0830	113	5	50	3	41	1	75	1	79	2	79	4	0830	120	7	54	1	32	0	90	2	87	4	70	5	0830	9	0	1	0
0845	87	5	48	2	43	2	79	1	92	4	73	4	0845	93	8	29	1	46	1	98	4	90	2	75	4	0845	11	0	0	0
0900	57	11	53	0	43	0	45	1	66	3	71	5	0900	-	-	-	-	-	-	-	-	-	-	-	-	0900	1	0	1	0
0915	46	5	46	1	39	2	29	1	57	3	49	1	0915	-	-	-	-	-	-	-	-	-	-	-	-	0915	0	0	0	0
0930	43	6	51	0	44	2	33	5	37	4	54	2	0930	-	-	-	-	-	-	-	-	-	-	-	-	0930	1	0	0	0
0945	34	3	43	2	43	2	29	2	29	2	45	1	0945	-	-	-	-	-	-	-	-	-	-	-	-	0945	0	0	0	0
Time Beginning	B5194 Knowsley Lane/B5194 Stockbridge Lane - Wednesday 12th Februry 2025												Time Beginning	B5194 Knowsley Lane/B5194 Stockbridge Lane - Tuesday 11th March 2025												Time Beginning	Tuesday 11th March 2025			
	55				56				57					58				59				60					Rat-run 57	Rat-run 58		
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV		LV	HV	LV	HV	LV	HV	LV	HV	LV	HV							
1600	73	4	89	1	37	0	40	2	88	1	73	2	1600	-	-	-	-	-	-	-	-	-	-	-	-	1600	-	-	-	-
1615	68	0	68	1	48	0	53	2	77	2	73	4	1615	-	-	-	-	-	-	-	-	-	-	-	-	1615	-	-	-	-
1630	80	0	54	1	42	1	61	2	89	3	87	4	1630	88	3	59	3	55	0	73	1	77	1	86	5	1630	8	0	1	0
1645	66	2	69	2	45	0	56	1	94	2	119	4	1645	62	4	75	3	35	1	65	1	96	2	86	1	1645	3	0	0	0
1700	59	2	84	0	38	1	49	0	102	0	106	2	1700	65	1	61	0	51	1	64	1	93	3	104	3	1700	7	0	2	0
1715	79	0	73	0	42	1	50	2	82	2	103	2	1715	57	2	85	1	36	0	71	1	118	1	103	1	1715	10	0	3	0
1730	69	0	80	0	41	2	43	1	82	3	78	1	1730	-	-	-	-	-	-	-	-	-	-	-	-	1730	4	0	2	0
1745	70	0	75	1	27	2	42	2	71	0	57	0	1745	-	-	-	-	-	-	-	-	-	-	-	-	1745	5	0	0	0
1800	50	2	54	0	43	1	39	0	64	1	58	0	1800	-	-	-	-	-	-	-	-	-	-	-	-	1800	2	0	0	0
1815	46	0	84	0	43	0	23	1	46	2	54	0	1815	-	-	-	-	-	-	-	-	-	-	-	-	1815	1	0	0	0
1830	36	0	60	1	35	1	35	0	43	0	31	1	1830	-	-	-	-	-	-	-	-	-	-	-	-	1830	2	0	0	0
1845	35	0	43	2	30	1	28	0	36	1	32	0	1845	-	-	-	-	-	-	-	-	-	-	-	-	1845	0	0	0	0

Time Beginning	B5194 Stockbridge Lane/A526 Seth Powell Way/Waterpark Drive/M57 J3 - Wednesday 12th February 2025																							
	61		62		63		64		65		66		67		68		69		70		71		72	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	12	0	45	2	24	1	25	1	89	4	18	0	18	1	51	3	48	0	36	0	54	4	4	0
0715	14	0	46	3	52	2	25	2	126	3	7	1	20	0	65	8	57	1	32	1	117	1	6	2
0730	19	1	69	1	64	0	36	0	157	3	20	0	11	0	83	2	74	1	43	2	116	5	8	0
0745	11	0	64	2	54	2	46	0	165	4	31	2	38	0	75	2	80	1	65	1	116	1	8	1
0800	19	0	103	4	64	0	20	0	149	3	21	0	37	2	101	0	80	2	71	2	119	0	17	0
0815	19	0	89	4	47	2	50	0	131	3	46	2	27	1	85	1	76	0	61	4	103	5	23	0
0830	15	0	118	2	40	0	44	0	128	4	42	3	40	0	96	2	63	2	52	0	131	7	14	0
0845	20	0	84	1	53	2	47	0	106	4	58	0	41	0	123	0	54	0	63	3	89	4	17	1
0900	19	0	74	2	44	2	24	1	107	1	39	2	44	0	65	2	57	3	51	0	96	3	18	1
0915	11	0	63	1	41	0	15	0	103	3	33	5	24	0	57	1	30	2	40	1	105	2	8	0
0930	7	1	67	1	27	1	22	2	78	4	23	0	22	0	54	5	36	4	33	2	70	3	7	0
0945	6	1	47	1	19	0	19	0	51	3	27	0	21	1	57	5	24	0	20	0	64	3	7	0

Time Beginning	B5194 Stockbridge Lane/A526 Seth Powell Way/Waterpark Drive/M57 J3 - Wednesday 12th February 2025																							
	61		62		63		64		65		66		67		68		69		70		71		72	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	11	1	103	4	45	0	32	0	130	3	43	0	42	0	72	2	63	4	77	0	102	2	24	2
1615	16	0	109	2	51	2	38	3	109	2	51	0	31	0	85	0	47	1	72	1	128	2	28	0
1630	15	2	98	2	50	0	46	1	147	2	41	0	26	1	105	3	60	0	82	3	90	2	19	1
1645	12	0	108	2	47	0	47	2	136	4	44	0	34	0	94	1	44	1	75	1	100	1	18	0
1700	14	0	121	0	64	0	28	0	127	0	35	0	44	1	90	3	38	1	78	0	136	1	16	0
1715	10	0	111	2	47	0	43	0	117	0	55	0	43	1	77	2	46	0	82	0	97	1	24	0
1730	11	1	103	3	52	0	35	0	107	0	50	0	26	0	62	2	35	0	69	2	95	3	17	1
1745	8	0	100	1	52	0	39	0	98	1	46	0	23	0	48	3	41	0	55	0	103	1	15	0
1800	12	1	85	0	40	0	30	0	94	1	33	0	37	0	71	0	36	0	62	1	106	0	17	0
1815	10	0	100	1	40	1	24	1	78	0	44	0	24	0	53	2	28	0	45	0	93	1	22	0
1830	9	0	86	0	29	0	29	0	67	1	31	0	18	0	51	0	36	1	43	1	78	0	15	0
1845	9	0	54	2	32	0	32	0	71	0	34	0	29	0	50	1	24	0	26	0	68	0	12	0

Time Beginning	George Hale Avenue/B5194 Knowsley Lane/Primrose Drive - Tuesday 11th March 2025																							
	73		74		75		76		77		78		79		80		81		82		83		84	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	1	0	2	0	0	0	2	0	40	4	8	0	22	0	0	0	25	1	10	1	74	2	0	0
0715	1	0	0	0	2	0	6	0	80	4	15	0	14	0	0	0	48	0	16	0	90	7	0	0
0730	0	0	0	0	0	0	0	0	80	3	16	0	25	0	0	0	57	2	22	4	105	3	0	0
0745	0	0	0	0	1	0	3	1	113	5	11	0	28	0	5	0	70	2	28	0	84	6	3	0
0800	0	0	1	0	2	0	5	0	104	7	17	0	27	0	0	0	38	1	29	1	114	3	0	0
0815	0	0	0	0	1	0	0	0	128	2	21	0	32	1	3	0	57	2	22	3	83	9	1	0
0830	0	0	1	0	0	0	2	0	99	5	16	0	37	0	1	0	44	3	41	3	107	4	1	0
0845	1	0	3	0	2	0	1	0	75	6	33	0	36	2	2	0	48	2	25	1	113	4	3	0
0900	0	0	0	0	3	0	3	1	107	6	14	1	25	0	0	0	23	3	16	3	84	3	2	0
0915	0	0	1	0	2	0	1	0	64	8	10	0	12	1	5	0	23	4	16	0	80	3	1	0
0930	0	0	1	0	0	0	1	0	66	5	13	0	13	0	0	0	21	2	14	0	60	4	0	0
0945	0	0	0	0	1	0	0	0	47	7	16	0	16	0	1	0	13	1	11	0	68	7	2	1

Time Beginning	George Hale Avenue/B5194 Knowsley Lane/Primrose Drive - Tuesday 11th March 2025																							
	73		74		75		76		77		78		79		80		81		82		83		84	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	0	0	0	0	1	0	2	0	125	9	23	2	28	0	1	0	38	1	32	2	83	2	0	0
1615	0	0	2	0	3	0	0	0	122	6	15	0	19	0	0	0	29	0	33	2	103	3	1	0
1630	0	0	2	0	3	0	2	0	135	4	20	0	15	0	0	0	41	2	37	3	131	2	0	0
1645	0	0	0	0	1	0	2	0	114	6	30	0	19	0	0	0	28	0	42	0	120	4	0	0
1700	0	0	1	0	1	0	1	0	117	2	21	0	18	0	0	0	27	0	44	1	107	2	1	0
1715	0	0	0	0	5	0	2	0	137	1	14	0	18	0	2	0	38	1	45	1	107	1	1	0
1730	1	0	3	0	4	0	1	0	175	1	22	0	24	0	0	0	31	1	25	0	76	5	0	0
1745	0	0	1	0	2	0	1	0	163	2	12	0	21	0	2	0	22	1	31	2	91	1	1	0
1800	2	0	2	0	1	0	0	0	136	1	22	0	16	0	1	0	26	0	20	0	72	0	1	0
1815	1	0	0	0	1	0	1	0	155	1	15	0	22	0	2	0	20	0	17	0	57	3	0	0
1830	1	0	1	0	2	0	0	0	134	1	20	1	10	0	1	0	15	0	17	0	80	0	0	0
1845	1	0	2	0	2	0	3	0	105	1	24	0	13	0	0	0	13	0	13	0	43	0	1	0

Appendix J

TRICS Output Files - Residential Dwellings



Calculation Reference: AUDIT-725101-250403-0437

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	KC KENT	2 days
	WS WEST SUSSEX	3 days
03	SOUTH WEST	
	DC DORSET	1 days
04	EAST ANGLIA	
	NF NORFOLK	4 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	1 days
09	NORTH	
	IM ISLE OF MAN	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:

No of Dwellings

Actual Range:

106 to 918 (units:)

Range Selected by User:

100 to 1817 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 28/06/24

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday

5 days

Wednesday

3 days

Thursday

4 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count

12 days

Directional ATC Count

0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town 12

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone

10

Village

1

No Sub Category

1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included

8 days - Selected

Servicing vehicles Excluded

32 days - Selected

Secondary Filtering selection:

Use Class:

C3 12 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	4 days
15,001 to 20,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	4 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	5 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	10 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	9 days
No	3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	12 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DC-03-A-11 A350 SHAFTESBURY	MIXED HOUSES		DORSET
	Edge of Town No Sub Category Total No of Dwellings:		141	
	Survey date: TUESDAY		31/10/23	Survey Type: MANUAL
2	IM-03-A-06 MOORAGH PROMENADE RAMSEY	MIXED HOUSES		ISLE OF MAN
	Edge of Town Residential Zone Total No of Dwellings:		129	
	Survey date: THURSDAY		23/05/24	Survey Type: MANUAL
3	KC-03-A-07 RECULVER ROAD HERNE BAY	MIXED HOUSES		KENT
	Edge of Town Residential Zone Total No of Dwellings:		288	
	Survey date: WEDNESDAY		27/09/17	Survey Type: MANUAL
4	KC-03-A-12 WESTERN LINK FAVERSHAM DAVINGTON	MIXED HOUSES & FLATS		KENT
	Edge of Town Residential Zone Total No of Dwellings:		186	
	Survey date: TUESDAY		19/09/23	Survey Type: MANUAL
5	NF-03-A-30 BRANDON ROAD SWAFFHAM	MIXED HOUSES		NORFOLK
	Edge of Town Residential Zone Total No of Dwellings:		266	
	Survey date: THURSDAY		23/09/21	Survey Type: MANUAL
6	NF-03-A-33 LONDON ROAD ATTLEBOROUGH	MIXED HOUSES		NORFOLK
	Edge of Town Residential Zone Total No of Dwellings:		143	
	Survey date: THURSDAY		29/09/22	Survey Type: MANUAL
7	NF-03-A-38 BEAUFORT WAY GREAT YARMOUTH BRADWELL	MIXED HOUSES		NORFOLK
	Edge of Town Residential Zone Total No of Dwellings:		537	
	Survey date: TUESDAY		20/09/22	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	NF-03-A-39 HEATH DRIVE HOLT	MIXED HOUSES	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings: 212 Survey date: TUESDAY 27/09/22		Survey Type: MANUAL
9	ST-03-A-07 BEACONSIDE STAFFORD MARSTON GATE	DETACHED & SEMI-DETACHED	STAFFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 248 Survey date: WEDNESDAY 22/11/17		Survey Type: MANUAL
10	WS-03-A-11 ELLIS ROAD WEST HORSHAM S BROADBRIDGE HEATH	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 918 Survey date: TUESDAY 02/04/19		Survey Type: MANUAL
11	WS-03-A-14 TODDINGTON LANE LITTLEHAMPTON WICK	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 117 Survey date: WEDNESDAY 20/10/21		Survey Type: MANUAL
12	WS-03-A-24 MADGWICK LANE CHICHESTER WESTHAMPNETT	MIXED HOUSES	WEST SUSSEX
	Edge of Town Village Total No of Dwellings: 300 Survey date: THURSDAY 23/05/24		Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
AS-03-A-02	20/04/22	Public Transport Accessibility Unrepresentative
ES-03-A-10	28/09/23	Development Mix Unrepresentative
HC-03-A-38	26/06/24	Development Mix Unrepresentative
HF-03-A-06	28/11/23	Development Mix Unrepresentative
KC-03-A-10	09/05/23	Public Transport Accessibility Unrepresentative
NF-03-A-46	14/09/21	Development Mix Unrepresentative
SC-03-A-12	12/06/24	Public Transport Accessibility Unrepresentative
WS-03-A-22	19/03/24	Development Mix Unrepresentative
WS-03-A-23	14/05/24	Public Transport Accessibility Unrepresentative

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.70

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.077	12	290	0.282	12	290	0.359
08:00 - 09:00	12	290	0.150	12	290	0.392	12	290	0.542
09:00 - 10:00	12	290	0.137	12	290	0.154	12	290	0.291
10:00 - 11:00	12	290	0.114	12	290	0.132	12	290	0.246
11:00 - 12:00	12	290	0.123	12	290	0.134	12	290	0.257
12:00 - 13:00	12	290	0.155	12	290	0.132	12	290	0.287
13:00 - 14:00	12	290	0.140	12	290	0.143	12	290	0.283
14:00 - 15:00	12	290	0.153	12	290	0.174	12	290	0.327
15:00 - 16:00	12	290	0.267	12	290	0.179	12	290	0.446
16:00 - 17:00	12	290	0.279	12	290	0.166	12	290	0.445
17:00 - 18:00	12	290	0.362	12	290	0.170	12	290	0.532
18:00 - 19:00	12	290	0.296	12	290	0.161	12	290	0.457
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.253			2.219			4.472

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected: 106 - 918 (units:)
 Survey date date range: 01/01/16 - 28/06/24
 Number of weekdays (Monday-Friday): 21
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 13
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TAXIS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.001	12	290	0.002	12	290	0.003
08:00 - 09:00	12	290	0.002	12	290	0.002	12	290	0.004
09:00 - 10:00	12	290	0.002	12	290	0.002	12	290	0.004
10:00 - 11:00	12	290	0.001	12	290	0.001	12	290	0.002
11:00 - 12:00	12	290	0.001	12	290	0.001	12	290	0.002
12:00 - 13:00	12	290	0.001	12	290	0.001	12	290	0.002
13:00 - 14:00	12	290	0.001	12	290	0.001	12	290	0.002
14:00 - 15:00	12	290	0.001	12	290	0.001	12	290	0.002
15:00 - 16:00	12	290	0.003	12	290	0.003	12	290	0.006
16:00 - 17:00	12	290	0.002	12	290	0.001	12	290	0.003
17:00 - 18:00	12	290	0.001	12	290	0.002	12	290	0.003
18:00 - 19:00	12	290	0.001	12	290	0.001	12	290	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.017			0.018			0.035

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL OGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.001	12	290	0.001	12	290	0.002
08:00 - 09:00	12	290	0.000	12	290	0.000	12	290	0.000
09:00 - 10:00	12	290	0.002	12	290	0.001	12	290	0.003
10:00 - 11:00	12	290	0.002	12	290	0.001	12	290	0.003
11:00 - 12:00	12	290	0.002	12	290	0.003	12	290	0.005
12:00 - 13:00	12	290	0.001	12	290	0.002	12	290	0.003
13:00 - 14:00	12	290	0.002	12	290	0.001	12	290	0.003
14:00 - 15:00	12	290	0.000	12	290	0.001	12	290	0.001
15:00 - 16:00	12	290	0.002	12	290	0.002	12	290	0.004
16:00 - 17:00	12	290	0.001	12	290	0.001	12	290	0.002
17:00 - 18:00	12	290	0.001	12	290	0.000	12	290	0.001
18:00 - 19:00	12	290	0.000	12	290	0.000	12	290	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.014			0.013			0.027

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PSVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.000	12	290	0.000	12	290	0.000
08:00 - 09:00	12	290	0.001	12	290	0.001	12	290	0.002
09:00 - 10:00	12	290	0.000	12	290	0.000	12	290	0.000
10:00 - 11:00	12	290	0.000	12	290	0.000	12	290	0.000
11:00 - 12:00	12	290	0.000	12	290	0.000	12	290	0.000
12:00 - 13:00	12	290	0.000	12	290	0.000	12	290	0.000
13:00 - 14:00	12	290	0.000	12	290	0.000	12	290	0.000
14:00 - 15:00	12	290	0.000	12	290	0.000	12	290	0.000
15:00 - 16:00	12	290	0.001	12	290	0.001	12	290	0.002
16:00 - 17:00	12	290	0.000	12	290	0.000	12	290	0.000
17:00 - 18:00	12	290	0.000	12	290	0.000	12	290	0.000
18:00 - 19:00	12	290	0.000	12	290	0.000	12	290	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.002			0.004

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.003	12	290	0.009	12	290	0.012
08:00 - 09:00	12	290	0.003	12	290	0.013	12	290	0.016
09:00 - 10:00	12	290	0.001	12	290	0.002	12	290	0.003
10:00 - 11:00	12	290	0.002	12	290	0.002	12	290	0.004
11:00 - 12:00	12	290	0.001	12	290	0.003	12	290	0.004
12:00 - 13:00	12	290	0.002	12	290	0.001	12	290	0.003
13:00 - 14:00	12	290	0.002	12	290	0.002	12	290	0.004
14:00 - 15:00	12	290	0.005	12	290	0.001	12	290	0.006
15:00 - 16:00	12	290	0.011	12	290	0.004	12	290	0.015
16:00 - 17:00	12	290	0.009	12	290	0.007	12	290	0.016
17:00 - 18:00	12	290	0.009	12	290	0.008	12	290	0.017
18:00 - 19:00	12	290	0.009	12	290	0.007	12	290	0.016
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.057			0.059			0.116

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Licence No: 725101

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.094	12	290	0.397	12	290	0.491
08:00 - 09:00	12	290	0.187	12	290	0.663	12	290	0.850
09:00 - 10:00	12	290	0.169	12	290	0.204	12	290	0.373
10:00 - 11:00	12	290	0.148	12	290	0.180	12	290	0.328
11:00 - 12:00	12	290	0.160	12	290	0.181	12	290	0.341
12:00 - 13:00	12	290	0.202	12	290	0.177	12	290	0.379
13:00 - 14:00	12	290	0.191	12	290	0.186	12	290	0.377
14:00 - 15:00	12	290	0.212	12	290	0.227	12	290	0.439
15:00 - 16:00	12	290	0.474	12	290	0.242	12	290	0.716
16:00 - 17:00	12	290	0.439	12	290	0.241	12	290	0.680
17:00 - 18:00	12	290	0.538	12	290	0.237	12	290	0.775
18:00 - 19:00	12	290	0.436	12	290	0.251	12	290	0.687
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.250			3.186			6.436

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.014	12	290	0.044	12	290	0.058
08:00 - 09:00	12	290	0.042	12	290	0.131	12	290	0.173
09:00 - 10:00	12	290	0.024	12	290	0.018	12	290	0.042
10:00 - 11:00	12	290	0.017	12	290	0.016	12	290	0.033
11:00 - 12:00	12	290	0.018	12	290	0.017	12	290	0.035
12:00 - 13:00	12	290	0.026	12	290	0.015	12	290	0.041
13:00 - 14:00	12	290	0.018	12	290	0.020	12	290	0.038
14:00 - 15:00	12	290	0.029	12	290	0.035	12	290	0.064
15:00 - 16:00	12	290	0.114	12	290	0.039	12	290	0.153
16:00 - 17:00	12	290	0.051	12	290	0.031	12	290	0.082
17:00 - 18:00	12	290	0.045	12	290	0.045	12	290	0.090
18:00 - 19:00	12	290	0.051	12	290	0.045	12	290	0.096
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.449			0.456			0.905

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.001	12	290	0.015	12	290	0.016
08:00 - 09:00	12	290	0.000	12	290	0.012	12	290	0.012
09:00 - 10:00	12	290	0.001	12	290	0.003	12	290	0.004
10:00 - 11:00	12	290	0.001	12	290	0.003	12	290	0.004
11:00 - 12:00	12	290	0.001	12	290	0.003	12	290	0.004
12:00 - 13:00	12	290	0.001	12	290	0.003	12	290	0.004
13:00 - 14:00	12	290	0.002	12	290	0.001	12	290	0.003
14:00 - 15:00	12	290	0.003	12	290	0.003	12	290	0.006
15:00 - 16:00	12	290	0.013	12	290	0.004	12	290	0.017
16:00 - 17:00	12	290	0.008	12	290	0.002	12	290	0.010
17:00 - 18:00	12	290	0.007	12	290	0.001	12	290	0.008
18:00 - 19:00	12	290	0.012	12	290	0.003	12	290	0.015
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.050			0.053			0.103

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL RAIL PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.000	12	290	0.003	12	290	0.003
08:00 - 09:00	12	290	0.000	12	290	0.005	12	290	0.005
09:00 - 10:00	12	290	0.000	12	290	0.002	12	290	0.002
10:00 - 11:00	12	290	0.000	12	290	0.001	12	290	0.001
11:00 - 12:00	12	290	0.000	12	290	0.000	12	290	0.000
12:00 - 13:00	12	290	0.000	12	290	0.000	12	290	0.000
13:00 - 14:00	12	290	0.000	12	290	0.000	12	290	0.000
14:00 - 15:00	12	290	0.001	12	290	0.000	12	290	0.001
15:00 - 16:00	12	290	0.003	12	290	0.001	12	290	0.004
16:00 - 17:00	12	290	0.002	12	290	0.000	12	290	0.002
17:00 - 18:00	12	290	0.002	12	290	0.000	12	290	0.002
18:00 - 19:00	12	290	0.002	12	290	0.001	12	290	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.013			0.023

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL COACH PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.000	12	290	0.000	12	290	0.000
08:00 - 09:00	12	290	0.000	12	290	0.003	12	290	0.003
09:00 - 10:00	12	290	0.000	12	290	0.000	12	290	0.000
10:00 - 11:00	12	290	0.000	12	290	0.000	12	290	0.000
11:00 - 12:00	12	290	0.000	12	290	0.000	12	290	0.000
12:00 - 13:00	12	290	0.000	12	290	0.000	12	290	0.000
13:00 - 14:00	12	290	0.000	12	290	0.000	12	290	0.000
14:00 - 15:00	12	290	0.000	12	290	0.000	12	290	0.000
15:00 - 16:00	12	290	0.003	12	290	0.000	12	290	0.003
16:00 - 17:00	12	290	0.000	12	290	0.000	12	290	0.000
17:00 - 18:00	12	290	0.000	12	290	0.000	12	290	0.000
18:00 - 19:00	12	290	0.000	12	290	0.000	12	290	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.003			0.003			0.006

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.001	12	290	0.018	12	290	0.019
08:00 - 09:00	12	290	0.000	12	290	0.020	12	290	0.020
09:00 - 10:00	12	290	0.001	12	290	0.005	12	290	0.006
10:00 - 11:00	12	290	0.001	12	290	0.003	12	290	0.004
11:00 - 12:00	12	290	0.001	12	290	0.003	12	290	0.004
12:00 - 13:00	12	290	0.001	12	290	0.003	12	290	0.004
13:00 - 14:00	12	290	0.003	12	290	0.001	12	290	0.004
14:00 - 15:00	12	290	0.004	12	290	0.003	12	290	0.007
15:00 - 16:00	12	290	0.019	12	290	0.004	12	290	0.023
16:00 - 17:00	12	290	0.010	12	290	0.002	12	290	0.012
17:00 - 18:00	12	290	0.008	12	290	0.001	12	290	0.009
18:00 - 19:00	12	290	0.015	12	290	0.003	12	290	0.018
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.064			0.066			0.130

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

Astute Transport Planning The Express Building Manchester

Licence No: 725101

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.70

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.112	12	290	0.469	12	290	0.581
08:00 - 09:00	12	290	0.231	12	290	0.827	12	290	1.058
09:00 - 10:00	12	290	0.195	12	290	0.230	12	290	0.425
10:00 - 11:00	12	290	0.168	12	290	0.201	12	290	0.369
11:00 - 12:00	12	290	0.180	12	290	0.204	12	290	0.384
12:00 - 13:00	12	290	0.232	12	290	0.197	12	290	0.429
13:00 - 14:00	12	290	0.213	12	290	0.209	12	290	0.422
14:00 - 15:00	12	290	0.249	12	290	0.267	12	290	0.516
15:00 - 16:00	12	290	0.617	12	290	0.290	12	290	0.907
16:00 - 17:00	12	290	0.509	12	290	0.282	12	290	0.791
17:00 - 18:00	12	290	0.601	12	290	0.292	12	290	0.893
18:00 - 19:00	12	290	0.512	12	290	0.306	12	290	0.818
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.819			3.774			7.593

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CARS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.065	12	290	0.251	12	290	0.316
08:00 - 09:00	12	290	0.131	12	290	0.363	12	290	0.494
09:00 - 10:00	12	290	0.110	12	290	0.131	12	290	0.241
10:00 - 11:00	12	290	0.087	12	290	0.107	12	290	0.194
11:00 - 12:00	12	290	0.095	12	290	0.108	12	290	0.203
12:00 - 13:00	12	290	0.129	12	290	0.109	12	290	0.238
13:00 - 14:00	12	290	0.118	12	290	0.116	12	290	0.234
14:00 - 15:00	12	290	0.133	12	290	0.147	12	290	0.280
15:00 - 16:00	12	290	0.244	12	290	0.154	12	290	0.398
16:00 - 17:00	12	290	0.246	12	290	0.145	12	290	0.391
17:00 - 18:00	12	290	0.330	12	290	0.156	12	290	0.486
18:00 - 19:00	12	290	0.276	12	290	0.147	12	290	0.423
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.964			1.934			3.898

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL LGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.011	12	290	0.028	12	290	0.039
08:00 - 09:00	12	290	0.015	12	290	0.023	12	290	0.038
09:00 - 10:00	12	290	0.023	12	290	0.021	12	290	0.044
10:00 - 11:00	12	290	0.024	12	290	0.022	12	290	0.046
11:00 - 12:00	12	290	0.024	12	290	0.022	12	290	0.046
12:00 - 13:00	12	290	0.022	12	290	0.018	12	290	0.040
13:00 - 14:00	12	290	0.019	12	290	0.024	12	290	0.043
14:00 - 15:00	12	290	0.018	12	290	0.024	12	290	0.042
15:00 - 16:00	12	290	0.017	12	290	0.018	12	290	0.035
16:00 - 17:00	12	290	0.028	12	290	0.018	12	290	0.046
17:00 - 18:00	12	290	0.028	12	290	0.011	12	290	0.039
18:00 - 19:00	12	290	0.018	12	290	0.011	12	290	0.029
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.247			0.240			0.487

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL MOTOR CYCLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	290	0.000	12	290	0.001	12	290	0.001
08:00 - 09:00	12	290	0.000	12	290	0.002	12	290	0.002
09:00 - 10:00	12	290	0.000	12	290	0.000	12	290	0.000
10:00 - 11:00	12	290	0.000	12	290	0.000	12	290	0.000
11:00 - 12:00	12	290	0.000	12	290	0.001	12	290	0.001
12:00 - 13:00	12	290	0.001	12	290	0.001	12	290	0.002
13:00 - 14:00	12	290	0.000	12	290	0.001	12	290	0.001
14:00 - 15:00	12	290	0.001	12	290	0.001	12	290	0.002
15:00 - 16:00	12	290	0.001	12	290	0.001	12	290	0.002
16:00 - 17:00	12	290	0.003	12	290	0.001	12	290	0.004
17:00 - 18:00	12	290	0.001	12	290	0.001	12	290	0.002
18:00 - 19:00	12	290	0.002	12	290	0.001	12	290	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.011			0.020

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

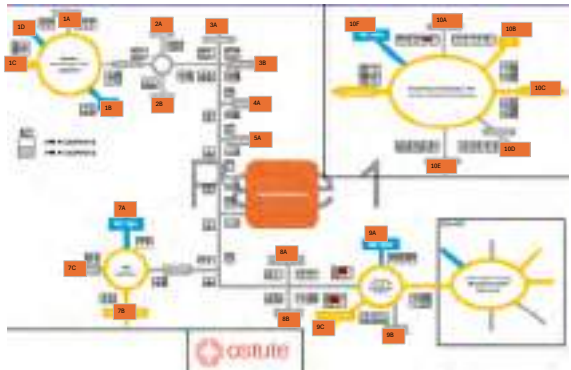
Appendix K

Employment Distribution Calculations



Geographic	No.	Arrivals	Departures	Adjusted acc 005 Arr %	Inc 005 Dep %	Dep %
North Tyndale	2 SA	10F	10F	0.1%	0.1%	0.1%
North	2 SA	10F	10F	2.1%	2.7%	2.7%
Blackburn with Darwen	1 SA	10F	10F	0.1%	0.1%	0.1%
Blackpool	10 SA	3A	3A	0.4%	0.4%	0.3%
Cheshire East	10F	10F	10F	0.2%	0.2%	0.2%
Copeland	2 SA	3A	3A	0.1%	0.1%	0.1%
Eden	3 SA	10F	10F	0.2%	0.2%	0.2%
Cheshire	5 SA	3A	3A	0.2%	0.2%	0.2%
Fylde	2 SA	3A	3A	0.1%	0.1%	0.1%
Lancaster	1 SA	3A	3A	0.0%	0.0%	0.0%
Pendle	1 SA	3A	3A	0.0%	0.0%	0.0%
Preston	3 SA	3A	3A	0.1%	0.1%	0.1%
South Ribbles	6 SA	3A	3A	0.2%	0.2%	0.2%
Bolton	1 SA	10F	10F	0.1%	0.1%	0.1%
Bury	1 SA	10F	10F	0.0%	0.0%	0.0%
Manchester	22 SA	10F	10F	0.0%	0.0%	0.0%
Oldham	1 SA	10F	10F	0.0%	0.0%	0.0%
Rochdale	1 SA	10F	10F	0.1%	0.1%	0.1%
Salford	12 SA	10F	10F	0.0%	0.0%	0.0%
Stockport	2 SA	10F	10F	0.1%	0.1%	0.1%
Tameside	1 SA	10F	10F	0.0%	0.0%	0.0%
Trafford	5 SA	10F	10F	0.2%	0.2%	0.2%
Wigan	2 SA	3A	3A	1.2%	1.2%	0.8%
East Riding of Yorkshire	1 SA	10F	10F	0.0%	0.0%	0.0%
Hambleton	1 SA	10F	10F	0.0%	0.0%	0.0%
Selby	10F	10F	10F	0.1%	0.1%	0.1%
Sheffield	4 SA	10F	10F	0.2%	0.2%	0.1%
Bradford	1 SA	10F	10F	0.0%	0.0%	0.0%
Kirklees	1 SA	10F	10F	0.0%	0.0%	0.0%
Leeds	12 SA	10F	10F	0.0%	0.0%	0.0%
Wakefield	1 SA	10F	10F	0.0%	0.0%	0.0%
Derby	1 SA	10F	10F	0.0%	0.0%	0.0%
Leicestershire	1 SA	10F	10F	0.1%	0.1%	0.1%
Derbyshire Dales	1 SA	10F	10F	0.0%	0.0%	0.0%
Charnwood	1 SA	10F	10F	0.0%	0.0%	0.0%
Hickmilly and Bowth	4 SA	10F	10F	0.2%	0.2%	0.1%
East Lindsey	2 SA	10F	10F	0.1%	0.1%	0.1%
Manorfield	3 SA	10F	10F	0.1%	0.1%	0.1%
Shropshire	1 SA	10F	10F	0.0%	0.0%	0.0%
Newcastle-under-Lyme	1 SA	10F	10F	0.0%	0.0%	0.0%
Stafford	2 SA	10F	10F	0.1%	0.1%	0.1%
Staffordshire Moorlands	1 SA	10F	10F	0.0%	0.0%	0.0%
Tamworth	1 SA	10F	10F	0.0%	0.0%	0.0%
Rugby	1 SA	10F	10F	0.0%	0.0%	0.0%
Warwick	1 SA	10F	10F	0.0%	0.0%	0.0%
Birmingham	3 SA	10F	10F	0.1%	0.1%	0.1%
Coventry	1 SA	10F	10F	0.0%	0.0%	0.0%
Poletonrough	2 SA	10F	10F	0.1%	0.1%	0.1%
Luton	1 SA	10F	10F	0.0%	0.0%	0.0%
South Cambridgeshire	1 SA	10F	10F	0.0%	0.0%	0.0%
Basildon	1 SA	10F	10F	0.0%	0.0%	0.0%
Harlow	1 SA	10F	10F	0.0%	0.0%	0.0%
Sterling	2 SA	10F	10F	0.1%	0.1%	0.1%
Three Rivers	2 SA	10F	10F	0.1%	0.1%	0.1%
Waltham	1 SA	10F	10F	0.0%	0.0%	0.0%
North Norfolk	2 SA	10F	10F	0.1%	0.1%	0.1%
Canterbury	3 SA	10F	10F	0.1%	0.1%	0.1%
Hillingdon	1 SA	10F	10F	0.0%	0.0%	0.0%
Uxbridge	2 SA	10F	10F	0.1%	0.1%	0.1%
Richmond upon Thames	1 SA	10F	10F	0.0%	0.0%	0.0%
Sutton	1 SA	10F	10F	0.0%	0.0%	0.0%
Westminster City of London	3 SA	10F	10F	0.1%	0.1%	0.1%
Midway	1 SA	10F	10F	0.0%	0.0%	0.0%
Bracknell Forest	1 SA	10F	10F	0.0%	0.0%	0.0%
Isle of Wight	1 SA	10F	10F	0.0%	0.0%	0.0%
Chichester	1 SA	10F	10F	0.0%	0.0%	0.0%
East Hampshire	1 SA	10F	10F	0.0%	0.0%	0.0%
Bournemouth	1 SA	10F	10F	0.0%	0.0%	0.0%
Mid Dorset	1 SA	10F	10F	0.0%	0.0%	0.0%
Devon	1 SA	10F	10F	0.0%	0.0%	0.0%
Rumney	1 SA	10F	10F	0.0%	0.0%	0.0%
Cornwall	1 SA	10F	10F	0.0%	0.0%	0.0%
Cornwall Isles of Scilly	1 SA	10F	10F	0.1%	0.1%	0.1%
Wiltshire	1 SA	10F	10F	0.0%	0.0%	0.0%
Plymouth	2 SA	10F	10F	0.1%	0.1%	0.1%
Cheltenham	1 SA	10F	10F	0.0%	0.0%	0.0%
Tewkesbury	1 SA	10F	10F	0.0%	0.0%	0.0%
Isle of Angelsey	1 SA	10F	10F	0.0%	0.0%	0.0%
Conwy	1 SA	10F	10F	0.0%	0.0%	0.0%
Denbighshire	2 SA	10F	10F	0.1%	0.1%	0.1%
Flintshire	10 SA	10F	10F	0.4%	0.4%	0.3%
Wrexham	1 SA	10F	10F	0.0%	0.0%	0.0%
Swansea	1 SA	10F	10F	0.0%	0.0%	0.0%
Bridgend	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200803 Cheshire West and Chester 034	5 SA	10F	10F	0.2%	0.2%	0.2%
EO200804 Cheshire West and Chester 040	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200805 Cheshire West and Chester 007	12 SA	10F	10F	0.3%	0.3%	0.4%
EO200806 Cheshire West and Chester 011	2 SA	10F	10F	0.1%	0.1%	0.1%
EO200807 Cheshire West and Chester 003	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200808 Cheshire West and Chester 017	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200809 Cheshire West and Chester 037	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200901 Warrington 002	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200902 Warrington 004	7 SA	10F	10F	0.2%	0.2%	0.2%
EO200903 Warrington 005	1 SA	10F	10F	0.1%	0.1%	0.1%
EO200904 Warrington 006	8 SA	10F	10F	0.2%	0.2%	0.2%
EO200905 Warrington 008	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200906 Warrington 009	7 SA	10F	10F	0.2%	0.2%	0.2%
EO200907 Warrington 010	2 SA	10F	10F	0.0%	0.0%	0.0%
EO200908 Warrington 012	3 SA	10F	10F	0.1%	0.1%	0.1%
EO200909 Warrington 013	6 SA	10F	10F	0.2%	0.2%	0.2%
EO200910 Warrington 014	1 SA	10F	10F	0.1%	0.1%	0.1%
EO200911 Warrington 015	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200912 Warrington 017	1 SA	10F	10F	0.0%	0.0%	0.0%
EO200913 Warrington 018	12 SA	10F	10F	0.5%	0.5%	0.4%
EO200914 Warrington 019	1 SA	10F	10F	0.1%	0.1%	0.1%
EO200915 Warrington 024	3 SA	10F	10F	0.1%	0.1%	0.1%
EO200916 Wigan 008	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200917 Wigan 008	1 SA	3A	3A	0.1%	0.1%	0.1%
EO200918 Wigan 009	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200919 Wigan 010	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200920 Wigan 011	2 SA	3A	3A	0.1%	0.1%	0.1%
EO200921 Wigan 012	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200922 Wigan 015	4 SA	3A	3A	0.2%	0.2%	0.1%
EO200923 Wigan 020	2 SA	3A	3A	0.1%	0.1%	0.1%
EO200924 Wigan 029	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200925 Wigan 030	3 SA	3A	3A	0.1%	0.1%	0.1%
EO200926 Wigan 031	2 SA	3A	3A	0.1%	0.1%	0.1%
EO200927 Wigan 032	3 SA	3A	3A	0.1%	0.1%	0.1%
EO200928 Wigan 038	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200929 Wigan 039	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200930 West Lancashire 002	2 SA	1A	1A	0.1%	0.1%	0.1%
EO200931 West Lancashire 003	1 SA	1A	1A	0.0%	0.0%	0.0%
EO200932 West Lancashire 004	3 SA	1A	1A	0.1%	0.1%	0.1%
EO200933 West Lancashire 006	1 SA	1A	1A	0.0%	0.0%	0.0%
EO200934 West Lancashire 007	13 SA	1A	1A	0.6%	0.6%	0.5%
EO200935 West Lancashire 008	1 SA	1A	1A	0.0%	0.0%	0.0%
EO200936 West Lancashire 010	10 SA	1A	1A	0.6%	0.6%	0.5%
EO200937 West Lancashire 011	10 SA	1A	1A	0.6%	0.6%	0.5%
EO200938 West Lancashire 012	1 SA	1A	1A	0.2%	0.2%	0.1%
EO200939 West Lancashire 014	1 SA	1A	1A	0.0%	0.0%	0.0%
EO200940 West Lancashire 015	1 SA	1A	1A	0.0%	0.0%	0.0%
EO200941 Knowsley 001	60 SA	3A	3A	2.3%	2.3%	1.8%
EO200942 Knowsley 002	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200943 Knowsley 003	276 SA	1A	1A	10.7%	10.7%	8.4%
EO200944 Knowsley 004	30 SA	1A	1A	0.6%	0.6%	0.5%
EO200945 Knowsley 005	1 SA	3A	3A	0.0%	0.0%	0.0%
EO200946 Knowsley 006	10 SA	7C	7C	0.7%	0.7%	0.6%
EO200947 Knowsley 007	10C	10C	10C	2.3%	2.3%	1.8%
EO200948 Knowsley 008	10 SA	7B	7B	0.4%	0.4%	0.3%
EO200949 Knowsley 009	20 SA	10B	10B	1.2%	1.2%	0.9%
EO200950 Knowsley 010	22 SA	8C	8C	0.9%	0.9%	0.7%
EO200951 Knowsley 011	10 SA	8B	8B	0.7%	0.7%	0.6%
EO200952 Knowsley 012	14 SA	7B	7B	0.4%	0.4%	0.4%
EO200953 Knowsley 013	1 SA	10C	10C	0.0%	0.0%	0.0%
EO200954 Knowsley 014	80 SA	7B	7B	0.4%	0.4%	0.3%
EO200955 Knowsley 015	80 SA	8B	8B	3.3%	3.3%	2.6%
EO200956 Knowsley 016	10 SA	7B	7B	2.1%	2.1%	1.6%
EO200957 Knowsley 017	31 SA	10B	10B	1.2%	1.2%	0.9%
EO200958 Knowsley 018	7 SA	8B	8B	0.2%	0.2%	0.2%
EO200959 Knowsley 019	8 SA	8B	8B	0.2%	0.2%	0.1%
EO200960 Knowsley 020	22 SA	10F	10F	0.9%	0.9%	0.7%
EO200961 Knowsley 021	60 SA	10C	10C	2.3%	2.3%	1.8%
EO200962 Knowsley 022	0 SA	10C	10C	0.0%	0.0%	0.0%
EO200963 Knowsley 023	10 SA	10C	10C	0.2%	0.2%	0.2%
EO200964 Knowsley 024	10 SA	10C	10C	0.2%	0.2%	0.2%
EO200965 Knowsley 025	5 SA	7B	7B	0.2%	0.2%	0.2%
EO200966 Knowsley 026	9 SA	7C	7C	0.3%	0.3%	0.3%
EO200967 Knowsley 027	10 SA	7C	7C	0.5%	0.5%	0.4%
EO200968 Knowsley 028	24 SA	10C	10C	0.9%	0.9%	0.7%
EO200969 Knowsley 029	8 SA	7C	7C	0.3%	0.3%	0.3%
EO200970 Knowsley 030	7 SA	7C	7C	0.3%	0.3%	0.2%
EO200971 Knowsley 031	20 SA	7B	7B	1.1%	1.1%	0.9%
EO200972 Knowsley 032	3 SA	7B	7B	0.1%	0.1%	0.1%
EO200973 Knowsley 034	2 SA	7B	7B	0.1%	0.1%	0.1%
EO200974 Knowsley 035	11 SA	7B	7B	0.4%	0.4%	0.3%
EO200975 Knowsley 036	1 SA	7B	7B	0.0%	0.0%	0.0%
EO200976 Knowsley 037	8 SA	7B	7B	0.2%	0.2%	0.2%
EO200977 Knowsley 038	2 SA	7B	7B	0.1%	0.1%	0.1%
EO200978 Knowsley 039	4 SA	7B	7B	0.2%	0.2%	0.1%
EO200979 Knowsley 040	7 SA	8B	8B	0.3%	0.3%	0.2%
EO200980 Knowsley 041	7 SA	7B	7B	0.0%	0.0%	0.0%
EO200981 Knowsley 042	6 SA	7B	7B	0.2%	0.2%	0.2%
EO200982 Knowsley 043	4 SA	7B	7B	0.2%	0.2%	0.1%
EO200983 Knowsley 044	4 SA	7B	7B	0.2%	0.2%	0.1%
EO200984 Knowsley 045	1 SA	8B	8B	0.0%	0.0%	0.0%
EO200985 Knowsley 046	8 SA	7B	7B	0.4%	0.4%	0.3%
EO200986 Knowsley 047	8 SA	8B	8B	0.2%	0.2%	0.2%
EO200987 Knowsley 048	8 SA	8B	8B	0.2%	0.2%	0.2%

Row Labels	Sum of No.	Sum of Arr %
10B	28	1%
10C	60	2%
10E	31	1%
1A	385	15%
1C	432	17%
1D	309	12%
1A	255	9%
7B	252	9%
7C	222	8%
8B	146	6%
9A	483	19%
9C	22	1%
Dot on turning counts - Large M50A	756	
Grand Total	2397	1



ES0001305 - Liverpool 040	7 78	78	0.2%	0.2%	0.2%	0.2%
ES0001306 - Liverpool 050	15 78	78	0.6%	0.6%	0.5%	0.5%
ES0001307 - Liverpool 051	13 88	88	0.5%	0.5%	0.4%	0.4%
ES0001308 - Liverpool 052	7 78	78	0.2%	0.2%	0.2%	0.2%
ES0001400 - Liverpool 054	4 08	88	0.2%	0.2%	0.1%	0.1%
ES0001401 - Liverpool 055	22 84	10F	0.9%	0.9%	0.7%	0.7%
ES0001402 - Liverpool 056	10 84	10F	0.4%	0.4%	0.3%	0.3%
ES0001403 - Liverpool 057	3 84	10F	0.1%	0.1%	0.1%	0.1%
ES0001404 - Liverpool 058	80 84	10F	3.1%	3.1%	2.7%	2.7%
ES0001405 - Liverpool 059	1 84	10F	0.0%	0.0%	0.0%	0.0%
ES0008032 - Liverpool 060	80 7C	7C	3.7%	3.7%	2.9%	2.9%
ES0008033 - Liverpool 061	62 7C	7C	2.4%	2.4%	1.9%	1.9%
ES0008034 - Liverpool 062	189 1C	1C	4.2%	4.2%	3.3%	3.3%
ES0001402 - Sarfion 004	7 10	10	0.2%	0.2%	0.2%	0.2%
ES0001404 - Sarfion 006	5 10	10	0.2%	0.2%	0.2%	0.2%
ES0001406 - Sarfion 008	1 10	10	0.1%	0.1%	0.1%	0.1%
ES0001408 - Sarfion 010	1 10	10	0.0%	0.0%	0.0%	0.0%
ES0001409 - Sarfion 011	1 10	10	0.0%	0.0%	0.0%	0.0%
ES0001440 - Sarfion 012	1 10	10	0.0%	0.0%	0.0%	0.0%
ES0001442 - Sarfion 014	1 10	10	0.1%	0.1%	0.1%	0.1%
ES0001443 - Sarfion 015	1 10	10	0.0%	0.0%	0.0%	0.0%
ES0001444 - Sarfion 016	2 10	10	0.1%	0.1%	0.1%	0.1%
ES0001445 - Sarfion 017	4 10	10	0.2%	0.2%	0.1%	0.1%
ES0001446 - Sarfion 018	12 10	10	0.5%	0.5%	0.4%	0.4%
ES0001447 - Sarfion 019	5 10	10	0.2%	0.2%	0.2%	0.2%
ES0001448 - Sarfion 020	14 10	10	0.5%	0.5%	0.4%	0.4%
ES0001449 - Sarfion 021	10 10	10	0.4%	0.4%	0.3%	0.3%
ES0001450 - Sarfion 022	7 10	10	0.2%	0.2%	0.2%	0.2%
ES0001451 - Sarfion 023	1 10	10	0.0%	0.0%	0.0%	0.0%
ES0001452 - Sarfion 024	1 10	10	0.0%	0.0%	0.0%	0.0%
ES0001453 - Sarfion 025	10 10	10	0.4%	0.4%	0.3%	0.3%
ES0001454 - Sarfion 026	11 10	10	0.3%	0.4%	0.3%	0.3%
ES0001455 - Sarfion 027	30 10	10	1.2%	1.2%	0.9%	0.9%
ES0001457 - Sarfion 029	17 10	10	0.7%	0.7%	0.6%	0.6%
ES0001458 - Sarfion 030	2 10	10	0.1%	0.1%	0.1%	0.1%
ES0001459 - Sarfion 031	2 10	10	0.1%	0.1%	0.1%	0.1%
ES0001460 - Sarfion 032	6 10	10	0.2%	0.2%	0.2%	0.2%
ES0001461 - Sarfion 033	10 10	10	0.4%	0.4%	0.3%	0.3%
ES0001462 - Sarfion 034	9 10	10	0.2%	0.2%	0.2%	0.2%
ES0001463 - Sarfion 035	9 10	10	0.2%	0.2%	0.2%	0.2%
ES0001464 - Sarfion 036	10 10	10	0.1%	0.1%	0.1%	0.1%
ES0001465 - Sarfion 037	20 10	10	1.1%	1.1%	1.2%	1.2%
ES0001466 - Sarfion 038	6 10	10	0.2%	0.2%	0.2%	0.2%
ES0001467 - St. Helena 001	82 3A	3A	0.4%	0.4%	0.3%	0.3%
ES0001467 - St. Helena 002	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001468 - St. Helena 003	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001469 - St. Helena 004	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001410 - St. Helena 005	10 3A	3A	0.4%	0.4%	0.3%	0.3%
ES0001411 - St. Helena 006	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001412 - St. Helena 007	6 3A	3A	0.2%	0.2%	0.2%	0.2%
ES0001413 - St. Helena 008	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001414 - St. Helena 009	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001417 - St. Helena 010	9 3A	3A	0.3%	0.3%	0.3%	0.3%
ES0001418 - St. Helena 011	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001419 - St. Helena 012	25 3A	3A	1.0%	1.0%	0.8%	0.8%
ES0001420 - St. Helena 013	1 3A	3A	0.1%	0.1%	0.1%	0.1%
ES0001421 - St. Helena 014	4 3A	3A	0.2%	0.2%	0.1%	0.1%
ES0001422 - St. Helena 015	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001423 - St. Helena 016	1 3A	3A	0.0%	0.0%	0.0%	0.0%
ES0001424 - St. Helena 017	10F	10F	0.4%	0.4%	0.3%	0.3%
ES0001425 - St. Helena 020	1 9A	10F	0.0%	0.0%	0.0%	0.0%
ES0001427 - St. Helena 022	9 9A	10F	0.1%	0.1%	0.1%	0.1%
ES0001428 - St. Helena 023	6 10C	10C	0.3%	0.3%	0.2%	0.2%
ES0001471 - Wtrial 005	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001472 - Wtrial 006	1 1C	1C	0.1%	0.1%	0.1%	0.1%
ES0001473 - Wtrial 007	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001474 - Wtrial 008	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001475 - Wtrial 009	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001476 - Wtrial 010	7 1C	1C	0.2%	0.2%	0.2%	0.2%
ES0001477 - Wtrial 011	9 1C	1C	0.1%	0.1%	0.1%	0.1%
ES0001478 - Wtrial 012	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001482 - Wtrial 016	7 1C	1C	0.2%	0.2%	0.2%	0.2%
ES0001483 - Wtrial 017	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001484 - Wtrial 018	5 1C	1C	0.2%	0.2%	0.2%	0.2%
ES0001485 - Wtrial 020	3 1C	1C	0.1%	0.1%	0.1%	0.1%
ES0001487 - Wtrial 021	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001488 - Wtrial 022	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001490 - Wtrial 024	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001491 - Wtrial 025	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001492 - Wtrial 026	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001502 - Wtrial 028	80 1C	1C	0.4%	0.4%	0.3%	0.3%
ES0001505 - Wtrial 029	3 1C	1C	0.1%	0.1%	0.1%	0.1%
ES0001506 - Wtrial 040	1 1C	1C	0.0%	0.0%	0.0%	0.0%
ES0001508 - Wtrial 042	2 9A	10F	0.1%	0.1%	0.1%	0.1%
W02000050 - Davigghafnir 009	1 9A	10F	0.0%	0.0%	0.0%	0.0%
W02000050 - Davigghafnir 011	1 9A	10F	0.0%	0.0%	0.0%	0.0%
W02000058 - Flutskara 001	1 9A	10F	0.0%	0.0%	0.0%	0.0%
W02000061 - Flutskara 004	1 9A	10F	0.0%	0.0%	0.0%	0.0%
W02000064 - Flutskara 007	1 9A	10F	0.0%	0.0%	0.0%	0.0%
W02000066 - Flutskara 009	1 9A	10F	0.2%	0.2%	0.2%	0.2%
W02000068 - Flutskara 011	1 9A	10F	0.0%	0.0%	0.0%	0.0%
W02000072 - Flutskara 013	1 9A	10F	0.0%	0.0%	0.0%	0.0%

2597
2581

100.0% 100.0% 100.0% 100.0%

Appendix L

J1: Randles Farm Interchange - M57 Junction 4

LinSig Model Screenshots



Scenario 1: '2025 Survey AM' (FG1: '2025 Survey AM', Plan 1: 'Network Control Plan 1')

Scenario 2: '2025 Survey PM' (FG2: '2025 Survey PM', Plan 1: 'Network Control Plan 1')

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

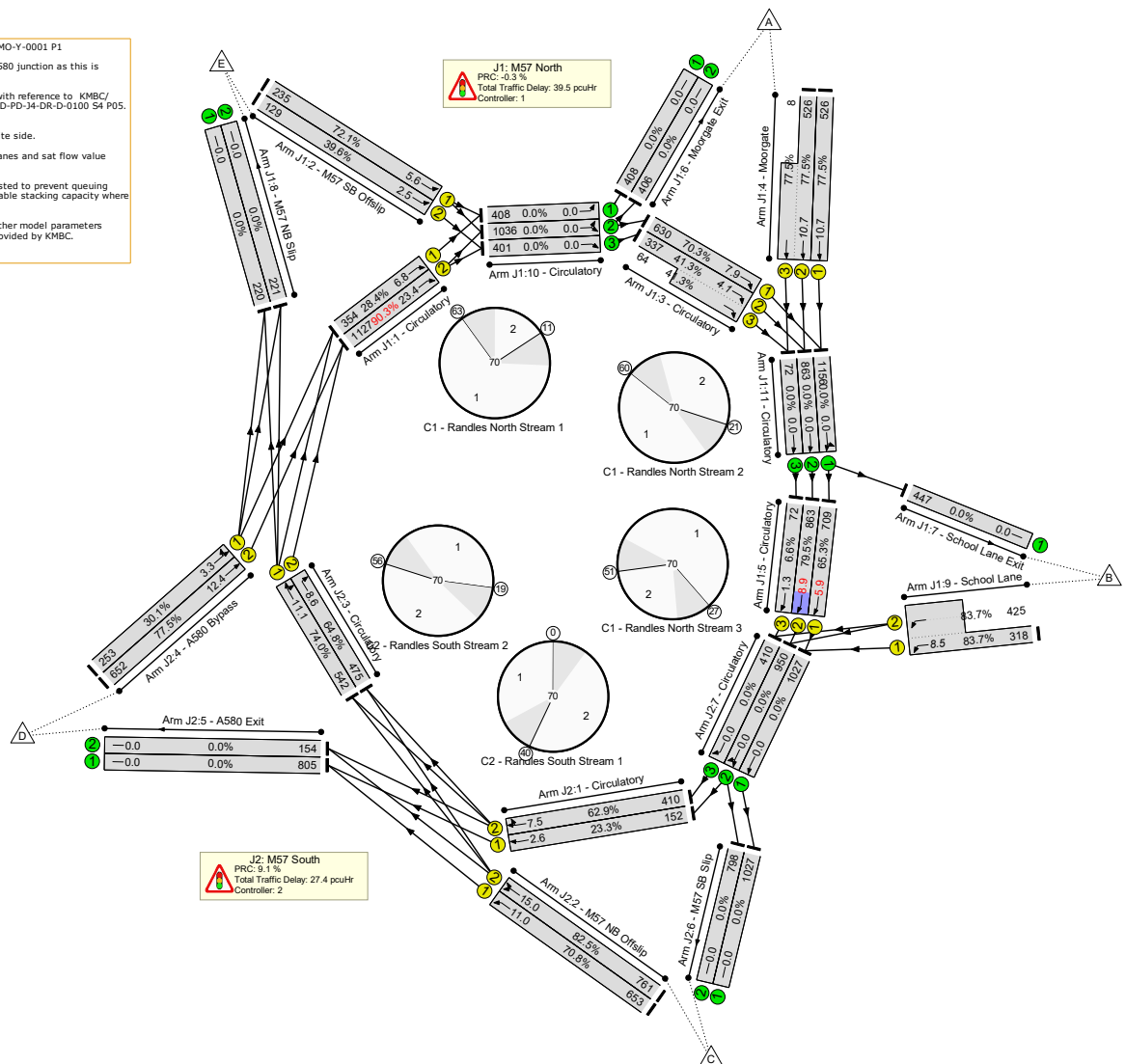
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Scenario 3: '2028 No Dev AM' (FG3: '2028 No Dev AM', Plan 1: 'Network Control Plan 1')

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

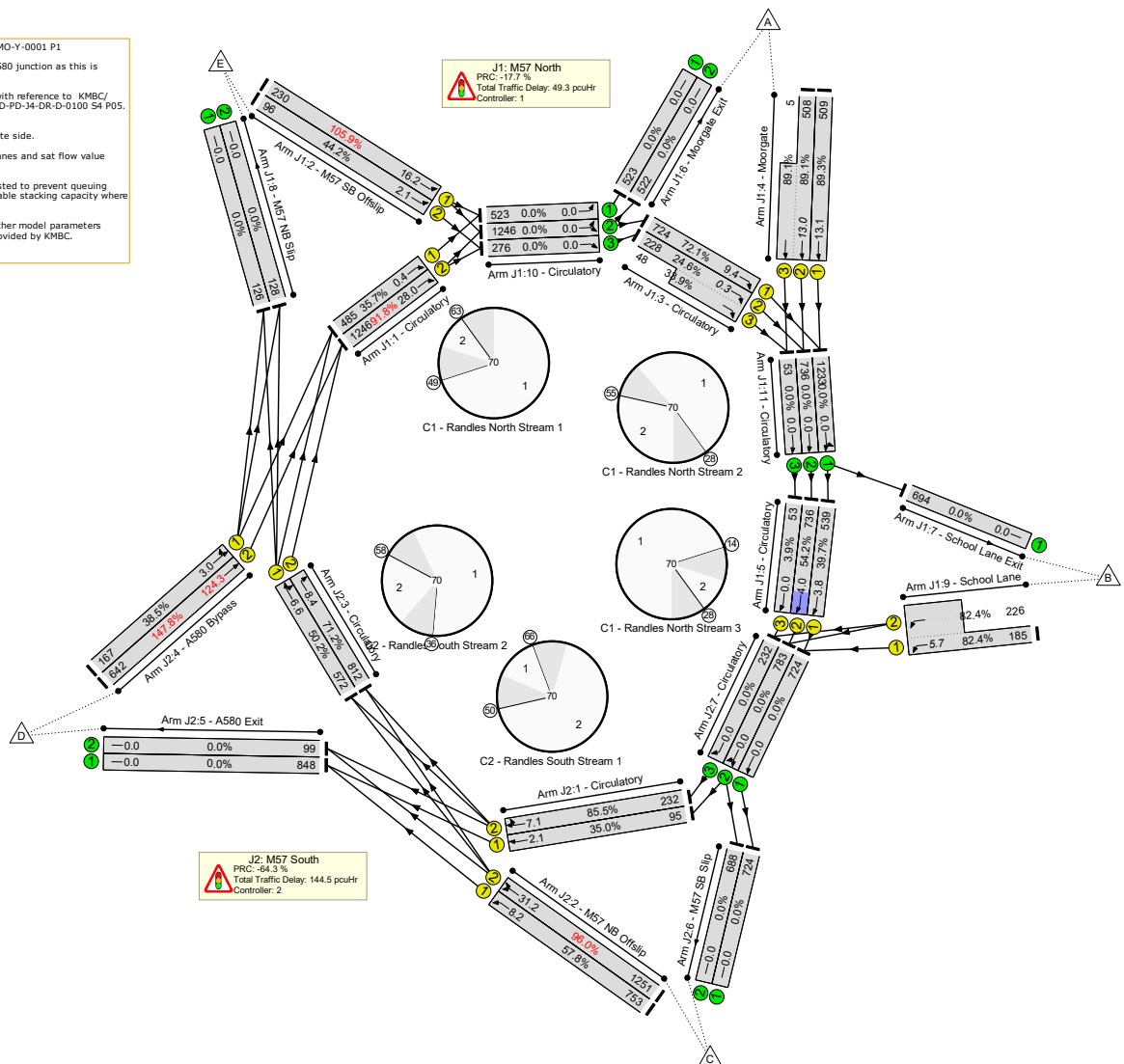
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Scenario 4: '2028 No Dev PM' (FG4: '2028 No Dev PM', Plan 1: 'Network Control Plan 1')

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

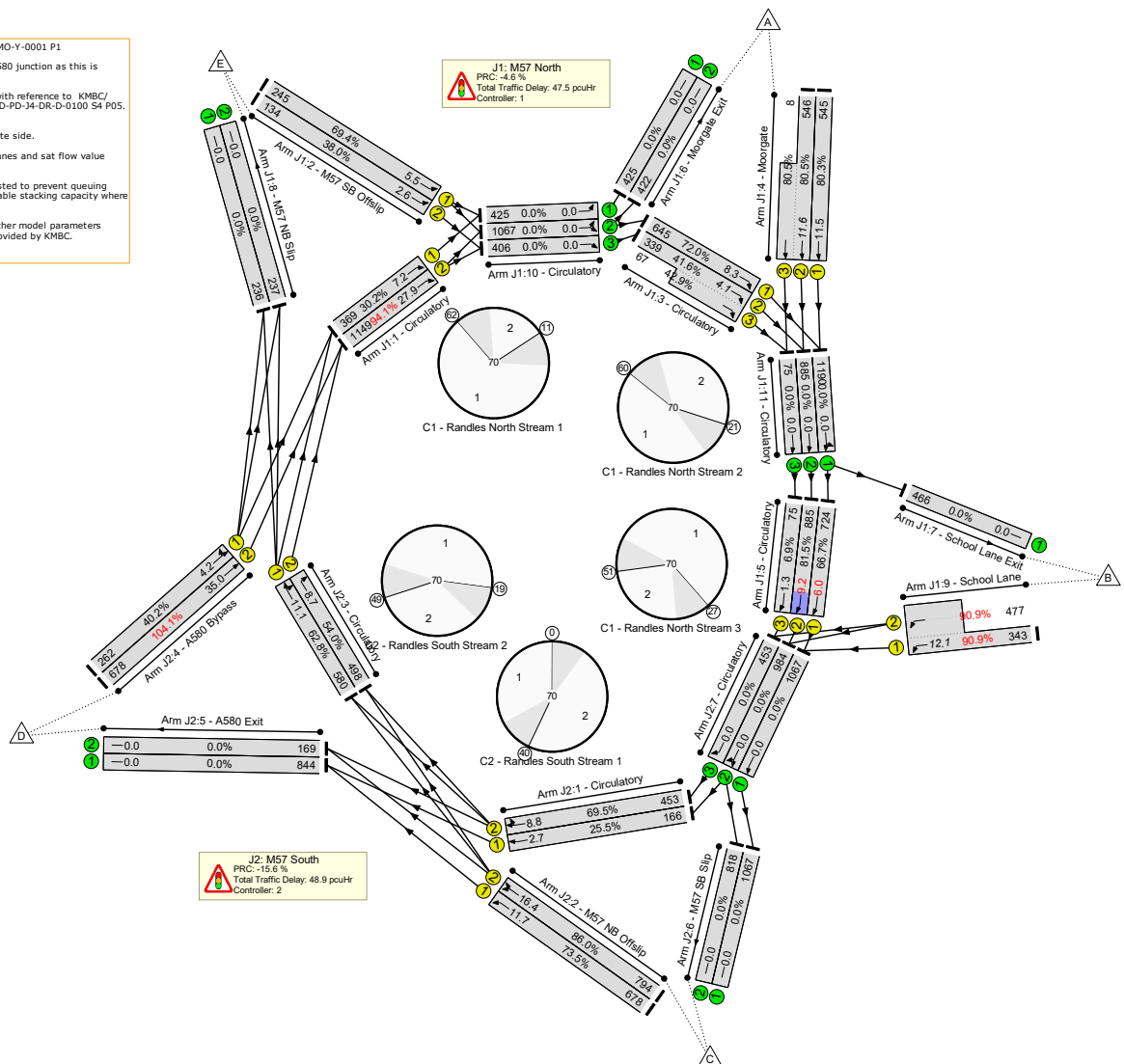
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Scenario 6: '2028 With Dev PM' (FG12: '2028 With Dev PM', Plan 1: 'Network Control Plan 1')

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

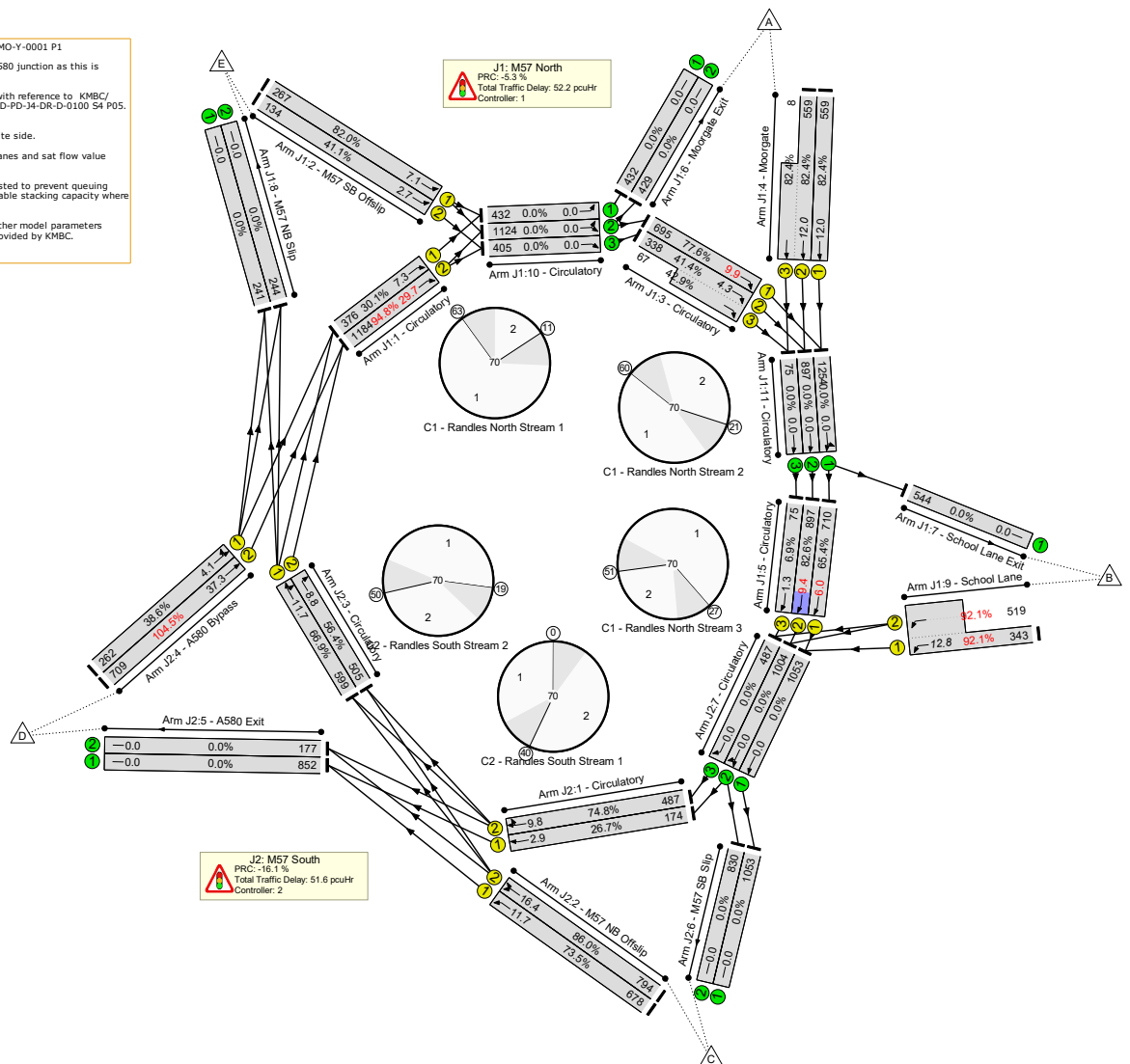
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Scenario 7: '2035 No Dev AM' (FG7: '2035 No Dev AM', Plan 1: 'Network Control Plan 1')

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove AS80 junction as this is outside of adopted study area.

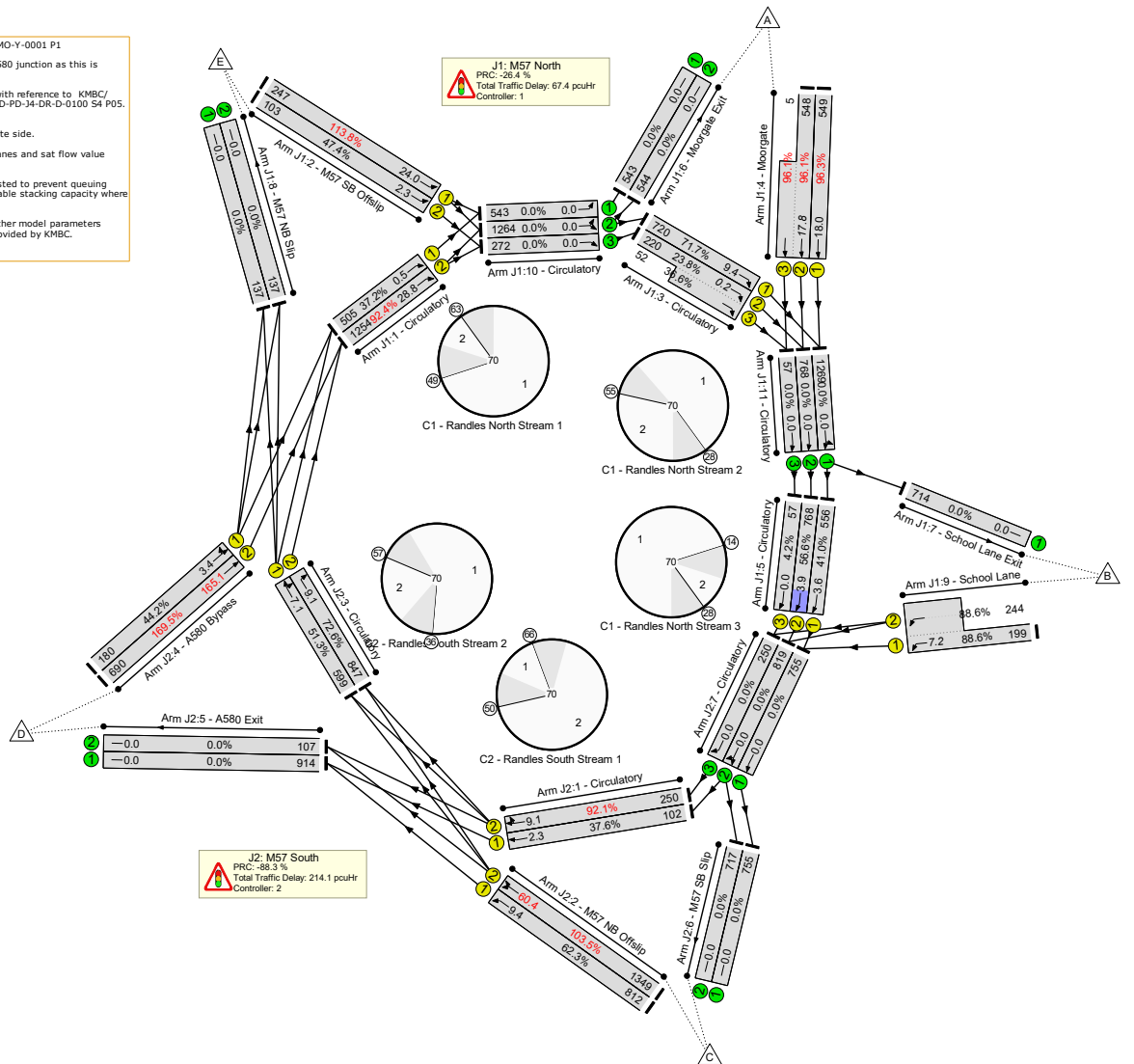
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Scenario 8: '2035 No Dev PM' (FG8: '2035 No Dev PM', Plan 1: 'Network Control Plan 1')

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove AS80 junction as this is outside of adopted study area.

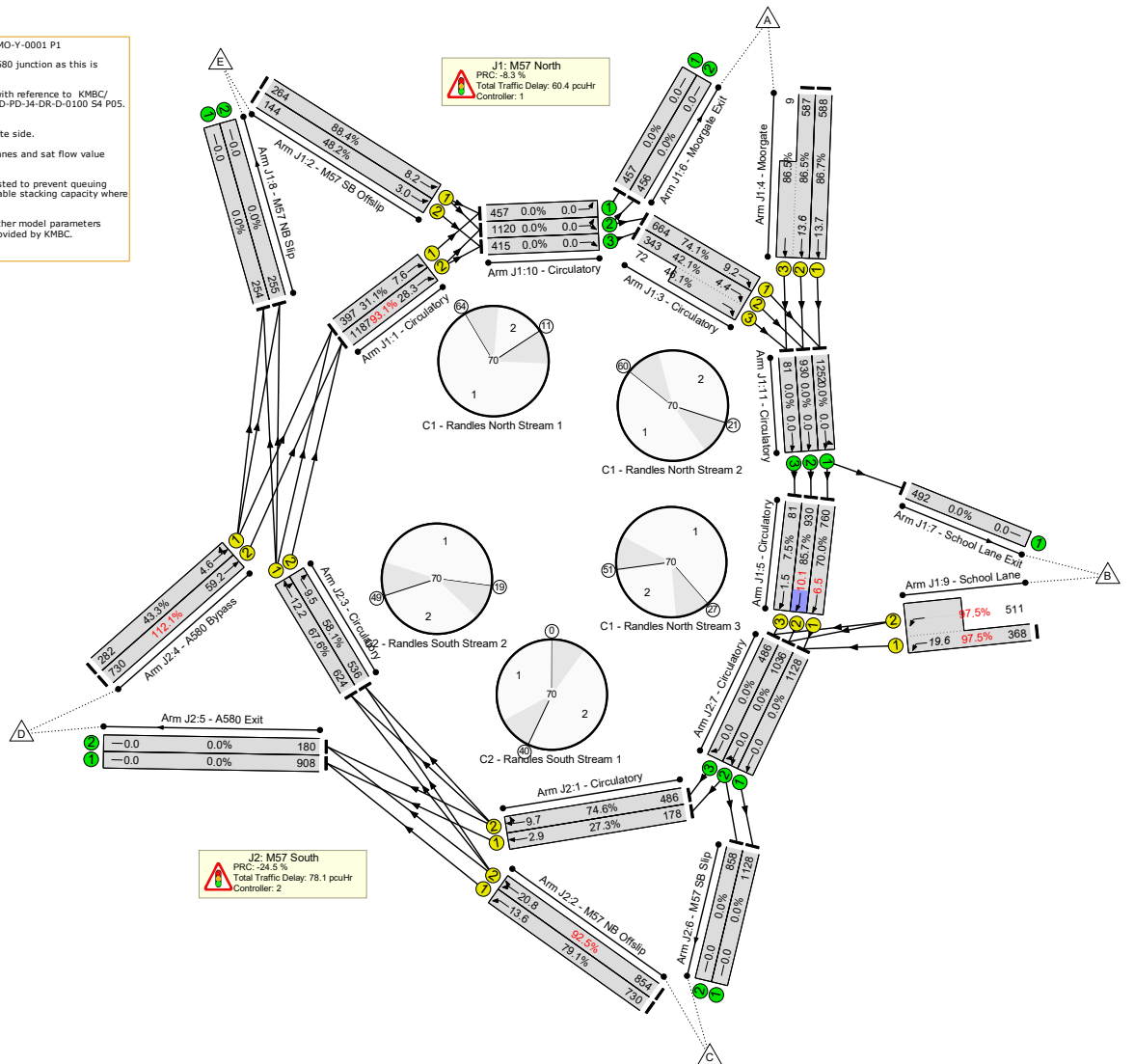
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Condoned Version of model to remove A580 junction as this is outside of adopted study area.

Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

- Arm J1:3 - short lane switched to opposite side.
- Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.

J1: M57 North
 PRC: -31.0 %
 Total Traffic Delay: 75.6 pcu/hr
 Controller: 1

J2: M57 South
 PRC: -91.9 %
 Total Traffic Delay: 226.1 pcu/hr
 Controller: 2

Arm J1:11 - Moorgate Exit
 554
 564
 19.1
 97.2%
 97.2%
 19.0

Arm J1:10 - Circulatory
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:9 - School Lane
 332
 199
 88.6%
 88.6%
 7.3

Arm J1:8 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:7 - School Lane Exit
 734 0.0% 0.0-
 0.0-
 0.0-

Arm J1:6 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:5 - A580 Exit
 72
 983
 0.0%
 0.0%

Arm J1:4 - A580 Bypass
 1722
 44.2%
 172.7%
 703

Arm J1:3 - M57 NB Slip
 180
 180
 0.0%
 0.0%

Arm J1:2 - M57 SB Offlip
 28.5
 2.3
 177.9%
 47.4%

Arm J1:1 - Circulatory
 520 38.3% 0.5-
 1268 85.5% 80.2-
 63

Arm J1:11 - Moorgate Exit
 1288 0.0% 0.0-
 623 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 5 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-

Arm J1:10 - Circulatory
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:9 - School Lane
 332
 199
 88.6%
 88.6%
 7.3

Arm J1:8 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:7 - School Lane Exit
 734 0.0% 0.0-
 0.0-
 0.0-

Arm J1:6 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:5 - A580 Exit
 72
 983
 0.0%
 0.0%

Arm J1:4 - A580 Bypass
 1722
 44.2%
 172.7%
 703

Arm J1:3 - M57 NB Slip
 180
 180
 0.0%
 0.0%

Arm J1:2 - M57 SB Offlip
 28.5
 2.3
 177.9%
 47.4%

Arm J1:1 - Circulatory
 520 38.3% 0.5-
 1268 85.5% 80.2-
 63

Arm J1:11 - Moorgate Exit
 1288 0.0% 0.0-
 623 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 5 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-

Arm J1:10 - Circulatory
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:9 - School Lane
 332
 199
 88.6%
 88.6%
 7.3

Arm J1:8 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:7 - School Lane Exit
 734 0.0% 0.0-
 0.0-
 0.0-

Arm J1:6 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:5 - A580 Exit
 72
 983
 0.0%
 0.0%

Arm J1:4 - A580 Bypass
 1722
 44.2%
 172.7%
 703

Arm J1:3 - M57 NB Slip
 180
 180
 0.0%
 0.0%

Arm J1:2 - M57 SB Offlip
 28.5
 2.3
 177.9%
 47.4%

Arm J1:1 - Circulatory
 520 38.3% 0.5-
 1268 85.5% 80.2-
 63

Arm J1:11 - Moorgate Exit
 1288 0.0% 0.0-
 623 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 5 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-

Arm J1:10 - Circulatory
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:9 - School Lane
 332
 199
 88.6%
 88.6%
 7.3

Arm J1:8 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:7 - School Lane Exit
 734 0.0% 0.0-
 0.0-
 0.0-

Arm J1:6 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:5 - A580 Exit
 72
 983
 0.0%
 0.0%

Arm J1:4 - A580 Bypass
 1722
 44.2%
 172.7%
 703

Arm J1:3 - M57 NB Slip
 180
 180
 0.0%
 0.0%

Arm J1:2 - M57 SB Offlip
 28.5
 2.3
 177.9%
 47.4%

Arm J1:1 - Circulatory
 520 38.3% 0.5-
 1268 85.5% 80.2-
 63

Arm J1:11 - Moorgate Exit
 1288 0.0% 0.0-
 623 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 5 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-
 0.0 0.0% 0.0-

Arm J1:10 - Circulatory
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

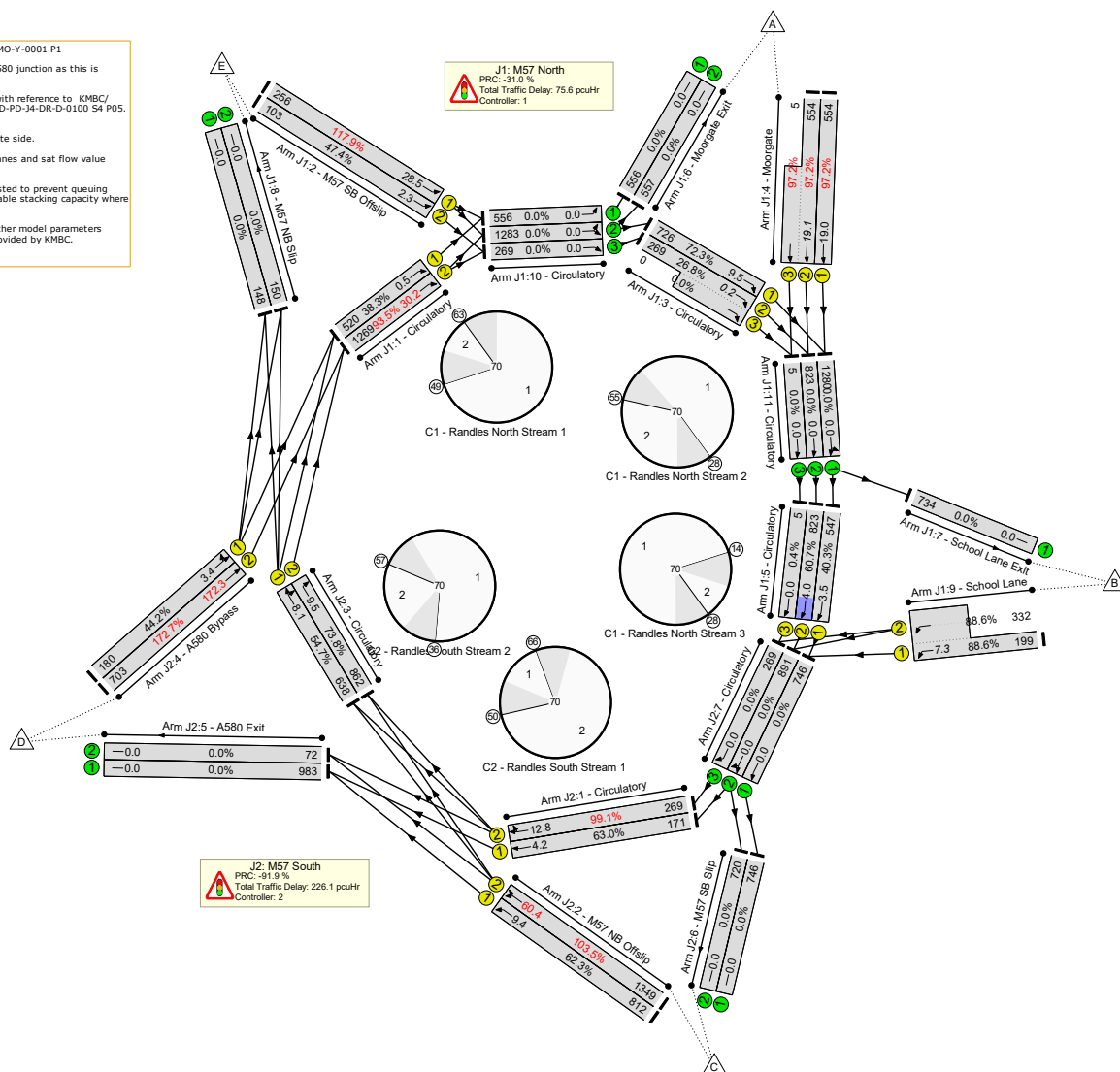
Arm J1:9 - School Lane
 332
 199
 88.6%
 88.6%
 7.3

Arm J1:8 - Moorgate Exit
 556 0.0% 0.0-
 1283 0.0% 0.0-
 269 0.0% 0.0-

Arm J1:7 - School Lane Exit
 734 0.0% 0.0-
 0.0-
 0.0-

Arm J1:6 - Moorgate Exit

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Scenario 10: '2035 With Dev PM' (FG16: '2035 With Dev PM', Plan 1: 'Network Control Plan 1')

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

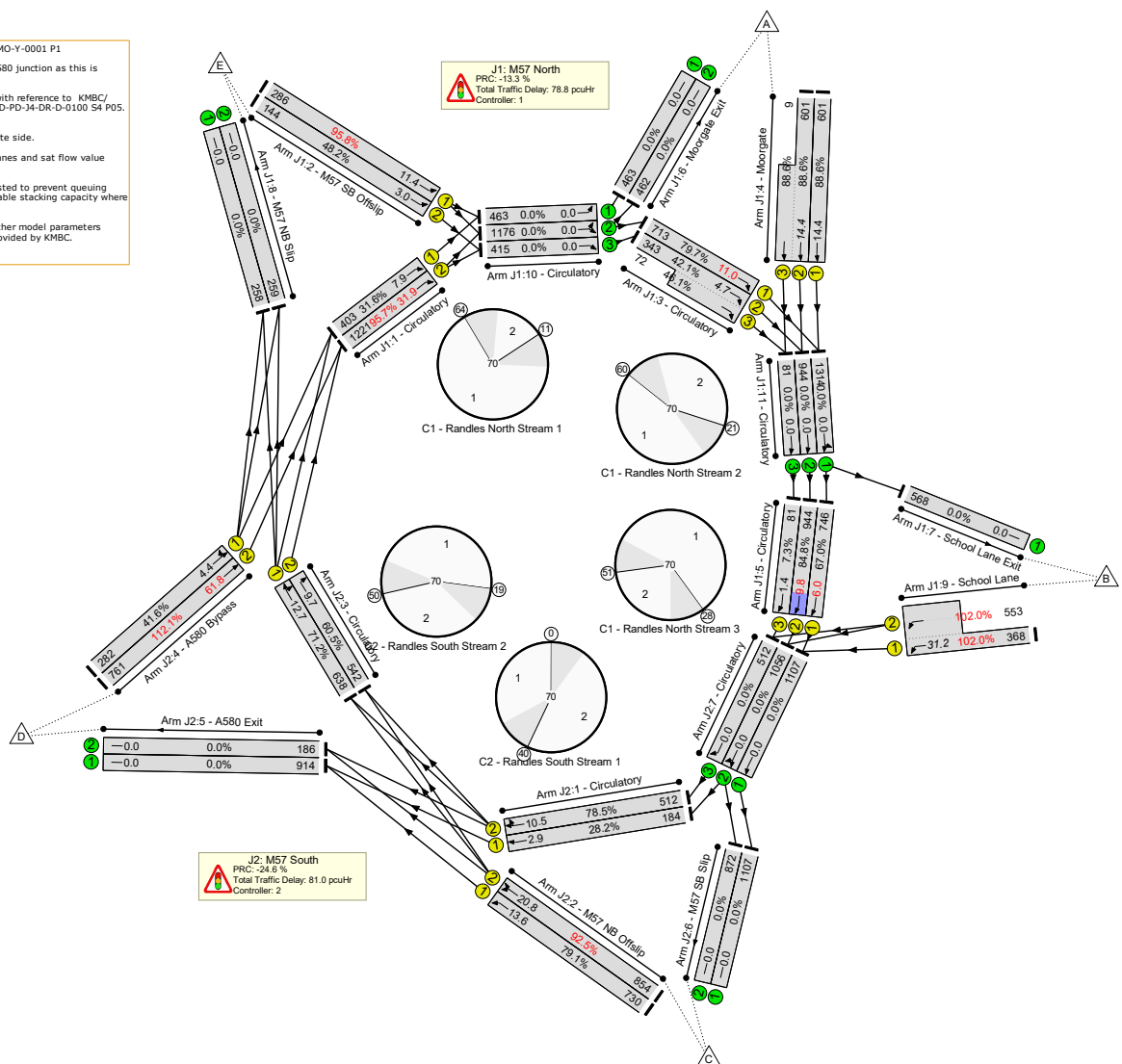
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Appendix M

J1: Randles Farm Interchange - M57 Junction 4

LinSig Modelling Outputs

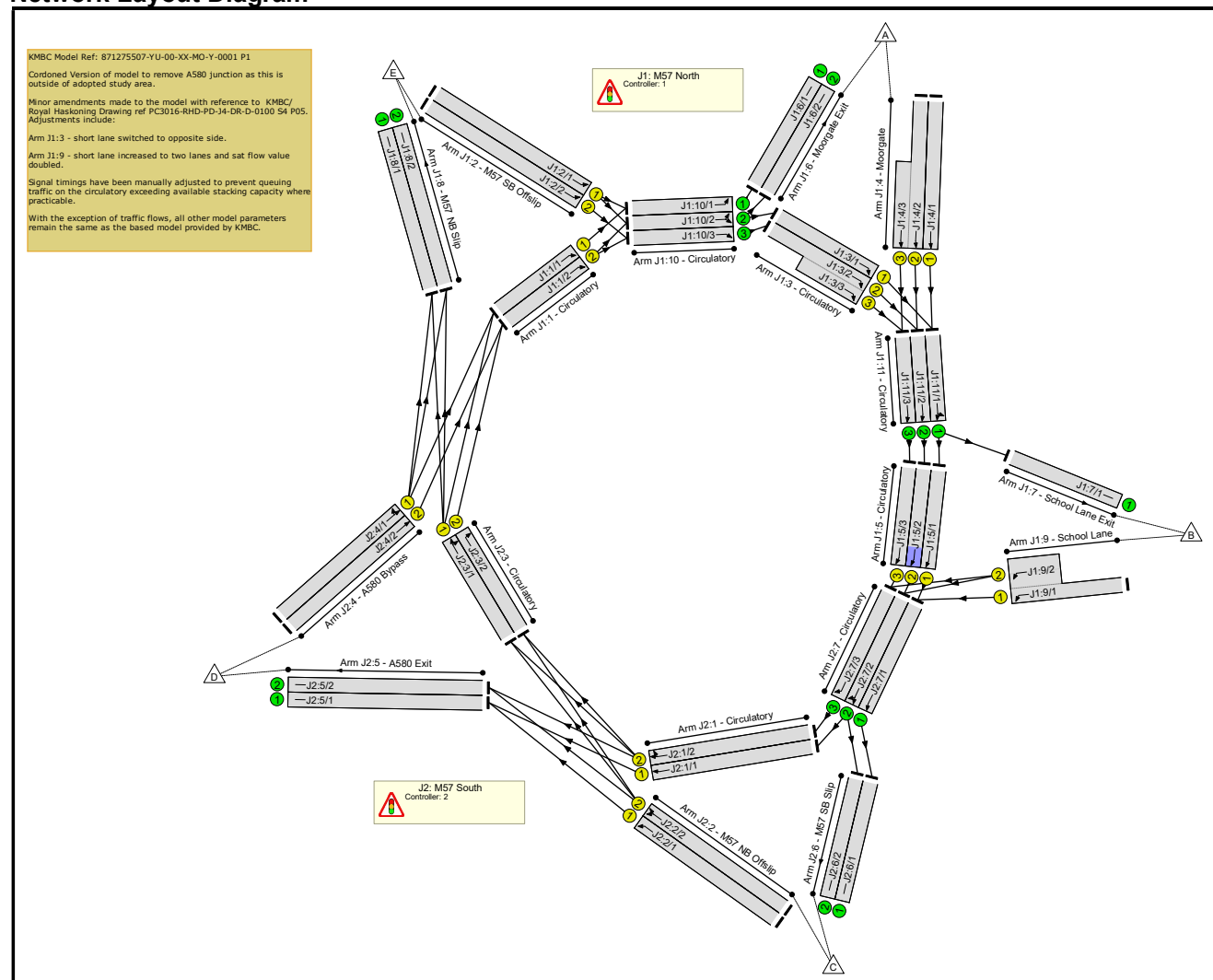


Detailed Input Data And Results

User and Project Details

Project:	M57 Junction 4 - Randles Interchange
Title:	
Location:	
Client:	
Date Started:	
Additional detail:	
File name:	Randles Farm Interchange M57 J4_Committed Scheme (Cordoned Version)_signal timings adjusted.lsg3x
Author:	
Company:	
Address:	
Linsig Version:	3, 3, 0, 6

Network Layout Diagram

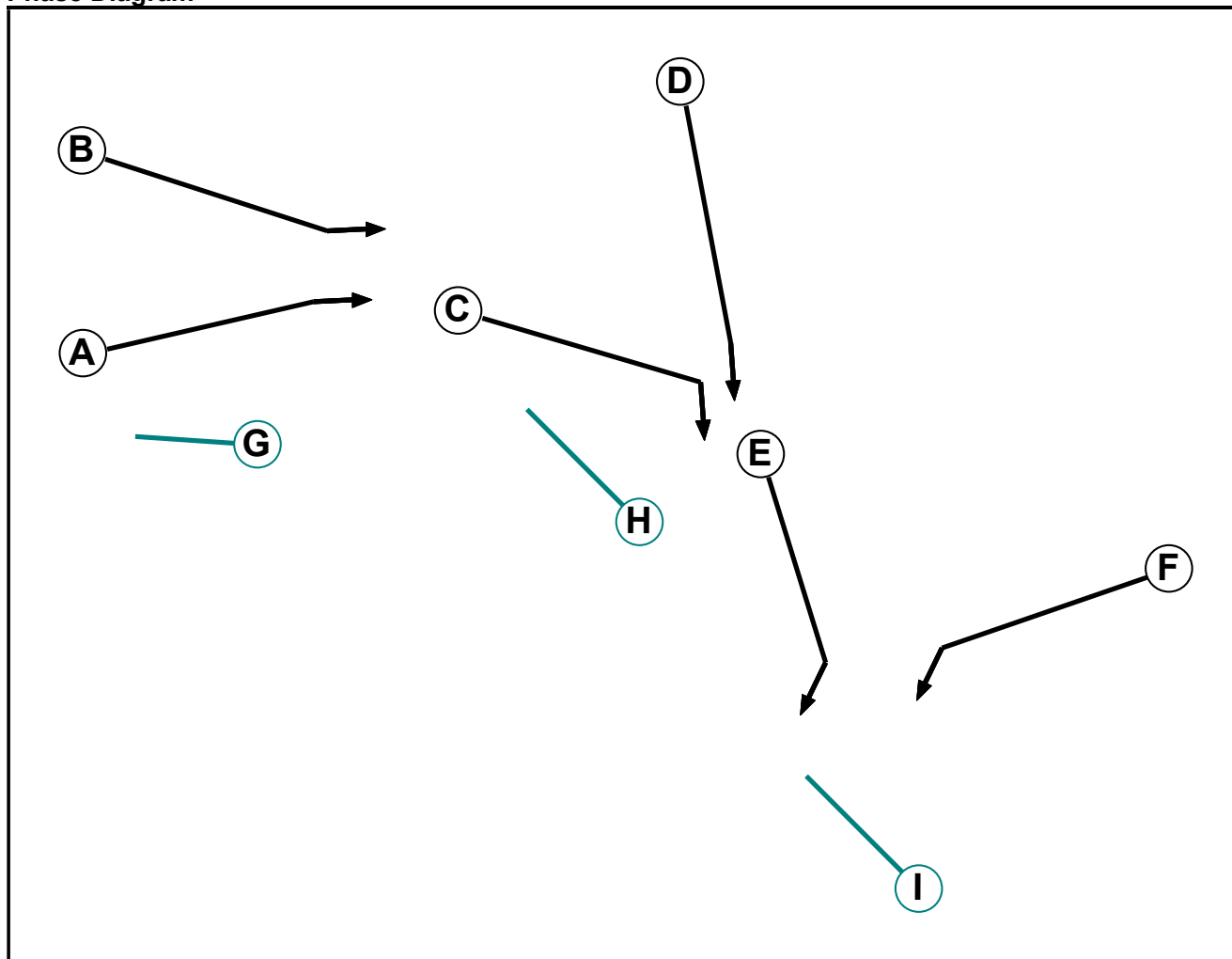


Scenarios

Number	Scenario Name	Flow Group	Network Control Plan	Time	Cycle Time (s)	PRC (%)	Delay (pcuHr)
1	2025 Survey AM	2025 Survey AM	Network Control Plan 1	08:00 - 09:00	120/70	-37.4	130.34
2	2025 Survey PM	2025 Survey PM	Network Control Plan 1	16:30 - 17:30	120/70	-0.3	66.81
3	2028 No Dev AM	2028 No Dev AM	Network Control Plan 1	08:00 - 09:00	120/70	-64.3	193.83
4	2028 No Dev PM	2028 No Dev PM	Network Control Plan 1	16:30 - 17:30	120/70	-15.6	96.39
5	2028 With Dev AM	2028 With Dev AM	Network Control Plan 1	08:00 - 09:00	120/70	-67.6	216.82
6	2028 With Dev PM	2028 With Dev PM	Network Control Plan 1	16:30 - 17:30	120/70	-16.1	103.88
7	2035 No Dev AM	2035 No Dev AM	Network Control Plan 1	08:00 - 09:00	120/70	-88.3	281.53
8	2035 No Dev PM	2035 No Dev PM	Network Control Plan 1	16:30 - 17:30	120/70	-24.5	138.49
9	2035 With Dev AM	2035 With Dev AM	Network Control Plan 1	08:00 - 09:00	120/70	-91.9	301.76
10	2035 With Dev PM	2035 With Dev PM	Network Control Plan 1	16:30 - 17:30	120/70	-24.6	159.76

Controller Summary

Controller	Type	SCN	Stage Stream	Num Phases	Num Stages	Controls Junctions	Controller Notes
C1 - Randles North	Sms		Stage Stream 1	3	3	M57 North	
			Stage Stream 2	3	3	M57 North	
			Stage Stream 3	3	3	M57 North	
C2 - Randles South	Sms		Stage Stream 1	3	3	M57 South	
			Stage Stream 2	3	3	M57 South	

Controller :C1 - Randles North**Phase Diagram**

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min (s)	Cont Min (s)
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	7
G	Dummy	1		7	7
H	Dummy	2		7	7
I	Dummy	3		7	7

Phase Intergreens Matrix

Phase III - 3rd Phase Matrix										
	Starting Phase									
Terminating Phase		A	B	C	D	E	F	G	H	I
	A		7	-	-	-	-	3	-	-
	B	7		-	-	-	-	3	-	-
	C	-	-		7	-	-	-	3	-
	D	-	-	7		-	-	-	3	-
	E	-	-	-	-		7	-	-	3
	F	-	-	-	-	7		-	-	3
	G	2	2	-	-	-	-		-	-
	H	-	-	2	2	-	-	-		-
	I	-	-	-	-	-	2	2	-	-

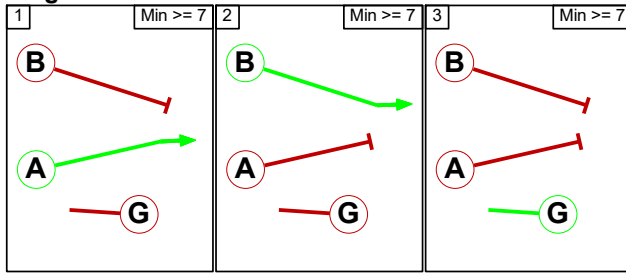
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	G
2	1	C
2	2	D
2	3	H
3	1	E
3	2	F
3	3	I

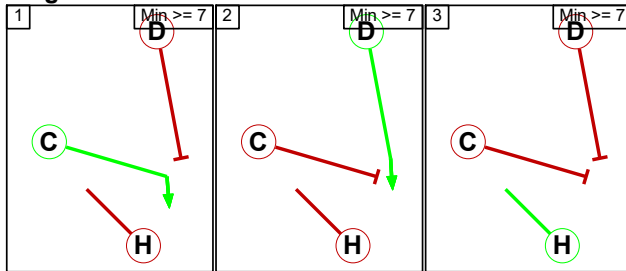
Detailed Input Data And Results

Stage Diagram

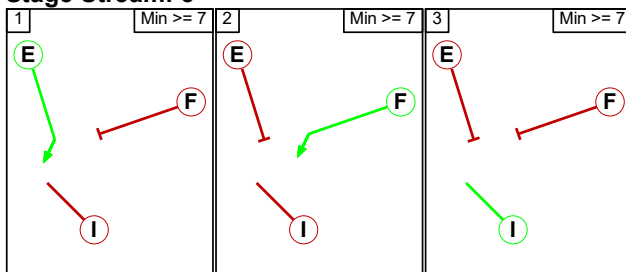
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Stage Stream: 3

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

Stage Stream: 1

	To Stage			
From Stage		1	2	3
	1		7	3
	2	7		3
	3	2	2	

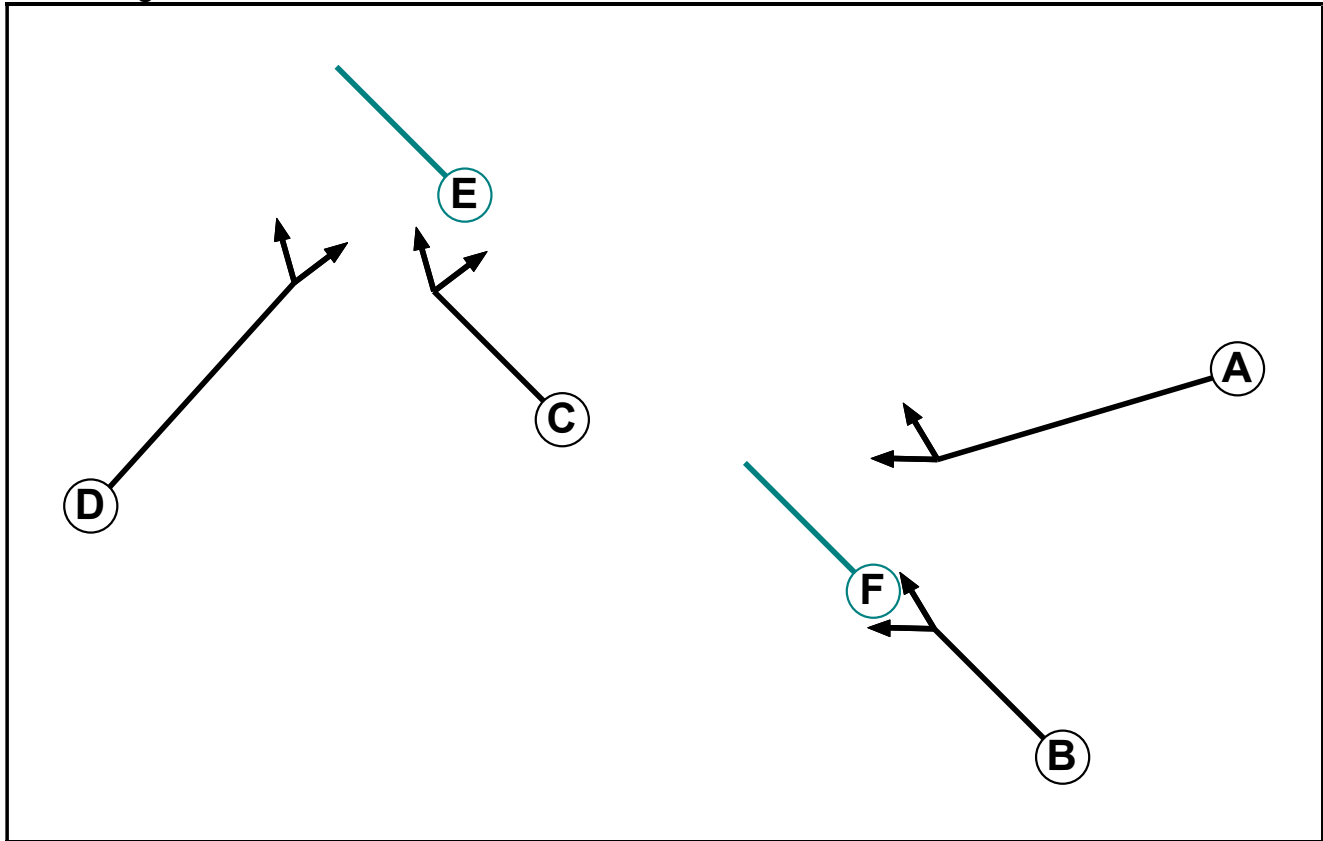
Stage Stream: 2

	To Stage			
From Stage		1	2	3
	1		7	3
	2	7		3
	3	2	2	

Stage Stream: 3

	To Stage			
From Stage		1	2	3
	1		7	3
	2	7		3
	3	2	2	

Controller :C2 - Randles South
Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min (s)	Cont Min (s)
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Dummy	1		7	7
F	Dummy	2		7	7

Detailed Input Data And Results

Phase Intergreens Matrix

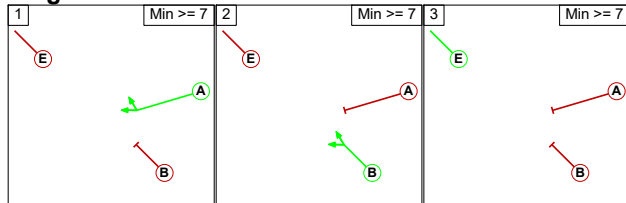
		Starting Phase					
Terminating Phase		A	B	C	D	E	F
	A		7	-	-	3	-
	B	7		-	-	3	-
	C	-	-		7	-	3
	D	-	-	7		-	3
	E	2	2	-	-		-
	F	-	-	2	2	-	

Phases in Stage

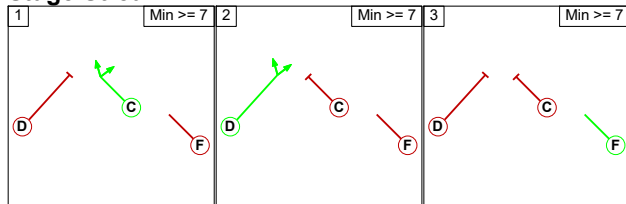
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	E
2	1	C
2	2	D
2	3	F

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

Stage Stream: 1

	To Stage			
From Stage		1	2	3
	1		7	3
	2	7		3
	3	2	2	

Stage Stream: 2

	To Stage			
From Stage		1	2	3
	1		7	3
	2	7		3
	3	2	2	

Lane Input Data

Junction: J1: M57 North												
Lane	Lane Type	Phases	Start Disp. (s)	End Disp. (s)	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient (%)	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (Circulatory)	U	A	2	3	29.6	User	1900	-	-	-	-	-
J1:1/2 (Circulatory)	U	A	2	3	29.6	User	1900	-	-	-	-	-
J1:2/1 (M57 SB Offslip)	U	B	2	3	60.0	User	1900	-	-	-	-	-
J1:2/2 (M57 SB Offslip)	U	B	2	3	60.0	User	1900	-	-	-	-	-
J1:3/1 (Circulatory)	U	C	2	3	9.6	User	1900	-	-	-	-	-
J1:3/2 (Circulatory)	U	C	2	3	9.0	User	1900	-	-	-	-	-
J1:3/3 (Circulatory)	U	C	2	3	7.0	User	1900	-	-	-	-	-
J1:4/1 (Moorgate)	U	D	2	3	60.0	User	1900	-	-	-	-	-
J1:4/2 (Moorgate)	U	D	2	3	60.0	User	1900	-	-	-	-	-
J1:4/3 (Moorgate)	U	D	2	3	8.7	User	1900	-	-	-	-	-
J1:5/1 (Circulatory)	U	E	2	3	5.2	User	1900	-	-	-	-	-
J1:5/2 (Circulatory)	U	E	2	3	5.2	User	1900	-	-	-	-	-
J1:5/3 (Circulatory)	U	E	2	3	5.2	User	1900	-	-	-	-	-
J1:6/1 (Moorgate Exit)	U		2	3	1.2	Inf	-	-	-	-	-	-
J1:6/2 (Moorgate Exit)	U		2	3	1.2	Inf	-	-	-	-	-	-
J1:7/1 (School Lane Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:8/1 (M57 NB Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:8/2 (M57 NB Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:9/1 (School Lane)	U	F	2	3	52.2	Geom	-	3.50	0.00	Y	Arm J2:7 Left	Inf
J1:9/2 (School Lane)	U	F	2	3	5.2	User	4300	-	-	-	-	-

Detailed Input Data And Results

J1:10/1 (Circulatory)	U		2	3	13.0	Inf	-	-	-	-	-	-
J1:10/2 (Circulatory)	U		2	3	13.0	Inf	-	-	-	-	-	-
J1:10/3 (Circulatory)	U		2	3	13.0	Inf	-	-	-	-	-	-
J1:11/1 (Circulatory)	U		2	3	17.4	Inf	-	-	-	-	-	-
J1:11/2 (Circulatory)	U		2	3	17.4	Inf	-	-	-	-	-	-
J1:11/3 (Circulatory)	U		2	3	17.4	Inf	-	-	-	-	-	-

Junction: J2: M57 South												
Lane	Lane Type	Phases	Start Disp. (s)	End Disp. (s)	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient (%)	Nearside Lane	Turns	Turning Radius (m)
J2:1/1 (Circulatory)	U	A	2	3	14.3	User	1900	-	-	-	-	-
J2:1/2 (Circulatory)	U	A	2	3	13.9	User	1900	-	-	-	-	-
J2:2/1 (M57 NB Offslip)	U	B	2	3	60.0	User	1900	-	-	-	-	-
J2:2/2 (M57 NB Offslip)	U	B	2	3	60.0	User	1900	-	-	-	-	-
J2:3/1 (Circulatory)	U	C	2	3	27.0	User	1900	-	-	-	-	-
J2:3/2 (Circulatory)	U	C	2	3	27.0	User	1900	-	-	-	-	-
J2:4/1 (A580 Bypass)	U	D	2	3	60.0	User	1900	-	-	-	-	-
J2:4/2 (A580 Bypass)	U	D	2	3	60.0	User	1900	-	-	-	-	-
J2:5/1 (A580 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/2 (A580 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1 (M57 SB Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/2 (M57 SB Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:7/1 (Circulatory)	U		2	3	15.7	Inf	-	-	-	-	-	-
J2:7/2 (Circulatory)	U		2	3	15.7	Inf	-	-	-	-	-	-
J2:7/3 (Circulatory)	U		2	3	15.7	Inf	-	-	-	-	-	-

Detailed Input Data And Results

Give-Way Lane Input Data

Junction: J1: M57 North

There are no Opposed Lanes in this Junction

Junction: J2: M57 South

There are no Opposed Lanes in this Junction

Detailed Input Data And Results

Lane Connector Input Data

Junction: J1: M57 North				
Org Lane	Dest Lane	Junction	Modelled Mean Cruise Time (s)	Platoon Dispersion
J1:1/1	J1:10/1	Internal	5	35
J1:1/2	J1:10/2	Internal	5	35
J1:1/2	J1:10/3	Internal	5	35
J1:2/1	J1:10/1	Internal	4	35
J1:2/1	J1:10/2	Internal	4	35
J1:2/2	J1:10/3	Internal	4	35
J1:3/1	J1:11/1	Internal	6	35
J1:3/2	J1:11/2	Internal	6	35
J1:3/3	J1:11/3	Internal	6	35
J1:4/1	J1:11/1	Internal	6	35
J1:4/2	J1:11/2	Internal	6	35
J1:4/3	J1:11/3	Internal	6	35
J1:5/1	J2:7/1	Leaving	5	35
J1:5/2	J2:7/2	Leaving	5	35
J1:5/3	J2:7/3	Leaving	5	35
J2:3/1	J1:1/1	Entering	10	35
J2:3/1	J1:8/1	Entering	5	35
J2:3/1	J1:8/2	Entering	5	35
J2:3/2	J1:1/2	Entering	10	35
J2:4/1	J1:1/1	Entering	10	35
J2:4/1	J1:8/1	Entering	5	35
J2:4/1	J1:8/2	Entering	5	35
J2:4/2	J1:1/2	Entering	10	35
J1:9/1	J2:7/1	Leaving	5	35
J1:9/2	J2:7/2	Leaving	5	35
J1:9/2	J2:7/3	Leaving	5	35
J1:10/1	J1:6/1	Internal	0	35
J1:10/2	J1:3/1	Internal	3	35
J1:10/2	J1:6/2	Internal	0	35
J1:10/3	J1:3/2	Internal	3	35
J1:11/1	J1:5/1	Internal	2	35
J1:11/1	J1:7/1	Internal	21	35
J1:11/2	J1:5/2	Internal	2	35
J1:11/3	J1:5/3	Internal	2	35

Detailed Input Data And Results

Junction: J2: M57 South				
Org Lane	Dest Lane	Junction	Modelled Mean Cruise Time (s)	Platoon Dispersion
J1:5/1	J2:7/1	Entering	5	35
J1:5/2	J2:7/2	Entering	5	35
J1:5/3	J2:7/3	Entering	5	35
J2:1/1	J2:5/1	Internal	6	35
J2:1/2	J2:3/1	Internal	9	35
J2:1/2	J2:3/2	Internal	9	35
J2:1/2	J2:5/2	Internal	6	35
J2:2/1	J2:5/1	Internal	6	35
J2:2/2	J2:3/1	Internal	9	35
J2:2/2	J2:3/2	Internal	8	35
J2:2/2	J2:5/2	Internal	6	35
J2:3/1	J1:1/1	Leaving	10	35
J2:3/1	J1:8/1	Leaving	5	35
J2:3/1	J1:8/2	Leaving	5	35
J2:3/2	J1:1/2	Leaving	10	35
J2:4/1	J1:1/1	Leaving	10	35
J2:4/1	J1:8/1	Leaving	5	35
J2:4/1	J1:8/2	Leaving	5	35
J2:4/2	J1:1/2	Leaving	10	35
J1:9/1	J2:7/1	Entering	5	35
J1:9/2	J2:7/2	Entering	5	35
J1:9/2	J2:7/3	Entering	5	35
J2:7/1	J2:6/1	Internal	21	35
J2:7/2	J2:1/1	Internal	5	35
J2:7/2	J2:6/2	Internal	21	35
J2:7/3	J2:1/2	Internal	5	35

Scenario 1: '2025 Survey AM' (FG1: '2025 Survey AM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 1

Scenario 2: '2025 Survey PM' (FG2: '2025 Survey PM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 2

Scenario 3: '2028 No Dev AM' (FG3: '2028 No Dev AM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 3

Scenario 4: '2028 No Dev PM' (FG4: '2028 No Dev PM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 4

Scenario 5: '2028 With Dev AM' (FG11: '2028 With Dev AM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 5

Scenario 6: '2028 With Dev PM' (FG12: '2028 With Dev PM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 6

Scenario 7: '2035 No Dev AM' (FG7: '2035 No Dev AM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 7

Scenario 8: '2035 No Dev PM' (FG8: '2035 No Dev PM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 8

Scenario 9: '2035 With Dev AM' (FG15: '2035 With Dev AM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 9

Scenario 10: '2035 With Dev PM' (FG16: '2035 With Dev PM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: J1: M57 North								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/1 (M57 SB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:2/2 (M57 SB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:3/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/1 (Moorgate Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/2 (Moorgate Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:4/3 (Moorgate Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J1:5/3 (Circulatory Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/1 (Moorgate Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:6/2 (Moorgate Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (School Lane Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (M57 NB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (M57 NB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (School Lane)	3.50	0.00	Y	Arm J2:7 Left	Inf	100.0 %	1965	1965
J1:9/2 (School Lane Lane 2)	This lane uses a directly entered Saturation Flow						4300	4300
J1:10/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf

Detailed Input Data And Results

J1:10/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:10/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf
J1:11/1 (Circulatory Lane 1)	Infinite Saturation Flow	Inf	Inf
J1:11/2 (Circulatory Lane 2)	Infinite Saturation Flow	Inf	Inf
J1:11/3 (Circulatory Lane 3)	Infinite Saturation Flow	Inf	Inf

Junction: J2: M57 South								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:1/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/1 (M57 NB Offslip Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:2/2 (M57 NB Offslip Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/1 (Circulatory Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:3/2 (Circulatory Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/1 (A580 Bypass Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
J2:4/2 (A580 Bypass Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
J2:5/1 (A580 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (A580 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (M57 SB Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:6/2 (M57 SB Slip Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (Circulatory Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (Circulatory Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:7/3 (Circulatory Lane 3)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 10

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2025 Survey AM'	08:00	09:00	01:00	
2: '2025 Survey PM'	16:30	17:30	01:00	
3: '2028 No Dev AM'	08:00	09:00	01:00	
4: '2028 No Dev PM'	16:30	17:30	01:00	
5: '2030 No Dev AM'	08:00	09:00	01:00	
6: '2030 No Dev PM'	16:30	17:30	01:00	
7: '2035 No Dev AM'	08:00	09:00	01:00	
8: '2035 No Dev PM'	16:30	17:30	01:00	
9: 'Proposed Dev AM'	08:00	09:00	01:00	
10: 'Proposed Dev PM'	08:00	09:00	01:00	
11: '2028 With Dev AM'	08:00	09:00	01:00	F3+F9
12: '2028 With Dev PM'	16:30	17:30	01:00	F4+F10
13: '2030 With Dev AM'	08:00	09:00	01:00	F5+F9
14: '2030 With Dev PM'	16:30	17:30	01:00	F6+F10
15: '2035 With Dev AM'	08:00	09:00	01:00	F7+F9
16: '2035 With Dev PM'	16:30	17:30	01:00	F8+F10

Traffic Flows, Desired**FG1: '2025 Survey AM'****Desired Flow :**

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	142	835	4	1	982
	B	41	0	174	89	84	388
	C	888	306	0	725	0	1919
	D	2	92	512	0	159	765
	E	78	130	0	92	0	300
	Tot.	1009	670	1521	910	244	4354

Detailed Input Data And Results

FG2: '2025 Survey PM'

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	89	963	3	5	1060
	B	65	0	318	174	186	743
	C	638	123	0	653	0	1414
	D	3	108	544	0	250	905
	E	108	127	0	129	0	364
	Tot.	814	447	1825	959	441	4486

FG3: '2028 No Dev AM'

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	150	867	4	1	1022
	B	44	0	185	94	88	411
	C	922	329	0	753	0	2004
	D	2	110	532	0	165	809
	E	81	149	0	96	0	326
	Tot.	1049	738	1584	947	254	4572

FG4: '2028 No Dev PM'

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	92	999	3	5	1099
	B	70	0	343	198	209	820
	C	662	132	0	678	0	1472
	D	3	113	565	0	259	940
	E	112	133	0	134	0	379
	Tot.	847	470	1907	1013	473	4710

FG5: '2030 No Dev AM'

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	154	889	4	1	1048
	B	45	0	189	97	90	421
	C	945	337	0	772	0	2054
	D	2	112	545	0	169	828
	E	83	152	0	98	0	333
	Tot.	1075	755	1623	971	260	4684

Detailed Input Data And Results

FG6: '2030 No Dev PM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	95	1024	3	5	1127
	B	72	0	351	202	214	839
	C	678	135	0	694	0	1507
	D	3	116	578	0	266	963
	E	115	136	0	137	0	388
	Tot.	868	482	1953	1036	485	4824

FG7: '2035 No Dev AM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	162	935	4	1	1102
	B	47	0	199	102	95	443
	C	995	354	0	812	0	2161
	D	2	117	573	0	178	870
	E	87	160	0	103	0	350
	Tot.	1131	793	1707	1021	274	4926

FG8: '2035 No Dev PM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	99	1076	3	6	1184
	B	76	0	368	211	224	879
	C	713	141	0	730	0	1584
	D	3	122	608	0	279	1012
	E	121	143	0	144	0	408
	Tot.	913	505	2052	1088	509	5067

FG9: 'Proposed Dev AM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	11	0	0	0	11
	B	30	0	0	34	24	88
	C	0	0	0	0	0	0
	D	0	13	0	0	0	13
	E	0	9	0	0	0	9
	Tot.	30	33	0	34	24	121

Detailed Input Data And Results

FG10: 'Proposed Dev PM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	27	0	0	0	27
	B	14	0	0	16	12	42
	C	0	0	0	0	0	0
	D	0	31	0	0	0	31
	E	0	22	0	0	0	22
	Tot.	14	80	0	16	12	122

FG11: '2028 With Dev AM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	161	867	4	1	1033
	B	74	0	185	128	112	499
	C	922	329	0	753	0	2004
	D	2	123	532	0	165	822
	E	81	158	0	96	0	335
	Tot.	1079	771	1584	981	278	4693

FG12: '2028 With Dev PM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	119	999	3	5	1126
	B	84	0	343	214	221	862
	C	662	132	0	678	0	1472
	D	3	144	565	0	259	971
	E	112	155	0	134	0	401
	Tot.	861	550	1907	1029	485	4832

FG13: '2030 With Dev AM'

Desired Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	165	889	4	1	1059
	B	75	0	189	131	114	509
	C	945	337	0	772	0	2054
	D	2	125	545	0	169	841
	E	83	161	0	98	0	342
	Tot.	1105	788	1623	1005	284	4805

Detailed Input Data And Results

FG14: '2030 With Dev PM'

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	122	1024	3	5	1154
	B	86	0	351	218	226	881
	C	678	135	0	694	0	1507
	D	3	147	578	0	266	994
	E	115	158	0	137	0	410
	Tot.	882	562	1953	1052	497	4946

FG15: '2035 With Dev AM'

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	173	935	4	1	1113
	B	77	0	199	136	119	531
	C	995	354	0	812	0	2161
	D	2	130	573	0	178	883
	E	87	169	0	103	0	359
	Tot.	1161	826	1707	1055	298	5047

FG16: '2035 With Dev PM'

Desired Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	126	1076	3	6	1211
	B	90	0	368	227	236	921
	C	713	141	0	730	0	1584
	D	3	153	608	0	279	1043
	E	121	165	0	144	0	430
	Tot.	927	585	2052	1104	521	5189

Scenario 1: '2025 Survey AM' (FG1: '2025 Survey AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	142	835	4	1	982
	B	41	0	174	89	84	388
	C	888	306	0	725	0	1919
	D	2	92	512	0	159	765
	E	78	130	0	92	0	300
	Tot.	1009	670	1521	910	244	4354

Detailed Input Data And Results

Traffic Flows, Difference

Difference :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Scenario 2: '2025 Survey PM' (FG2: '2025 Survey PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	89	963	3	5	1060
	B	65	0	318	174	186	743
	C	638	123	0	653	0	1414
	D	3	108	544	0	250	905
	E	108	127	0	129	0	364
	Tot.	814	447	1825	959	441	4486

Traffic Flows, Difference

Difference :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Detailed Input Data And Results

Scenario 3: '2028 No Dev AM' (FG3: '2028 No Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	150	867	4	1	1022
	B	44	0	185	94	88	411
	C	922	329	0	753	0	2004
	D	2	110	532	0	165	809
	E	81	149	0	96	0	326
	Tot.	1049	738	1584	947	254	4572

Traffic Flows, Difference

Difference :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Scenario 4: '2028 No Dev PM' (FG4: '2028 No Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	92	999	3	5	1099
	B	70	0	343	198	209	820
	C	662	132	0	678	0	1472
	D	3	113	565	0	259	940
	E	112	133	0	134	0	379
	Tot.	847	470	1907	1013	473	4710

Detailed Input Data And Results

Traffic Flows, Difference

Difference :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Scenario 5: '2028 With Dev AM' (FG11: '2028 With Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	161	867	4	1	1033
	B	74	0	185	128	112	499
	C	922	329	0	753	0	2004
	D	2	123	532	0	165	822
	E	81	158	0	96	0	335
	Tot.	1079	771	1584	981	278	4693

Traffic Flows, Difference

Difference :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Detailed Input Data And Results

Scenario 6: '2028 With Dev PM' (FG12: '2028 With Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	119	999	3	5	1126
	B	84	0	343	214	221	862
	C	662	132	0	678	0	1472
	D	3	144	565	0	259	971
	E	112	155	0	134	0	401
	Tot.	861	550	1907	1029	485	4832

Traffic Flows, Difference

Difference :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Scenario 7: '2035 No Dev AM' (FG7: '2035 No Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	162	935	4	1	1102
	B	47	0	199	102	95	443
	C	995	354	0	812	0	2161
	D	2	117	573	0	178	870
	E	87	160	0	103	0	350
	Tot.	1131	793	1707	1021	274	4926

Detailed Input Data And Results

Traffic Flows, Difference

Difference :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Scenario 8: '2035 No Dev PM' (FG8: '2035 No Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	99	1076	3	6	1184
	B	76	0	368	211	224	879
	C	713	141	0	730	0	1584
	D	3	122	608	0	279	1012
	E	121	143	0	144	0	408
	Tot.	913	505	2052	1088	509	5067

Traffic Flows, Difference

Difference :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Detailed Input Data And Results

Scenario 9: '2035 With Dev AM' (FG15: '2035 With Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	173	935	4	1	1113
	B	77	0	199	136	119	531
	C	995	354	0	812	0	2161
	D	2	130	573	0	178	883
	E	87	169	0	103	0	359
	Tot.	1161	826	1707	1055	298	5047

Traffic Flows, Difference

Difference :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Scenario 10: '2035 With Dev PM' (FG16: '2035 With Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination						
		A	B	C	D	E	Tot.
Origin	A	0	126	1076	3	6	1211
	B	90	0	368	227	236	921
	C	713	141	0	730	0	1584
	D	3	153	608	0	279	1043
	E	121	165	0	144	0	430
	Tot.	927	585	2052	1104	521	5189

Detailed Input Data And Results

Traffic Flows, Difference

Difference :

	Destination						
Origin		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	0	0	0
	C	0	0	0	0	0	0
	D	0	0	0	0	0	0
	E	0	0	0	0	0	0
	Tot.	0	0	0	0	0	0

Traffic Lane Flows

Lane	Scenario 1: 2025 Survey AM	Scenario 2: 2025 Survey PM	Scenario 3: 2028 No Dev AM	Scenario 4: 2028 No Dev PM	Scenario 5: 2028 With Dev AM	Scenario 6: 2028 With Dev PM
Junction: J1: M57 North						
J1:1/1	467	354	485	369	500	376
J1:1/2	1374	1127	1454	1176	1482	1214
J1:2/1	208	235	230	245	239	267
J1:2/2	92	129	96	134	96	134
J1:3/1	784	630	854	660	876	713
J1:3/2 (with short)	348(In) 302(Out)	401(In) 337(Out)	362(In) 314(Out)	417(In) 350(Out)	362(In) 314(Out)	417(In) 350(Out)
J1:3/3 (short)	46	64	48	67	48	67
J1:4/1	488	526	509	545	514	559
J1:4/2 (with short)	494(In) 489(Out)	534(In) 526(Out)	513(In) 508(Out)	554(In) 546(Out)	519(In) 514(Out)	567(In) 559(Out)
J1:4/3 (short)	5	8	5	8	5	8
J1:5/1	602	709	625	735	619	722
J1:5/2	791	863	822	896	828	909
J1:5/3	51	72	53	75	53	75
J1:6/1	506	408	525	425	540	432
J1:6/2	503	406	524	422	539	429
J1:7/1	670	447	738	470	771	550
J1:8/1	121	220	126	236	138	241
J1:8/2	123	221	128	237	140	244
J1:9/1 (with short)	388(In) 174(Out)	743(In) 318(Out)	411(In) 185(Out)	820(In) 343(Out)	499(In) 185(Out)	862(In) 343(Out)
J1:9/2 (short)	214	425	226	477	314	519
J1:10/1	506	408	525	425	540	432
J1:10/2	1287	1036	1378	1082	1415	1142
J1:10/3	348	401	362	417	362	417
J1:11/1	1272	1156	1363	1205	1390	1272
J1:11/2	791	863	822	896	828	909
J1:11/3	51	72	53	75	53	75
Junction: J2: M57 South						
J2:1/1	91	152	95	166	112	174
J2:1/2	220	410	232	453	303	487
J2:2/1	725	653	753	678	753	678
J2:2/2	1194	761	1251	794	1251	794
J2:3/1	550	542	572	580	611	599
J2:3/2	770	475	812	498	827	505
J2:4/1	161	253	167	262	167	262
J2:4/2	604	652	642	678	655	709

Detailed Input Data And Results

J2:5/1	816	805	848	844	865	852
J2:5/2	94	154	99	169	116	177
J2:6/1	776	1027	810	1078	804	1065
J2:6/2	745	798	774	829	780	842
J2:7/1	776	1027	810	1078	804	1065
J2:7/2	836	950	869	995	892	1016
J2:7/3	220	410	232	453	303	487

Detailed Input Data And Results

Lane	Scenario 7: 2035 No Dev AM	Scenario 8: 2035 No Dev PM	Scenario 9: 2035 With Dev AM	Scenario 10: 2035 With Dev PM
Junction: J1: M57 North				
J1:1/1	522	397	537	404
J1:1/2	1566	1266	1594	1304
J1:2/1	247	264	256	286
J1:2/2	103	144	103	144
J1:3/1	917	710	939	763
J1:3/2 (with short)	390(In) 338(Out)	448(In) 376(Out)	390(In) 390(Out)	448(In) 376(Out)
J1:3/3 (short)	52	72	0	72
J1:4/1	549	588	554	601
J1:4/2 (with short)	553(In) 548(Out)	596(In) 587(Out)	559(In) 554(Out)	610(In) 601(Out)
J1:4/3 (short)	5	9	5	9
J1:5/1	673	793	667	779
J1:5/2	886	963	944	977
J1:5/3	57	81	5	81
J1:6/1	565	457	580	464
J1:6/2	566	456	581	463
J1:7/1	793	505	826	585
J1:8/1	137	254	148	260
J1:8/2	137	255	150	261
J1:9/1 (with short)	443(In) 199(Out)	879(In) 368(Out)	531(In) 199(Out)	921(In) 368(Out)
J1:9/2 (short)	244	511	332	553
J1:10/1	565	457	580	464
J1:10/2	1483	1166	1520	1226
J1:10/3	390	448	390	448
J1:11/1	1466	1298	1493	1364
J1:11/2	886	963	944	977
J1:11/3	57	81	5	81
Junction: J2: M57 South				
J2:1/1	102	178	171	186
J2:1/2	250	486	269	520
J2:2/1	812	730	812	730
J2:2/2	1349	854	1349	854
J2:3/1	616	624	655	643
J2:3/2	876	536	891	543
J2:4/1	180	282	180	282
J2:4/2	690	730	703	761

Detailed Input Data And Results

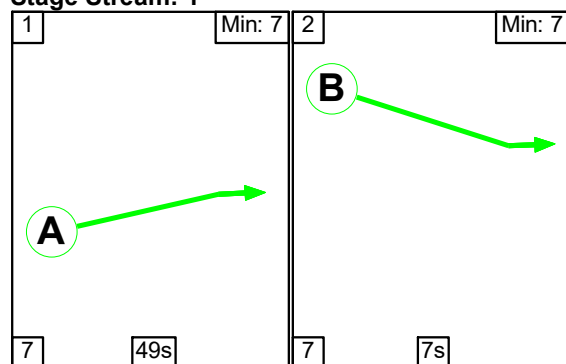
J2:5/1	914	908	983	916
J2:5/2	107	180	72	188
J2:6/1	872	1161	866	1147
J2:6/2	835	891	841	905
J2:7/1	872	1161	866	1147
J2:7/2	937	1069	1012	1091
J2:7/3	250	486	269	520

Scenario 1: '2025 Survey AM' (FG1: '2025 Survey AM', Plan 1: 'Network Control Plan 1')

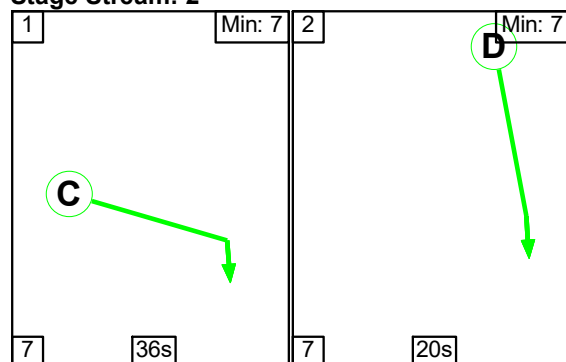
Controller :C1 - Randles North

Stage Sequence Diagram

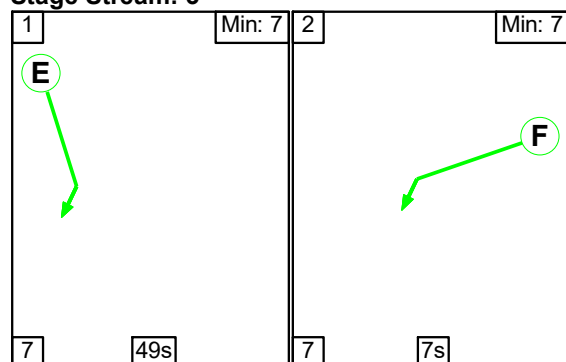
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings**Stage Stream: 1**

Stage	1	2
Duration	49	7
Change Point	63	49

Stage Stream: 2

Stage	1	2
Duration	36	20
Change Point	55	28

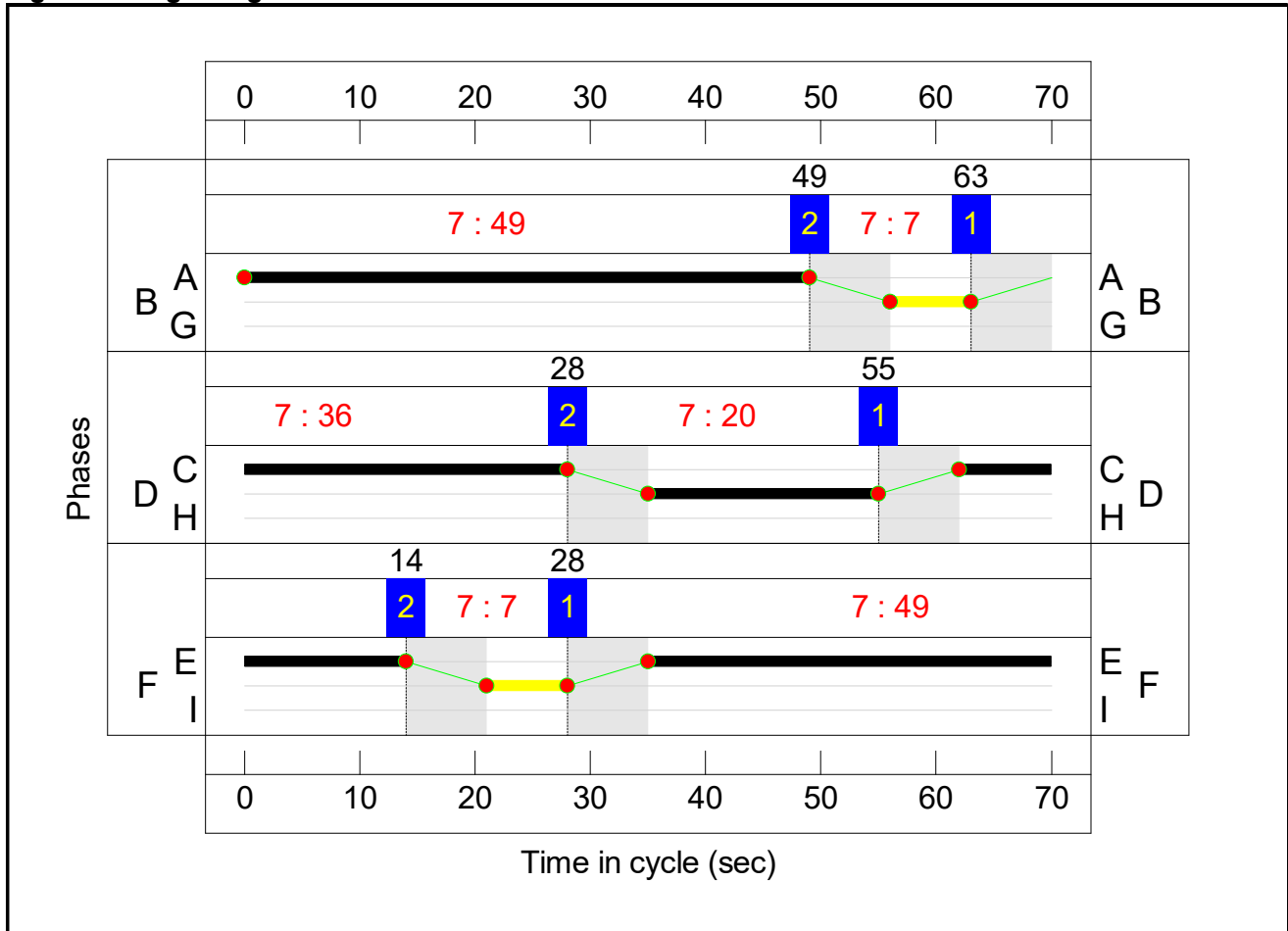
Stage Stream: 3

Stage	1	2
Duration	49	7
Change Point	28	14

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Ahead	Traffic	1	49	0	49
B	M57 SB Offslip Ahead	Traffic	1	7	56	63
C	Circulatory Right	Traffic	2	36	62	28
D	Moorgate Ahead	Traffic	2	20	35	55
E	Circulatory Ahead	Traffic	3	49	35	14
F	School Lane Left	Traffic	3	7	21	28
G	Dummy	Dummy	1			
H	Dummy	Dummy	2			
I	Dummy	Dummy	3			

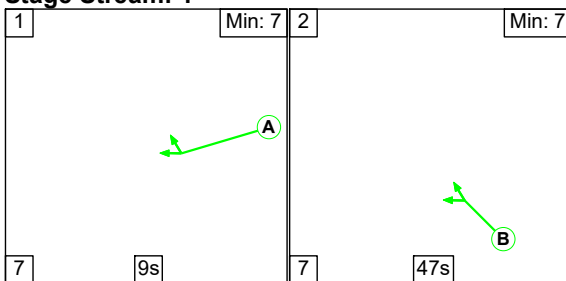
Signal Timings Diagram



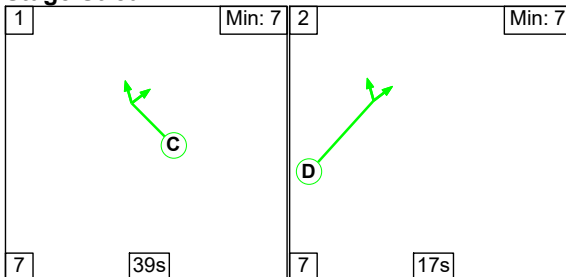
Controller :C2 - Randles South

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings**Stage Stream: 1**

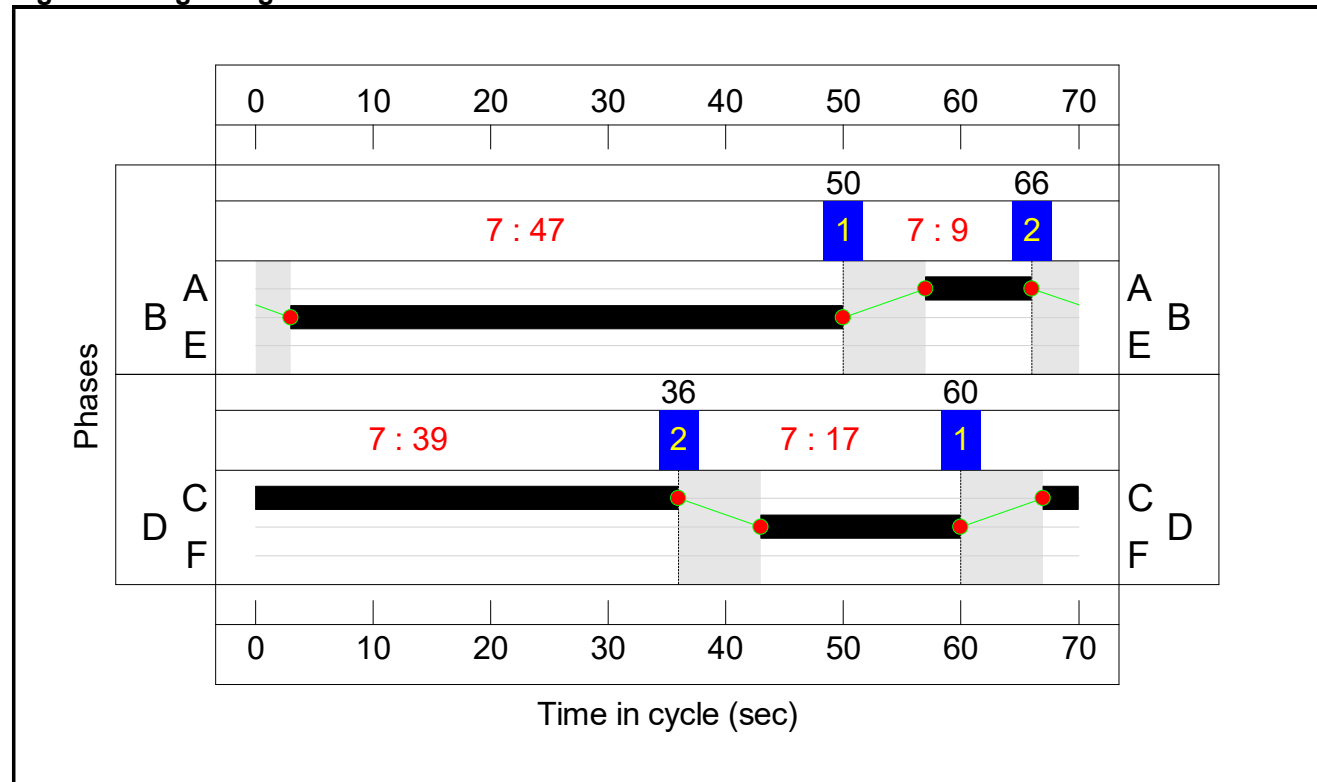
Stage	1	2
Duration	9	47
Change Point	50	66

Stage Stream: 2

Stage	1	2
Duration	39	17
Change Point	60	36

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Right Ahead	Traffic	1	9	57	66
B	M57 NB Offslip Ahead Ahead2	Traffic	1	47	3	50
C	Circulatory Right Ahead	Traffic	2	39	67	36
D	A580 Bypass Ahead Left	Traffic	2	17	43	60
E	Dummy	Dummy	1			
F	Dummy	Dummy	2			

Signal Timings Diagram

Lane Green Times

Junction: J1: M57 North					
Lane	Description	Type	Phases	Start Green	End Green
J1:1/1	Circulatory Ahead	U	A	0	49
J1:1/2	Circulatory Ahead	U	A	0	49
J1:2/1	M57 SB Offslip Ahead	U	B	56	63
J1:2/2	M57 SB Offslip Ahead	U	B	56	63
J1:3/1	Circulatory Right	U	C	62	28
J1:3/2	Circulatory Right	U	C	62	28
J1:3/3	Circulatory Right	U	C	62	28
J1:4/1	Moorgate Ahead	U	D	35	55
J1:4/2	Moorgate Ahead	U	D	35	55
J1:4/3	Moorgate Ahead	U	D	35	55
J1:5/1	Circulatory Ahead	U	E	35	14
J1:5/2	Circulatory Ahead	U	E	35	14
J1:5/3	Circulatory Ahead	U	E	35	14
J1:9/1	School Lane Left	U	F	21	28
J1:9/2	School Lane Left	U	F	21	28

Junction: J2: M57 South					
Lane	Description	Type	Phases	Start Green	End Green
J2:1/1	Circulatory Ahead	U	A	57	66
J2:1/2	Circulatory Right Ahead	U	A	57	66
J2:2/1	M57 NB Offslip Ahead	U	B	3	50
J2:2/2	M57 NB Offslip Ahead Ahead2	U	B	3	50
J2:3/1	Circulatory Right Ahead	U	C	67	36
J2:3/2	Circulatory Right	U	C	67	36
J2:4/1	A580 Bypass Ahead Left	U	D	43	60
J2:4/2	A580 Bypass Ahead	U	D	43	60

Detailed Input Data And Results

Network Layout Diagram

Detailed Input Data And Results

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

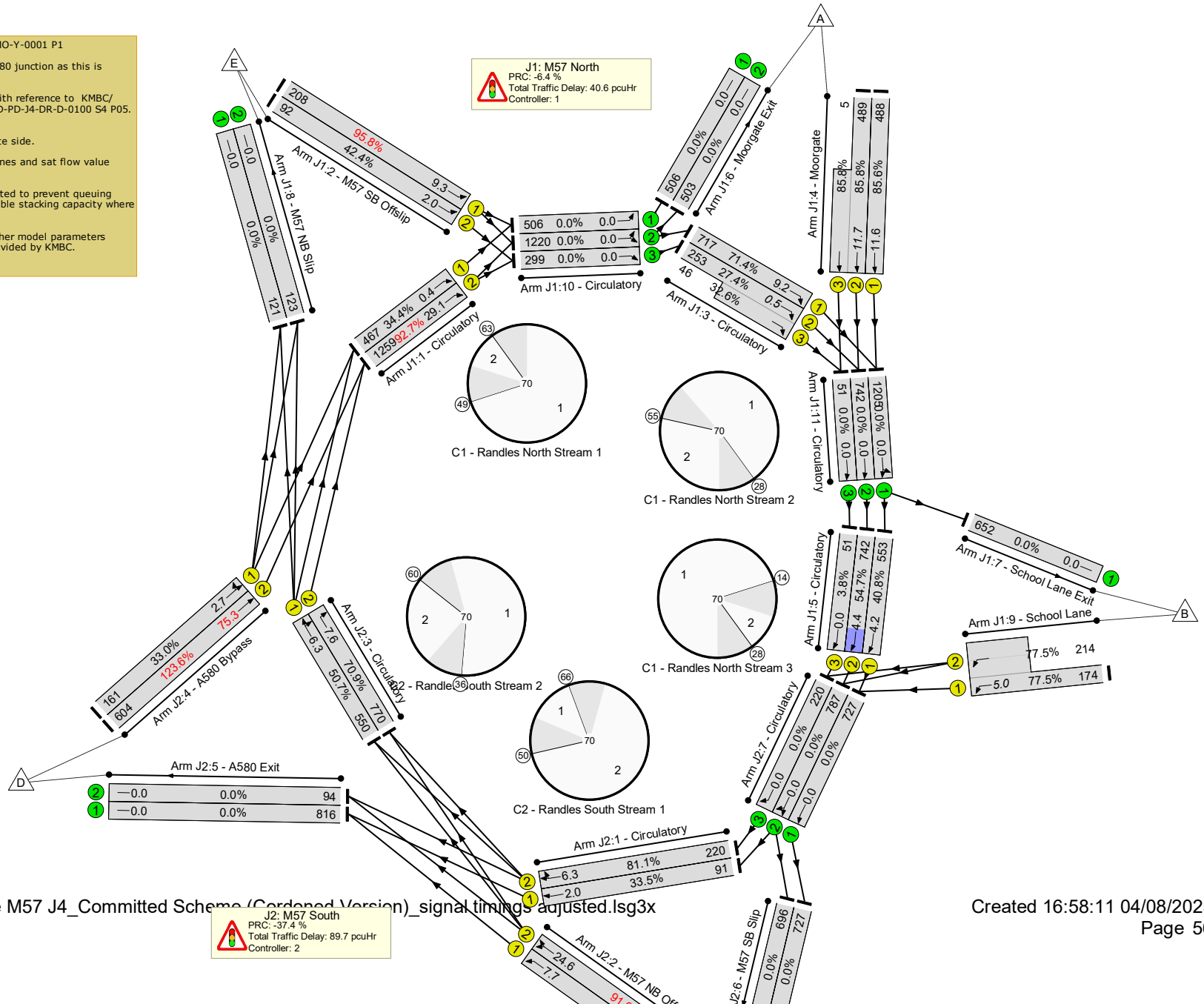
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Randles Farm Interchange M57 J4_Committed Scheme (Cordoned Version)_signal timings adjusted.lsg3x

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Detailed Input Data And Results

Detailed Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	123.6%
J1: M57 North	-	-	N/A	-	-		-	-	-	-	-	-	-	95.8%
1/1	Circulatory Ahead	U	1:1	N/A	C1:A		1	49	-	-	467	1900	1357	34.4%
1/2	Circulatory Ahead	U	1:1	N/A	C1:A		1	49	-	-	1374	1900	1357	92.7%
2/1	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	7	-	-	208	1900	217	95.8%
2/2	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	7	-	-	92	1900	217	42.4%
3/1	Circulatory Right	U	1:2	N/A	C1:C		1	36	-	-	784	1900	1004	71.4%
3/2+3/3	Circulatory Right	U	1:2	N/A	C1:C		1	36	-	-	348	1900:1900	925+141	27.4 : 32.6%
4/1	Moorgate Ahead	U	1:2	N/A	C1:D		1	20	-	-	488	1900	570	85.6%
4/2+4/3	Moorgate Ahead	U	1:2	N/A	C1:D		1	20	-	-	494	1900:1900	570+6	85.8 : 85.8%
5/1	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	602	1900	1357	40.8%
5/2	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	791	1900	1357	54.7%
5/3	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	51	1900	1357	3.8%
6/1	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	506	Inf	Inf	0.0%
6/2	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	503	Inf	Inf	0.0%
7/1	School Lane Exit	U	N/A	N/A	-		-	-	-	-	670	Inf	Inf	0.0%
8/1	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	121	Inf	Inf	0.0%
8/2	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	123	Inf	Inf	0.0%

Detailed Input Data And Results

9/1+9/2	School Lane Left	U	1:3	N/A	C1:F		1	7	-	-	388	1965:4300	225+276	77.5 : 77.5%
10/1	Circulatory Left	U	N/A	N/A	-		-	-	-	-	506	Inf	Inf	0.0%
10/2	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1287	Inf	Inf	0.0%
10/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	348	Inf	Inf	0.0%
11/1	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1272	Inf	Inf	0.0%
11/2	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	791	Inf	Inf	0.0%
11/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	51	Inf	Inf	0.0%
J2: M57 South	-	-	N/A	-	-		-	-	-	-	-	-	-	123.6%
1/1	Circulatory Ahead	U	2:1	N/A	C2:A		1	9	-	-	91	1900	271	33.5%
1/2	Circulatory Right Ahead	U	2:1	N/A	C2:A		1	9	-	-	220	1900	271	81.1%
2/1	M57 NB Offslip Ahead	U	2:1	N/A	C2:B		1	47	-	-	725	1900	1303	55.6%
2/2	M57 NB Offslip Ahead Ahead2	U	2:1	N/A	C2:B		1	47	-	-	1194	1900	1303	91.6%
3/1	Circulatory Right Ahead	U	2:2	N/A	C2:C		1	39	-	-	550	1900	1086	50.7%
3/2	Circulatory Right	U	2:2	N/A	C2:C		1	39	-	-	770	1900	1086	70.9%
4/1	A580 Bypass Ahead Left	U	2:2	N/A	C2:D		1	17	-	-	161	1900	489	33.0%
4/2	A580 Bypass Ahead	U	2:2	N/A	C2:D		1	17	-	-	604	1900	489	123.6%
5/1	A580 Exit	U	N/A	N/A	-		-	-	-	-	816	Inf	Inf	0.0%
5/2	A580 Exit	U	N/A	N/A	-		-	-	-	-	94	Inf	Inf	0.0%
6/1	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	776	Inf	Inf	0.0%
6/2	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	745	Inf	Inf	0.0%

Detailed Input Data And Results

7/1	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	776	Inf	Inf	0.0%
7/2	Circulatory Right Ahead	U	N/A	N/A	-		-	-	-	-	836	Inf	Inf	0.0%
7/3	Circulatory Right	U	N/A	N/A	-		-	-	-	-	220	Inf	Inf	0.0%

Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	0	0	0	39.0	91.4	0.0	130.3	-	-	-	-	
J1: M57 North	-	-	0	0	0	19.3	21.3	0.0	40.6	-	-	-	-	
1/1	467	467	-	-	-	0.0	0.3	-	0.3	2.3	0.2	0.3	0.4	
1/2	1259	1259	-	-	-	3.8	5.7	-	9.5	27.2	23.4	5.7	29.1	
2/1	208	208	-	-	-	1.8	5.3	-	7.1	122.2	4.0	5.3	9.3	
2/2	92	92	-	-	-	0.7	0.4	-	1.1	43.2	1.7	0.4	2.0	
3/1	717	717	-	-	-	2.2	1.2	-	3.4	17.3	7.9	1.2	9.2	
3/2+3/3	299	299	-	-	-	0.1	0.2	-	0.3	3.7	0.3	0.2	0.5	
4/1	488	488	-	-	-	3.1	2.8	-	5.9	43.6	8.8	2.8	11.6	
4/2+4/3	494	494	-	-	-	3.2	2.8	-	6.0	43.6	8.8	2.8	11.7	
5/1	553	553	-	-	-	0.7	0.3	-	1.0	6.6	3.9	0.3	4.2	
5/2	742	742	-	-	-	0.5	0.6	-	1.1	5.3	3.8	0.6	4.4	
5/3	51	51	-	-	-	0.0	0.0	-	0.0	1.8	0.0	0.0	0.0	
6/1	506	506	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	503	503	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	652	652	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/1	121	121	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/2	123	123	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1+9/2	388	388	-	-	-	3.2	1.7	-	4.8	45.0	3.3	1.7	5.0	
10/1	506	506	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/2	1220	1220	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/3	299	299	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/1	1205	1205	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/2	742	742	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/3	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	

Detailed Input Data And Results

J2: M57 South	-	-	0	0	0	19.7	70.1	0.0	89.7	-	-	-	-	
1/1	91	91	-	-	-	0.8	0.3	-	1.1	42.6	1.8	0.3	2.0	
1/2	220	220	-	-	-	1.8	2.0	-	3.8	62.6	4.3	2.0	6.3	
2/1	725	725	-	-	-	1.1	0.6	-	1.8	8.7	7.0	0.6	7.7	
2/2	1194	1194	-	-	-	3.1	5.0	-	8.1	24.4	19.6	5.0	24.6	
3/1	550	550	-	-	-	1.4	0.5	-	1.9	12.5	5.7	0.5	6.3	
3/2	770	770	-	-	-	2.2	1.2	-	3.5	16.2	6.4	1.2	7.6	
4/1	161	161	-	-	-	0.9	0.2	-	1.2	26.6	2.5	0.2	2.7	
4/2	604	489	-	-	-	8.2	60.2	-	68.4	407.8	15.1	60.2	75.3	
5/1	816	816	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	94	94	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	727	727	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	696	696	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	727	727	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/2	787	787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/3	220	220	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 - Randles North C1 - Randles North C1 - Randles North C2 - Randles South C2 - Randles South Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): Stream: 3 PRC for Signalled Lanes (%): Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): PRC Over All Lanes (%) -6.4 4.9 16.2 -1.8 -37.4 -37.4 Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): 17.96 15.66 6.98 14.76 74.99 130.34 Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): 70 70 70 70 70 														

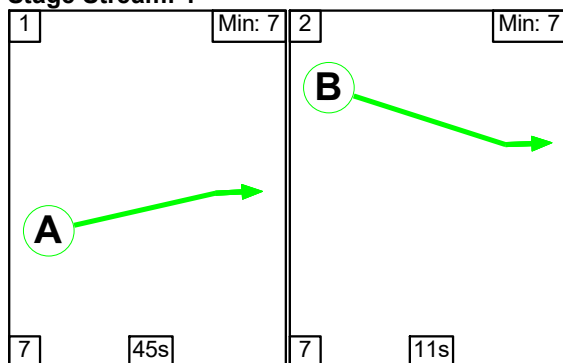
Detailed Input Data And Results

Scenario 2: '2025 Survey PM' (FG2: '2025 Survey PM', Plan 1: 'Network Control Plan 1')

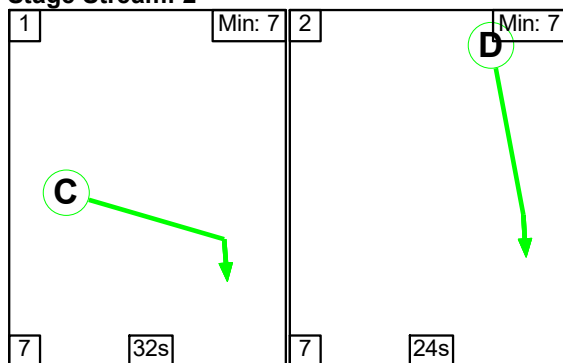
Controller :C1 - Randles North

Stage Sequence Diagram

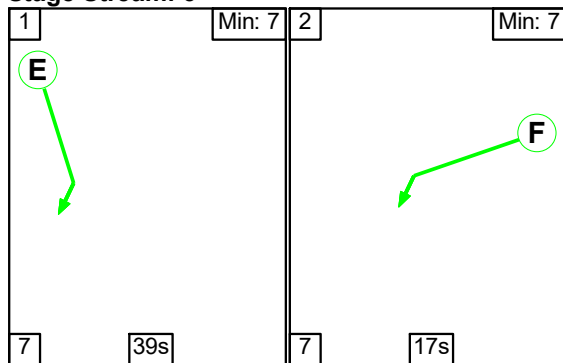
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	45	11
Change Point	11	63

Stage Stream: 2

Stage	1	2
Duration	32	24
Change Point	21	60

Detailed Input Data And Results

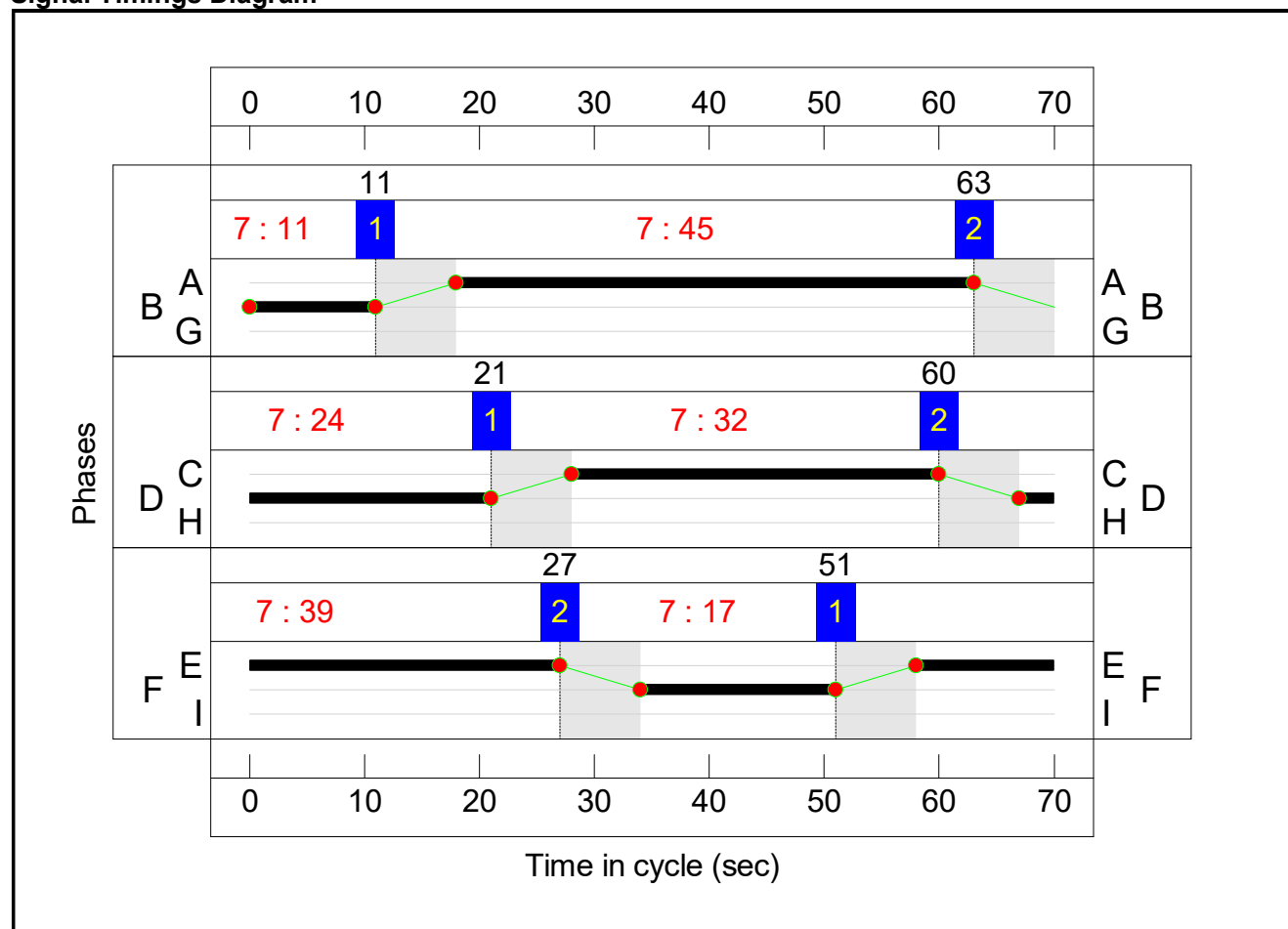
Stage Stream: 3

Stage	1	2
Duration	39	17
Change Point	51	27

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Ahead	Traffic	1	45	18	63
B	M57 SB Offslip Ahead	Traffic	1	11	0	11
C	Circulatory Right	Traffic	2	32	28	60
D	Moorgate Ahead	Traffic	2	24	67	21
E	Circulatory Ahead	Traffic	3	39	58	27
F	School Lane Left	Traffic	3	17	34	51
G	Dummy	Dummy	1			
H	Dummy	Dummy	2			
I	Dummy	Dummy	3			

Signal Timings Diagram

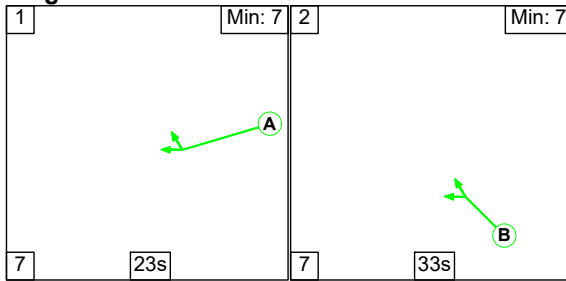


Detailed Input Data And Results

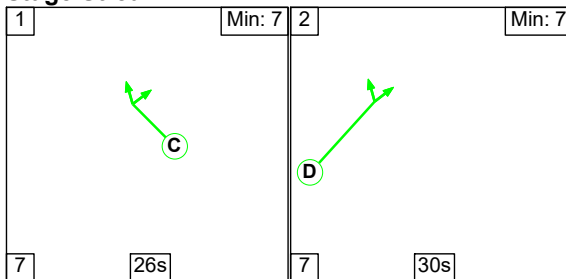
Controller :C2 - Randles South

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

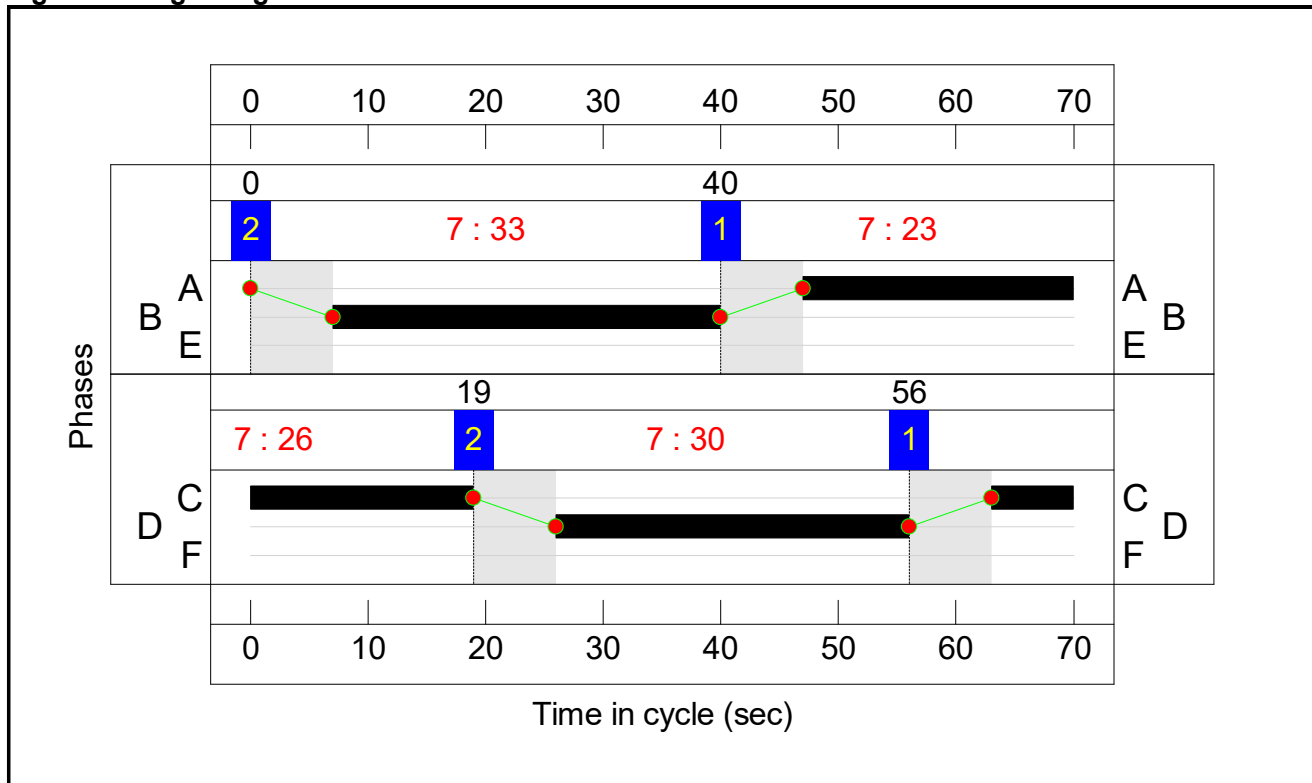
Stage	1	2
Duration	23	33
Change Point	40	0

Stage Stream: 2

Stage	1	2
Duration	26	30
Change Point	56	19

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Right Ahead	Traffic	1	23	47	0
B	M57 NB Offslip Ahead Ahead2	Traffic	1	33	7	40
C	Circulatory Right Ahead	Traffic	2	26	63	19
D	A580 Bypass Ahead Left	Traffic	2	30	26	56
E	Dummy	Dummy	1			
F	Dummy	Dummy	2			

Signal Timings Diagram**Lane Green Times**

Junction: J1: M57 North					
Lane	Description	Type	Phases	Start Green	End Green
J1:1/1	Circulatory Ahead	U	A	18	63
J1:1/2	Circulatory Ahead	U	A	18	63
J1:2/1	M57 SB Offslip Ahead	U	B	0	11
J1:2/2	M57 SB Offslip Ahead	U	B	0	11
J1:3/1	Circulatory Right	U	C	28	60
J1:3/2	Circulatory Right	U	C	28	60
J1:3/3	Circulatory Right	U	C	28	60
J1:4/1	Moorgate Ahead	U	D	67	21
J1:4/2	Moorgate Ahead	U	D	67	21
J1:4/3	Moorgate Ahead	U	D	67	21
J1:5/1	Circulatory Ahead	U	E	58	27
J1:5/2	Circulatory Ahead	U	E	58	27
J1:5/3	Circulatory Ahead	U	E	58	27
J1:9/1	School Lane Left	U	F	34	51
J1:9/2	School Lane Left	U	F	34	51

Detailed Input Data And Results

Junction: J2: M57 South					
Lane	Description	Type	Phases	Start Green	End Green
J2:1/1	Circulatory Ahead	U	A	47	0
J2:1/2	Circulatory Right Ahead	U	A	47	0
J2:2/1	M57 NB Offslip Ahead	U	B	7	40
J2:2/2	M57 NB Offslip Ahead Ahead2	U	B	7	40
J2:3/1	Circulatory Right Ahead	U	C	63	19
J2:3/2	Circulatory Right	U	C	63	19
J2:4/1	A580 Bypass Ahead Left	U	D	26	56
J2:4/2	A580 Bypass Ahead	U	D	26	56

Detailed Input Data And Results

Network Layout Diagram

Detailed Input Data And Results

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

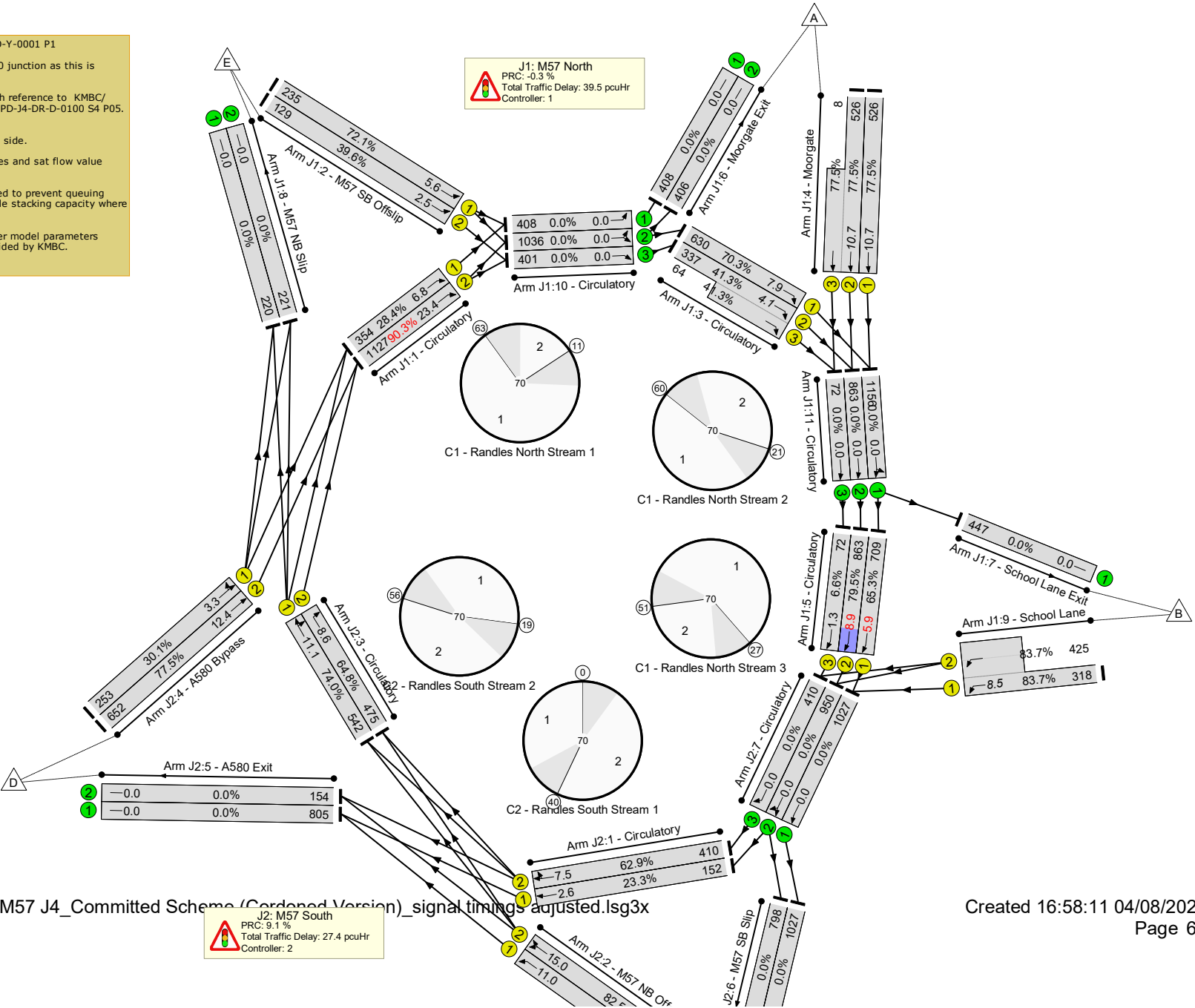
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Randles Farm Interchange M57 J4_Committed Scheme (Cordoned Version)_signal timings adjusted.lsg3x

Detailed Input Data And Results

Detailed Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	90.3%
J1: M57 North	-	-	N/A	-	-		-	-	-	-	-	-	-	90.3%
1/1	Circulatory Ahead	U	1:1	N/A	C1:A		1	45	-	-	354	1900	1249	28.4%
1/2	Circulatory Ahead	U	1:1	N/A	C1:A		1	45	-	-	1127	1900	1249	90.3%
2/1	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	11	-	-	235	1900	326	72.1%
2/2	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	11	-	-	129	1900	326	39.6%
3/1	Circulatory Right	U	1:2	N/A	C1:C		1	32	-	-	630	1900	896	70.3%
3/2+3/3	Circulatory Right	U	1:2	N/A	C1:C		1	32	-	-	401	1900:1900	816+155	41.3 : 41.3%
4/1	Moorgate Ahead	U	1:2	N/A	C1:D		1	24	-	-	526	1900	679	77.5%
4/2+4/3	Moorgate Ahead	U	1:2	N/A	C1:D		1	24	-	-	534	1900:1900	679+10	77.5 : 77.5%
5/1	Circulatory Ahead	U	1:3	N/A	C1:E		1	39	-	-	709	1900	1086	65.3%
5/2	Circulatory Ahead	U	1:3	N/A	C1:E		1	39	-	-	863	1900	1086	79.5%
5/3	Circulatory Ahead	U	1:3	N/A	C1:E		1	39	-	-	72	1900	1086	6.6%
6/1	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	408	Inf	Inf	0.0%
6/2	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	406	Inf	Inf	0.0%
7/1	School Lane Exit	U	N/A	N/A	-		-	-	-	-	447	Inf	Inf	0.0%
8/1	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	220	Inf	Inf	0.0%
8/2	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	221	Inf	Inf	0.0%

Detailed Input Data And Results

9/1+9/2	School Lane Left	U	1:3	N/A	C1:F		1	17	-	-	743	1965:4300	380+508	83.7 : 83.7%
10/1	Circulatory Left	U	N/A	N/A	-		-	-	-	-	408	Inf	Inf	0.0%
10/2	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1036	Inf	Inf	0.0%
10/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	401	Inf	Inf	0.0%
11/1	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1156	Inf	Inf	0.0%
11/2	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	863	Inf	Inf	0.0%
11/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	72	Inf	Inf	0.0%
J2: M57 South	-	-	N/A	-	-		-	-	-	-	-	-	-	82.5%
1/1	Circulatory Ahead	U	2:1	N/A	C2:A		1	23	-	-	152	1900	651	23.3%
1/2	Circulatory Right Ahead	U	2:1	N/A	C2:A		1	23	-	-	410	1900	651	62.9%
2/1	M57 NB Offslip Ahead	U	2:1	N/A	C2:B		1	33	-	-	653	1900	923	70.8%
2/2	M57 NB Offslip Ahead Ahead2	U	2:1	N/A	C2:B		1	33	-	-	761	1900	923	82.5%
3/1	Circulatory Right Ahead	U	2:2	N/A	C2:C		1	26	-	-	542	1900	733	74.0%
3/2	Circulatory Right	U	2:2	N/A	C2:C		1	26	-	-	475	1900	733	64.8%
4/1	A580 Bypass Ahead Left	U	2:2	N/A	C2:D		1	30	-	-	253	1900	841	30.1%
4/2	A580 Bypass Ahead	U	2:2	N/A	C2:D		1	30	-	-	652	1900	841	77.5%
5/1	A580 Exit	U	N/A	N/A	-		-	-	-	-	805	Inf	Inf	0.0%
5/2	A580 Exit	U	N/A	N/A	-		-	-	-	-	154	Inf	Inf	0.0%
6/1	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	1027	Inf	Inf	0.0%
6/2	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	798	Inf	Inf	0.0%

Detailed Input Data And Results

7/1	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	1027	Inf	Inf	0.0%
7/2	Circulatory Right Ahead	U	N/A	N/A	-		-	-	-	-	950	Inf	Inf	0.0%
7/3	Circulatory Right	U	N/A	N/A	-		-	-	-	-	410	Inf	Inf	0.0%

Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	0	0	0	41.7	25.1	0.0	66.8	-	-	-	-	
J1: M57 North	-	-	0	0	0	23.1	16.4	0.0	39.5	-	-	-	-	
1/1	354	354	-	-	-	1.2	0.2	-	1.4	14.3	6.6	0.2	6.8	
1/2	1127	1127	-	-	-	2.2	4.3	-	6.5	20.7	19.1	4.3	23.4	
2/1	235	235	-	-	-	1.8	1.3	-	3.1	46.7	4.3	1.3	5.6	
2/2	129	129	-	-	-	0.9	0.3	-	1.3	34.9	2.2	0.3	2.5	
3/1	630	630	-	-	-	2.0	1.2	-	3.2	18.2	6.7	1.2	7.9	
3/2+3/3	401	401	-	-	-	1.7	0.4	-	2.1	18.6	3.7	0.4	4.1	
4/1	526	526	-	-	-	2.9	1.7	-	4.6	31.5	9.1	1.7	10.7	
4/2+4/3	534	534	-	-	-	3.0	1.7	-	4.6	31.3	9.1	1.7	10.7	
5/1	709	709	-	-	-	0.9	0.9	-	1.8	9.2	5.0	0.9	5.9	
5/2	863	863	-	-	-	1.6	1.9	-	3.5	14.5	7.0	1.9	8.9	
5/3	72	72	-	-	-	0.4	0.0	-	0.4	20.2	1.3	0.0	1.3	
6/1	408	408	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	406	406	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	447	447	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/1	220	220	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/2	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1+9/2	743	743	-	-	-	4.6	2.5	-	7.1	34.2	6.0	2.5	8.5	
10/1	408	408	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/2	1036	1036	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/3	401	401	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/1	1156	1156	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/2	863	863	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/3	72	72	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	

Detailed Input Data And Results

J2: M57 South	-	-	0	0	0	18.7	8.7	0.0	27.4	-	-	-	-	
1/1	152	152	-	-	-	0.8	0.2	-	0.9	22.2	2.4	0.2	2.6	
1/2	410	410	-	-	-	0.8	0.8	-	1.6	14.0	6.7	0.8	7.5	
2/1	653	653	-	-	-	2.6	1.2	-	3.8	20.7	9.8	1.2	11.0	
2/2	761	761	-	-	-	3.3	2.3	-	5.6	26.3	12.7	2.3	15.0	
3/1	542	542	-	-	-	3.5	1.4	-	4.9	32.7	9.7	1.4	11.1	
3/2	475	475	-	-	-	3.9	0.9	-	4.8	36.4	7.7	0.9	8.6	
4/1	253	253	-	-	-	0.9	0.2	-	1.1	15.6	3.1	0.2	3.3	
4/2	652	652	-	-	-	3.0	1.7	-	4.7	25.9	10.7	1.7	12.4	
5/1	805	805	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	154	154	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	1027	1027	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	798	798	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	1027	1027	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/2	950	950	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/3	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 - Randles North C1 - Randles North C1 - Randles North C2 - Randles South C2 - Randles South Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): Stream: 3 PRC for Signalled Lanes (%): Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): PRC Over All Lanes (%) -0.3 16.1 7.5 9.1 16.1 -0.3 Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): 12.20 14.50 12.75 11.84 15.51 66.81 Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): 70 70 70 70 70 														

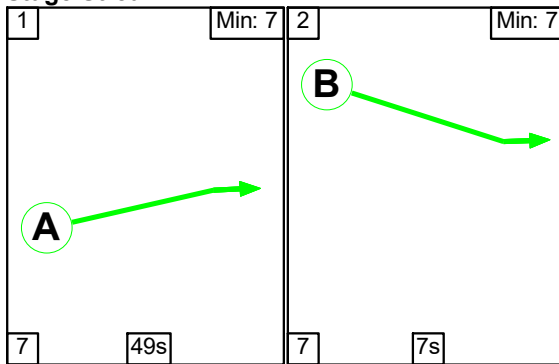
Detailed Input Data And Results

Scenario 3: '2028 No Dev AM' (FG3: '2028 No Dev AM', Plan 1: 'Network Control Plan 1')

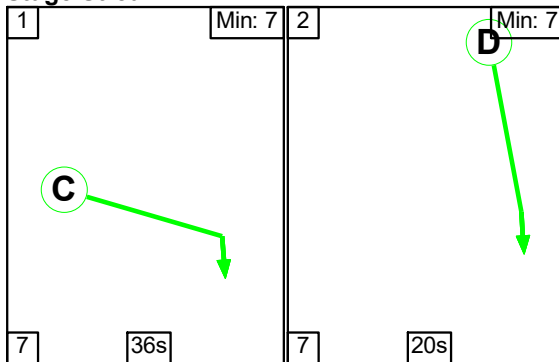
Controller :C1 - Randles North

Stage Sequence Diagram

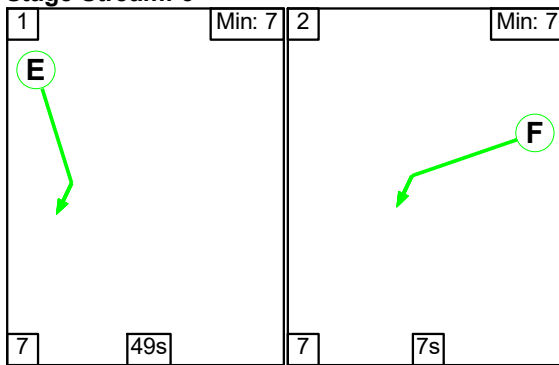
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	49	7
Change Point	63	49

Stage Stream: 2

Stage	1	2
Duration	36	20
Change Point	55	28

Detailed Input Data And Results

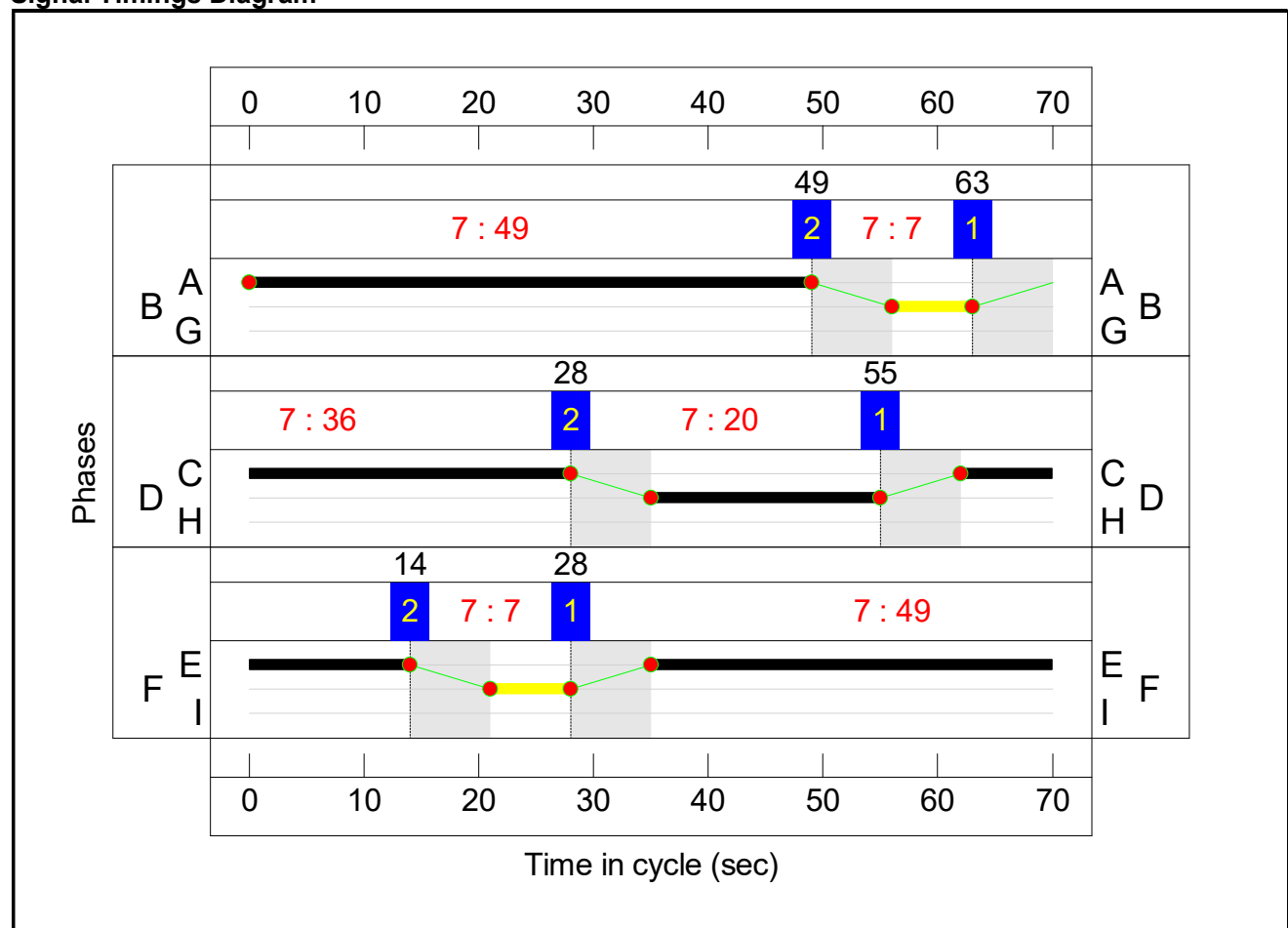
Stage Stream: 3

Stage	1	2
Duration	49	7
Change Point	28	14

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Ahead	Traffic	1	49	0	49
B	M57 SB Offslip Ahead	Traffic	1	7	56	63
C	Circulatory Right	Traffic	2	36	62	28
D	Moorgate Ahead	Traffic	2	20	35	55
E	Circulatory Ahead	Traffic	3	49	35	14
F	School Lane Left	Traffic	3	7	21	28
G	Dummy	Dummy	1			
H	Dummy	Dummy	2			
I	Dummy	Dummy	3			

Signal Timings Diagram

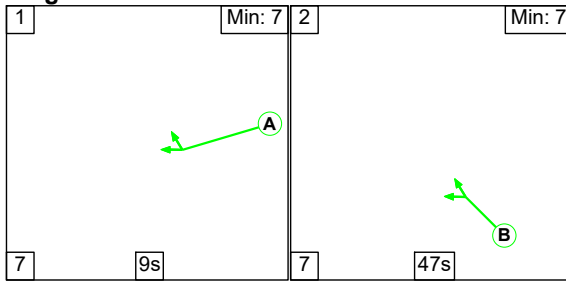


Detailed Input Data And Results

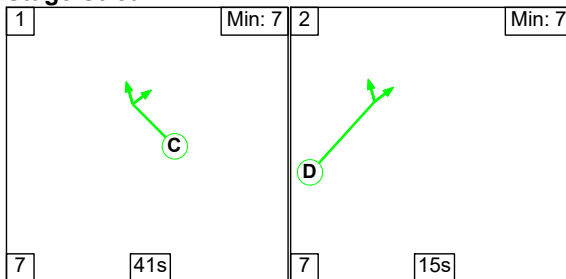
Controller :C2 - Randles South

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

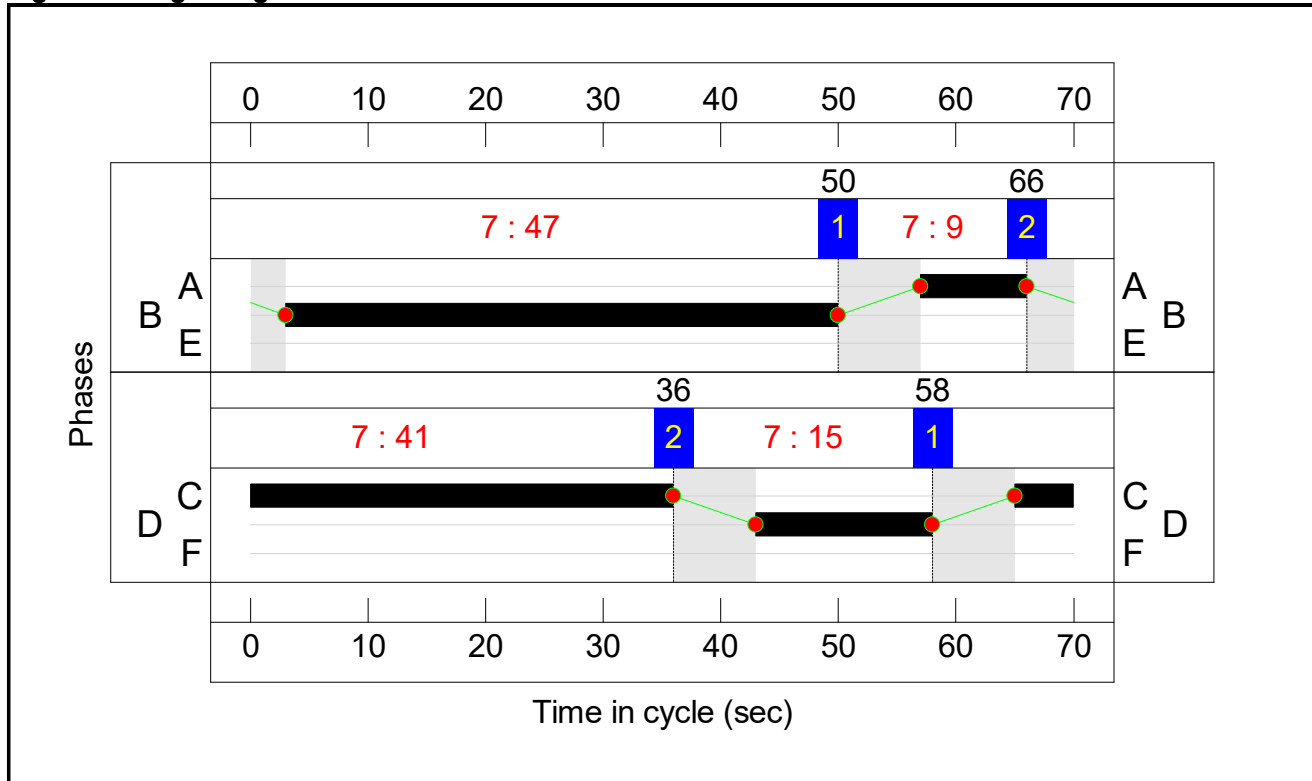
Stage	1	2
Duration	9	47
Change Point	50	66

Stage Stream: 2

Stage	1	2
Duration	41	15
Change Point	58	36

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Right Ahead	Traffic	1	9	57	66
B	M57 NB Offslip Ahead Ahead2	Traffic	1	47	3	50
C	Circulatory Right Ahead	Traffic	2	41	65	36
D	A580 Bypass Ahead Left	Traffic	2	15	43	58
E	Dummy	Dummy	1			
F	Dummy	Dummy	2			

Signal Timings Diagram**Lane Green Times**

Junction: J1: M57 North					
Lane	Description	Type	Phases	Start Green	End Green
J1:1/1	Circulatory Ahead	U	A	0	49
J1:1/2	Circulatory Ahead	U	A	0	49
J1:2/1	M57 SB Offslip Ahead	U	B	56	63
J1:2/2	M57 SB Offslip Ahead	U	B	56	63
J1:3/1	Circulatory Right	U	C	62	28
J1:3/2	Circulatory Right	U	C	62	28
J1:3/3	Circulatory Right	U	C	62	28
J1:4/1	Moorgate Ahead	U	D	35	55
J1:4/2	Moorgate Ahead	U	D	35	55
J1:4/3	Moorgate Ahead	U	D	35	55
J1:5/1	Circulatory Ahead	U	E	35	14
J1:5/2	Circulatory Ahead	U	E	35	14
J1:5/3	Circulatory Ahead	U	E	35	14
J1:9/1	School Lane Left	U	F	21	28
J1:9/2	School Lane Left	U	F	21	28

Detailed Input Data And Results

Junction: J2: M57 South					
Lane	Description	Type	Phases	Start Green	End Green
J2:1/1	Circulatory Ahead	U	A	57	66
J2:1/2	Circulatory Right Ahead	U	A	57	66
J2:2/1	M57 NB Offslip Ahead	U	B	3	50
J2:2/2	M57 NB Offslip Ahead Ahead2	U	B	3	50
J2:3/1	Circulatory Right Ahead	U	C	65	36
J2:3/2	Circulatory Right	U	C	65	36
J2:4/1	A580 Bypass Ahead Left	U	D	43	58
J2:4/2	A580 Bypass Ahead	U	D	43	58

Detailed Input Data And Results
Network Layout Diagram

Detailed Input Data And Results

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

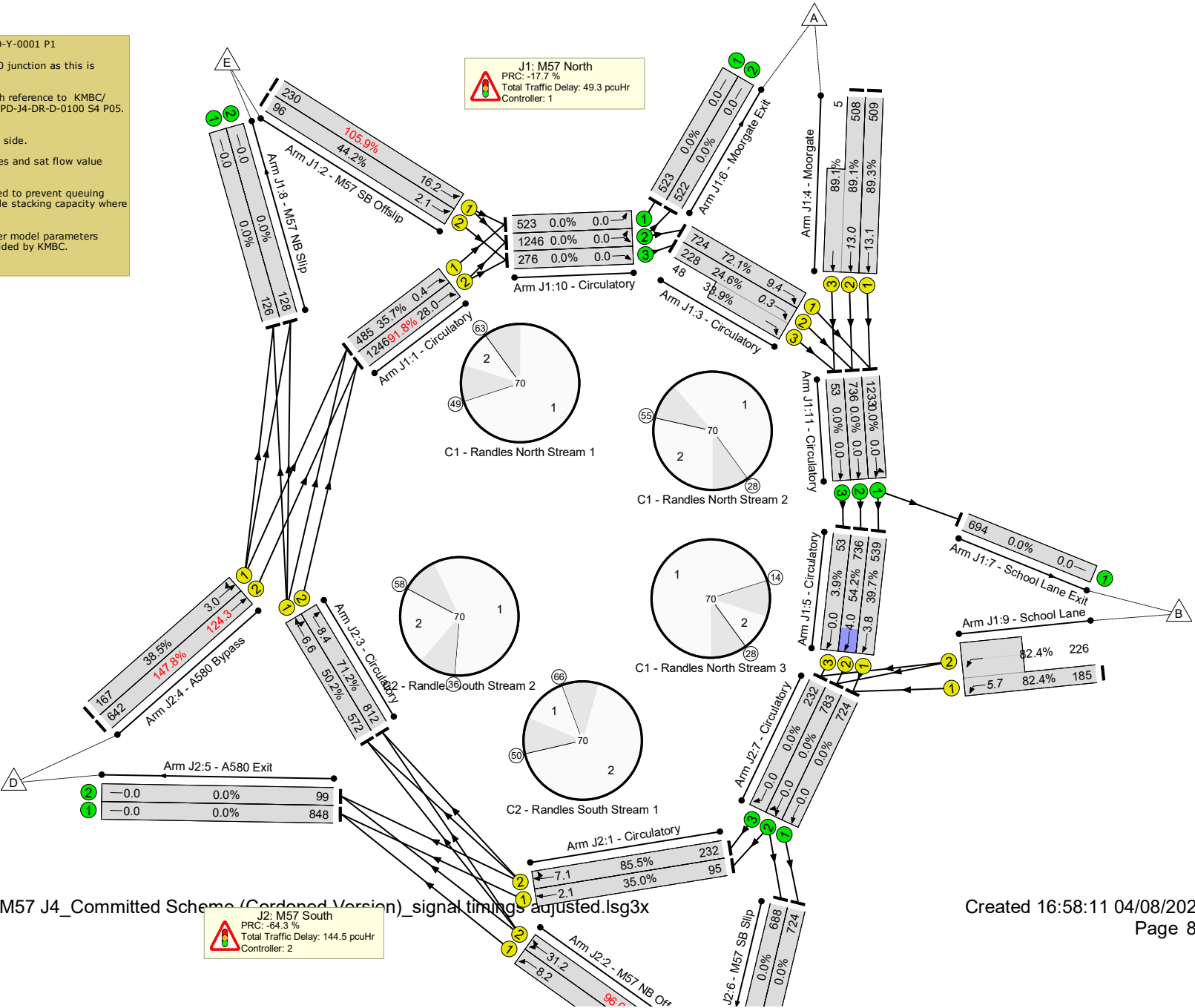
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Detailed Input Data And Results

Detailed Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	147.8%
J1: M57 North	-	-	N/A	-	-		-	-	-	-	-	-	-	105.9%
1/1	Circulatory Ahead	U	1:1	N/A	C1:A		1	49	-	-	485	1900	1357	35.7%
1/2	Circulatory Ahead	U	1:1	N/A	C1:A		1	49	-	-	1454	1900	1357	91.8%
2/1	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	7	-	-	230	1900	217	105.9%
2/2	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	7	-	-	96	1900	217	44.2%
3/1	Circulatory Right	U	1:2	N/A	C1:C		1	36	-	-	854	1900	1004	72.1%
3/2+3/3	Circulatory Right	U	1:2	N/A	C1:C		1	36	-	-	362	1900:1900	925+141	24.6 : 33.9%
4/1	Moorgate Ahead	U	1:2	N/A	C1:D		1	20	-	-	509	1900	570	89.3%
4/2+4/3	Moorgate Ahead	U	1:2	N/A	C1:D		1	20	-	-	513	1900:1900	570+6	89.1 : 89.1%
5/1	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	625	1900	1357	39.7%
5/2	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	822	1900	1357	54.2%
5/3	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	53	1900	1357	3.9%
6/1	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	525	Inf	Inf	0.0%
6/2	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	524	Inf	Inf	0.0%
7/1	School Lane Exit	U	N/A	N/A	-		-	-	-	-	738	Inf	Inf	0.0%
8/1	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	126	Inf	Inf	0.0%
8/2	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	128	Inf	Inf	0.0%

Detailed Input Data And Results

9/1+9/2	School Lane Left	U	1:3	N/A	C1:F		1	7	-	-	411	1965:4300	225+274	82.4 : 82.4%
10/1	Circulatory Left	U	N/A	N/A	-		-	-	-	-	525	Inf	Inf	0.0%
10/2	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1378	Inf	Inf	0.0%
10/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	362	Inf	Inf	0.0%
11/1	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1363	Inf	Inf	0.0%
11/2	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	822	Inf	Inf	0.0%
11/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	53	Inf	Inf	0.0%
J2: M57 South	-	-	N/A	-	-		-	-	-	-	-	-	-	147.8%
1/1	Circulatory Ahead	U	2:1	N/A	C2:A		1	9	-	-	95	1900	271	35.0%
1/2	Circulatory Right Ahead	U	2:1	N/A	C2:A		1	9	-	-	232	1900	271	85.5%
2/1	M57 NB Offslip Ahead	U	2:1	N/A	C2:B		1	47	-	-	753	1900	1303	57.8%
2/2	M57 NB Offslip Ahead Ahead2	U	2:1	N/A	C2:B		1	47	-	-	1251	1900	1303	96.0%
3/1	Circulatory Right Ahead	U	2:2	N/A	C2:C		1	41	-	-	572	1900	1140	50.2%
3/2	Circulatory Right	U	2:2	N/A	C2:C		1	41	-	-	812	1900	1140	71.2%
4/1	A580 Bypass Ahead Left	U	2:2	N/A	C2:D		1	15	-	-	167	1900	434	38.5%
4/2	A580 Bypass Ahead	U	2:2	N/A	C2:D		1	15	-	-	642	1900	434	147.8%
5/1	A580 Exit	U	N/A	N/A	-		-	-	-	-	848	Inf	Inf	0.0%
5/2	A580 Exit	U	N/A	N/A	-		-	-	-	-	99	Inf	Inf	0.0%
6/1	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	810	Inf	Inf	0.0%
6/2	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	774	Inf	Inf	0.0%

Detailed Input Data And Results

7/1	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	810	Inf	Inf	0.0%
7/2	Circulatory Right Ahead	U	N/A	N/A	-		-	-	-	-	869	Inf	Inf	0.0%
7/3	Circulatory Right	U	N/A	N/A	-		-	-	-	-	232	Inf	Inf	0.0%

Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	0	0	0	44.6	149.2	0.0	193.8	-	-	-	-	
J1: M57 North	-	-	0	0	0	20.0	29.3	0.0	49.3	-	-	-	-	
1/1	485	485	-	-	-	0.0	0.3	-	0.3	2.3	0.2	0.3	0.4	
1/2	1246	1246	-	-	-	3.6	5.1	-	8.7	25.2	22.8	5.1	28.0	
2/1	230	217	-	-	-	2.3	11.5	-	13.7	214.6	4.7	11.5	16.2	
2/2	96	96	-	-	-	0.8	0.4	-	1.2	43.7	1.7	0.4	2.1	
3/1	724	724	-	-	-	2.2	1.3	-	3.5	17.5	8.1	1.3	9.4	
3/2+3/3	276	276	-	-	-	0.0	0.2	-	0.2	2.9	0.1	0.2	0.3	
4/1	509	509	-	-	-	3.3	3.7	-	7.0	49.7	9.3	3.7	13.1	
4/2+4/3	513	513	-	-	-	3.3	3.7	-	7.0	49.1	9.3	3.7	13.0	
5/1	539	539	-	-	-	0.6	0.3	-	0.9	6.3	3.4	0.3	3.8	
5/2	736	736	-	-	-	0.5	0.6	-	1.1	5.2	3.4	0.6	4.0	
5/3	53	53	-	-	-	0.0	0.0	-	0.0	1.8	0.0	0.0	0.0	
6/1	523	523	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	522	522	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	694	694	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/1	126	126	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/2	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1+9/2	411	411	-	-	-	3.4	2.2	-	5.6	49.1	3.5	2.2	5.7	
10/1	523	523	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/2	1246	1246	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/3	276	276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/1	1233	1233	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/2	736	736	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/3	53	53	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	

Detailed Input Data And Results

J2: M57 South	-	-	0	0	0	24.6	119.9	0.0	144.5	-	-	-	-	
1/1	95	95	-	-	-	0.9	0.3	-	1.1	42.8	1.8	0.3	2.1	
1/2	232	232	-	-	-	2.0	2.6	-	4.6	70.6	4.5	2.6	7.1	
2/1	753	753	-	-	-	1.2	0.7	-	1.9	9.0	7.5	0.7	8.2	
2/2	1251	1251	-	-	-	3.5	9.0	-	12.5	35.9	22.2	9.0	31.2	
3/1	572	572	-	-	-	1.4	0.5	-	1.9	11.7	6.1	0.5	6.6	
3/2	812	812	-	-	-	2.3	1.2	-	3.6	15.8	7.1	1.2	8.4	
4/1	167	167	-	-	-	1.1	0.3	-	1.4	29.6	2.7	0.3	3.0	
4/2	642	434	-	-	-	12.3	105.4	-	117.7	659.9	19.0	105.4	124.3	
5/1	848	848	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	99	99	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	724	724	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	688	688	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	724	724	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/2	783	783	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/3	232	232	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 - Randles North C1 - Randles North C1 - Randles North C2 - Randles South C2 - Randles South Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): Stream: 3 PRC for Signalled Lanes (%): Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): PRC Over All Lanes (%) -17.7 0.8 9.3 -6.7 -64.3 -64.3 Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): 23.92 17.76 7.62 20.04 124.49 193.83 Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): 70 70 70 70 70 														

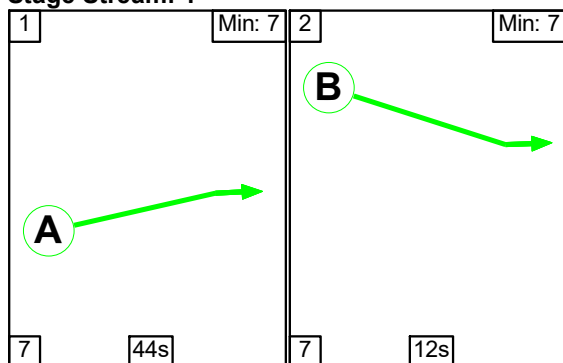
Detailed Input Data And Results

Scenario 4: '2028 No Dev PM' (FG4: '2028 No Dev PM', Plan 1: 'Network Control Plan 1')

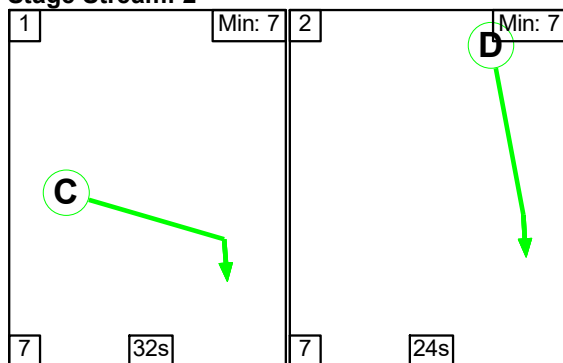
Controller :C1 - Randles North

Stage Sequence Diagram

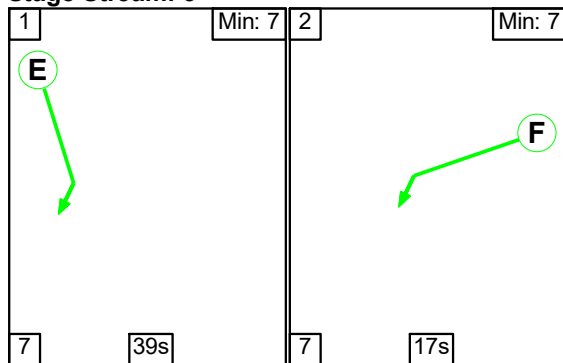
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	44	12
Change Point	11	62

Stage Stream: 2

Stage	1	2
Duration	32	24
Change Point	21	60

Detailed Input Data And Results

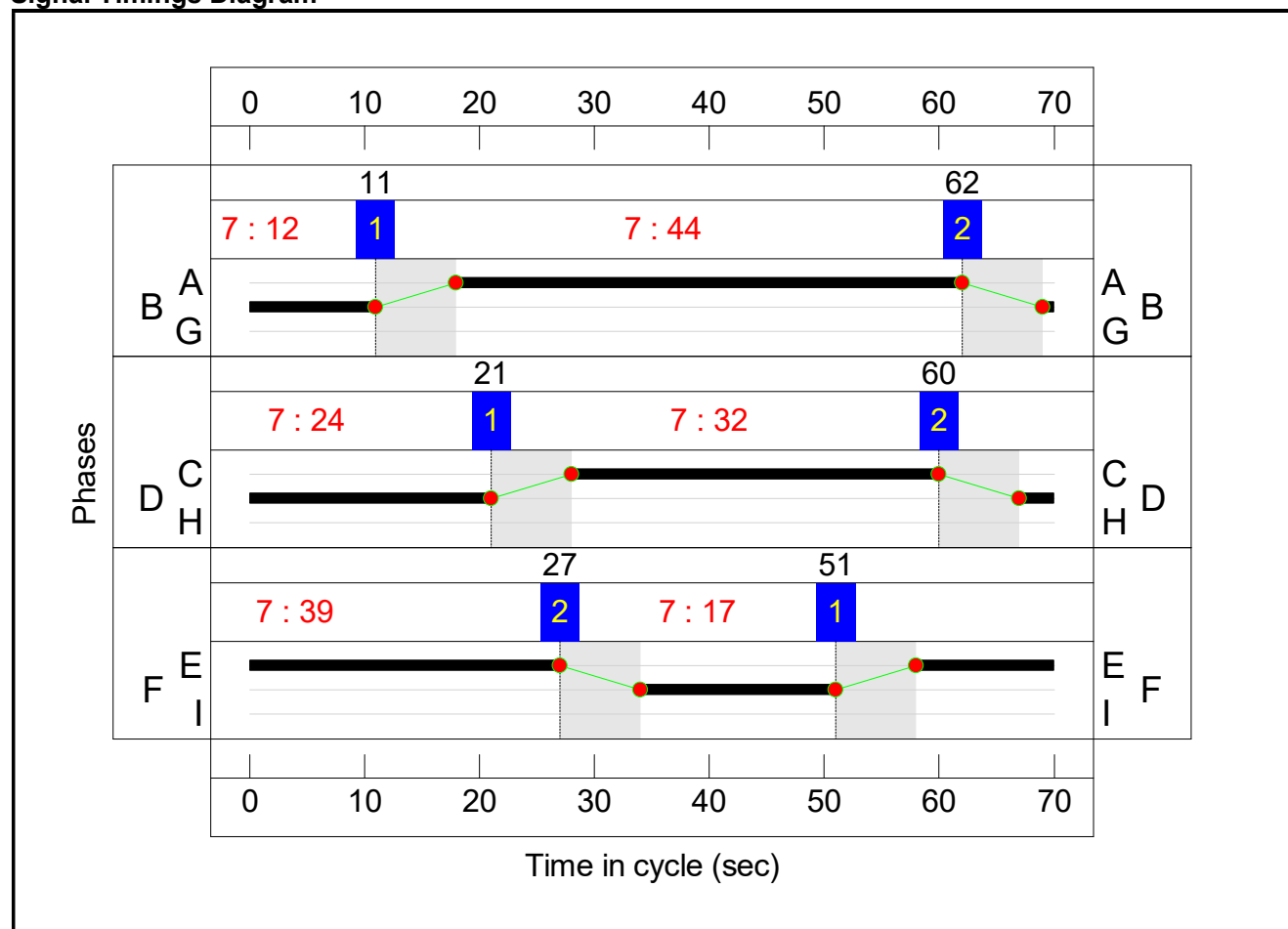
Stage Stream: 3

Stage	1	2
Duration	39	17
Change Point	51	27

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Ahead	Traffic	1	44	18	62
B	M57 SB Offslip Ahead	Traffic	1	12	69	11
C	Circulatory Right	Traffic	2	32	28	60
D	Moorgate Ahead	Traffic	2	24	67	21
E	Circulatory Ahead	Traffic	3	39	58	27
F	School Lane Left	Traffic	3	17	34	51
G	Dummy	Dummy	1			
H	Dummy	Dummy	2			
I	Dummy	Dummy	3			

Signal Timings Diagram

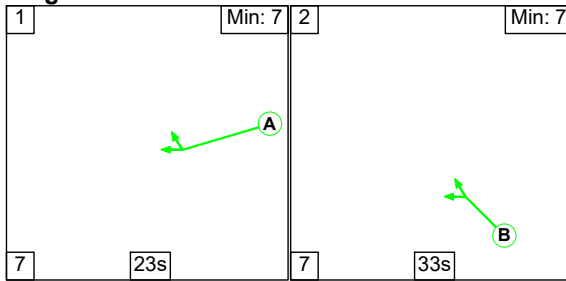


Detailed Input Data And Results

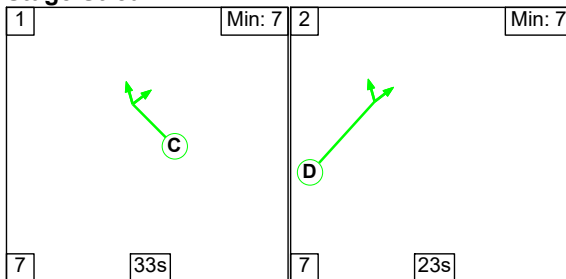
Controller :C2 - Randles South

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

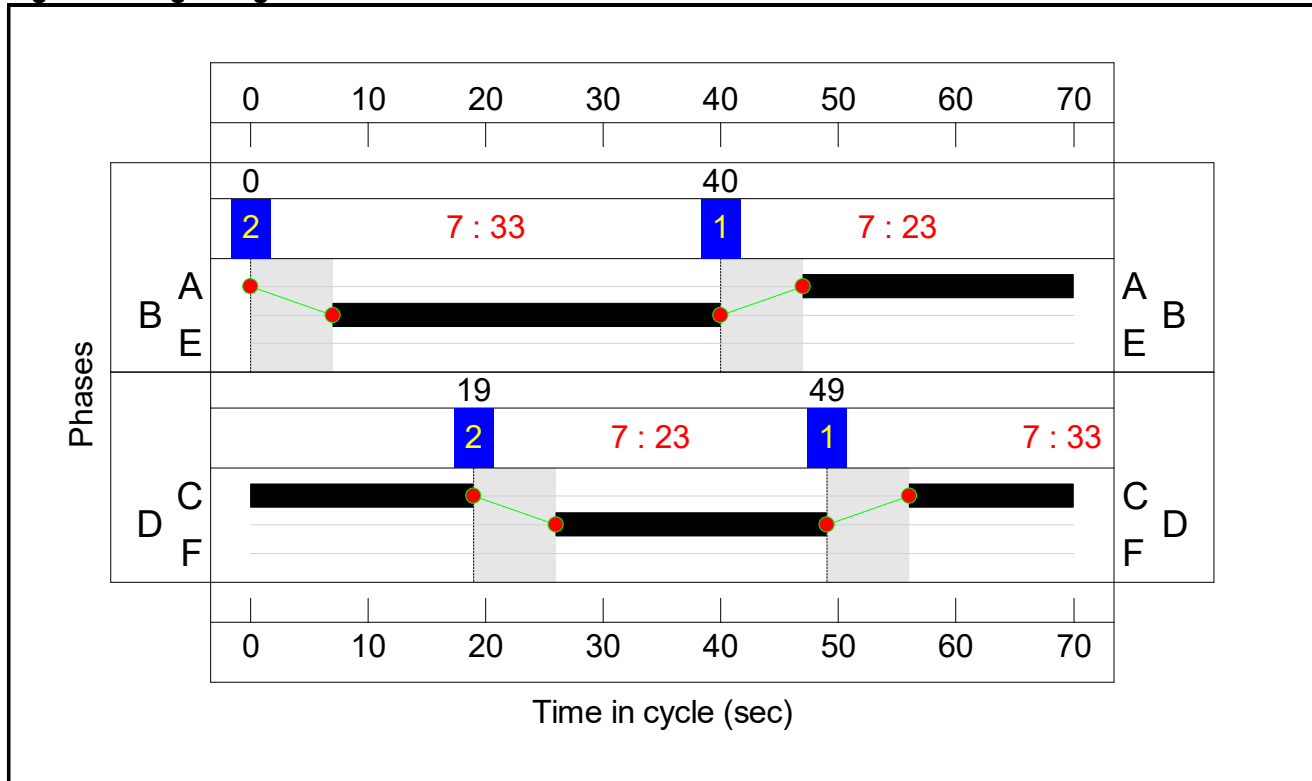
Stage	1	2
Duration	23	33
Change Point	40	0

Stage Stream: 2

Stage	1	2
Duration	33	23
Change Point	49	19

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Right Ahead	Traffic	1	23	47	0
B	M57 NB Offslip Ahead Ahead2	Traffic	1	33	7	40
C	Circulatory Right Ahead	Traffic	2	33	56	19
D	A580 Bypass Ahead Left	Traffic	2	23	26	49
E	Dummy	Dummy	1			
F	Dummy	Dummy	2			

Signal Timings Diagram**Lane Green Times**

Junction: J1: M57 North					
Lane	Description	Type	Phases	Start Green	End Green
J1:1/1	Circulatory Ahead	U	A	18	62
J1:1/2	Circulatory Ahead	U	A	18	62
J1:2/1	M57 SB Offslip Ahead	U	B	69	11
J1:2/2	M57 SB Offslip Ahead	U	B	69	11
J1:3/1	Circulatory Right	U	C	28	60
J1:3/2	Circulatory Right	U	C	28	60
J1:3/3	Circulatory Right	U	C	28	60
J1:4/1	Moorgate Ahead	U	D	67	21
J1:4/2	Moorgate Ahead	U	D	67	21
J1:4/3	Moorgate Ahead	U	D	67	21
J1:5/1	Circulatory Ahead	U	E	58	27
J1:5/2	Circulatory Ahead	U	E	58	27
J1:5/3	Circulatory Ahead	U	E	58	27
J1:9/1	School Lane Left	U	F	34	51
J1:9/2	School Lane Left	U	F	34	51

Detailed Input Data And Results

Junction: J2: M57 South					
Lane	Description	Type	Phases	Start Green	End Green
J2:1/1	Circulatory Ahead	U	A	47	0
J2:1/2	Circulatory Right Ahead	U	A	47	0
J2:2/1	M57 NB Offslip Ahead	U	B	7	40
J2:2/2	M57 NB Offslip Ahead Ahead2	U	B	7	40
J2:3/1	Circulatory Right Ahead	U	C	56	19
J2:3/2	Circulatory Right	U	C	56	19
J2:4/1	A580 Bypass Ahead Left	U	D	26	49
J2:4/2	A580 Bypass Ahead	U	D	26	49

Detailed Input Data And Results
Network Layout Diagram

Detailed Input Data And Results

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

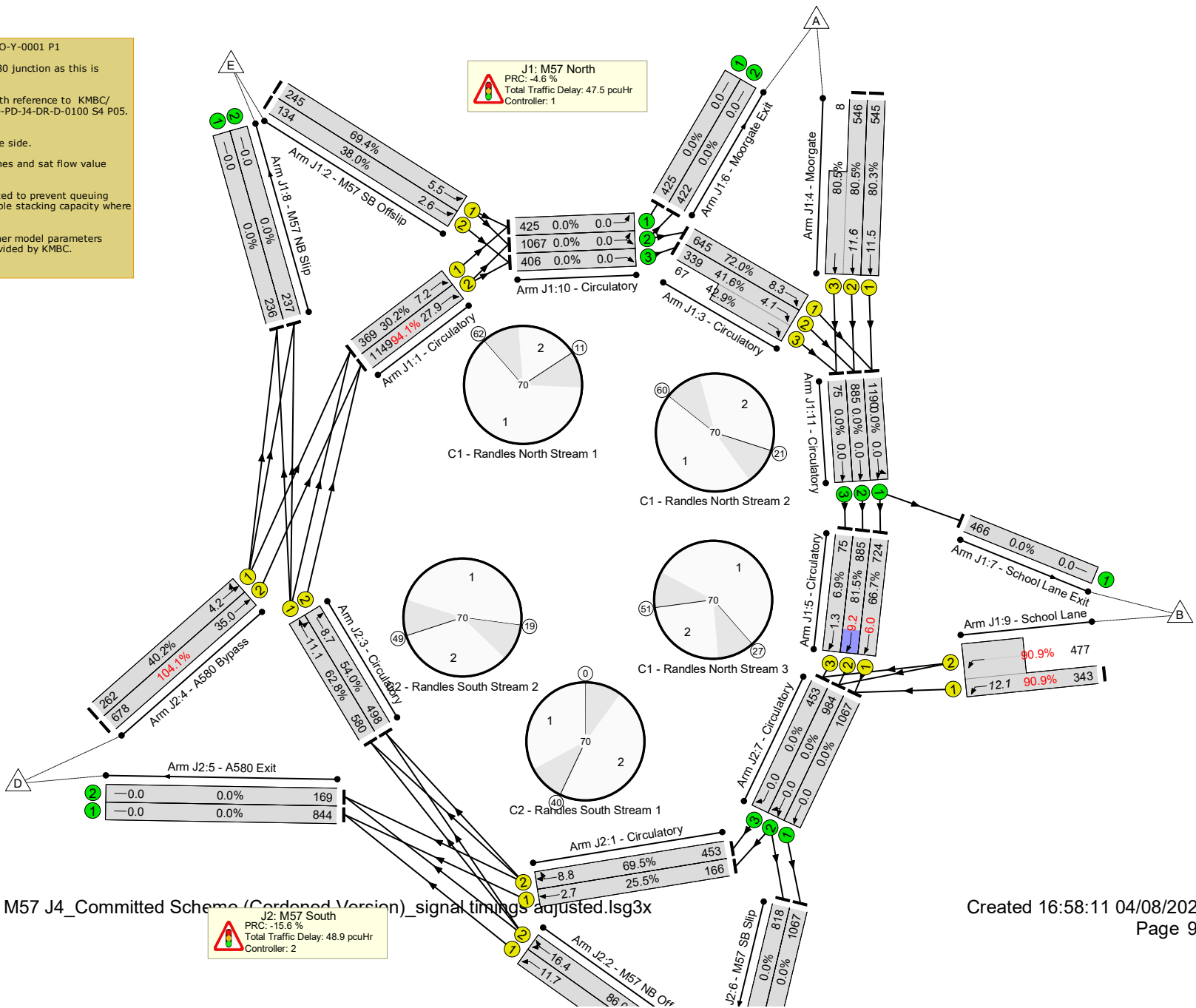
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Randles Farm Interchange M57 J4_Committed Scheme (Cordoned Version)_signal timings adjusted.lsg3x

Detailed Input Data And Results

Detailed Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	104.1%
J1: M57 North	-	-	N/A	-	-		-	-	-	-	-	-	-	94.1%
1/1	Circulatory Ahead	U	1:1	N/A	C1:A		1	44	-	-	369	1900	1221	30.2%
1/2	Circulatory Ahead	U	1:1	N/A	C1:A		1	44	-	-	1176	1900	1221	94.1%
2/1	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	12	-	-	245	1900	353	69.4%
2/2	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	12	-	-	134	1900	353	38.0%
3/1	Circulatory Right	U	1:2	N/A	C1:C		1	32	-	-	660	1900	896	72.0%
3/2+3/3	Circulatory Right	U	1:2	N/A	C1:C		1	32	-	-	417	1900:1900	816+156	41.6 : 42.9%
4/1	Moorgate Ahead	U	1:2	N/A	C1:D		1	24	-	-	545	1900	679	80.3%
4/2+4/3	Moorgate Ahead	U	1:2	N/A	C1:D		1	24	-	-	554	1900:1900	679+10	80.5 : 80.5%
5/1	Circulatory Ahead	U	1:3	N/A	C1:E		1	39	-	-	735	1900	1086	66.7%
5/2	Circulatory Ahead	U	1:3	N/A	C1:E		1	39	-	-	896	1900	1086	81.5%
5/3	Circulatory Ahead	U	1:3	N/A	C1:E		1	39	-	-	75	1900	1086	6.9%
6/1	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	425	Inf	Inf	0.0%
6/2	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	422	Inf	Inf	0.0%
7/1	School Lane Exit	U	N/A	N/A	-		-	-	-	-	470	Inf	Inf	0.0%
8/1	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	236	Inf	Inf	0.0%
8/2	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	237	Inf	Inf	0.0%

Detailed Input Data And Results

9/1+9/2	School Lane Left	U	1:3	N/A	C1:F		1	17	-	-	820	1965:4300	377+525	90.9 : 90.9%
10/1	Circulatory Left	U	N/A	N/A	-		-	-	-	-	425	Inf	Inf	0.0%
10/2	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1082	Inf	Inf	0.0%
10/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	417	Inf	Inf	0.0%
11/1	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1205	Inf	Inf	0.0%
11/2	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	896	Inf	Inf	0.0%
11/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	75	Inf	Inf	0.0%
J2: M57 South	-	-	N/A	-	-		-	-	-	-	-	-	-	104.1%
1/1	Circulatory Ahead	U	2:1	N/A	C2:A		1	23	-	-	166	1900	651	25.5%
1/2	Circulatory Right Ahead	U	2:1	N/A	C2:A		1	23	-	-	453	1900	651	69.5%
2/1	M57 NB Offslip Ahead	U	2:1	N/A	C2:B		1	33	-	-	678	1900	923	73.5%
2/2	M57 NB Offslip Ahead Ahead2	U	2:1	N/A	C2:B		1	33	-	-	794	1900	923	86.0%
3/1	Circulatory Right Ahead	U	2:2	N/A	C2:C		1	33	-	-	580	1900	923	62.8%
3/2	Circulatory Right	U	2:2	N/A	C2:C		1	33	-	-	498	1900	923	54.0%
4/1	A580 Bypass Ahead Left	U	2:2	N/A	C2:D		1	23	-	-	262	1900	651	40.2%
4/2	A580 Bypass Ahead	U	2:2	N/A	C2:D		1	23	-	-	678	1900	651	104.1%
5/1	A580 Exit	U	N/A	N/A	-		-	-	-	-	844	Inf	Inf	0.0%
5/2	A580 Exit	U	N/A	N/A	-		-	-	-	-	169	Inf	Inf	0.0%
6/1	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	1078	Inf	Inf	0.0%
6/2	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	829	Inf	Inf	0.0%

Detailed Input Data And Results

7/1	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	1078	Inf	Inf	0.0%
7/2	Circulatory Right Ahead	U	N/A	N/A	-		-	-	-	-	995	Inf	Inf	0.0%
7/3	Circulatory Right	U	N/A	N/A	-		-	-	-	-	453	Inf	Inf	0.0%

Detailed Input Data And Results

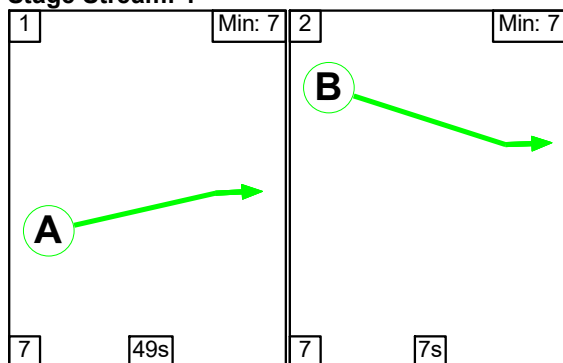
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	0	0	0	46.1	50.3	0.0	96.4	-	-	-	-	
J1: M57 North	-	-	0	0	0	25.9	21.6	0.0	47.5	-	-	-	-	
1/1	369	369	-	-	-	1.9	0.2	-	2.1	20.6	7.0	0.2	7.2	
1/2	1149	1149	-	-	-	2.9	6.7	-	9.6	30.0	21.2	6.7	27.9	
2/1	245	245	-	-	-	1.8	1.1	-	2.9	43.0	4.4	1.1	5.5	
2/2	134	134	-	-	-	0.9	0.3	-	1.2	33.2	2.3	0.3	2.6	
3/1	645	645	-	-	-	2.2	1.3	-	3.5	19.7	7.1	1.3	8.3	
3/2+3/3	406	406	-	-	-	1.9	0.4	-	2.2	19.7	3.8	0.4	4.1	
4/1	545	545	-	-	-	3.1	2.0	-	5.1	33.4	9.5	2.0	11.5	
4/2+4/3	554	554	-	-	-	3.1	2.0	-	5.1	33.2	9.6	2.0	11.6	
5/1	724	724	-	-	-	0.9	1.0	-	1.9	9.4	5.0	1.0	6.0	
5/2	885	885	-	-	-	1.6	2.2	-	3.8	15.4	7.0	2.2	9.2	
5/3	75	75	-	-	-	0.4	0.0	-	0.4	20.3	1.3	0.0	1.3	
6/1	425	425	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	422	422	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	466	466	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/1	236	236	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/2	237	237	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1+9/2	820	820	-	-	-	5.2	4.5	-	9.7	42.4	7.6	4.5	12.1	
10/1	425	425	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/2	1067	1067	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/3	406	406	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/1	1190	1190	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/2	885	885	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
11/3	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	

Detailed Input Data And Results

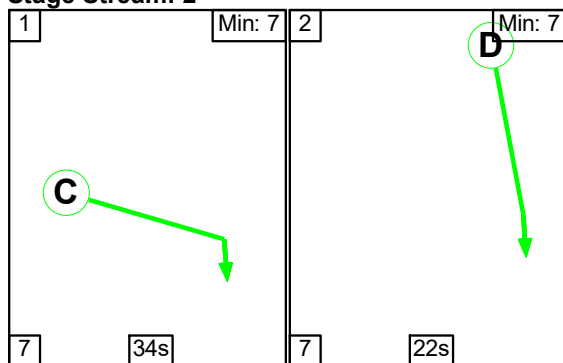
J2: M57 South	-	-	0	0	0	20.2	28.6	0.0	48.9	-	-	-	-	
1/1	166	166	-	-	-	0.8	0.2	-	1.0	21.7	2.5	0.2	2.7	
1/2	453	453	-	-	-	0.8	1.1	-	2.0	15.7	7.6	1.1	8.8	
2/1	678	678	-	-	-	2.7	1.4	-	4.1	21.7	10.4	1.4	11.7	
2/2	794	794	-	-	-	3.5	2.9	-	6.5	29.3	13.5	2.9	16.4	
3/1	580	580	-	-	-	2.7	0.8	-	3.5	22.0	10.3	0.8	11.1	
3/2	498	498	-	-	-	3.3	0.6	-	3.9	28.1	8.1	0.6	8.7	
4/1	262	262	-	-	-	1.3	0.3	-	1.6	22.2	3.9	0.3	4.2	
4/2	678	651	-	-	-	5.1	21.3	-	26.3	139.8	13.7	21.3	35.0	
5/1	844	844	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	169	169	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	1067	1067	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/2	818	818	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/1	1067	1067	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/2	984	984	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
7/3	453	453	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 - Randles North C1 - Randles North C1 - Randles North C2 - Randles South C2 - Randles South Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): Stream: 3 PRC for Signalled Lanes (%): Stream: 1 PRC for Signalled Lanes (%): Stream: 2 PRC for Signalled Lanes (%): PRC Over All Lanes (%) -4.6 11.9 -1.0 4.6 -15.6 -15.6 Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): 15.86 15.91 15.74 13.51 35.37 96.39 Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): 70 70 70 70 70 														

Stage Sequence Diagram

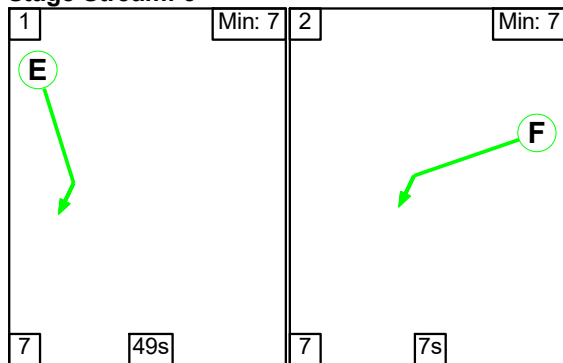
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	49	7
Change Point	63	49

Stage Stream: 2

Stage	1	2
Duration	34	22
Change Point	57	28

Detailed Input Data And Results

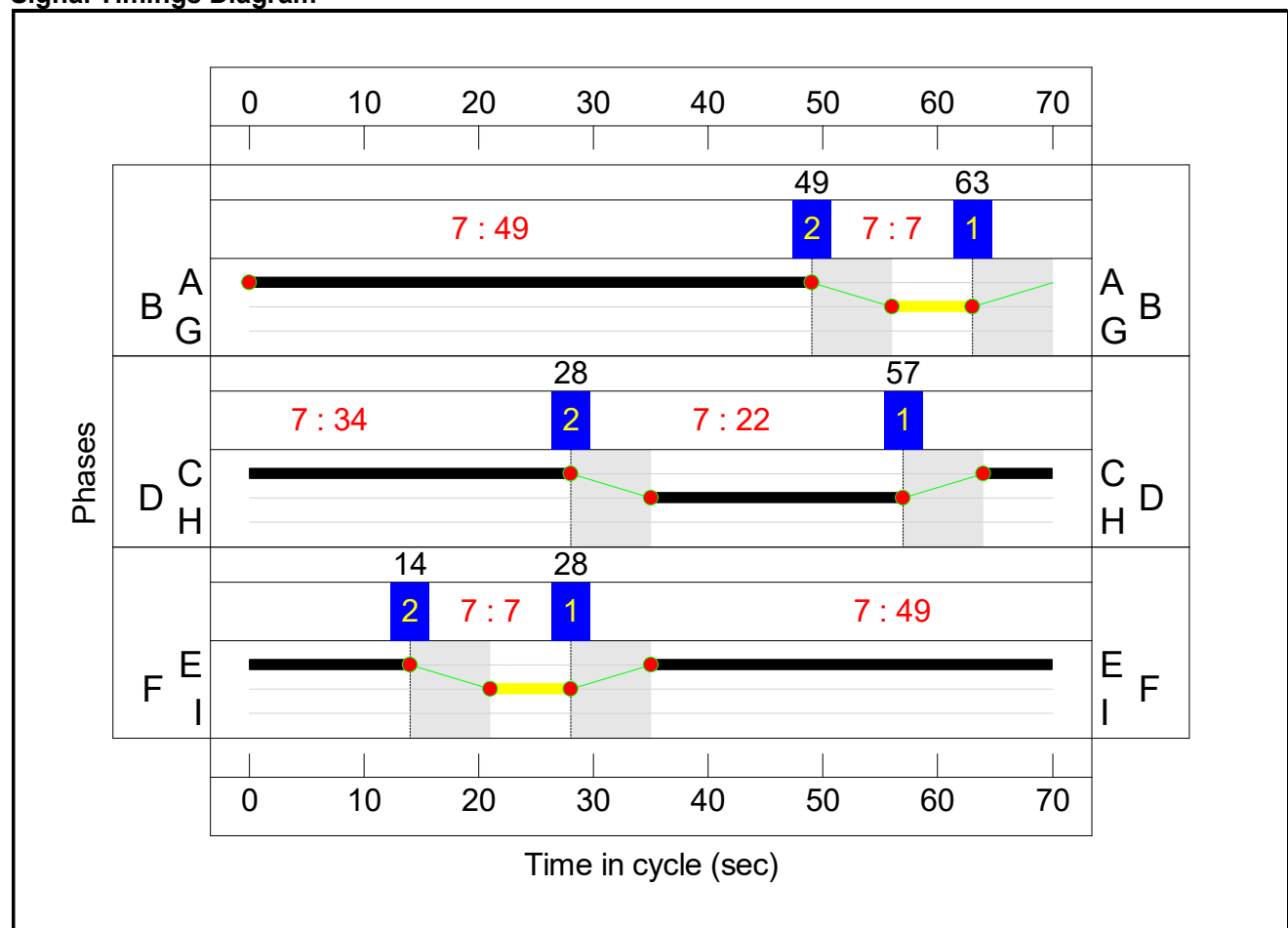
Stage Stream: 3

Stage	1	2
Duration	49	7
Change Point	28	14

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Ahead	Traffic	1	49	0	49
B	M57 SB Offslip Ahead	Traffic	1	7	56	63
C	Circulatory Right	Traffic	2	34	64	28
D	Moorgate Ahead	Traffic	2	22	35	57
E	Circulatory Ahead	Traffic	3	49	35	14
F	School Lane Left	Traffic	3	7	21	28
G	Dummy	Dummy	1			
H	Dummy	Dummy	2			
I	Dummy	Dummy	3			

Signal Timings Diagram

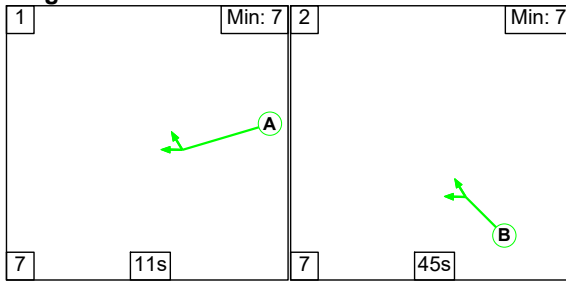


Detailed Input Data And Results

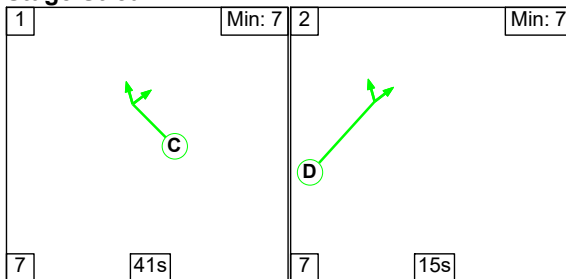
Controller :C2 - Randles South

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

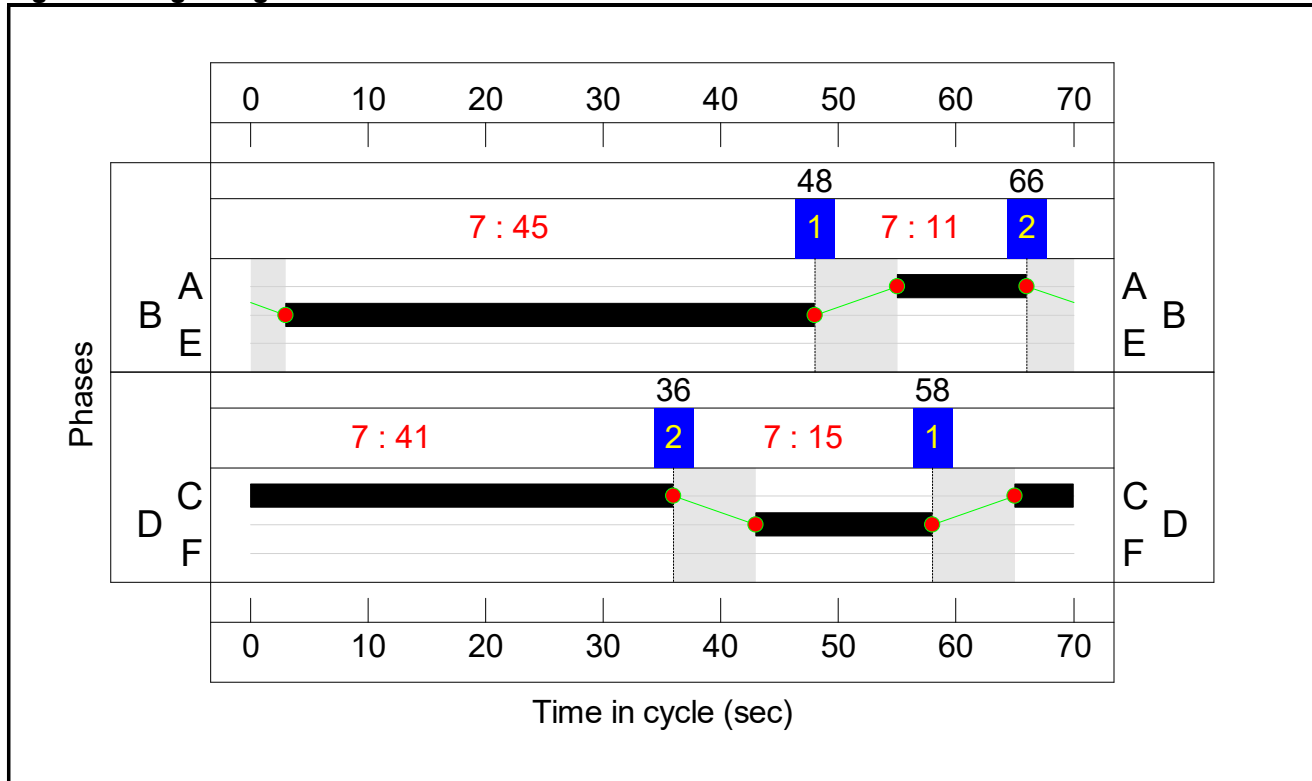
Stage	1	2
Duration	11	45
Change Point	48	66

Stage Stream: 2

Stage	1	2
Duration	41	15
Change Point	58	36

Phase Timings

Phase Name	Description	Phase	Stage Stream	Green Period 1		
				Total Green	Start Time	End Time
A	Circulatory Right Ahead	Traffic	1	11	55	66
B	M57 NB Offslip Ahead Ahead2	Traffic	1	45	3	48
C	Circulatory Right Ahead	Traffic	2	41	65	36
D	A580 Bypass Ahead Left	Traffic	2	15	43	58
E	Dummy	Dummy	1			
F	Dummy	Dummy	2			

Signal Timings Diagram**Lane Green Times**

Junction: J1: M57 North					
Lane	Description	Type	Phases	Start Green	End Green
J1:1/1	Circulatory Ahead	U	A	0	49
J1:1/2	Circulatory Ahead	U	A	0	49
J1:2/1	M57 SB Offslip Ahead	U	B	56	63
J1:2/2	M57 SB Offslip Ahead	U	B	56	63
J1:3/1	Circulatory Right	U	C	64	28
J1:3/2	Circulatory Right	U	C	64	28
J1:3/3	Circulatory Right	U	C	64	28
J1:4/1	Moorgate Ahead	U	D	35	57
J1:4/2	Moorgate Ahead	U	D	35	57
J1:4/3	Moorgate Ahead	U	D	35	57
J1:5/1	Circulatory Ahead	U	E	35	14
J1:5/2	Circulatory Ahead	U	E	35	14
J1:5/3	Circulatory Ahead	U	E	35	14
J1:9/1	School Lane Left	U	F	21	28
J1:9/2	School Lane Left	U	F	21	28

Detailed Input Data And Results

Junction: J2: M57 South					
Lane	Description	Type	Phases	Start Green	End Green
J2:1/1	Circulatory Ahead	U	A	55	66
J2:1/2	Circulatory Right Ahead	U	A	55	66
J2:2/1	M57 NB Offslip Ahead	U	B	3	48
J2:2/2	M57 NB Offslip Ahead Ahead2	U	B	3	48
J2:3/1	Circulatory Right Ahead	U	C	65	36
J2:3/2	Circulatory Right	U	C	65	36
J2:4/1	A580 Bypass Ahead Left	U	D	43	58
J2:4/2	A580 Bypass Ahead	U	D	43	58

Detailed Input Data And Results
Network Layout Diagram

Detailed Input Data And Results

KMBC Model Ref: 871275507-YU-00-XX-MO-Y-0001 P1

Cordoned Version of model to remove A580 junction as this is outside of adopted study area.

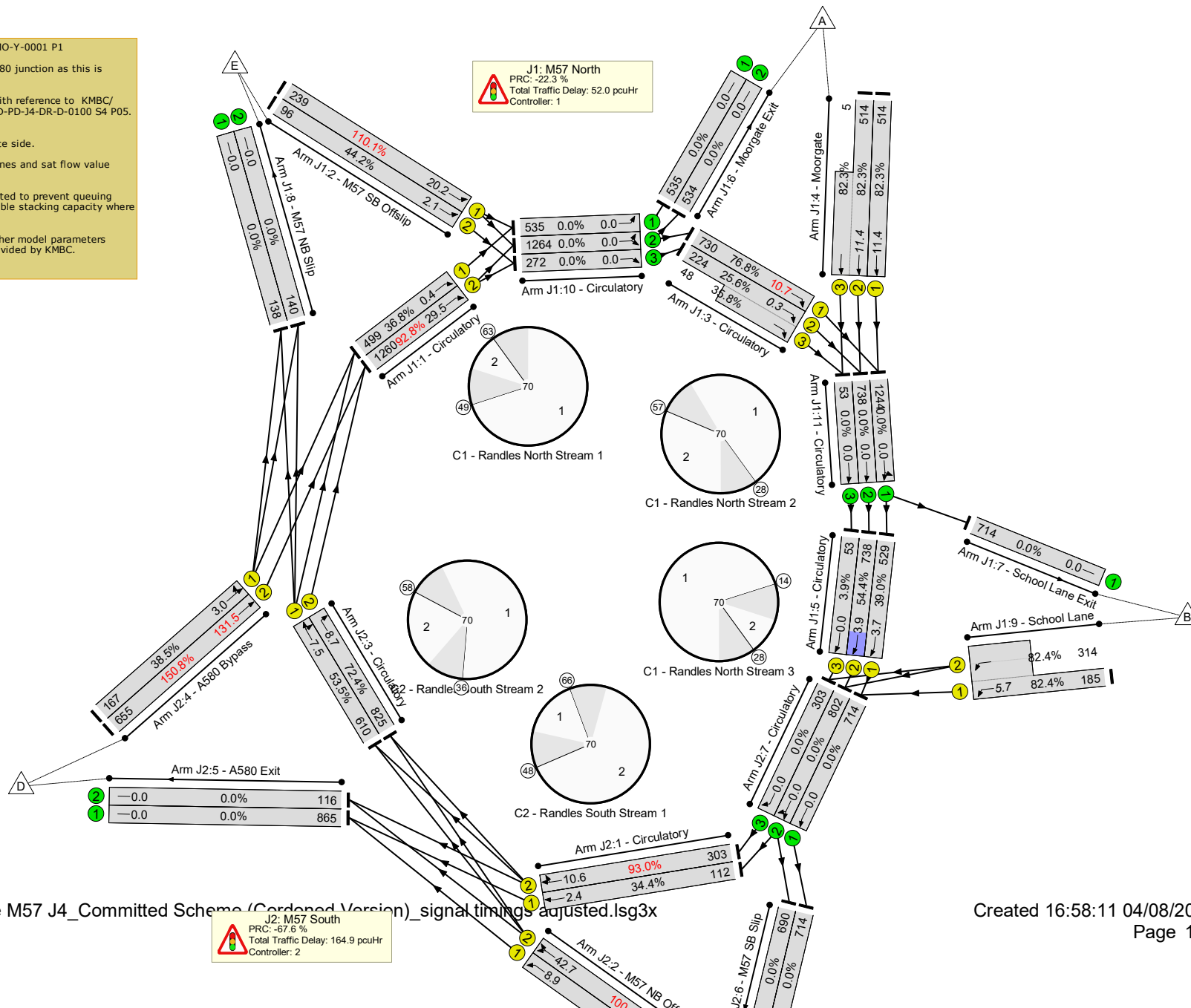
Minor amendments made to the model with reference to KMBC/ Royal Haskoning Drawing ref PC3016-RHD-PD-J4-DR-D-0100 S4 P05. Adjustments include:

Arm J1:3 - short lane switched to opposite side.

Arm J1:9 - short lane increased to two lanes and sat flow value doubled.

Signal timings have been manually adjusted to prevent queuing traffic on the circulatory exceeding available stacking capacity where practicable.

With the exception of traffic flows, all other model parameters remain the same as the based model provided by KMBC.



Randles Farm Interchange M57 J4_Committed Scheme (Cordoned Version)_signal timings adjusted.lsg3x

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Detailed Input Data And Results

Detailed Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	150.8%
J1: M57 North	-	-	N/A	-	-		-	-	-	-	-	-	-	110.1%
1/1	Circulatory Ahead	U	1:1	N/A	C1:A		1	49	-	-	500	1900	1357	36.8%
1/2	Circulatory Ahead	U	1:1	N/A	C1:A		1	49	-	-	1482	1900	1357	92.8%
2/1	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	7	-	-	239	1900	217	110.1%
2/2	M57 SB Offslip Ahead	U	1:1	N/A	C1:B		1	7	-	-	96	1900	217	44.2%
3/1	Circulatory Right	U	1:2	N/A	C1:C		1	34	-	-	876	1900	950	76.8%
3/2+3/3	Circulatory Right	U	1:2	N/A	C1:C		1	34	-	-	362	1900:1900	878+134	25.6 : 35.8%
4/1	Moorgate Ahead	U	1:2	N/A	C1:D		1	22	-	-	514	1900	624	82.3%
4/2+4/3	Moorgate Ahead	U	1:2	N/A	C1:D		1	22	-	-	519	1900:1900	624+6	82.3 : 82.3%
5/1	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	619	1900	1357	39.0%
5/2	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	828	1900	1357	54.4%
5/3	Circulatory Ahead	U	1:3	N/A	C1:E		1	49	-	-	53	1900	1357	3.9%
6/1	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	540	Inf	Inf	0.0%
6/2	Moorgate Exit	U	N/A	N/A	-		-	-	-	-	539	Inf	Inf	0.0%
7/1	School Lane Exit	U	N/A	N/A	-		-	-	-	-	771	Inf	Inf	0.0%
8/1	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	138	Inf	Inf	0.0%
8/2	M57 NB Slip	U	N/A	N/A	-		-	-	-	-	140	Inf	Inf	0.0%

Detailed Input Data And Results

9/1+9/2	School Lane Left	U	1:3	N/A	C1:F		1	7	-	-	499	1965:4300	225+381	82.4 : 82.4%
10/1	Circulatory Left	U	N/A	N/A	-		-	-	-	-	540	Inf	Inf	0.0%
10/2	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1415	Inf	Inf	0.0%
10/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	362	Inf	Inf	0.0%
11/1	Circulatory Ahead Left	U	N/A	N/A	-		-	-	-	-	1390	Inf	Inf	0.0%
11/2	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	828	Inf	Inf	0.0%
11/3	Circulatory Ahead	U	N/A	N/A	-		-	-	-	-	53	Inf	Inf	0.0%
J2: M57 South	-	-	N/A	-	-		-	-	-	-	-	-	-	150.8%
1/1	Circulatory Ahead	U	2:1	N/A	C2:A		1	11	-	-	112	1900	326	34.4%
1/2	Circulatory Right Ahead	U	2:1	N/A	C2:A		1	11	-	-	303	1900	326	93.0%
2/1	M57 NB Offslip Ahead	U	2:1	N/A	C2:B		1	45	-	-	753	1900	1249	60.3%
2/2	M57 NB Offslip Ahead Ahead2	U	2:1	N/A	C2:B		1	45	-	-	1251	1900	1249	100.2%
3/1	Circulatory Right Ahead	U	2:2	N/A	C2:C		1	41	-	-	611	1900	1140	53.5%
3/2	Circulatory Right	U	2:2	N/A	C2:C		1	41	-	-	827	1900	1140	72.4%
4/1	A580 Bypass Ahead Left	U	2:2	N/A	C2:D		1	15	-	-	167	1900	434	38.5%
4/2	A580 Bypass Ahead	U	2:2	N/A	C2:D		1	15	-	-	655	1900	434	150.8%
5/1	A580 Exit	U	N/A	N/A	-		-	-	-	-	865	Inf	Inf	0.0%
5/2	A580 Exit	U	N/A	N/A	-		-	-	-	-	116	Inf	Inf	0.0%
6/1	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	804	Inf	Inf	0.0%
6/2	M57 SB Slip	U	N/A	N/A	-		-	-	-	-	780	Inf	Inf	0.0%