



St Philips & Bloor Homes

Land North of Penkridge

Strategic Transport Assessment

June 2022

Project Code: 6161

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Contents

Section	Page
I Introduction	7
1.1 Overview	7
1.2 Purpose of Report	7
1.3 Scoping Discussions	7
1.4 Structure of Report	8
2 Policy Context.....	10
2.1 Introduction	10
2.2 National Policy	10
2.3 Regional Policy	13
2.4 Local Policy	14
2.5 Policy Summary	17
3 Committed Developments and Infrastructure	19
3.1 Introduction	19
3.2 Committed Infrastructure of Strategic Importance	19
3.3 Committed Development of Strategic Importance	21
3.4 Local Planning Application Review	22
3.5 Committed Development	23
4 Baseline Transport Conditions	25
4.1 Introduction	25
4.2 Site Location	25
4.3 Local Highway Network	26
4.4 Pedestrian/Cycle Network	26
4.5 Public Transport	26
4.6 Highway Safety	28
4.7 Summary	31
5 Accessibility	33
5.1 Introduction	33
5.2 Local Amenities	33
5.3 Proposed Amenities	36
5.4 Summary	37

6	Site Allocation	38
6.1	Indicative Masterplan	38
6.2	Vehicle Access Strategy	39
7	Active Travel Strategy	40
7.1	Introduction	40
7.2	The Need for a Strategy	40
7.3	Key Destinations	40
7.4	Key Routes	41
7.5	Proposed Improvement Measures	42
8	Public Transport Strategy.....	45
8.1	Introduction	45
8.2	Bus Strategy	45
8.3	Rail Strategy	46
9	Travel Demand	48
9.1	Introduction	48
9.2	Vehicle Trip Generation	48
9.3	Trip Distribution and Assignment	48
9.4	Development Trips at Junctions	56
10	Detailed Capacity Assessment.....	57
10.1	Introduction	57
10.2	Scope of Assessment	57
10.3	Assessment Scenarios	57
10.4	Baseline Data	58
10.5	Committed Development	58
10.6	Traffic Growth	60
10.7	Results	60
10.8	Summary	66
11	Mitigation Strategy	67
11.1	Introduction	67
11.2	Active Travel and Public Transport Mitigation	68
11.3	Demand Management	69
11.4	Mobility Hubs	71
11.5	Travel Plan	72
11.6	Summary	72



12	Summary and Conclusion	73
12.1	Summary	73
12.2	Conclusion	76



Appendices

Appendix A	Indicative Masterplan	77
Appendix B	Active Travel Strategy.....	78
Appendix C	Active Travel Strategy Drawings	79
Appendix D	Bus Strategy	80
Appendix E	Bus Strategy Demand Calculations	81
Appendix F	Travel Demand Model Outputs	82
Appendix G	Travel Demand Model Zone Plan	83
Appendix H	Traffic Flow Diagrams	84
Appendix I	Baseline Survey Data	85
Appendix J	Demand Management Technical Note	86



I Introduction

I.1 Overview

- 1.1.1 This Strategic Transport Assessment (STA) has been prepared by PJA on behalf of St Philips and Bloor Homes to support the allocation of Land North of Penkridge within the draft South Staffordshire Local Plan.

I.2 Purpose of Report

- 1.2.1 The purpose of this report is to document the process undertaken in the assessment of the potential site allocation at Land North of Penkridge. This STA identifies the likely impacts of development and potential mitigation measures required to support the allocation of the site within the South Staffordshire Local Plan.
- 1.2.2 It is intended that this document forms an initial evidence base for the site allocation, and that more detail is to be developed as part of future planning applications. It will be necessary for the measures identified as part of each planning application to contribute towards the overall strategy as set out within this STA, or justification as to why this is not the case be provided.
- 1.2.3 Within the draft South Staffordshire Local Plan, the site allocation is identified for up to 1,129 dwellings, an on-site first school, retail and any necessary community facilities to meet the needs of the development. This report considers the transport aspects of this allocation in terms of the travel needs and impacts and sets out movement strategies and the infrastructure required to deliver the site.
- 1.2.4 The Land North of Penkridge site allocation is one of four strategic site allocations, the other three as follows. This STA is specific to the Land North of Penkridge allocation site, but consideration will be given to the other sites throughout.
- Land East of Bilbrook – 848 dwellings;
 - Land at Linthouse Lane – 1,976 dwellings (1,200 dwellings by 2038); and
 - Land at Cross Green – 1,200 dwellings.

I.3 Scoping Discussions

- 1.3.1 In advance of the preparation of this document, scoping discussions have been held with South Staffordshire District Council (SSDC), Staffordshire County Council (SCC) and National Highways (NH). The salient points from these meetings and ongoing liaison are summarised below:
- The purpose of this work is to understand the impact of the site allocation and any possible mitigation measures, and likely costs.



- The site allocation quantum does not include the Bloor Homes Phase 1 consented development, comprising 200 dwellings;
- To promote the site within the Local Plan, access had previously been designed to comprise two new four arm roundabouts which were in line with the relevant standards. Details of access aren't considered within this STA but will comprise part of any future planning applications. Further information on access is set out in Section 6.2.
- To support access and enhance the residential nature of the area through the allocation, it would be beneficial to extend the 30mph speed limit along the A449 to the edge of the site. This has already been extended for the Bloor Homes Phase 1 scheme;
- In order to review the Local Plan position, SCC have undertaken their own modelling exercise using a cordon of the M6/M54 Link Road NH SATURN model, inclusive of:
 - The Land North of Penkridge allocation comprising 1,129 dwellings;
 - Three other strategic site allocations (Land East of Bilbrook, Land at Linthouse Lane and Land at Cross Green);
 - Committed development, including Bloor Homes Phase 1 site comprising 200 dwellings;
 - Trip rates for the strategic sites based on the average of agreed trip rates and surveys of existing sites;
 - Distribution based on the adjacent zone within the model.
- It is recognised by SCC that the above modelling is high-level and therefore further detailed assessment is required through this STA;
- Local junction modelling would be required, and the geographic scope of assessment agreed;
- There is no recent survey data available for use within the assessment. As such, it is agreed that traffic surveys undertaken in March 2022 should form the basis of the assessment;
- Neither the M6 J12 or M6 J13 are identified for improvement within the NH Road Investment Strategy;
- A review of the pedestrian/cycle network in the vicinity of the site and key routes will need to be undertaken; and
- A high-level public transport strategy should be produced which assesses the suitability of existing routes and determines what improvements may be required to current services.

1.4 Structure of Report

1.4.1 The remainder of this report is structured as follows:

- Chapter 2: Policy Context;
- Chapter 3: Committed Developments and Infrastructure;



- Chapter 4: Baseline Transport Conditions;
- Chapter 5: Accessibility;
- Chapter 6: Development Proposals;
- Chapter 7: Active Travel Strategy;
- Chapter 8: Public Transport Strategy;
- Chapter 9: Travel Demand;
- Chapter 10: Detailed Capacity Assessment;
- Chapter 11: Mitigation Strategy; and
- Chapter 12: Summary and Conclusion.



2 Policy Context

2.1 Introduction

2.1.1 This section summarises the relevant transport policy documents against which the development proposals would be considered at a national, regional and local level. The most relevant policy documents relating to this study are detailed below:

- National Planning Policy Framework (July 2021);
- Staffordshire County Council (SCC) Local Transport Plan (2011-2026);
- South Staffordshire District Council Local Plan (December 2012);
- South Staffordshire District Council Local Plan Preferred Options Report (November 2021)

2.2 National Policy

2.2.1 National Planning Policy Framework

2.2.2 The National Planning Policy Framework (NPPF) was updated in July 2021 and sets out the Government's wider planning policies for England and how these are expected to be applied to achieve sustainable development.

2.2.3 Policies aimed at promoting sustainable development are covered by paragraphs 104 to 113 of the NPPF with paragraph 104 stating that:

Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

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

2.2.4 The NPPF advises in Paragraph 110 that it should ensure that:

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



- f *'appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- g *Safe and suitable access to the site can be achieved for all users;*
- h *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*
- i *Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.'*

2.2.5 Paragraph 111 states:

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

2.2.6 Paragraph 112 of NPPF goes on to specify the applications should:

- j *'Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- k *Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- l *Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- m *Allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- n *Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.*

2.2.7 Paragraph 113 states that:

"all developments that will generate significant amounts of movement should be required to provide a travel plan, and the applications should also be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed".

2.2.8 Planning Practice Guidance (PPG) (2014)

2.2.9 PPG 2014 stipulates that the scope and level of detail in a Transport Assessment or Statement will vary from site to site, but the following should be considered when settling the scope of the proposed assessment:



- 1 Information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport);
- 2 Information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;
- 3 Data about existing public transport provision, including provision / frequency of services and proposed public transport changes;
- 4 A qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site;
- 5 An assessment of trips from all directly relevant committed development in the area (i.e. development that there is a reasonable degree of certainty will proceed within the next three years);
- 6 Data about the current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions of the highway network;
- 7 An analysis of the injury collision records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high collision area;
- 8 An assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);
- 9 Measures to improve the accessibility of the location (such as provision / enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;
- 10 A description of parking facilities in the area and the parking strategy of the development;
- 11 Ways of encouraging environmental sustainability by reducing the need to travel; and
- 12 Measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads).

2.2.10 The PPG also states that:

“In general, assessments should be based on normal traffic flow and usage conditions (e.g. non-school holiday periods, typical weather conditions) but it may be necessary to consider the implications for any regular peak traffic and usage periods (such as rush hours). Projections should use local traffic forecasts such as TEMPRO drawing where necessary on National Road Traffic Forecasts for traffic data.”



2.2.11 Department for Transport (DfT) Decarbonising Transport: A Better, Greener Britain (2021)

2.2.12 This document sets out the government's commitments and actions needed to decarbonise the UK transport system. It follows on from 'Decarbonising Transport: Setting the Challenge' which was published in March 2020 and set out the scale of additional resources needed in the transport sector to achieve net carbon zero, across all industries, by 2050.

2.2.13 The Strategy gets out a number of strategic priorities, with those of relevance to the development being:

13 Accelerating modal shift to public and active transport – achieved by providing cohesive, widely available, net zero public transport network, using technology to help reduce carbon footprint, and public transport or active travel will be the first choice for daily activities; and

14 Decarbonising Road Transport – achieved by phasing out all non-zero emission road vehicles by 2040 and ensuring infrastructure is not a barrier to the zero emission transition.

2.3 Regional Policy

2.3.1 Staffordshire County Council Strategic Plan 2022-2026

2.3.2 The Strategic Plan sets out Staffordshire County Council's (SCC) proposals for the county. The Plan sets out the following vision for Staffordshire:

"An innovative, ambitious and sustainable county, where everyone has the opportunity to prosper, be healthy and happy"

2.3.3 The document focuses broadly on the following areas of priorities:

- Support Staffordshire's economy to grow, generating more and better-paid jobs;
- Tackle climate change, enhance our environment, and make Staffordshire more sustainable;
- Encourage good health and wellbeing, resilience and independence;
- Fix more roads, and improve transport and digital connections; and
- Offer every Staffordshire child and young person the best start.

2.3.4 Staffordshire Local Transport Plan 2011 – 2026 (LTP) – Strategy Plan

2.3.5 The Strategy Plan sets out SCC proposals for transport provision in the county, including walking, cycling, public transport, car based travel and freight. This document focuses broadly on the following areas of influence:

- Stimulating areas of regeneration and deprivation
- *Supporting rural communities.*
- *Facilitating tourist activity.*



- *Maximising the reliable operation of the existing road network.*
- *Minimising the impact of events on traffic management.*
- *Managing network capacity.*
- *Keeping the highway in a good state of repair.*
- *Improving the efficiency of freight distribution.*

2.4 Local Policy

2.4.1 South Staffordshire Local Plan Review (2018 – 2038)

2.4.2 The South Staffordshire Local Plan was adopted in 2012 to help to shape a sustainable future for the district. The current adopted Local Plan consists of two documents, which are:

- Core Strategy – adopted in December 2012 and sets the strategic vision and objectives for South Staffordshire
- Site Allocations Document – adopted in September 2018, this sets out site specific proposals and policies for the use of land to guide future development.

2.4.3 Core Strategy

2.4.4 The Core Strategy sets out a number of core policies with **Core Policy 11: Sustainable Transport** being most relevant. This policy notes:

- *“The Council will seek to ensure that accessibility will be improved and transport choice widened, by ensuring that new development is well served by an attractive choice of transport modes, including public transport, footpaths and cycle routes to provide alternatives to the use of the private car and promote healthier lifestyles.”*
- *“Development proposals will, either individually or collectively, have to make appropriate provisions for:*
 - Reducing the need to travel;
 - Widening travel choices and making travel by sustainable means of transport more attractive than the private car;
 - Improving road safety;
 - Improving air quality and reducing the impact of travel upon the environment, in particular reducing carbon emissions that contribute to climate change.”
 - *“The Council will work with its partners to improve accessibility by enhancing sustainable transport opportunities in the District and encouraging development that reduces the need to travel.”*

2.4.5



2.4.6 Site Allocation Document

2.4.7 The Site Allocation Document provides details of the allocated sites in the district to help deliver the vision and objectives of the Core Strategy.

2.4.8 Policy SAD9 of the Site Allocation Document states that in relation to design and access, all allocation sites must:

- Be accompanied by a Design and Access Statement that responds to the requirements of the Council's Design Guide (or the latest revision of this document) and incorporate good sustainable design principles;
- Provide safe, secure and legible walking and cycling connections to and from the existing pavement network in the adjacent village;
- Protect and, where possible, enhance any existing Rights of Way in line with the Staffordshire County Council Rights of Way Improvement Plan.

2.4.9 Policy SAD9 also states that in relation to Highways, all allocation sites must:

Provide a Transport Assessment (TA) to accompany any planning application for sites of 80 dwellings or more. The TA/TS must reflect the guidance set out in NPPF and DfT Circular 02/2013 (or their successive documents) and be agreed through consultation with the highways authorities (which would include Highways England where there would be impacts on the SRN). Where site specific mitigation is deemed necessary this will need to be agreed with the relevant highway authority and likely be secured through planning condition or S106 agreement attached to any grant of planning permission.

Local Plan Review

2.4.10 The South Staffordshire Local Plan is currently at an advanced stage of a Local Plan review. Once published, the plan is proposed to cover the period from 2018 to 2038.

2.4.11 As part of this review, the Preferred Options document was published in November 2021. The proposed site is included within the Preferred Options document (Policy SA4), covering an area of 65.7 ha for the development of 1,129 dwellings. The allocation of these dwellings is split across three separate housing site allocations (ref 010, 584 and 420), with the following noted within the document:

- By 2038, the development in this location will provide a new neighbourhood where residents can easily meet their day-to-day needs using facilities within the development or Penkridge village.
- The scheme will be designed to be integrated into the wider village community and will include a first school.



- The release and phasing of the site will be informed by a Supplementary Planning Document (SPD), which will include an Infrastructure Delivery Strategy for the site. The purpose of the SPD will be to:
 - Provide more detail on how and when the strategic requirements set out in Policy SA4 will be delivered;
 - Set a framework to guide the preparation of future planning applications;
 - Provide a framework against which future planning applications will be assessed;
 - Enable and support the co-ordination and timely delivery of infrastructure provision.
- The SPD will also address the following key infrastructure and design requirements:
 - On-site first school, retail and any necessary community facilities of an appropriate scale to meet the needs of the development;
 - High quality on-site open space, green infrastructure which integrates into existing housing permitted to the south of the site, alongside measures to ensure biodiversity net gain is achieved;
 - Highways, sustainable transport and active travel infrastructure, including links to infrastructure in the wider area;
 - Layout and design to enhance the entrance into the village;
 - Improvements to local leisure facilities in the wider village; and
 - Provision of a new revised country park adjacent to the River Penk

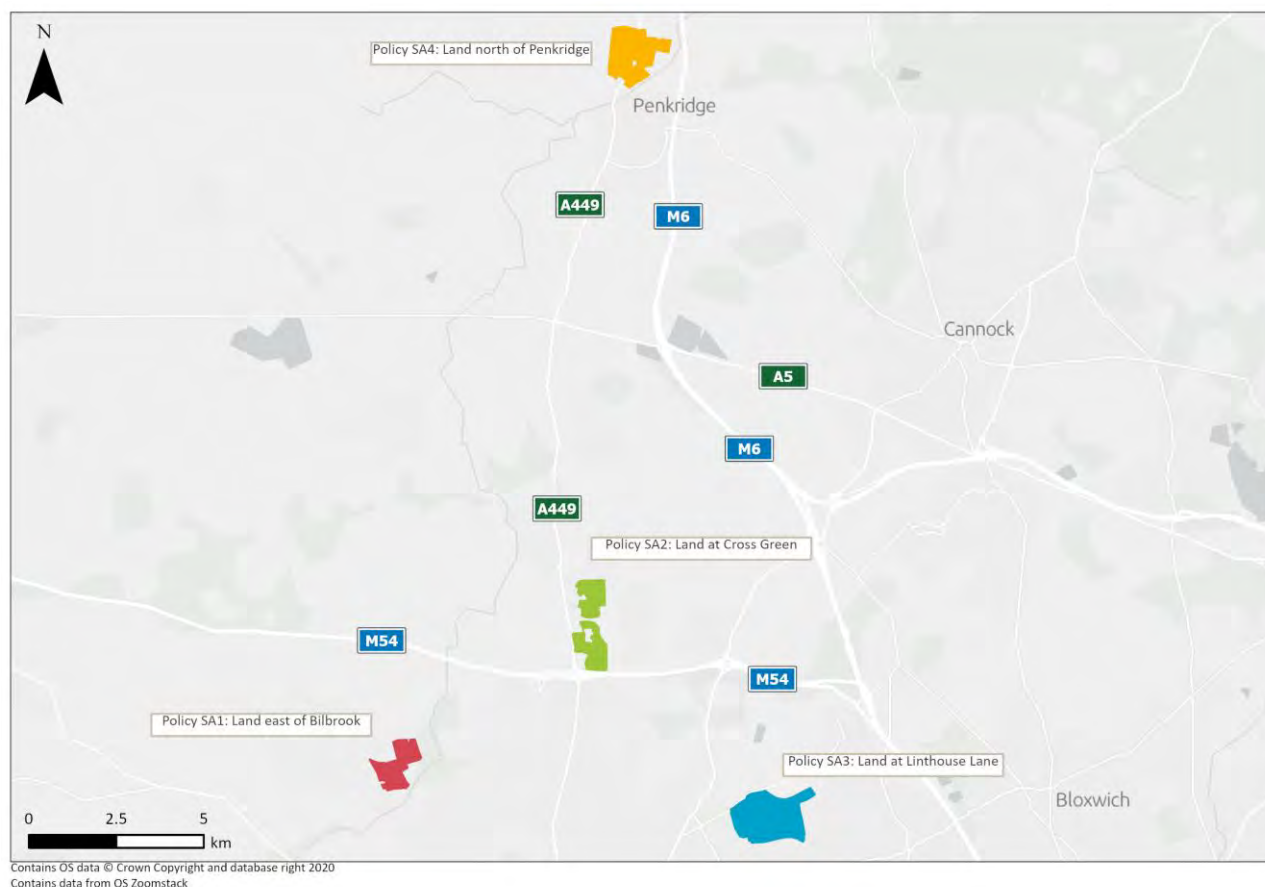
2.4.12 Whilst this STA is specific to the Land north of Penkridge (SA4) site, the Preferred Options document also sets out allocations for three other sites within South Staffordshire, (see Figure 2-1). Table 2-1 provides an overview of the minimum housing requirements for these three sites.

Table 2-1: Other strategic site allocations

Site Name	Site Area	Minimum Capacity
Land East of Bilbrook	39.6 ha	848 Dwellings
Land at Linthouse Lane	94.1 ha	1,976 dwellings (1,200 dwellings by 2038)
Land at Cross Green	54.3 ha	1,200 dwellings

2.4.13 National Highways have requested that the impact of these developments are assessed alongside the proposed site as part of a 'Cumulative Development' scenario. More information is given in Section 11.

Figure 2-1: Strategic Site Allocations



2.4.14 Following an update of the Council’s Local Development Scheme, it is anticipated that South Staffordshire will submit a reviewed Local Plan by the end of 2022, for the Council to formally adopt the Local Plan by Winter 2023. Once adopted, this will replace both the Core Strategy and Site Allocation Document in the existing Local Plan.

2.5 Policy Summary

2.5.1 Overall, the development for which this STA relates to considers various frameworks, aims and objectives, which have been discussed throughout this chapter at national, regional and local scales.

2.5.2 In particular, the development will aim to improve connections to Penkridge village by sustainable modes of travel, in line with Core Policy 11 of South Staffordshire’s Core Strategy (2011).

2.5.3 To summarise:

- The development will consider the availability of sustainable transport modes and the impact the proposals will have on the surrounding highway network, today and into the future;
- The proposals will aim to connect the site with the village of Penkridge, to reduce the use of single occupancy car journeys and to ensure the site and existing nearby residential areas are



well connected to employment and leisure facilities, whilst realising opportunities to travel to these by walking, cycling or public transport; and,

- The development will seek to contribute to the ambitions to cultivate a culture around participation, with active and sustainable modes in line with current best practice and guidance documents.

3 Committed Developments and Infrastructure

3.1 Introduction

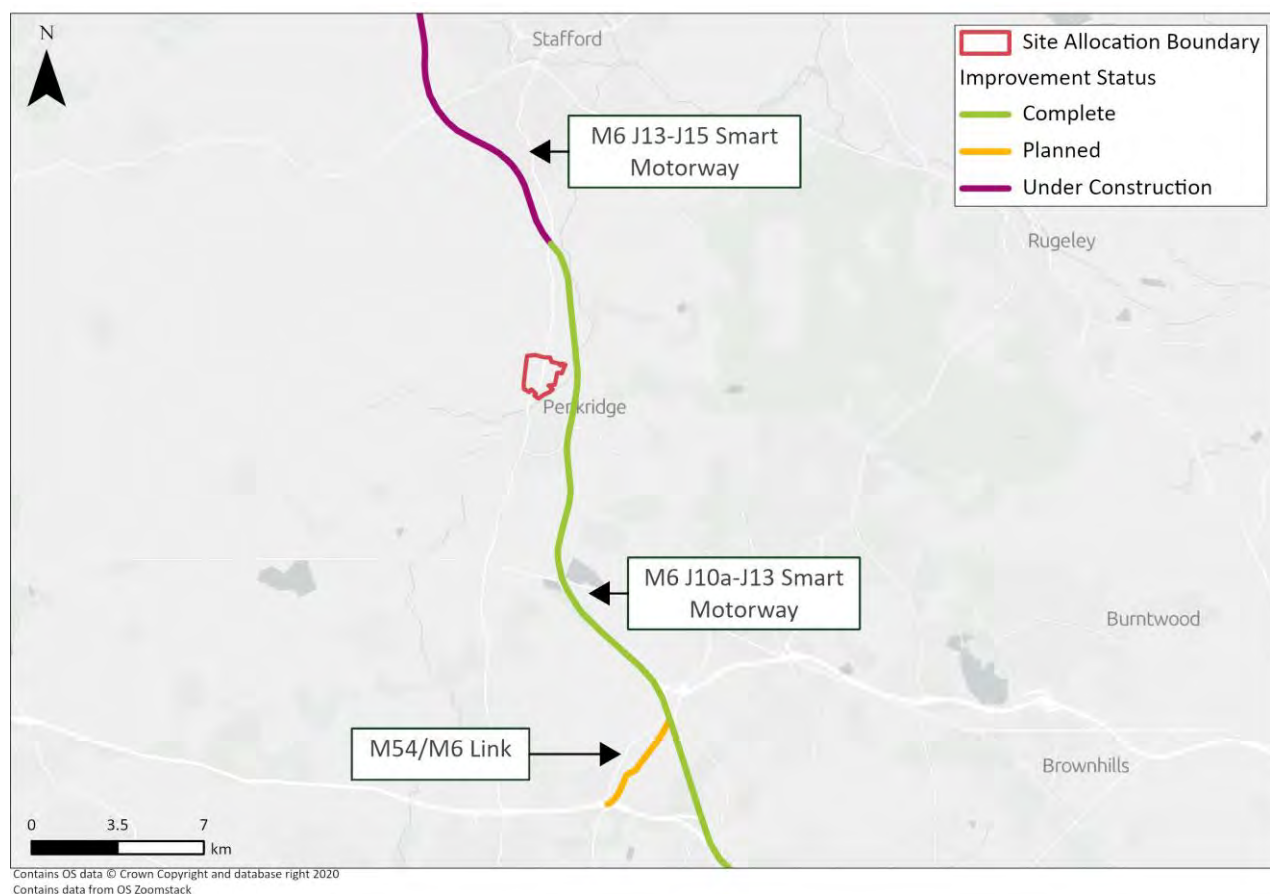
3.1.1 This section sets out the details of the committed developments and infrastructure considered within the assessment.

3.2 Committed Infrastructure of Strategic Importance

3.2.1 The site will benefit from committed strategic improvements in the area, which will be provided by others. Further information is given in the respective sections below.

- Smart motorway upgrades to the M6, between J10a and J13 and between J13 and J15; and
- M54/M6 Link Road

Figure 3-1: Strategic Highway Improvements



Smart Motorway Upgrades

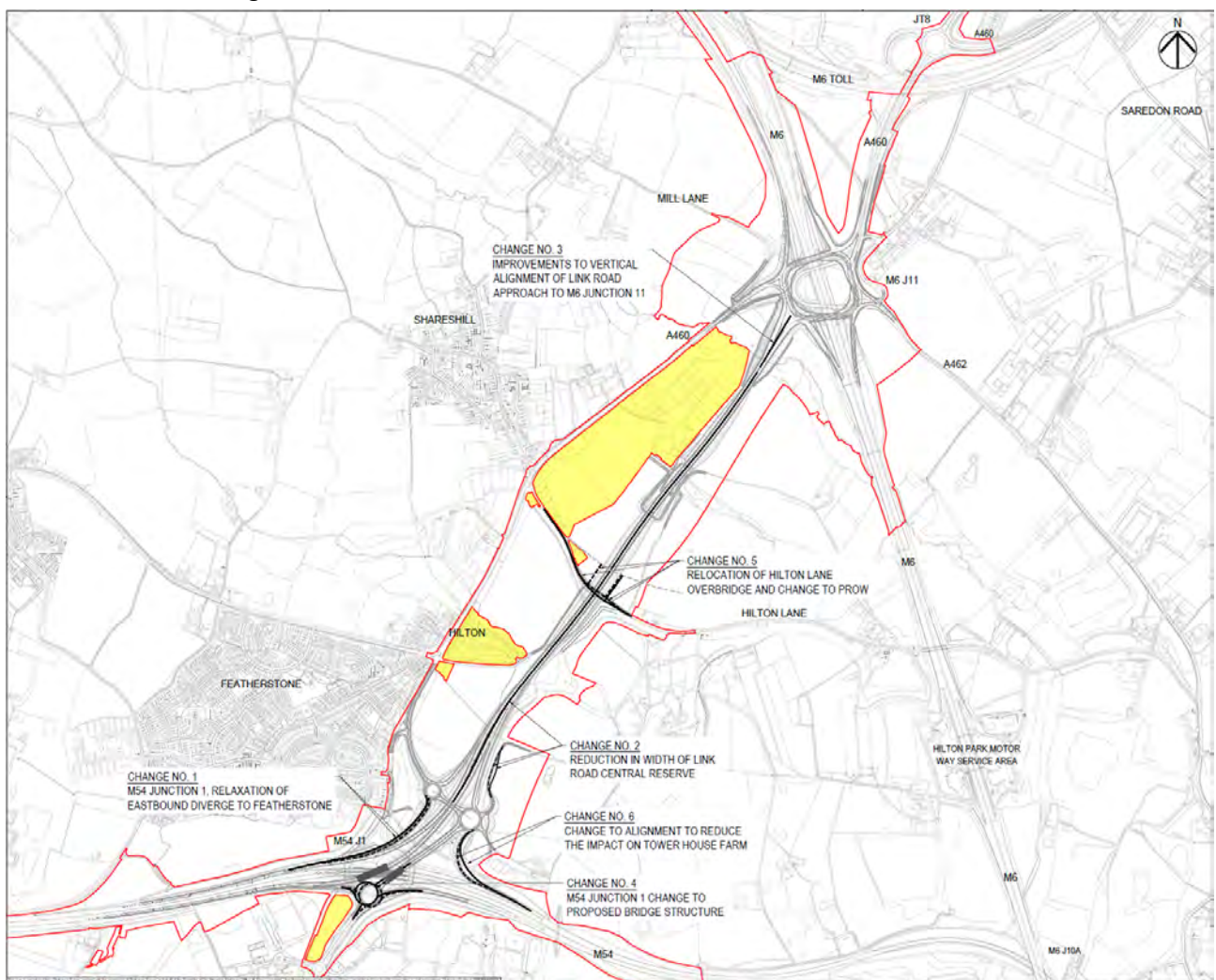
3.2.2 The M6 mainline is being upgraded to a smart motorway, with works between J13 and J15 underway, and J10a to J13 now complete.



M54/M6 Link Road

- 3.2.3 In April 2022, DCO consent was granted (TR010054) for the provision of a link road between the M54 and M6 which will provide a direct motorway link between the M54 Junction 1 and M6 Junction 11. The route runs parallel to the A460 and is expected to reduce the number of vehicles and level of congestion on the A5 and A449 and through the village of Featherstone.
- 3.2.4 The M54/M6 Link Road is identified within the Road Investment Strategy 2 (2020-2025) and will be funded entirely through central government funding. The M54/M6 Link Road is estimated to be complete by 2024-2025.

Figure 3-2: M54 M6 Link Road Alignment



- 3.2.5
- 3.2.6 A TA was submitted alongside the DCO application, and the key points are summarised below:
- The first transport objective of the scheme is to relieve traffic congestion on the A460, A449 and A5, and is measured in terms of the AM (07:00-08:00) and PM (17:00-18:00) peak hours.



- The scheme would remove between 15% and 47% of the peak hour flows on the A449/A5 route.

3.3 Committed Development of Strategic Importance

West Midlands Interchange

Overview

- 3.3.1 In May 2020 a Development Consent Order was granted for the development of a new Strategic Rail Freight Interchange facility located between the M6, A449 and A5 (TR050005). The development comprises:
- An intermodal freight terminal with direct connections to the West Coast Main Line, capable of accommodating up to 10 trains per day and trains of up to 775m long, including container storage, Heavy Goods Vehicle parking, rail control building and staff facilities;
 - Up to 743,200 square metres of rail served warehousing and ancillary service buildings;
 - New road infrastructure and works to the existing road infrastructure;
 - Demolition of existing structures and earthworks to create development plots and landscape zones;
 - Reconfiguring and burying of existing overhead power lines and pylons; and
 - Strategic landscaping and open space, including alterations to public rights of way and the creation of new ecological enhancement areas and publicly accessible open areas.

Highway Improvements

- 3.3.2 The TA identifies the following improvements associated with the WMI development:
- New access junctions on the A5 and A449 to comprise roundabouts;
 - Provision of a link road connecting between access junctions on the A449/A5. The link road will be adopted by SCC, subject to a 30mph speed limit and available for traffic at all times. The carriageway will be 7.3m in width, with a 3m shared use footway/cycleway on the eastern and northern carriageway edges;
 - Pedestrian crossings on the link road where required for access to development plots, and at each of the access junctions on the A5/A449;
 - Widening of the existing footway/cycleway along the east side of the A449 from Station Drive to Gailey roundabout to 3m in width;
 - Upgrading existing footway along the A5 from Gailey Roundabout to the new A5 access to a combined footway/cycleway; and
 - Provision of a WMI HGV routing ban which prohibits HGV movements through Penkridge.

Impact Assessment



3.3.3 Assessment of the WMI utilised the same modelling platforms utilised within M54 / M6 / M6 Toll Link Road assessment, as follows:

- SATURN Model (M54/M6SM) – used to distribute WMI traffic onto the wider highway network;
- South Staffordshire VISSIM Model (SSVM) – used to distribute WMI traffic onto the local highway network, and used to assess the operation of the highway network.

3.3.4 The TA assessed the impact of the WMI development at the following junctions;

- M6 Junction 12;
- M6 Junction 11;
- Gailey roundabout (A5/A449);
- A449/Gravelly Way/Crateford Lane/A449/A5 Link Road;
- A449/Four Ashes Road/Station Drive;
- A5/Vicarage Road; and
- Vicarage Road/Straight Mile.

3.3.5 The main conclusions of the assessment are as follows:

- The Link Road would result in a slight reduction in vehicle traffic on the A5 and A449 at Gailey Roundabout;
- M6 Junction 12 in its current form is sufficient to accommodate traffic changes arising from the scheme; and
- No dedicated mitigation measures are required over and above the proposals.
- It should be noted that no account was made for the M54/M6 Link Road within the assessment given that a preferred route was not available at the time of assessment, although it is expected that the scheme would result in a reduction in traffic on the A449 and A5.

3.4 Local Planning Application Review

3.4.1 There are several development sites adjacent to (and within) the proposed allocation site. The planning history associated with these sites is summarised below.

Within Site Allocation

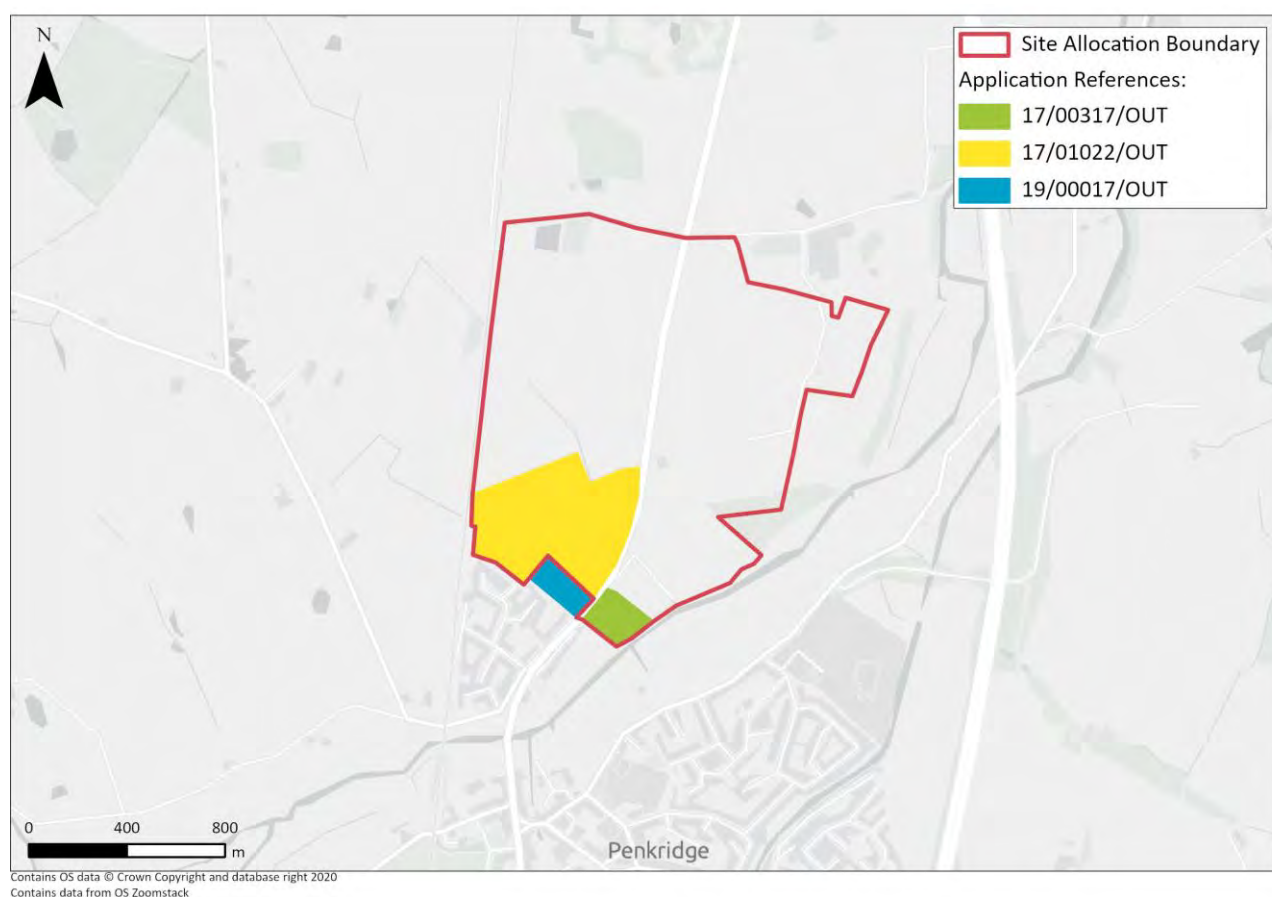
- Development of 200 dwellings on Land North of Penkridge (hereafter referred to as Phase 1)
 - 17/01022/OUT – Outline permission granted at appeal.
 - 19/00862/REM – Reserved matters permission approved.
 - Construction has begun, and it is understood that build out is approximately 50% complete at the time of writing.

- Development of 31 dwellings on Land to the East of A449
 - 17/00317/OUT – Outline permission refused. Reason for refusal given that the proposals are contrary to the policies for the control of development in the Open Countryside within the adopted Core Strategy.

Outside Site Allocation

- Development of 24 dwellings on Land West of A449
 - 19/00017/OUT – Outline permission approved.
 - 21/00977/REM – Reserved matters permission approved.
 - It is understood that construction has begun onsite.

Figure 3-3: Adjacent Planning Applications



3.5 Committed Development

- 3.5.1 During scoping discussions South Staffordshire Council identified a number of developments that should be considered as committed within the assessment. The specified committed developments are listed in Table 3-1 below. More information on how these have been accounted for within the assessment is given in Section 10.5.



Table 3-1: Committed Developments

Application Reference	Description	Development Quantum
17/01022/OUT	Bloor Homes Phase 1	200 dwellings
19/00017/OUT	Land West of A449 (adjacent to Bloor Phase 1)	24 dwellings
-	Site Allocation 005 – Land at Cherry Brook	88 dwellings
-	Lyne Hill	18 dwellings
-	West Midlands Interchange	-

4 Baseline Transport Conditions

4.1 Introduction

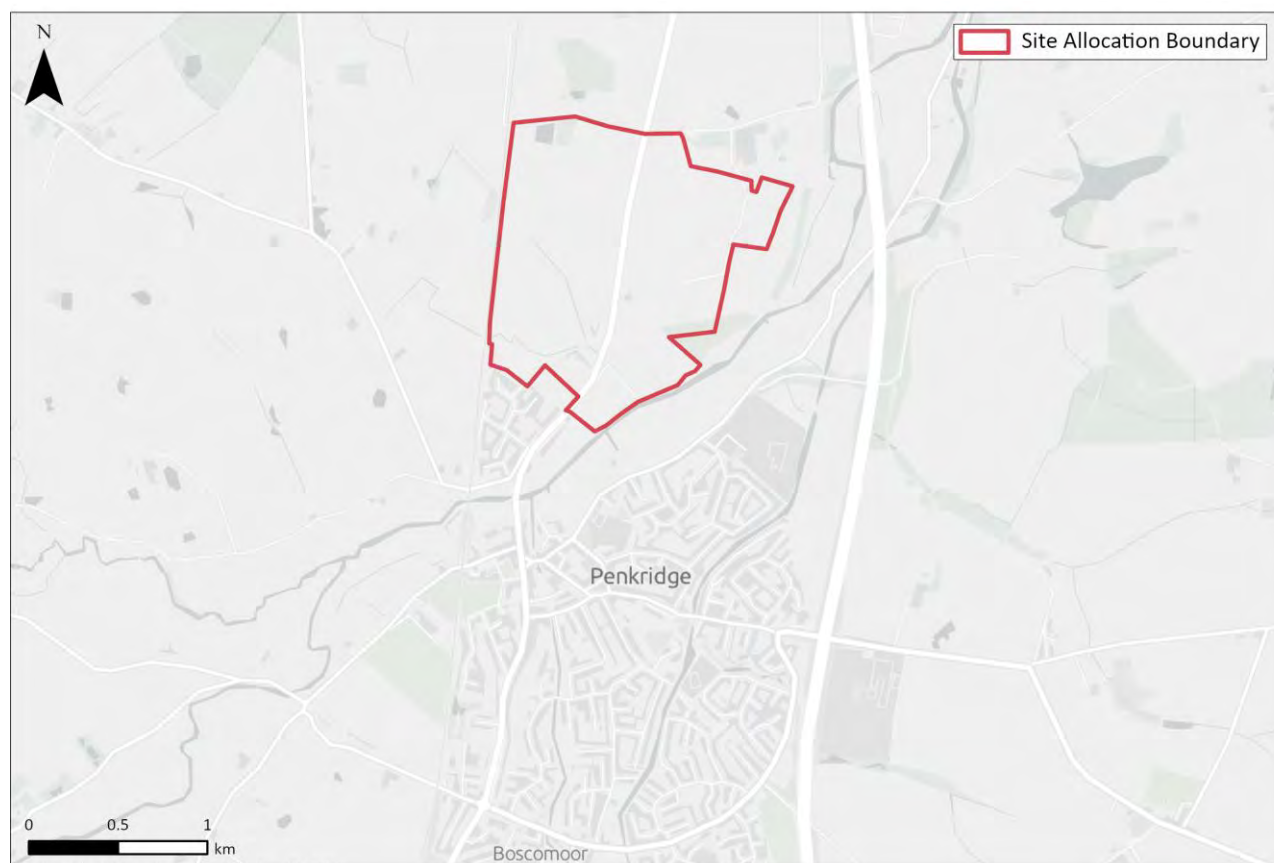
4.1.1 This chapter sets out the existing transport network conditions. It aims to understand the existing pedestrian, cycle, public transport and local highway networks connecting the site to local amenities.

4.2 Site Location

4.2.1 The site is located approximately 1.6km to the north of Penkridge village centre.

4.2.2 The site is bound by the River Penk to the east, West Coast Main Line railway to the west, greenfield land to the north and residential development and the existing Penkridge settlement to the south.

Figure 4-1: Site Location





4.3 Local Highway Network

A449

- 4.3.1 The A449 is a single carriageway road which runs through the centre of the site in a north south alignment. The road is currently subject to a national speed limit as it passes the site.
- 4.3.2 To the north, the A449 joins the M6 at Junction 13, and to the south, the A449 routes through Penkridge village centre and meets the A5 whereby onward connections onto the M6 at Junction 12 can be sought.

4.4 Pedestrian/Cycle Network

- 4.4.1 Footways, approximately 2m in width are provided on both sides of the A449 between Penkridge village centre and the existing settlement boundary. The western footway is currently being extended northwards to meet the new roundabout junction being constructed for the Bloor Homes Phase 1 (17/01022/OUT) application. There are no footways as the A449 passes through the development site.
- 4.4.2 Signalised pelican crossings are provided across the A449 in the vicinity of Pinfold Lane and St Michaels Road, providing a safe crossing point for pedestrians accessing local facilities within the town centre and Penkridge station.
- 4.4.3 A number of roads within Penkridge, including Teddesley Road, Levedale Road and Cannock Road, are identified as 'Advisory cycle routes' within the Staffordshire County Council Cycling Map and Information Guide, although there are no dedicated cycle facilities.
- 4.4.4 Bridleway Penkridge 33 follows an east to west alignment between the A449 and Levedale Road, through the development site. The bridleway crosses the railway line with a bridge.

4.5 Public Transport

Bus

- 4.5.1 The closest bus stops to the site are located on the A449, and comprise a flag and pole arrangement.
- 4.5.2 Figure 4-2 identifies that the majority of the site can be reached within 400m of these stops, and the entire site within 800m. The services available from the closest stops are provided by Select Bus Services, and have been summarised in Table 4-1.



Figure 4-2: Bus Services

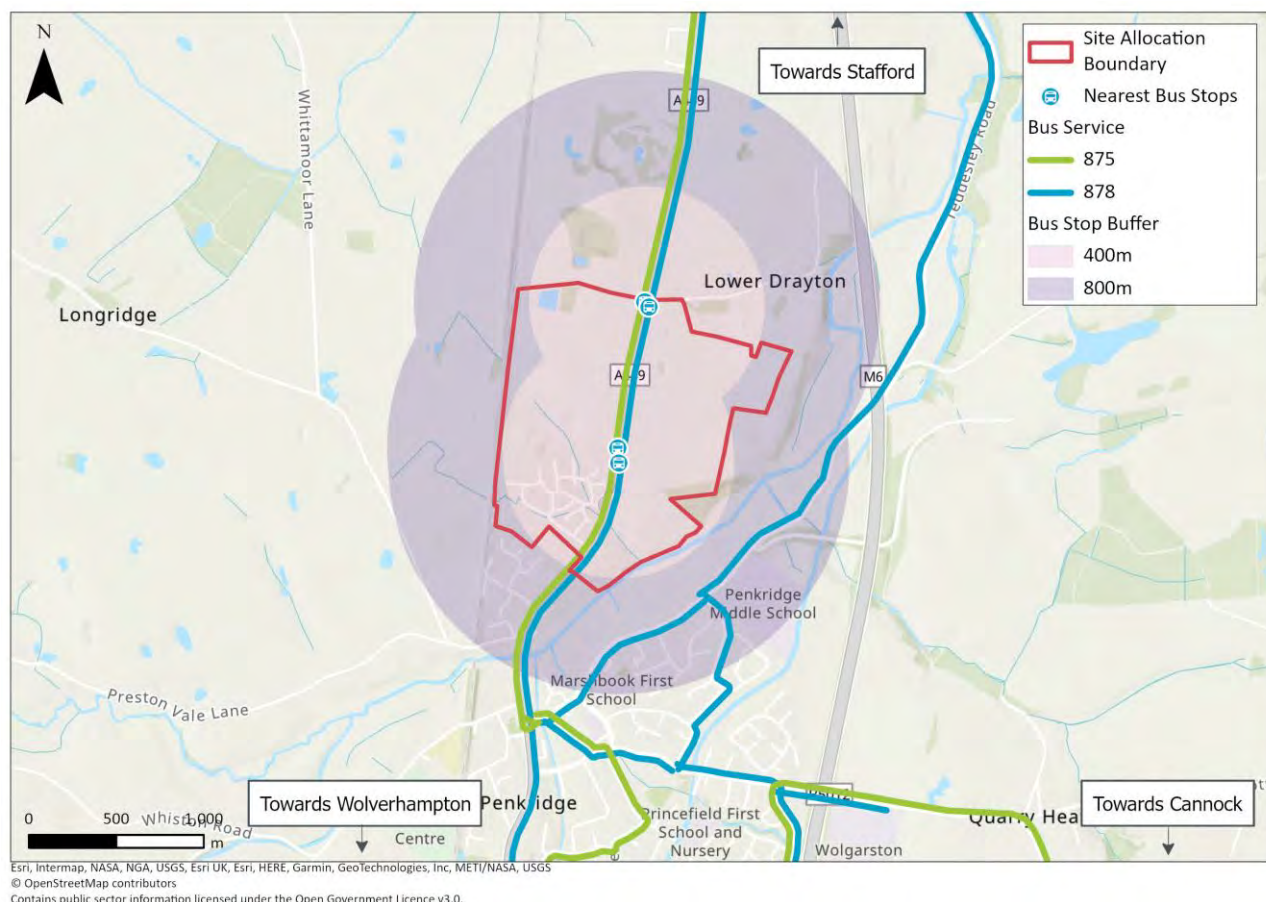


Table 4-1: Bus Services Summary

Service	Route	Peak Frequency (each direction)	Days of Week
879	Stafford -Rodbaston College	One per day (school service)	Mon-Fri
878	Wolverhampton - Coven - Brewood - Wheaton Aston - Penkridge - Stafford	Five services per day	Mon-Sat (reduced Sat service)
875	Cannock - Penkridge - Rickerscote - Stafford	Hourly	Mon-Sat

Rail

- 4.5.3 Penkridge train station is located approximately 1.5km from the southern edge of the site, and 2.2km from the northern extent of the site, equating to an 18 to 26 minute walk respectively. Penkridge is served by West Midlands Trains services between Birmingham New Street and Liverpool Lime Street. Services call twice per hour in each direction.
- 4.5.4 Penkridge station has 19 car parking spaces (including 4 disabled) and cycle parking for 20 cycles. SCC also has an agreement with Penkridge Sports and Recreation Centre to utilise their overflow car park, comprising 61 spaces, for station users. Penkridge station offers a 'Park and Ride' service whereby parking is free of charge for train passengers.



4.6 Highway Safety

- 4.6.1 Personal Injury Collision data (PIC) has been provided by Staffordshire County Council for the most recent five-year period available (01/01/2016 – 17/03/2022). This data has been interrogated to determine whether there are any existing highway safety concerns on the local highway network that would be exacerbated by the development.
- 4.6.2 A summary of the collision data at local links and junctions is provided in Table 4-2, while a plan showing the location of collisions within the study area is provided in Figure 4-3.

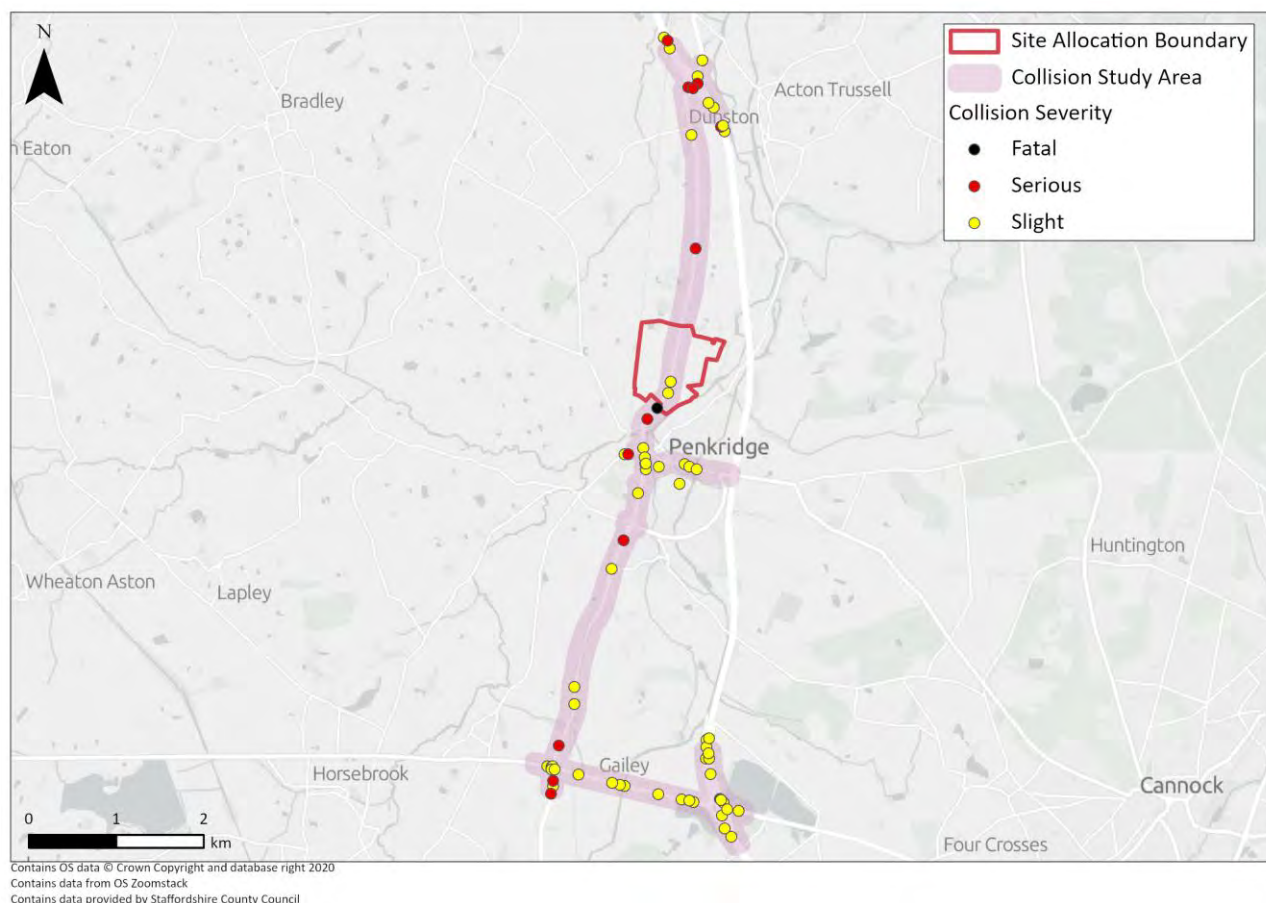
Table 4-2: Collision Summary

Junction/Link	Severity				Sensitive Road Users			
	Slight	Serious	Fatal	Total	Pedestrian	Cycle	Motorcycle	Total
<i>Junctions</i>								
M6 Junction 12	7	0	0	7	0	0	0	0
Gailey Roundabout	5	1	0	6	0	3	0	3
A449/Pinfold Lane	1	0	0	1	0	0	0	0
A449/New Road	1	0	0	1	0	0	1	1
M6 Junction 13	1	3	0	4	0	2	0	2
A449/St Michaels Square	1	0	0	1	0	1	0	1
A449/Levedale Road	1	1	0	2	0	0	0	0
Cannock Road/Haling Road	1	0	0	1	1	0	0	1
Penkridge Wharf/Cannock Road	1	0	0	1	0	0	0	0
Frances Green Lane/Filance Lane	1	0	0	1	0	1	0	1
<i>Links</i>								
A5 (between M6 J12 & Gailey)	8	0	0	8	0	0	3	3
A5 (east of M6 J12)	1	0	0	1	0	0	0	0
A449 (between New Road and Boscomoor Lane)	1	0	0	1	0	1	0	1
A449 (between Boscomoor Lane and Gailey Roundabout)	3	2	0	5	1	0	2	3
M6 Junction 12 (south of junction)	2	0	0	2	0	0	0	0
Cannock Road	1	0	0	1	0	0	0	0
M6 Junction 12 (north of junction)	7	0	0	7	0	0	0	0
M6 Junction 13 (south of junction)	4	1	0	5	1	0	0	1
A449 (South of Gailey Rdbt)	1	2	0	3	0	0	1	1
New Road	1	0	0	1	1	0	0	1
M6 Junction 13 (north of junction)	2	1	0	3	0	0	0	0
A449 (North of Site)	2	1	0	3	0	0	0	0
A449 (between St Michaels Square and New Road)	2	0	0	2	0	0	0	0
A449 (in vicinity of Bloor Phase 1 access)	2	0	0	2	0	0	0	0
A449 (north of M6 Junction 13)	1	0	0	1	0	0	0	0



Pinfold Lane	1	1	0	2	0	1	0	1
A449 (south of Bloor Phase 1 access)	0	0	1	1	1	0	0	1
Total	59	13	1	73	5	9	7	21

Figure 4-3: Collision Locations



4.6.3

Highway Safety Summary

A449

- 4.6.4 Along the whole A449 link, a total of 18 collisions have been recorded within the study area. This includes 12 slight collisions, five serious collisions, and one fatal collision. All collisions are spread across the link of approximately 8km, and no notable clustering has been noted. Three collisions involved motorcyclists and two collisions involved pedestrians. There is no notable clustering of collisions involving sensitive road users.
- 4.6.5 Two collisions involving pedestrians have been recorded along the link, one recorded as serious and one recorded as fatal. The serious collision involved a pedestrian crossing on the nearside of a motorcycle on the A449 between the Gailey Roundabout and the junction with New Road. The fatal collision was recorded on the A449 to the north of Penkridge, in the vicinity of the access to the



Bloor Phase 1 site, and involved a van or goods vehicle and pedestrian colliding. Since this collision was recorded, pedestrian facilities have been improved as part of the Bloor Phase 1 development.

4.6.6 Additional collisions were recorded at the following junctions with the A449:

- A449 / Pinfold Lane – one collision, recorded as slight involving no sensitive road users;
- A449 / New Road – one collision, recorded as slight involving a motorcycle;
- A440 / St Micheals Square – one collision, recorded as slight involving a cyclist; and
- A449 / Levedale Road – one slight collision and one serious collision involving no sensitive road users.

A5

4.6.7 Along the A5 within the study area, there has been a total of nine collisions recorded, all of which have been recorded as slight. Three collisions were recorded to involve motorcyclists. There is no notable spatial clustering of collisions along this link.

New Road & Cannock Road

4.6.8 In the vicinity of New Road and Cannock Road within Penkridge, a total of five collisions have been recorded in the most recent five-year period available, all recorded as slight. There is no notable clustering of collisions in the vicinity of New Road and Cannock Road.

4.6.9 Two collisions were recorded to involve pedestrians, including one at the junction between Cannock Road and Haling Road where a pedestrian was crossing on the nearside of a vehicle travelling south. The other collision involving a pedestrian occurred along New Road involving a van or goods vehicle travelling eastbound.

4.6.10 A slight collision involving a pedal cycle was recorded within close proximity of the study area at the junction between Frances Green Lane / Filance Lane, which occurred as a vehicle turned right out of Filance Lane and a cyclist turned right into Filance Lane.

Pinfold Lane

4.6.11 In close proximity to the study area, two collisions have been recorded on Pinfold Lane, one recorded as slight and the other as serious. The serious collision involved a pedal cyclist, which occurred as the cyclist and a car were travelling towards Penkridge on Pinfold Lane.

Gailey Roundabout

4.6.12 Six collisions have been recorded at Gailey Roundabout in the most recent five year period available, including one collision recorded as serious and five recorded as slight. Three collisions have been recorded to involve pedal cycles, including a serious collision. Two collisions involved a



cyclist mid junction as a vehicle entered the junction, while the third involved both a cyclist and vehicle mid junction. The three remaining collisions all involved different movements, occurred at different locations across the junction and did not involve any sensitive road users.

M6 Junction 12

- 4.6.13 Seven collisions have been recorded at M6 Junction 12, all recorded as slight. Four collisions were recorded to involve vehicles entering the junction from the southbound slip-road, likely to be rear shunts. One collision involved two vehicles entering the junction from the A5 East arm, likely to be a rear shunt. The two remaining collisions were recorded to have occurred mid-junction, and involved no sensitive road users.

M6 Junction 13

- 4.6.14 Four collisions have been recorded at M6 Junction 13 in the most recent five year period available, including three serious collisions and one slight collision. Two collisions were recorded to involve a pedal cycle, one serious and one slight. Both collisions involving a pedal cyclist were recorded in different locations but were recorded to have occurred as the cyclist was mid-junction and a vehicle entered the junction. Both remaining collisions were recorded to involve a loss of control mid junction in different locations, both recorded as serious, and did not involve any sensitive road users.

M6 Link

- 4.6.15 In the vicinity of M6 Junction 13 and M6 Junction 12, a 17 collisions have been recorded along the link of the M6 within the study area, including 15 slight collisions and two serious collisions. One serious collision was recorded to have involved a pedestrian.
- 4.6.16 Given the location of collisions indicating no spatial clustering and the heavy traffic flow along the M6, the number of collisions on this link does not indicate any highway safety concerns.

Conclusions

- 4.6.17 Given the lack of spatial clustering of collisions and common causation factors across the study area, there are no existing highway safety concerns identified that would be exacerbated by the proposed development.

4.7 Summary

- 4.7.1 The site is considered to be well located for residential development, for the following reasons:
- The site is located on the northern edge of the existing Penkridge village settlement boundary;



- There is an existing network of pedestrian infrastructure and cycle routes in close proximity to the site and within Penkridge.
- Existing bus services route along the A449 through the centre of the site, with bus stops located adjacent to the site. Services route between Penkridge, Stafford, Wolverhampton and Cannock.
- Penkridge train station is located within walking/cycling distance of the development site, and provides half hourly services to a number of key destinations such as Birmingham New Street, Wolverhampton, Stafford and Stoke on Trent.
- A review of collisions within the most recent five-year period has identified no significant highway safety concerns that could be exacerbated by the development.



5 Accessibility

5.1 Introduction

- 5.1.1 The proximity of local amenities to a site and the ability to reach such facilities by foot and cycle are a key consideration when determining the sustainability of a development.

5.2 Local Amenities

- 5.2.1 Accessibility Guidance provided by the Institution of Highways and Transportation (IHT) in their publication 'Guidelines for Journeys on Foot' (2000) suggests that in terms of commuting, walking to school and recreational journey; walk distances of up to 2km can be considered as a preferred maximum with 'desirable' and 'acceptable' distances being 500m and 1,000m respectively. It should however be noted that journeys of a longer length are often undertaken.
- 5.2.2 For non-commuter journeys, the Guidance suggests that walk distances of up to 1,200m can be considered as a preferred maximum, with the desirable and acceptable distances being 400m and 800m respectively. Again, it should be noted that journeys of a longer length are often undertaken.

Table 5-1: Walk Journey and Time Thresholds

IHT Standard	Distance (m)		Walking Time (minutes)	
	Commuting, Walking to School and Recreation	Other, non-commuter Journey	Commuting, Walking to School and Recreation	Other, non-commuter journeys
Desirable	500	400	6.25	5
Acceptable	1,000	800	12.5	10
Preferred Maximum	2,000	1,200	25	15

- 5.2.3 There are a number of local facilities within walking/cycling distance of the site providing a wide range of services for everyday needs. The Government's Index of Multiple Deprivation statistics includes an indicator of 'Transport Inclusion', which is defined in terms of access to four essential types of facilities, which are:
- Primary Schools;
 - Health Centres;
 - Convenience Stores; and
 - Post Offices.
- 5.2.4 There are a number of existing local facilities within walking/cycling distance of the site, providing a range of services for everyday needs. These facilities are primarily located to the south of the site within Penkrige village centre. The amenities and their calculated walking/cycling time from the centre of the site are given in Table 5-2, and their location is demonstrated in Figure 5-1.

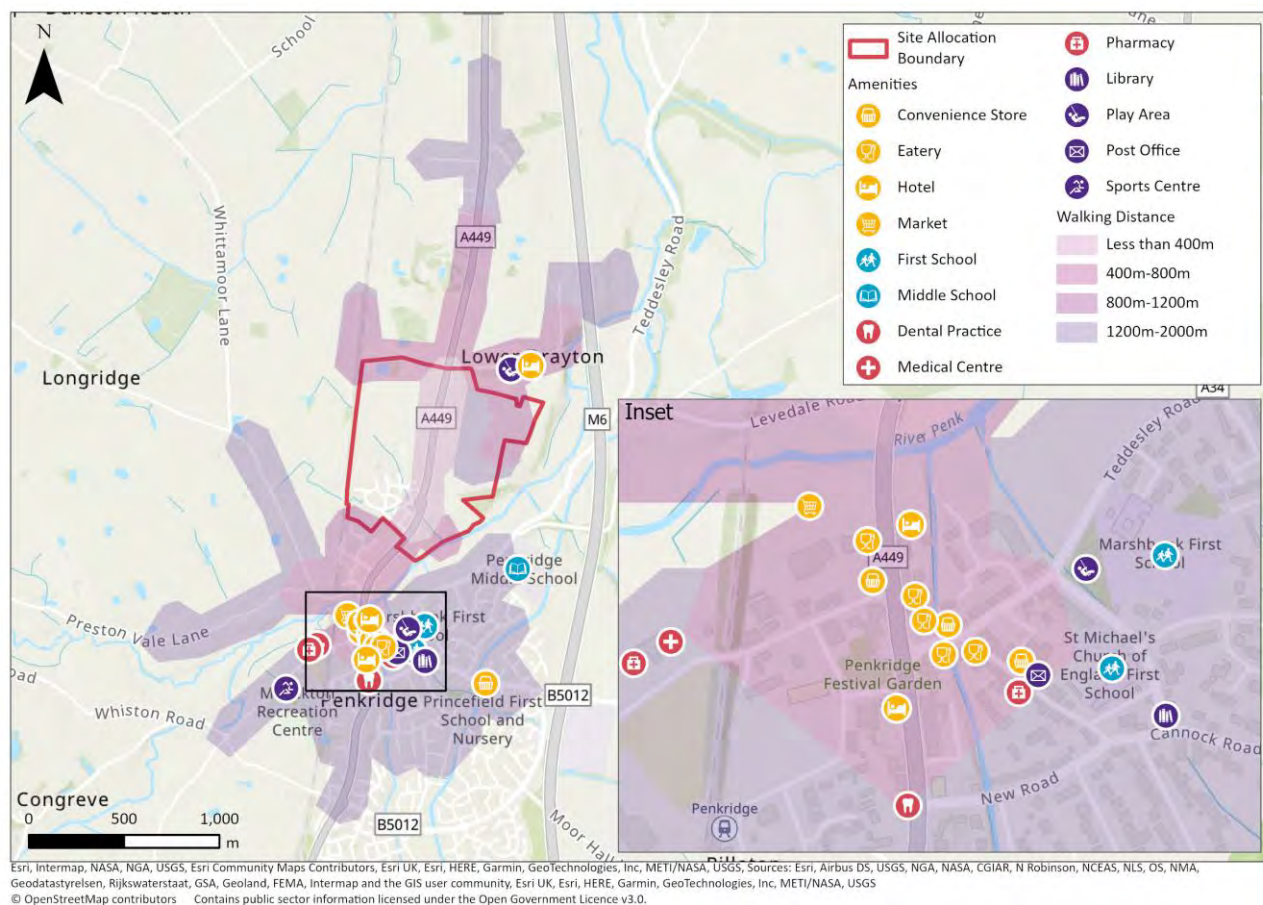


Table 5-2: Local Amenities

Type	Amenity	Location	Distance from site (km)	Walking Time (mins)	Cycle Time (mins)
Education	Marshbrook First School	Teddesley Road	1.6	20	5
	Penkridge Middle School	Marsh Lane	2.3	29	7
	St Michaels First School	Market Place	1.5	19	5
Health Care	Penkridge Medical Practice	Pinfold Lane	1.5	18	4
	Railway Dental	Clay Street	1.5	18	4
	Whitehouse Pharmacy	Market Street	1.4	18	5
Convenience Store	Northwood Pharmacy	Pinfold Lane	1.7	20	6
	Sainsbury's Local	Stone Cross	1.1	14	3
	Coop Food	Market Place	2.4	30	7
	Penkridge Convenience	Crown Bridge	1.3	16	4
	Lifestyle Express	Cannock Road	2.1	25	7
Post Office	Penkridge Post Office	Market Street	1.4	17	5
Leisure	Penkridge Sports & Recreation Centre	Pinfold Lane	1.7	21	5
	Penkridge Markets	Pinfold Lane	1.2	15	4
	Play Farm	Lower Drayton Lane	0.7	8	2
	Penkridge Library	Bell Brook	1.6	20	5
	Horsefair Park	Mill Street	1.5	18	5
Restaurants	Evergreen Chinese Takeaway	Stone Cross	1.1	14	3
	The White Hart	Stone Cross	1.2	15	4
	Warrens Eatery	Stone Cross	1.3	16	4
	Jaspers	Crown Bridge	1.3	16	4
	Horse & Jockey	Stone Cross	1.4	17	4
Hotels	Lower Drayton B&B	Lower Drayton Lane	0.7	8	2
Public Houses	Bridge House	Stone Cross	1.1	14	3
	The Littleton Arms	Clay Street	1.3	17	4



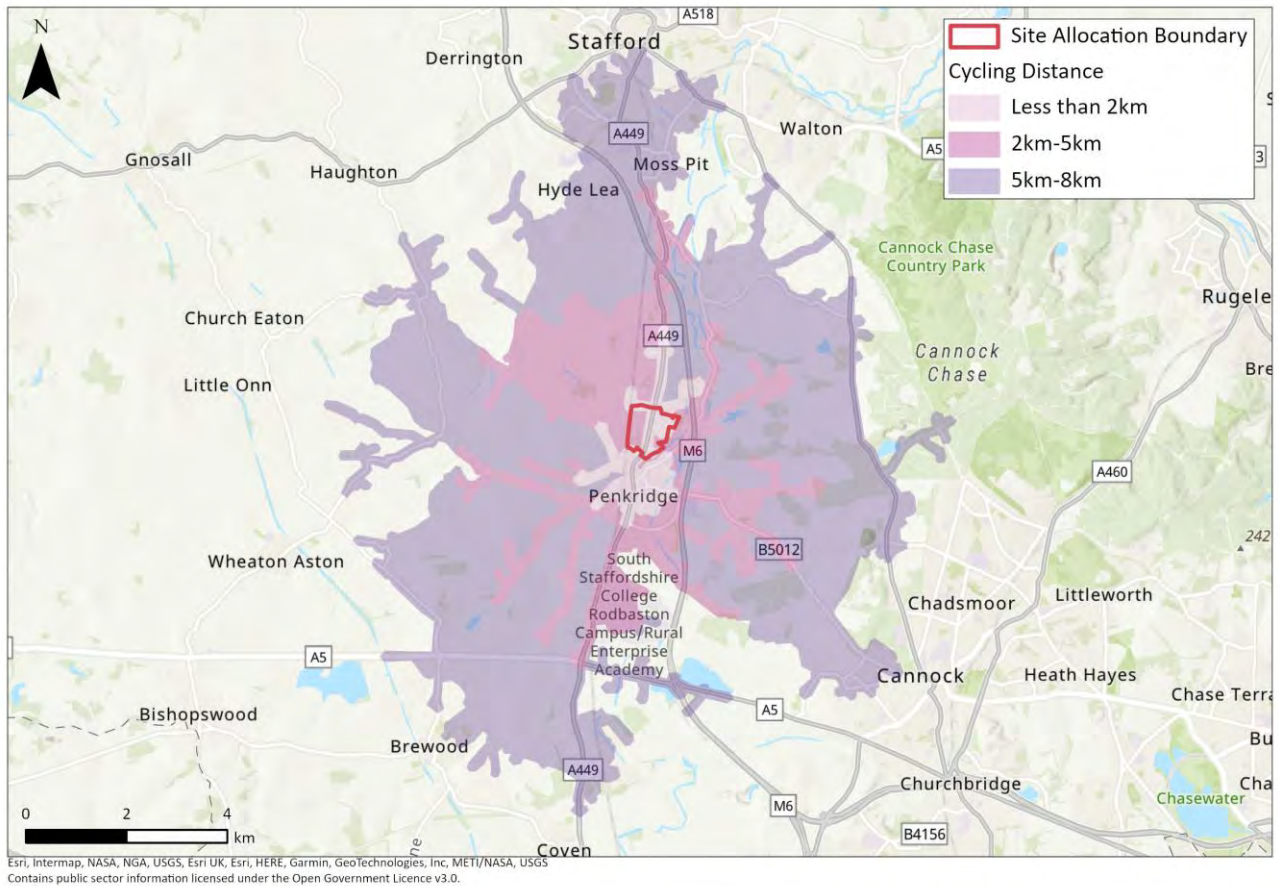
Figure 5-1: Local Amenities



5.2.5 Figure 5-1 clearly indicates that each of the core local amenities are present within a reasonable walking distance from the site. The site is well located to take advantage of the range of facilities within Penkrige village centre.



Figure 5-2: Cycling Isochrones



5.2.6 Figure 5-2 indicates that a number of key towns and villages are present within an acceptable cycling distance, including Stafford and the north-western parts of Cannock.

5.3 Proposed Amenities

5.3.1 The Local Plan Policy SA4 notes that the site is expected to provide and on-site first school, retail and any necessary community facilities of an appropriate scale to meet the needs of the development whilst maintaining the vitality of services and facilities in the wider area. These amenities will be within an acceptable or desirable walking distance of all proposed residential properties on-site.

5.3.2 At this stage, it is considered that this could comprise:

- A mixed-use local centre;
- 1FE first school with 150 pupils; and
- Country Park and associated leisure facilities.



5.4 Summary

- 5.4.1 A number of local amenities are located within Penkridge village centre and are within a reasonable walking/cycling distance from the site. Additionally, it is anticipated that the allocation will provide onsite amenities within an acceptable walking distance to all residential properties, serving the needs of the site.



6 Site Allocation

6.1 Indicative Masterplan

6.1.1 Local Plan Policy SA4 notes that the site is expected to provide:

- Up to 1,129 residential dwellings (excluding the 200 already consented as part of Bloor Phase 1);
- An on-site first school, retail and any necessary community facilities of an appropriate scale to meet the needs of the development whilst maintaining the vitality of services and facilities in the wider area; and
- Associated landscaping and infrastructure works.

6.1.2 An indicative masterplan is illustrated in Figure 6-1 below, and has been included within **Appendix A**.

Figure 6-1: Indicative Masterplan





6.2 Vehicle Access Strategy

6.2.1 It is considered that access could be delivered as follows:

- A new four-arm roundabout approximately 800m to the north of the existing settlement boundary. This would allow access to both the eastern and western parcels of development and would provide a 'gateway' to the extended Penkrige urban area and a suitable transition between the 60mph speed limit to the north and an extended 30mph speed limit to the south;
- A new four-arm roundabout approximately 650m to the north of the existing settlement boundary. As with the other access roundabout, this would allow access into the eastern and western parcels of development; and
- A fourth arm to the consented Phase 1 access roundabout;
- A priority junction approximately 200m to the south of the Phase 1 roundabout. This would serve the south easternmost parcel of the site; and
- An extension of Phase 1 carriageway to connect into the site.

6.2.2 Preliminary designs, swept path analysis and detailed capacity modelling of each junction will be undertaken as part of future applications.

6.2.3 During design, consideration will be given to maintaining a sufficient carriageway width along the A449 to allow for its continued use as a motorway diversion route between junctions 12 and 13 of the M6.

6.2.4 To support access onto the A449 and to enhance the residential nature of the area it would be beneficial to extend the existing 30mph speed limit to the north of the site.



7 Active Travel Strategy

7.1 Introduction

- 7.1.1 This section sets out a summary of the Active Travel Strategy for the site. A full Active Travel Strategy report and is included in **Appendix B**.

7.2 The Need for a Strategy

- 7.2.1 Recently there has been a move away from typical highway strategies to a more vision-based approach which aspires to improve connectivity for walking, cycling and promoting other forms of active travel. In order to achieve this, development should be complemented by efficient and well-integrated active travel and public transport infrastructure, both for local and regional communities. It is intended that the development support these ambitions by setting principles from the start, with this Active Travel Strategy.
- 7.2.2 This is underpinned by government strategy in recent years, including:
- Gear Change;
 - LTN 1/20 Cycle Infrastructure Design;
 - Bus Back Better; and
 - TRICS Decide and Provide.

7.3 Key Destinations

- 7.3.1 There are various documents that provide guidance on acceptable cycling distances:
- LTN 1/20, Cycle Infrastructure Design, states that *“two out of every three personal trips are less than five miles [8km] in length – an achievable distance to cycle for most people...”*.
 - LCWIP Technical Guidance, states that *“cycling has the potential to replace trips made by other modes, typically up to 10km, although some people will travel greater distances.”*
 - CIHT, Planning for Cycling, states that *“the majority of cycling trips are for short distances, with 80% being less than five miles”*.
- 7.3.2 It is recognised that acceptable cycling distances vary between individuals and circumstances, for example attractiveness of route, physical fitness, trip length, weather conditions etc. Based on the above guidance, for the purposes of this assessment it is considered that a cycle distance of 8km (5 miles) represents the greatest potential for uptake of cycling for trips to and from the proposed development.
- 7.3.3 The key destinations are located within Penkridge, approximately 2km south of the allocation. The proposed development and Penkridge are both within Middle Super Output Area (MSOA) South

Staffordshire 001. 2011 Census Journey to Work data shows that internal journeys within this MSOA have a cycle mode share of 2.4%. This is likely to reflect the limited existing dedicated and continuous cycle infrastructure linking the development site and surrounding local centres.

7.3.4 Given the sites location circa 2km from Penkridge village centre, there is an excellent opportunity to influence movement and create significant modal shift for trips to and from the site. With this in mind, the proposed Active Travel Strategy has been developed in order to encourage travel by active modes and interventions are considered likely to result in an uptake of cycling, and subsequent reduction in car use for the following journeys:

- Journeys to destinations in close proximity to a train station with a direct service from Penkridge train station; and
- Journeys to employment and retail opportunities within Penkridge village centre.

Figure 7-1: Key Destinations – Desire Lines/Routes



7.4 Key Routes

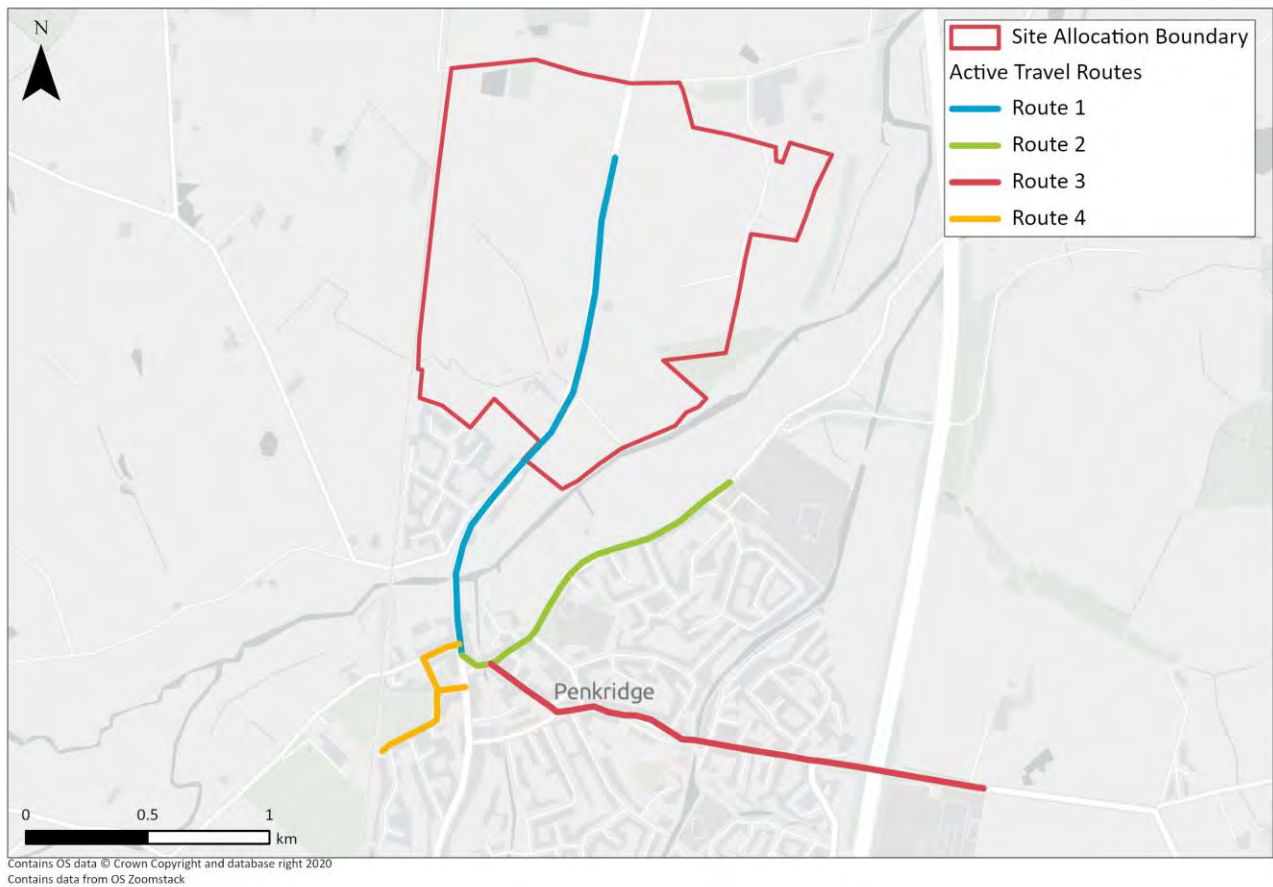
7.4.1 As part of the strategy, key routes within the vicinity of the development have been identified. These routes connect the site to key destinations within Penkridge, particularly the town centre and Penkridge station. The key routes considered are as follows, and are illustrated in Figure7-2 below.

- Route 1 - A449 Stratford Road – North of Penkridge High Street;
- Route 2 - Mill Street/Teddesley Road;
- Route 3 - New Road/ Cannock Road; and



- Route 4 - Pinfold Road/Church Road/Station Road.

Figure 7-2: Active Travel Routes



7.5 Proposed Improvement Measures

7.5.1 An audit of each of the routes has been undertaken and possible interventions identified in line with LTN 1/20 guidance. The interventions considered, are as follows:

Route 1 – A449 Stafford Road – North of Penkridge High Street

- Two-way cycle track on the eastern extent of Stafford Road between existing facilities and the site;
- Consideration to the removal of guard railing and ghost island facilities to facilitate cycle track provision across the River Penk bridge;
- Upgrade of existing crossing point in the vicinity of Pinfold Lane to a toucan crossing.

Route 2 – Mill Street/Teddesley Road

- Rationalisation of the A449/Crown Bridge junction to provide opportunity to transition cyclists onto Mill Street;



- Continuous footway treatments on side roads along Teddesley Road;
- Cycle friendly traffic calming measures along Mill Street and Teddesley Road;
- Consideration to the extension of the one-way street on Market Street to Mill Lane to reduce traffic volumes in the area and support contraflow cycle lanes.

Route 3 – New Road/Cannock Road

- Opportunity for placemaking intervention adjacent to St Michaels First School and The Star Public House;
- Continuous footway treatments on side roads along Cannock Road;
- Provision of a toucan crossing point in the vicinity of Wolgarston High School; and
- Contraflow cycle lane on Market Street.

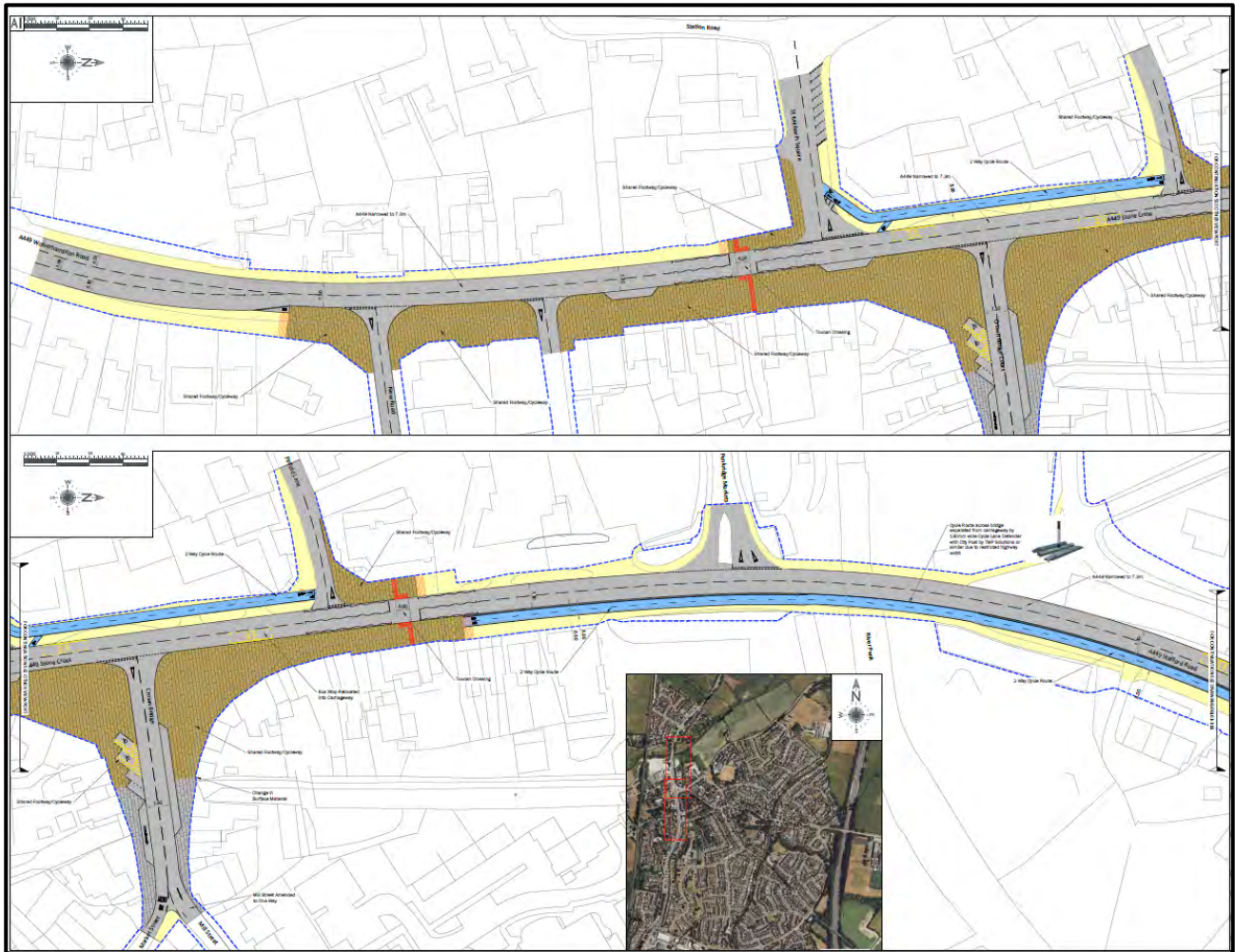
Route 4 – Pinfold Lane/Church Road/Station Road

- Provision of a protected cycle facility on the western side of the A449 between Pinfold Lane and St Michaels Square;
- Relocation of bus stops into the carriageway to facilitate the protected cycle facility;
- Provision of a one-way route on Pinfold Lane, Church Road and St Michaels Square to reduce traffic volumes and supported by contraflow cycle lanes; and
- Cycle friendly traffic calming in the vicinity of Penkridge station.

7.5.2 Figure 7-3 illustrates the potential interventions, and full drawings have been included in **Appendix C**.



Figure 7-3: Active Travel Strategy Interventions



7.5.3 Whilst Figure 7-3 illustrates the potential interventions, it is considered that the scheme may be subject to further design iterations as part of future planning applications. These iterations may give additional consideration to the inclusion of car parking spaces, landscaping, surface treatments and street furniture.



8 Public Transport Strategy

8.1 Introduction

- 8.1.1 The allocation benefits from close proximity to existing bus and rail services, offering greater opportunities for travel by sustainable modes. A Public Transport Strategy has been identified for the site that aims to facilitate the uptake of travel by bus and rail.

8.2 Bus Strategy

- 8.2.1 A comprehensive bus service strategy report has been prepared to establish possible options to serve the allocation. The full analysis is provided in **Appendix D**, and the key points summarised below.

Bus Service Options

- 8.2.2 A review of the existing bus services within the vicinity of the site has identified a number of opportunities for improvements associated with the allocation. Five possible options have been identified that could be implemented to enhance the bus offer, as follows:

- Option 1 – Single bus between Stafford and Penkridge, increasing existing frequency to every 30 mins;
- Option 2 – Single bus between Cannock and Penkridge, increasing existing frequency to every 30 mins;
- Option 3 – Single bus between Wolverhampton and Penkridge along the A449;
- Option 4 – Shuttle minibus to railway station and DRT outside of peak times; and
- Option 5 – Deploying second vehicle on options 1-4.

- 8.2.3 Further details of each option is provided within the full bus service strategy in **Appendix D**.

Bus Demand

- 8.2.4 Analysis of the likely demand associated with the site has been undertaken to identify the option that is likely to experience the highest demand.

- 8.2.5 In order to do so the proportion of employment and retail trips to areas of Stafford, Cannock and Wolverhampton considered to be in close proximity to the potential bus routes have been extracted, and the proportion of journey purposes applied to identify the total demand. The subsequent demand has been summarised in Table 8-1 below, and full calculations have been included in **Appendix E**.



Table 8-1: Bus Destination Demand

Destination	Proportion of Employment Trips	Proportion of Retail Trips	Total	
			AM	PM
Cannock	3%	12%	5%	7%
Stafford	12%	28%	14%	18%
Wolverhampton	3%	8%	4%	5%

8.2.6 Table 8-1 identifies that the destination with the highest demand from the allocation is Stafford, and as such, it would be most appropriate to implement Option 1.

8.2.7 It is noted that when planning applications come forward for the site, negotiations will be held with operators and that alternative options may be identified at this time. Option 1 as set out above, represents the preferred strategy at the time of writing.

Revenue

8.2.8 Calculations are provided within the bus strategy document to estimate the income associated with patronage from the site over a ten year development profile period. Calculations are based off both a 5% and 10% bus mode share.

8.2.9 This revenue has been considered alongside operating costs in order to establish the viability of possible bus service options.

8.2.10 There is an option to provide a s106 contribution towards existing services in line with the most likely destination. As set out above, analysis identifies that Stafford is the most likely destination for trips from the site, with a share of 14% of trips in the AM and 18% of trips in the PM travelling to/from Stafford.

8.2.11 A contribution in line with Option 1 outlined above would increase the existing frequency of services between Penkridge and Stafford to every 30 minutes. With consideration of costs and income, the strategy report calculates that a contribution for this service would become viable in year 6 at a 5% bus mode share.

Infrastructure

8.2.12 The current bus stops on the A449 in the vicinity of the site comprise a flag and pole arrangement. As part of the Public Transport Strategy, it is anticipated that a contribution will be provided to upgrade these to provide sheltered waiting facilities as a minimum.

8.3 Rail Strategy

8.3.1 The allocation is well situated to take advantage the existing rail services at Penkridge station. Penkridge station is currently served by half-hourly services between Birmingham New Street and



Liverpool Lime Street, providing a direct link between Penkridge and a number of key employment and retail destinations.

Connectivity to the Station

8.3.2 In order to maximise the connectivity to the station, a number of interventions have been identified within the Active Travel Strategy which aim to enhance the connectivity between the development site and Penkridge station. The strategy notes that the interventions could comprise:

- A protected facility on the western side of the A449, to tie into wider cycle infrastructure along the A449;
- A one-way operation on Pinfold Lane, Church Road and St Martins Square to reduce traffic volumes on these links;
- Potential to support the one-way operation on Pinfold Lane, Church Road and St Martins Square with contraflow cycle lanes; and
- Potential traffic calming measures in the vicinity of the station access.

8.3.3 There is currently space for 20 cycles to park at Penkridge station. As part of the allocation, it is anticipated that a contribution could be provided to increase the number of sheltered cycle parking spaces at the station.



9 Travel Demand

9.1 Introduction

9.1.1 This chapter summarises the methodology for establishing vehicle trip generation, distribution and assignment of associated with the allocation.

9.1.2 For the purposes of this assessment the allocation has been assumed to comprise up to 1,129 dwellings and a 1-form entry (1FE) First School, with capacity for 150 pupils. No consideration has been given to the local centre or country park and associated leisure facilities. Although it is recognised that these may draw trips to the site, these trips are likely to be outside of typical peak hours, and a proportion being made internally by those residing on-site.

9.2 Vehicle Trip Generation

9.2.1 During scoping discussions, it was agreed that the vehicle trip rates consented within the Bloor Homes Phase 1 application (19/010229/OUT) should be used to estimate the number of vehicle trips associated with the proposed site. The trip rates and subsequent trip generation is summarised in Table 9-1 below.

9.2.2 It should be noted that the trip generation below is for the residential element only and does not include the trip generation for the first school. The trip generation associated with the school is calculated on the basis that all trips will be internal to the site. More information is given in Section 9.3 below.

Table 9-1: Vehicle Trip Generation

	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Consented Vehicle Trip Rate (per dwelling)	0.132	0.378	0.51	0.318	0.153	0.471
Trip Generation (1,129 dwellings)	149	427	576	359	173	532

9.2.3 Table 9-1 identifies that the site is likely to result in 576 and 532 two-way trips in the AM and PM peaks.

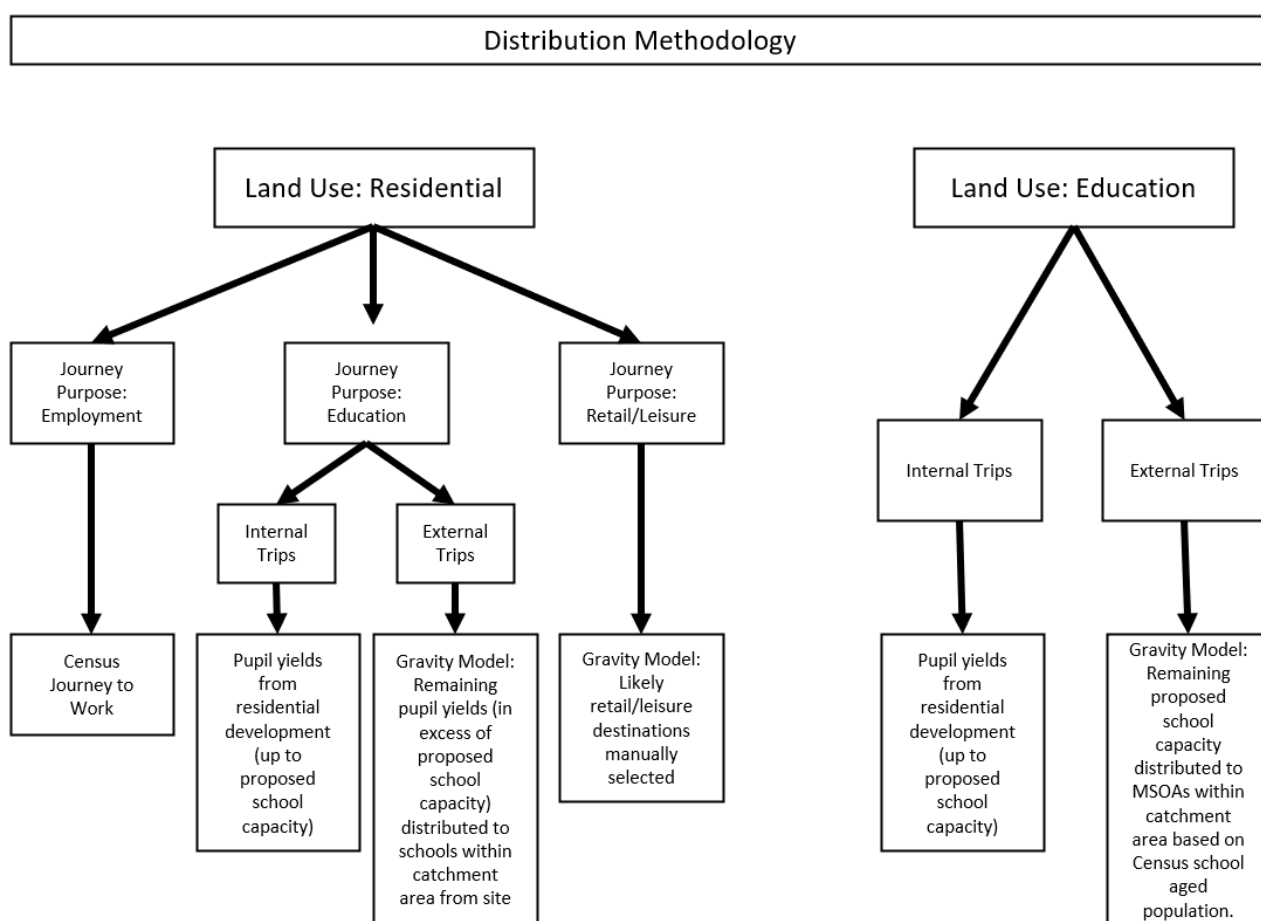
9.2.4 Whilst it has been agreed that the consented trip rates should be utilised for this assessment, when planning applications come forward, the trip rates used may be revised and agreed with SCC and NH as appropriate.

9.3 Trip Distribution and Assignment

Travel Demand Model

- 9.3.1 In order to identify the distribution of trips travelling to/from the site, a Travel Demand Model (TDM) approach has been undertaken. This approach utilises a TDM to identify the likely distribution of traffic on the local network as a result of development, accounting for differences between trips based on their journey purpose.
- 9.3.2 Figure 9-1 summarises the methodology, and more information is given in the respective sections below. It should be noted that the overall methodology is the same used to inform scoping discussions, although some updates have been made in response to comments received by SCC.
- 9.3.3 The full TDM spreadsheet has been included in **Appendix F**.

Figure 9-1: Travel Demand Distribution Methodology



9.3.4

Journey Purpose Proportions

- 9.3.5 In order to determine the journey purpose of the residential development trips, TEMPRO data has been collected for the 'South Staffordshire 001' super output area – middle layer (MSOA). The TEMPRO journey purposes have been aggregated into 'Employment', 'Education' and 'Retail' categories as follows:



- **Employment** – ‘Work’, ‘Employers Business’, ‘Personal Business’;
- **Education** – ‘Education’; and
- **Retail** – ‘Shopping’, ‘Recreation’, ‘Visit’, ‘Holiday’.

9.3.6 Journey purposes have been aggregated for ‘car driver’ only modes as the most appropriate modes to apply the proposed vehicle trip generation.

Table 9-2: Car Driver Journey Purpose - South Staffordshire 001 MSOA

Peak Period	Employment	Education	Retail	Total
AM Peak Hour	65%	12%	23%	100%
PM Peak Hour	52%	5%	43%	100%

Vehicle Trip Generation by Journey Purpose

9.3.7 The residential vehicle trip generation according to journey purpose has been calculated using this and is summarised below.

Table 9-3: Residential Vehicle Trip Generation

AM Peak Hour			PM Peak Hour		
Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
Employment					
97	279	376	187	90	277
Education					
18	51	69	19	9	28
Retail					
34	97	131	153	74	226
Total					
149	427	576	359	173	532

Education Trips – By Phase of Education and Internalisation

9.3.8 For the purposes of this assessment, expected pupil yields from the development have been calculated based on the Staffordshire Education Public Product Ratios, as suggested by SCC. This identifies the following ratios:

- First school – 0.03 pupils per dwelling per year group, equivalent to 0.15 pupils per dwelling across five-year groups;
- Middle school – 0.03 pupils per dwelling per year group, equivalent to 0.12 pupils per dwelling across four-year groups; and
- High school - 0.03 pupils per dwelling per year group, equivalent to 0.09 pupils per dwelling across three-year groups.

9.3.9 As a result, the development quantum would be forecast to yield the following pupil numbers:

- 169 First School aged pupils (aged 5-8);
- 135 Middle School aged pupils (aged 9-13); and



- 169 High School aged pupils (aged 14-18).

9.3.10 For the purposes of this assessment, it has been assumed that a one 1FE first school will be provided on site, with capacity for 240 pupils. It has been assumed that all first school pupils residing on site will attend the proposed first school. The resultant education journeys are summarised below.

Table 9-4: Education Trip Breakdown

Stage of Education	Pupils on site	On-Site Provision	Pupils Travelling to Provision Off Site	Pupils Travelling to Provision On-Site
First School (5-8)	169	150	19	0
Middle School (9-13)	135	0	135	0
High School (14-18)	169	0	169	0
Total	474	150	324	0

9.3.11 Table 9-4 identifies that the number of first school aged pupils is likely to exceed the on-site provision. Given that this is greater than the capacity of the proposed on-site provision, it has been assumed that all school places will be filled by pupils residing on site, with the remaining 19 pupils travelling to schools offset.

9.3.12 The trip generation associated with the school is therefore considered to be completely internal to the development, and the proportion of trips associated with the first school on site has been subtracted from the total trip generation. The trips associated with the remaining pupils have been distributed using a Gravity Model approach, and more information is set out below.

Table 9-5: School Two-Way Trip Generation

	Internal		External	
	AM	PM	AM	PM
Lower School	22	9	3	1
Middle School	0	0	20	8
High School	0	0	24	10
Total	22	9	47	19

Trip Distribution – By Journey Purpose

9.3.13 A manual approach to traffic distribution has been carried out for each journey purpose, as follows:

- **Employment** – Journey to Work data derived from the 2011 census;
- **Education** – Gravity Model calculated using pupil capacity and distance to site for Lower, Middle and High School/FE educational establishments; and
- **Retail** – Gravity Model calculated using gross floor area and distance to site for ‘Food’ and ‘Non-Food’ retail establishments.

9.3.14 A zone system has been identified to ensure that there is a common basis for the distribution of trips by each journey purpose. The zones within this assessment correspond to part of the highway network, and are set out in Table 9-6 and a zone plan has been included in **Appendix G**.



Table 9-6: Zones

Zone	Road Name
1	M6 J13 - N
2	M6 J13 - A449
3	M6 J13 - S
4	School Lane
5	Levedale Road
6	Pinfold Lane
7	Mill Street (assumed Zone for all Penkrige village centre trips)
8	St Michaels Square
9	St Michaels Road
10	Cannock Road
11	Wolgarston Wat
12	B5012
13	Bungham Lane
14	Watling Street
15	A449 Stratford Road
16	M6 J12 - N
17	M6 J12 - A5
18	M6 J12 - S

Journey Purpose – Employment

- 9.3.15 The employment trip distribution has been calculated using ‘Journey to Work’ data derived from the 2011 Census. The trip distribution of vehicular employment trips for those whose ‘usual residence’ was ‘South Staffordshire 001’ MSOA has been used as a proxy for trips generated by the residential development.
- 9.3.16 ArcGIS route assignment software has been utilised to assign the distribution onto the local highway network. The assignment utilises an origin point of an indicative site access location on the A449 and is based upon typical traffic conditions for a Wednesday at 08:30. The GIS assignment has been sense checked, and the following manual refinements made:
- Based on the MSOA centroid location, employment trips to the South Staffordshire 001 MSOA were originally identified to travel to Filance Lane within the residential estate. Given that this data represents journeys made to employment, these have been manually reassigned to route via Crown Bridge towards Penkrige village centre as this is considered much more likely to be the appropriate destination.
- 9.3.17 The distribution of trips have been extracted from GIS at each of the zone points to identify the demand at each zone. The resultant distribution is summarised in Table 9-7 below.

Table 9-7: Employment Trip Distribution

Zone	Distribution	AM Peak Hour			PM Peak Hour		
		Arrivals	Departures	Total	Arrivals	Departures	Total
1	14%	13	39	52	26	12	38
2	10%	10	29	39	19	9	29
3	14%	13	38	51	26	12	38
4	2%	2	5	7	4	2	5



5	1%	1	2	3	1	1	2
6	11%	10	29	39	20	9	29
7	17%	17	48	64	32	15	47
8	0%	0	0	0	0	0	0
9	0%	0	0	0	0	0	0
10	9%	9	25	33	17	8	25
11	0%	0	0	0	0	0	0
12	2%	2	7	9	4	2	7
13	0%	0	0	0	0	0	0
14	0%	0	0	0	0	0	0
15	16%	15	43	58	29	14	43
16	0%	0	0	0	0	0	0
17	0%	0	1	1	0	0	1
18	5%	4	13	17	9	4	13
Total	100%	97	278	374	186	90	276

Journey Purpose – Education

9.3.18 The trip generation for external education journeys at the proposed development has been distributed using a gravity model for ‘Lower’, ‘Middle’, and ‘High’ schools individually.

9.3.19 For the purposes of this assessment, external pupil trips are considered to be associated with:

- 19 First school aged pupils in excess of on-site provision;
- 135 Middle School aged pupils; and
- 169 High School aged pupils.

9.3.20 In the case of pupils travelling off site for education purposes, demand has been determined based on the capacity and distance from the site of the education establishment. Further to this, a factor has been applied to the model which weights establishments in favour of distance over population. This assumes that pupils are more likely to go to and be accepted at their nearest establishment.

9.3.21 Zones have been attributed to each school establishment based on the Google Map routing from the site to the establishment.

Table 9-8: Education Pupil Distribution

School / College	Pupil Capacity ³	Distance to Site (km) ⁴	Weighted Distribution	Zone
First School				
Marshbrook First School	145	1.8	47%	7
St Michaels First School	146	1.9	42%	7
St Leonards First School	66	2.5	11%	4
Middle School				
Penkrige Middle School	456	2.5	100%	7
High School				
Wolgarston High School	795	2.9	83%	10

9.3.22 The total distribution of external education trips is summarised in Table 9-9.



Table 9-9: Education Trip Distribution

Zone	AM Peak Hour			PM Peak Hour		
	Arrivals	Departures	Total	Arrivals	Departures	Total
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	6	16	22	6	3	9
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	6	18	24	7	3	10
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
Total	12	35	47	13	6	19

Journey Purpose – Retail

9.3.23 The forecast vehicular trips for retail journeys from the development have been distributed using a gravity model that considers ‘food’ and ‘other’ retail trips individually. The retail gravity model determines demand based on the ‘size’ (measured in gross floor area) of the retail element and ‘distance to the site’. A factor has been applied that weights retail elements in favour of distance over size.

9.3.24 Zones have been attributed to each school establishment based on the Google Map routing from the site to the establishment.

Table 9-10: Retail Distribution

Retail Area	Store Area (sqm) ⁶	Distance to Site (km) ⁷	Weighted Distribution	Zone
Food Retail				
Co-op Food	936	2.0	56%	7
Tesco Extra, Stafford	8,300	8.3	29%	2
Asda, Cannock Superstore	6,600	10.3	15%	10
Non-Food Retail				
Penkridge Village Centre	35,000	2.3	48%	7
Cannock Town Centre	125,000	9.	11%	10
Stafford Town Centre	283,000	8.6	27%	2
Wolverhampton Town Centre	614,000	17.5	14%	15

9.3.25 The resultant retail trip distribution has been summarised in Table 9-11 below.



Table 9-11: Education Trip Distribution

Zone	AM Peak Hour			PM Peak Hour		
	Arrivals	Departures	Total	Arrivals	Departures	Total
1	0	0	0	0	0	0
2	10	28	37	43	21	64
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	18	50	68	79	38	117
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	4	12	17	19	9	28
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	3	8	11	13	6	19
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
Total	34	99	133	154	74	228

Total Distribution

9.3.26 The trip distribution associated with the development is provided in Table 9-12 as follows.

Table 9-12: Total Trip Distribution

Zone	AM Peak Hour			PM Peak Hour		
	Arrivals	Departures	Total	Arrivals	Departures	Total
1	13	39	52	26	12	38
2	20	57	76	63	30	93
3	13	38	51	26	12	38
4	2	6	7	4	2	5
5	1	2	3	1	1	2
6	10	29	39	20	9	29
7	40	114	154	117	56	173
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	19	55	74	42	20	63
11	0	0	0	0	0	0
12	2	7	9	4	2	7
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	18	51	69	42	20	62
16	0	0	0	0	0	0
17	0	1	1	0	0	1
18	4	13	17	9	4	13
Total	143	411	554	353	170	523

9.3.27 A traffic flow diagram illustrating the above trip distribution has been included in **Appendix H**.



9.4 Development Trips at Junctions

9.4.1 During scoping discussions, it was agreed that the number of development trips at key junctions in the vicinity of the site would be quantified. The junctions considered were set out within the Scoping Note or requested by SCC or NH. Table 9-13 sets out the development trips at each junction considered.

Table 9-13: Two-Way Development Trips at Key Junctions

Network Ownership	Junction	AM Peak	PM Peak
Staffordshire County Council	1 A449 / Levedale Road Priority Junction	367	349
	2 A449 / Penkridge Market Access Priority Junction	365	347
	3 A449 / Stone Cross / Pinfold Lane / Crown Bridge Staggered Crossroads	365	347
	4 A449 / St. Michael's Square Priority Junction	171	145
	5 A449 / St. Michael's Road Priority Junction	96	82
	6 A449 Wolverhampton Road/New Road Priority Junction	171	145
	7 New Road / Market Street / Cannock Road Priority Junction	74	63
	8 B5012 Cannock Road / Wolgarston Way Mini Roundabout	74	63
	9 A449 / B5012 Boscomoor Lane Roundabout	96	82
National Highways	10 A5 / A449 Gailey Roundabout	87	75
	11 M6 Junction 14 (trips utilising junction only)	43	32
	12 M6 Junction 13	180	169
	13 M6 Junction 12	18	13
	14 M6 Junction 11 (trips utilising junction only)	28	21

9.4.2



10 Detailed Capacity Assessment

10.1 Introduction

- 10.1.1 This section sets out the detailed capacity assessments undertaken for junctions on the local highway network, managed by SCC. Each junction has been assessed for the AM and PM peak periods comprising 08:00-09:00 and 17:00-18:00 respectively.
- 10.1.2 Separate extensive discussions have been undertaken with NH regarding the assessment of the Strategic Road Network (SRN) and has involved promoters of the other proposed strategic sites that would also affect the SRN. It has been agreed that a single assessment will be prepared to identify the cumulative impact of all proposed Local Plan sites, the mitigation that is required and an apportionment of the associated delivery costs between the sites. This work will be reported separately and is not covered by this STA, which instead focusses on the SCC local highway networks.

10.2 Scope of Assessment

- 10.2.1 During scoping discussions, it was agreed that detailed capacity assessments should be undertaken at all junctions whereby the site results in more than 50 two-way vehicle trips in either the AM or PM peak periods. The junctions on the local network considered are as follows:
- A449 / Stone Cross / Pinfold Lane / Crown Bridge Staggered Crossroads;
 - A449 / St. Michael's Square Priority Junction;
 - A449 / St. Michael's Road Priority Junction;
 - A449 Wolverhampton Road/New Road Priority Junction;
 - New Road / Market Street / Cannock Road Priority Junction;
 - B5012 Cannock Road / Wolgarston Way Mini Roundabout; and
 - A449 / B5012 Boscomoor Lane Roundabout.

10.3 Assessment Scenarios

- 10.3.1 Each of the junctions have been assessed for the following scenarios:
- 2022 Base;
 - 2038 Base + Committed Development; and
 - 2038 Base + Committed Development + Development.
- 10.3.2 Traffic flow diagrams for each scenario have been included in **Appendix H**. Further information on the elements within these scenarios are given in the sections below.



10.4 Baseline Data

10.4.1 Baseline data collected from MCC and queue length surveys undertaken on Thursday 31st March 2022 at the following junctions. Baseline surveys were undertaken on a neutral weekday for the AM (07:00-10:00) and PM (16:00-19:00) peak periods. Full survey data has been included in **Appendix I**.

- A449 / Penkridge Market Access Priority Junction;
- A449 / Pinfold Lane Priority Junction;
- A449 / Crown Bridge Priority Junction;
- A449 / St. Michael's Square Priority Junction;
- A449 / St. Michael's Road Priority Junction;
- A449 Wolverhampton Road/New Road Priority Junction;
- New Road / Market Street / Cannock Road Priority Junction;
- B5012 Cannock Road / Wolgarston Way Mini Roundabout; and
- A449 / B5012 Boscomoor Lane Roundabout.

Traffic Profile

10.4.2 Analysis of the baseline surveys identify that traffic at these junctions typically has a flat profile across the peak hours. The average 15-minute proportions are summarised in Table 10-1 below, and as a result each junction been assessed using a flat profile.

Table 10-1: Peak Hour Traffic Profiles

	Average
<i>AM Peak</i>	
08:00-08:15	25%
08:15-08:30	25%
08:30-08:45	25%
08:45-09:00	25%
Total	100%
<i>PM Peak</i>	
17:00-17:15	31%
17:15-17:30	26%
17:30-17:45	23%
17:45-18:00	20%
Total	100%

10.5 Committed Development

10.5.1 During scoping discussions South Staffordshire Council identified a number of developments that should be considered as committed within the assessment. The specified committed developments



are listed in Table 10-2 below, along with commentary as to whether each has been included within the assessment. Traffic flow diagrams included in **Appendix H** set out the trips for each of the included committed developments.

Table 10-2: Committed Developments

Application Reference	Description	Development Quantum	Included in Assessment?
17/01022/OUT	Bloor Homes Phase 1	200 dwellings	Yes – trips taken from the consented TA.
19/00017/OUT	Land West of A449 (adjacent to Bloor Phase 1)	24 dwellings	No – no TA submitted as part of the application.
-	Site Allocation 005 – Land at Cherry Brook	88 dwellings	Yes – no application has been submitted for this development, and therefore a proxy trip generation and distribution has been calculated – methodology below.
-	Lyne Hill	18 dwellings	No – considered likely to be built out already. Agreed with South Staffordshire Council.
-	West Midlands Interchange	-	Yes – development trips taken from Appendices P & Q of the TA submitted as part of the Development Consent Order (DCO).

10.5.2 It has been agreed with SCC that there is no need to consider the impact of other potential site allocations within this assessment.

Site Allocation 005 – Land at Cherry Brook (88 dwellings)

10.5.3 Given that no application has been submitted for this development site, there is no trip information available for use in the assessment. Notwithstanding this, a proxy trip generation and distribution has been identified using the following parameters:

- The consented Bloor Homes Phase 1 trip rates (used within this assessment) have been used to identify the vehicle trip generation associated with 88 dwellings;
- The trip distribution has been derived using 2011 Census Journey to Work data for those that reside within South Staffordshire 001 MSOA (the MSOA in which the site is located); and
- ArcGIS route assignment software utilised to assign the distribution onto the local highway network based on a site access point on Cherrybrook Drive, with typical traffic conditions for a Wednesday at 08:30.
- Consistent with the main assessment, the centroid point for trips to/from South Staffordshire 001 MSOA has been manually moved to Market Street within Penkridge village centre.

West Midlands Interchange Link Road

10.5.4 No account has been made within the assessment for WMI link road between the A5 and A449. This is on the basis that the modelling undertaken within the WMI TA did not identify a substantial benefit on the local highway network as a result of the link road. Instead, it was considered to



provide resilience to the network, by providing a choice of routes for trunk road traffic travelling between A5 and A449 in times of congestion.

10.6 Traffic Growth

10.6.1 As agreed with SCC, in addition to the committed developments, TEMPro growth factors have been applied to account for background traffic growth on the network. Growth factors were extracted under the following parameters, and are summarised in Table 10-3 below.

- Area Definition: South Staffordshire 001 MSOA
- Trip Purposes: All purposes
- Transport Mode: Car Driver Only
- Trip End Type: Origin/Destination
- NTM Dataset: RTF 2018 Scenario 1 – Reference
- Road Type/Region: All/region

Table 10-3: TEMPro Growth Factors

	AM Peak	PM Peak
2022 – 2038	1.111	1.107

10.6.2 It is considered that my including background growth and committed developments this provides a robust assessment.

10.7 Results

10.7.1 Detailed model results are provided below for each of the junctions considered. Full model outputs are available on request if required.

A449/Pinfold Lane Priority Junction

10.7.2 The A449/Pinfold Lane priority junction has been modelled using Junctions 10 software. The model built as part of the consented Bloor Homes Phase 1 has been used.



Table 10-4: A449/Pinfold Lane Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
Pinfold lane left turn	0.07	0	9	0.16	0	10
Pinfold lane right turn	0.14	0	16	0.19	0	20
Stone Cross North right turn	0.05	0	7	0.05	0	7
2038 Base + Committed						
Pinfold lane left turn	0.09	0	10	0.20	0	12
Pinfold lane right turn	0.18	0	20	0.26	0	28
Stone Cross North right turn	0.05	0	8	0.05	0	7
2038 Base + Committed + Development						
Pinfold lane left turn	0.12	0	11	0.31	1	17
Pinfold lane right turn	0.25	0	30	0.44	1	61
Stone Cross North right turn	0.11	0	8	0.08	0	9

10.7.3 The results indicate that that the junction would operate with reserve capacity in both the AM and PM peak periods for all scenarios.

A449/Crown Bridge Priority Junction

10.7.4 The A449/Crown Bridge priority junction has been modelled using Junctions 10 software. The model built as part of the consented Bloor Homes Phase 1 has been used.

Table 10-5: A449/Crown Bridge Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
Crown Bridge left turn	0.44	1	12	0.43	1	12
Crown Bridge right turn	0.36	1	17	0.25	0	17
Stone Cross South right turn	0.28	0	8	0.38	1	10
2038 Base + Committed						
Crown Bridge left turn	0.53	1	16	0.52	1	15
Crown Bridge right turn	0.47	1	23	0.36	1	25
Stone Cross South right turn	0.33	1	10	0.44	1	12
2038 Base + Committed + Development						
Crown Bridge left turn	0.63	2	22	0.65	2	25
Crown Bridge right turn	0.73	3	55	1.05	18	356
Stone Cross South right turn	0.37	1	11	0.46	1	13

10.7.5 The results indicate that that the junction would operate with reserve capacity in both the AM and PM peak periods in the future year. In the AM peak, the junction would operate with reserve capacity with the additional development trips.



10.7.6 In the PM peak, with the addition of development trips, the junction would operate at theoretical capacity with an RFC of 1.05. Further consideration is given to possible mitigation measures in Chapter 11.

A449 / St. Michael's Square Priority Junction

10.7.7 The A449/St Michaels Square priority junction has been modelled using Junctions 10 software.

Table 10-6: A449/St Michaels Square Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
St Michaels Square	0.04	0	7	0.14	0	10
A449 (N)	0.05	0	8	0.09	0	8
2038 Base + Committed						
St Michaels Square	0.05	0	8	0.17	0	11
A449 (N)	0.06	0	8	0.10	0	9
2038 Base + Committed + Development						
St Michaels Square	0.05	0	8	0.19	0	13
A449 (N)	0.06	0	8	0.11	0	10

10.7.8 The results indicate that that the junction would operate with reserve capacity in both the AM and PM peak periods for all scenarios.

A449 / St. Michael's Road Priority Junction

10.7.9 The A449/St Michaels Road priority junction has been modelled using Junctions 10 software.

Table 10-7: A449/St Michaels Road Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
St Michaels Road left turn	0.01	0	7	0.02	0	7
St Michaels Road right turn	0.05	0	10	0.07	0	12
A449 (N)	0.00	0	6	0.01	0	7
2038 Base + Committed						
St Michaels Road left turn	0.01	0	7	0.02	0	7
St Michaels Road right turn	0.06	0	11	0.09	0	15
A449 (N)	0.00	0	6	0.01	0	7
2038 Base + Committed + Development						
St Michaels Road left turn	0.01	0	7	0.03	0	8
St Michaels Road right turn	0.06	0	12	0.09	0	16
A449 (N)	0.00	0	6	0.01	0	7



10.7.10 The results indicate that that the junction would operate with reserve capacity in both the AM and PM peak periods for all scenarios.

A449 Wolverhampton Road/New Road Priority Junction

10.7.11 The A449/New Road priority junction has been modelled using Junctions 10 software. The model built as part of the consented Bloor Homes Phase 1 has been used.

Table 10-8: A449/New Road Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
New Road left turn	0.11	0	8	0.08	0	9
New Road right turn	0.20	0	14	0.29	0	22
Wolverhampton (S) right turn	0.08	0	7	0.12	0	8
2038 Base + Committed						
New Road left turn	0.14	0	9	0.10	0	10
New Road right turn	0.29	0	19	0.45	1	34
Wolverhampton (S) right turn	0.09	0	8	0.14	0	9
2038 Base + Committed + Development						
New Road left turn	0.16	0	10	0.17	0	19
New Road right turn	0.40	1	25	0.72	3	68
Wolverhampton (S) right turn	0.10	0	8	0.14	0	9

10.7.12 The results indicate that that the junction would operate with reserve capacity in both the AM and PM peak periods for all scenarios.

New Road / Market Street / Cannock Road Priority Junction

10.7.13 The New Road/Market Street/Cannock Road priority junction has been modelled using Junctions 10 software.

Table 10-9: New Road/Market Street/Cannock Road Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
Market Street	0.04	0	7	0.02	0	7
Cannock Road	0.22	0	7	0.23	0	8
2038 Base + Committed						
Market Street	0.05	0	7	0.03	0	7
Cannock Road	0.26	0	8	0.26	0	8
2038 Base + Committed + Development						
Market Street	0.05	0	7	0.03	0	7
Cannock Road	0.27	1	8	0.27	1	8



10.7.14 The results indicate that that the junction would operate with reserve capacity in both the AM and PM peak periods for all scenarios.

B5012 Cannock Road / Wolgarston Way Mini Roundabout

10.7.15 The Cannock Road/Wolgarston Way mini roundabout has been modelled using Junctions 10 software.

Table 10-10: Cannock Road/Wolgarston Way Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
Cannock Road (E)	0.74	3	14	0.66	2	10
Wolgarston Way	0.53	1	8	0.64	2	10
Cannock Road (W)	0.40	1	8	0.48	1	10
2038 Base + Committed						
Cannock Road (E)	0.86	6	26	0.77	3	16
Wolgarston Way	0.62	2	10	0.75	3	15
Cannock Road (W)	0.52	1	11	0.63	2	16
2038 Base + Committed + Development						
Cannock Road (E)	0.88	7	30	0.82	4	19
Wolgarston Way	0.63	2	11	0.78	3	18
Cannock Road (W)	0.61	2	13	0.66	2	17

10.7.16 The results indicate that that the junction would operate with reserve capacity in both the AM and PM peak periods for the baseline scenario. In the future scenarios the junction is approaching capacity in the AM peak and has reserve capacity in the PM peak.

10.7.17 The addition of the development trips would result in a maximum increase in queuing and delay of one vehicle and four seconds in the AM peak and one vehicle and three seconds in the PM peak. This level of impact is not considered to be significant.

A449 / B5012 Boscomoor Lane Roundabout

10.7.18 The A449/Boscomoor Lane/Bungham Lane roundabout has been modelled using Junctions 10 software. The model built as part of the consented Bloor Homes Phase 1 has been used.



Table 10-11: A449/Boscomoor Lane/Bungham Lane Results

Arm	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2022 Base						
Boscomoor Lane	0.62	2	8	0.43	1	5
A449 Stafford Road	0.35	1	3	0.56	1	4
Bungham Lane	0.21	0	10	0.41	1	22
A449 Wolverhampton Road	0.36	1	3	0.42	1	4
2038 Base + Committed						
Boscomoor Lane	0.74	3	13	0.50	1	6
A449 Stafford Road	0.40	1	3	0.65	2	5
Bungham Lane	0.27	0	12	0.70	2	66
A449 Wolverhampton Road	0.43	1	4	0.50	1	5
2038 Base + Committed + Development						
Boscomoor Lane	0.77	3	15	0.51	1	6
A449 Stafford Road	0.41	1	3	0.67	2	5
Bungham Lane	0.28	0	13	0.83	4	122
A449 Wolverhampton Road	0.47	1	4	0.52	1	5

10.7.19 The results indicate that the junction would operate with reserve capacity in both the AM and PM peak periods for all scenarios.

RAG Summary

10.7.20 Given that this report provides a strategic assessment of the junctions, a summary of the operation of the junctions have been given using Red Amber Green (RAG) rating, as follows:

- Green – RFC of below 0.85 – The junction operates with reserve capacity;
- Amber – RFC between 0.85 and 1.00 – The junction is approaching theoretical capacity; and
- Red – RFC of greater than 1.00 – The junction is at or above theoretical capacity and mitigation is likely to be required.



Table 10-12: RAG Rating Results

	2022 Base		2038 Base + Cmtd		2038 Base + Cmtd + Dev	
	AM	PM	AM	PM	AM	PM
A449/Pinfold Lane						
A449/Crown Bridge						
A449/St Michaels Square						
A449/St Michaels Road						
A449/New Road						
New Road/Market Street/Cannock Road						
Cannock Road/Wolgarston Way						
A449/Boscomoor Lane/Bungham Lane						

10.8 Summary

10.8.1 The modelling has identified that:

- The A449/Crown Bridge priority junction is likely to exceed theoretical capacity with the additional site trips;
- All other junctions would operate within theoretical capacity with the inclusion the additional site trips; and
- The addition of site trips results in a slight increase in the delay experienced on the minor arm of four junctions, as follows. With the exception of the A449/Crown Bridge junction, each of these junctions are expected to operate within theoretical capacity. Consideration has been given to mitigation measures (see Section 12) to support the development in line with the broader active travel mode shift approach of this strategy, rather than provision of highway mitigation solutions.
 - A449/Pinfold Lane;
 - A449/Crown Bridge;
 - A449/New Road; and
 - A449/Boscomoor Lane/Bungham Lane.



II Mitigation Strategy

II.1 Introduction

- 11.1.1 The results of the capacity assessments set out above identify that mitigation is only required for the A449 corridor.
- 11.1.2 The transport industry is reframing the way transport mitigations are considered and there has been a move away from typical predict and provide and highway led solutions towards a more vision-based approach. This aspires to improve connectivity for walking, cycling and promoting other forms of active travel, complemented by an efficient and well-integrated public transport infrastructure, both for local and regional communities. As such, the Active Travel and Public Transport strategies identified in Sections 7 and 8 will form the key to unlocking the site allocation.
- 11.1.3 Modal shift is increasingly becoming recognised as a form of mitigation, and the Active Travel and Public Transport strategies formed as part of the development proposals have been developed to facilitate a greater choice of mobility within Penkridge and further afield. The interventions proposed as part of the strategies will encourage behavioural change towards reducing dependency on the private car, placing greater emphasis on travel by active modes and public transport. More information on the mitigation measures required to deliver the proposed site allocation are set out below.
- 11.1.4 Based upon the capacity assessments, the following junctions have been identified as having potential capacity issues in the future year with the allocation in place:
- A449/Crown Bridge – capacity and delay on Crown Bridge; and
 - A449/New Road – delay on New Road.
 - A449/Boscomoor Lane/Bungham Lane – delay on Bungham Lane.
- 11.1.5 A review of has been undertaken to identify whether any direct junction upgrades could be made could be delivered to enhance capacity at these junctions, however there is limited scope for direct highway mitigation for the following reasons:
- The primary issue is the level of delay/capacity on the minor arm. This is likely to be the result of the volume of through flowing traffic on the A449, leaving insufficient gaps for vehicles to exit the minor arm.
 - There is considered to be insufficient highway land available in the vicinity of the junctions to provide meaningful junction upgrades.
- 11.1.6 Given the location of the junctions requiring mitigation and the shift in approach, it is not considered appropriate to provide a traditional highway solution to these junctions. Instead, there is an opportunity to provide interventions to realign the wider movement within Penkridge.



11.2 Active Travel and Public Transport Mitigation

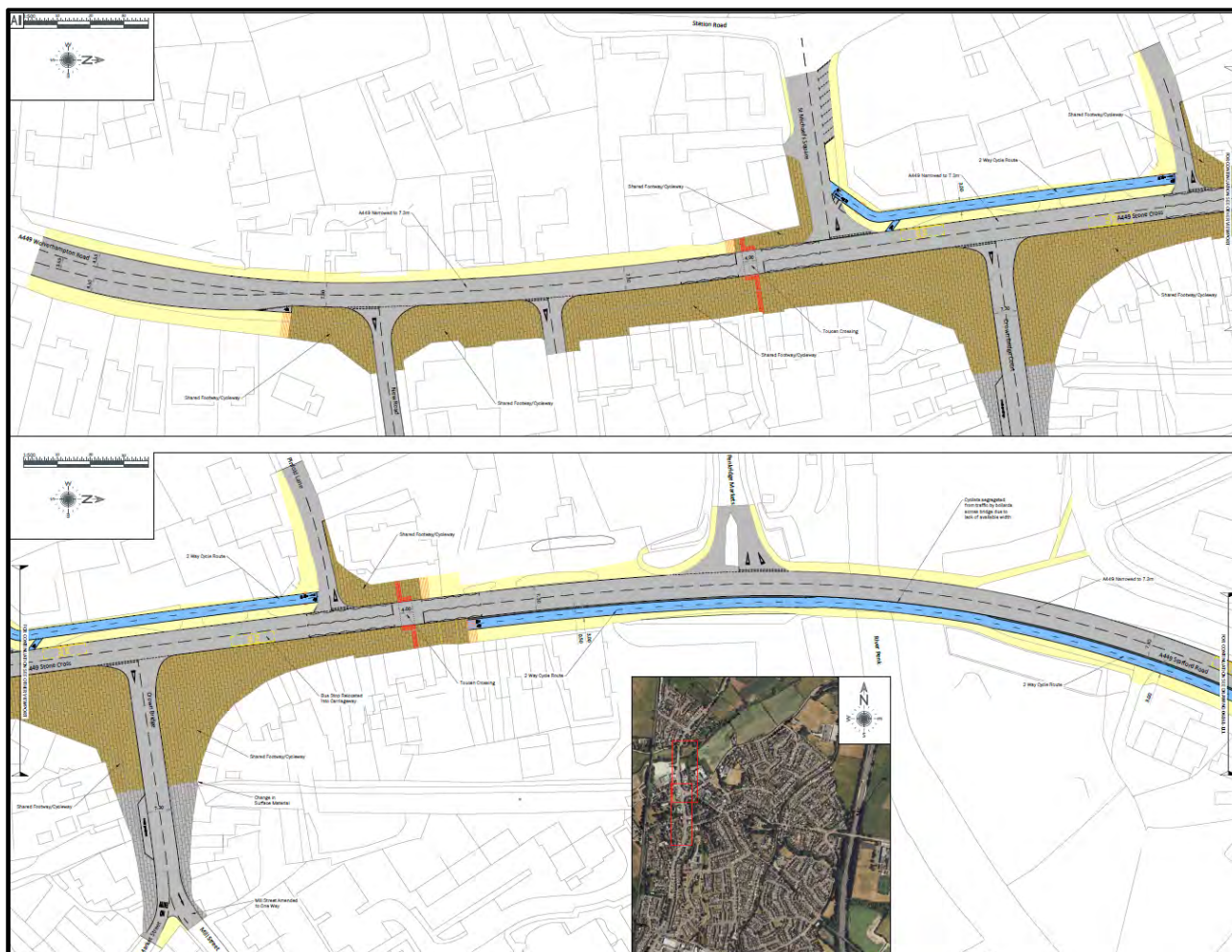
11.2.1 On this basis, and consistent with the industry wide reframing of mitigation, it is considered that the Active Travel and Public Transport strategies will form a key part of the mitigation package. These strategies combine to create an improvement scheme which could reduce development traffic and background traffic, whilst offering significant benefits over and above traditional highway mitigation. A high-level design, illustrated in Figure 12-1, sets out the possible interventions. More detail and considerations set out below.

- Provision of an LTN 1/20 compliant active travel link, likely to comprise a two-way cycle track on the eastern side of the A449 Stafford Road, connecting between the site and Penkridge village centre;
- Further improvements to existing routes between the site, Penkridge village centre and Penkridge train station to ensure routes are compliant with LTN 1/20 guidance.
- Opportunity to remodel the A449/Crown Bridge junction to remove conflict points between cyclists, pedestrians and vehicles. This could remove the existing roundabout island, resulting in an increase in the area available for pedestrians, cyclists and local businesses. This would allow greater placemaking opportunities with a well designed village centre.
- Consideration to the removal of the ghost right turn facility at the A449/Crown Bridge and A449/New Road junctions. This would mean right turning vehicles would slow vehicles on the A449 and offer a greater number of opportunities for vehicles to exit the minor arm.
- Consideration to the relocation of bus stops on the A449 into the carriageway. This would free up space for dedicated cycle facilities in places, and slow vehicles on the A449, increasing the opportunities for vehicles to exit the minor arms of junctions.
- Opportunity to provide additional toucan crossings across the A449 in the vicinity of the A449/Boscomoor Lane/Bungham Lane junction. This would allow for the platooning of traffic, creating additional gaps for vehicles on the minor arms to join the A449.

11.2.2 In addition to connecting the site to existing facilities, it is considered that the Active Travel and Public Transport strategies offer significant opportunities for the betterment to the urban realm within Penkridge village centre and benefits to the wider village.

11.2.3 It should be noted that the proposed mitigation scheme will be supported at application with further design work and detailed capacity assessments where appropriate.

Figure 11-1: Active Travel Strategy Interventions



11.3 Demand Management

- 11.3.1 Modal shift is increasingly being recognised as appropriate mitigation. As part of the active travel strategy for the site, it is proposed to provide improved cycle infrastructure between the site, Penkridge village centre and Penkridge station. As a result of these improvements, the accessibility of the station and village centre will improve significantly, resulting in the potential for significant modal shift to these facilities.
- 11.3.2 The active travel interventions are considered to create potential for significant modal shift for the following journeys:
- Journeys to employment and retail opportunities within Penkridge village; and
 - Journeys to employment destinations in close proximity to train stations with a direct service from Penkridge.



- 11.3.3 An exercise has been undertaken to quantify the impact of the active travel interventions, by identifying the reduction in vehicle trips likely as a result. The methodology followed to calculate the impact of each is set out in the Demand Management Technical Note (**Appendix J**) and summarised below.

Penkridge Station Trips

- 11.3.4 As part of the active travel strategy for the site, it is proposed to provide improved cycle infrastructure along the A449 and Pinfold Lane, St Michaels Square and Church Lane to provide a direct, high quality route between the site allocation and Penkridge train station. As a result of these improvements the accessibility of the station, and subsequent mode share for trips made by train is considered to improve significantly.
- 11.3.5 The anticipated increase in train trips has been calculated based on information within the TDM and has accounted for destinations with a direct service from Penkridge station. A 50% mode shift has been applied to journeys to work made to these destinations, and the result applied to the total vehicle trip generation and distribution.
- 11.3.6 Overall, an increase in journeys to work undertaken by train, as a result of improved accessibility to the station, is forecast to result in a reduction of 32 and 24 two-way development trips in the AM and PM peaks respectively.

Penkridge Village Centre Trips

- 11.3.7 As part of the active travel strategy for the site, it is proposed to provide improved cycle infrastructure along the A449 to provide a direct, high quality route between the proposed development and Penkridge village centre. As a result of this improvement, the cycling mode share to destinations within Penkridge is anticipated to improve significantly, compared to the 2011 baseline figure of 2.4%.
- 11.3.8 The anticipated cycle mode share, and resultant reduction in vehicle trips, for journeys between the development site and Penkridge, has been calculated based on a combination of information derived from the TDM and the Propensity to Cycle Tool (PCT) Go Dutch Scenario.
- 11.3.9 The uplift in cycle trips forecast by the PCT data for journeys between the site and Penkridge village centre has been met with a proportionate reduction in trips by other modes. On this basis, it is estimated that the interventions would result in a 32% reduction in vehicle trips between the site and Penkridge village centre. This would equate to a reduction of approximately 33 and 37 two-way development trips in the AM and PM peaks.

Combined Impact



- 11.3.10 The impact of mode shift on town centre and train station trips have been combined and total development flows revised.
- 11.3.11 Overall, the active travel interventions result in a reduction of in vehicle trips of 11.7% and 11.5% in the AM and PM peaks respectively.
- 11.3.12 The A449/Crown Bridge junction has been modelled with the revised development trips, and a comparison to the junction operation with and without the mode shift summarised below.

Table 11-1: RAG Rating Results

	RFC (Ratio of Flow to Capacity)	
	2038 Base + Cmdt + Dev (Without Mode Shift)	2038 Base + Cmdt + Dev (With Mode Shift)
J1b – A449/Crown Bridge		

11.4 Mobility Hubs

- 11.4.1 Mobility hubs are accessible spaces where public, shared and active travel modes are co-located alongside public realm areas or community facilities. These hubs are intended to enhance the experience of travellers as well as benefiting local residents and businesses.
- 11.4.2 Mobility hubs have many benefits including providing a more convenient, comfortable and safer environment to access a range of sustainable modes. Mobility hubs help to raise the profile of shared mobility services to boost utilisation and viability. In addition, they support low car lifestyles and the reallocation of space from car parking to housing or public realm improvements.
- 11.4.3 Mobility hubs are generally situated at significant points on major public transport corridors and could be implemented within the local centre area of the development. The hub will act as a focal point for the community offering a one stop location for transport and other related services, potentially including, but not limited to:
- Bike share/hire location;
 - E-scooter parking/hire location;
 - Car share/hire location;
 - Electric car charging facility;
 - Bus/taxi interchange; and
 - Delivery collection point/collection lockers.
- 11.4.4 Pedestrian and cyclist access routes to the hubs need to be carefully considered to ensure that they accord with the key principles of coherence, directness, comfort, attractiveness and personal safety.



11.5 Travel Plan

11.5.1 A comprehensive Travel Plan will be developed and submitted alongside future planning applications. This document will set out the facilitate the strategy set out above, and will include:

- Measures that will be implemented to promote active travel, public transport use, car sharing and working from home;
- Details of the management of the Travel Plan;
- A schedule for monitoring modal choice; and
- An action plan.

11.6 Summary

11.6.1 This section has identified the mitigation measures considered necessary to unlock the site allocation. It is recognised that there is an industry wide reframing of the way mitigation measures are considered, with a move away from typical predict and provide and highway led solutions towards a more vision based approach which aspires to improve connectivity for walking, cycling and other active travel forms. The mitigation measures have been identified with this in mind, and are as follows:

- Active Travel and urban realm improvements to the A449 corridor which could include:
 - Provision of an LTN 1/20 compliant active travel link, likely to comprise a two-way cycle track on the eastern side of the A449 Stafford Road, connecting between the site and Penkridge village centre;
 - Further improvements to existing routes between the site, Penkridge village centre and Penkridge train station to ensure routes are compliant with LTN 1/20 guidance.
 - Remodelling of the A449/Crown Bridge junction to remove pedestrian, cycle and vehicle conflict points;
 - Removal of the ghost right turn facilities at the A449/Crown Bridge and A449/New Road junctions to offer greater opportunities for vehicles to exit the minor arms of junctions.
 - Relocation of bus stops on the A449 into the carriageway to allow greater opportunity for the platooning of traffic; and
 - Provision of additional toucan crossings across the A449.
- Modal shift from private car for trips made between the site and Penkridge village centre, and employment destinations within close proximity to a train station with a direct service from Penkridge. This modal shift would be encouraged and supported through the Active Travel and Public Transport strategies.
- Provision of a comprehensive Travel Plan alongside future planning applications.



12 Summary and Conclusion

12.1 Summary

- 12.1.1 This Strategic Transport Assessment (STA) has been prepared by PJA on behalf of St Philips and Bloor Homes to support the allocation of Land North of Penkridge within the draft South Staffordshire Local Plan.
- 12.1.2 The purpose of this report is to document the process undertaken in the assessment of the potential site allocation at Land North of Penkridge. This STA identifies the likely impacts of development and potential mitigation measures required to support the allocation of the site within the South Staffordshire Local Plan.
- 12.1.3 The Land North of Penkridge site allocation is one of four strategic site allocations, as follows. The STA is specific to the Land North of Penkridge allocation site, but consideration will be given to the other sites throughout.
- Land North of Penkridge – 1,129 dwellings;
 - Land East of Bilbrook – 848 dwellings;
 - Land at Linthouse Lane – 1,976 dwellings (1,200 dwellings by 2038); and
 - Land at Cross Green – 1,200 dwellings.
- 12.1.4 The site is well located for residential development, for the following reasons:
- The site is located on the northern edge of the existing Penkridge village settlement boundary;
 - There is an existing network of pedestrian infrastructure and cycle routes in close proximity to the site and within Penkridge.
 - Existing bus services route along the A449 through the centre of the site, with bus stops located adjacent to the site. Services route between Penkridge, Stafford, Wolverhampton and Cannock.
 - Penkridge train station is located within walking/cycling distance of the development site, and provides half hourly services to a number of key destinations such as Birmingham New Street, Wolverhampton, Stafford and Stoke on Trent.
 - A review of collisions within the most recent five-year period has identified no significant highway safety concerns that could be exacerbated by the development.
 - A number of local amenities are located within Penkridge village centre and are within a reasonable walking/cycling distance from the site.
 - It is anticipated that the allocation will provide onsite amenities within an acceptable walking distance to all residential properties, serving the needs of the site.
- 12.1.5 The site allocation is expected to provide:



- Up to 1,129 residential dwellings (excluding the 200 already consented as part of Bloor Phase 1);
- An on-site first school, retail and any necessary community facilities of an appropriate scale to meet the needs of the development whilst maintaining the vitality of services and facilities in the wider area; and
- Associated landscaping and infrastructure works.

12.1.6 Preliminary access designs and capacity modelling will be undertaken as part of future applications. However, at this stage, it is considered that access could be delivered as follows:

- A new four-arm roundabout approximately 800m to the north of the existing settlement boundary.
- A new four-arm roundabout approximately 650m to the north of the existing settlement boundary; and
- A fourth arm to the consented Phase 1 access roundabout;
- A priority junction, approximately 300m to the south of the Phase 1 roundabout; and
- An extension of Phase 1 carriageway to connect into the site.

12.1.7 An Active Travel Strategy has been developed for the site which sets out principles and measures to improve the connectivity for walking and cycling between the site allocation and key destinations. This corresponds with the recent industry wide move away from typical highway strategies to a more vision based approach, and could include the following measures:

- Two-way cycle track on the eastern extent of the A449 Stafford Road between existing facilities and the site;
- Upgrade of existing crossings on the A449 to toucan crossing facilities;
- Rationalisation of the A449/Crown Bridge junction;
- Continuous footway treatments on side roads along Teddesley Road and Cannock Road; and
- Cycle friendly traffic calming measures on Mill Street, Teddesley Road and in the vicinity of Penkridge station.

12.1.8 A Public Transport Strategy has been developed for the site which sets out the principles for improving connectivity by bus and rail. The key measures identified are as follows. It is noted that the exact measures will be agreed with operators as part of an application.

- A contribution towards additional bus services between Stafford and Penkridge, increasing the existing frequency to every 30 minutes;
- Upgrade of existing bus stops on the A449 in the vicinity of the site to provide sheltered waiting facilities as a minimum;



- Active Travel connections to Penkridge train station; and
- Increased provision of cycle storage at Penkridge train station.

12.1.9 Detailed capacity assessments have been undertaken at a number of key junctions on the Local and Strategic Road Networks. The results identified that:

- Only junctions on the local road network would require mitigation to support the allocation;
- Both junctions on the strategic network assessed would be sufficient to support the allocation in their current form.
- It should be noted that the assessments accounted for a full 2038 opening year, and assessment of the strategic network accounted for the impact of the recently consented M54/M6 Link Road. Should planned delivery of this Link Road change, it may be necessary to identify interim mitigation if appropriate.

12.1.10 A mitigation strategy has been developed which identifies possible mitigation measures considered necessary to unlock the site allocation. These correspond with an industry wide reframing of the way mitigation measures are considered, and move away from typical highway solutions to focus on improvements to connectivity to active travel modes. As such, the following mitigation measures have been identified:

- Urban realm improvements to the A449 corridor which could include:
 - Provision of an LTN 1/20 compliant active travel link, likely to comprise a two-way cycle track on the eastern side of the A449 Stafford Road, connecting between the site and Penkridge village centre;
 - Further improvements to existing routes between the site, Penkridge village centre and Penkridge train station to ensure routes are compliant with LTN 1/20 guidance.
 - Remodelling of the A449/Crown Bridge junction to remove pedestrian, cycle and vehicle conflict points;
 - Removal of the ghost right turn facilities at the A449/Crown Bridge and A449/New Road junctions to offer greater opportunities for vehicles to exit the minor arms of junctions.
 - Relocation of bus stops on the A449 into the carriageway to allow greater opportunity for the platooning of traffic; and
 - Provision of additional toucan crossings across the A449.
- Modal shift from private car for trips made between the site and Penkridge village centre, and employment destinations within close proximity to a train station with a direct service from Penkridge. This modal shift would be encouraged and supported through the Active Travel and Public Transport strategies.
- Provision of a comprehensive Travel Plan alongside future planning applications.



12.2 Conclusion

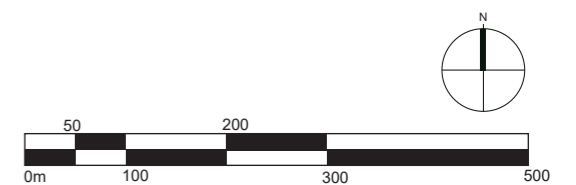
- 12.2.1 Based on the above, it is concluded that the site allocation is suitable for development, and that with an appropriate Active Travel and Public Transport led mitigation, alongside the opportunities for urban realm improvements to the village centre then it is considered that the allocation can deliver wider benefits without a severe impact on the highway network.



Appendix A Indicative Masterplan

LEGEND

- Residential*
- School site (including potential dual-use sports provision)
- Mixed use (including local centre / retail)
- Village centre
- Leisure centre site
- Public open space
- 'River Penk Country Park'
- Indicative SuDS / attenuation
- Existing pond
- Existing vegetation
- Indicative proposed vegetation
- Indicative footpath links
- Public right of way
- Primary vehicular route
- Indicative play area
- Proposed allotments
- Indicative sports pitches





Appendix B Active Travel Strategy

Technical Note

Project: Penkridge

Subject: Active Travel Strategy

Client:	St Philips & Bloor Homes	Version:	A
Project No:	06161	Author:	LB
Date:	27/05/2022	Approved:	SB

I Introduction

I.1 Overview

- 1.1.1 This Active Travel Strategy has been prepared by PJA on behalf of St Philips and Bloor Homes to support the allocation of Land at A449, Penkridge within the draft South Staffordshire Local Plan. The local plan allocation is for up to 1,129 dwellings, primary school and local centre.
- 1.1.2 In July 2020, the government published 'Gear Change, a bold vision for cycling and walking', which sets out the ambition to transform the role that walking and cycling plays in the transport system. Active Travel England is currently being formed and will soon become a statutory consultee within the planning system to press for adequate cycling and walking provision in all developments of over a certain threshold.
- 1.1.3 This note has therefore been prepared to set out the active travel strategy for the wider allocation, and to ensure the onsite and offsite design accords with the Cycle Infrastructure Design (LTN 1/20) note which was also published alongside the Gear Change report.

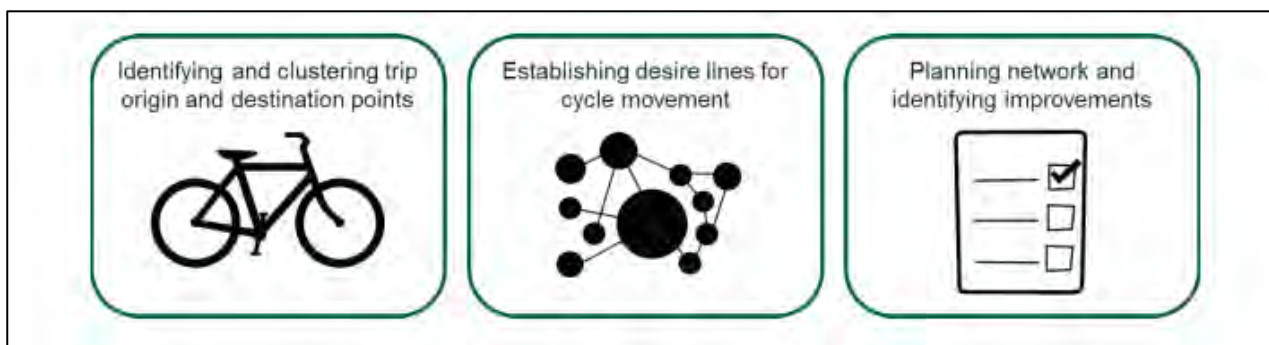
I.2 Site context

- 1.2.1 The wider allocation is located to the north of Penkridge, within suitable walking and cycling distances of a wide range of facilities including the village centre, the railway station, bus services and schools. The site has a real opportunity to influence how residents travel, and by providing high quality active travel infrastructure, will enable residents of all ages to travel sustainably.
- 1.2.2 The Travel Demand Model, built to identify travel behaviour to/from the site, indicates that 28% and 33% of all trips (in the AM and PM peaks respectively) would travel to/from Penkridge village centre. This equates to approximately 154 and 173 two-way trips in the AM and PM peaks travelling less than 2km.

2 Identifying the Desire Lines

2.1.1 Whilst Local Cycling and Walking Infrastructure Plans (LCWIPs) set out the investment strategy a planning authority scale, the principles of how to plan an active travel network can be applied on a more local scale. Chapter 5 of the LCWIP guidance sets out the recommended steps for mapping a future cycle network and identifying cycling infrastructure improvements as indicated at **Figure 1**.

Figure 1: LCWIP guidance – Network Planning



2.1.2 The local schools, retail centre and railway station within walking and cycling distance have been mapped, with further consideration to route selection. These are shown in **Figure 2** below.

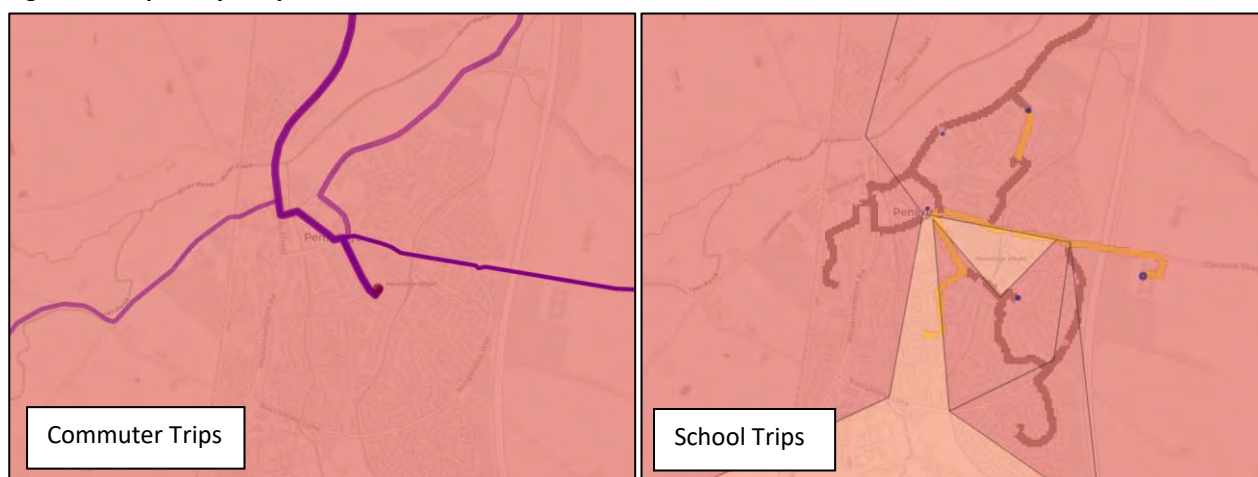
Figure 2: Identified priority walking and cycling corridors



2.1.3 The propensity to cycle tool was developed to indicate where cycling is currently common and where cycling has the greatest potential to grow. Figure 3 provides extracts from the propensity to

cycle tool and indicates where the current demand for cycling is. The image on the left shows the demand for commuting trips whilst the image on the right demonstrates the demand for school trips. It is pertinent to note that these extracts closely mirror and support the route selection as presented in Figure 2.

Figure 3: Propensity to cycle tool – Extracts



2.1.4 These routes formed the basis of the active travel network and were subject to site audit (summarised in section 3 of this report) and subsequently a set of recommendations were provided for each of the routes, with consideration to LTN 1/20 guidance, existing traffic flows and speeds.

3 Site Audits – Baseline Review

- 3.1.1 Site audits were undertaken in March 2022 during a neutral weekday. A set of opportunities and constraints plans were produced for each of the identified routes. A copy of the site audit notes is provided at **Appendix A** whilst a summary of observations is provided below.

Route 1 - A449 Stafford Road – North of Penkridge High Street

- 3.1.2 The A449 north of Penkridge High Street is a 30mph road, experiencing daily flows of c.12,000 vehicles (source: DfT Traffic Counts). The route forms an official diversion route to the M6 and is characterised by wide lanes, which encourages greater vehicle speeds.
- 3.1.3 The traffic volumes and speeds in the location would require protected cycle facilities in accordance with LTN 1/20.
- 3.1.4 A review of available verge width (within the highway boundary) and highway layout indicates that there may be the potential to deliver a bi-directional protected cycle facility on the eastern side of the A449 however this would require road space reallocation in some locations.

Route 2 - Mill Street/Teddesley Road

- 3.1.5 Mill Street and Teddesley Road provide a link east towards Penkridge Middle School. This route benefits from some traffic calming features such as raised tables. The route is constrained in width and as such it may not be possible to provide protected cycle facilities in this location.
- 3.1.6 This route provides a key link to the local school and as such it may be favourable to further traffic calm this route, to make it a more attractive link for walking and cycling.
- 3.1.7 A key barrier to accessing this route is the Crown Bridge junction which takes the form of multiple priority junctions. The arrangement is complicated and experiences multiple conflict points which is made worse by the presence of car parking. This junction would benefit from being rationalised to remove unnecessary conflict points and to provide a safer connection from the high street.

Route 3 - New Road/ Cannock Road

- 3.1.8 New Road and Cannock Road provide an additional link east towards Penkridge Leisure Centre and Wolgarston High School.
- 3.1.9 At the westernmost extent, this link is characterised by constrained, narrow roads and provides a link between local pubs, a library and a convenience store. To the east of the link, the corridor widens and benefits from wide grass verges.

- 3.1.10 The junction of New Road with the A449 experiences some delay (see Strategic Transport Assessment). It may be preferable for a link to this route to be made from Market Street via the aforementioned Crown Street junction. Market Street is a one-way road where traffic volumes and speeds would be suitable for cyclists to be accommodated within the carriageway.

Route 4 - Pinfold Road/Church Road/Station Road

- 3.1.11 Pinfold Road, Church Road and Station Road provide a link from the high street, towards the local rail station. These roads are constrained in width and accommodate on-street parking in the carriageway.
- 3.1.12 The traffic volumes along these roads were observed to be low, and it is considered suitable to accommodate cyclists in the carriageway in this location. It is recommended that transitions from the A449 Stone Cross is improved to facilitate access by cyclists.

3.2 Daily Traffic Flows

- 3.2.1 Motor traffic is the main deterrent to cycling for individuals. Therefore, providing protected cycle facilities has significant positive impacts on the propensity to cycle. The level of protection required for cycling is dependent on the speed and volume of traffic. Table 3 provides an overview of the traffic flows along the key desire routes, and this will inform the recommendations outlined in Chapter 4.

Table 3: Daily Flows

Link	Daily Flows (vehicles)
A449 Stratford Road – Penkridge High Street	15,528
Mill Street – Teddesley Rd	7,014
New Road/Cannock Rd	3,684
Cannock Rd (East of Market Place)	4,797
Pinfold Road/Church Road/Station Road	1,812

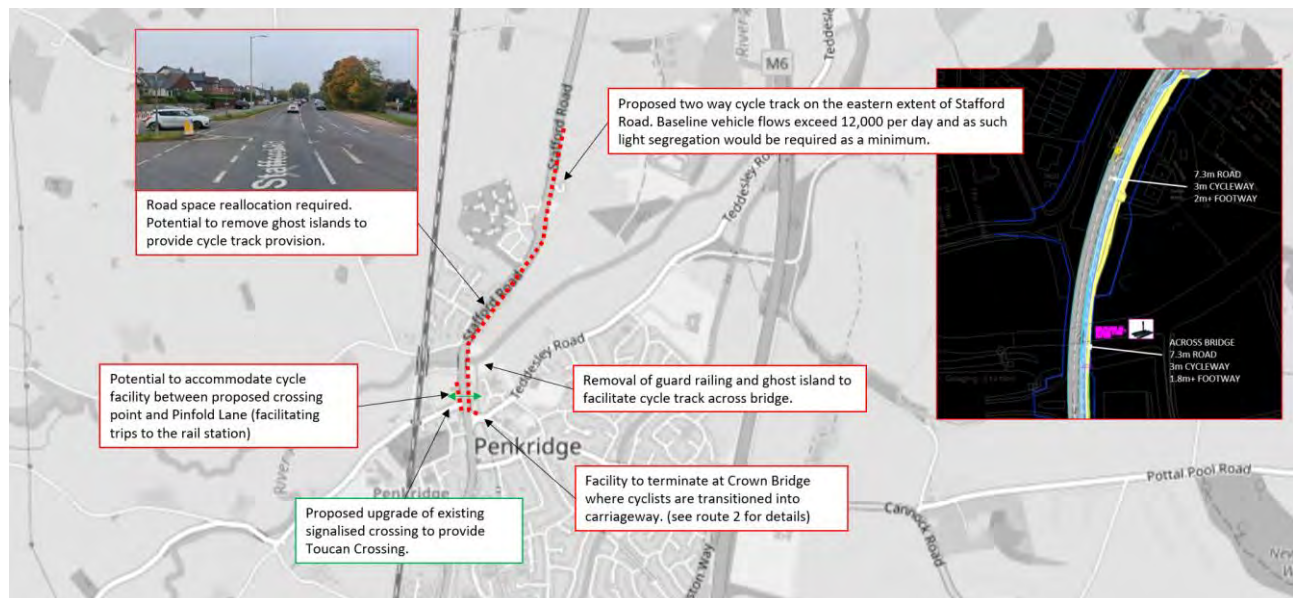
4 Recommendations

4.1.1 Following the site review, a set of recommendations have been put forward for each of the routes, which look to enhance to quality of the walking and cycling environment.

4.2 Route 1 - A449 Stratford Road – North of Penkrige High Street

4.2.1 Given the volumes and speeds along the A449, it is proposed to provide a protected cycle facility on the eastern side of the carriageway. An overview of the proposed scheme is provided at Figure 4 and an indicative design is included within the Strategic Transport Assessment.

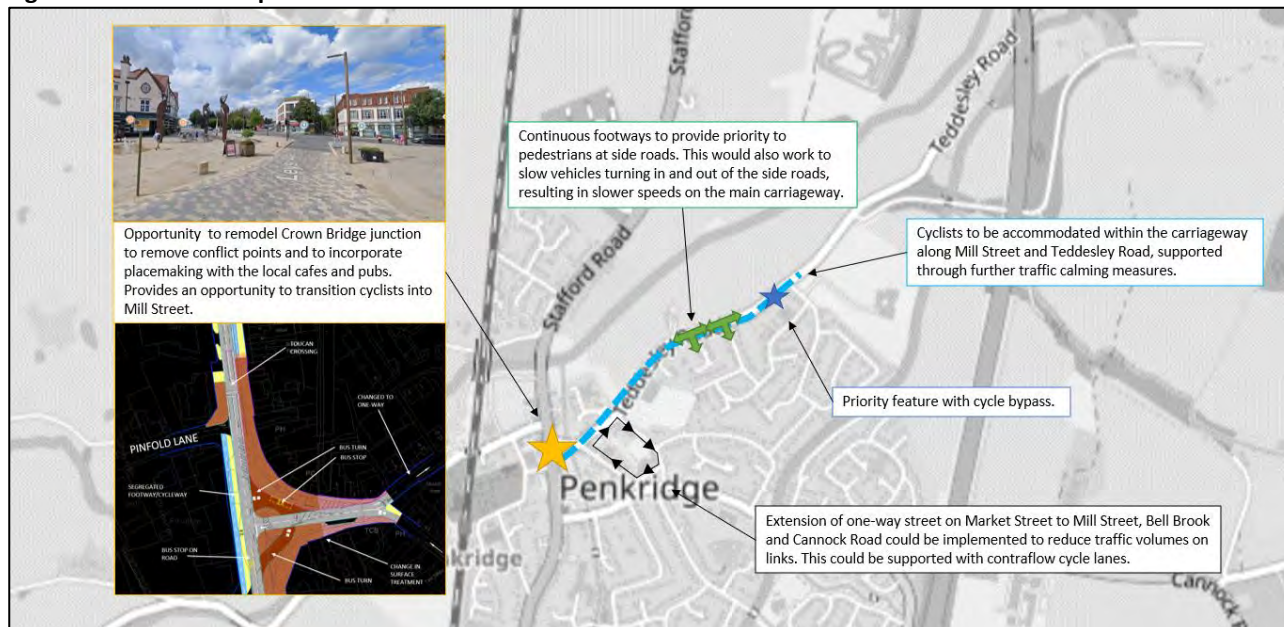
Figure 4: Route 1 – Proposed scheme



4.3 Route 2 - Mill Street/Teddesley Road

4.3.1 The transition to the protected facility into the carriageway would likely be accommodated through the rationalisation of the Crown Bridge junction. It is proposed that cyclists would be accommodated in the carriageway along Mill Street and Teddesley Road, further supported with traffic calming and placemaking measures to provide an attractive route for walking and cycling. An overview of the proposed scheme is provided at Figure 5.

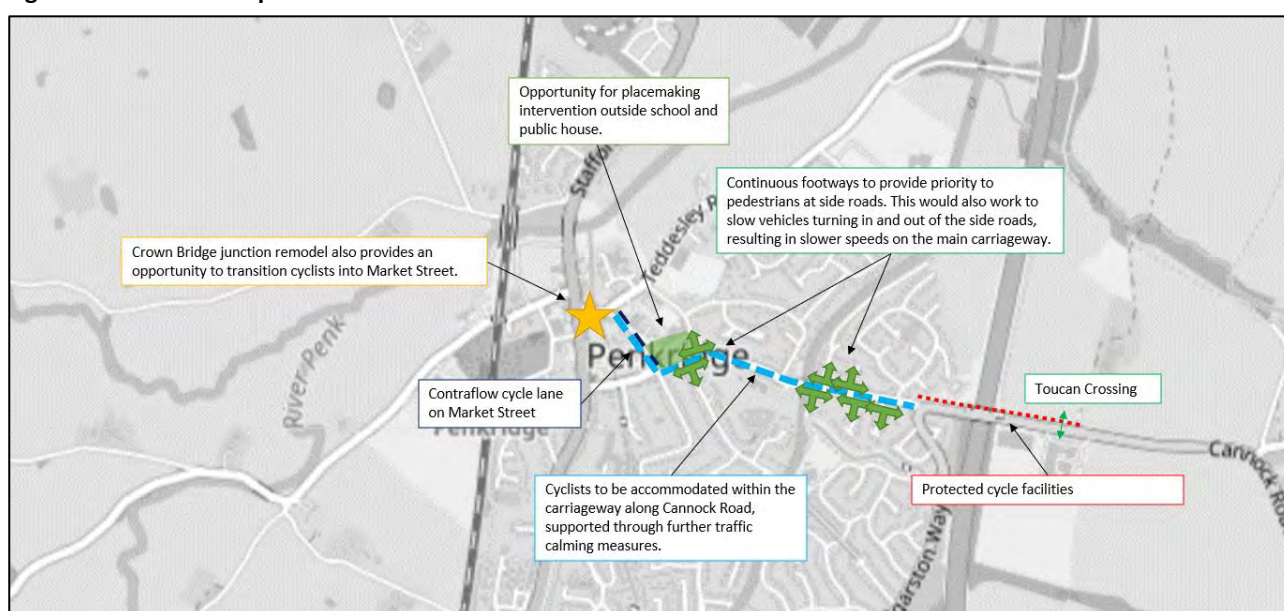
Figure 5: Route 2 – Proposed scheme



4.4 Route 3 - New Road/ Cannock Road

- 4.4.1 As identified in the baseline review, the junction of New Road and the A449 has some capacity constraints and as such, Market Street has been identified for the preferred route. It is proposed that this link would also tie into the Crown Bridge junction remodel. The proposed interventions for this route is shown at Figure 6 below.

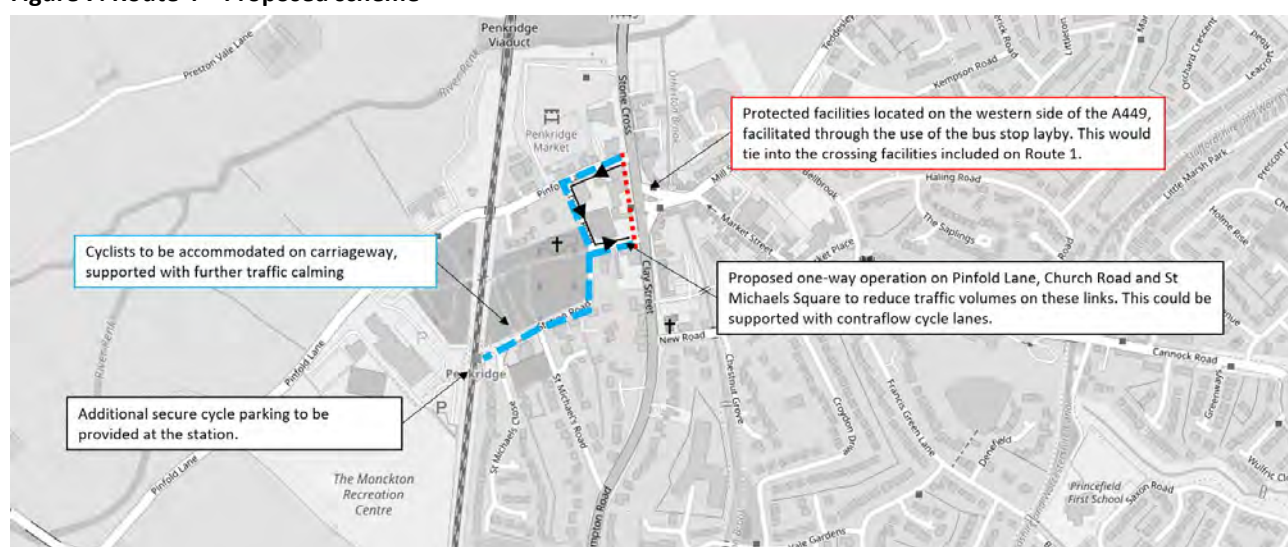
Figure 6: Route 3 – Proposed scheme



4.5 Route 4 - Pinfold Road/Church Road/Station Road

- 4.5.1 Pinfold Road, Church Road and Station Road provide a link from the A449 towards the rail station. These roads are constrained in width and are lightly trafficked. It is proposed that cyclists along this route are accommodated in the carriageway alongside traffic calming. There is the opportunity to implement a one-way system on Pinfold Lane, Church Road and St Martins Square to reduce traffic volumes on these links alongside a contraflow cycle lane.
- 4.5.2 There are opportunities to provide a protected facility on the western side of the carriageway, which could tie into the Route 1 proposals via the proposed toucan crossing. The proposed interventions for this route are provided at Figure 7.

Figure 7: Route 4 – Proposed scheme

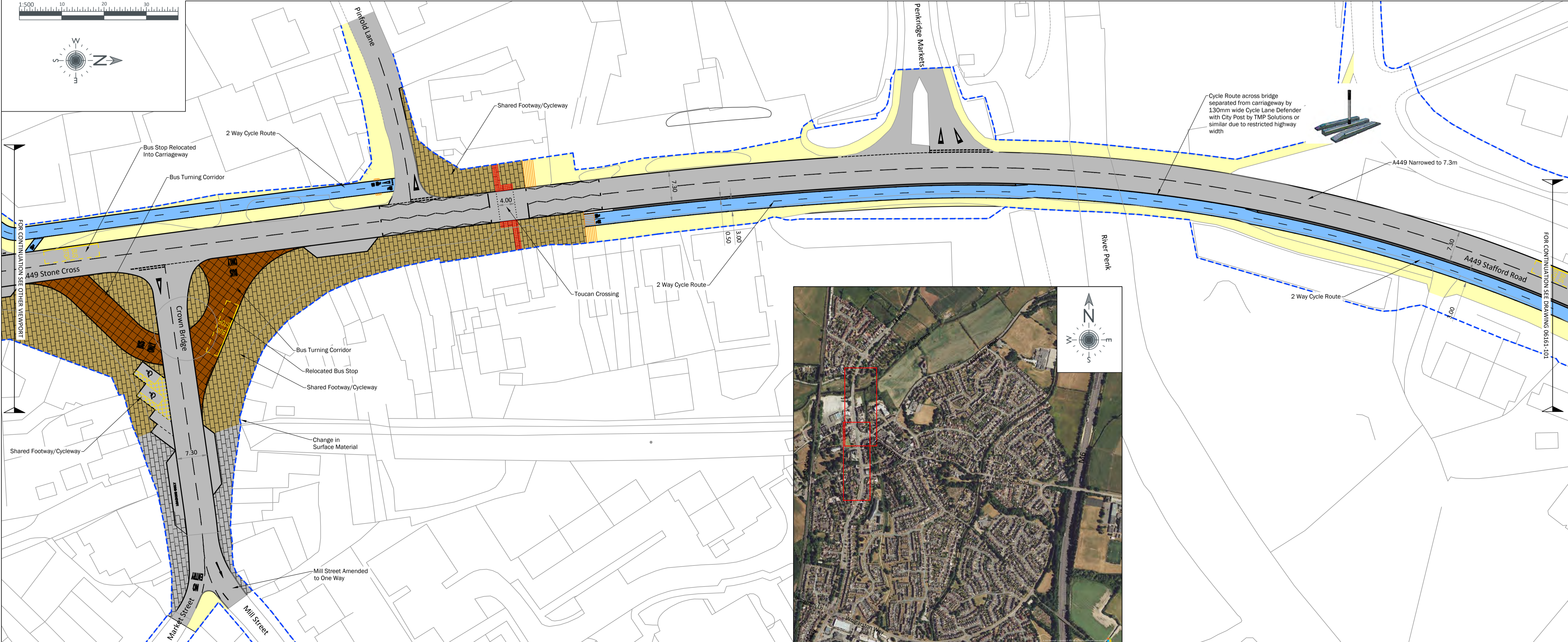
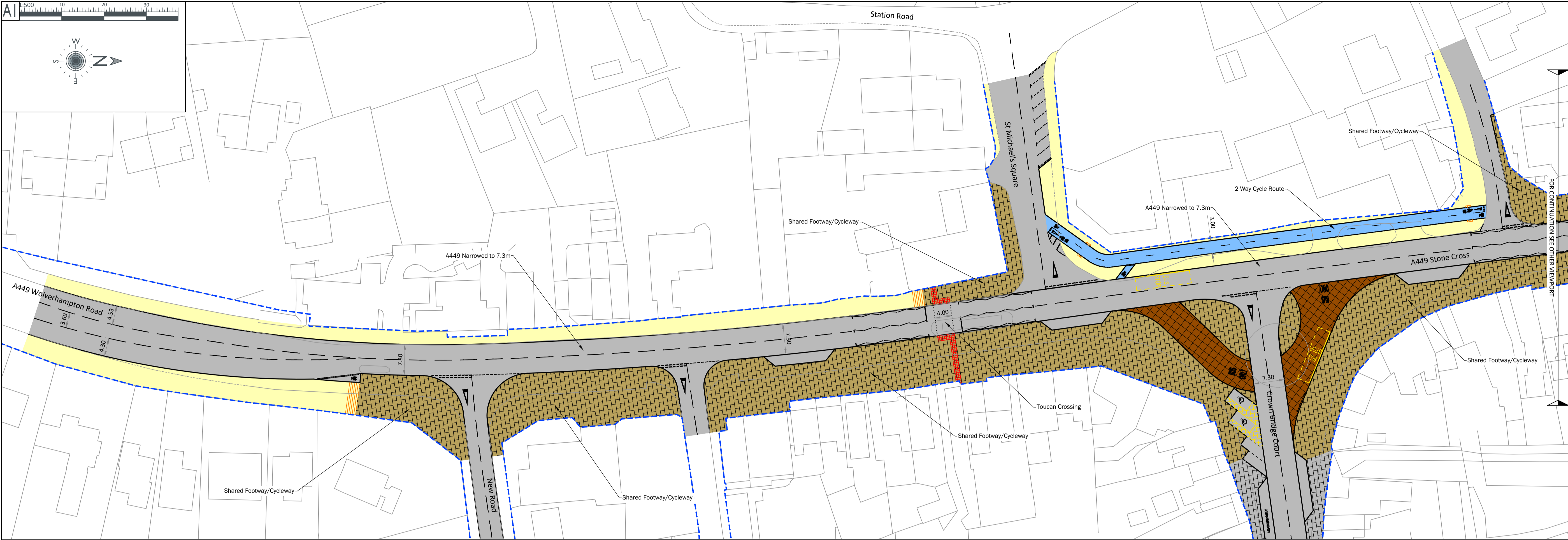


5 Summary

- 5.1.1 This Active Travel Strategy has been prepared by PJA on behalf of St Philips and Bloor Homes to support the allocation of Land at A449, Penkridge within the draft South Staffordshire Local Plan. The local plan allocation is for up to 1129 dwellings, primary school and local centre.
- 5.1.2 The development site is located within close proximity to local facilities, public transport services and schools. A comprehensive active travel strategy would enable a large proportion of trips from the development to be undertaken by foot or by bike.
- 5.1.3 Four active travel routes have been identified on key desire lines to/from the development. A set of design recommendations have been developed for each of these routes in accordance with LTN 1/20.



Appendix C Active Travel Strategy Drawings



NOTES

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- Bus stops currently off the carriageway have been moved into the carriageway in order for the stationary buses to act as active traffic calming measures.

KEY

--- Highway Boundary

P2	09/06/22	Highway Boundary and Parking Added	RAH
P1	18/05/22	First Issue	RAH

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Land at A449 Penkridge

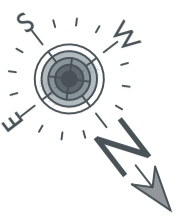
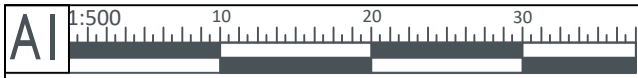
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General Arrangement Option 1 Sheet 1 of 2

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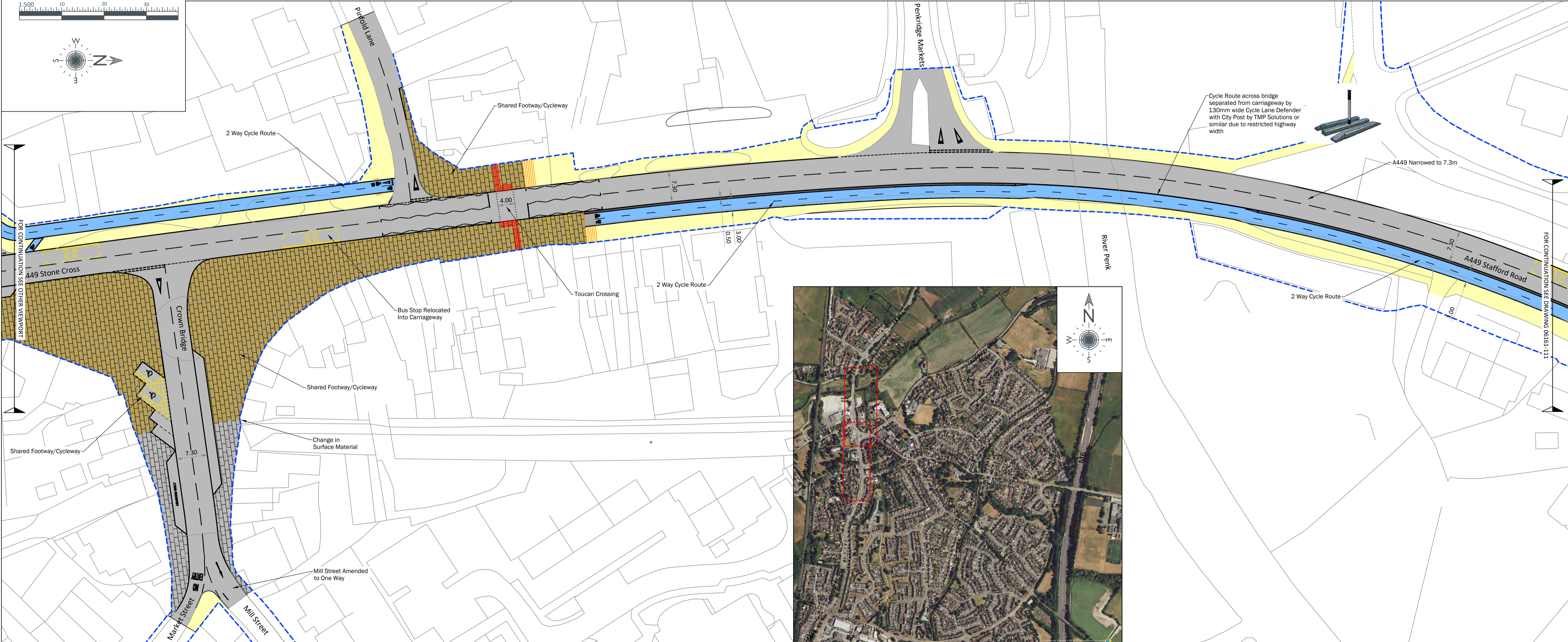
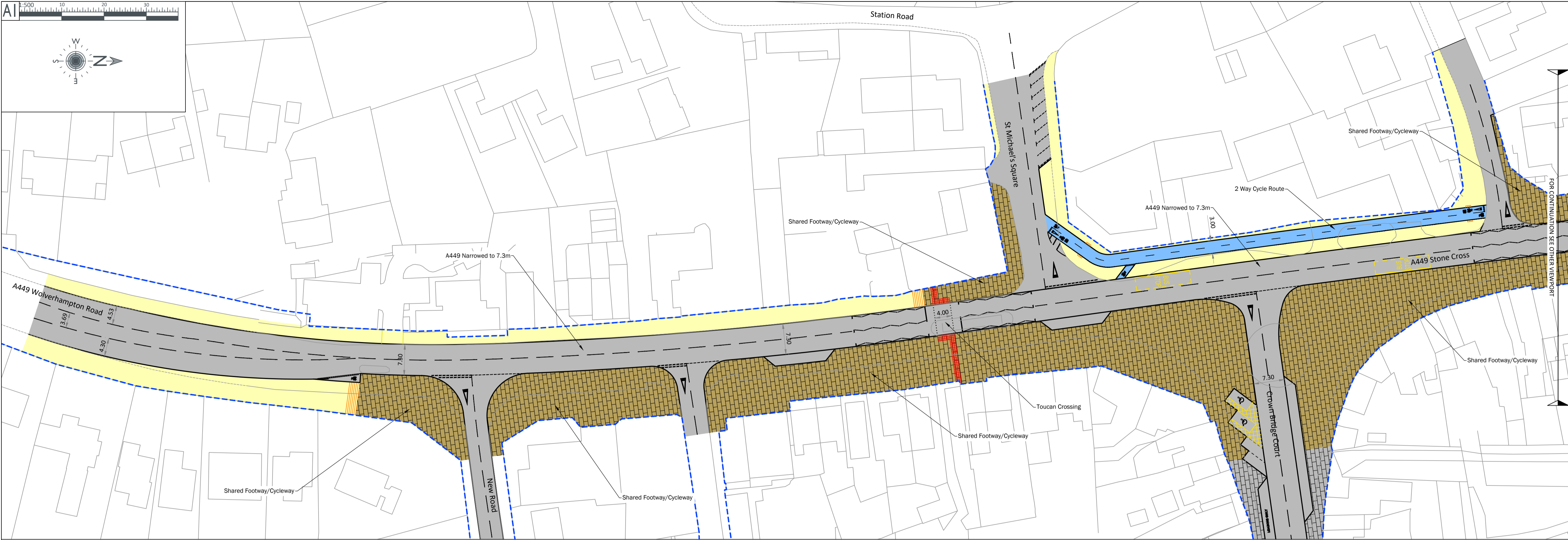
PROJECT
**Land at A449
Penkridge**

DRAWING TITLE
**General Arrangement
Option 1
Sheet 2 of 2**

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Land at A449 Penkridge

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**General Arrangement
Option 2
Sheet 1 of 2**

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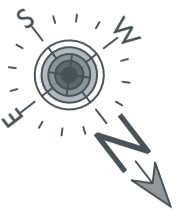
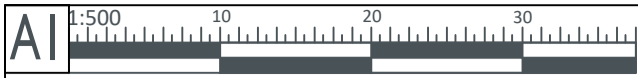
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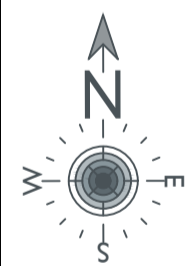
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**Land at A449
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Appendix D Bus Strategy

Technical Note

Project: Land North of PenkrIDGE

Subject: Public Transport Note

Client:	St Philips & Bloor Homes	Version:	A
Project No:	6161	Author:	LW
Date:	27 May 2022	Approved:	SB

I Introduction

I.1 Background and Context

- 1.1.1 PJA has been appointed to prepare a Strategic Transport Assessment (STA) to support the proposed allocation of Land North of PenkrIDGE within the South Staffordshire Local Plan Review.
- 1.1.2 South Staffordshire Council are currently undertaking a review of the Local Plan and have produced a Preferred Options document. A public consultation has been held on the preferred options, and the next stage of consultation is due to take place in 2022.

2 Site Allocation

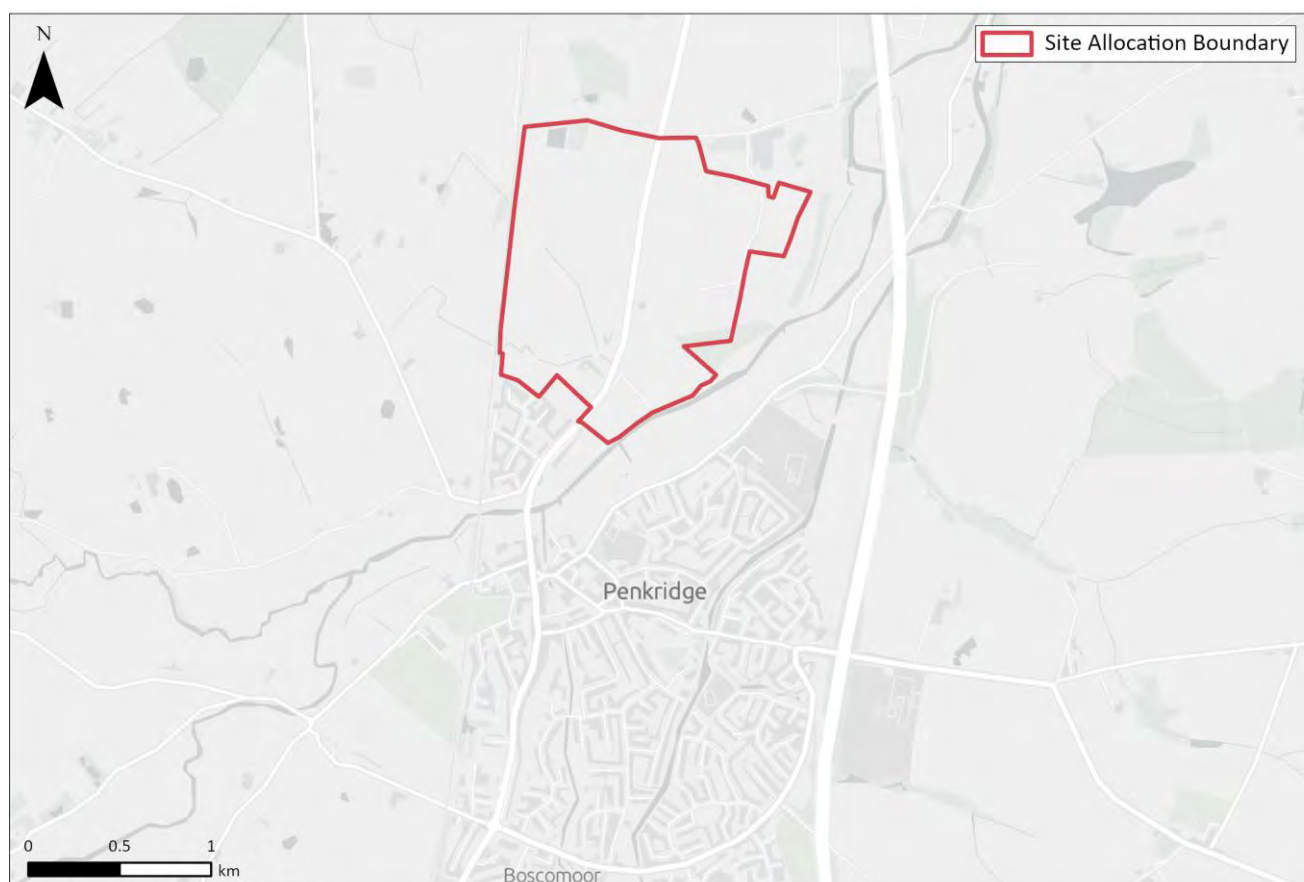
2.1 Policy SA4

- 2.1.1 The development site is identified as Policy SA4 within the South Staffordshire Local Plan. As set out within Policy SA4, the site is expected to provide:
- Up to 1,129 residential dwellings;
 - An on-site first school, retail and any necessary community facilities of an appropriate scale to meet the needs of the development whilst maintaining the vitality of services and facilities in the wider area;

- High quality on-site open space, green infrastructure which integrates into existing housing permitted to the south of the site, alongside measures to ensure biodiversity net gain is achieved;
- Highways, sustainable transport and active travel infrastructure, including links to infrastructure in the wider area;
- Layout and design to enhance the entrance into the village, to protect the setting of the River Penk as it runs through Penkridge and to integrate into the wider landscape from the AONB to the east;
- Improvements to local leisure facilities in the wider village; and
- Provision of a new riverside country park adjacent to the River Penk.

2.1.2 It is also noted that a 'Land North of Penkridge SPD' will be adopted within the early years of the plan period and will inform the release, phasing and Infrastructure Delivery Strategy for the site.

Figure 2-1: Site Allocation Boundary



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2.1.3 Phase 1 of the site is already being delivered on site, consisting of up to 200 dwellings.

2.2 Vehicle Access

2.2.1 It is considered that vehicle access could be delivered as follows:

- A new four-arm roundabout approximately 800m to the north of the existing settlement boundary. This would allow access to both the eastern and western parcels of development and would provide a 'gateway' to the extended Penkrige urban area and a suitable transition between the 60mph speed limit to the north and an extended 30mph speed limit to the south;
- A new four-arm roundabout approximately 650m to the north of the existing settlement boundary. As with the other access roundabout, this would allow access into the eastern and western parcels of development; and
- A fourth arm to the consented Phase 1 access roundabout; and
- An extension of Phase 1 carriageway to connect into the site.

Figure 2: Indicative Masterplan



3 Transport Background

3.1 Infrastructure

- 3.1.1 Penkridge is a village south of Stafford located on the A449 road with a population of circa 8,500. The village is also adjacent to the Stafford to Wolverhampton rail line which forms part of the West Coast Mainline with a station on the western extremity of the village. The A449 road through the village was de-trunked in 2002 (The A449 Trunk Road (A5 Gailey Roundabout to the A34 Queensway, Stafford) (Detrunking) Order 2002).

3.2 Public Transport Services

3.2.1 The railway station has services to Wolverhampton, Birmingham, Stafford, Crewe and Liverpool with typically 2 trains per hour Monday to Saturday and 1 per hour on Sunday.

Table 1. Train Frequency

Railway Station	Frequency (Per Hr)	Journey Time (Mins)
Liverpool Lime Street	2	<70
Crewe	2	<30
Stafford	2	<10
Wolverhampton	2	<15
Birmingham New St	2	<35

Table 2. No of Trains

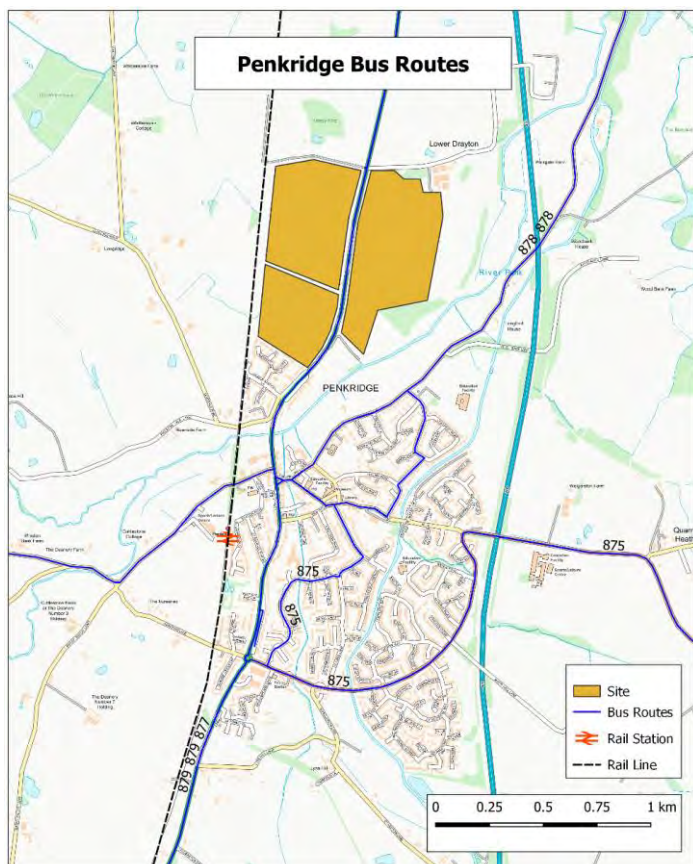
Hour	Departing	Arriving
0700 – 1000	12	11
1000 – 1600	18	18
1600 – 1900	12	12
Total	42	41

3.2.2 Bus services are provided locally by Select Bus Services who are located at the Lower Drayton Farm adjacent to the development site. Select Buses have 25 vehicles used on local bus routes and school buses across the wider southern Staffordshire area. The services operating at the current time are listed in the table below and shown on a map.

Table 3. Penkridge Bus Services

Service	Route	Monday to Friday			Saturday		Sunday	
		peak	off peak	eves	daytime	eves	daytime	eves
879	Stafford -Rodbaston College	1 round trip (CDO)	0	0	0	0	0	0
878	Wolverhampton - Coven - Brewood - Wheaton Aston - Penkridge - Stafford	1 journey	Every 60 mins	0	Every 3 hours	0	0	0
875	Cannock - Penkridge - Rickerscote - Stafford	Every 60 mins	Every 60 mins	0	Every 60 mins	0	0	0
810/812/ 878	Coven – Wolgarton School (Penkridge)	1 round trip (SDO)	0	0	0	0	0	0

Figure 2. Local Bus Routes



3.3 Committed Developments

- 3.3.1 Two large development schemes nearby have the potential to influence the bus services running in the Penkrige area.

i54

- 3.3.2 The i54 development located at M54 junction 2 provided planning gain monies to provide an hourly bus between Wolverhampton and Stafford. This was numbered 154 and ceased in expiry of the funding agreement in late 2021. There is the potential for further plots at i54 to be developed. These could provide a new stimulus for additional Stafford to Wolverhampton bus journeys.

WMI

- 3.3.3 The West Midlands Interchange (WMI) is an approved nationally significant infrastructure project located at Gailey, circa 3 miles south of Penkrige at the junction of the A449 and A5. The scheme will provide a rail terminal and up to 7million ft² of warehouse space. A bus service

plan has been set and a section 106 agreement set out. The WMI has committed to increased bus services on the Wolverhampton to Stafford corridor and to service from Wolverhampton to Cannock via the site. The planned opening date is 2024. In addition to formal fixed route services, the WMI commits to a network of worker's shuttle buses serving locations in Cannock, Walsall and Wolverhampton away from the current bus network.

4 Bus Demand and Revenue

4.1.1 An estimate of bus use has been made. At the 2011 bus use to travel from Penkridge to work was 1.7% of all journeys to work. This rises to circa 5% if those not in work or working from home are excluded.

4.1.2 An initial buildout profile of 10 years has been assumed.

Table 4. Development Profile

Year	1	2	3	4	5	6	7	8	9	10
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Houses	200	100	100	100	100	100	100	100	100	100
Cumulative	200	300	400	500	600	700	800	900	1000	1100

4.1.3 The patronage based on the age profile of Penkridge at 5% and 10% bus mode shares would be as shown below.

Table 5. Passenger Numbers 5% mode share for bus

Annual pax 5%	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
pax red	1,828	2,742	3,657	4,571	5,485	6,399	7,313	8,227	9,142	10,056
pax full	12,580	18,870	25,160	31,450	37,740	44,029	50,319	56,609	62,899	69,189
pax concs	6,257	9,385	12,513	15,642	18,770	21,898	25,026	28,155	31,283	34,411

Table 6. Passenger Numbers 10% mode share for bus

Annual pax 10%	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
pax red	3,657	5,485	7,313	9,142	10,970	12,798	14,626	16,455	18,283	20,111
pax full	25,160	37,740	50,319	62,899	75,479	88,059	100,639	113,219	125,798	138,378
pax concs	12,513	18,770	25,026	31,283	37,540	43,796	50,053	56,310	62,566	68,823

4.1.4 This would generate revenue as set out below with inflation of 4% and the DfT's figure for income per passenger journey of £1.33.

Table 7. Income at 5% mode share for bus

Revenue 5%	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Income red	£2,529	£3,939	£5,447	£7,052	£8,754	£10,553	£12,450	£14,444	£16,535	£18,724
Income full	£17,400	£27,105	£37,478	£48,520	£60,232	£72,613	£85,664	£99,383	£113,772	£128,830
Income cons	£8,654	£13,481	£18,640	£24,132	£29,957	£36,114	£42,605	£49,429	£56,585	£64,074
Total	£28,584	£44,524	£61,564	£79,704	£98,943	£119,281	£140,719	£163,256	£186,892	£211,628

Table 8. Income at 10% mode share for bus

Revenue 10%	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Income red	£5,058	£7,879	£10,894	£14,104	£17,508	£21,107	£24,900	£28,888	£33,070	£37,447
Income full	£34,801	£54,209	£74,956	£97,041	£120,465	£145,227	£171,327	£198,767	£227,544	£257,660
Income cons	£17,308	£26,961	£37,279	£48,264	£59,913	£72,229	£85,210	£98,857	£113,170	£128,148
Total	£57,167	£89,049	£123,129	£159,408	£197,886	£238,562	£281,438	£326,512	£373,784	£423,256

4.1.5 Costs have been derived from other sites in Staffordshire and are based on industry standard costs + inflation at 4%.

Table 9. Bus costs

Bus / cost p.a.)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Small Bus	£135,200	£140,400	£145,600	£150,800	£156,000	£161,200	£166,400	£171,600	£176,800	£182,000
Large bus	£156,000	£162,000	£168,000	£174,000	£180,000	£186,000	£192,000	£198,000	£204,000	£210,000
2 x large buses	£312,000	£324,000	£336,000	£348,000	£360,000	£372,000	£384,000	£396,000	£408,000	£420,000

5 Bus Service Options

5.1 Option 1

5.1.1 This would deploy a single bus to increase the Stafford to Penkridge bus service frequency to every 30 minutes. This could commence with a single small bus and move to a larger vehicle as demand increased. To allow only 1 bus to be required it would need to operate along the A449 Wolverhampton Road into Stafford instead of via Rickerscote. The additional journeys would also need to terminate in Penkridge village centre. Viability could occur in year 6 of the development at 5% mode share.

5.2 Option 2

5.2.1 Again, a single bus would be deployed to provide an additional bus every hour to Cannock (30 minute frequency). This could commence with a single small bus and move to a larger vehicle as demand increased. The route would follow the existing route and terminate at site access roundabout. Viability could occur in year 6 of the development at 5% mode share.

5.3 Option 3

- 5.3.1 A single bus to provide a Penkridge to Wolverhampton service direct via the A449. The route would terminate at site access roundabout. Viability could occur in year 6 of the development at 5% mode share.

5.4 Option 4

- 5.4.1 Shuttle minibus to the railway station and DRT outside of peak times. This would deploy a 8 seater taxibus for a station link at commuter times and a responsive service outside of these times. As demand and income is uncertain no cost profile is provided.

5.5 Option 5

- 5.5.1 Options 1 to 4 are scalable to deploy a second vehicle. This could take the form of providing a more frequent Cannock to Stafford service or a reinstated direct Stafford to Wolverhampton service. Viability could only be possible at the end of the suggested buildout period.

5.6 Commentary

- 5.6.1 There is an option (albeit with a notable s106 contribution) to increase the existing service(s) in line with the Transport Assessment's analysis of the most likely destination. The deployment of a single vehicle would require around 6 years of s106 funding.
- 5.6.2 A 10% mode share is higher than would normally be expected from a development of this nature given the large dwellings being constructed in phase 1. A 5% mode share would appear a sensible target given trends for home working etc.
- 5.6.3 Simply replicating rail services may not be an attractive option given the journey time advantages that rail would have unless the access from the site to the station is seen as too challenging (a 5-6 minute cycle or a 15 minute walk).
- 5.6.4 Any deployment of a second bus would only occur at the end of suggested buildout period unless other funding became available.
- 5.6.5 The use of DRT may be superficially attractive, however, a localised scheme focused on a single development is unlikely to bring viable passenger numbers. Should SCC develop a DRT that covers Penkridge mor generally this may become a pragmatic option.

6 Bus Stops

- 6.1.1 There are two pairs of existing bus stops located on the A449. A site review shows that the southern pair of stops have been relocated a short distance to reflect the provision of the Phase 1 roundabout access. At the northern pair of stops only that on the southbound side of the A449 has a formal flag.
- 6.1.2 In terms of access to the stops, the new phase 1 development has provided a suitable footpath link from the development, tarmacked waiting areas and new bus stop flags. However, no level access route to the southbound stop appears to have been provided.
- 6.1.3 The stops have been assessed for the standard 400m walking distance that is the accepted desirable distance.

Figure 3. Bus stop accessibility (400m radii)



- 6.1.4 The initial analysis shows that the vast majority of the site will be in 400m of the existing bus stops. On this basis, no diversion into the site for the bus route(s) is recommended.



Appendix E Bus Strategy Demand Calculations

wkt_geom	RouteName	StartTime	EndTime	StartTime	EndTime	Total_Mile	Total_Kilo	Total_Min	TotalWait	TotalViola	RouteLay	RouteLay	OriginOID	Destination	From_TTTL	From_VIS	From_DES	From_IMA	From_IMA	From_DAT	From_TYP	To_place	To_mnem	To_Driving	To_LONG	To_LATITUDE
Multiline	Route 152	#####	#####	#####	#####	6.970468	11.2179	15.1854	0	0			1	152	Point	1				1899-12-3	1	Cannock	CO200612	12	-2.01266	52.70262
Multiline	Route 155	#####	#####	#####	#####	5.923578	9.533094	10.31766	0	0			1	155	Point	1				1899-12-3	1	Cannock	CO200612	75	-2.03573	52.69102
Multiline	Route 151	#####	#####	#####	#####	6.461789	10.39926	14.12659	0	0			1	151	Point	1				1899-12-3	1	Cannock	CO200612	2	-2.02785	52.70412

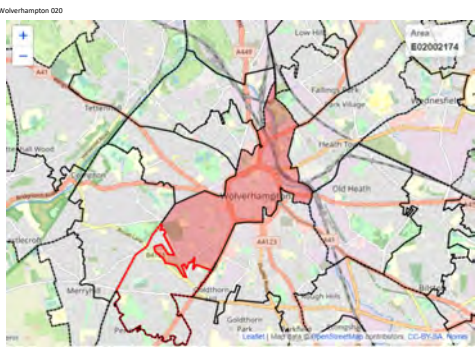


Selection

seq	geom	RouteName	StartTime	EndTime	StartTime	EndTime	Total	MM	rate	km	Total	Mile	Total	Way	Total	Order	RouteOrder	RouteOrder	OrderID	OrderDate	From	VT	From	VT	From	OR	From	VT	To	place	To	order	To	Order	To	ATTN
1	MultiLine	Route 26	#####	#####	#####	#####	6.448117	12.44179	8.867128	0	0						1	26	Point								1899-12-9	Stafford	0	0200626	22	-2.12091	52.7694			
2	MultiLine	Route 25	#####	#####	#####	#####	6.642046	-10.02094	9.772485	0	0						1	25	Point								1899-12-9	Stafford	0	0200626	41	-2.13493	52.79705			
3	MultiLine	Route 22	#####	#####	#####	#####	6.079682	9.78452	13.95514	0	0						1	22	Point								1899-12-9	Stafford	0	0200618	63	-2.10371	52.81324			
4	MultiLine	Route 23	#####	#####	#####	#####	8.978006	14.61503	13.38755	0	0						1	23	Point								1899-12-9	Stafford	0	0200620	293	-2.12979	52.81275			
5	MultiLine	Route 29	#####	#####	#####	#####	3.876671	6.218912	7.742127	0	0						1	29	Point								1899-12-9	Stafford	0	0200622	22	-2.1094	52.78652			



Selection	Wkt_geom	RouteName	StartTime	EndTime	StartTime	EndTime	Total_Min	Total_Kilo	Total_Min	Total_Walk	Total_Visual	Route_Layer	Route_Lay	Origin_OID	Destination	From_VTT	From_VID	From_DES	From_IMA	From_IMA	From_GA	From_VTT	To_place	To_assem	To_Drive	To_LONGID	To_LATITUDE
Multiline	Route 100	Wolverhampton	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	11:40:00	18:00:00	



*Note - the Wolverhampton O20 centroid is not within the town centre ring road, although demand is considered to be.

Possible PT Destinations

Employment Trips		
GIS J2W D: %		
Cannock	89	3%
Stafford	384	12%
Wolverhan	105	3%
Total	3135	

Retail Trips		
Zone		%
Cannock	10	12%
Stafford	2	28%
Wolverhan	15	8%

Journey Purpose Split (for car driver in peak hours)

Employment Retail		
AM	65%	23%
PM	52%	43%

Employment Retail			Total	
			AM	PM
Cannock	3%	12%	5%	7%
Stafford	12%	28%	14%	18%
Wolverhan	3%	8%	4%	5%

The highest demand is to Stafford = best option for bus route.



Appendix F Travel Demand Model Outputs

3842 - Land at A449, Penkridge

Travel Demand Model

Development Quantum

Residential

1129 Residential Dwellings

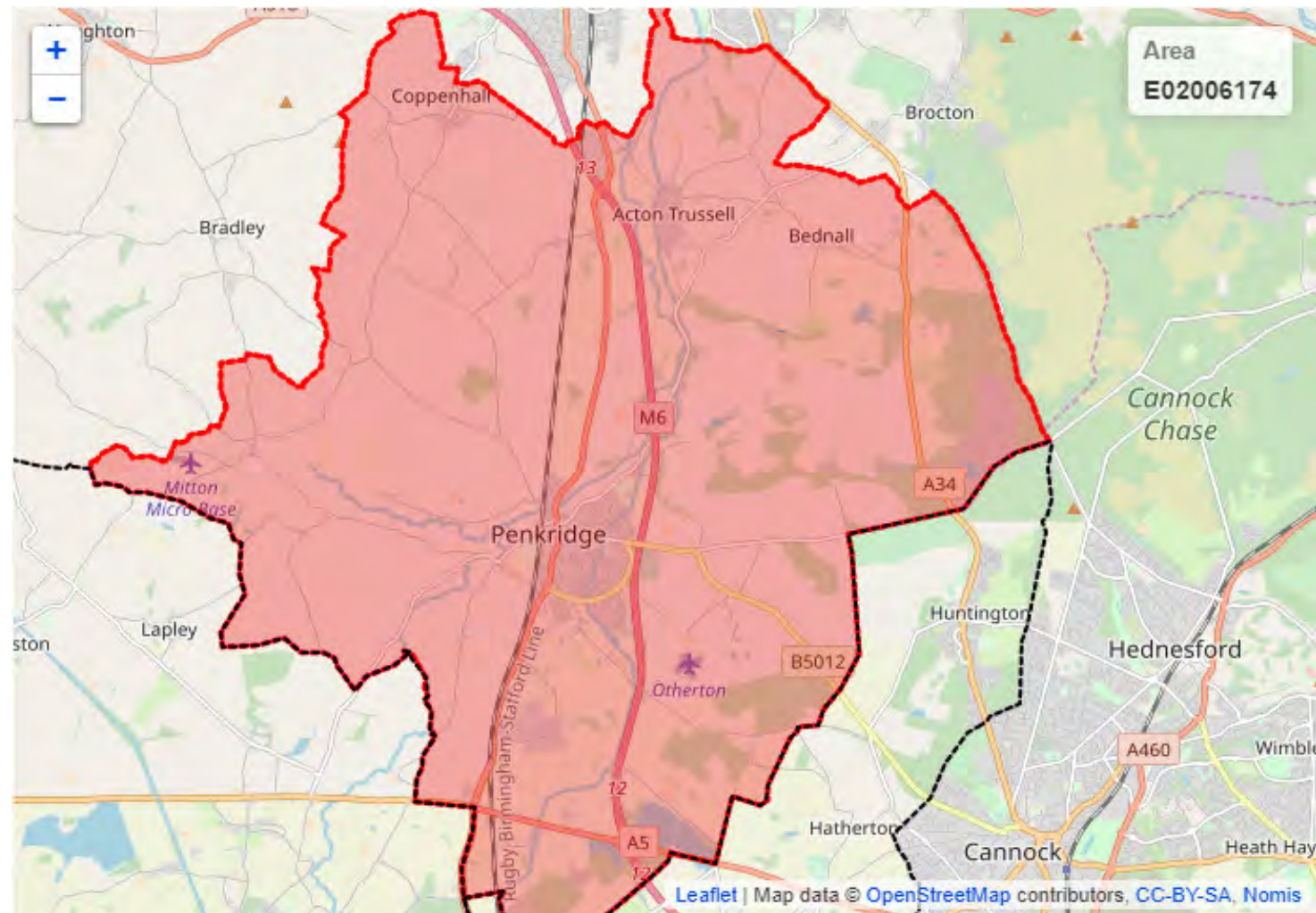
School

	FE	Pupil Capacity
Lower	1	150
Middle	0	0
High	0	0
Primary	0	0
Secondary	0	0
HE	0	0
Total		150

Employment

NONE

MSOA South Staffordshire 001



TEMPRO Output - South Staffordshire 001

Journey Purpose	Work	Employers Business	Education	Shopping	Personal Business	Recreation	Visit	Holiday	Total
AM Peak Hour									
Walk	220	12	992	231	84	21	21	2	1583
Cycle	125	3	71	17	5	3	2	30	256
Car Driver	3068	393	684	698	280	137	77	416	5753
Car Passenger	388	34	1576	251	237	64	54	168	2772
Bus	125	4	370	63	20	6	5	14	607
Rail	158	25	28	6	3	2	0	18	240
Total	4084	471	3721	1266	629	233	159	648	11211
PM Peak Hour									
Walk	227	20	236	270	122	103	175	7	1160
Cycle	101	6	17	28	10	14	23	142	341
Car Driver	2407	355	317	985	395	385	561	675	6080
Car Passenger	381	39	349	495	201	381	374	576	2796
Bus	103	8	73	63	22	27	45	57	398
Rail	102	20	8	14	5	10	12	52	223
Total	3321	448	1000	1855	755	920	1190	1509	10998

TEMPRO Parameters

Result type Trip ends by time period
Area Defin South Staffordshire 001
Base Year: 2022
Future Yea 2038
Trip purpo All purposes individually

Transport All modes selected
Time peric Weekday AM peak period (0700-0959) and Weekday PM peak period (1600-1859
Trip end ty Origin/Destination

Trip Gen Proportions

Journey Purpose	Work	Employers Business	Education	Shopping	Personal Business	Recreation	Visit	Holiday	Total
AM Peak Hour									
Walk	2%	0%	9%	2%	1%	0%	0%	0%	14%
Cycle	1%	0%	1%	0%	0%	0%	0%	0%	2%
Car Driver	27%	4%	6%	6%	2%	1%	1%	4%	51%
Car Passenger	3%	0%	14%	2%	2%	1%	0%	1%	25%
Bus	1%	0%	3%	1%	0%	0%	0%	0%	5%
Rail	1%	0%	0%	0%	0%	0%	0%	0%	2%
Total	36%	4%	33%	11%	6%	2%	1%	6%	100%
PM Peak Hour									
Walk	2%	0%	2%	2%	1%	1%	2%	0%	11%
Cycle	1%	0%	0%	0%	0%	0%	0%	1%	3%
Car Driver	22%	3%	3%	9%	4%	4%	5%	6%	55%
Car Passenger	3%	0%	3%	5%	2%	3%	3%	5%	25%
Bus	1%	0%	1%	1%	0%	0%	0%	1%	4%
Rail	1%	0%	0%	0%	0%	0%	0%	0%	2%
Total	30%	4%	9%	17%	7%	8%	11%	14%	100%

Site Trip Rates / Generation

Dwellings	1129
-----------	------

	AM Peak Hour			PM Peak Hour		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Vehicle Trip Rates (per dwelling)	0.132	0.378	0.51	0.318	0.153	0.471
Trip Generation (1129 dwellings)	149	427	576	359	173	532

Combined Trip Proportions - Factored

Journey Purpose	Education	Retail	Employment	Total
AM Peak Hour				
Walk	63%	17%	20%	100%
Cycle	28%	20%	52%	100%
Car Driver	12%	23%	65%	100%
Car Passenger	57%	19%	24%	100%
Bus	61%	14%	25%	100%
Rail	12%	11%	78%	100%
Total	33%	21%	46%	100%
PM Peak Hour				
Walk	20%	48%	32%	100%
Cycle	5%	61%	34%	100%
Car Driver	5%	43%	52%	100%
Car Passenger	12%	65%	22%	100%
Bus	18%	48%	33%	100%
Rail	4%	39%	57%	100%
Total	9%	50%	41%	100%

Site Car Trips by Purpose

AM Peak Hour			PM Peak Hour		
Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Education					
18	51	68	19	9	28
Retail					
34	99	133	154	74	228
Employment					
97	278	374	186	90	276
Total					
149	427	576	359	173	532

Combined Trip Proportions

Journey Purpose	Education	Retail	Employment	Total
AM Peak Hour				
Walk	9%	2%	3%	14%
Cycle	1%	0%	1%	2%
Car Driver	6%	12%	33%	51%
Car Passenger	14%	5%	6%	25%
Bus	3%	1%	1%	5%
Rail	0%	0%	2%	2%
Total	33%	21%	46%	100%
PM Peak Hour				
Walk	2%	5%	3%	11%
Cycle	0%	2%	1%	3%
Car Driver	3%	24%	29%	55%
Car Passenger	3%	17%	6%	25%
Bus	1%	2%	1%	4%
Rail	0%	1%	1%	2%
Total	9%	50%	41%	100%

Education Trip Breakdown

Pupils at Site

On-Site Education Provision	PAN
Lower	150
Middle	0
High	0
Total	150

Pupils per Household

Source: Staffordshire Education Infrastructure Contributions Policy (Appendix 1 South Staffordsh

Age	per dwelling per year group	per dwelling total
Primary/First	0.03	0.15
Middle	0.03	0.12
Secondary/High	0.03	0.09
Sixth Form	0.03	0.06

Pupils per Household - Development

Dwellings	1129
-----------	------

Education Age	Est. Pupils on-Site
Lower (5-8)	169
Middle (9-13)	135
High (14-18)	169
Total	474

External / Internal Trip Calculations

Total Pupils On-Site	No.	Proportion of Total
Lower School	169	36%
Middle School	135	29%
High School	169	36%
Total	474	100%

Internal Trips

Lower School	150	32%
Middle School	0	0%
High School	0	0%
Total	150	32%

Pupils travelling to education on Development

Lower School	0	0%
Middle School	0	0%
High School	0	0%
Total	0	0%

Pupils leaving development to education elsewhere

Lower School	19	4%
Middle School	135	29%
High School	169	36%
Total	324	68%

Lower School Car Trips

Internalised Lower School Trips					
AM (A / D / TW)			PM (A / D / TW)		
6	16	22	6	3	9
Inbound Lower School Trips (to onsite provision)					
AM (A / D / TW)			PM (A / D / TW)		
0	0	0	0	0	0
Outbound Lower School Trips (to offsite schools)					
AM (A / D / TW)			PM (A / D / TW)		
1	2	3	1	0	1

Middle School Car Trips

Internalised Middle School Trips					
AM (A / D / TW)			PM (A / D / TW)		
0	0	0	0	0	0
Inbound Middle School Trips (to onsite provision)					
AM (A / D / TW)			PM (A / D / TW)		
0	0	0	0	0	0
Outbound Middle School Trips (to offsite schools)					
AM (A / D / TW)			PM (A / D / TW)		
5	14	20	5	3	8

High School Car Trips

Internalised High School Trips					
AM (A / D / TW)			PM (A / D / TW)		
0	0	0	0	0	0
Inbound High School Trips (to onsite provision)					
AM (A / D / TW)			PM (A / D / TW)		
0	0	0	0	0	0
Outbound High School Trips (to offsite schools)					
AM (A / D / TW)			PM (A / D / TW)		
6	18	24	7	3	10

Lower School

School	URN	Distance (km)*	Pupil No.	Pop / Dist	Percentage Draw	Pop / Dist (Weighted)	Percentage Dra Zone
Marshbrook First Sch	145378	1.80	145	81	44%	45	47%
St Michael's CoFE (A) I	124343	1.90	146	77	42%	40	42%
St Leonard's CEVC First School		2.50	66	26	14%	11	11%

Weighting Factor
2

Outbound Lower School Trips					
AM (A / D / TW)			PM (A / D / TW)		
1	2	3	1	0	1

Total	-	-	184	100%	96	100%
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*Distance from - <https://www.google.co.uk/maps/dir//52.73756,-2.110369/@52.73756,-2.1125577,641m/data=!3m1!1e3!4m2!4m1!3e0>

Zonal Distribution

		AM			PM		
Zone	% Distribution	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	0%	0	0	0	0	0	0
2	0%	0	0	0	0	0	0
3	0%	0	0	0	0	0	0
4	11%	0	0	0	0	0	0
5	0%	0	0	0	0	0	0
6	0%	0	0	0	0	0	0
7	89%	1	2	2	1	0	1
8	0%	0	0	0	0	0	0
9	0%	0	0	0	0	0	0
10	0%	0	0	0	0	0	0
11	0%	0	0	0	0	0	0
12	0%	0	0	0	0	0	0
13	0%	0	0	0	0	0	0
14	0%	0	0	0	0	0	0
15	0%	0	0	0	0	0	0
16	0%	0	0	0	0	0	0
17	0%	0	0	0	0	0	0
18	0%	0	0	0	0	0	0
Total	100%	1	2	3	1	0	1

Middle School

School	URN	Distance (km)*	Pupil No.	Pop / Dist	Percentage Draw	Pop / Dist (Weighted)	Percentage Dra Zone	Weighting Factor
Penkridge Middle Sch	144206	2.50	462	185	100%	74	100% 7	2

Outbound Middle School Trips					
AM (A / D / TW)			PM (A / D / TW)		
5	14	20	5	3	8

Total	-	-	185	100%	74	100%
--------------	---	---	------------	-------------	-----------	-------------

*Distance from - <https://www.google.co.uk/maps/dir//52.73756,-2.110369/@52.73756,-2.1125577,641m/data=!3m1!1e3!4m2!4m1!3e0>

Zonal Distribution

		AM			PM		
Zone	% Distribution	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	0%	0	0	0	0	0	0
2	0%	0	0	0	0	0	0
3	0%	0	0	0	0	0	0
4	0%	0	0	0	0	0	0
5	0%	0	0	0	0	0	0
6	0%	0	0	0	0	0	0
7	100%	5	14	20	5	3	8
8	0%	0	0	0	0	0	0
9	0%	0	0	0	0	0	0
10	0%	0	0	0	0	0	0
11	0%	0	0	0	0	0	0
12	0%	0	0	0	0	0	0
13	0%	0	0	0	0	0	0
14	0%	0	0	0	0	0	0
15	0%	0	0	0	0	0	0
16	0%	0	0	0	0	0	0
17	0%	0	0	0	0	0	0
18	0%	0	0	0	0	0	0
Total	100%	5	14	20	5	3	8

High School

School	URN	Distance (KM)*	Pupil No.	Pop / Dist	Percentage Draw	Pop / Dist (Weighted)	Percentage Dra Zone	Weighting Factor
Wolgarston High Schc	145381	2.90	795	274	100%	95	100% 10	2

Outbound High School Trips					
AM (A / D / TW)			PM (A / D / TW)		
6	18	24	7	3	10

Total	-	-	274	100%	95	100%
--------------	---	---	------------	-------------	-----------	-------------

*Distance from - <https://www.google.co.uk/maps/dir//52.73756,-2.110369/@52.73756,-2.1125577,641m/data=!3m1!1e3!4m2!4m1!3e0>

Zonal Distribution

		AM			PM		
Zone	% Distribution	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	0%	0	0		0	0	0
2	0%	0	0	0	0	0	0
3	0%	0	0	0	0	0	0
4	0%	0	0	0	0	0	0
5	0%	0	0	0	0	0	0
6	0%	0	0	0	0	0	0
7	0%	0	0	0	0	0	0
8	0%	0	0	0	0	0	0
9	0%	0	0	0	0	0	0
10	100%	6	18	24	7	3	10
11	0%	0	0	0	0	0	0
12	0%	0	0	0	0	0	0
13	0%	0	0	0	0	0	0
14	0%	0	0	0	0	0	0
15	0%	0	0	0	0	0	0
16	0%	0	0	0	0	0	0
17	0%	0	0	0	0	0	0
18	0%	0	0	0	0	0	0
Total	100%	6	18	24	7	3	10

Education Total

OUT (residential development)

Zone	AM			PM		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	6	16	22	6	3	9
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	6	18	24	7	3	10
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
Total	12	35	47	13	6	19

Employment

Zonal Distribution - Residence on-site (MSOA - South Staffordshire 001)

Zone	Previous J2W Data (3842)	New J2W GIS Data	% Distribution (Previous)	% Distribution (New)	AM			PM		
					Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	435	435	14%	14%	13	39	52	26	12	38
2	362	326	12%	10%	10	29	39	19	9	29
3	0	431	0%	14%	13	38	51	26	12	38
4	0	60	0%	2%	2	5	7	4	2	5
5	18	21	1%	1%	1	2	3	1	1	2
6	239	330	8%	11%	10	29	39	20	9	29
7	532	538	17%	17%	17	48	64	32	15	47
8	N/A	0	0%	0%	0	0	0	0	0	0
9	0	0	0%	0%	0	0	0	0	0	0
10	404	280	13%	9%	9	25	33	17	8	25
11	N/A	0	0%	0%	0	0	0	0	0	0
12	0	75	0%	2%	2	7	9	4	2	7
13	N/A	0	0%	0%	0	0	0	0	0	0
14	0	0	0%	0%	0	0	0	0	0	0
15	759	488	24%	16%	15	43	58	29	14	43
16	0	0	0%	0%	0	0	0	0	0	0
17	0	8	0%	0%	0	1	1	0	0	1
18	386	144	12%	5%	4	13	17	9	4	13
Total	3135	3135	100%	100%	97	278	374	186	90	276

Additional Zones to Consider

Additional Zone	Movement	New J2W GIS Data
M6 Junction 11	Trips manoeuvring throu	237
	Trips on mainline	337
M6 Junction 14	Trips manoeuvring throu	361
	Trips on mainline	74

% Distribution (New)	AM			PM		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
8%	7	21	28	14	7	21
11%	10	30	40	20	10	30
12%	11	32	43	21	10	32
2%	2	7	9	4	2	7

Notes:

New Road (between A449 & Market Street)	812
Cannock Road (after Market Street)	280
Town Centre trips	532

*Note - Town centre trips added to zone 7 (crown bridge)

M6 Junction Split Assumptions

% trips heading south on Zone	Split	
M6 Junction 13	3	75%
M6 Junction 12	18	25%

Site Car Trips - Resi to Employment					
AM (A / D / TW)			PM (A / D / TW)		
97	278	374	186	90	276

Retail

Food	Distance (km)*	Store Area (sqm)	Area / Dist	Percentage Draw	Area / Dist (Weighted)	Percentage Draw (Weighted)	Zone	Weighting Factor
Co-op Food	2.00	936	468	22%	234	56%	7	2
Tesco Extra, Stafford	8.30	8300	1000	47%	120	29%	2	
Asda, Cannock Superstore	10.3	6600	641	30%	62	15%	10	
Total		15836	2109	100%	417	100%		
Other	Avg Distance (km)*	Area (sqm)	Area / Dist	Percentage Draw	Area / Dist (Weighted)	Percentage Draw (Weighted)	Zone	Weighting Factor
Penkridge town centre	2.30	35000	15217	16%	6616	48%	7	2
Cannock town centre	9.20	125000	13587	14%	1477	11%	10	
Stafford town centre	8.60	283000	32907	34%	3826	27%	2	
Wolverhampton town centre	17.50	614000	35086	36%	2005	14%	15	
			96797	100%	13924	100%		

Retail Trips					
AM (A / D / TW)			PM (A / D / TW)		
34	99	133	154	74	228

Retail Trip Breakdown

Food	42%
Other	58%

*Distance from - <https://www.google.co.uk/maps/dlr//52.73756,-2.110369/@52.73756,2.1125577,641m/data=!3m1!1e3!4m2!4m1!3eC>

Zonal Distribution

Zone	Food Retail Distribution	Non Food Retail Distribut	% Distribution	AM			PM		
				Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1	0%	0%	0%	0	0	0	0	0	0
2	29%	27%	28%	10	28	37	43	21	64
3	0%	0%	0%	0	0	0	0	0	0
4	0%	0%	0%	0	0	0	0	0	0
5	0%	0%	0%	0	0	0	0	0	0
6	0%	0%	0%	0	0	0	0	0	0
7	56%	48%	51%	18	50	68	79	38	117
8	0%	0%	0%	0	0	0	0	0	0
9	0%	0%	0%	0	0	0	0	0	0
10	15%	11%	12%	4	12	17	19	9	28
11	0%	0%	0%	0	0	0	0	0	0
12	0%	0%	0%	0	0	0	0	0	0
13	0%	0%	0%	0	0	0	0	0	0
14	0%	0%	0%	0	0	0	0	0	0
15	0%	14%	8%	3	8	11	13	6	19
16	0%	0%	0%	0	0	0	0	0	0
17	0%	0%	0%	0	0	0	0	0	0
18	0%	0%	0%	0	0	0	0	0	0
Total	100%	100%	100%	34	99	133	154	74	228

Total Trip Distribution

Residential Total (Emp + Retail + Education OUT)

Zone		AM			PM		
		Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1		13	39	52	26	12	38
2		20	57	76	63	30	93
3		13	38	51	26	12	38
4		2	6	7	4	2	5
5		1	2	3	1	1	2
6		10	29	39	20	9	29
7		40	114	154	117	56	173
8		0	0	0	0	0	0
9		0	0	0	0	0	0
10		19	55	74	42	20	63
11		0	0	0	0	0	0
12		2	7	9	4	2	7
13		0	0	0	0	0	0
14		0	0	0	0	0	0
15		18	51	69	42	20	62
16		0	0	0	0	0	0
17		0	1	1	0	0	1
18		4	13	17	9	4	13
Total		143	411	554	353	170	523

Additional Zone	Movement	AM			PM		
		Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
	Trips managed	7	21	28	14	7	21
M6 Junction	Trips on mainline	10	30	40	20	10	30
	Trips managed	11	32	43	21	10	32
M6 Junction	Trips on mainline	2	7	9	4	2	7

School Total (Education IN)

Zone		AM			PM		
		Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1		0	0	0	0	0	0
2		0	0	0	0	0	0
3		0	0	0	0	0	0
4		0	0	0	0	0	0
5		0	0	0	0	0	0
6		0	0	0	0	0	0
7		0	0	0	0	0	0
8		0	0	0	0	0	0
9		0	0	0	0	0	0
10		0	0	0	0	0	0
11		0	0	0	0	0	0
12		0	0	0	0	0	0
13		0	0	0	0	0	0
14		0	0	0	0	0	0
15		0	0	0	0	0	0
16		0	0	0	0	0	0
17		0	0	0	0	0	0
18		0	0	0	0	0	0
Total		0	0	0	0	0	0

Total

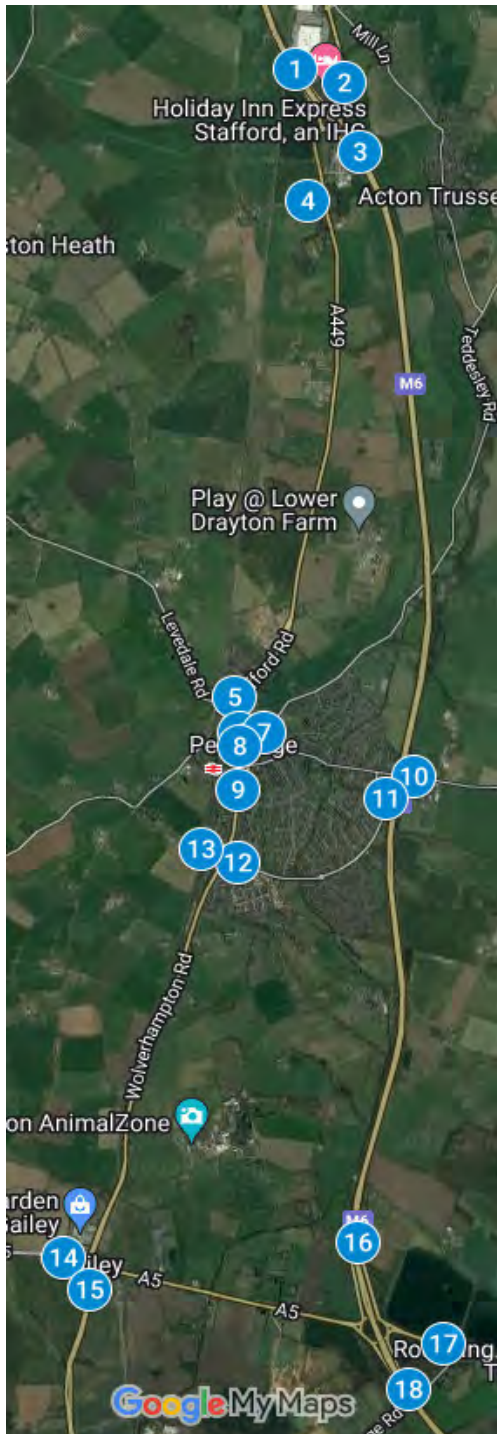
Zone		AM			PM		
		Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
1		13	39	52	26	12	38
2		20	57	76	63	30	93
3		13	38	51	26	12	38
4		2	6	7	4	2	5
5		1	2	3	1	1	2
6		10	29	39	20	9	29
7		40	114	154	117	56	173
8		0	0	0	0	0	0
9		0	0	0	0	0	0
10		19	55	74	42	20	63
11		0	0	0	0	0	0
12		2	7	9	4	2	7
13		0	0	0	0	0	0
14		0	0	0	0	0	0
15		18	51	69	42	20	62
16		0	0	0	0	0	0
17		0	1	1	0	0	1
18		4	13	17	9	4	13
Total		143	411	554	353	170	523

Additional Zone	Movement	AM			PM		
		Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
	Trips managed	7	21	28	14	7	21
M6 Junction	Trips on mainline	10	30	40	20	10	30
	Trips managed	11	32	43	21	10	32
M6 Junction	Trips on mainline	2	7	9	4	2	7



Appendix G Travel Demand Model Zone Plan

Zone Plan



- 1 M6 J13 - N
- 2 M6 J13 - A449
- 3 M6 J13 - S
- 4 School Lane
- 5 Levedale Road
- 6 Pinfold Lane
- 7 Mill Street
- 8 St Michaels Square
- 9 St Michaels Road
- 10 Cannock Road
- 11 Wolgarston Wat
- 12 B5012
- 13 Bungham Lane
- 14 Watling Street
- 15 A449 Stratford Road
- 16 M6 J12 - N
- 17 M6 J12 - A5
- 18 M6 J12 - S

Beth Street:

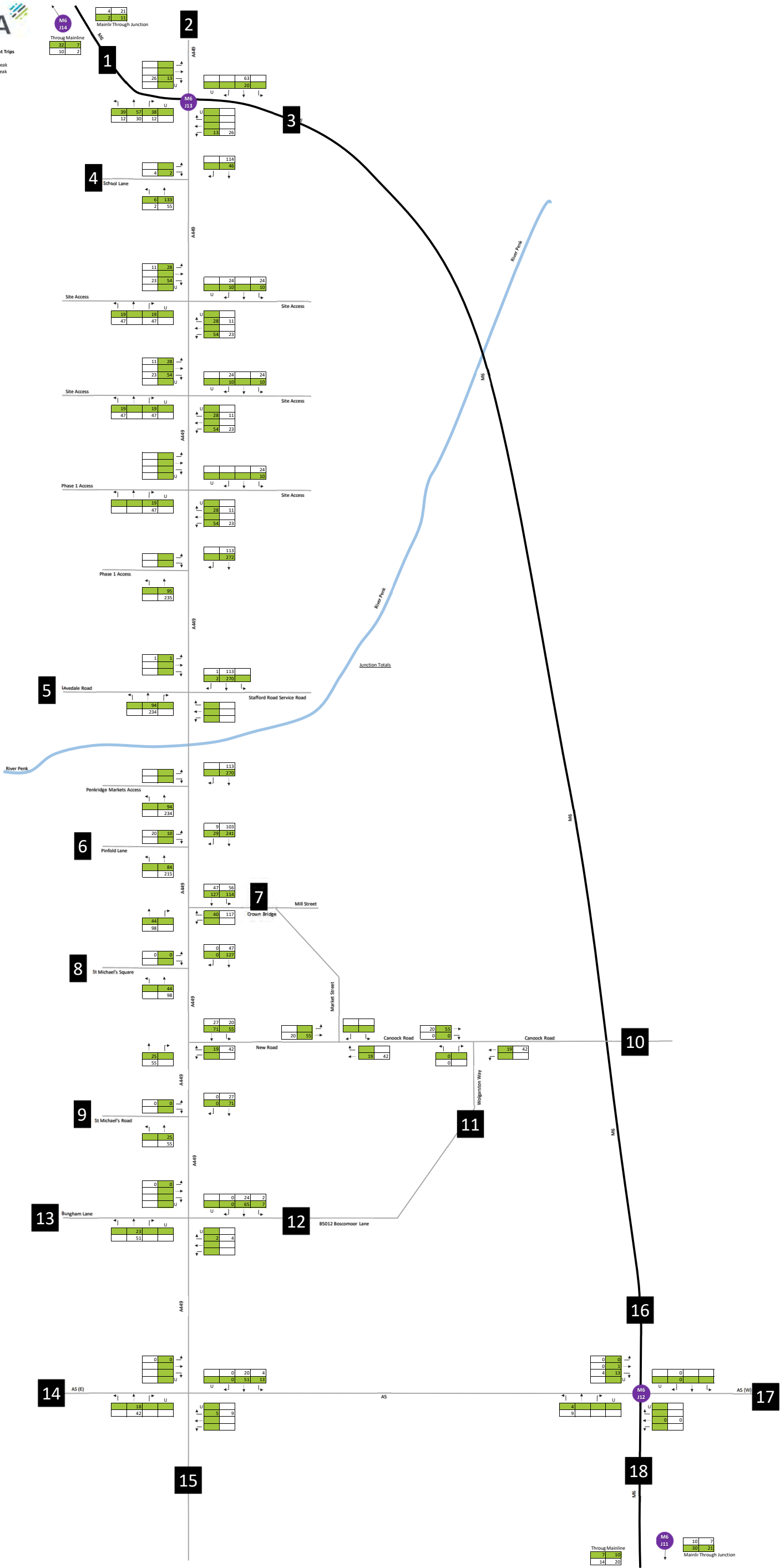
Mill Street - Assumed
zone for all Penkridge
village centre trips



Appendix H Traffic Flow Diagrams



Development Trips
AM Peak
PM Peak



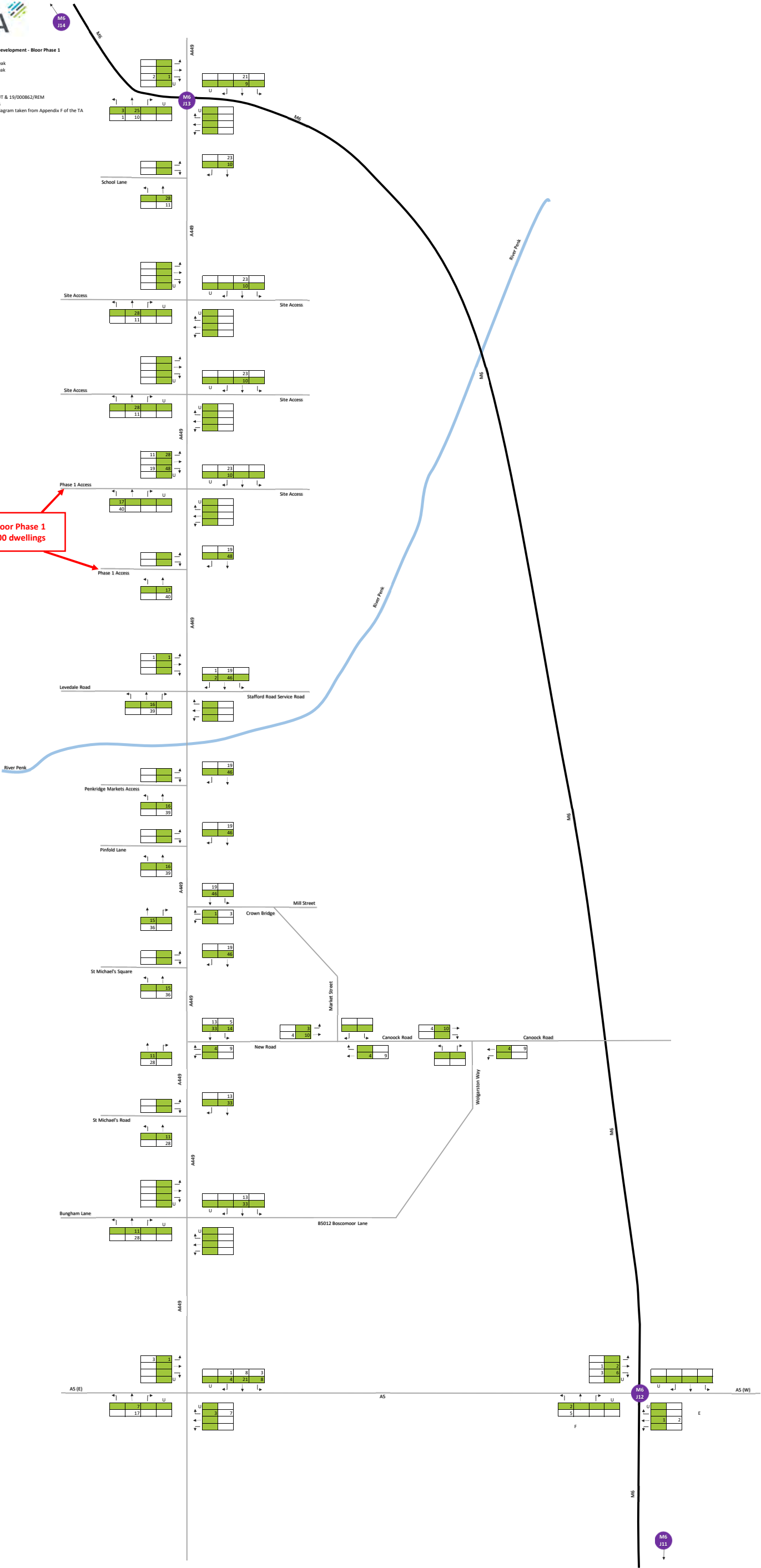


Committed Development - Bloor Phase 1

AM Peak
PM Peak

Notes
17/01022/OUT & 19/000862/REM
200 dwellings
Traffic flow diagram taken from Appendix F of the TA

Bloor Phase 1
200 dwellings





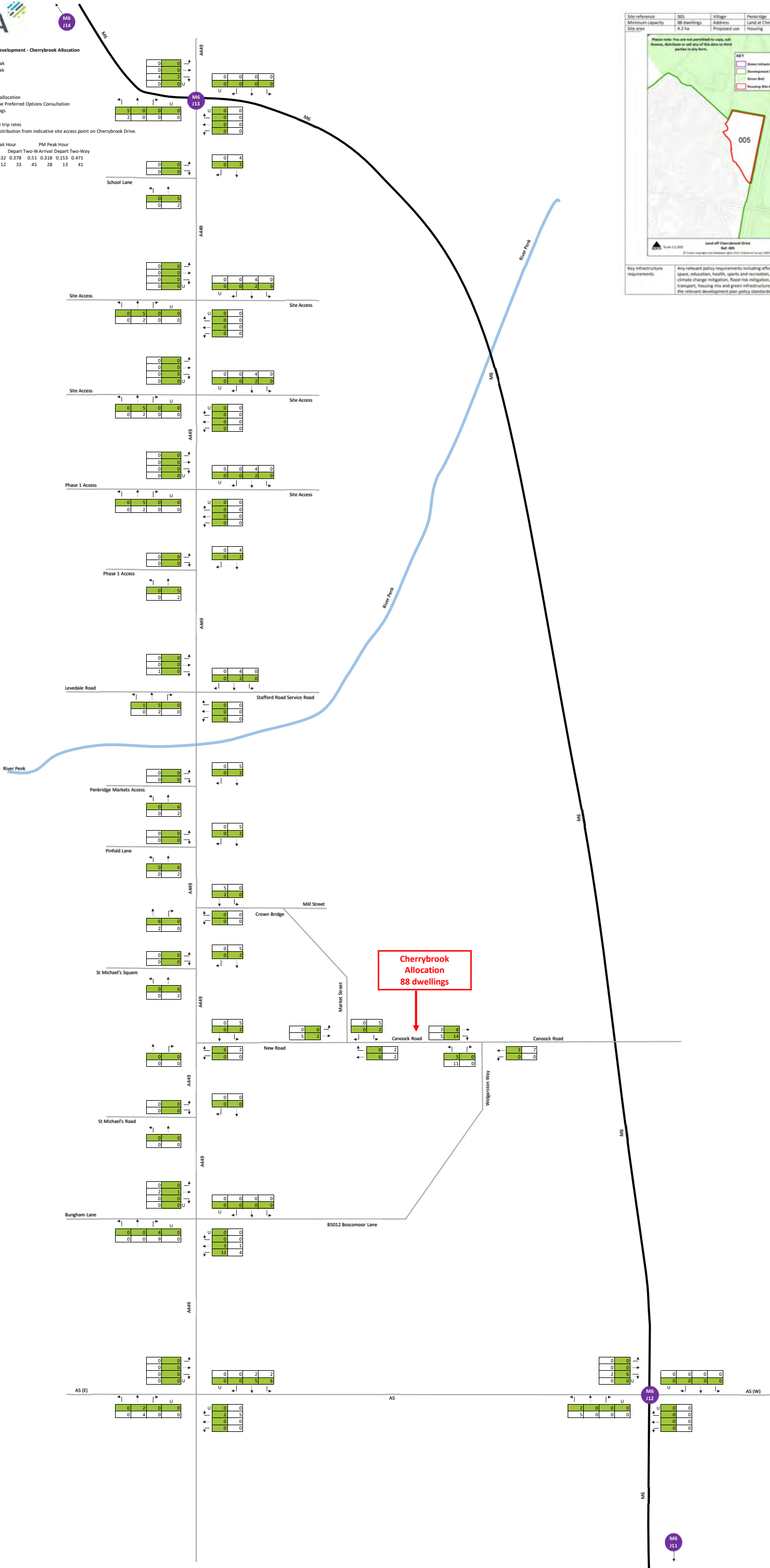
Committed Development - Cherrybrook Allocation

AM Peak
PM Peak

Notes
Proposed site allocation
Page 115 of the Preferred Options Consultation
88 dwellings

Assumes same trip rates
Census J2W distribution from indicative site access point on Cherrybrook Drive.

AM Peak Hour		PM Peak Hour	
Arrival	Depart Two-Way	Arrival	Depart Two-Way
Vehicle	0.132 0.378 0.51 0.318 0.153 0.471		
Trip Gt	12 33 45 28 13 41		



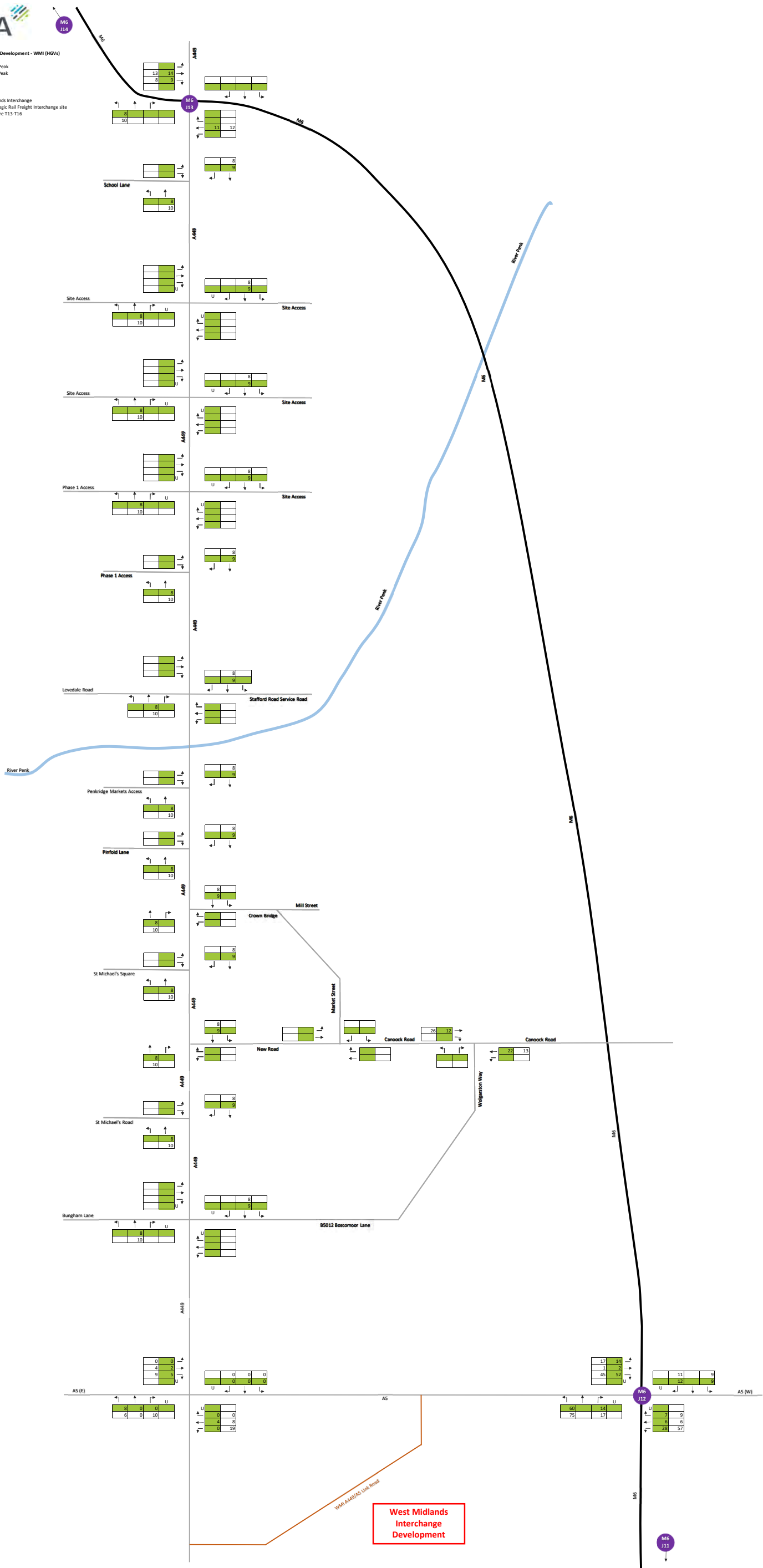
AM Peak
PM Peak



Committed Development - WMI (HGVs)

AM Peak
PM Peak

Notes
West Midlands Interchange
200ha Strategic Rail Freight Interchange site
App P - Figure T13-T16





Committed Development - Total

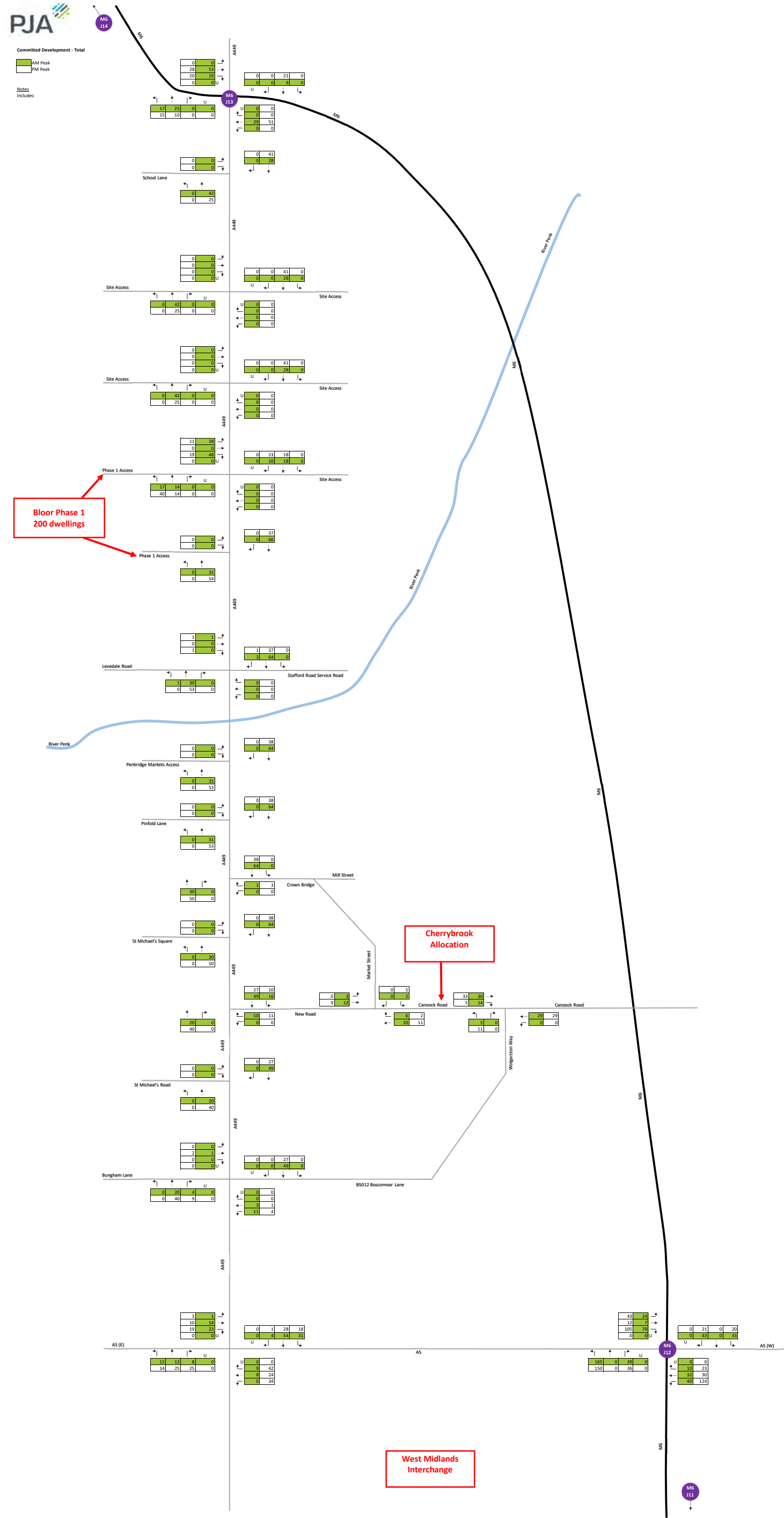
AM Peak
PM Peak

Notes
Includes:

Bloor Phase 1
200 dwellings

Cherrybrook
Allocation

West Midlands
Interchange





Committed Development - Total - HGV%



Notes:

Includes:

Bloor Phase 1
200 dwellings

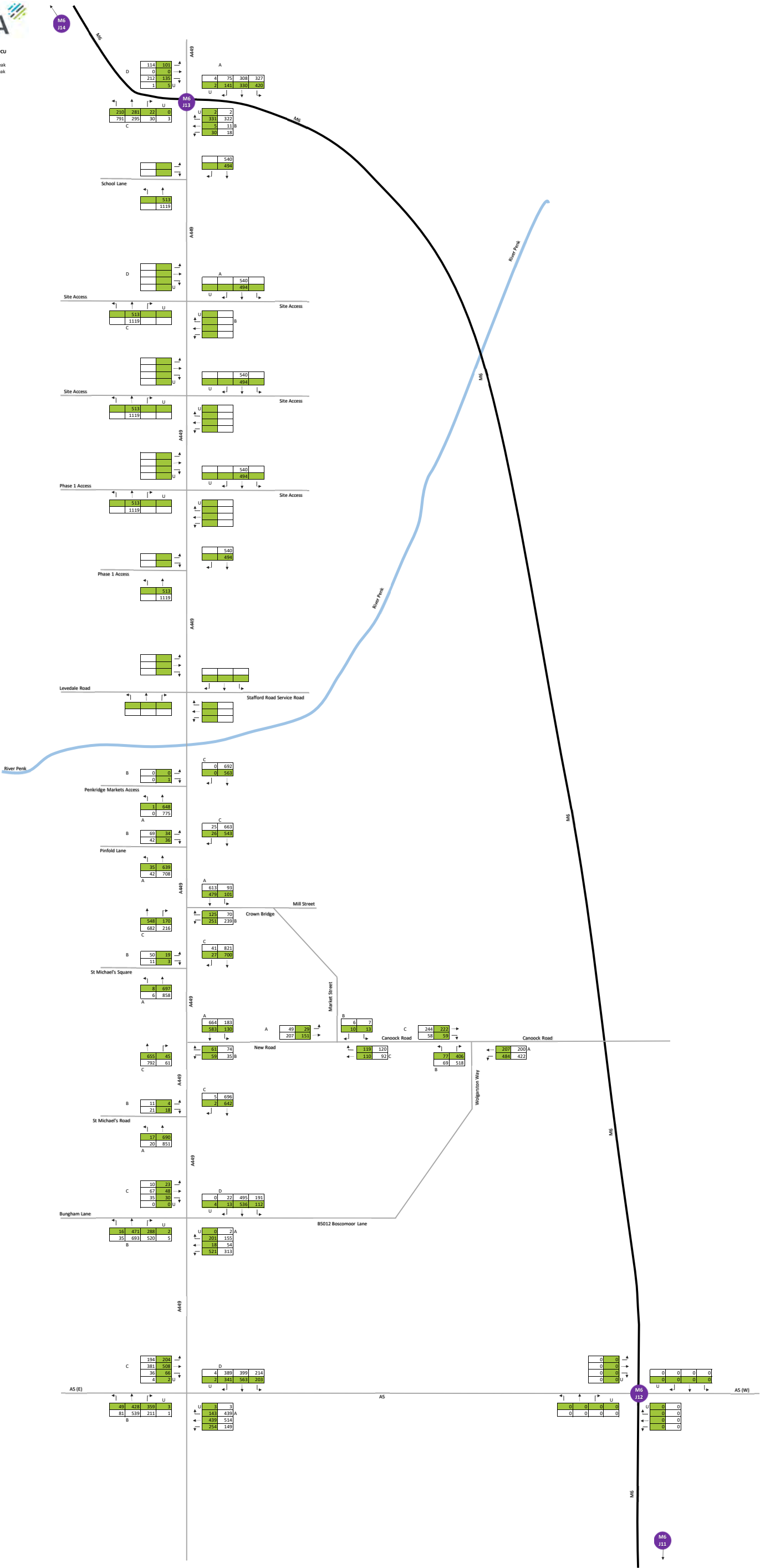
Cherrybrook
Allocation

West Midlands
Interchange



2022 Base - PCU

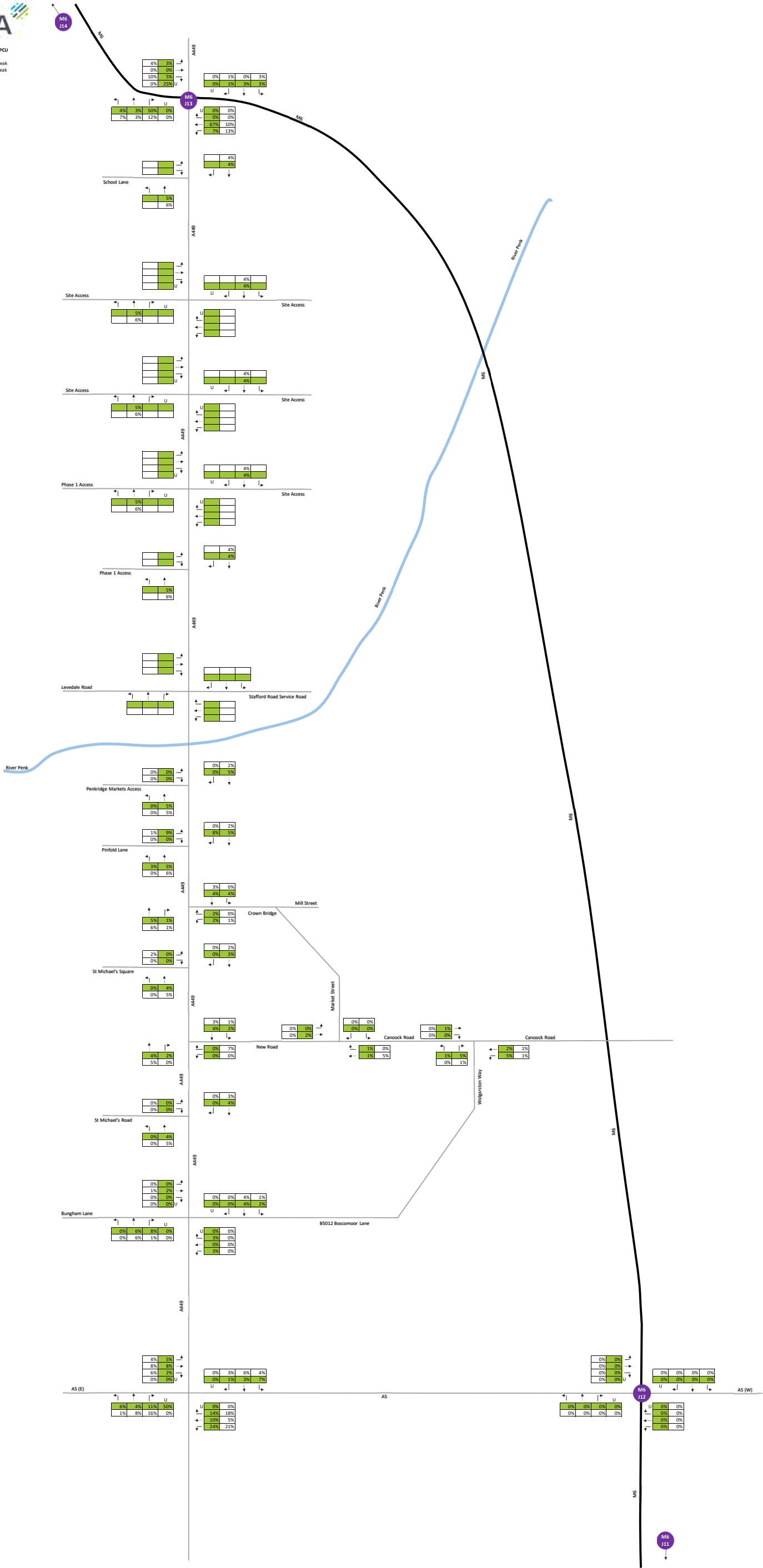
AM Peak
PM Peak





2022 Base - PCU

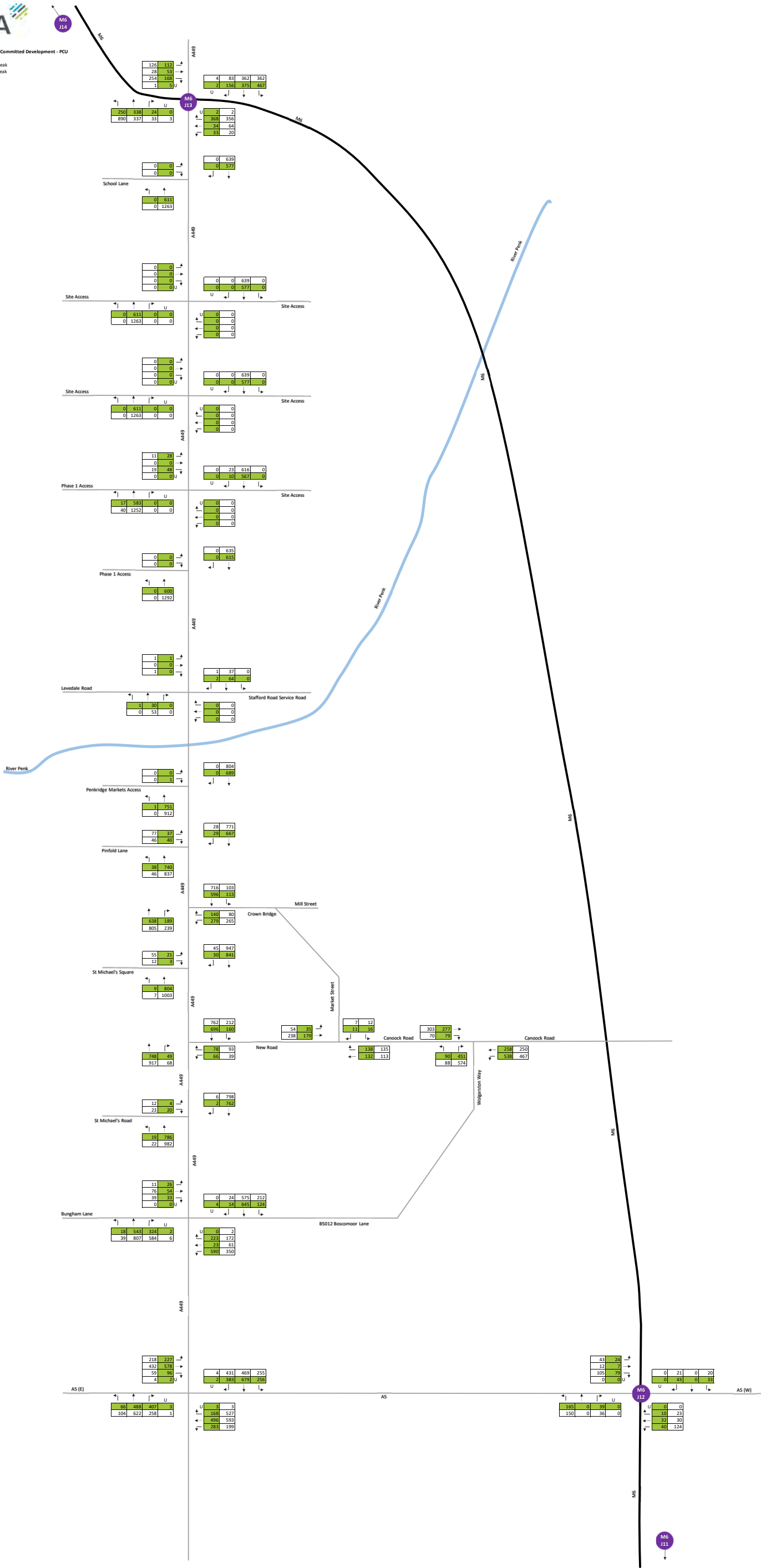
AM Peak
PM Peak





2038 Base + Committed Development - PCU

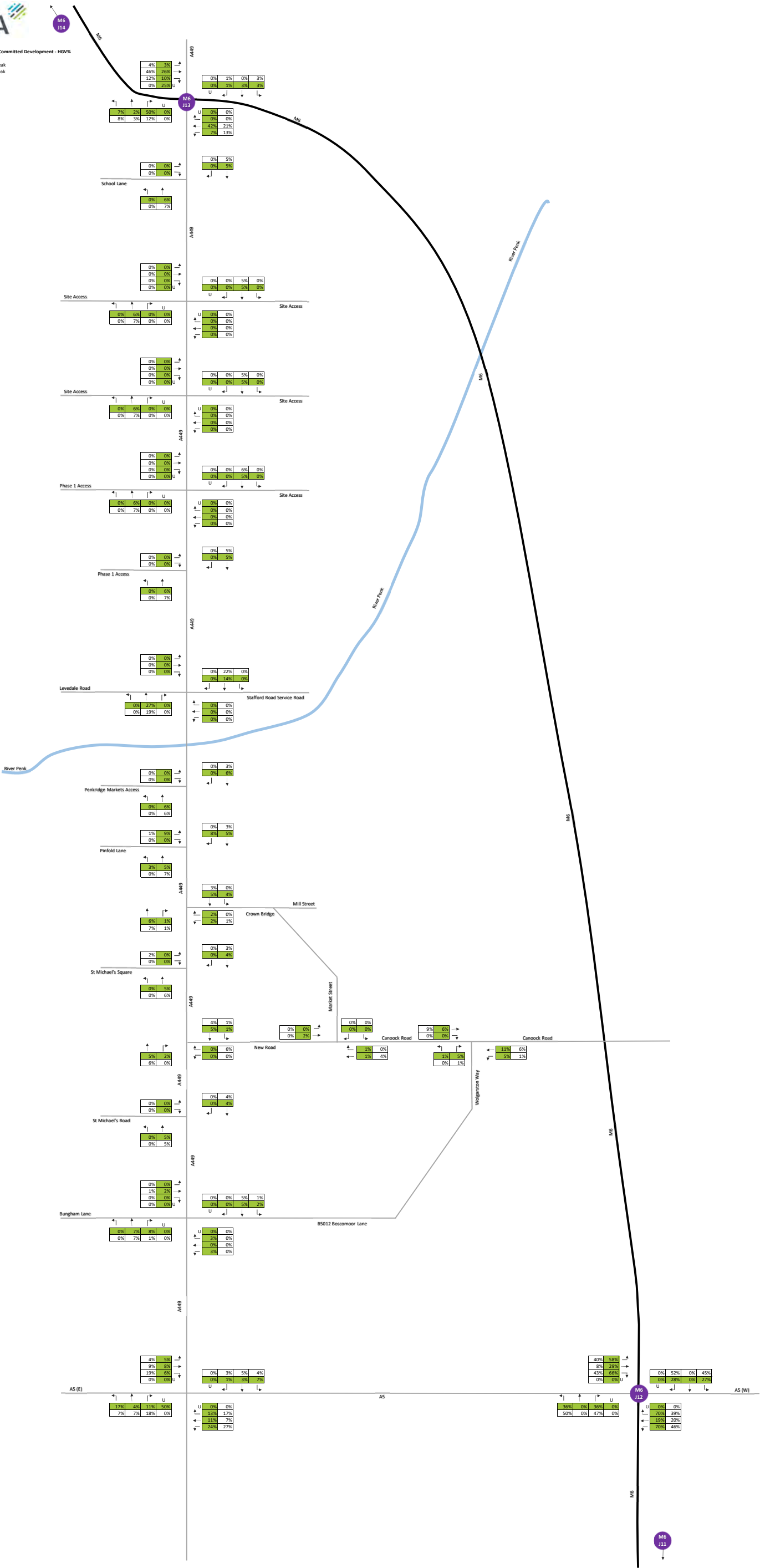
AM Peak
PM Peak





2038 Base + Committed Development - HGV%

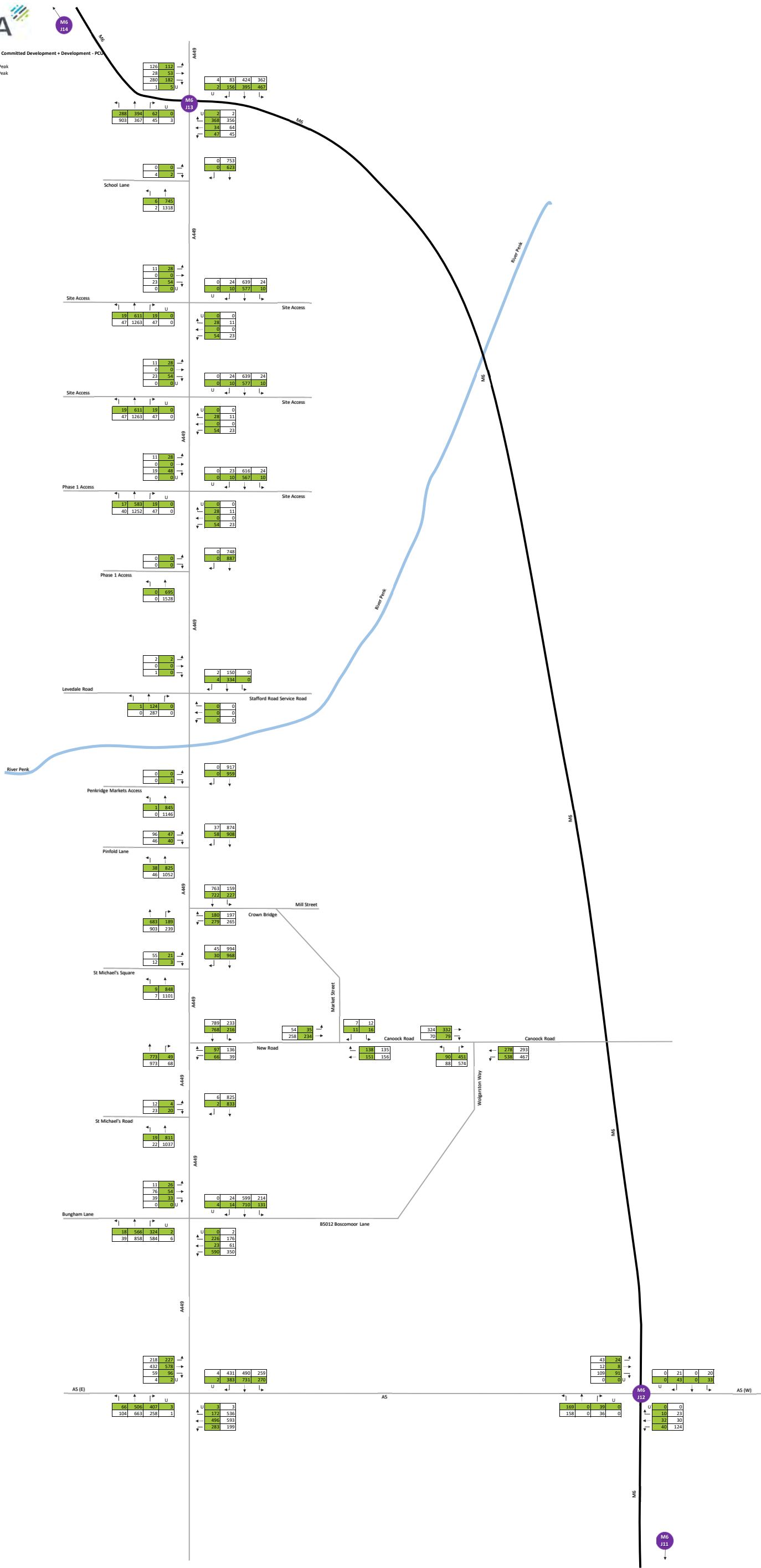
AM Peak
PM Peak





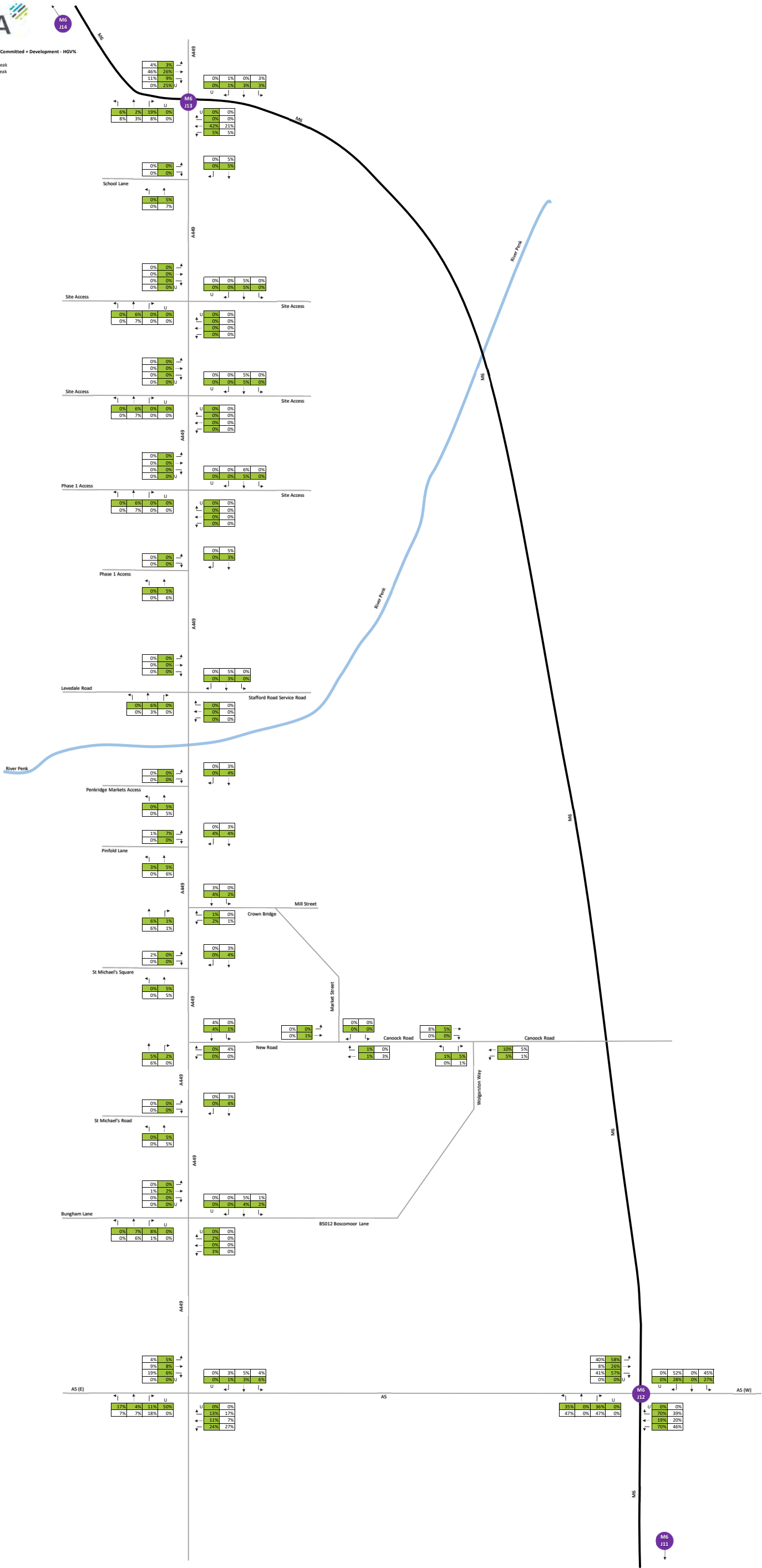
2038 Base + Committed Development + Development - PCU

AM Peak
PM Peak





2038 Base + Committed + Development - HGV%





Appendix I Baseline Survey Data



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 1a
Date of Survey:	31.03.2022
Junction Name:	A449 Stone Cross / Pinfold Lane
Junction Type:	T-Junction

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 1a - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

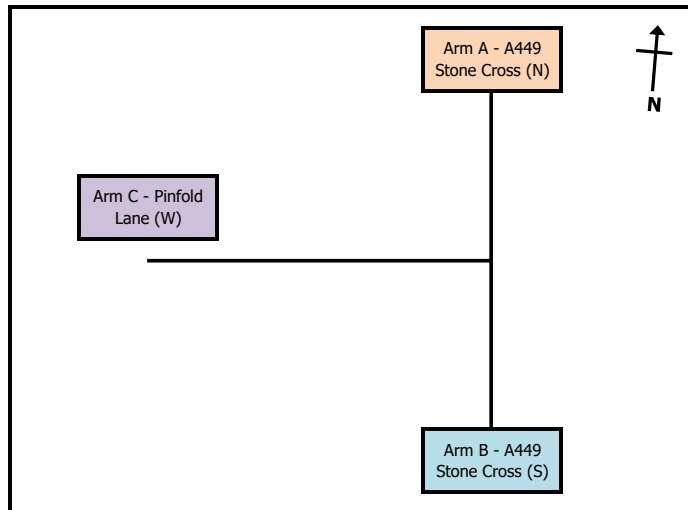
Intelligent Data Collection Limited



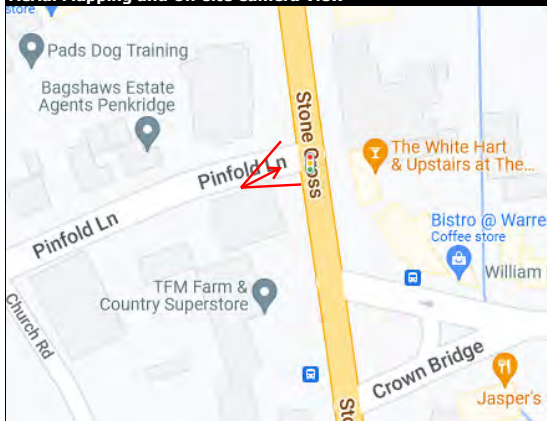
Client: PJA
Project Number: ID06388
Junction Number: Site 1a
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
52.726061	-2.116314	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

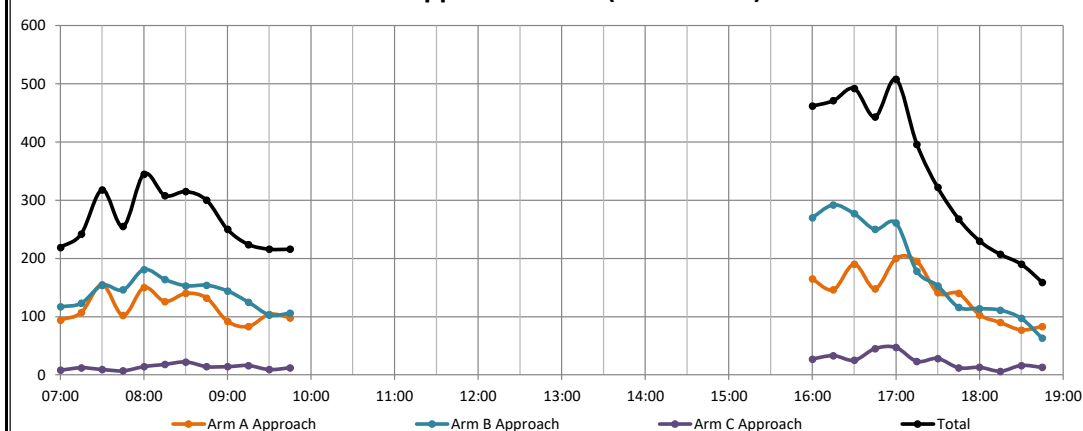


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 1a

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Stone Cross (S)

Arm C: Pinfold Lane (W)



Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	4	2	0	0	0	0	0	6	59	19	0	7	3	0	0	88
07:15								0	5	1	0	0	0	0	0	6	78	19	2	1	1	0	0	101
07:30								0	7	0	0	0	0	0	0	7	121	18	2	3	3	0	1	148
07:45								0	5	1	0	0	0	0	0	6	77	13	2	2	2	0	0	96
08:00								0	4	0	0	0	0	0	0	4	122	16	5	3	0	0	0	146
08:15								0	3	4	0	0	0	0	0	7	96	21	2	0	0	0	0	119
08:30								0	6	1	1	0	0	0	0	8	108	16	2	4	1	1	0	132
08:45								0	4	1	1	0	0	0	0	6	95	23	2	2	3	0	1	126
09:00								0	8	2	0	0	0	0	0	10	65	14	0	2	0	1	0	82
09:15								0	3	1	0	0	0	0	0	4	61	15	0	2	0	1	0	79
09:30								0	2	1	0	0	0	0	0	3	75	21	2	2	1	0	0	101
09:45								0	8	1	0	0	0	0	0	9	64	17	2	5	0	1	0	89
16:00								0	6	0	0	0	0	0	0	6	122	30	4	3	0	0	0	159
16:15								0	7	1	0	0	0	0	0	8	104	27	2	4	1	0	0	138
16:30								0	2	2	0	1	0	0	0	5	145	36	2	1	1	0	0	185
16:45								0	3	1	0	0	0	0	0	4	113	26	1	3	0	1	0	144
17:00								0	3	0	0	0	0	0	0	3	164	22	3	4	1	1	2	197
17:15								0	7	1	0	0	0	0	0	8	164	20	0	1	0	1	1	187
17:30								0	10	1	0	0	0	0	0	11	112	13	0	3	1	1	0	130
17:45								0	3	0	0	0	0	0	0	3	124	11	1	1	0	0	0	137
18:00								0	2	1	0	0	0	0	0	3	87	10	1	0	0	2	0	100
18:15								0	2	1	0	0	0	0	0	3	75	11	1	0	0	0	0	87
18:30								0	2	1	0	0	0	0	0	3	68	1	0	4	1	0	0	74
18:45								0	1	0	0	0	0	0	0	1	74	6	1	1	0	0	0	82
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	21	4	0	0	0	0	0	25	335	69	6	13	9	0	1	433
07:15	0	0	0	0	0	0	0	0	21	2	0	0	0	0	0	23	398	66	11	9	6	0	1	491
07:30	0	0	0	0	0	0	0	0	19	5	0	0	0	0	0	24	416	68	11	8	5	0	1	509
07:45	0	0	0	0	0	0	0	0	18	6	1	0	0	0	0	25	403	66	11	9	3	1	0	493
08:00	0	0	0	0	0	0	0	0	17	6	2	0	0	0	0	25	421	76	11	9	4	1	1	523
08:15	0	0	0	0	0	0	0	0	21	8	2	0	0	0	0	31	364	74	6	8	4	2	1	459
08:30	0	0	0	0	0	0	0	0	21	5	2	0	0	0	0	28	329	68	4	10	4	3	1	419
08:45	0	0	0	0	0	0	0	0	17	5	1	0	0	0	0	23	296	73	4	8	4	2	1	388
09:00	0	0	0	0	0	0	0	0	21	5	0	0	0	0	0	26	265	67	4	11	1	3	0	351
16:00	0	0	0	0	0	0	0	0	18	4	0	1	0	0	0	23	484	119	9	11	2	1	0	626
16:15	0	0	0	0	0	0	0	0	15	4	0	1	0	0	0	20	526	111	8	12	3	2	2	664
16:30	0	0	0	0	0	0	0	0	15	4	0	1	0	0	0	20	586	104	6	9	2	3	3	713
16:45	0	0	0	0	0	0	0	0	23	3	0	0	0	0	0	26	553	81	4	11	2	4	3	658
17:00	0	0	0	0	0	0	0	0	23	2	0	0	0	0	0	25	564	66	4	9	2	3	3	651
17:15	0	0	0	0	0	0	0	0	22	3	0	0	0	0	0	25	487	54	2	5	1	4	1	554
17:30	0	0	0	0	0	0	0	0	17	3	0	0	0	0	0	20	398	45	3	4	1	3	0	454
17:45	0	0	0	0	0	0	0	0	9	3	0	0	0	0	0	12	354	33	3	5	1	2	0	398
18:00	0	0	0	0	0	0	0	0	7	3	0	0	0	0	0	10	304	28	3	5	1	2	0	343

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1a

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Stone Cross (S)

Arm C: Pinfold Lane (W)

Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	86	22	2	3	0	1	0	114	3	0	0	0	0	0	0	3
07:15								0	73	38	3	3	1	0	0	118	3	2	0	0	0	0	0	5
07:30								0	107	32	2	3	0	2	0	146	6	1	1	0	0	0	0	8
07:45								0	115	25	3	0	0	0	0	143	3	0	0	0	0	0	0	3
08:00								0	128	31	3	3	1	2	0	168	6	6	1	0	0	0	0	13
08:15								0	119	30	4	2	0	0	2	157	4	3	0	0	0	0	0	7
08:30								0	115	23	4	4	1	1	1	149	2	2	0	0	0	0	0	4
08:45								0	121	17	2	3	1	0	0	144	6	4	0	0	0	0	0	10
09:00								0	98	21	4	8	3	0	0	134	7	3	0	0	0	0	0	10
09:15								0	80	22	3	5	1	0	0	111	9	4	0	1	0	0	0	14
09:30								0	74	13	1	4	3	1	0	96	6	1	0	0	0	0	0	7
09:45								0	70	22	1	5	1	0	0	99	6	1	0	0	0	0	0	7
16:00								0	199	52	3	11	1	0	0	266	4	0	0	0	0	0	0	4
16:15								0	208	52	8	11	1	2	0	282	8	2	0	0	0	0	0	10
16:30								0	205	52	2	7	1	1	0	268	7	2	0	0	0	0	0	9
16:45								0	180	50	2	11	2	0	1	246	3	1	0	0	0	0	0	4
17:00								0	201	32	7	13	1	0	0	254	7	0	0	0	0	0	0	7
17:15								0	137	20	1	6	2	0	0	166	10	2	0	0	0	0	0	12
17:30								0	117	16	2	3	1	0	0	139	13	1	0	0	0	0	0	14
17:45								0	95	6	1	2	2	1	0	107	9	0	0	0	0	0	0	9
18:00								0	90	12	1	1	2	1	3	110	3	1	0	0	0	0	0	4
18:15								0	75	13	2	1	5	1	0	97	12	2	0	0	0	0	0	14
18:30								0	72	11	0	1	1	0	0	85	12	0	0	0	0	0	0	12
18:45								0	53	2	0	2	0	0	0	57	6	0	0	0	0	0	0	6
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	381	117	10	9	1	3	0	521	15	3	1	0	0	0	0	19
07:15	0	0	0	0	0	0	0	0	423	126	11	8	2	4	0	575	18	9	2	0	0	0	0	29
07:30	0	0	0	0	0	0	0	0	469	118	12	9	1	4	2	614	19	10	2	0	0	0	0	31
07:45	0	0	0	0	0	0	0	0	477	109	14	9	2	3	3	617	15	11	1	0	0	0	0	27
08:00	0	0	0	0	0	0	0	0	483	101	13	12	3	3	3	618	18	15	1	0	0	0	0	34
08:15	0	0	0	0	0	0	0	0	453	91	14	17	5	1	3	584	19	12	0	0	0	0	0	31
08:30	0	0	0	0	0	0	0	0	414	83	13	20	6	1	1	538	24	13	0	1	0	0	0	38
08:45	0	0	0	0	0	0	0	0	373	73	10	20	8	1	0	485	28	12	0	1	0	0	0	41
09:00	0	0	0	0	0	0	0	0	322	78	9	22	8	1	0	440	28	9	0	1	0	0	0	38
16:00	0	0	0	0	0	0	0	0	792	206	15	40	5	3	1	1062	22	5	0	0	0	0	0	27
16:15	0	0	0	0	0	0	0	0	794	186	19	42	5	3	1	1050	25	5	0	0	0	0	0	30
16:30	0	0	0	0	0	0	0	0	723	154	12	37	6	1	1	934	27	5	0	0	0	0	0	32
16:45	0	0	0	0	0	0	0	0	635	118	12	33	6	0	1	805	33	4	0	0	0	0	0	37
17:00	0	0	0	0	0	0	0	0	550	74	11	24	6	1	0	666	39	3	0	0	0	0	0	42
17:15	0	0	0	0	0	0	0	0	439	54	5	12	7	2	3	522	35	4	0	0	0	0	0	39
17:30	0	0	0	0	0	0	0	0	377	47	6	7	10	3	3	453	37	4	0	0	0	0	0	41
17:45	0	0	0	0	0	0	0	0	332	42	4	5	10	3	3	399	36	3	0	0	0	0	0	39
18:00	0	0	0	0	0	0	0	0	290	38	3	5	8	2	3	349	33	3	0	0	0	0	0	36

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1a

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Stone Cross (S)

Arm C: Pinfold Lane (W)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	3	0	0	0	0	0	0	3	4	0	1	0	0	0	0	5
07:15								0	4	2	0	0	0	0	0	6	3	3	0	0	0	0	0	6
07:30								0	0	2	0	0	0	0	0	2	5	2	0	0	0	0	0	7
07:45								0	2	2	0	0	0	0	0	4	1	1	1	0	0	0	0	3
08:00								0	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7
08:15								0	8	1	0	0	0	0	0	9	5	2	2	0	0	0	0	9
08:30								0	8	2	0	0	0	0	0	10	10	1	1	0	0	0	0	12
08:45								0	7	3	0	0	0	0	0	10	3	1	0	0	0	0	0	4
09:00								0	3	2	0	0	0	0	0	5	6	1	2	0	0	0	0	9
09:15								0	8	0	0	0	0	0	0	8	6	2	0	0	0	0	0	8
09:30								0	6	0	0	0	0	0	0	6	2	1	0	0	0	0	0	3
09:45								0	4	4	0	0	0	0	0	8	2	2	0	0	0	0	0	4
16:00								0	7	3	0	0	0	0	0	10	15	2	0	0	0	0	0	17
16:15								0	8	4	0	0	0	0	0	12	13	7	0	1	0	0	0	21
16:30								0	5	1	0	0	0	0	0	6	16	3	0	0	0	0	0	19
16:45								0	7	1	0	0	0	0	0	8	33	4	0	0	0	0	0	37
17:00								0	8	2	0	0	0	0	0	10	27	9	0	1	0	0	0	37
17:15								0	7	2	0	0	0	0	0	9	12	2	0	0	0	0	0	14
17:30								0	18	0	0	0	0	0	0	18	9	1	0	0	0	0	0	10
17:45								0	5	0	0	0	0	0	0	5	7	0	0	0	0	0	0	7
18:00								0	8	0	0	0	0	0	0	8	2	3	0	0	0	0	0	5
18:15								0	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
18:30								0	11	1	0	0	0	0	0	12	4	0	0	0	0	0	0	4
18:45								0	7	0	0	0	0	0	0	7	6	0	0	0	0	0	0	6
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	9	6	0	0	0	0	0	15	13	6	2	0	0	0	0	21
07:15	0	0	0	0	0	0	0	0	13	6	0	0	0	0	0	19	16	6	1	0	0	0	0	23
07:30	0	0	0	0	0	0	0	0	17	5	0	0	0	0	0	22	18	5	3	0	0	0	0	26
07:45	0	0	0	0	0	0	0	0	25	5	0	0	0	0	0	30	23	4	4	0	0	0	0	31
08:00	0	0	0	0	0	0	0	0	30	6	0	0	0	0	0	36	25	4	3	0	0	0	0	32
08:15	0	0	0	0	0	0	0	0	26	8	0	0	0	0	0	34	24	5	5	0	0	0	0	34
08:30	0	0	0	0	0	0	0	0	26	7	0	0	0	0	0	33	25	5	3	0	0	0	0	33
08:45	0	0	0	0	0	0	0	0	24	5	0	0	0	0	0	29	17	5	2	0	0	0	0	24
09:00	0	0	0	0	0	0	0	0	21	6	0	0	0	0	0	27	16	6	2	0	0	0	0	24
16:00	0	0	0	0	0	0	0	0	27	9	0	0	0	0	0	36	77	16	0	1	0	0	0	94
16:15	0	0	0	0	0	0	0	0	28	8	0	0	0	0	0	36	89	23	0	2	0	0	0	114
16:30	0	0	0	0	0	0	0	0	27	6	0	0	0	0	0	33	88	18	0	1	0	0	0	107
16:45	0	0	0	0	0	0	0	0	40	5	0	0	0	0	0	45	81	16	0	1	0	0	0	98
17:00	0	0	0	0	0	0	0	0	38	4	0	0	0	0	0	42	55	12	0	1	0	0	0	68
17:15	0	0	0	0	0	0	0	0	38	2	0	0	0	0	0	40	30	6	0	0	0	0	0	36
17:30	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	34	21	4	0	0	0	0	0	25
17:45	0	0	0	0	0	0	0	0	27	1	0	0	0	0	0	28	16	3	0	0	0	0	0	19
18:00	0	0	0	0	0	0	0	0	29	1	0	0	0	0	0	30	15	3	0	0	0	0	0	18

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1a
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Pinfold Lane
 Junction Type: T-Junction

Time	Arm A Approach								Arm A Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	63	21	0	7	3	0	0	94	90	22	3	3	0	1	0	119
07:15	83	20	2	1	1	0	0	107	76	41	3	3	1	0	0	124
07:30	128	18	2	3	3	0	1	155	112	34	2	3	0	2	0	153
07:45	82	14	2	2	2	0	0	102	116	26	4	0	0	0	0	146
08:00	126	16	5	3	0	0	0	150	135	31	3	3	1	2	0	175
08:15	99	25	2	0	0	0	0	126	124	32	6	2	0	0	2	166
08:30	114	17	3	4	1	1	0	140	125	24	5	4	1	1	1	161
08:45	99	24	3	2	3	0	1	132	124	18	2	3	1	0	0	148
09:00	73	16	0	2	0	1	0	92	104	22	6	8	3	0	0	143
09:15	64	16	0	2	0	1	0	83	86	24	3	5	1	0	0	119
09:30	77	22	2	2	1	0	0	104	76	14	1	4	3	1	0	99
09:45	72	18	2	5	0	1	0	98	72	24	1	5	1	0	0	103
16:00	128	30	4	3	0	0	0	165	214	54	3	11	1	0	0	283
16:15	111	28	2	4	1	0	0	146	221	59	8	12	1	2	0	303
16:30	147	38	2	2	1	0	0	190	221	55	2	7	1	1	0	287
16:45	116	27	1	3	0	1	0	148	213	54	2	11	2	0	1	283
17:00	167	22	3	4	1	1	2	200	228	41	7	14	1	0	0	291
17:15	171	21	0	1	0	1	1	195	149	22	1	6	2	0	0	180
17:30	122	14	0	3	1	1	0	141	126	17	2	3	1	0	0	149
17:45	127	11	1	1	0	0	0	140	102	6	1	2	2	1	0	114
18:00	89	11	1	0	0	2	0	103	92	15	1	1	2	1	3	115
18:15	77	12	1	0	0	0	0	90	78	13	2	1	5	1	0	100
18:30	70	2	0	4	1	0	0	77	76	11	0	1	1	0	0	89
18:45	75	6	1	1	0	0	0	83	59	2	0	2	0	0	0	63
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	356	73	6	13	9	0	1	458	394	123	12	9	1	3	0	542
07:15	419	68	11	9	6	0	1	514	439	132	12	9	2	4	0	598
07:30	435	73	11	8	5	0	1	533	487	123	15	8	1	4	2	640
07:45	421	72	12	9	3	1	0	518	500	113	18	9	2	3	3	648
08:00	438	82	13	9	4	1	1	548	508	105	16	12	3	3	3	650
08:15	385	82	8	8	4	2	1	490	477	96	19	17	5	1	3	618
08:30	350	73	6	10	4	3	1	447	439	88	16	20	6	1	1	571
08:45	313	78	5	8	4	2	1	411	390	78	12	20	8	1	0	509
09:00	286	72	4	11	1	3	0	377	338	84	11	22	8	1	0	464
16:00	502	123	9	12	2	1	0	649	869	222	15	41	5	3	1	1156
16:15	541	115	8	13	3	2	2	684	883	209	19	44	5	3	1	1164
16:30	601	108	6	10	2	3	3	733	811	172	12	38	6	1	1	1041
16:45	576	84	4	11	2	4	3	684	716	134	12	34	6	0	1	903
17:00	587	68	4	9	2	3	3	676	605	86	11	25	6	1	0	734
17:15	509	57	2	5	1	4	1	579	469	60	5	12	7	2	3	558
17:30	415	48	3	4	1	3	0	474	398	51	6	7	10	3	3	478
17:45	363	36	3	5	1	2	0	410	348	45	4	5	10	3	3	418
18:00	311	31	3	5	1	2	0	353	305	41	3	5	8	2	3	367

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1a
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Pinfold Lane
 Junction Type: T-Junction

	Arm B Approach								Arm B Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	89	22	2	3	0	1	0	117	62	19	0	7	3	0	0	91
07:15	76	40	3	3	1	0	0	123	82	21	2	1	1	0	0	107
07:30	113	33	3	3	0	2	0	154	121	20	2	3	3	0	1	150
07:45	118	25	3	0	0	0	0	146	79	15	2	2	2	0	0	100
08:00	134	37	4	3	1	2	0	181	129	16	5	3	0	0	0	153
08:15	123	33	4	2	0	0	2	164	104	22	2	0	0	0	0	128
08:30	117	25	4	4	1	1	1	153	116	18	2	4	1	1	0	142
08:45	127	21	2	3	1	0	0	154	102	26	2	2	3	0	1	136
09:00	105	24	4	8	3	0	0	144	68	16	0	2	0	1	0	87
09:15	89	26	3	6	1	0	0	125	69	15	0	2	0	1	0	87
09:30	80	14	1	4	3	1	0	103	81	21	2	2	1	0	0	107
09:45	76	23	1	5	1	0	0	106	68	21	2	5	0	1	0	97
16:00	203	52	3	11	1	0	0	270	129	33	4	3	0	0	0	169
16:15	216	54	8	11	1	2	0	292	112	31	2	4	1	0	0	150
16:30	212	54	2	7	1	1	0	277	150	37	2	1	1	0	0	191
16:45	183	51	2	11	2	0	1	250	120	27	1	3	0	1	0	152
17:00	208	32	7	13	1	0	0	261	172	24	3	4	1	1	2	207
17:15	147	22	1	6	2	0	0	178	171	22	0	1	0	1	1	196
17:30	130	17	2	3	1	0	0	153	130	13	0	3	1	1	0	148
17:45	104	6	1	2	2	1	0	116	129	11	1	1	0	0	0	142
18:00	93	13	1	1	2	1	3	114	95	10	1	0	0	2	0	108
18:15	87	15	2	1	5	1	0	111	78	11	1	0	0	0	0	90
18:30	84	11	0	1	1	0	0	97	79	2	0	4	1	0	0	86
18:45	59	2	0	2	0	0	0	63	81	6	1	1	0	0	0	89
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	396	120	11	9	1	3	0	540	344	75	6	13	9	0	1	448
07:15	441	135	13	9	2	4	0	604	411	72	11	9	6	0	1	510
07:30	488	128	14	8	1	4	2	645	433	73	11	8	5	0	1	531
07:45	492	120	15	9	2	3	3	644	428	71	11	9	3	1	0	523
08:00	501	116	14	12	3	3	3	652	451	82	11	9	4	1	1	559
08:15	472	103	14	17	5	1	3	615	390	82	6	8	4	2	1	493
08:30	438	96	13	21	6	1	1	576	355	75	4	10	4	3	1	452
08:45	401	85	10	21	8	1	0	526	320	78	4	8	4	2	1	417
09:00	350	87	9	23	8	1	0	478	286	73	4	11	1	3	0	378
16:00	814	211	15	40	5	3	1	1089	511	128	9	11	2	1	0	662
16:15	819	191	19	42	5	3	1	1080	554	119	8	12	3	2	2	700
16:30	750	159	12	37	6	1	1	966	613	110	6	9	2	3	3	746
16:45	668	122	12	33	6	0	1	842	593	86	4	11	2	4	3	703
17:00	589	77	11	24	6	1	0	708	602	70	4	9	2	3	3	693
17:15	474	58	5	12	7	2	3	561	525	56	2	5	1	4	1	594
17:30	414	51	6	7	10	3	3	494	432	45	3	4	1	3	0	488
17:45	368	45	4	5	10	3	3	438	381	34	3	5	1	2	0	426
18:00	323	41	3	5	8	2	3	385	333	29	3	5	1	2	0	373

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1a
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Pinfold Lane
 Junction Type: T-Junction

Time	Arm C Approach								Arm C Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	7	0	1	0	0	0	0	8	7	2	0	0	0	0	0	9		
07:15	7	5	0	0	0	0	0	12	8	3	0	0	0	0	0	11		
07:30	5	4	0	0	0	0	0	9	13	1	1	0	0	0	0	15		
07:45	3	3	1	0	0	0	0	7	8	1	0	0	0	0	0	9		
08:00	14	0	0	0	0	0	0	14	10	6	1	0	0	0	0	17		
08:15	13	3	2	0	0	0	0	18	7	7	0	0	0	0	0	14		
08:30	18	3	1	0	0	0	0	22	8	3	1	0	0	0	0	12		
08:45	10	4	0	0	0	0	0	14	10	5	1	0	0	0	0	16		
09:00	9	3	2	0	0	0	0	14	15	5	0	0	0	0	0	20		
09:15	14	2	0	0	0	0	0	16	12	5	0	1	0	0	0	18		
09:30	8	1	0	0	0	0	0	9	8	2	0	0	0	0	0	10		
09:45	6	6	0	0	0	0	0	12	14	2	0	0	0	0	0	16		
16:00	22	5	0	0	0	0	0	27	10	0	0	0	0	0	0	10		
16:15	21	11	0	1	0	0	0	33	15	3	0	0	0	0	0	18		
16:30	21	4	0	0	0	0	0	25	9	4	0	1	0	0	0	14		
16:45	40	5	0	0	0	0	0	45	6	2	0	0	0	0	0	8		
17:00	35	11	0	1	0	0	0	47	10	0	0	0	0	0	0	10		
17:15	19	4	0	0	0	0	0	23	17	3	0	0	0	0	0	20		
17:30	27	1	0	0	0	0	0	28	23	2	0	0	0	0	0	25		
17:45	12	0	0	0	0	0	0	12	12	0	0	0	0	0	0	12		
18:00	10	3	0	0	0	0	0	13	5	2	0	0	0	0	0	7		
18:15	6	0	0	0	0	0	0	6	14	3	0	0	0	0	0	17		
18:30	15	1	0	0	0	0	0	16	14	1	0	0	0	0	0	15		
18:45	13	0	0	0	0	0	0	13	7	0	0	0	0	0	0	7		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	22	12	2	0	0	0	0	36	36	7	1	0	0	0	0	44		
07:15	29	12	1	0	0	0	0	42	39	11	2	0	0	0	0	52		
07:30	35	10	3	0	0	0	0	48	38	15	2	0	0	0	0	55		
07:45	48	9	4	0	0	0	0	61	33	17	2	0	0	0	0	52		
08:00	55	10	3	0	0	0	0	68	35	21	3	0	0	0	0	59		
08:15	50	13	5	0	0	0	0	68	40	20	2	0	0	0	0	62		
08:30	51	12	3	0	0	0	0	66	45	18	2	1	0	0	0	66		
08:45	41	10	2	0	0	0	0	53	45	17	1	1	0	0	0	64		
09:00	37	12	2	0	0	0	0	51	49	14	0	1	0	0	0	64		
16:00	104	25	0	1	0	0	0	130	40	9	0	1	0	0	0	50		
16:15	117	31	0	2	0	0	0	150	40	9	0	1	0	0	0	50		
16:30	115	24	0	1	0	0	0	140	42	9	0	1	0	0	0	52		
16:45	121	21	0	1	0	0	0	143	56	7	0	0	0	0	0	63		
17:00	93	16	0	1	0	0	0	110	62	5	0	0	0	0	0	67		
17:15	68	8	0	0	0	0	0	76	57	7	0	0	0	0	0	64		
17:30	55	4	0	0	0	0	0	59	54	7	0	0	0	0	0	61		
17:45	43	4	0	0	0	0	0	47	45	6	0	0	0	0	0	51		
18:00	44	4	0	0	0	0	0	48	40	6	0	0	0	0	0	46		

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1a
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Junction Type: T-Junction

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	159	43	3	10	3	1	0	219
07:15	166	65	5	4	2	0	0	242
07:30	246	55	5	6	3	2	1	318
07:45	203	42	6	2	2	0	0	255
08:00	274	53	9	6	1	2	0	345
08:15	235	61	8	2	0	0	2	308
08:30	249	45	8	8	2	2	1	315
08:45	236	49	5	5	4	0	1	300
09:00	187	43	6	10	3	1	0	250
09:15	167	44	3	8	1	1	0	224
09:30	165	37	3	6	4	1	0	216
09:45	154	47	3	10	1	1	0	216
16:00	353	87	7	14	1	0	0	462
16:15	348	93	10	16	2	2	0	471
16:30	380	96	4	9	2	1	0	492
16:45	339	83	3	14	2	1	1	443
17:00	410	65	10	18	2	1	2	508
17:15	337	47	1	7	2	1	1	396
17:30	279	32	2	6	2	1	0	322
17:45	243	17	2	3	2	1	0	268
18:00	192	27	2	1	2	3	3	230
18:15	170	27	3	1	5	1	0	207
18:30	169	14	0	5	2	0	0	190
18:45	147	8	1	3	0	0	0	159
Start Time	Rolling Hour							Total
07:00	774	205	19	22	10	3	1	1034
07:15	889	215	25	18	8	4	1	1160
07:30	958	211	28	16	6	4	3	1226
07:45	961	201	31	18	5	4	3	1223
08:00	994	208	30	21	7	4	4	1268
08:15	907	198	27	25	9	3	4	1173
08:30	839	181	22	31	10	4	2	1089
08:45	755	173	17	29	12	3	1	990
09:00	673	171	15	34	9	4	0	906
16:00	1420	359	24	53	7	4	1	1868
16:15	1477	337	27	57	8	5	3	1914
16:30	1466	291	18	48	8	4	4	1839
16:45	1365	227	16	45	8	4	4	1669
17:00	1269	161	15	34	8	4	3	1494
17:15	1051	123	7	17	8	6	4	1216
17:30	884	103	9	11	11	6	3	1027
17:45	774	85	7	10	11	5	3	895
18:00	678	76	6	10	9	4	3	786

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 1a

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Stone Cross (S)
Arm C: Pinfold Lane (W)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	6	106	0	121	3	0	3	6
07:15	0	6	106	0	128	5	0	6	6
07:30	0	7	159	0	152	9	0	2	7
07:45	0	6	105	0	146	3	0	4	4
08:00	0	4	156	0	177	14	0	7	7
08:15	0	7	121	0	163	7	0	9	11
08:30	0	9	142	0	160	4	0	10	13
08:45	0	7	135	0	153	10	0	10	4
09:00	0	10	85	0	157	10	0	5	11
09:15	0	4	82	0	125	16	0	8	8
09:30	0	3	108	0	108	7	0	6	3
09:45	0	9	100	0	111	7	0	8	4
16:00	0	6	168	0	291	4	0	10	17
16:15	0	8	149	0	310	10	0	12	23
16:30	0	7	190	0	284	9	0	6	19
16:45	0	4	150	0	271	4	0	8	37
17:00	0	3	207	0	287	7	0	10	39
17:15	0	8	188	0	181	12	0	9	14
17:30	0	11	137	0	148	14	0	18	10
17:45	0	3	140	0	114	9	0	5	7
18:00	0	3	100	0	113	4	0	8	5
18:15	0	3	88	0	108	14	0	3	3
18:30	0	3	83	0	88	12	0	12	4
18:45	0	1	85	0	61	6	0	7	6
Rolling Hour									
Start Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	25	476	0	547	20	0	15	23
07:15	0	23	526	0	603	31	0	19	24
07:30	0	24	541	0	638	33	0	22	29
07:45	0	26	524	0	646	28	0	30	35
08:00	0	27	555	0	653	35	0	36	35
08:15	0	33	484	0	633	31	0	34	39
08:30	0	30	445	0	595	40	0	33	36
08:45	0	24	411	0	543	43	0	29	26
09:00	0	26	375	0	501	40	0	27	26
16:00	0	25	657	0	1156	27	0	36	96
16:15	0	22	696	0	1152	30	0	36	118
16:30	0	22	734	0	1023	32	0	33	109
16:45	0	26	681	0	887	37	0	45	100
17:00	0	25	671	0	730	42	0	42	70
17:15	0	25	564	0	556	39	0	40	36
17:30	0	20	464	0	483	41	0	34	25
17:45	0	12	411	0	423	39	0	28	19
18:00	0	10	356	0	370	36	0	30	18

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 1a
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Stone Cross (S)
Arm C: Pinfold Lane (W)



Count Method: Vehicles **Classes Included:** All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:	AM Peak	from:	08:00	until:	08:15	flow:	345
	PM Peak	from:	17:00	until:	17:15	flow:	508

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	88	6	94
B	114	0	3	117
C	5	3	0	8
Total	119	91	9	219

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	11.4%	0.0%	10.6%
B	4.4%	0.0%	0.0%	4.3%
C	20.0%	0.0%	0.0%	12.5%
Total	5.0%	11.0%	0.0%	7.3%

Maximum Hourly Junction Flow:	AM Peak	from:	08:00	until:	09:00	flow:	1268
	PM Peak	from:	16:15	until:	17:15	flow:	1914

Period Starting: 07:00 *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	433	25	458
B	521	0	19	540
C	21	15	0	36
Total	542	448	44	1034

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	6.5%	0.0%	6.1%
B	3.8%	0.0%	5.3%	3.9%
C	9.5%	0.0%	0.0%	5.6%
Total	4.1%	6.3%	2.3%	4.9%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 1b
Date of Survey:	31.03.2022
Junction Name:	A449 Stone Cross / Crown Bridge
Junction Type:	3-arm Roundabout



Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 1b - 31.03.2022			

[illegible]

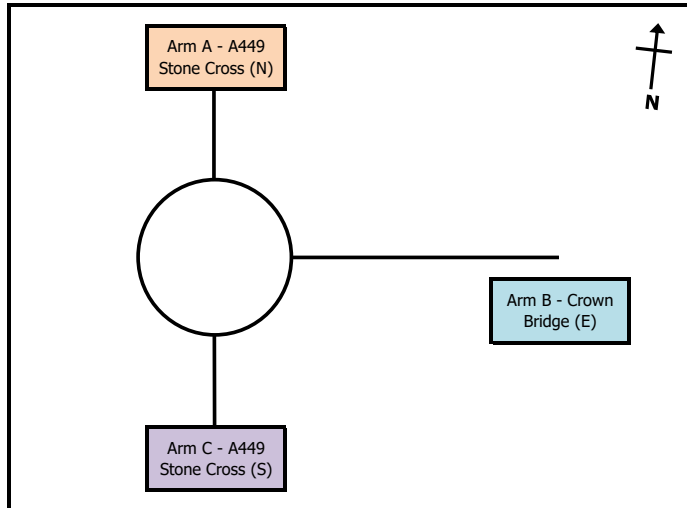
Intelligent Data Collection Limited



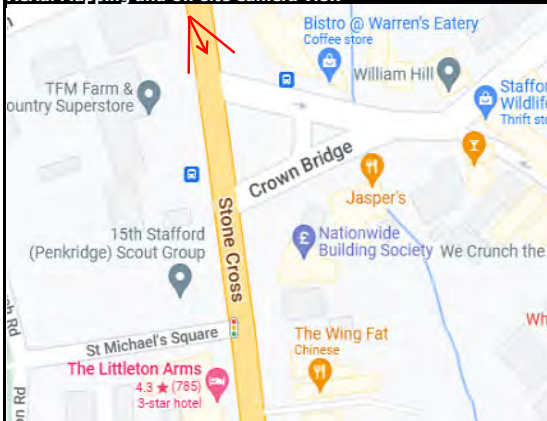
Client: PJA
Project Number: ID06388
Junction Number: Site 1b
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Crown Bridge
Junction Type: 3-arm Roundabout

X Coordinate	Y Coordinate	Google Maps Link
52.725572	-2.116193	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

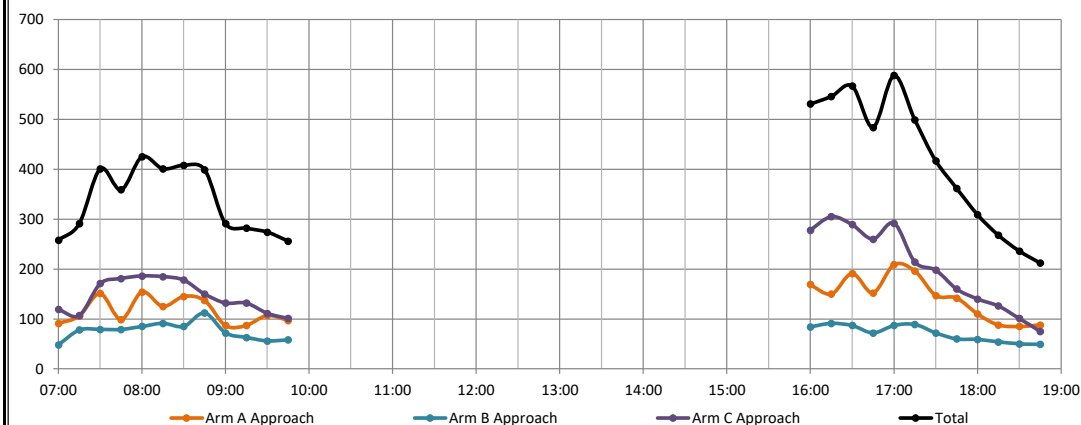


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1b

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Crown Bridge
Junction Type: 3-arm Roundabout

Arm A: A449 Stone Cross (N)
Arm B: Crown Bridge (E)

Arm C: A449 Stone Cross (S)

Time	A to A								A to C								A to B										
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total			
07:00	0	0	0	0	0	0	0	0	58	19	0	6	3	0	0	86	4	0	0	1	0	0	0	5			
07:15	0	0	0	0	0	0	0	0	76	17	2	1	0	0	0	96	5	4	0	0	1	0	0	10			
07:30	0	0	0	0	0	0	0	0	119	13	1	3	2	0	1	139	4	6	1	0	1	0	0	12			
07:45	0	0	0	0	0	0	0	0	70	15	1	2	2	0	0	90	8	0	1	0	0	0	0	9			
08:00	0	0	0	0	0	0	0	0	113	15	3	3	0	0	0	134	18	0	2	0	0	0	0	20			
08:15	0	0	0	0	0	0	0	0	81	18	2	0	0	0	0	101	18	6	0	0	0	0	0	24			
08:30	0	1	0	0	0	0	0	1	85	15	2	3	1	1	0	107	33	3	0	1	0	0	0	37			
08:45	0	0	0	0	0	0	0	0	92	21	2	2	2	0	1	120	12	4	0	0	1	0	0	17			
09:00	0	0	0	0	0	0	0	0	62	14	0	1	0	0	0	77	6	2	0	1	0	1	0	10			
09:15	1	0	0	0	0	0	0	1	60	13	0	2	0	1	0	76	8	2	0	0	0	0	0	10			
09:30	0	0	0	0	0	0	0	0	72	17	2	2	1	0	0	94	9	4	0	0	0	0	0	13			
09:45	1	0	0	0	0	0	0	1	60	17	2	5	0	1	0	85	7	4	0	0	0	0	0	11			
16:00	0	0	0	0	0	0	0	0	108	26	4	3	0	0	0	141	21	7	0	0	0	0	0	28			
16:15	0	0	0	0	0	0	0	0	99	23	2	4	1	0	0	129	13	8	0	0	0	0	0	21			
16:30	1	0	0	0	0	0	0	1	135	29	2	1	1	0	0	168	14	8	0	0	0	0	0	22			
16:45	0	0	0	0	0	0	0	0	102	14	1	3	0	1	0	121	18	13	0	0	0	0	0	31			
17:00	0	0	0	0	0	0	0	0	152	17	3	4	1	0	0	177	22	7	0	0	0	1	2	32			
17:15	0	0	0	0	0	0	0	0	145	17	0	1	0	0	1	164	26	5	0	0	0	1	0	32			
17:30	0	0	0	0	0	0	0	0	118	12	0	3	1	0	0	134	12	1	0	0	0	0	0	13			
17:45	0	0	0	0	0	0	0	0	110	11	1	1	0	0	0	123	19	0	0	0	0	0	0	19			
18:00	0	0	0	0	0	0	0	0	88	9	1	0	0	1	0	99	9	1	0	0	0	1	0	11			
18:15	0	0	0	0	0	0	0	0	70	8	1	0	0	0	0	79	6	3	0	0	0	0	0	9			
18:30	0	0	0	0	0	0	0	0	72	2	0	4	1	0	0	79	6	0	0	0	0	0	0	6			
18:45	1	0	0	0	0	0	0	1	71	6	1	1	0	0	0	79	8	0	0	0	0	0	0	8			
Start Time	Rolling Hour								Total	Rolling Hour								Total	Rolling Hour								Total
07:00	0	0	0	0	0	0	0	0	323	64	4	12	7	0	1	411	21	10	2	1	2	0	0	0	36		
07:15	0	0	0	0	0	0	0	0	378	60	7	9	4	0	1	459	35	10	4	0	2	0	0	0	51		
07:30	0	0	0	0	0	0	0	0	383	61	7	8	4	0	1	464	48	12	4	0	1	0	0	0	65		
07:45	0	1	0	0	0	0	0	1	349	63	8	8	3	1	0	432	77	9	3	1	0	0	0	0	90		
08:00	0	1	0	0	0	0	0	1	371	69	9	8	3	1	1	462	81	13	2	1	1	0	0	0	98		
08:15	0	1	0	0	0	0	0	1	320	68	6	6	3	1	1	405	69	15	0	2	1	1	0	0	88		
08:30	1	1	0	0	0	0	0	2	299	63	4	8	3	2	1	380	59	11	0	2	1	1	0	0	74		
08:45	1	0	0	0	0	0	0	1	286	65	4	7	3	1	1	367	35	12	0	1	1	1	0	0	50		
09:00	2	0	0	0	0	0	0	2	254	61	4	10	1	2	0	332	30	12	0	1	0	1	0	0	44		
16:00	1	0	0	0	0	0	0	1	444	92	9	11	2	1	0	559	66	36	0	0	0	0	0	0	102		
16:15	1	0	0	0	0	0	0	1	488	83	8	12	3	1	0	595	67	36	0	0	0	1	2	0	106		
16:30	1	0	0	0	0	0	0	1	534	77	6	9	2	1	1	630	80	33	0	0	0	2	2	0	117		
16:45	0	0	0	0	0	0	0	0	517	60	4	11	2	1	1	596	78	26	0	0	0	2	2	0	108		
17:00	0	0	0	0	0	0	0	0	525	57	4	9	2	0	1	598	79	13	0	0	0	2	2	0	96		
17:15	0	0	0	0	0	0	0	0	461	49	2	5	1	1	1	520	66	7	0	0	0	2	0	0	75		
17:30	0	0	0	0	0	0	0	0	386	40	3	4	1	1	0	435	46	5	0	0	0	1	0	0	52		
17:45	0	0	0	0	0	0	0	0	340	30	3	5	1	1	0	380	40	4	0	0	0	1	0	0	45		
18:00	1	0	0	0	0	0	0	1	301	25	3	5	1	1	0	336	29	4	0	0	0	1	0	0	34		

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1b

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Crown Bridge
Junction Type: 3-arm Roundabout

Arm A: A449 Stone Cross (N)
Arm B: Crown Bridge (E)

Arm C: A449 Stone Cross (S)

Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0				0	0	0	11	2	0			0	1	0	14	30	4		0	0	0	34
07:15	0	0				0	0	0	17	9				0	0	0	26	44	8		0	0	0	52
07:30	0	0				0	0	0	13	2	0			0	1	0	16	56	5	1	0	1	0	63
07:45	0	0				0	0	0	17	5				0	0	0	22	55	2	0	0	0	0	57
08:00	0	0				0	0	0	21	9	0			0	1	0	31	36	16	2	0	0	0	54
08:15	0	0				0	0	0	17	9				0	0	0	26	54	11	0	0	0	0	65
08:30	0	0				0	0	0	22	3	1	1		0	1	0	28	49	7	0	0	1	0	57
08:45	0	0				0	0	0	36	4	0	0		0	0	0	40	63	6	0	0	2	1	72
09:00	0	1				0	0	1	23	4	0			0	0	0	27	34	10	0	0	0	0	44
09:15	0	0				0	0	0	10	5	0			0	0	0	15	41	5	1	0	1	0	48
09:30	0	0				0	0	0	13	2	0			0	0	0	15	33	6	1	0	1	0	41
09:45	0	0				0	0	0	15	4	0			0	0	0	19	33	6	0	0	0	0	39
16:00	0	0				0	0	0	14	6	0			0	0	0	20	54	9	1	0	0	0	64
16:15	0	0				0	0	0	24	5	0			0	0	0	29	49	12	1	0	0	0	62
16:30	1	0				0	0	1	16	8	0			0	0	0	24	46	12	1	1	2	0	62
16:45	0	0				0	0	0	16	4	0			0	0	0	20	42	9	1	0	0	0	52
17:00	1	1				0	0	2	20	3	0			0	0	0	23	50	12	0	0	0	0	62
17:15	0	0				0	0	0	16	3	0			0	0	0	19	63	7	0	0	0	0	70
17:30	0	0				0	0	0	14	1	0			0	0	0	15	53	3	0	0	1	0	57
17:45	0	0				0	0	0	12	1	0			0	0	0	13	39	6	0	1	1	0	47
18:00	0	0				0	1	1	16	1	0			0	0	1	18	39	1	0	0	0	0	40
18:15	0	0				0	0	0	11	2	0			0	0	0	13	40	1	0	0	0	0	41
18:30	0	0				0	0	0	17	0	0			0	0	0	17	28	4	0	0	1	0	33
18:45	0	0				0	0	0	14	0	0			0	0	0	14	32	3	0	0	0	0	35
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
07:00	0	0				0	0	0	58	18	0			0	2	0	78	185	19	1	0	1	0	206
07:15	0	0				0	0	0	68	25	0			0	2	0	95	191	31	3	0	1	0	226
07:30	0	0				0	0	0	68	25	0			0	2	0	95	201	34	3	0	1	0	239
07:45	0	0				0	0	0	77	26	1	1		0	1	1	107	194	36	2	0	1	0	233
08:00	0	0				0	0	0	96	25	1	1		0	1	1	125	202	40	2	0	3	1	248
08:15	0	1				0	0	1	98	20	1	1		0	0	1	121	200	34	0	0	3	1	238
08:30	0	1				0	0	1	91	16	1	1		0	0	1	110	187	28	1	0	4	1	221
08:45	0	1				0	0	1	82	15	0	0		0	0	0	97	171	27	2	0	4	1	205
09:00	0	1				0	0	1	61	15	0	0		0	0	0	76	141	27	2	0	2	0	172
16:00	1	0				0	0	1	70	23	0			0	0	0	93	191	42	4	1	2	0	240
16:15	2	1				0	0	3	76	20	0			0	0	0	96	187	45	3	1	2	0	238
16:30	2	1				0	0	3	68	18	0			0	0	0	86	201	40	2	1	2	0	246
16:45	1	1				0	0	2	66	11	0			0	0	0	77	208	31	1	0	1	0	241
17:00	1	1				0	0	2	62	8	0			0	0	0	70	205	28	0	1	2	0	236
17:15	0	0				0	1	1	58	6	0			0	0	1	65	194	17	0	1	2	0	214
17:30	0	0				0	1	1	53	5	0			0	0	1	59	171	11	0	1	2	0	185
17:45	0	0				0	1	1	56	4	0			0	0	1	61	146	12	0	1	2	0	161
18:00	0	0				0	1	1	58	3	0			0	0	1	62	139	9	0	0	1	0	149

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 1b

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Crown Bridge
Junction Type: 3-arm Roundabout

Arm A: A449 Stone Cross (N)
Arm B: Crown Bridge (E)

Arm C: A449 Stone Cross (S)



Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	1	0	0	1	6	6	0	0	0	1	0	13	81	19	2	3	0	0	0	105
07:15	0	0	0	0	0	0	0	0	9	4	0	0	0	1	0	13	56	31	3	3	1	0	0	94
07:30	0	0	0	0	0	0	0	0	20	10	0	0	0	0	0	30	105	29	3	3	0	1	0	141
07:45	0	0	0	0	0	0	0	0	43	9	0	0	0	0	0	52	102	24	3	0	0	0	0	129
08:00	0	0	0	0	0	0	0	0	31	12	0	0	0	0	0	43	109	25	4	3	1	1	0	143
08:15	2	0	0	0	0	0	0	2	37	5	1	0	0	0	0	43	107	25	4	2	0	0	2	140
08:30	0	0	0	0	0	0	0	0	42	8	0	0	0	0	0	50	98	22	3	3	1	1	0	128
08:45	1	0	0	0	0	0	0	1	23	9	1	0	0	0	0	33	92	18	2	3	1	0	0	116
09:00	1	0	0	0	0	0	0	1	17	5	0	0	0	0	0	22	75	19	4	8	3	0	0	109
09:15	0	0	0	0	0	0	0	0	19	3	0	0	0	0	0	22	78	22	3	6	1	0	0	110
09:30	0	0	0	0	0	0	0	0	16	6	0	0	0	0	0	22	67	13	1	4	3	1	0	89
09:45	1	0	0	0	0	0	0	1	12	3	0	0	0	0	0	15	62	16	1	5	1	0	0	85
16:00	3	0	0	0	0	0	0	3	23	1	1	1	0	0	0	26	188	45	4	11	1	0	0	249
16:15	2	0	0	0	0	0	0	2	30	7	1	0	0	0	0	38	194	50	7	11	1	2	0	265
16:30	0	0	0	0	0	0	0	0	27	11	0	0	1	0	0	39	193	46	2	7	1	1	0	250
16:45	1	0	0	0	0	0	0	1	29	2	0	0	0	0	0	31	164	47	3	11	2	0	1	228
17:00	2	1	0	0	1	0	0	4	45	6	0	0	0	0	0	51	188	29	6	13	1	0	0	237
17:15	1	1	0	0	0	0	0	2	48	4	0	0	0	0	0	52	132	19	1	6	2	0	0	160
17:30	2	0	0	0	0	0	0	2	51	5	1	1	1	0	0	59	116	15	2	3	1	0	0	137
17:45	3	0	0	0	0	0	0	3	46	5	0	0	0	0	0	51	95	5	1	2	2	1	0	106
18:00	2	0	0	0	0	0	0	2	38	5	0	0	0	0	0	43	76	12	1	1	2	1	2	95
18:15	2	0	0	0	0	0	0	2	22	3	0	0	0	0	0	25	77	13	2	1	5	1	0	99
18:30	1	0	0	0	0	0	0	1	22	1	0	0	0	0	0	23	66	9	0	1	1	0	0	77
18:45	2	0	0	0	0	0	0	2	18	4	0	0	0	0	0	22	46	3	0	2	0	0	0	51
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	0	0	0	1	0	0	1	78	29	0	0	0	1	0	108	344	103	11	9	1	1	0	469
07:15	0	0	0	0	0	0	0	0	103	35	0	0	0	0	0	138	372	109	13	9	2	2	0	507
07:30	2	0	0	0	0	0	0	2	131	36	1	0	0	0	0	168	423	103	14	8	1	2	2	553
07:45	2	0	0	0	0	0	0	2	153	34	1	0	0	0	0	188	416	96	14	8	2	2	2	540
08:00	3	0	0	0	0	0	0	3	133	34	2	0	0	0	0	169	406	90	13	11	3	2	2	527
08:15	4	0	0	0	0	0	0	4	119	27	2	0	0	0	0	148	372	84	13	16	5	1	2	493
08:30	2	0	0	0	0	0	0	2	101	25	1	0	0	0	0	127	343	81	12	20	6	1	0	463
08:45	2	0	0	0	0	0	0	2	75	23	1	0	0	0	0	99	312	72	10	21	8	1	0	424
09:00	2	0	0	0	0	0	0	2	64	17	0	0	0	0	0	81	282	70	9	23	8	1	0	393
16:00	6	0	0	0	0	0	0	6	109	21	2	1	1	0	0	134	739	188	16	40	5	3	1	992
16:15	5	1	0	0	1	0	0	7	131	26	1	0	1	0	0	159	739	172	18	42	5	3	1	980
16:30	4	2	0	0	1	0	0	7	149	23	0	0	1	0	0	173	677	141	12	37	6	1	1	875
16:45	6	2	0	0	1	0	0	9	173	17	1	1	1	0	0	193	600	110	12	33	6	0	1	762
17:00	8	2	0	0	1	0	0	11	190	20	1	1	1	0	0	213	531	68	10	24	6	1	0	640
17:15	8	1	0	0	0	0	0	9	183	19	1	1	1	0	0	205	419	51	5	12	7	2	2	498
17:30	9	0	0	0	0	0	0	9	157	18	1	1	1	0	0	178	364	45	6	7	10	3	2	437
17:45	8	0	0	0	0	0	0	8	128	14	0	0	0	0	0	142	314	39	4	5	10	3	2	377
18:00	7	0	0	0	0	0	0	7	100	13	0	0	0	0	0	113	265	37	3	5	8	2	2	322

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Crown Bridge
 Junction Type: 3-arm Roundabout

Time	Arm A Approach								Arm A Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	62	19	0	7	3	0	0	91	92	21	2	3	0	1	0	119
07:15	81	21	2	1	1	0	0	106	73	40	3	3	1	0	0	120
07:30	123	19	2	3	3	0	1	151	118	31	3	3	0	2	0	157
07:45	78	15	2	2	2	0	0	99	119	29	3	0	0	0	0	151
08:00	131	15	5	3	0	0	0	154	130	34	4	3	1	2	0	174
08:15	99	24	2	0	0	0	0	125	124	34	4	2	0	0	2	166
08:30	118	19	2	4	1	1	0	145	120	26	4	4	1	1	1	157
08:45	104	25	2	2	3	0	1	137	128	22	2	3	1	0	0	156
09:00	68	16	0	2	0	1	0	87	98	23	4	8	3	0	0	136
09:15	69	15	0	2	0	1	0	87	89	27	3	6	1	0	0	126
09:30	81	21	2	2	1	0	0	107	80	15	1	4	3	1	0	104
09:45	68	21	2	5	0	1	0	97	78	20	1	5	1	0	0	105
16:00	129	33	4	3	0	0	0	169	202	51	4	11	1	0	0	269
16:15	112	31	2	4	1	0	0	150	218	55	7	11	1	2	0	294
16:30	150	37	2	1	1	0	0	191	210	54	2	7	1	1	0	275
16:45	120	27	1	3	0	1	0	152	180	51	3	11	2	0	1	248
17:00	174	24	3	4	1	1	2	209	208	32	6	13	1	0	0	260
17:15	171	22	0	1	0	1	1	196	148	22	1	6	2	0	0	179
17:30	130	13	0	3	1	0	0	147	130	16	2	3	1	0	0	152
17:45	129	11	1	1	0	0	0	142	107	6	1	2	2	1	0	119
18:00	97	10	1	0	0	2	0	110	92	13	1	1	2	1	3	113
18:15	76	11	1	0	0	0	0	88	88	15	2	1	5	1	0	112
18:30	78	2	0	4	1	0	0	85	83	9	0	1	1	0	0	94
18:45	80	6	1	1	0	0	0	88	61	3	0	2	0	0	0	66
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	344	74	6	13	9	0	1	447	402	121	11	9	1	3	0	547
07:15	413	70	11	9	6	0	1	510	440	134	13	9	2	4	0	602
07:30	431	73	11	8	5	0	1	529	491	128	14	8	1	4	2	648
07:45	426	73	11	9	3	1	0	523	493	123	15	9	2	3	3	648
08:00	452	83	11	9	4	1	1	561	502	116	14	12	3	3	3	653
08:15	389	84	6	8	4	2	1	494	470	105	14	17	5	1	3	615
08:30	359	75	4	10	4	3	1	456	435	98	13	21	6	1	1	575
08:45	322	77	4	8	4	2	1	418	395	87	10	21	8	1	0	522
09:00	286	73	4	11	1	3	0	378	345	85	9	23	8	1	0	471
16:00	511	128	9	11	2	1	0	662	810	211	16	40	5	3	1	1086
16:15	556	119	8	12	3	2	2	702	816	192	18	42	5	3	1	1077
16:30	615	110	6	9	2	3	3	748	746	159	12	37	6	1	1	962
16:45	595	86	4	11	2	3	3	704	666	121	12	33	6	0	1	839
17:00	604	70	4	9	2	2	3	694	593	76	10	24	6	1	0	710
17:15	527	56	2	5	1	3	1	595	477	57	5	12	7	2	3	563
17:30	432	45	3	4	1	2	0	487	417	50	6	7	10	3	3	496
17:45	380	34	3	5	1	2	0	425	370	43	4	5	10	3	3	438
18:00	331	29	3	5	1	2	0	371	324	40	3	5	8	2	3	385

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Crown Bridge
 Junction Type: 3-arm Roundabout

Time	Arm B Approach								Arm B Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	41	6	0	0	0	1	0	48	10	6	0	1	0	1	0	18		
07:15	61	17	0	0	0	0	0	78	14	8	0	0	1	0	0	23		
07:30	69	7	1	0	1	1	0	79	24	16	1	0	1	0	0	42		
07:45	72	7	0	0	0	0	0	79	51	9	1	0	0	0	0	61		
08:00	57	25	2	0	0	1	0	85	49	12	2	0	0	0	0	63		
08:15	71	20	0	0	0	0	0	91	55	11	1	0	0	0	0	67		
08:30	71	10	1	1	1	0	1	85	75	11	0	1	0	0	0	87		
08:45	99	10	0	0	2	1	0	112	35	13	1	0	1	0	0	50		
09:00	57	15	0	0	0	0	0	72	23	8	0	1	0	1	0	33		
09:15	51	10	1	0	1	0	0	63	27	5	0	0	0	0	0	32		
09:30	46	8	1	0	1	0	0	56	25	10	0	0	0	0	0	35		
09:45	48	10	0	0	0	0	0	58	19	7	0	0	0	0	0	26		
16:00	68	15	1	0	0	0	0	84	44	8	1	1	0	0	0	54		
16:15	73	17	1	0	0	0	0	91	43	15	1	0	0	0	0	59		
16:30	63	20	1	1	2	0	0	87	42	19	0	0	1	0	0	62		
16:45	58	13	1	0	0	0	0	72	47	15	0	0	0	0	0	62		
17:00	71	16	0	0	0	0	0	87	68	14	0	0	0	1	2	85		
17:15	79	10	0	0	0	0	0	89	74	9	0	0	0	1	0	84		
17:30	67	4	0	0	1	0	0	72	63	6	1	1	1	0	0	72		
17:45	51	7	0	1	1	0	0	60	65	5	0	0	0	0	0	70		
18:00	55	2	0	0	0	1	1	59	47	6	0	0	0	2	0	55		
18:15	51	3	0	0	0	0	0	54	28	6	0	0	0	0	0	34		
18:30	45	4	0	0	1	0	0	50	28	1	0	0	0	0	0	29		
18:45	46	3	0	0	0	0	0	49	26	4	0	0	0	0	0	30		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	243	37	1	0	1	2	0	284	99	39	2	1	2	1	0	144		
07:15	259	56	3	0	1	2	0	321	138	45	4	0	2	0	0	189		
07:30	269	59	3	0	1	2	0	334	179	48	5	0	1	0	0	233		
07:45	271	62	3	1	1	1	1	340	230	43	4	1	0	0	0	278		
08:00	298	65	3	1	3	2	1	373	214	47	4	1	1	0	0	267		
08:15	298	55	1	1	3	1	1	360	188	43	2	2	1	1	0	237		
08:30	278	45	2	1	4	1	1	332	160	37	1	2	1	1	0	202		
08:45	253	43	2	0	4	1	0	303	110	36	1	1	1	1	0	150		
09:00	202	43	2	0	2	0	0	249	94	30	0	1	0	1	0	126		
16:00	262	65	4	1	2	0	0	334	176	57	2	1	1	0	0	237		
16:15	265	66	3	1	2	0	0	337	200	63	1	0	1	1	2	268		
16:30	271	59	2	1	2	0	0	335	231	57	0	0	1	2	2	293		
16:45	275	43	1	0	1	0	0	320	252	44	1	1	1	2	2	303		
17:00	268	37	0	1	2	0	0	308	270	34	1	1	1	2	2	311		
17:15	252	23	0	1	2	1	1	280	249	26	1	1	1	3	0	281		
17:30	224	16	0	1	2	1	1	245	203	23	1	1	1	2	0	231		
17:45	202	16	0	1	2	1	1	223	168	18	0	0	0	2	0	188		
18:00	197	12	0	0	1	1	1	212	129	17	0	0	0	2	0	148		

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Crown Bridge
 Junction Type: 3-arm Roundabout

	Arm C Approach								Arm C Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	87	25	2	3	1	1	0	119	88	23	0	6	4	0	0	121
07:15	65	35	3	3	1	0	0	107	120	25	2	1	0	0	0	148
07:30	125	39	3	3	0	1	0	171	175	18	2	3	3	0	1	202
07:45	145	33	3	0	0	0	0	181	125	17	1	2	2	0	0	147
08:00	140	37	4	3	1	1	0	186	149	31	5	3	0	0	0	188
08:15	146	30	5	2	0	0	2	185	137	29	2	0	0	0	0	168
08:30	140	30	3	3	1	1	0	178	134	22	2	3	2	1	0	164
08:45	116	27	3	3	1	0	0	150	156	27	2	2	4	1	1	193
09:00	93	24	4	8	3	0	0	132	97	24	0	1	0	0	0	122
09:15	97	25	3	6	1	0	0	132	101	18	1	2	1	1	0	124
09:30	83	19	1	4	3	1	0	111	105	23	3	2	2	0	0	135
09:45	75	19	1	5	1	0	0	101	94	23	2	5	0	1	0	125
16:00	214	46	5	12	1	0	0	278	165	35	5	3	0	0	0	208
16:15	226	57	8	11	1	2	0	305	150	35	3	4	1	0	0	193
16:30	220	57	2	7	2	1	0	289	181	41	3	2	3	0	0	230
16:45	194	49	3	11	2	0	1	260	145	23	2	3	0	1	0	174
17:00	235	36	6	13	2	0	0	292	204	30	3	4	2	0	0	243
17:15	181	24	1	6	2	0	0	214	209	25	0	1	0	0	1	236
17:30	169	20	3	4	2	0	0	198	173	15	0	3	2	0	0	193
17:45	144	10	1	2	2	1	0	160	152	17	1	2	1	0	0	173
18:00	116	17	1	1	2	1	2	140	129	10	1	0	0	1	0	141
18:15	101	16	2	1	5	1	0	126	112	9	1	0	0	0	0	122
18:30	89	10	0	1	1	0	0	101	101	6	0	4	2	0	0	113
18:45	66	7	0	2	0	0	0	75	105	9	1	1	0	0	0	116
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	422	132	11	9	2	2	0	578	508	83	5	12	9	0	1	618
07:15	475	144	13	9	2	2	0	645	569	91	10	9	5	0	1	685
07:30	556	139	15	8	1	2	2	723	586	95	10	8	5	0	1	705
07:45	571	130	15	8	2	2	2	730	545	99	10	8	4	1	0	667
08:00	542	124	15	11	3	2	2	699	576	109	11	8	6	2	1	713
08:15	495	111	15	16	5	1	2	645	524	102	6	6	6	2	1	647
08:30	446	106	13	20	6	1	0	592	488	91	5	8	7	3	1	603
08:45	389	95	11	21	8	1	0	525	459	92	6	7	7	2	1	574
09:00	348	87	9	23	8	1	0	476	397	88	6	10	3	2	0	506
16:00	854	209	18	41	6	3	1	1132	641	134	13	12	4	1	0	805
16:15	875	199	19	42	7	3	1	1146	680	129	11	13	6	1	0	840
16:30	830	166	12	37	8	1	1	1055	739	119	8	10	5	1	1	883
16:45	779	129	13	34	8	0	1	964	731	93	5	11	4	1	1	846
17:00	729	90	11	25	8	1	0	864	738	87	4	10	5	0	1	845
17:15	610	71	6	13	8	2	2	712	663	67	2	6	3	1	1	743
17:30	530	63	7	8	11	3	2	624	566	51	3	5	3	1	0	629
17:45	450	53	4	5	10	3	2	527	494	42	3	6	3	1	0	549
18:00	372	50	3	5	8	2	2	442	447	34	3	5	2	1	0	492

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1b
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Crown Bridge
Junction Type: 3-arm Roundabout

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	190	50	2	10	4	2	0	258
07:15	207	73	5	4	2	0	0	291
07:30	317	65	6	6	4	2	1	401
07:45	295	55	5	2	2	0	0	359
08:00	328	77	11	6	1	2	0	425
08:15	316	74	7	2	0	0	2	401
08:30	329	59	6	8	3	2	1	408
08:45	319	62	5	5	6	1	1	399
09:00	218	55	4	10	3	1	0	291
09:15	217	50	4	8	2	1	0	282
09:30	210	48	4	6	5	1	0	274
09:45	191	50	3	10	1	1	0	256
16:00	411	94	10	15	1	0	0	531
16:15	411	105	11	15	2	2	0	546
16:30	433	114	5	9	5	1	0	567
16:45	372	89	5	14	2	1	1	484
17:00	480	76	9	17	3	1	2	588
17:15	431	56	1	7	2	1	1	499
17:30	366	37	3	7	4	0	0	417
17:45	324	28	2	4	3	1	0	362
18:00	268	29	2	1	2	4	3	309
18:15	228	30	3	1	5	1	0	268
18:30	212	16	0	5	3	0	0	236
18:45	192	16	1	3	0	0	0	212
Start Time	Rolling Hour							Total
07:00	1009	243	18	22	12	4	1	1309
07:15	1147	270	27	18	9	4	1	1476
07:30	1256	271	29	16	7	4	3	1586
07:45	1268	265	29	18	6	4	3	1593
08:00	1292	272	29	21	10	5	4	1633
08:15	1182	250	22	25	12	4	4	1499
08:30	1083	226	19	31	14	5	2	1380
08:45	964	215	17	29	16	4	1	1246
09:00	836	203	15	34	11	4	0	1103
16:00	1627	402	31	53	10	4	1	2128
16:15	1696	384	30	55	12	5	3	2185
16:30	1716	335	20	47	12	4	4	2138
16:45	1649	258	18	45	11	3	4	1988
17:00	1601	197	15	35	12	3	3	1866
17:15	1389	150	8	19	11	6	4	1587
17:30	1186	124	10	13	14	6	3	1356
17:45	1032	103	7	11	13	6	3	1175
18:00	900	91	6	10	10	5	3	1025

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 1b

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Crown Bridge
Junction Type: 3-arm Roundabout

Arm A: A449 Stone Cross (N)
Arm B: Crown Bridge (E)
Arm C: A449 Stone Cross (S)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	102	7	0	13	34	3	12	113
07:15	0	100	12	0	26	52	0	13	104
07:30	0	148	14	0	15	65	0	30	149
07:45	0	98	10	0	22	57	0	52	132
08:00	0	142	22	0	30	56	0	43	153
08:15	0	103	24	0	26	65	2	44	146
08:30	1	115	39	0	30	59	0	50	137
08:45	0	128	19	0	40	74	1	34	125
09:00	0	79	11	1	27	44	1	22	132
09:15	1	79	10	0	15	50	0	22	126
09:30	0	101	13	0	15	43	0	22	101
09:45	1	96	11	0	19	39	1	15	97
16:00	0	150	28	0	20	65	3	29	275
16:15	0	140	21	0	29	63	2	39	293
16:30	1	173	22	1	24	68	0	41	266
16:45	0	127	31	0	20	53	1	31	254
17:00	0	189	30	2	23	62	6	51	269
17:15	0	165	31	0	19	70	2	52	175
17:30	0	141	13	0	15	59	2	63	146
17:45	0	126	19	0	13	50	3	51	113
18:00	0	99	10	0	17	40	2	43	99
18:15	0	80	9	0	13	41	2	25	110
18:30	0	88	6	0	17	35	1	23	80
18:45	1	82	8	0	14	35	2	22	55
Rolling Hour									
Start Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	447	43	0	77	208	3	107	497
07:15	0	488	58	0	94	230	0	138	538
07:30	0	491	70	0	94	243	2	169	580
07:45	1	458	95	0	108	236	2	189	568
08:00	1	488	103	0	126	254	3	171	561
08:15	1	425	93	1	123	242	4	150	540
08:30	2	401	79	1	112	227	2	128	520
08:45	1	387	53	1	97	212	2	100	484
09:00	2	355	45	1	76	177	2	81	456
16:00	1	590	102	1	93	249	6	139	1087
16:15	1	629	104	3	96	246	9	161	1081
16:30	1	654	114	3	86	253	9	175	964
16:45	0	622	105	2	77	243	11	197	844
17:00	0	621	93	2	70	241	13	217	703
17:15	0	531	74	0	64	219	9	209	533
17:30	0	446	51	0	58	190	9	182	467
17:45	0	393	44	0	60	166	8	142	402
18:00	1	349	33	0	61	151	7	113	343

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 1b

Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Crown Bridge
 Junction Type: 3-arm Roundabout

Arm A: A449 Stone Cross (N)
 Arm B: Crown Bridge (E)
 Arm C: A449 Stone Cross (S)



Count Method: Vehicles Classes Included: All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:

AM Peak	from:	08:00	until:	08:15	flow:	425
PM Peak	from:	17:00	until:	17:15	flow:	588

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	5	86	91
From B	14	0	34	48
From C	105	13	1	119
Total	119	18	121	258

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	20.0%	10.5%	11.0%
From B	0.0%	0.0%	0.0%	0.0%
From C	4.8%	0.0%	100.0%	5.0%
Total	4.2%	5.6%	8.3%	6.2%

Maximum Hourly Junction Flow:

AM Peak	from:	08:00	until:	09:00	flow:	1633
PM Peak	from:	16:15	until:	17:15	flow:	2185

Period Starting: 07:00 *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	36	411	447
From B	78	0	206	284
From C	469	108	1	578
Total	547	144	618	1309

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	13.9%	5.6%	6.3%
From B	0.0%	0.0%	1.0%	0.7%
From C	4.5%	0.0%	100.0%	3.8%
Total	3.8%	3.5%	4.2%	4.0%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 1c
Date of Survey:	31.03.2022
Junction Name:	A449 / St Michael's Square
Junction Type:	T-Junction

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 1c - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

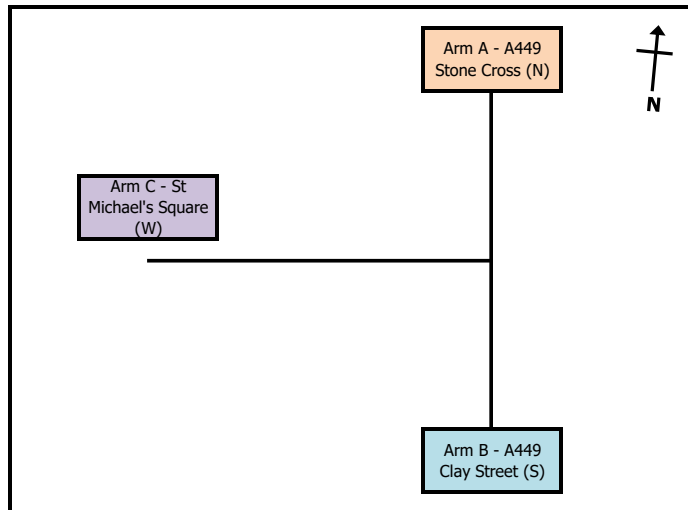
Intelligent Data Collection Limited



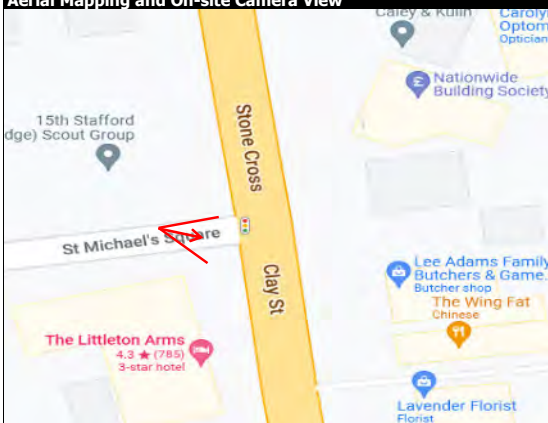
Client: PJA Date of Survey: 31.03.2022
 Project Number: ID06388 Junction Name: A449 / St Michael's Square
 Junction Number: Site 1c Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
52.725076	-2.116084	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

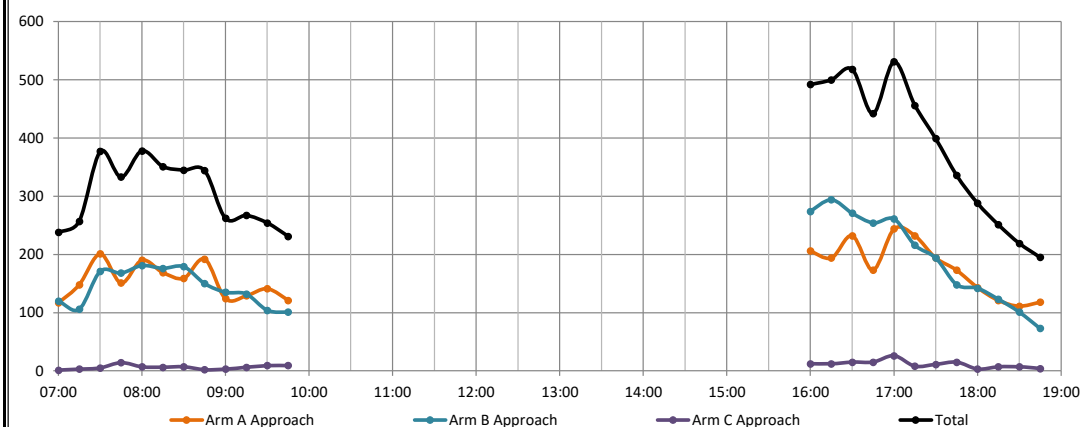


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1c

Date of Survey: 31.03.2022
Junction Name: A449 / St Michael's Square
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Clay Street (S)

Arm C: St Michael's Square (W)

Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	2	0	0	0	0	0	0	2	84	22	0	5	4	0	0	115
07:15								0	0	0	0	0	0	0	0	0	117	26	2	2	0	0	1	148
07:30								0	3	2	0	0	0	0	1	6	171	16	2	3	3	0	0	195
07:45								0	4	0	0	0	0	0	0	4	125	17	1	2	2	0	0	147
08:00								0	4	0	0	0	0	0	0	4	148	30	5	3	0	0	0	186
08:15								0	6	1	0	0	0	0	0	7	129	31	2	0	0	0	0	162
08:30								0	8	0	0	0	0	0	0	8	121	21	2	3	2	1	1	151
08:45								0	8	0	0	0	0	0	0	8	150	26	2	1	3	1	1	184
09:00								0	3	0	0	0	0	0	0	3	94	25	0	1	1	0	0	121
09:15								0	4	0	0	0	0	0	0	4	100	19	2	2	1	1	0	125
09:30								0	4	1	0	0	0	0	0	5	105	22	3	3	2	0	1	136
09:45								0	4	0	0	0	0	0	0	4	87	22	1	5	0	1	1	117
16:00								0	5	1	0	0	0	0	0	6	158	34	5	3	0	0	0	200
16:15								0	7	1	0	0	0	0	0	8	145	33	3	4	1	0	0	186
16:30								0	13	0	0	0	0	0	0	13	170	41	3	2	3	0	0	219
16:45								0	8	0	0	0	0	0	0	8	134	25	2	3	0	1	0	165
17:00								0	8	1	0	0	0	0	0	9	198	28	3	4	2	0	0	235
17:15								0	17	0	0	0	0	0	0	17	189	23	0	1	1	0	1	215
17:30								0	6	1	0	0	0	0	0	7	168	14	0	4	1	0	0	187
17:45								0	8	0	0	0	0	0	0	8	144	18	1	1	1	0	0	165
18:00								0	9	0	0	0	0	0	0	9	122	10	1	0	0	1	0	134
18:15								0	7	0	0	0	0	0	0	7	104	9	1	0	0	0	0	114
18:30								0	1	0	0	0	0	0	0	1	98	6	0	4	2	0	0	110
18:45								0	2	0	0	0	0	0	0	2	103	11	1	1	0	0	0	116
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
								Total								Total								Total
07:00	0	0	0	0	0	0	0	0	9	2	0	0	0	0	1	12	497	81	5	12	9	0	1	605
07:15	0	0	0	0	0	0	0	0	11	2	0	0	0	0	1	14	561	89	10	10	5	0	1	676
07:30	0	0	0	0	0	0	0	0	17	3	0	0	0	0	1	21	573	94	10	8	5	0	0	690
07:45	0	0	0	0	0	0	0	0	22	1	0	0	0	0	0	23	523	99	10	8	4	1	1	646
08:00	0	0	0	0	0	0	0	0	26	1	0	0	0	0	0	27	548	108	11	7	5	2	2	683
08:15	0	0	0	0	0	0	0	0	25	1	0	0	0	0	0	26	494	103	6	5	6	2	2	618
08:30	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0	23	465	91	6	7	7	3	2	581
08:45	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	20	449	92	7	7	7	2	2	566
09:00	0	0	0	0	0	0	0	0	15	1	0	0	0	0	0	16	386	88	6	11	4	2	2	499
16:00	0	0	0	0	0	0	0	0	33	2	0	0	0	0	0	35	607	133	13	12	4	1	0	770
16:15	0	0	0	0	0	0	0	0	36	2	0	0	0	0	0	38	647	127	11	13	6	1	0	805
16:30	0	0	0	0	0	0	0	0	46	1	0	0	0	0	0	47	691	117	8	10	6	1	1	834
16:45	0	0	0	0	0	0	0	0	39	2	0	0	0	0	0	41	689	90	5	12	4	1	1	802
17:00	0	0	0	0	0	0	0	0	39	2	0	0	0	0	0	41	699	83	4	10	5	0	1	802
17:15	0	0	0	0	0	0	0	0	40	1	0	0	0	0	0	41	623	65	2	6	3	1	1	701
17:30	0	0	0	0	0	0	0	0	30	1	0	0	0	0	0	31	538	51	3	5	2	1	0	600
17:45	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	25	468	43	3	5	3	1	0	523
18:00	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	19	427	36	3	5	2	1	0	474

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1c

Date of Survey: 31.03.2022
Junction Name: A449 / St Michael's Square
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Clay Street (S)

Arm C: St Michael's Square (W)

Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	84	28	2	3	1	1	0	119	1	0	0	0	0	0	0	1
07:15								0	65	33	3	4	1	0	0	106	0	0	0	0	0	0	0	0
07:30								0	125	39	3	2	0	1	0	170	1	0	0	0	0	0	0	1
07:45								0	133	28	3	1	0	0	0	165	3	0	0	0	0	0	0	3
08:00								0	135	37	4	3	1	1	0	181	0	0	0	0	0	0	0	0
08:15								0	138	29	5	1	0	0	2	175	0	1	0	0	0	0	0	1
08:30								0	135	30	3	3	1	1	0	173	4	0	0	0	0	0	2	6
08:45								0	115	25	3	3	1	0	0	147	3	0	0	0	0	0	0	3
09:00								0	95	22	4	9	4	0	0	134	1	0	0	0	0	0	0	1
09:15								0	93	27	3	5	1	0	0	129	3	0	0	0	0	0	0	3
09:30								0	75	19	1	4	2	1	0	102	2	0	0	0	0	0	0	2
09:45								0	72	20	1	5	1	0	0	99	2	0	0	0	0	0	0	2
16:00								0	206	47	5	12	1	0	0	271	2	1	0	0	0	0	0	3
16:15								0	219	52	8	11	1	2	0	293	1	0	0	0	0	0	0	1
16:30								0	204	54	2	7	2	1	0	270	0	1	0	0	0	0	0	1
16:45								0	188	49	3	11	2	0	1	254	0	0	0	0	0	0	0	0
17:00								0	207	33	5	14	2	0	0	261	0	0	0	0	0	0	0	0
17:15								0	183	24	1	5	2	0	0	215	1	0	0	0	0	0	0	1
17:30								0	162	19	3	4	3	0	0	191	3	0	0	0	0	0	0	3
17:45								0	131	10	1	2	1	1	0	146	2	0	0	0	0	0	0	2
18:00								0	111	19	1	1	2	1	2	137	5	0	0	0	0	0	0	5
18:15								0	97	14	2	1	5	1	0	120	3	0	0	0	0	0	0	3
18:30								0	86	10	0	1	1	0	0	98	3	0	0	0	0	0	0	3
18:45								0	64	7	0	2	0	0	0	73	0	0	0	0	0	0	0	0
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	407	128	11	10	2	2	0	560	5	0	0	0	0	0	0	5
07:15	0	0	0	0	0	0	0	0	458	137	13	10	2	2	0	622	4	0	0	0	0	0	0	4
07:30	0	0	0	0	0	0	0	0	531	133	15	7	1	2	2	691	4	1	0	0	0	0	0	5
07:45	0	0	0	0	0	0	0	0	541	124	15	8	2	2	2	694	7	1	0	0	0	0	2	10
08:00	0	0	0	0	0	0	0	0	523	121	15	10	3	2	2	676	7	1	0	0	0	0	2	10
08:15	0	0	0	0	0	0	0	0	483	106	15	16	6	1	2	629	8	1	0	0	0	0	2	11
08:30	0	0	0	0	0	0	0	0	438	104	13	20	7	1	0	583	11	0	0	0	0	0	2	13
08:45	0	0	0	0	0	0	0	0	378	93	11	21	8	1	0	512	9	0	0	0	0	0	0	9
09:00	0	0	0	0	0	0	0	0	335	88	9	23	8	1	0	464	8	0	0	0	0	0	0	8
16:00	0	0	0	0	0	0	0	0	817	202	18	41	6	3	1	1088	3	2	0	0	0	0	0	5
16:15	0	0	0	0	0	0	0	0	818	188	18	43	7	3	1	1078	1	1	0	0	0	0	0	2
16:30	0	0	0	0	0	0	0	0	782	160	11	37	8	1	1	1000	1	1	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	740	125	12	34	9	0	1	921	4	0	0	0	0	0	0	4
17:00	0	0	0	0	0	0	0	0	683	86	10	25	8	1	0	813	6	0	0	0	0	0	0	6
17:15	0	0	0	0	0	0	0	0	587	72	6	12	8	2	2	689	11	0	0	0	0	0	0	11
17:30	0	0	0	0	0	0	0	0	501	62	7	8	11	3	2	594	13	0	0	0	0	0	0	13
17:45	0	0	0	0	0	0	0	0	425	53	4	5	9	3	2	501	13	0	0	0	0	0	0	13
18:00	0	0	0	0	0	0	0	0	358	50	3	5	8	2	2	428	11	0	0	0	0	0	0	11

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1c

Date of Survey: 31.03.2022
Junction Name: A449 / St Michael's Square
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Clay Street (S)

Arm C: St Michael's Square (W)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:15								0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
07:30								0	1	0	0	0	0	0	0	1	3	1	0	0	0	0	0	4
07:45								0	3	1	0	0	0	0	0	4	9	1	0	0	0	0	0	10
08:00								0	1	0	0	0	0	0	0	1	5	1	0	0	0	0	0	6
08:15								0	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	5
08:30								0	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	7
08:45								0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
09:00								0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
09:15								0	1	0	0	0	0	0	0	1	4	1	0	0	0	0	0	5
09:30								0	1	1	0	0	0	0	0	2	7	0	0	0	0	0	0	7
09:45								0	4	0	0	0	0	0	0	4	5	0	0	0	0	0	0	5
16:00								0	3	0	0	0	0	0	0	3	8	1	0	0	0	0	0	9
16:15								0	1	0	0	0	0	0	0	1	8	3	0	0	0	0	0	11
16:30								0	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	15
16:45								0	3	0	0	0	0	0	0	3	12	0	0	0	0	0	0	12
17:00								0	0	1	0	0	0	0	0	1	21	3	1	0	0	0	0	25
17:15								0	4	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4
17:30								0	2	0	0	0	0	0	0	2	9	0	0	0	0	0	0	9
17:45								0	4	0	0	0	0	0	0	4	11	0	0	0	0	0	0	11
18:00								0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
18:15								0	0	1	0	0	0	0	0	1	6	0	0	0	0	0	0	6
18:30								0	3	0	0	0	0	0	0	3	4	0	0	0	0	0	0	4
18:45								0	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	16	2	0	0	0	0	0	18
07:15	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	6	20	3	0	0	0	0	0	23
07:30	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	22	3	0	0	0	0	0	25
07:45	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	6	24	4	0	0	0	0	0	28
08:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	16	3	0	0	0	0	0	19
08:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	12	3	0	0	0	0	0	15
08:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	11	4	0	0	0	0	0	15
08:45	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	13	2	0	0	0	0	0	15
09:00	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	17	2	0	0	0	0	0	19
16:00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	41	6	0	0	0	0	0	47
16:15	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	54	8	1	0	0	0	0	63
16:30	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	50	5	1	0	0	0	0	56
16:45	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	10	46	3	1	0	0	0	0	50
17:00	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	11	45	3	1	0	0	0	0	49
17:15	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11	25	1	0	0	0	0	0	26
17:30	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	27	1	0	0	0	0	0	28
17:45	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	9	22	1	0	0	0	0	0	23
18:00	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	13	1	0	0	0	0	0	14

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1c
 Date of Survey: 31.03.2022
 Junction Name: A449 / St Michael's Square
 Junction Type: T-Junction

	Arm A Approach								Arm A Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	86	22	0	5	4	0	0	117	85	28	2	3	1	1	0	120
07:15	117	26	2	2	0	0	1	148	68	33	3	4	1	0	0	109
07:30	174	18	2	3	3	0	1	201	128	40	3	2	0	1	0	174
07:45	129	17	1	2	2	0	0	151	142	29	3	1	0	0	0	175
08:00	152	30	5	3	0	0	0	190	140	38	4	3	1	1	0	187
08:15	135	32	2	0	0	0	0	169	143	29	5	1	0	0	2	180
08:30	129	21	2	3	2	1	1	159	140	32	3	3	1	1	0	180
08:45	158	26	2	1	3	1	1	192	116	25	3	3	1	0	0	148
09:00	97	25	0	1	1	0	0	124	96	23	4	9	4	0	0	136
09:15	104	19	2	2	1	1	0	129	97	28	3	5	1	0	0	134
09:30	109	23	3	3	2	0	1	141	82	19	1	4	2	1	0	109
09:45	91	22	1	5	0	1	1	121	77	20	1	5	1	0	0	104
16:00	163	35	5	3	0	0	0	206	214	48	5	12	1	0	0	280
16:15	152	34	3	4	1	0	0	194	227	55	8	11	1	2	0	304
16:30	183	41	3	2	3	0	0	232	217	56	2	7	2	1	0	285
16:45	142	25	2	3	0	1	0	173	200	49	3	11	2	0	1	266
17:00	206	29	3	4	2	0	0	244	228	36	6	14	2	0	0	286
17:15	206	23	0	1	1	0	1	232	187	24	1	5	2	0	0	219
17:30	174	15	0	4	1	0	0	194	171	19	3	4	3	0	0	200
17:45	152	18	1	1	1	0	0	173	142	10	1	2	1	1	0	157
18:00	131	10	1	0	0	1	0	143	112	20	1	1	2	1	2	139
18:15	111	9	1	0	0	0	0	121	103	14	2	1	5	1	0	126
18:30	99	6	0	4	2	0	0	111	90	10	0	1	1	0	0	102
18:45	105	11	1	1	0	0	0	118	66	7	0	2	0	0	0	75
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	506	83	5	12	9	0	2	617	423	130	11	10	2	2	0	578
07:15	572	91	10	10	5	0	2	690	478	140	13	10	2	2	0	645
07:30	590	97	10	8	5	0	1	711	553	136	15	7	1	2	2	716
07:45	545	100	10	8	4	1	1	669	565	128	15	8	2	2	2	722
08:00	574	109	11	7	5	2	2	710	539	124	15	10	3	2	2	695
08:15	519	104	6	5	6	2	2	644	495	109	15	16	6	1	2	644
08:30	488	91	6	7	7	3	2	604	449	108	13	20	7	1	0	598
08:45	468	93	7	7	7	2	2	586	391	95	11	21	8	1	0	527
09:00	401	89	6	11	4	2	2	515	352	90	9	23	8	1	0	483
16:00	640	135	13	12	4	1	0	805	858	208	18	41	6	3	1	1135
16:15	683	129	11	13	6	1	0	843	872	196	19	43	7	3	1	1141
16:30	737	118	8	10	6	1	1	881	832	165	12	37	8	1	1	1056
16:45	728	92	5	12	4	1	1	843	786	128	13	34	9	0	1	971
17:00	738	85	4	10	5	0	1	843	728	89	11	25	8	1	0	862
17:15	663	66	2	6	3	1	1	742	612	73	6	12	8	2	2	715
17:30	568	52	3	5	2	1	0	631	528	63	7	8	11	3	2	622
17:45	493	43	3	5	3	1	0	548	447	54	4	5	9	3	2	524
18:00	446	36	3	5	2	1	0	493	371	51	3	5	8	2	2	442

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1c
 Date of Survey: 31.03.2022
 Junction Name: A449 / St Michael's Square
 Junction Type: T-Junction

	Arm B Approach								Arm B Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	85	28	2	3	1	1	0	120	84	22	0	5	4	0	0	115
07:15	65	33	3	4	1	0	0	106	117	26	2	2	0	0	1	148
07:30	126	39	3	2	0	1	0	171	172	16	2	3	3	0	0	196
07:45	136	28	3	1	0	0	0	168	128	18	1	2	2	0	0	151
08:00	135	37	4	3	1	1	0	181	149	30	5	3	0	0	0	187
08:15	138	30	5	1	0	0	2	176	130	31	2	0	0	0	0	163
08:30	139	30	3	3	1	1	2	179	121	21	2	3	2	1	1	151
08:45	118	25	3	3	1	0	0	150	151	26	2	1	3	1	1	185
09:00	96	22	4	9	4	0	0	135	95	25	0	1	1	0	0	122
09:15	96	27	3	5	1	0	0	132	101	19	2	2	1	1	0	126
09:30	77	19	1	4	2	1	0	104	106	23	3	3	2	0	1	138
09:45	74	20	1	5	1	0	0	101	91	22	1	5	0	1	1	121
16:00	208	48	5	12	1	0	0	274	161	34	5	3	0	0	0	203
16:15	220	52	8	11	1	2	0	294	146	33	3	4	1	0	0	187
16:30	204	55	2	7	2	1	0	271	170	41	3	2	3	0	0	219
16:45	188	49	3	11	2	0	1	254	137	25	2	3	0	1	0	168
17:00	207	33	5	14	2	0	0	261	198	29	3	4	2	0	0	236
17:15	184	24	1	5	2	0	0	216	193	23	0	1	1	0	1	219
17:30	165	19	3	4	3	0	0	194	170	14	0	4	1	0	0	189
17:45	133	10	1	2	1	1	0	148	148	18	1	1	1	0	0	169
18:00	116	19	1	1	2	1	2	142	123	10	1	0	0	1	0	135
18:15	100	14	2	1	5	1	0	123	104	10	1	0	0	0	0	115
18:30	89	10	0	1	1	0	0	101	101	6	0	4	2	0	0	113
18:45	64	7	0	2	0	0	0	73	105	11	1	1	0	0	0	118
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	412	128	11	10	2	2	0	565	501	82	5	12	9	0	1	610
07:15	462	137	13	10	2	2	0	626	566	90	10	10	5	0	1	682
07:30	535	134	15	7	1	2	2	696	579	95	10	8	5	0	0	697
07:45	548	125	15	8	2	2	4	704	528	100	10	8	4	1	1	652
08:00	530	122	15	10	3	2	4	686	551	108	11	7	5	2	2	686
08:15	491	107	15	16	6	1	4	640	497	103	6	5	6	2	2	621
08:30	449	104	13	20	7	1	2	596	468	91	6	7	7	3	2	584
08:45	387	93	11	21	8	1	0	521	453	93	7	7	7	2	2	571
09:00	343	88	9	23	8	1	0	472	393	89	6	11	4	2	2	507
16:00	820	204	18	41	6	3	1	1093	614	133	13	12	4	1	0	777
16:15	819	189	18	43	7	3	1	1080	651	128	11	13	6	1	0	810
16:30	783	161	11	37	8	1	1	1002	698	118	8	10	6	1	1	842
16:45	744	125	12	34	9	0	1	925	698	91	5	12	4	1	1	812
17:00	689	86	10	25	8	1	0	819	709	84	4	10	5	0	1	813
17:15	598	72	6	12	8	2	2	700	634	65	2	6	3	1	1	712
17:30	514	62	7	8	11	3	2	607	545	52	3	5	2	1	0	608
17:45	438	53	4	5	9	3	2	514	476	44	3	5	3	1	0	532
18:00	369	50	3	5	8	2	2	439	433	37	3	5	2	1	0	481

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 1c
 Date of Survey: 31.03.2022
 Junction Name: A449 / St Michael's Square
 Junction Type: T-Junction

Time	Arm C Approach								Arm C Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3		
07:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0		
07:30	4	1	0	0	0	0	0	5	4	2	0	0	0	0	1	7		
07:45	12	2	0	0	0	0	0	14	7	0	0	0	0	0	0	7		
08:00	6	1	0	0	0	0	0	7	4	0	0	0	0	0	0	4		
08:15	6	0	0	0	0	0	0	6	6	2	0	0	0	0	0	8		
08:30	5	2	0	0	0	0	0	7	12	0	0	0	0	0	2	14		
08:45	2	0	0	0	0	0	0	2	11	0	0	0	0	0	0	11		
09:00	2	1	0	0	0	0	0	3	4	0	0	0	0	0	0	4		
09:15	5	1	0	0	0	0	0	6	7	0	0	0	0	0	0	7		
09:30	8	1	0	0	0	0	0	9	6	1	0	0	0	0	0	7		
09:45	9	0	0	0	0	0	0	9	6	0	0	0	0	0	0	6		
16:00	11	1	0	0	0	0	0	12	7	2	0	0	0	0	0	9		
16:15	9	3	0	0	0	0	0	12	8	1	0	0	0	0	0	9		
16:30	13	2	0	0	0	0	0	15	13	1	0	0	0	0	0	14		
16:45	15	0	0	0	0	0	0	15	8	0	0	0	0	0	0	8		
17:00	21	4	1	0	0	0	0	26	8	1	0	0	0	0	0	9		
17:15	8	0	0	0	0	0	0	8	18	0	0	0	0	0	0	18		
17:30	11	0	0	0	0	0	0	11	9	1	0	0	0	0	0	10		
17:45	15	0	0	0	0	0	0	15	10	0	0	0	0	0	0	10		
18:00	2	1	0	0	0	0	0	3	14	0	0	0	0	0	0	14		
18:15	6	1	0	0	0	0	0	7	10	0	0	0	0	0	0	10		
18:30	7	0	0	0	0	0	0	7	4	0	0	0	0	0	0	4		
18:45	4	0	0	0	0	0	0	4	2	0	0	0	0	0	0	2		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	20	3	0	0	0	0	0	23	14	2	0	0	0	0	1	17		
07:15	25	4	0	0	0	0	0	29	15	2	0	0	0	0	1	18		
07:30	28	4	0	0	0	0	0	32	21	4	0	0	0	0	1	26		
07:45	29	5	0	0	0	0	0	34	29	2	0	0	0	0	2	33		
08:00	19	3	0	0	0	0	0	22	33	2	0	0	0	0	2	37		
08:15	15	3	0	0	0	0	0	18	33	2	0	0	0	0	2	37		
08:30	14	4	0	0	0	0	0	18	34	0	0	0	0	0	2	36		
08:45	17	3	0	0	0	0	0	20	28	1	0	0	0	0	0	29		
09:00	24	3	0	0	0	0	0	27	23	1	0	0	0	0	0	24		
16:00	48	6	0	0	0	0	0	54	36	4	0	0	0	0	0	40		
16:15	58	9	1	0	0	0	0	68	37	3	0	0	0	0	0	40		
16:30	57	6	1	0	0	0	0	64	47	2	0	0	0	0	0	49		
16:45	55	4	1	0	0	0	0	60	43	2	0	0	0	0	0	45		
17:00	55	4	1	0	0	0	0	60	45	2	0	0	0	0	0	47		
17:15	36	1	0	0	0	0	0	37	51	1	0	0	0	0	0	52		
17:30	34	2	0	0	0	0	0	36	43	1	0	0	0	0	0	44		
17:45	30	2	0	0	0	0	0	32	38	0	0	0	0	0	0	38		
18:00	19	2	0	0	0	0	0	21	30	0	0	0	0	0	0	30		

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 1c
Date of Survey: 31.03.2022
Junction Name: A449 / St Michael's Square
Junction Type: T-Junction

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	172	50	2	8	5	1	0	238
07:15	185	59	5	6	1	0	1	257
07:30	304	58	5	5	3	1	1	377
07:45	277	47	4	3	2	0	0	333
08:00	293	68	9	6	1	1	0	378
08:15	279	62	7	1	0	0	2	351
08:30	273	53	5	6	3	2	3	345
08:45	278	51	5	4	4	1	1	344
09:00	195	48	4	10	5	0	0	262
09:15	205	47	5	7	2	1	0	267
09:30	194	43	4	7	4	1	1	254
09:45	174	42	2	10	1	1	1	231
16:00	382	84	10	15	1	0	0	492
16:15	381	89	11	15	2	2	0	500
16:30	400	98	5	9	5	1	0	518
16:45	345	74	5	14	2	1	1	442
17:00	434	66	9	18	4	0	0	531
17:15	398	47	1	6	3	0	1	456
17:30	350	34	3	8	4	0	0	399
17:45	300	28	2	3	2	1	0	336
18:00	249	30	2	1	2	2	2	288
18:15	217	24	3	1	5	1	0	251
18:30	195	16	0	5	3	0	0	219
18:45	173	18	1	3	0	0	0	195
Start Time	Rolling Hour							Total
07:00	938	214	16	22	11	2	2	1205
07:15	1059	232	23	20	7	2	2	1345
07:30	1153	235	25	15	6	2	3	1439
07:45	1122	230	25	16	6	3	5	1407
08:00	1123	234	26	17	8	4	6	1418
08:15	1025	214	21	21	12	3	6	1302
08:30	951	199	19	27	14	4	4	1218
08:45	872	189	18	28	15	3	2	1127
09:00	768	180	15	34	12	3	2	1014
16:00	1508	345	31	53	10	4	1	1952
16:15	1560	327	30	56	13	4	1	1991
16:30	1577	285	20	47	14	2	2	1947
16:45	1527	221	18	46	13	1	2	1828
17:00	1482	175	15	35	13	1	1	1722
17:15	1297	139	8	18	11	3	3	1479
17:30	1116	116	10	13	13	4	2	1274
17:45	961	98	7	10	12	4	2	1094
18:00	834	88	6	10	10	3	2	953

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 1c

Date of Survey: 31.03.2022
Junction Name: A449 / St Michael's Square
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Clay Street (S)
Arm C: St Michael's Square (W)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	2	126	0	124	1	0	0	1
07:15	0	0	151	0	114	0	0	0	3
07:30	0	5	203	0	174	1	0	1	4
07:45	0	4	152	0	168	3	0	4	10
08:00	0	4	192	0	187	0	0	1	6
08:15	0	7	163	0	177	1	0	1	5
08:30	0	8	157	0	179	4	0	0	7
08:45	0	8	188	0	153	3	0	1	1
09:00	0	3	123	0	152	1	0	1	2
09:15	0	4	129	0	138	3	0	1	5
09:30	0	5	143	0	109	2	0	2	7
09:45	0	4	123	0	107	2	0	4	5
16:00	0	6	206	0	290	3	0	3	9
16:15	0	8	194	0	311	1	0	1	11
16:30	0	13	226	0	282	1	0	0	15
16:45	0	8	169	0	271	0	0	3	12
17:00	0	9	244	0	284	0	0	1	26
17:15	0	17	217	0	224	1	0	4	4
17:30	0	7	193	0	201	3	0	2	9
17:45	0	8	168	0	150	2	0	4	11
18:00	0	9	134	0	139	5	0	1	2
18:15	0	7	115	0	127	3	0	1	6
18:30	0	1	117	0	100	3	0	3	4
18:45	0	2	118	0	76	0	0	2	2
Start Time	Rolling Hour								
07:00	0	11	631	0	579	5	0	5	18
07:15	0	13	698	0	642	4	0	6	23
07:30	0	20	710	0	706	5	0	7	25
07:45	0	23	664	0	711	8	0	6	28
08:00	0	27	700	0	697	8	0	3	19
08:15	0	26	631	0	661	9	0	3	15
08:30	0	23	597	0	622	11	0	3	15
08:45	0	20	583	0	552	9	0	5	15
09:00	0	16	518	0	506	8	0	8	19
16:00	0	35	796	0	1154	5	0	7	47
16:15	0	38	833	0	1147	2	0	5	64
16:30	0	47	856	0	1060	2	0	8	57
16:45	0	41	823	0	979	4	0	10	51
17:00	0	41	821	0	858	6	0	11	50
17:15	0	41	711	0	713	11	0	11	26
17:30	0	31	609	0	616	13	0	8	28
17:45	0	25	533	0	515	13	0	9	23
18:00	0	19	483	0	441	11	0	7	14

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 1c

Date of Survey: 31.03.2022
 Junction Name: A449 / St Michael's Square
 Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
 Arm B: A449 Clay Street (S)
 Arm C: St Michael's Square (W)



Count Method: **Vehicles** Classes Included: **All Classes** *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:	AM Peak	from:	08:00	until:	08:15	flow:	378
	PM Peak	from:	17:00	until:	17:15	flow:	531

Period Starting: **07:00** *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	115	2	117
B	119	0	1	120
C	1	0	0	1
Total	120	115	3	238

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	7.8%	0.0%	7.7%
B	5.0%	0.0%	0.0%	5.0%
C	0.0%	0.0%	0.0%	0.0%
Total	5.0%	7.8%	0.0%	6.3%

Maximum Hourly Junction Flow:	AM Peak	from:	07:30	until:	08:30	flow:	1439
	PM Peak	from:	16:15	until:	17:15	flow:	1991

Period Starting: **07:00** *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	605	12	617
B	560	0	5	565
C	18	5	0	23
Total	578	610	17	1205

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	4.3%	0.0%	4.2%
B	4.1%	0.0%	0.0%	4.1%
C	0.0%	0.0%	0.0%	0.0%
Total	4.0%	4.3%	0.0%	4.1%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 2a
Date of Survey:	31.03.2022
Junction Name:	A449 Wolverhampton Road / New Road
Junction Type:	T-Junction

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 2a - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

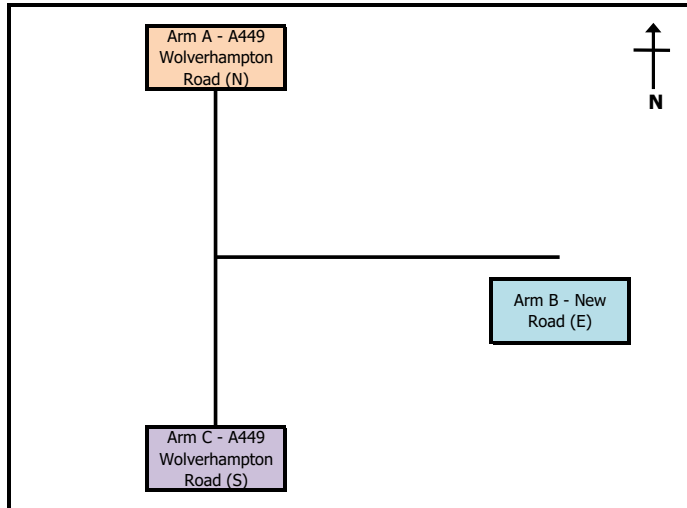
Intelligent Data Collection Limited



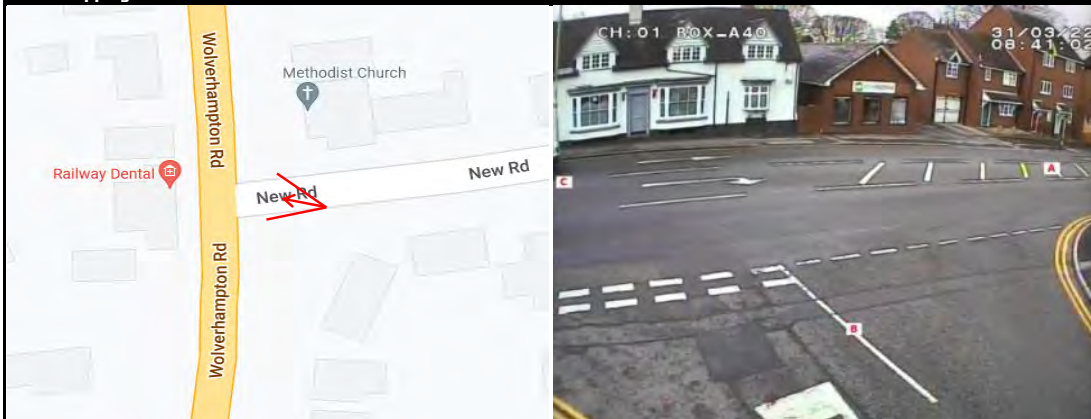
Client: PJA
Project Number: ID06388
Junction Number: Site 2a
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / New Road
Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
52.723859	-2.115881	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

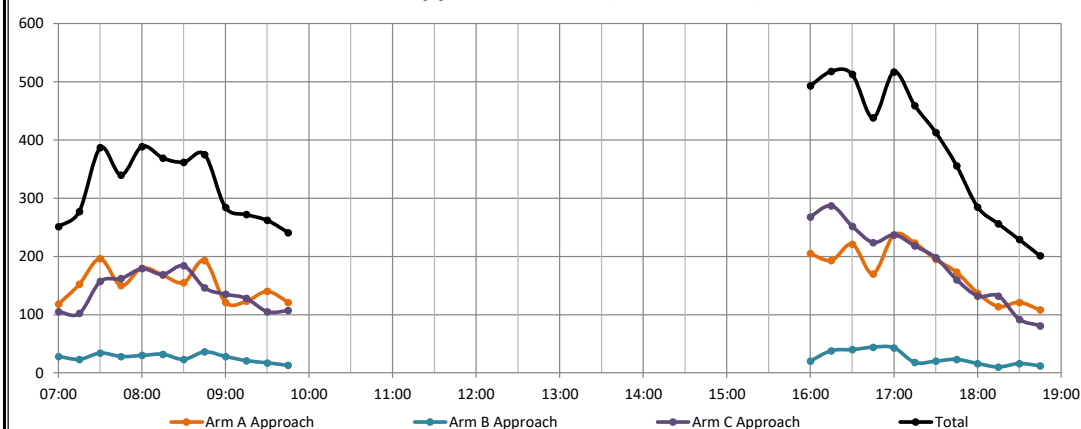


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 2a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / New Road
 Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
 Arm B: New Road (E)

Arm C: A449 Wolverhampton Road (S)



Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	78	19	0	5	2	0	0	104	10	3	0	0	1	0	0	14
07:15								0	106	26	2	2	0	0	1	137	13	2	0	0	0	0	0	15
07:30								0	157	17	2	3	3	0	0	182	12	1	0	0	1	0	0	14
07:45								0	116	15	0	2	2	0	0	135	13	1	1	0	0	0	0	15
08:00								0	111	25	5	3	0	0	0	144	33	3	0	0	0	0	0	36
08:15								0	120	25	2	0	0	0	0	147	16	5	0	0	0	0	0	21
08:30								0	95	20	2	3	0	1	1	122	27	4	0	0	2	0	0	33
08:45								0	126	21	2	1	3	1	1	155	32	6	0	0	0	0	0	38
09:00								0	86	21	0	1	1	0	0	109	9	3	0	0	0	0	0	12
09:15								0	82	17	1	3	1	1	0	105	15	3	0	0	0	0	0	18
09:30								0	86	22	2	2	1	1	0	114	21	3	1	0	1	0	0	26
09:45								0	73	17	2	5	0	0	0	97	20	3	0	0	0	1	0	24
16:00								0	130	25	4	3	0	1	0	163	34	7	1	0	0	0	0	42
16:15								0	117	31	2	4	1	0	0	155	33	4	1	0	0	0	0	38
16:30								0	135	33	3	2	2	0	0	175	35	10	0	0	1	0	0	46
16:45								0	110	17	2	3	0	0	0	132	29	8	0	0	0	1	0	38
17:00								0	156	20	3	4	2	0	0	185	44	8	0	0	0	0	0	52
17:15								0	158	17	0	1	1	0	0	177	37	8	0	0	0	0	1	46
17:30								0	131	8	0	3	0	0	0	142	44	8	0	0	1	0	0	53
17:45								0	124	13	1	2	1	0	0	141	29	3	0	0	0	0	0	32
18:00								0	103	8	1	0	0	1	0	113	20	4	0	0	0	0	0	24
18:15								0	88	9	1	0	0	0	0	98	16	0	0	0	0	0	0	16
18:30								0	82	7	0	4	1	0	0	94	26	0	0	0	1	0	0	27
18:45								0	74	8	1	1	0	0	0	84	22	2	0	0	0	0	0	24
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
								Total								Total								Total
07:00	0	0	0	0	0	0	0	0	457	77	4	12	7	0	1	558	48	7	1	0	2	0	0	58
07:15	0	0	0	0	0	0	0	0	490	83	9	10	5	0	1	598	71	7	1	0	1	0	0	80
07:30	0	0	0	0	0	0	0	0	504	82	9	8	5	0	0	608	74	10	1	0	1	0	0	86
07:45	0	0	0	0	0	0	0	0	442	85	9	8	2	1	1	548	89	13	1	0	2	0	0	105
08:00	0	0	0	0	0	0	0	0	452	91	11	7	3	2	2	568	108	18	0	0	2	0	0	128
08:15	0	0	0	0	0	0	0	0	427	87	6	5	4	2	2	533	84	18	0	0	2	0	0	104
08:30	0	0	0	0	0	0	0	0	389	79	5	8	5	3	2	491	83	16	0	0	2	0	0	101
08:45	0	0	0	0	0	0	0	0	380	81	5	7	6	3	1	483	77	15	1	0	1	0	0	94
09:00	0	0	0	0	0	0	0	0	327	77	5	11	3	2	0	425	65	12	1	0	1	1	0	80
16:00	0	0	0	0	0	0	0	0	492	106	11	12	3	1	0	625	131	29	2	0	1	1	0	164
16:15	0	0	0	0	0	0	0	0	518	101	10	13	5	0	0	647	141	30	1	0	1	1	0	174
16:30	0	0	0	0	0	0	0	0	559	87	8	10	5	0	0	669	145	34	0	0	1	1	1	182
16:45	0	0	0	0	0	0	0	0	555	62	5	11	3	0	0	636	154	32	0	0	1	1	1	189
17:00	0	0	0	0	0	0	0	0	569	58	4	10	4	0	0	645	154	27	0	0	1	0	1	183
17:15	0	0	0	0	0	0	0	0	516	46	2	6	2	1	0	573	130	23	0	0	1	0	1	155
17:30	0	0	0	0	0	0	0	0	446	38	3	5	1	1	0	494	109	15	0	0	1	0	0	125
17:45	0	0	0	0	0	0	0	0	397	37	3	6	2	1	0	446	91	7	0	0	1	0	0	99
18:00	0	0	0	0	0	0	0	0	347	32	3	5	1	1	0	389	84	6	0	0	1	0	0	91

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 2a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / New Road
 Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
 Arm B: New Road (E)

Arm C: A449 Wolverhampton Road (S)



Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	9	6	0	0	0	1	0	16	12	0	0	0	0	0	0	12
07:15								0	5	6	0	0	1	0	0	12	9	2	0	0	0	0	0	11
07:30								0	16	7	0	0	0	0	0	23	11	0	0	0	0	0	0	11
07:45								0	15	4	0	0	0	0	0	19	8	1	0	0	0	0	0	9
08:00								0	12	2	0	0	0	1	0	15	13	2	0	0	0	0	0	15
08:15								0	12	5	0	0	0	0	0	17	11	4	0	0	0	0	0	15
08:30								0	12	1	0	0	0	0	0	13	9	1	0	0	0	0	0	10
08:45								0	13	4	0	0	0	0	0	17	18	1	0	0	0	0	0	19
09:00								0	14	4	0	0	0	0	0	18	8	2	0	0	0	0	0	10
09:15								0	10	3	1	0	1	0	0	15	4	2	0	0	0	0	0	6
09:30								0	9	3	0	0	0	0	0	12	5	0	0	0	0	0	0	5
09:45								0	7	4	0	0	0	0	0	11	2	0	0	0	0	0	0	2
16:00								0	10	2	0	0	0	0	0	12	6	1	1	0	0	0	0	8
16:15								0	16	5	0	0	1	0	0	22	14	2	0	0	0	0	0	16
16:30								0	28	3	0	0	1	0	0	32	6	2	0	0	0	0	0	8
16:45								0	27	13	1	0	0	0	0	41	2	1	0	0	0	0	0	3
17:00								0	28	5	0	1	1	0	0	35	4	4	0	0	0	0	0	8
17:15								0	8	0	0	0	1	0	0	9	9	0	0	0	0	0	0	9
17:30								0	9	2	0	0	2	0	0	13	7	0	0	0	0	0	0	7
17:45								0	12	0	0	0	0	0	0	12	9	2	0	0	0	0	0	11
18:00								0	7	3	0	0	0	1	0	11	5	0	0	0	0	0	0	5
18:15								0	4	1	0	0	1	0	0	6	4	0	0	0	0	0	0	4
18:30								0	12	1	0	0	0	0	0	13	3	0	0	0	0	0	0	3
18:45								0	5	0	0	0	0	0	0	5	6	1	0	0	0	0	0	7
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	45	23	0	0	1	1	0	70	40	3	0	0	0	0	0	43
07:15	0	0	0	0	0	0	0	0	48	19	0	0	1	1	0	69	41	5	0	0	0	0	0	46
07:30	0	0	0	0	0	0	0	0	55	18	0	0	0	1	0	74	43	7	0	0	0	0	0	50
07:45	0	0	0	0	0	0	0	0	51	12	0	0	0	1	0	64	41	8	0	0	0	0	0	49
08:00	0	0	0	0	0	0	0	0	49	12	0	0	0	1	0	62	51	8	0	0	0	0	0	59
08:15	0	0	0	0	0	0	0	0	51	14	0	0	0	0	0	65	46	8	0	0	0	0	0	54
08:30	0	0	0	0	0	0	0	0	49	12	1	0	1	0	0	63	39	6	0	0	0	0	0	45
08:45	0	0	0	0	0	0	0	0	46	14	1	0	1	0	0	62	35	5	0	0	0	0	0	40
09:00	0	0	0	0	0	0	0	0	40	14	1	0	1	0	0	56	19	4	0	0	0	0	0	23
16:00	0	0	0	0	0	0	0	0	81	23	1	0	2	0	0	107	28	6	1	0	0	0	0	35
16:15	0	0	0	0	0	0	0	0	99	26	1	1	3	0	0	130	26	9	0	0	0	0	0	35
16:30	0	0	0	0	0	0	0	0	91	21	1	1	3	0	0	117	21	7	0	0	0	0	0	28
16:45	0	0	0	0	0	0	0	0	72	20	1	1	4	0	0	98	22	5	0	0	0	0	0	27
17:00	0	0	0	0	0	0	0	0	57	7	0	1	4	0	0	69	29	6	0	0	0	0	0	35
17:15	0	0	0	0	0	0	0	0	36	5	0	0	3	1	0	45	30	2	0	0	0	0	0	32
17:30	0	0	0	0	0	0	0	0	32	6	0	0	3	1	0	42	25	2	0	0	0	0	0	27
17:45	0	0	0	0	0	0	0	0	35	5	0	0	1	1	0	42	21	2	0	0	0	0	0	23
18:00	0	0	0	0	0	0	0	0	28	5	0	0	1	1	0	35	18	1	0	0	0	0	0	19

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 2a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / New Road
Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
Arm B: New Road (E)

Arm C: A449 Wolverhampton Road (S)



Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	2	0	0	0	0	0	0	2	77	20	2	3	1	0	0	103
07:15								0	1	0	0	0	0	0	0	1	65	29	3	4	0	0	0	101
07:30								0	8	2	0	0	0	0	0	10	111	31	3	2	0	0	0	147
07:45								0	6	0	0	0	0	0	0	6	127	24	4	1	0	0	0	156
08:00								0	6	1	1	0	0	0	0	8	125	36	5	3	1	1	0	171
08:15								0	9	3	0	0	0	0	0	12	127	24	4	1	0	0	1	157
08:30								0	15	0	0	0	0	0	0	15	128	34	2	3	1	1	0	169
08:45								0	8	1	0	0	0	0	0	9	111	19	3	3	1	0	0	137
09:00								0	11	2	0	0	0	0	0	13	86	19	4	9	4	0	0	122
09:15								0	5	1	0	0	0	0	0	6	88	26	3	5	0	0	0	122
09:30								0	9	2	0	0	0	0	0	11	71	15	1	4	2	1	0	94
09:45								0	8	1	1	0	0	0	0	10	72	18	1	5	1	0	0	97
16:00								0	12	2	0	0	0	0	0	14	190	47	4	12	1	0	0	254
16:15								0	12	1	0	0	0	0	0	13	206	47	8	11	0	2	0	274
16:30								0	17	1	0	0	0	0	0	18	174	49	2	7	1	1	0	234
16:45								0	10	1	0	0	0	0	0	11	160	36	4	11	2	0	0	213
17:00								0	12	2	0	0	0	0	0	14	176	28	4	13	2	0	0	223
17:15								0	10	4	0	0	0	0	0	14	174	22	2	6	0	0	0	204
17:30								0	12	2	0	0	0	0	0	14	161	16	2	4	1	0	0	184
17:45								0	19	0	0	0	0	0	0	19	123	13	1	2	1	1	0	141
18:00								0	7	0	0	0	0	0	0	7	106	15	0	1	2	0	1	125
18:15								0	10	0	0	0	0	0	0	10	100	13	2	1	4	1	1	122
18:30								0	5	0	0	0	0	0	0	5	77	9	0	0	1	0	0	87
18:45								0	12	1	0	0	0	0	0	13	58	8	0	2	0	0	0	68
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	17	2	0	0	0	0	0	19	380	104	12	10	1	0	0	507
07:15	0	0	0	0	0	0	0	0	21	3	1	0	0	0	0	25	428	120	15	10	1	1	0	575
07:30	0	0	0	0	0	0	0	0	29	6	1	0	0	0	0	36	490	115	16	7	1	1	1	631
07:45	0	0	0	0	0	0	0	0	36	4	1	0	0	0	0	41	507	118	15	8	2	2	1	653
08:00	0	0	0	0	0	0	0	0	38	5	1	0	0	0	0	44	491	113	14	10	3	2	1	634
08:15	0	0	0	0	0	0	0	0	43	6	0	0	0	0	0	49	452	96	13	16	6	1	1	585
08:30	0	0	0	0	0	0	0	0	39	4	0	0	0	0	0	43	413	98	12	20	6	1	0	550
08:45	0	0	0	0	0	0	0	0	33	6	0	0	0	0	0	39	356	79	11	21	7	1	0	475
09:00	0	0	0	0	0	0	0	0	33	6	1	0	0	0	0	40	317	78	9	23	7	1	0	435
16:00	0	0	0	0	0	0	0	0	51	5	0	0	0	0	0	56	730	179	18	41	4	3	0	975
16:15	0	0	0	0	0	0	0	0	51	5	0	0	0	0	0	56	716	160	18	42	5	3	0	944
16:30	0	0	0	0	0	0	0	0	49	8	0	0	0	0	0	57	684	135	12	37	5	1	0	874
16:45	0	0	0	0	0	0	0	0	44	9	0	0	0	0	0	53	671	102	12	34	5	0	0	824
17:00	0	0	0	0	0	0	0	0	53	8	0	0	0	0	0	61	634	79	9	25	4	1	0	752
17:15	0	0	0	0	0	0	0	0	48	6	0	0	0	0	0	54	564	66	5	13	4	1	1	654
17:30	0	0	0	0	0	0	0	0	48	2	0	0	0	0	0	50	490	57	5	8	8	2	2	572
17:45	0	0	0	0	0	0	0	0	41	0	0	0	0	0	0	41	406	50	3	4	8	2	2	475
18:00	0	0	0	0	0	0	0	0	34	1	0	0	0	0	0	35	341	45	2	4	7	1	2	402

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 2a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / New Road
 Junction Type: T-Junction

	Arm A Approach								Arm A Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	88	22	0	5	3	0	0	118	86	26	2	3	1	1	0	119
07:15	119	28	2	2	0	0	1	152	70	35	3	4	1	0	0	113
07:30	169	18	2	3	4	0	0	196	127	38	3	2	0	0	0	170
07:45	129	16	1	2	2	0	0	150	142	28	4	1	0	0	0	175
08:00	144	28	5	3	0	0	0	180	137	38	5	3	1	2	0	186
08:15	136	30	2	0	0	0	0	168	139	29	4	1	0	0	1	174
08:30	122	24	2	3	2	1	1	155	140	35	2	3	1	1	0	182
08:45	158	27	2	1	3	1	1	193	124	23	3	3	1	0	0	154
09:00	95	24	0	1	1	0	0	121	100	23	4	9	4	0	0	140
09:15	97	20	1	3	1	1	0	123	98	29	4	5	1	0	0	137
09:30	107	25	3	2	2	1	0	140	80	18	1	4	2	1	0	106
09:45	93	20	2	5	0	1	0	121	79	22	1	5	1	0	0	108
16:00	164	32	5	3	0	1	0	205	200	49	4	12	1	0	0	266
16:15	150	35	3	4	1	0	0	193	222	52	8	11	1	2	0	296
16:30	170	43	3	2	3	0	0	221	202	52	2	7	2	1	0	266
16:45	139	25	2	3	0	1	0	170	187	49	5	11	2	0	0	254
17:00	200	28	3	4	2	0	0	237	204	33	4	14	3	0	0	258
17:15	195	25	0	1	1	0	1	223	182	22	2	6	1	0	0	213
17:30	175	16	0	3	1	0	0	195	170	18	2	4	3	0	0	197
17:45	153	16	1	2	1	0	0	173	135	13	1	2	1	1	0	153
18:00	123	12	1	0	0	1	0	137	113	18	0	1	2	1	1	136
18:15	104	9	1	0	0	0	0	114	104	14	2	1	5	1	1	128
18:30	108	7	0	4	2	0	0	121	89	10	0	0	1	0	0	100
18:45	96	10	1	1	0	0	0	108	63	8	0	2	0	0	0	73
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	505	84	5	12	9	0	1	616	425	127	12	10	2	1	0	577
07:15	561	90	10	10	6	0	1	678	476	139	15	10	2	2	0	644
07:30	578	92	10	8	6	0	0	694	545	133	16	7	1	2	1	705
07:45	531	98	10	8	4	1	1	653	558	130	15	8	2	3	1	717
08:00	560	109	11	7	5	2	2	696	540	125	14	10	3	3	1	696
08:15	511	105	6	5	6	2	2	637	503	110	13	16	6	1	1	650
08:30	472	95	5	8	7	3	2	592	462	110	13	20	7	1	0	613
08:45	457	96	6	7	7	3	1	577	402	93	12	21	8	1	0	537
09:00	392	89	6	11	4	3	0	505	357	92	10	23	8	1	0	491
16:00	623	135	13	12	4	2	0	789	811	202	19	41	6	3	0	1082
16:15	659	131	11	13	6	1	0	821	815	186	19	43	8	3	0	1074
16:30	704	121	8	10	6	1	1	851	775	156	13	38	8	1	0	991
16:45	709	94	5	11	4	1	1	825	743	122	13	35	9	0	0	922
17:00	723	85	4	10	5	0	1	828	691	86	9	26	8	1	0	821
17:15	646	69	2	6	3	1	1	728	600	71	5	13	7	2	1	699
17:30	555	53	3	5	2	1	0	619	522	63	5	8	11	3	2	614
17:45	488	44	3	6	3	1	0	545	441	55	3	4	9	3	2	517
18:00	431	38	3	5	2	1	0	480	369	50	2	4	8	2	2	437

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 2a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / New Road
 Junction Type: T-Junction

	Arm B Approach								Arm B Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	21	6	0	0	0	1	0	28	12	3	0	0	1	0	0	16
07:15	14	8	0	0	1	0	0	23	14	2	0	0	0	0	0	16
07:30	27	7	0	0	0	0	0	34	20	3	0	0	1	0	0	24
07:45	23	5	0	0	0	0	0	28	19	1	1	0	0	0	0	21
08:00	25	4	0	0	0	1	0	30	39	4	1	0	0	0	0	44
08:15	23	9	0	0	0	0	0	32	25	8	0	0	0	0	0	33
08:30	21	2	0	0	0	0	0	23	42	4	0	0	2	0	0	48
08:45	31	5	0	0	0	0	0	36	40	7	0	0	0	0	0	47
09:00	22	6	0	0	0	0	0	28	20	5	0	0	0	0	0	25
09:15	14	5	1	0	1	0	0	21	20	4	0	0	0	0	0	24
09:30	14	3	0	0	0	0	0	17	30	5	1	0	1	0	0	37
09:45	9	4	0	0	0	0	0	13	28	4	1	0	0	1	0	34
16:00	16	3	1	0	0	0	0	20	46	9	1	0	0	0	0	56
16:15	30	7	0	0	1	0	0	38	45	5	1	0	0	0	0	51
16:30	34	5	0	0	1	0	0	40	52	11	0	0	1	0	0	64
16:45	29	14	1	0	0	0	0	44	39	9	0	0	0	1	0	49
17:00	32	9	0	1	1	0	0	43	56	10	0	0	0	0	0	66
17:15	17	0	0	0	1	0	0	18	47	12	0	0	0	0	1	60
17:30	16	2	0	0	2	0	0	20	56	10	0	0	1	0	0	67
17:45	21	2	0	0	0	0	0	23	48	3	0	0	0	0	0	51
18:00	12	3	0	0	0	1	0	16	27	4	0	0	0	0	0	31
18:15	8	1	0	0	1	0	0	10	26	0	0	0	0	0	0	26
18:30	15	1	0	0	0	0	0	16	31	0	0	0	1	0	0	32
18:45	11	1	0	0	0	0	0	12	34	3	0	0	0	0	0	37
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	85	26	0	0	1	1	0	113	65	9	1	0	2	0	0	77
07:15	89	24	0	0	1	1	0	115	92	10	2	0	1	0	0	105
07:30	98	25	0	0	0	1	0	124	103	16	2	0	1	0	0	122
07:45	92	20	0	0	0	1	0	113	125	17	2	0	2	0	0	146
08:00	100	20	0	0	0	1	0	121	146	23	1	0	2	0	0	172
08:15	97	22	0	0	0	0	0	119	127	24	0	0	2	0	0	153
08:30	88	18	1	0	1	0	0	108	122	20	0	0	2	0	0	144
08:45	81	19	1	0	1	0	0	102	110	21	1	0	1	0	0	133
09:00	59	18	1	0	1	0	0	79	98	18	2	0	1	1	0	120
16:00	109	29	2	0	2	0	0	142	182	34	2	0	1	1	0	220
16:15	125	35	1	1	3	0	0	165	192	35	1	0	1	1	0	230
16:30	112	28	1	1	3	0	0	145	194	42	0	0	1	1	1	239
16:45	94	25	1	1	4	0	0	125	198	41	0	0	1	1	1	242
17:00	86	13	0	1	4	0	0	104	207	35	0	0	1	0	1	244
17:15	66	7	0	0	3	1	0	77	178	29	0	0	1	0	1	209
17:30	57	8	0	0	3	1	0	69	157	17	0	0	1	0	0	175
17:45	56	7	0	0	1	1	0	65	132	7	0	0	1	0	0	140
18:00	46	6	0	0	1	1	0	54	118	7	0	0	1	0	0	126

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 2a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / New Road
 Junction Type: T-Junction

Time	Arm C Approach								Arm C Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	79	20	2	3	1	0	0	105	90	19	0	5	2	0	0	116
07:15	66	29	3	4	0	0	0	102	115	28	2	2	0	0	1	148
07:30	119	33	3	2	0	0	0	157	168	17	2	3	3	0	0	193
07:45	133	24	4	1	0	0	0	162	124	16	0	2	2	0	0	144
08:00	131	37	6	3	1	1	0	179	124	27	5	3	0	0	0	159
08:15	136	27	4	1	0	0	1	169	131	29	2	0	0	0	0	162
08:30	143	34	2	3	1	1	0	184	104	21	2	3	0	1	1	132
08:45	119	20	3	3	1	0	0	146	144	22	2	1	3	1	1	174
09:00	97	21	4	9	4	0	0	135	94	23	0	1	1	0	0	119
09:15	93	27	3	5	0	0	0	128	86	19	1	3	1	1	0	111
09:30	80	17	1	4	2	1	0	105	91	22	2	2	1	1	0	119
09:45	80	19	2	5	1	0	0	107	75	17	2	5	0	0	0	99
16:00	202	49	4	12	1	0	0	268	136	26	5	3	0	1	0	171
16:15	218	48	8	11	0	2	0	287	131	33	2	4	1	0	0	171
16:30	191	50	2	7	1	1	0	252	141	35	3	2	2	0	0	183
16:45	170	37	4	11	2	0	0	224	112	18	2	3	0	0	0	135
17:00	188	30	4	13	2	0	0	237	160	24	3	4	2	0	0	193
17:15	184	26	2	6	0	0	0	218	167	17	0	1	1	0	0	186
17:30	173	18	2	4	1	0	0	198	138	8	0	3	0	0	0	149
17:45	142	13	1	2	1	1	0	160	133	15	1	2	1	0	0	152
18:00	113	15	0	1	2	0	1	132	108	8	1	0	0	1	0	118
18:15	110	13	2	1	4	1	1	132	92	9	1	0	0	0	0	102
18:30	82	9	0	0	1	0	0	92	85	7	0	4	1	0	0	97
18:45	70	9	0	2	0	0	0	81	80	9	1	1	0	0	0	91
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	397	106	12	10	1	0	0	526	497	80	4	12	7	0	1	601
07:15	449	123	16	10	1	1	0	600	531	88	9	10	5	0	1	644
07:30	519	121	17	7	1	1	1	667	547	89	9	8	5	0	0	658
07:45	543	122	16	8	2	2	1	694	483	93	9	8	2	1	1	597
08:00	529	118	15	10	3	2	1	678	503	99	11	7	3	2	2	627
08:15	495	102	13	16	6	1	1	634	473	95	6	5	4	2	2	587
08:30	452	102	12	20	6	1	0	593	428	85	5	8	5	3	2	536
08:45	389	85	11	21	7	1	0	514	415	86	5	7	6	3	1	523
09:00	350	84	10	23	7	1	0	475	346	81	5	11	3	2	0	448
16:00	781	184	18	41	4	3	0	1031	520	112	12	12	3	1	0	660
16:15	767	165	18	42	5	3	0	1000	544	110	10	13	5	0	0	682
16:30	733	143	12	37	5	1	0	931	580	94	8	10	5	0	0	697
16:45	715	111	12	34	5	0	0	877	577	67	5	11	3	0	0	663
17:00	687	87	9	25	4	1	0	813	598	64	4	10	4	0	0	680
17:15	612	72	5	13	4	1	1	708	546	48	2	6	2	1	0	605
17:30	538	59	5	8	8	2	2	622	471	40	3	5	1	1	0	521
17:45	447	50	3	4	8	2	2	516	418	39	3	6	2	1	0	469
18:00	375	46	2	4	7	1	2	437	365	33	3	5	1	1	0	408

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 2a
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / New Road
Junction Type: T-Junction

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	188	48	2	8	4	1	0	251
07:15	199	65	5	6	1	0	1	277
07:30	315	58	5	5	4	0	0	387
07:45	285	45	5	3	2	0	0	340
08:00	300	69	11	6	1	2	0	389
08:15	295	66	6	1	0	0	1	369
08:30	286	60	4	6	3	2	1	362
08:45	308	52	5	4	4	1	1	375
09:00	214	51	4	10	5	0	0	284
09:15	204	52	5	8	2	1	0	272
09:30	201	45	4	6	4	2	0	262
09:45	182	43	4	10	1	1	0	241
16:00	382	84	10	15	1	1	0	493
16:15	398	90	11	15	2	2	0	518
16:30	395	98	5	9	5	1	0	513
16:45	338	76	7	14	2	1	0	438
17:00	420	67	7	18	5	0	0	517
17:15	396	51	2	7	2	0	1	459
17:30	364	36	2	7	4	0	0	413
17:45	316	31	2	4	2	1	0	356
18:00	248	30	1	1	2	2	1	285
18:15	222	23	3	1	5	1	1	256
18:30	205	17	0	4	3	0	0	229
18:45	177	20	1	3	0	0	0	201
Start Time	Rolling Hour							Total
07:00	987	216	17	22	11	1	1	1255
07:15	1099	237	26	20	8	2	1	1393
07:30	1195	238	27	15	7	2	1	1485
07:45	1166	240	26	16	6	4	2	1460
08:00	1189	247	26	17	8	5	3	1495
08:15	1103	229	19	21	12	3	3	1390
08:30	1012	215	18	28	14	4	2	1293
08:45	927	200	18	28	15	4	1	1193
09:00	801	191	17	34	12	4	0	1059
16:00	1513	348	33	53	10	5	0	1962
16:15	1551	331	30	56	14	4	0	1986
16:30	1549	292	21	48	14	2	1	1927
16:45	1518	230	18	46	13	1	1	1827
17:00	1496	185	13	36	13	1	1	1745
17:15	1324	148	7	19	10	3	2	1513
17:30	1150	120	8	13	13	4	2	1310
17:45	991	101	6	10	12	4	2	1126
18:00	852	90	5	9	10	3	2	971

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 2a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / New Road
Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
Arm B: New Road (E)
Arm C: A449 Wolverhampton Road (S)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	113	15	0	15	12	0	2	109
07:15	0	140	15	0	13	11	0	1	108
07:30	0	190	15	0	23	11	0	10	151
07:45	0	140	16	0	19	9	0	6	159
08:00	0	150	36	0	14	15	0	9	178
08:15	0	148	21	0	17	15	0	12	160
08:30	0	126	35	0	13	10	0	15	174
08:45	0	159	38	0	17	19	0	9	143
09:00	0	111	12	0	18	10	0	13	140
09:15	0	110	18	0	17	6	0	6	130
09:30	0	118	28	0	12	5	0	11	101
09:45	0	105	23	0	11	2	0	11	105
16:00	0	168	43	0	12	9	0	14	273
16:15	0	162	39	0	23	16	0	13	291
16:30	0	181	47	0	33	8	0	18	245
16:45	0	137	37	0	42	3	0	11	231
17:00	0	194	52	0	37	8	0	14	244
17:15	0	179	45	0	10	9	0	14	213
17:30	0	146	54	0	15	7	0	14	191
17:45	0	145	32	0	12	11	0	19	145
18:00	0	113	24	0	10	5	0	7	128
18:15	0	99	16	0	7	4	0	10	127
18:30	0	100	28	0	13	3	0	5	88
18:45	0	86	24	0	5	7	0	13	71
Start Time	Rolling Hour								
07:00	0	582	61	0	70	43	0	19	527
07:15	0	620	82	0	69	46	0	26	596
07:30	0	628	88	0	73	50	0	37	648
07:45	0	564	108	0	63	49	0	42	671
08:00	0	583	130	0	61	59	0	45	655
08:15	0	544	106	0	65	54	0	49	617
08:30	0	506	103	0	65	45	0	43	587
08:45	0	498	96	0	64	40	0	39	514
09:00	0	444	81	0	58	23	0	41	476
16:00	0	649	165	0	110	36	0	56	1040
16:15	0	674	175	0	135	35	0	56	1011
16:30	0	691	182	0	122	28	0	57	933
16:45	0	656	189	0	104	27	0	53	879
17:00	0	664	183	0	74	35	0	61	792
17:15	0	583	155	0	47	32	0	54	676
17:30	0	502	126	0	44	27	0	50	590
17:45	0	457	100	0	42	23	0	41	487
18:00	0	397	92	0	35	19	0	35	413

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 2a
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / New Road
Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
Arm B: New Road (E)
Arm C: A449 Wolverhampton Road (S)



Count Method: Vehicles **Classes Included:** All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:	AM Peak	from:	08:00	until:	08:15	flow:	389
	PM Peak	from:	16:15	until:	16:30	flow:	518

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	14	104	118
From B	16	0	12	28
From C	103	2	0	105
Total	119	16	116	251

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	7.1%	6.7%	6.8%
From B	0.0%	0.0%	0.0%	0.0%
From C	5.8%	0.0%	0.0%	5.7%
Total	5.0%	6.3%	6.0%	5.6%

Maximum Hourly Junction Flow:	AM Peak	from:	08:00	until:	09:00	flow:	1495
	PM Peak	from:	16:15	until:	17:15	flow:	1986

Period Starting: 07:00 *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	58	558	616
From B	70	0	43	113
From C	507	19	0	526
Total	577	77	601	1255

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	5.2%	4.1%	4.2%
From B	1.4%	0.0%	0.0%	0.9%
From C	4.5%	0.0%	0.0%	4.4%
Total	4.2%	3.9%	3.8%	4.0%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 3a
Date of Survey:	31.03.2022
Junction Name:	Cannock Road / B5012 Wolgarston Way
Junction Type:	3-arm Roundabout

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 3a - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

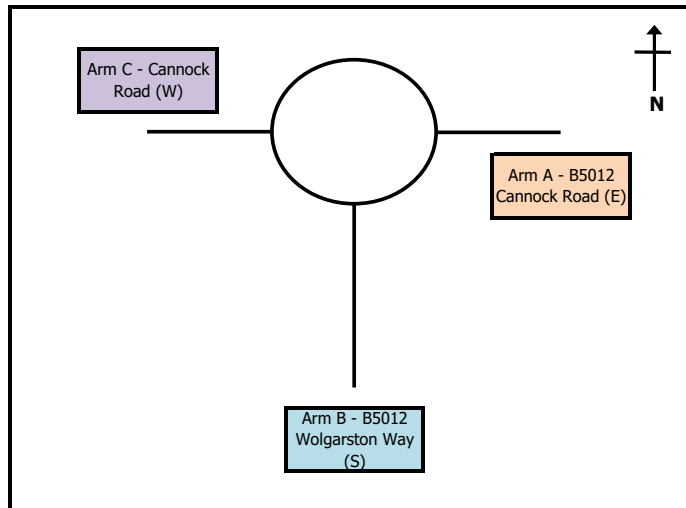
Intelligent Data Collection Limited



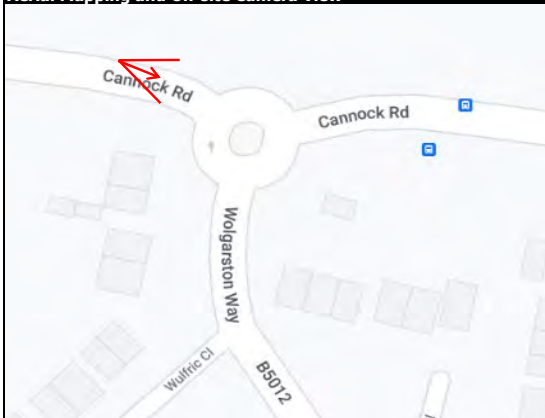
Client: PJA Date of Survey: 31.03.2022
 Project Number: ID06388 Junction Name: Cannock Road / B5012 Wolgarston Way
 Junction Number: Site 3a Junction Type: 3-arm Roundabout

X Coordinate	Y Coordinate	Google Maps Link
52.723412	-2.103288	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

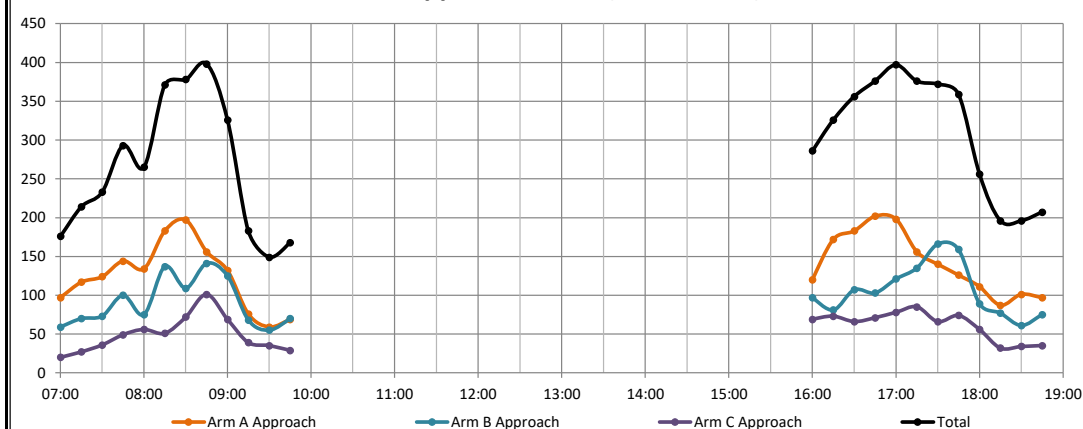


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 3a

Date of Survey: 31.03.2022
Junction Name: Cannock Road / B5012 Wolgarston Way
Junction Type: 3-arm Roundabout

Arm A: B5012 Cannock Road (E)
Arm B: B5012 Wolgarston Way (S)

Arm C: Cannock Road (W)



Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	15	6	0	0	0	1	0	22	54	16	4	1	0	0	0	75
07:15	0	0	0	0	0	0	0	0	14	10	0	0	0	1	0	24	67	20	1	4	1	0	0	93
07:30	0	0	0	0	0	0	0	0	23	14	0	0	0	0	0	37	63	20	0	4	0	0	0	87
07:45	0	0	0	0	0	0	0	0	38	8	0	0	0	0	0	46	78	15	3	1	0	1	0	98
08:00	0	0	0	0	0	0	0	0	31	8	1	0	0	0	0	40	65	27	0	1	1	0	0	94
08:15	0	0	0	0	0	0	0	0	49	9	1	0	1	0	1	61	104	14	2	2	0	0	0	122
08:30	1	1	0	0	0	0	0	2	59	6	0	0	0	0	1	66	98	23	2	3	3	0	0	129
08:45	0	0	0	0	0	0	0	0	31	4	0	1	1	0	0	37	93	18	1	1	5	1	0	119
09:00	1	0	0	0	0	0	0	1	35	8	0	0	0	0	0	43	71	12	1	3	0	1	0	88
09:15	0	0	0	0	0	0	0	0	23	6	0	0	0	0	0	29	34	8	1	4	0	0	0	47
09:30	0	0	0	0	0	0	0	0	10	5	0	0	0	0	0	15	34	9	1	0	0	0	0	44
09:45	0	0	0	0	0	0	0	0	20	6	0	0	0	0	0	26	35	7	0	1	0	0	0	43
16:00	1	1	0	0	0	0	0	2	35	8	1	0	0	0	0	44	54	14	3	3	0	0	0	74
16:15	0	0	0	0	0	0	0	0	47	11	0	0	0	0	0	58	87	21	2	2	2	0	0	114
16:30	0	0	0	0	0	0	0	0	84	20	0	0	0	0	0	104	61	17	1	0	0	0	0	79
16:45	0	0	0	0	0	0	0	0	56	16	1	1	1	0	0	75	105	20	0	2	0	0	0	127
17:00	0	0	0	0	0	0	0	0	59	12	0	0	0	0	0	71	102	24	0	0	1	0	0	127
17:15	1	0	0	0	0	0	0	1	44	5	0	0	0	0	0	49	92	13	1	0	0	0	0	106
17:30	0	0	0	0	0	0	0	0	38	5	0	0	1	0	0	44	89	7	0	0	0	0	0	96
17:45	0	0	0	0	0	0	0	0	31	4	0	0	0	0	0	35	85	5	1	0	0	0	0	91
18:00	2	0	0	0	0	0	0	2	42	4	0	0	0	0	0	46	62	1	0	0	0	0	0	63
18:15	1	0	0	0	0	0	0	1	26	3	0	0	0	2	0	31	47	6	1	0	1	0	0	55
18:30	0	1	0	0	0	0	0	1	30	1	0	0	0	0	0	31	61	8	0	0	0	0	0	69
18:45	2	0	0	0	0	0	0	2	22	6	0	0	0	0	0	28	63	4	0	0	0	0	0	67
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	0	0	0	0	0	0	0	90	38	0	0	0	1	0	129	262	71	8	10	1	1	0	353
07:15	0	0	0	0	0	0	0	0	106	40	1	0	0	0	0	147	273	82	4	10	2	1	0	372
07:30	0	0	0	0	0	0	0	0	141	39	2	0	1	0	1	184	310	76	5	8	1	1	0	401
07:45	1	1	0	0	0	0	0	2	177	31	2	0	1	0	2	213	345	79	7	7	4	1	0	443
08:00	1	1	0	0	0	0	0	2	170	27	2	1	2	0	2	204	360	82	5	7	9	1	0	464
08:15	2	1	0	0	0	0	0	3	174	27	1	1	2	0	2	207	366	67	6	9	8	2	0	458
08:30	2	1	0	0	0	0	0	3	148	24	0	1	1	0	1	175	296	61	5	11	8	2	0	383
08:45	1	0	0	0	0	0	0	1	99	23	0	1	1	0	0	124	232	47	4	8	5	2	0	298
09:00	1	0	0	0	0	0	0	1	88	25	0	0	0	0	0	113	174	36	3	8	0	1	0	222
16:00	1	1	0	0	0	0	0	2	222	55	2	1	1	0	0	281	307	72	6	7	2	0	0	394
16:15	0	0	0	0	0	0	0	0	246	59	1	1	1	0	0	308	355	82	3	4	3	0	0	447
16:30	1	0	0	0	0	0	0	1	243	53	1	1	1	0	0	299	360	74	2	2	1	0	0	439
16:45	1	0	0	0	0	0	0	1	197	38	1	1	2	0	0	239	388	64	1	2	1	0	0	456
17:00	1	0	0	0	0	0	0	1	172	26	0	0	1	0	0	199	368	49	2	0	1	0	0	420
17:15	3	0	0	0	0	0	0	3	155	18	0	0	1	0	0	174	328	26	2	0	0	0	0	356
17:30	3	0	0	0	0	0	0	3	137	16	0	0	1	2	0	156	283	19	2	0	1	0	0	305
17:45	3	1	0	0	0	0	0	4	129	12	0	0	0	2	0	143	255	20	2	0	1	0	0	278
18:00	5	1	0	0	0	0	0	6	120	14	0	0	0	2	0	136	233	19	1	0	1	0	0	254

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 3a

Date of Survey: 31.03.2022
Junction Name: Cannock Road / B5012 Wolgarston Way
Junction Type: 3-arm Roundabout

Arm A: B5012 Cannock Road (E)
Arm B: B5012 Wolgarston Way (S)

Arm C: Cannock Road (W)

	B to B								B to A								B to C										
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total			
07:00	1	1	0	0	0	0	0	2	33	16	1	1	0	0	0	51	5	1	0	0	0	0	0	6			
07:15	0	0	0	0	0	0	0	0	54	8	1	4	0	1	0	68	2	0	0	0	0	0	0	2			
07:30	0	0	0	0	0	0	0	0	50	8	3	3	1	0	0	65	8	0	0	0	0	0	0	8			
07:45	0	0	0	0	0	0	0	0	72	13	1	2	0	0	0	88	8	4	0	0	0	0	0	12			
08:00	0	0	0	0	0	0	0	0	48	12	5	3	0	0	0	68	6	1	0	0	0	0	0	7			
08:15	0	0	0	0	0	0	0	0	86	19	1	2	0	0	0	108	27	2	0	0	0	0	0	29			
08:30	0	0	0	0	0	0	0	0	68	10	1	2	2	0	0	83	21	4	1	0	0	0	0	26			
08:45	1	0	0	0	0	0	0	1	107	14	0	3	2	0	0	126	13	1	0	0	0	0	0	14			
09:00	0	0	0	0	0	0	0	0	95	9	3	1	0	0	0	108	13	2	0	0	0	1	0	17			
09:15	0	0	0	0	0	0	0	0	48	6	1	2	0	0	0	57	10	1	0	0	0	0	0	11			
09:30	0	0	0	0	0	0	0	0	40	7	2	0	0	0	0	49	5	1	0	0	0	0	0	6			
09:45	0	0	0	0	0	0	0	0	44	11	2	4	1	0	0	62	7	1	0	0	0	0	0	8			
16:00	0	0	0	0	0	0	0	0	59	21	0	1	1	0	0	82	14	1	0	0	0	0	0	15			
16:15	0	0	0	0	0	0	0	0	48	14	2	2	0	0	0	66	12	3	0	0	0	0	0	15			
16:30	1	0	0	0	0	0	0	1	71	16	0	0	0	0	0	87	16	3	0	0	0	0	0	19			
16:45	1	0	0	0	0	0	0	1	61	17	1	1	2	0	0	82	17	3	0	0	0	0	0	20			
17:00	0	0	0	0	0	0	0	0	83	15	0	0	1	0	0	99	22	0	0	0	0	0	0	22			
17:15	0	0	0	0	0	0	0	0	116	7	0	2	0	1	0	126	9	0	0	0	0	0	0	9			
17:30	0	0	0	0	0	0	0	0	126	14	1	0	0	0	0	141	24	1	0	0	0	0	0	25			
17:45	0	0	0	0	0	0	0	0	132	11	1	1	1	0	0	146	10	3	0	0	0	0	0	13			
18:00	0	0	0	0	0	0	0	0	72	6	0	0	0	0	0	78	9	2	0	0	0	0	0	11			
18:15	0	0	0	0	0	0	0	0	60	1	0	0	0	0	0	61	16	0	0	0	0	0	0	16			
18:30	0	0	0	0	0	0	0	0	40	8	1	0	1	0	0	50	10	1	0	0	0	0	0	11			
18:45	0	0	0	0	0	0	0	0	54	8	0	0	0	0	0	62	12	1	0	0	0	0	0	13			
Start Time	Rolling Hour								Total	Rolling Hour								Total	Rolling Hour								Total
07:00	1	1	0	0	0	0	0	2	209	45	6	10	1	1	0	272	23	5	0	0	0	0	0	28			
07:15	0	0	0	0	0	0	0	0	224	41	10	12	1	1	0	289	24	5	0	0	0	0	0	29			
07:30	0	0	0	0	0	0	0	0	256	52	10	10	1	0	0	329	49	7	0	0	0	0	0	56			
07:45	0	0	0	0	0	0	0	0	274	54	8	9	2	0	0	347	62	11	1	0	0	0	0	74			
08:00	1	0	0	0	0	0	0	1	309	55	7	10	4	0	0	385	67	8	1	0	0	0	0	76			
08:15	1	0	0	0	0	0	0	1	356	52	5	8	4	0	0	425	74	9	1	0	1	1	0	86			
08:30	1	0	0	0	0	0	0	1	318	39	5	8	4	0	0	374	57	8	1	0	1	1	0	68			
08:45	1	0	0	0	0	0	0	1	290	36	6	6	2	0	0	340	41	5	0	0	1	1	0	48			
09:00	0	0	0	0	0	0	0	0	227	33	8	7	1	0	0	276	35	5	0	0	1	1	0	42			
16:00	2	0	0	0	0	0	0	2	239	68	3	4	3	0	0	317	59	10	0	0	0	0	0	69			
16:15	2	0	0	0	0	0	0	2	263	62	3	3	3	0	0	334	67	9	0	0	0	0	0	76			
16:30	2	0	0	0	0	0	0	2	331	55	1	3	3	1	0	394	64	6	0	0	0	0	0	70			
16:45	1	0	0	0	0	0	0	1	386	53	2	3	3	1	0	448	72	4	0	0	0	0	0	76			
17:00	0	0	0	0	0	0	0	0	457	47	2	3	2	1	0	512	65	4	0	0	0	0	0	69			
17:15	0	0	0	0	0	0	0	0	446	38	2	3	1	1	0	491	52	6	0	0	0	0	0	58			
17:30	0	0	0	0	0	0	0	0	390	32	2	1	1	0	0	426	59	6	0	0	0	0	0	65			
17:45	0	0	0	0	0	0	0	0	304	26	2	1	2	0	0	335	45	6	0	0	0	0	0	51			
18:00	0	0	0	0	0	0	0	0	226	23	1	0	1	0	0	251	47	4	0	0	0	0	0	51			

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 3a

Date of Survey: 31.03.2022
Junction Name: Cannock Road / B5012 Wolgarston Way
Junction Type: 3-arm Roundabout

Arm A: B5012 Cannock Road (E)
Arm B: B5012 Wolgarston Way (S)

Arm C: Cannock Road (W)



Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	10	4	0	0	1	0	0	15
07:15	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	10	13	4	0	0	0	0	0	17
07:30	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	8	25	3	0	0	0	0	0	28
07:45	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	13	30	5	1	0	0	0	0	36
08:00	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	46	6	1	0	0	0	0	53
08:15	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	9	35	7	0	0	0	0	0	42
08:30	0	0	0	0	0	0	0	0	18	1	0	0	0	0	0	19	45	6	0	0	1	1	0	53
08:45	1	0	0	0	0	0	0	1	26	2	0	0	0	0	0	28	65	6	0	0	1	0	0	72
09:00	0	0	0	0	0	0	0	0	14	2	0	0	0	0	0	16	48	5	0	0	0	0	0	53
09:15	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	27	4	0	1	0	1	0	33
09:30	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9	22	4	0	0	0	0	0	26
09:45	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	17	8	1	0	0	1	0	27
16:00	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	46	10	1	0	0	0	0	57
16:15	0	0	0	0	0	0	0	0	17	3	0	0	0	0	0	20	45	7	1	0	0	0	0	53
16:30	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	11	44	10	0	0	0	0	1	55
16:45	0	0	0	0	0	0	0	0	13	3	0	0	0	0	0	16	42	12	0	0	0	1	0	55
17:00	1	1	0	0	0	0	0	2	10	2	0	0	0	0	0	12	52	12	0	0	0	0	0	64
17:15	0	0	0	0	0	0	0	0	13	3	0	0	0	0	0	16	59	10	0	0	0	0	0	69
17:30	0	0	0	0	0	0	0	0	10	2	0	0	0	0	0	12	44	9	0	0	1	0	0	54
17:45	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	53	3	0	0	0	0	0	56
18:00	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13	36	7	0	0	0	0	0	43
18:15	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	20	2	0	0	0	0	0	22
18:30	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11	23	0	0	0	0	0	0	23
18:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	29	3	0	0	0	0	0	32
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
Total																								
07:00	0	0	0	0	0	0	0	0	31	5	0	0	0	0	0	36	78	16	1	0	1	0	0	96
07:15	0	0	0	0	0	0	0	0	28	6	0	0	0	0	0	34	114	18	2	0	0	0	0	134
07:30	0	0	0	0	0	0	0	0	26	7	0	0	0	0	0	33	136	21	2	0	0	0	0	159
07:45	0	0	0	0	0	0	0	0	39	5	0	0	0	0	0	44	156	24	2	0	1	1	0	184
08:00	1	0	0	0	0	0	0	1	53	6	0	0	0	0	0	59	191	25	1	0	2	1	0	220
08:15	1	0	0	0	0	0	0	1	65	7	0	0	0	0	0	72	193	24	0	0	2	1	0	220
08:30	1	0	0	0	0	0	0	1	64	5	0	0	0	0	0	69	185	21	0	1	2	2	0	211
08:45	1	0	0	0	0	0	0	1	55	4	0	0	0	0	0	59	162	19	0	1	1	1	0	184
09:00	0	0	0	0	0	0	0	0	29	3	1	0	0	0	0	33	114	21	1	1	0	2	0	139
16:00	0	0	0	0	0	0	0	0	51	8	0	0	0	0	0	59	177	39	2	0	0	1	1	220
16:15	1	1	0	0	0	0	0	2	49	10	0	0	0	0	0	59	183	41	1	0	0	1	1	227
16:30	1	1	0	0	0	0	0	2	45	10	0	0	0	0	0	55	197	44	0	0	0	1	1	243
16:45	1	1	0	0	0	0	0	2	46	10	0	0	0	0	0	56	197	43	0	0	1	1	0	242
17:00	1	1	0	0	0	0	0	2	50	8	0	0	0	0	0	58	208	34	0	0	1	0	0	243
17:15	0	0	0	0	0	0	0	0	53	6	0	0	0	0	0	59	192	29	0	0	1	0	0	222
17:30	0	0	0	0	0	0	0	0	50	3	0	0	0	0	0	53	153	21	0	0	1	0	0	175
17:45	0	0	0	0	0	0	0	0	51	1	0	0	0	0	0	52	132	12	0	0	0	0	0	144
18:00	0	0	0	0	0	0	0	0	37	0	0	0	0	0	0	37	108	12	0	0	0	0	0	120

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3a
 Date of Survey: 31.03.2022
 Junction Name: Cannock Road / B5012 Wolgarston Way
 Junction Type: 3-arm Roundabout

Arm A Approach									Arm A Exit								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	
07:00	69	22	4	1	0	1	0	97	43	20	1	1	0	0	0	66	
07:15	81	30	1	4	1	0	0	117	67	12	1	4	0	1	0	85	
07:30	86	34	0	4	0	0	0	124	75	11	3	3	1	0	0	93	
07:45	116	23	3	1	0	1	0	144	102	18	2	2	0	0	0	124	
08:00	96	35	1	1	1	0	0	134	94	18	6	3	0	0	0	121	
08:15	153	23	3	2	1	0	1	183	121	26	1	2	0	0	0	150	
08:30	158	30	2	3	3	0	1	197	114	17	1	2	3	1	0	138	
08:45	124	22	1	2	6	1	0	156	172	20	0	3	3	0	0	198	
09:00	107	20	1	3	0	1	0	132	144	14	3	1	0	0	0	162	
09:15	57	14	1	4	0	0	0	76	75	10	1	3	0	1	0	90	
09:30	44	14	1	0	0	0	0	59	62	11	2	0	0	0	0	75	
09:45	55	13	0	1	0	0	0	69	61	19	3	4	1	1	0	89	
16:00	90	23	4	3	0	0	0	120	106	32	1	1	1	0	0	141	
16:15	134	32	2	2	2	0	0	172	93	21	3	2	0	0	0	119	
16:30	145	37	1	0	0	0	0	183	115	26	0	0	0	0	1	142	
16:45	161	36	1	3	1	0	0	202	103	29	1	1	2	1	0	137	
17:00	161	36	0	0	1	0	0	198	135	27	0	0	1	0	0	163	
17:15	137	18	1	0	0	0	0	156	176	17	0	2	0	1	0	196	
17:30	127	12	0	0	1	0	0	140	170	23	1	0	1	0	0	195	
17:45	116	9	1	0	0	0	0	126	185	14	1	1	1	0	0	202	
18:00	106	5	0	0	0	0	0	111	110	13	0	0	0	0	0	123	
18:15	74	9	1	0	1	2	0	87	81	3	0	0	0	0	0	84	
18:30	91	10	0	0	0	0	0	101	63	9	1	0	1	0	0	74	
18:45	87	10	0	0	0	0	0	97	85	11	0	0	0	0	0	96	
Start Time	Rolling Hour							Total	Rolling Hour							Total	
07:00	352	109	8	10	1	2	0	482	287	61	7	10	2	1	0	368	
07:15	379	122	5	10	2	1	0	519	338	59	12	12	1	1	0	423	
07:30	451	115	7	8	2	1	1	585	392	73	12	10	1	0	0	488	
07:45	523	111	9	7	5	1	2	658	431	79	10	9	3	1	0	533	
08:00	531	110	7	8	11	1	2	670	501	81	8	10	6	1	0	607	
08:15	542	95	7	10	10	2	2	668	551	77	5	8	6	1	0	648	
08:30	446	86	5	12	9	2	1	561	505	61	5	9	6	2	0	588	
08:45	332	70	4	9	6	2	0	423	453	55	6	7	3	1	0	525	
09:00	263	61	3	8	0	1	0	336	342	54	9	8	1	2	0	416	
16:00	530	128	8	8	3	0	0	677	417	108	5	4	3	1	1	539	
16:15	601	141	4	5	4	0	0	755	446	103	4	3	3	1	1	561	
16:30	604	127	3	3	2	0	0	739	529	99	1	3	3	2	1	638	
16:45	586	102	2	3	3	0	0	696	584	96	2	3	4	2	0	691	
17:00	541	75	2	0	2	0	0	620	666	81	2	3	3	1	0	756	
17:15	486	44	2	0	1	0	0	533	641	67	2	3	2	1	0	716	
17:30	423	35	2	0	2	2	0	464	546	53	2	1	2	0	0	604	
17:45	387	33	2	0	1	2	0	425	439	39	2	1	2	0	0	483	
18:00	358	34	1	0	1	2	0	396	339	36	1	0	1	0	0	377	

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3a
 Date of Survey: 31.03.2022
 Junction Name: Cannock Road / B5012 Wolgarston Way
 Junction Type: 3-arm Roundabout

Arm B Approach									Arm B Exit								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	
07:00	39	18	1	1	0	0	0	59	60	17	4	1	0	0	0	82	
07:15	56	8	1	4	0	1	0	70	76	21	1	4	1	0	0	103	
07:30	58	8	3	3	1	0	0	73	68	23	0	4	0	0	0	95	
07:45	80	17	1	2	0	0	0	100	90	16	3	1	0	1	0	111	
08:00	54	13	5	3	0	0	0	75	67	28	0	1	1	0	0	97	
08:15	113	21	1	2	0	0	0	137	111	16	2	2	0	0	0	131	
08:30	89	14	2	2	2	0	0	109	116	24	2	3	3	0	0	148	
08:45	121	15	0	3	2	0	0	141	120	20	1	1	5	1	0	148	
09:00	108	11	3	1	1	1	0	125	85	14	1	3	0	1	0	104	
09:15	58	7	1	2	0	0	0	68	40	8	1	4	0	0	0	53	
09:30	45	8	2	0	0	0	0	55	43	9	1	0	0	0	0	53	
09:45	51	12	2	4	1	0	0	70	35	8	1	1	0	0	0	45	
16:00	73	22	0	1	1	0	0	97	66	14	3	3	0	0	0	86	
16:15	60	17	2	2	0	0	0	81	104	24	2	2	2	0	0	134	
16:30	88	19	0	0	0	0	0	107	71	19	1	0	0	0	0	91	
16:45	79	20	1	1	2	0	0	103	119	23	0	2	0	0	0	144	
17:00	105	15	0	0	1	0	0	121	112	26	0	0	1	0	0	139	
17:15	125	7	0	2	0	1	0	135	105	16	1	0	0	0	0	122	
17:30	150	15	1	0	0	0	0	166	99	9	0	0	0	0	0	108	
17:45	142	14	1	1	1	0	0	159	102	6	1	0	0	0	0	109	
18:00	81	8	0	0	0	0	0	89	75	1	0	0	0	0	0	76	
18:15	76	1	0	0	0	0	0	77	57	6	1	0	1	0	0	65	
18:30	50	9	1	0	1	0	0	61	72	8	0	0	0	0	0	80	
18:45	66	9	0	0	0	0	0	75	66	4	0	0	0	0	0	70	
Start Time	Rolling Hour							Total	Rolling Hour							Total	
07:00	233	51	6	10	1	1	0	302	294	77	8	10	1	1	0	391	
07:15	248	46	10	12	1	1	0	318	301	88	4	10	2	1	0	406	
07:30	305	59	10	10	1	0	0	385	336	83	5	8	1	1	0	434	
07:45	336	65	9	9	2	0	0	421	384	84	7	7	4	1	0	487	
08:00	377	63	8	10	4	0	0	462	414	88	5	7	9	1	0	524	
08:15	431	61	6	8	5	1	0	512	432	74	6	9	8	2	0	531	
08:30	376	47	6	8	5	1	0	443	361	66	5	11	8	2	0	453	
08:45	332	41	6	6	3	1	0	389	288	51	4	8	5	2	0	358	
09:00	262	38	8	7	2	1	0	318	203	39	4	8	0	1	0	255	
16:00	300	78	3	4	3	0	0	388	360	80	6	7	2	0	0	455	
16:15	332	71	3	3	3	0	0	412	406	92	3	4	3	0	0	508	
16:30	397	61	1	3	3	1	0	466	407	84	2	2	1	0	0	496	
16:45	459	57	2	3	3	1	0	525	435	74	1	2	1	0	0	513	
17:00	522	51	2	3	2	1	0	581	418	57	2	0	1	0	0	478	
17:15	498	44	2	3	1	1	0	549	381	32	2	0	0	0	0	415	
17:30	449	38	2	1	1	0	0	491	333	22	2	0	1	0	0	358	
17:45	349	32	2	1	2	0	0	386	306	21	2	0	1	0	0	330	
18:00	273	27	1	0	1	0	0	302	270	19	1	0	1	0	0	291	

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3a
 Date of Survey: 31.03.2022
 Junction Name: Cannock Road / B5012 Wolgarston Way
 Junction Type: 3-arm Roundabout

	Arm C Approach								Arm C Exit									
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	15	4	0	0	1	0	0	20	20	7	0	0	0	1	0	28		
07:15	22	5	0	0	0	0	0	27	16	10	0	0	0	0	0	26		
07:30	30	6	0	0	0	0	0	36	31	14	0	0	0	0	0	45		
07:45	42	6	1	0	0	0	0	49	46	12	0	0	0	0	0	58		
08:00	48	7	1	0	0	0	0	56	37	9	1	0	0	0	0	47		
08:15	42	9	0	0	0	0	0	51	76	11	1	0	1	0	1	90		
08:30	63	7	0	0	1	1	0	72	80	10	1	0	0	0	1	92		
08:45	92	8	0	0	1	0	0	101	45	5	0	1	1	0	0	52		
09:00	62	7	0	0	0	0	0	69	48	10	0	0	1	1	0	60		
09:15	33	4	0	1	0	1	0	39	33	7	0	0	0	0	0	40		
09:30	31	4	0	0	0	0	0	35	15	6	0	0	0	0	0	21		
09:45	17	9	2	0	0	1	0	29	27	7	0	0	0	0	0	34		
16:00	58	10	1	0	0	0	0	69	49	9	1	0	0	0	0	59		
16:15	62	10	1	0	0	0	0	73	59	14	0	0	0	0	0	73		
16:30	53	12	0	0	0	0	1	66	100	23	0	0	0	0	0	123		
16:45	55	15	0	0	0	1	0	71	73	19	1	1	1	0	0	95		
17:00	63	15	0	0	0	0	0	78	82	13	0	0	0	0	0	95		
17:15	72	13	0	0	0	0	0	85	53	5	0	0	0	0	0	58		
17:30	54	11	0	0	1	0	0	66	62	6	0	0	1	0	0	69		
17:45	70	4	0	0	0	0	0	74	41	7	0	0	0	0	0	48		
18:00	49	7	0	0	0	0	0	56	51	6	0	0	0	0	0	57		
18:15	30	2	0	0	0	0	0	32	42	3	0	0	0	2	0	47		
18:30	34	0	0	0	0	0	0	34	40	2	0	0	0	0	0	42		
18:45	32	3	0	0	0	0	0	35	34	7	0	0	0	0	0	41		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	109	21	1	0	1	0	0	132	113	43	0	0	0	1	0	157		
07:15	142	24	2	0	0	0	0	168	130	45	1	0	0	0	0	176		
07:30	162	28	2	0	0	0	0	192	190	46	2	0	1	0	1	240		
07:45	195	29	2	0	1	1	0	228	239	42	3	0	1	0	2	287		
08:00	245	31	1	0	2	1	0	280	238	35	3	1	2	0	2	281		
08:15	259	31	0	0	2	1	0	293	249	36	2	1	3	1	2	294		
08:30	250	26	0	1	2	2	0	281	206	32	1	1	2	1	1	244		
08:45	218	23	0	1	1	1	0	244	141	28	0	1	2	1	0	173		
09:00	143	24	2	1	0	2	0	172	123	30	0	0	1	1	0	155		
16:00	228	47	2	0	0	1	1	279	281	65	2	1	1	0	0	350		
16:15	233	52	1	0	0	1	1	288	314	69	1	1	1	0	0	386		
16:30	243	55	0	0	0	1	1	300	308	60	1	1	1	0	0	371		
16:45	244	54	0	0	1	1	0	300	270	43	1	1	2	0	0	317		
17:00	259	43	0	0	1	0	0	303	238	31	0	0	1	0	0	270		
17:15	245	35	0	0	1	0	0	281	207	24	0	0	1	0	0	232		
17:30	203	24	0	0	1	0	0	228	196	22	0	0	1	2	0	221		
17:45	183	13	0	0	0	0	0	196	174	18	0	0	0	2	0	194		
18:00	145	12	0	0	0	0	0	157	167	18	0	0	0	2	0	187		

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 3a
Date of Survey: 31.03.2022
Junction Name: Cannock Road / B5012 Wolgarston Way
Junction Type: 3-arm Roundabout

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	123	44	5	2	1	1	0	176
07:15	159	43	2	8	1	1	0	214
07:30	174	48	3	7	1	0	0	233
07:45	238	46	5	3	0	1	0	293
08:00	198	55	7	4	1	0	0	265
08:15	308	53	4	4	1	0	1	371
08:30	310	51	4	5	6	1	1	378
08:45	337	45	1	5	9	1	0	398
09:00	277	38	4	4	1	2	0	326
09:15	148	25	2	7	0	1	0	183
09:30	120	26	3	0	0	0	0	149
09:45	123	34	4	5	1	1	0	168
16:00	221	55	5	4	1	0	0	286
16:15	256	59	5	4	2	0	0	326
16:30	286	68	1	0	0	0	1	356
16:45	295	71	2	4	3	1	0	376
17:00	329	66	0	0	2	0	0	397
17:15	334	38	1	2	0	1	0	376
17:30	331	38	1	0	2	0	0	372
17:45	328	27	2	1	1	0	0	359
18:00	236	20	0	0	0	0	0	256
18:15	180	12	1	0	1	2	0	196
18:30	175	19	1	0	1	0	0	196
18:45	185	22	0	0	0	0	0	207
Start Time	Rolling Hour							Total
07:00	694	181	15	20	3	3	0	916
07:15	769	192	17	22	3	2	0	1005
07:30	918	202	19	18	3	1	1	1162
07:45	1054	205	20	16	8	2	2	1307
08:00	1153	204	16	18	17	2	2	1412
08:15	1232	187	13	18	17	4	2	1473
08:30	1072	159	11	21	16	5	1	1285
08:45	882	134	10	16	10	4	0	1056
09:00	668	123	13	16	2	4	0	826
16:00	1058	253	13	12	6	1	1	1344
16:15	1166	264	8	8	7	1	1	1455
16:30	1244	243	4	6	5	2	1	1505
16:45	1289	213	4	6	7	2	0	1521
17:00	1322	169	4	3	5	1	0	1504
17:15	1229	123	4	3	3	1	0	1363
17:30	1075	97	4	1	4	2	0	1183
17:45	919	78	4	1	3	2	0	1007
18:00	776	73	2	0	2	2	0	855

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 3a

Date of Survey: 31.03.2022
Junction Name: Cannock Road / B5012 Wolgarston Way
Junction Type: 3-arm Roundabout

Arm A: B5012 Cannock Road (E)
Arm B: B5012 Wolgarston Way (S)
Arm C: Cannock Road (W)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	21	78	2	53	6	0	5	16
07:15	0	24	100	0	73	2	0	10	17
07:30	0	37	92	0	71	8	0	8	28
07:45	0	46	100	0	91	12	0	13	37
08:00	0	41	96	0	74	7	0	3	54
08:15	0	62	126	0	111	29	0	9	42
08:30	2	65	137	0	88	27	0	19	53
08:45	0	39	125	1	132	14	1	28	73
09:00	1	43	92	0	111	17	0	16	53
09:15	0	29	53	0	60	11	0	6	34
09:30	0	15	45	0	50	6	0	9	26
09:45	0	26	44	0	69	8	0	3	27
16:00	2	45	79	0	84	15	0	12	58
16:15	0	58	120	0	70	15	0	20	54
16:30	0	104	80	1	87	19	0	11	54
16:45	0	78	130	1	86	20	0	16	54
17:00	0	71	128	0	100	22	2	12	64
17:15	1	49	107	0	128	9	0	16	69
17:30	0	45	96	0	142	25	0	12	55
17:45	0	35	92	0	149	13	0	18	56
18:00	2	46	63	0	78	11	0	13	43
18:15	1	30	57	0	61	16	0	10	22
18:30	1	31	69	0	52	11	0	11	23
18:45	2	28	67	0	62	13	0	3	32
Rolling Hour									
Start Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	128	370	2	288	28	0	36	98
07:15	0	148	388	0	310	29	0	34	135
07:30	0	185	414	0	348	56	0	33	160
07:45	2	213	459	0	365	75	0	44	185
08:00	2	207	484	1	406	77	1	59	222
08:15	3	209	480	1	442	87	1	72	221
08:30	3	177	407	1	391	69	1	69	213
08:45	1	126	314	1	353	48	1	59	186
09:00	1	113	233	0	290	42	0	34	140
16:00	2	284	408	2	327	69	0	59	220
16:15	0	311	457	2	342	76	2	59	226
16:30	1	302	444	2	401	70	2	55	242
16:45	1	243	460	1	455	76	2	56	242
17:00	1	200	422	0	518	69	2	58	244
17:15	3	175	357	0	496	58	0	59	223
17:30	3	156	307	0	429	65	0	53	176
17:45	4	142	280	0	339	51	0	52	144
18:00	6	135	256	0	253	51	0	37	120

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 3a
 Date of Survey: 31.03.2022
 Junction Name: Cannock Road / B5012 Wolgarston Way
 Junction Type: 3-arm Roundabout

Arm A: B5012 Cannock Road (E)
 Arm B: B5012 Wolgarston Way (S)
 Arm C: Cannock Road (W)



Count Method: **Vehicles** Classes Included: **All Classes** *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:	AM Peak	from:	08:45	until:	09:00	flow:	398
	PM Peak	from:	17:00	until:	17:15	flow:	397

Period Starting: **07:00** *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	75	22	97
B	51	2	6	59
C	15	5	0	20
Total	66	82	28	176

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	6.7%	0.0%	5.2%
B	3.9%	0.0%	0.0%	3.4%
C	6.7%	0.0%	0.0%	5.0%
Total	4.5%	6.1%	0.0%	4.5%

Maximum Hourly Junction Flow:	AM Peak	from:	08:15	until:	09:15	flow:	1473
	PM Peak	from:	16:45	until:	17:45	flow:	1521

Period Starting: **07:00** *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	353	129	482
B	272	2	28	302
C	96	36	0	132
Total	368	391	157	916

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	5.4%	0.0%	3.9%
B	6.3%	0.0%	0.0%	5.6%
C	2.1%	0.0%	0.0%	1.5%
Total	5.2%	4.9%	0.0%	4.1%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 3b
Date of Survey:	31.03.2022
Junction Name:	A449 Stone Cross / Penkrige Market Access
Junction Type:	T-Junction



Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 3b - 31.03.2022			

[illegible]

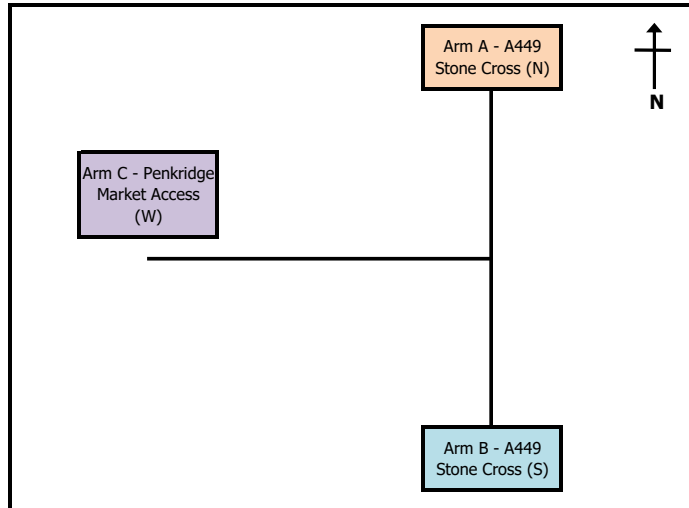
Intelligent Data Collection Limited



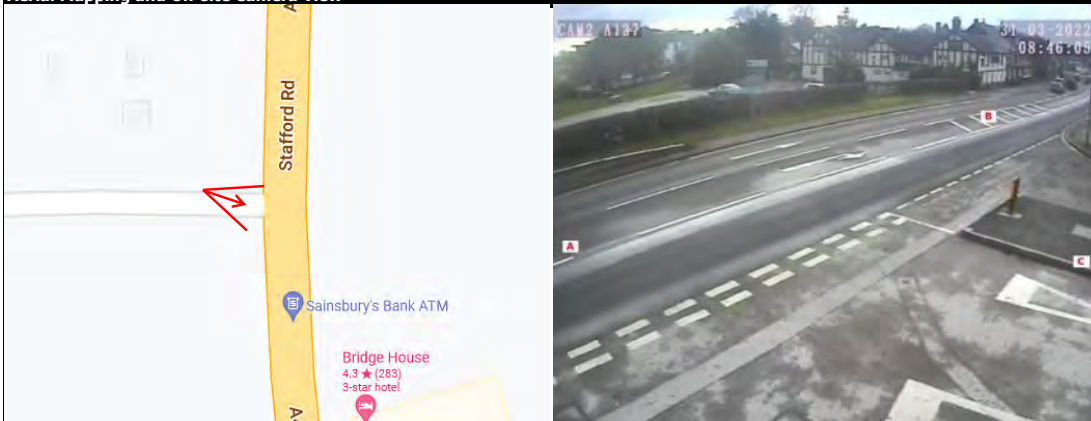
Client: PJA
Project Number: ID06388
Junction Number: Site 3b
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Penkrige Market Access
Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
52.727111	-2.116494	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

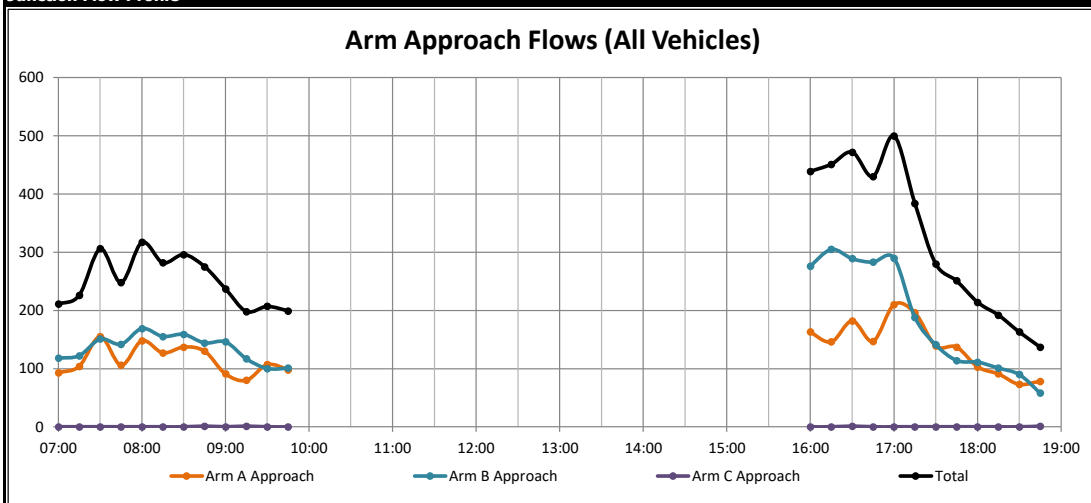
Junction Layout



Aerial Mapping and On-site Camera View



Junction Flow Profile



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 3b
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Penkridge Market Access
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Stone Cross (S)

Arm C: Penkridge Market Access (W)

Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	18	0	7	3	0	0	93
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81	19	2	1	1	0	0	104
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	129	17	2	3	3	0	1	155
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	16	2	2	2	0	0	106
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	127	14	4	3	0	0	0	148
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	25	3	0	0	0	0	127
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111	17	3	4	1	1	0	137
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	23	3	2	3	0	1	130
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	16	0	2	0	1	0	91
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	16	0	2	0	1	0	80
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	24	2	2	1	0	0	107
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	21	2	5	0	1	0	98
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	125	32	4	2	0	0	0	163
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	27	2	4	1	0	0	146
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	138	39	2	2	1	0	0	182
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119	22	1	4	0	1	0	147
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175	25	3	3	1	1	2	210
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	171	21	0	2	0	1	1	196
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122	13	0	2	1	1	0	139
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	123	12	1	1	0	0	0	137
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89	11	1	0	0	2	0	103
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77	13	1	0	0	0	0	91
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	3	0	4	1	0	0	73
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73	3	1	1	0	0	0	78
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	359	70	6	13	9	0	1	458
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	421	66	10	9	6	0	1	513
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	439	72	11	8	5	0	1	536
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	421	72	12	9	3	1	0	518
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	435	79	13	9	4	1	1	542
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	380	81	9	8	4	2	1	485
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	342	72	6	10	4	3	1	438
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	309	79	5	8	4	2	1	408
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	280	77	4	11	1	3	0	376
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	494	120	9	12	2	1	0	638
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	544	113	8	13	3	2	2	685
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	603	107	6	11	2	3	3	735
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	587	81	4	11	2	4	3	692
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	591	71	4	8	2	3	3	682
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	505	57	2	5	1	4	1	575
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	411	49	3	3	1	3	0	470
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	354	39	3	5	1	2	0	404
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	304	30	3	5	1	2	0	345

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Penkridge Market Access
 Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
 Arm B: A449 Stone Cross (S)

Arm C: Penkridge Market Access (W)

Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	89	21	4	3	0	1	0	118	0	0	0	0	0	0	0	0
07:15								0	72	41	4	4	1	0	0	122	0	0	0	0	0	0	0	0
07:30								0	112	34	2	2	0	1	0	151	0	0	0	0	0	0	0	0
07:45								0	112	26	4	0	0	0	0	142	0	0	0	0	0	0	0	0
08:00								0	131	28	4	3	1	2	0	169	0	0	0	0	0	0	0	0
08:15								0	119	30	3	2	0	0	1	155	0	0	0	0	0	0	0	0
08:30								0	120	27	5	4	1	1	1	159	0	0	0	0	0	0	0	0
08:45								0	122	15	2	3	1	0	0	143	0	1	0	0	0	0	0	1
09:00								0	109	20	6	8	3	0	0	146	0	0	0	0	0	0	0	0
09:15								0	80	27	3	5	1	0	0	116	1	0	0	0	0	0	0	1
09:30								0	77	14	1	4	3	1	0	100	0	0	0	0	0	0	0	0
09:45								0	71	22	1	5	1	0	0	100	1	0	0	0	0	0	0	1
16:00								0	209	51	4	11	1	0	0	276	0	0	0	0	0	0	0	0
16:15								0	218	65	7	12	1	2	0	305	0	0	0	0	0	0	0	0
16:30								0	224	52	3	7	1	1	0	288	1	0	0	0	0	0	0	1
16:45								0	212	53	4	11	2	0	1	283	0	0	0	0	0	0	0	0
17:00								0	226	44	5	14	1	0	0	290	0	0	0	0	0	0	0	0
17:15								0	156	23	1	6	2	0	0	188	0	0	0	0	0	0	0	0
17:30								0	122	13	2	3	1	0	0	141	0	0	0	0	0	0	0	0
17:45								0	101	7	1	2	2	1	0	114	0	0	0	0	0	0	0	0
18:00								0	89	15	1	1	2	1	2	111	0	0	0	0	0	0	0	0
18:15								0	78	14	2	1	5	1	0	101	0	0	0	0	0	0	0	0
18:30								0	79	9	0	1	1	0	0	90	0	0	0	0	0	0	0	0
18:45								0	53	2	0	2	0	0	0	57	1	0	0	0	0	0	0	1
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	385	122	14	9	1	2	0	533	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	427	129	14	9	2	3	0	584	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	474	118	13	7	1	3	1	617	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	482	111	16	9	2	3	2	625	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	492	100	14	12	3	3	2	626	0	1	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	470	92	16	17	5	1	2	603	0	1	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	431	89	16	20	6	1	1	564	1	1	0	0	0	0	0	2
08:45	0	0	0	0	0	0	0	0	388	76	12	20	8	1	0	505	1	1	0	0	0	0	0	2
09:00	0	0	0	0	0	0	0	0	337	83	11	22	8	1	0	462	2	0	0	0	0	0	0	2
16:00	0	0	0	0	0	0	0	0	863	221	18	41	5	3	1	1152	1	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	880	214	19	44	5	3	1	1166	1	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	818	172	13	38	6	1	1	1049	1	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	716	133	12	34	6	0	1	902	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	605	87	9	25	6	1	0	733	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	468	58	5	12	7	2	2	554	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	390	49	6	7	10	3	2	467	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	347	45	4	5	10	3	2	416	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	299	40	3	5	8	2	2	359	1	0	0	0	0	0	0	1

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Penkridge Market Access
 Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
 Arm B: A449 Stone Cross (S)

Arm C: Penkridge Market Access (W)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Penkridge Market Access
 Junction Type: T-Junction

Time	Arm A Approach								Arm A Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	65	18	0	7	3	0	0	93	89	21	4	3	0	1	0	118
07:15	81	19	2	1	1	0	0	104	72	41	4	4	1	0	0	122
07:30	129	17	2	3	3	0	1	155	112	34	2	2	0	1	0	151
07:45	84	16	2	2	2	0	0	106	112	26	4	0	0	0	0	142
08:00	127	14	4	3	0	0	0	148	131	28	4	3	1	2	0	169
08:15	99	25	3	0	0	0	0	127	119	30	3	2	0	0	1	155
08:30	111	17	3	4	1	1	0	137	120	27	5	4	1	1	1	159
08:45	98	23	3	2	3	0	1	130	122	15	2	3	1	0	0	143
09:00	72	16	0	2	0	1	0	91	109	20	6	8	3	0	0	146
09:15	61	16	0	2	0	1	0	80	81	27	3	5	1	0	0	117
09:30	78	24	2	2	1	0	0	107	77	14	1	4	3	1	0	100
09:45	69	21	2	5	0	1	0	98	71	22	1	5	1	0	0	100
16:00	125	32	4	2	0	0	0	163	209	51	4	11	1	0	0	276
16:15	112	27	2	4	1	0	0	146	218	65	7	12	1	2	0	305
16:30	138	39	2	2	1	0	0	182	224	52	3	7	1	1	0	288
16:45	119	22	1	4	0	1	0	147	212	53	4	11	2	0	1	283
17:00	175	25	3	3	1	1	2	210	226	44	5	14	1	0	0	290
17:15	171	21	0	2	0	1	1	196	156	23	1	6	2	0	0	188
17:30	122	13	0	2	1	1	0	139	122	13	2	3	1	0	0	141
17:45	123	12	1	1	0	0	0	137	101	7	1	2	2	1	0	114
18:00	89	11	1	0	0	2	0	103	89	15	1	1	2	1	2	111
18:15	77	13	1	0	0	0	0	91	78	14	2	1	5	1	0	101
18:30	65	3	0	4	1	0	0	73	79	9	0	1	1	0	0	90
18:45	73	3	1	1	0	0	0	78	53	2	0	2	0	0	0	57
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	359	70	6	13	9	0	1	458	385	122	14	9	1	2	0	533
07:15	421	66	10	9	6	0	1	513	427	129	14	9	2	3	0	584
07:30	439	72	11	8	5	0	1	536	474	118	13	7	1	3	1	617
07:45	421	72	12	9	3	1	0	518	482	111	16	9	2	3	2	625
08:00	435	79	13	9	4	1	1	542	492	100	14	12	3	3	2	626
08:15	380	81	9	8	4	2	1	485	470	92	16	17	5	1	2	603
08:30	342	72	6	10	4	3	1	438	432	89	16	20	6	1	1	565
08:45	309	79	5	8	4	2	1	408	389	76	12	20	8	1	0	506
09:00	280	77	4	11	1	3	0	376	338	83	11	22	8	1	0	463
16:00	494	120	9	12	2	1	0	638	863	221	18	41	5	3	1	1152
16:15	544	113	8	13	3	2	2	685	880	214	19	44	5	3	1	1166
16:30	603	107	6	11	2	3	3	735	818	172	13	38	6	1	1	1049
16:45	587	81	4	11	2	4	3	692	716	133	12	34	6	0	1	902
17:00	591	71	4	8	2	3	3	682	605	87	9	25	6	1	0	733
17:15	505	57	2	5	1	4	1	575	468	58	5	12	7	2	2	554
17:30	411	49	3	3	1	3	0	470	390	49	6	7	10	3	2	467
17:45	354	39	3	5	1	2	0	404	347	45	4	5	10	3	2	416
18:00	304	30	3	5	1	2	0	345	299	40	3	5	8	2	2	359

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Penkridge Market Access
 Junction Type: T-Junction

	Arm B Approach								Arm B Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	89	21	4	3	0	1	0	118	65	18	0	7	3	0	0	93
07:15	72	41	4	4	1	0	0	122	81	19	2	1	1	0	0	104
07:30	112	34	2	2	0	1	0	151	129	17	2	3	3	0	1	155
07:45	112	26	4	0	0	0	0	142	84	16	2	2	2	0	0	106
08:00	131	28	4	3	1	2	0	169	127	14	4	3	0	0	0	148
08:15	119	30	3	2	0	0	1	155	99	25	3	0	0	0	0	127
08:30	120	27	5	4	1	1	1	159	111	17	3	4	1	1	0	137
08:45	122	16	2	3	1	0	0	144	98	24	3	2	3	0	1	131
09:00	109	20	6	8	3	0	0	146	72	16	0	2	0	1	0	91
09:15	81	27	3	5	1	0	0	117	61	16	0	2	0	1	0	80
09:30	77	14	1	4	3	1	0	100	78	24	2	2	1	0	0	107
09:45	72	22	1	5	1	0	0	101	69	21	2	5	0	1	0	98
16:00	209	51	4	11	1	0	0	276	125	32	4	2	0	0	0	163
16:15	218	65	7	12	1	2	0	305	112	27	2	4	1	0	0	146
16:30	225	52	3	7	1	1	0	289	139	39	2	2	1	0	0	183
16:45	212	53	4	11	2	0	1	283	119	22	1	4	0	1	0	147
17:00	226	44	5	14	1	0	0	290	175	25	3	3	1	1	2	210
17:15	156	23	1	6	2	0	0	188	171	21	0	2	0	1	1	196
17:30	122	13	2	3	1	0	0	141	122	13	0	2	1	1	0	139
17:45	101	7	1	2	2	1	0	114	123	12	1	1	0	0	0	137
18:00	89	15	1	1	2	1	2	111	89	11	1	0	0	2	0	103
18:15	78	14	2	1	5	1	0	101	77	13	1	0	0	0	0	91
18:30	79	9	0	1	1	0	0	90	65	3	0	4	1	0	0	73
18:45	54	2	0	2	0	0	0	58	74	3	1	1	0	0	0	79
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	385	122	14	9	1	2	0	533	359	70	6	13	9	0	1	458
07:15	427	129	14	9	2	3	0	584	421	66	10	9	6	0	1	513
07:30	474	118	13	7	1	3	1	617	439	72	11	8	5	0	1	536
07:45	482	111	16	9	2	3	2	625	421	72	12	9	3	1	0	518
08:00	492	101	14	12	3	3	2	627	435	80	13	9	4	1	1	543
08:15	470	93	16	17	5	1	2	604	380	82	9	8	4	2	1	486
08:30	432	90	16	20	6	1	1	566	342	73	6	10	4	3	1	439
08:45	389	77	12	20	8	1	0	507	309	80	5	8	4	2	1	409
09:00	339	83	11	22	8	1	0	464	280	77	4	11	1	3	0	376
16:00	864	221	18	41	5	3	1	1153	495	120	9	12	2	1	0	639
16:15	881	214	19	44	5	3	1	1167	545	113	8	13	3	2	2	686
16:30	819	172	13	38	6	1	1	1050	604	107	6	11	2	3	3	736
16:45	716	133	12	34	6	0	1	902	587	81	4	11	2	4	3	692
17:00	605	87	9	25	6	1	0	733	591	71	4	8	2	3	3	682
17:15	468	58	5	12	7	2	2	554	505	57	2	5	1	4	1	575
17:30	390	49	6	7	10	3	2	467	411	49	3	3	1	3	0	470
17:45	347	45	4	5	10	3	2	416	354	39	3	5	1	2	0	404
18:00	300	40	3	5	8	2	2	360	305	30	3	5	1	2	0	346

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 3b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Penkridge Market Access
 Junction Type: T-Junction

	Arm C Approach								Arm C Exit									
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:45	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1		
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:45	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:00	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1		
08:15	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1		
08:30	1	1	0	0	0	0	0	2	1	1	0	0	0	0	0	2		
08:45	1	1	0	0	0	0	0	2	1	1	0	0	0	0	0	2		
09:00	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2		
16:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		
16:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		
16:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1		

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 3b
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Penkridge Market Access
Junction Type: T-Junction

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	154	39	4	10	3	1	0	211
07:15	153	60	6	5	2	0	0	226
07:30	241	51	4	5	3	1	1	306
07:45	196	42	6	2	2	0	0	248
08:00	258	42	8	6	1	2	0	317
08:15	218	55	6	2	0	0	1	282
08:30	231	44	8	8	2	2	1	296
08:45	220	40	5	5	4	0	1	275
09:00	181	36	6	10	3	1	0	237
09:15	143	43	3	7	1	1	0	198
09:30	155	38	3	6	4	1	0	207
09:45	141	43	3	10	1	1	0	199
16:00	334	83	8	13	1	0	0	439
16:15	330	92	9	16	2	2	0	451
16:30	364	91	5	9	2	1	0	472
16:45	331	75	5	15	2	1	1	430
17:00	401	69	8	17	2	1	2	500
17:15	327	44	1	8	2	1	1	384
17:30	244	26	2	5	2	1	0	280
17:45	224	19	2	3	2	1	0	251
18:00	178	26	2	1	2	3	2	214
18:15	155	27	3	1	5	1	0	192
18:30	144	12	0	5	2	0	0	163
18:45	128	5	1	3	0	0	0	137
Start Time	Rolling Hour							Total
07:00	744	192	20	22	10	2	1	991
07:15	848	195	24	18	8	3	1	1097
07:30	913	190	24	15	6	3	2	1153
07:45	903	183	28	18	5	4	2	1143
08:00	927	181	27	21	7	4	3	1170
08:15	850	175	25	25	9	3	3	1090
08:30	775	163	22	30	10	4	2	1006
08:45	699	157	17	28	12	3	1	917
09:00	620	160	15	33	9	4	0	841
16:00	1359	341	27	53	7	4	1	1792
16:15	1426	327	27	57	8	5	3	1853
16:30	1423	279	19	49	8	4	4	1786
16:45	1303	214	16	45	8	4	4	1594
17:00	1196	158	13	33	8	4	3	1415
17:15	973	115	7	17	8	6	3	1129
17:30	801	98	9	10	11	6	2	937
17:45	701	84	7	10	11	5	2	820
18:00	605	70	6	10	9	4	2	706

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 3b

Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Penkridge Market Access
Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
Arm B: A449 Stone Cross (S)
Arm C: Penkridge Market Access (W)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	0	111	0	127	0	0	0	0
07:15	0	0	109	0	135	0	0	0	0
07:30	0	0	166	0	156	0	0	0	0
07:45	0	0	115	0	146	0	0	0	0
08:00	0	0	157	0	179	0	0	0	0
08:15	0	0	130	0	161	0	0	0	0
08:30	0	0	148	0	171	0	0	0	0
08:45	0	0	140	0	152	1	0	1	0
09:00	0	0	94	0	171	0	0	0	0
09:15	0	0	83	0	130	1	0	0	1
09:30	0	0	114	0	112	0	0	0	0
09:45	0	0	109	0	112	1	0	0	0
16:00	0	0	170	0	302	0	0	0	0
16:15	0	0	157	0	334	0	0	0	0
16:30	0	0	189	0	305	1	0	1	0
16:45	0	0	155	0	310	0	0	0	0
17:00	0	0	218	0	323	0	0	0	0
17:15	0	0	198	0	203	0	0	0	0
17:30	0	0	144	0	150	0	0	0	0
17:45	0	0	140	0	121	0	0	0	0
18:00	0	0	103	0	115	0	0	0	0
18:15	0	0	92	0	112	0	0	0	0
18:30	0	0	82	0	93	0	0	0	0
18:45	0	0	81	0	61	1	0	1	0
Rolling Hour									
Start Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	0	501	0	563	0	0	0	0
07:15	0	0	547	0	615	0	0	0	0
07:30	0	0	568	0	641	0	0	0	0
07:45	0	0	550	0	656	0	0	0	0
08:00	0	0	575	0	663	1	0	1	0
08:15	0	0	512	0	655	1	0	1	0
08:30	0	0	466	0	624	2	0	1	1
08:45	0	0	432	0	565	2	0	1	1
09:00	0	0	400	0	525	2	0	0	1
16:00	0	0	671	0	1251	1	0	1	0
16:15	0	0	719	0	1272	1	0	1	0
16:30	0	0	760	0	1141	1	0	1	0
16:45	0	0	715	0	986	0	0	0	0
17:00	0	0	700	0	797	0	0	0	0
17:15	0	0	585	0	589	0	0	0	0
17:30	0	0	478	0	497	0	0	0	0
17:45	0	0	417	0	441	0	0	0	0
18:00	0	0	358	0	380	1	0	1	0

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 3b
 Date of Survey: 31.03.2022
 Junction Name: A449 Stone Cross / Penkridge Market Access
 Junction Type: T-Junction

Arm A: A449 Stone Cross (N)
 Arm B: A449 Stone Cross (S)
 Arm C: Penkridge Market Access (W)



Count Method: Vehicles Classes Included: All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:	AM Peak	from:	08:00	until:	08:15	flow:	317
	PM Peak	from:	17:00	until:	17:15	flow:	500

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

From	To				Total
	A	B	C		
A	0	93	0		93
B	118	0	0		118
C	0	0	0		0
Total	118	93	0		211

HGV Proportions

From	To				Total
	A	B	C		
A	0.0%	10.8%	0.0%		10.8%
B	5.9%	0.0%	0.0%		5.9%
C	0.0%	0.0%	0.0%		0.0%
Total	5.9%	10.8%	0.0%		8.1%

Maximum Hourly Junction Flow:	AM Peak	from:	08:00	until:	09:00	flow:	1170
	PM Peak	from:	16:15	until:	17:15	flow:	1853

Period Starting: 07:00 *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

From	To				Total
	A	B	C		
A	0	458	0		458
B	533	0	0		533
C	0	0	0		0
Total	533	458	0		991

HGV Proportions

From	To				Total
	A	B	C		
A	0.0%	6.1%	0.0%		6.1%
B	4.5%	0.0%	0.0%		4.5%
C	0.0%	0.0%	0.0%		0.0%
Total	4.5%	6.1%	0.0%		5.2%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 4a
Date of Survey:	31.03.2022
Junction Name:	A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Junction Type:	4-arm Roundabout



Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 4a - 31.03.2022			

[illegible]

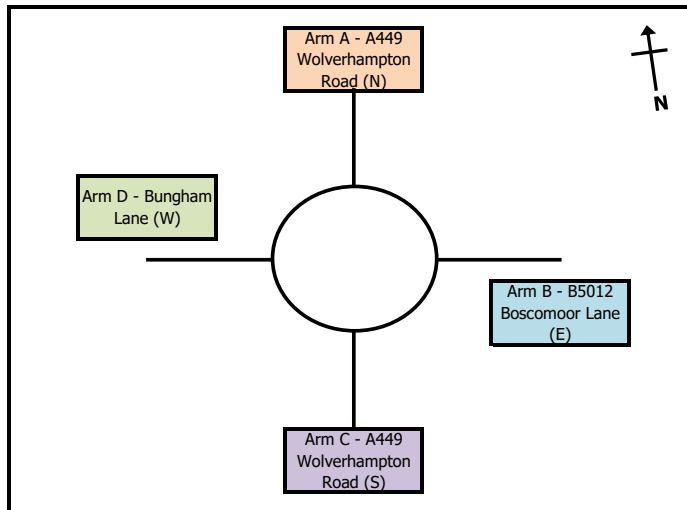
Intelligent Data Collection Limited



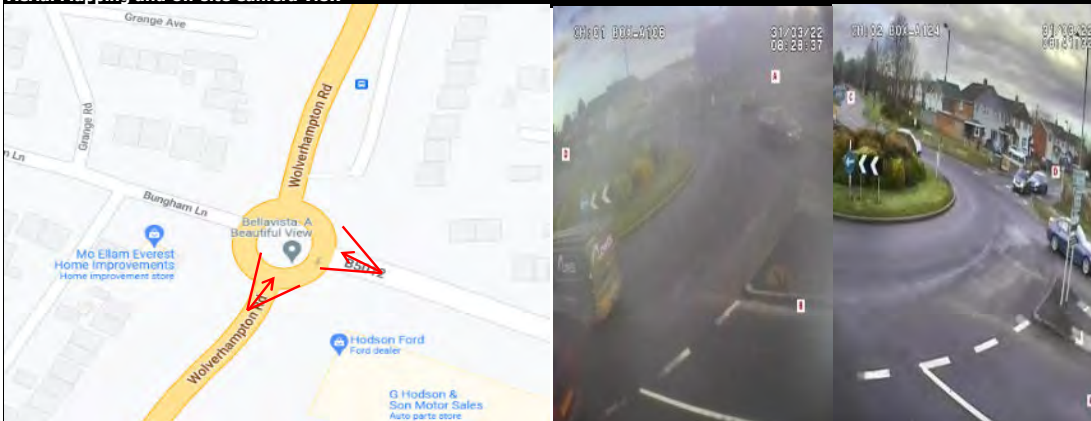
Client: PJA Date of Survey: 31.03.2022
 Project Number: ID06388 Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham L
 Junction Number: Site 4a Junction Type: 4-arm Roundabout

X Coordinate	Y Coordinate	Google Maps Link
52.718162	-2.118087	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

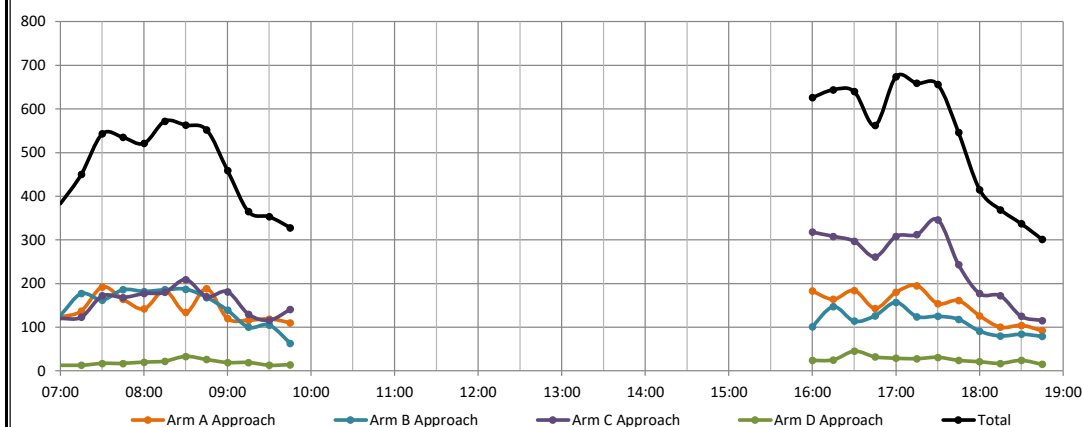


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 4a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
Arm D: Bungham Lane (W)



Time	A to A								A to D								A to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88	22	0	6	2	0	0	118
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	25	2	0	0	0	0	125
07:30	1	0	1	0	0	0	0	2	1	0	0	0	0	0	0	1	152	19	0	4	3	0	0	178
07:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	120	18	0	2	2	0	0	142
08:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	99	21	3	2	0	0	0	125
08:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	127	23	3	1	0	0	0	154
08:30	1	0	0	0	0	0	0	1	2	1	0	0	0	0	0	3	88	14	2	3	0	1	0	108
08:45	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9	110	18	1	1	3	1	0	134
09:00	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	71	15	0	1	1	0	0	88
09:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	65	16	1	3	1	1	0	87
09:30	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	70	17	1	2	1	1	0	92
09:45	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	57	11	1	4	0	0	0	73
16:00	1	0	0	0	0	0	0	1	6	2	0	0	0	0	0	8	98	25	5	2	0	0	0	130
16:15	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4	93	22	2	5	1	0	0	123
16:30	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	101	36	3	2	2	0	0	144
16:45	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4	81	13	1	3	0	0	0	98
17:00	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5	102	16	4	3	2	0	0	127
17:15	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	7	129	13	0	1	0	0	0	143
17:30	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	89	7	0	2	1	0	0	99
17:45	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	94	11	1	2	1	0	0	109
18:00	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	79	8	1	1	0	0	0	89
18:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	61	8	1	0	0	0	0	70
18:30	1	0	0	0	0	0	0	1	4	1	0	0	0	0	0	5	71	5	0	4	1	0	0	81
18:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	50	5	1	1	0	0	0	57
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	1	0	1	0	0	0	0	2	2	0	0	0	0	0	0	2	458	84	2	12	7	0	0	563
07:15	3	0	1	0	0	0	0	4	2	0	0	0	0	0	0	2	469	83	5	8	5	0	0	570
07:30	4	0	1	0	0	0	0	5	3	0	0	0	0	0	0	3	498	81	6	9	5	0	0	599
07:45	4	0	0	0	0	0	0	4	4	1	0	0	0	0	0	5	434	76	8	8	2	1	0	529
08:00	4	0	0	0	0	0	0	4	12	1	0	0	0	0	0	13	424	76	9	7	3	2	0	521
08:15	2	0	0	0	0	0	0	2	14	2	0	0	0	0	0	16	396	70	6	6	4	2	0	484
08:30	1	0	0	0	0	0	0	1	16	2	0	0	0	0	0	18	334	63	4	8	5	3	0	417
08:45	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	20	316	66	3	7	6	3	0	401
09:00	0	0	0	0	0	0	0	0	12	3	0	0	0	0	0	15	263	59	3	10	3	2	0	340
16:00	2	0	0	0	0	0	0	2	16	4	0	0	0	0	0	20	373	96	11	12	3	0	0	495
16:15	1	0	0	0	0	0	0	1	13	4	0	0	0	0	0	17	377	87	10	13	5	0	0	492
16:30	1	0	0	0	0	0	0	1	16	4	0	0	0	0	0	20	413	78	8	9	4	0	0	512
16:45	1	0	0	0	0	0	0	1	17	4	0	0	0	0	0	21	401	49	5	9	3	0	0	467
17:00	0	0	0	0	0	0	0	0	17	5	0	0	0	0	0	22	414	47	5	8	4	0	0	478
17:15	0	0	0	0	0	0	0	0	20	3	0	0	0	0	0	23	391	39	2	6	2	0	0	440
17:30	1	0	0	0	0	0	0	1	16	1	0	0	0	0	0	17	323	34	3	5	2	0	0	367
17:45	2	0	0	0	0	0	0	2	15	2	0	0	0	0	0	17	305	32	3	7	2	0	0	349
18:00	2	0	0	0	0	0	0	2	13	1	0	0	0	0	0	14	261	26	3	6	1	0	0	297

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 4a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
Arm D: Bungham Lane (W)



	A to B								B to B								B to A									
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	4	1			0	0		5	0	0				0	0	0	21	3	1	0	0	0	0	25		
07:15	12	0			0	0	0	12	0	0				0	0	0	22	4	0	0	0	0	0	26		
07:30	10	0			0	0		11	0	0				0	0	0	27	4	0	0	0	0	0	31		
07:45	20	1			0	0	0	21	0	0				0	0	0	49	4	1	0	0	0	0	54		
08:00	11	3			0	0	0	15	0	0				0	0	0	32	10	0	0	0	1	0	43		
08:15	21	7			0	0	0	28	0	0				0	0	0	44	10	1	0	0	0	0	55		
08:30	16	6			0	0	0	22	0	0				0	0	0	44	7	1	0	0	0	0	52		
08:45	39	5			0	0	0	45	0	0				0	0	0	41	4	1	0	2	0	0	48		
09:00	21	7			0	0	0	29	0	0				0	0	0	31	4	0	1	0	0	0	36		
09:15	25	1			0	0	0	26	1	0				0	0	0	25	4	1	0	0	0	0	30		
09:30	18	3			0	0	0	22	0	1				0	0	0	27	3	0	0	0	1	0	31		
09:45	24	8			0	0	0	33	0	0				0	0	0	16	1	0	0	0	0	0	17		
16:00	40	4			0	0		44	2	0				0	0	0	25	4	2		0	0	0	31		
16:15	34	3			0	0	0	37	0	0				0	0	0	36	7	1	1	0	0	0	45		
16:30	33	3			0	0	0	36	1	0				0	0	0	1	29	6	0	1	0	0	36		
16:45	35	5			0	0	0	40	0	0				0	0	0	41	3	0	0	0	0	0	44		
17:00	45	3			0	0	0	48	1	0				0	0	0	1	32	8	0	0	0	0	40		
17:15	42	2			0	0	0	45	0	0				0	0	0	38	0	0	0	0	0	0	38		
17:30	46	4			0	0	0	50	0	0				0	0	0	43	1	0	0	0	0	0	44		
17:45	44	3			0	0	0	47	1	0				0	0	0	1	32	1	0	0	0	1	0	34	
18:00	30	0			0	0	1	31	1	0				0	0	0	1	25	4	0	0	0	0	0	29	
18:15	26	2			0	0	0	28	0	0				0	0	0	0	20	1	0	0	0	0	0	21	
18:30	15	2			0	0	0	17	0	0				0	0	0	0	23	4	0	0	0	0	0	27	
18:45	30	3			0	0	0	33	0	0				0	0	0	0	20	1	0	0	0	0	0	21	
Start Time	Rolling Hour								Rolling Hour								Rolling Hour									
07:00	46	2			0	0	0	49	0	0			0	0	0	0	119	15	2		0	0	0	136		
07:15	53	4			0	0	0	59	0	0			0	0	0	0	130	22	1		0	0	1	0	154	
07:30	62	11			0	0	0	75	0	0			0	0	0	0	152	28	2		0	0	1	0	183	
07:45	68	17			0	0	0	86	0	0			0	0	0	0	169	31	3		0	0	1	0	204	
08:00	87	21			0	0	0	110	0	0			0	0	0	0	161	31	3		0	2	1	0	198	
08:15	97	25			0	0	0	124	0	0			0	0	0	0	160	25	3		1	2	0	0	191	
08:30	101	19			0	0	0	122	1	0			0	0	0	0	1	141	19	3		1	2	0	166	
08:45	103	16			0	0	0	122	1	1			0	0	0	0	2	124	15	2		1	2	1	0	145
09:00	88	19			0	0	0	110	1	1			0	0	0	0	2	99	12	1		1	0	1	0	114
16:00	142	15			0	0	0	157	3	0			0	0	0	0	3	131	20	3		2	0	0	156	
16:15	147	14			0	0	0	161	2	0			0	0	0	0	2	138	24	1		2	0	0	165	
16:30	155	13			0	0	0	169	2	0			0	0	0	0	2	140	17	0		1	0	0	158	
16:45	168	14			0	0	0	183	1	0			0	0	0	0	1	154	12	0		0	0	0	166	
17:00	177	12			0	0	0	190	2	0			0	0	0	0	2	145	10	0		0	0	1	0	156
17:15	162	9			0	0	1	173	2	0			0	0	0	0	2	138	6	0		0	0	1	0	145
17:30	146	9			0	0	1	156	2	0			0	0	0	0	2	120	7	0		0	0	1	0	128
17:45	115	7			0	0	1	123	2	0			0	0	0	0	2	100	10	0		0	0	1	0	111
18:00	101	7			0	0	1	109	1	0			0	0	0	0	1	88	10	0		0	0	0	0	98

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 4a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
Arm D: Bungham Lane (W)



Time	B to D								B to C								C to C										
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total			
07:00	4	1	0	0	0	0	0	5	73	21	2	1	0	0	0	97	0	0	0	0	0	0	0	0			
07:15	6	0	0	0	0	0	0	6	110	31	0	4	0	0	0	145	1	0	0	0	0	0	0	1			
07:30	3	1	0	0	0	0	0	4	102	22	0	3	0	0	0	127	0	1	0	0	0	0	0	1			
07:45	2	0	0	0	0	0	0	2	106	20	2	2	0	0	0	130	0	0	0	0	0	0	0	0			
08:00	4	1	0	0	0	0	0	5	106	26	1	1	0	0	0	134	1	0	0	0	0	0	0	1			
08:15	2	1	0	0	0	0	0	3	109	16	0	3	0	0	0	128	0	0	0	0	0	0	0	0			
08:30	2	0	0	0	0	0	0	2	111	15	1	3	2	1	0	133	0	1	0	0	0	0	0	1			
08:45	8	0	0	0	0	0	0	8	92	16	0	0	3	1	0	112	0	0	0	0	0	0	0	0			
09:00	7	0	0	0	0	0	0	7	77	13	1	3	1	1	0	96	0	0	1	0	0	0	0	1			
09:15	4	0	0	0	0	0	0	4	47	11	3	4	0	0	0	65	0	0	0	0	0	0	0	0			
09:30	5	0	0	0	0	0	0	5	53	14	1	0	0	0	0	68	1	0	0	0	0	0	0	1			
09:45	6	3	1	0	0	0	0	10	29	5	1	1	0	0	0	36	1	0	0	0	0	0	0	1			
16:00	3	3	0	0	0	0	0	6	42	14	2	3	0	1	0	62	2	0	0	0	0	0	0	2			
16:15	7	1	0	2	0	0	0	10	75	15	0	1	1	0	0	92	1	0	0	0	0	0	0	1			
16:30	12	0	0	0	0	0	0	12	48	15	1	0	0	1	0	65	0	0	0	0	0	0	0	0			
16:45	4	2	0	0	0	0	1	7	55	18	0	2	0	0	0	75	1	0	0	0	0	0	0	1			
17:00	13	4	0	0	0	0	0	17	75	24	0	0	0	0	0	99	1	0	0	0	0	0	0	1			
17:15	10	2	0	0	0	0	0	12	62	12	0	0	0	0	0	74	0	0	0	0	0	0	0	0			
17:30	11	2	0	0	0	0	0	13	65	3	0	0	0	0	0	68	2	0	0	0	0	0	0	2			
17:45	11	1	0	0	0	0	0	12	63	7	1	0	0	0	0	71	1	1	0	0	0	0	0	2			
18:00	4	1	0	0	0	0	0	5	52	4	0	0	0	0	0	56	0	0	0	0	0	0	0	0			
18:15	8	2	0	0	0	0	0	10	42	6	1	0	0	0	0	49	1	0	0	0	0	0	0	1			
18:30	10	0	0	0	0	0	0	10	43	4	0	0	0	0	0	47	0	1	0	0	0	0	0	1			
18:45	9	0	0	0	0	0	0	9	46	3	0	0	0	0	0	49	1	0	0	0	0	0	0	1			
Start Time	Rolling Hour								Total	Rolling Hour								Total	Rolling Hour								Total
07:00	15	2	0	0	0	0	0	17	391	94	4	10	0	0	0	499	1	1	0	0	0	0	0	2			
07:15	15	2	0	0	0	0	0	17	424	99	3	10	0	0	0	536	2	1	0	0	0	0	0	3			
07:30	11	3	0	0	0	0	0	14	423	84	3	9	0	0	0	519	1	1	0	0	0	0	0	2			
07:45	10	2	0	0	0	0	0	12	432	77	4	9	2	1	0	525	1	1	0	0	0	0	0	2			
08:00	16	2	0	0	0	0	0	18	418	73	2	7	5	2	0	507	1	1	0	0	0	0	0	2			
08:15	19	1	0	0	0	0	0	20	389	60	2	9	6	3	0	469	0	1	1	0	0	0	0	2			
08:30	21	0	0	0	0	0	0	21	327	55	5	10	6	3	0	406	0	1	1	0	0	0	0	2			
08:45	24	0	0	0	0	0	0	24	269	54	5	7	4	2	0	341	1	0	1	0	0	0	0	2			
09:00	22	3	1	0	0	0	0	26	206	43	6	8	1	1	0	265	2	0	1	0	0	0	0	3			
16:00	26	6	0	2	0	0	1	35	220	62	3	6	1	2	0	294	4	0	0	0	0	0	0	4			
16:15	36	7	0	2	0	0	1	46	253	72	1	3	1	1	0	331	3	0	0	0	0	0	0	3			
16:30	39	8	0	0	0	0	1	48	240	69	1	2	0	1	0	313	2	0	0	0	0	0	0	2			
16:45	38	10	0	0	0	0	1	49	257	57	0	2	0	0	0	316	4	0	0	0	0	0	0	4			
17:00	45	9	0	0	0	0	0	54	265	46	1	0	0	0	0	312	4	1	0	0	0	0	0	5			
17:15	36	6	0	0	0	0	0	42	242	26	1	0	0	0	0	269	3	1	0	0	0	0	0	4			
17:30	34	6	0	0	0	0	0	40	222	20	2	0	0	0	0	244	4	1	0	0	0	0	0	5			
17:45	33	4	0	0	0	0	0	37	200	21	2	0	0	0	0	223	2	2	0	0	0	0	0	4			
18:00	31	3	0	0	0	0	0	34	183	17	1	0	0	0	0	201	2	1	0	0	0	0	0	3			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 4a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
Arm D: Bungham Lane (W)

Time	C to B								C to A								C to D										
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total			
07:00	24	14	0	1	0	1	0	40	58	17	1	3	1	0	0	80	0	0	0	0	0	0	0	0			
07:15	22	7	1	4	0	0	0	34	56	21	3	4	0	0	0	84	3	1	0	0	0	0	0	4			
07:30	32	12	4	4	0	0	0	52	83	28	2	2	0	0	0	115	2	2	0	0	0	0	0	4			
07:45	39	9	2	2	0	0	0	52	85	22	3	1	0	0	0	111	4	1	0	0	0	0	0	5			
08:00	38	9	4	1	0	0	0	52	84	27	5	3	1	0	0	120	1	3	0	0	0	0	0	4			
08:15	47	15	1	3	1	0	0	67	90	17	3	1	0	0	0	111	1	1	0	0	0	0	0	2			
08:30	59	16	1	1	4	0	0	81	93	22	2	3	1	1	0	122	5	0	0	0	0	0	0	5			
08:45	55	8	1	4	0	0	0	68	75	16	3	3	0	0	0	97	2	3	0	0	0	0	0	5			
09:00	58	8	3	1	1	0	0	71	69	16	4	9	3	0	0	101	6	2	0	0	0	0	0	8			
09:15	22	8	1	1	0	0	0	32	64	24	2	4	0	0	0	94	3	1	0	0	0	0	0	4			
09:30	29	5	3	1	0	0	0	38	55	12	1	4	2	0	0	74	2	1	0	0	0	0	0	3			
09:45	30	15	3	3	0	0	0	51	57	19	2	5	1	0	0	84	5	0	0	0	0	0	0	5			
16:00	49	22	0	1	0	0	0	72	177	45	3	11	1	0	0	237	7	0	0	0	0	0	0	7			
16:15	54	11	2	2	0	0	0	69	178	38	7	9	0	2	0	234	4	0	0	0	0	0	0	4			
16:30	52	10	1	0	0	0	0	63	172	48	2	7	1	1	0	231	1	2	0	0	0	0	0	3			
16:45	54	10	0	1	1	0	0	66	140	34	3	11	2	0	0	190	3	1	0	0	0	0	0	4			
17:00	100	16	0	0	1	0	0	117	141	26	4	13	2	0	0	186	2	2	0	0	0	0	0	4			
17:15	114	5	0	1	0	0	0	120	149	25	2	7	0	0	0	183	8	1	0	0	0	0	0	9			
17:30	157	14	1	0	0	0	0	172	135	18	2	2	1	0	0	158	14	0	0	0	0	0	0	14			
17:45	96	9	0	1	0	1	0	107	110	12	1	2	1	0	0	126	8	0	0	0	0	0	0	8			
18:00	55	8	0	0	0	0	1	64	84	13	1	2	2	0	0	102	9	2	0	0	0	0	0	11			
18:15	57	4	0	0	0	0	0	61	84	11	2	1	4	1	0	103	6	1	0	0	0	0	0	7			
18:30	40	6	1	0	0	0	0	47	61	6	0	1	1	0	0	69	7	1	0	0	0	0	0	8			
18:45	48	11	0	0	0	0	0	59	46	7	0	2	0	0	0	55	0	0	0	0	0	0	0	0			
Start Time	Rolling Hour								Total	Rolling Hour								Total	Rolling Hour								Total
07:00	117	42	7	11	0	1	0	178	282	88	9	10	1	0	0	390	9	4	0	0	0	0	0	13			
07:15	131	37	11	11	0	0	0	190	308	98	13	10	1	0	0	430	10	7	0	0	0	0	0	17			
07:30	156	45	11	10	1	0	0	223	342	94	13	7	1	0	0	457	8	7	0	0	0	0	0	15			
07:45	183	49	8	7	5	0	0	252	352	88	13	8	2	1	0	464	11	5	0	0	0	0	0	16			
08:00	199	48	7	9	5	0	0	268	342	82	13	10	2	1	0	450	9	7	0	0	0	0	0	16			
08:15	219	47	6	9	6	0	0	287	327	71	12	16	4	1	0	431	14	6	0	0	0	0	0	20			
08:30	194	40	6	7	5	0	0	252	301	78	11	19	4	1	0	414	16	6	0	0	0	0	0	22			
08:45	164	29	8	7	1	0	0	209	263	68	10	20	5	0	0	366	13	7	0	0	0	0	0	20			
09:00	139	36	10	6	1	0	0	192	245	71	9	22	6	0	0	353	16	4	0	0	0	0	0	20			
16:00	209	53	3	4	1	0	0	270	667	165	15	38	4	3	0	892	15	3	0	0	0	0	0	18			
16:15	260	47	3	3	2	0	0	315	631	146	16	40	5	3	0	841	10	5	0	0	0	0	0	15			
16:30	320	41	1	2	2	0	0	366	602	133	11	38	5	1	0	790	14	6	0	0	0	0	0	20			
16:45	425	45	1	2	2	0	0	475	565	103	11	33	5	0	0	717	27	4	0	0	0	0	0	31			
17:00	467	44	1	2	1	1	0	516	535	81	9	24	4	0	0	653	32	3	0	0	0	0	0	35			
17:15	422	36	1	2	0	1	1	463	478	68	6	13	4	0	0	569	39	3	0	0	0	0	0	42			
17:30	365	35	1	1	0	1	1	404	413	54	6	7	8	1	0	489	37	3	0	0	0	0	0	40			
17:45	248	27	1	1	0	1	1	279	339	42	4	6	8	1	0	400	30	4	0	0	0	0	0	34			
18:00	200	29	1	0	0	0	1	231	275	37	3	6	7	1	0	329	22	4	0	0	0	0	0	26			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 4a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
Arm D: Bungham Lane (W)

Time	D to D								D to C								D to B										
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total			
07:00	0	0	0	0	0	0	0	0	4	2	1	0	0	0	0	7	1	0	0	0	0	0	0	1			
07:15	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	6	2	0	0	0	0	0	0	2			
07:30	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	3	3	0	0	0	0	0	6			
07:45	0	0	0	0	0	0	0	0	6	3	0	0	0	0	0	9	4	2	0	0	0	0	0	6			
08:00	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	9	1	0	0	0	0	0	10			
08:15	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	7	1	1	0	0	0	0	9			
08:30	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	11	1	0	0	0	0	0	12			
08:45	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	7	14	2	0	0	0	0	1	17			
09:00	1	0	0	0	0	0	0	1	3	3	0	0	0	0	0	6	5	1	0	0	0	0	0	6			
09:15	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	7	7	2	0	0	0	0	0	9			
09:30	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	4	0	0	0	0	0	0	4			
09:45	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8	3	0	0	0	0	0	0	3			
16:00	0	0	0	0	0	0	0	0	6	0	1	1	0	0	0	8	14	1	0	0	0	0	0	15			
16:15	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	16	2	0	0	0	0	0	18			
16:30	0	0	0	0	0	0	0	0	8	2	0	0	0	0	0	10	19	9	0	0	0	0	0	28			
16:45	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	20	5	0	0	0	0	0	25			
17:00	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	13	5	0	0	0	0	0	18			
17:15	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	11	2	0	0	0	0	0	13			
17:30	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	20	1	1	0	0	0	0	22			
17:45	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	9	13	0	0	0	0	0	1	14			
18:00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	9	1	0	0	0	0	0	10			
18:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	8	0	0	0	0	0	0	8			
18:30	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	8	1	0	0	0	0	0	9			
18:45	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5	6	1	0	0	0	0	0	7			
Start Time	Rolling Hour								Total	Rolling Hour								Total	Rolling Hour								Total
07:00	0	0	0	0	0	0	0	0	20	8	1	0	0	0	0	29	10	5	0	0	0	0	0	15			
07:15	0	0	0	0	0	0	0	0	20	7	0	0	0	0	0	27	18	6	0	0	0	0	0	24			
07:30	0	0	0	0	0	0	0	0	23	6	0	0	0	0	0	29	23	7	1	0	0	0	0	31			
07:45	0	0	0	0	0	0	0	0	27	5	0	0	0	0	0	32	31	5	1	0	0	0	0	37			
08:00	0	0	0	0	0	0	0	0	26	4	0	0	0	0	0	30	41	5	1	0	0	0	1	48			
08:15	1	0	0	0	0	0	0	1	25	6	0	0	0	0	0	31	37	5	1	0	0	0	1	44			
08:30	1	0	0	0	0	0	0	1	23	7	0	0	0	0	0	30	37	6	0	0	0	0	1	44			
08:45	1	0	0	0	0	0	0	1	15	8	0	0	0	0	0	23	30	5	0	0	0	0	1	36			
09:00	1	0	0	0	0	0	0	1	17	7	0	0	0	0	0	24	19	3	0	0	0	0	0	22			
16:00	0	0	0	0	0	0	0	0	22	4	1	1	0	0	0	28	69	17	0	0	0	0	0	86			
16:15	0	0	0	0	0	0	0	0	26	4	0	0	0	0	0	30	68	21	0	0	0	0	0	89			
16:30	0	0	0	0	0	0	0	0	30	3	0	0	0	0	0	33	63	21	0	0	0	0	0	84			
16:45	0	0	0	0	0	0	0	0	30	1	0	0	0	0	0	31	64	13	1	0	0	0	0	78			
17:00	0	0	0	0	0	0	0	0	34	1	0	0	0	0	0	35	57	8	1	0	0	0	1	67			
17:15	0	0	0	0	0	0	0	0	31	1	0	0	0	0	0	32	53	4	1	0	0	0	1	59			
17:30	0	0	0	0	0	0	0	0	25	1	0	0	0	0	0	26	50	2	1	0	0	0	1	54			
17:45	0	0	0	0	0	0	0	0	25	1	0	0	0	0	0	26	38	2	0	0	0	0	1	41			
18:00	0	0	0	0	0	0	0	0	20	2	0	0	0	0	0	22	31	3	0	0	0	0	0	34			

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Client: PJA
 Project Number: ID06388
 Junction Number: Site 4a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
 Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
 Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
 Arm D: Bungham Lane (W)



D to A								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	4	1	0	0	0	0	0	5
07:15	4	1	0	0	0	0	0	5
07:30	3	1	0	0	0	0	0	4
07:45	2	0	0	0	0	0	0	2
08:00	5	0	0	0	0	0	0	5
08:15	3	2	0	0	0	0	0	5
08:30	9	2	0	0	0	0	0	11
08:45	2	0	0	0	0	0	0	2
09:00	4	2	0	0	0	0	0	6
09:15	2	1	0	0	0	0	0	3
09:30	4	2	0	0	0	0	0	6
09:45	3	0	0	0	0	0	0	3
16:00	1	0	0	0	0	0	0	1
16:15	1	1	0	0	0	0	0	2
16:30	7	0	0	0	0	0	0	7
16:45	2	0	0	0	0	0	0	2
17:00	1	0	0	0	0	0	0	1
17:15	7	0	0	0	0	0	0	7
17:30	0	1	0	0	0	0	0	1
17:45	1	0	0	0	0	0	0	1
18:00	4	0	0	0	0	0	0	4
18:15	6	1	0	0	0	0	0	7
18:30	6	1	0	0	0	0	0	7
18:45	3	0	0	0	0	0	0	3
Start Time	Rolling Hour							Total
07:00	13	3	0	0	0	0	0	16
07:15	14	2	0	0	0	0	0	16
07:30	13	3	0	0	0	0	0	16
07:45	19	4	0	0	0	0	0	23
08:00	19	4	0	0	0	0	0	23
08:15	18	6	0	0	0	0	0	24
08:30	17	5	0	0	0	0	0	22
08:45	12	5	0	0	0	0	0	17
09:00	13	5	0	0	0	0	0	18
16:00	11	1	0	0	0	0	0	12
16:15	11	1	0	0	0	0	0	12
16:30	17	0	0	0	0	0	0	17
16:45	10	1	0	0	0	0	0	11
17:00	9	1	0	0	0	0	0	10
17:15	12	1	0	0	0	0	0	13
17:30	11	2	0	0	0	0	0	13
17:45	17	2	0	0	0	0	0	19
18:00	19	2	0	0	0	0	0	21

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Client: PJA
 Project Number: ID06388
 Junction Number: Site 4a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
 Junction Type: 4-arm Roundabout

Time	Arm A Approach								Arm A Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	92	23	0	6	2	0	0	123	83	21	2	3	1	0	0	110
07:15	110	25	2	0	0	0	0	137	82	26	3	4	0	0	0	115
07:30	164	19	2	4	3	0	0	192	114	33	3	2	0	0	0	152
07:45	141	19	0	2	2	0	0	164	136	26	4	1	0	0	0	167
08:00	112	24	4	2	0	0	0	142	123	37	5	3	1	1	0	170
08:15	150	30	3	1	0	0	0	184	138	29	4	1	0	0	0	172
08:30	107	21	2	3	0	1	0	134	147	31	3	3	1	1	0	186
08:45	158	23	1	2	3	1	0	188	118	20	4	3	2	0	0	147
09:00	94	23	1	1	1	0	0	120	104	22	4	10	3	0	0	143
09:15	93	17	1	3	1	1	0	116	91	29	3	4	0	0	0	127
09:30	92	21	2	2	1	1	0	119	86	17	1	4	2	1	0	111
09:45	84	20	2	4	0	0	0	110	76	20	2	5	1	0	0	104
16:00	145	31	5	2	0	0	0	183	204	49	5	11	1	0	0	270
16:15	129	27	2	5	1	0	0	164	215	46	8	10	0	2	0	281
16:30	138	39	3	2	2	0	0	184	208	54	2	8	1	1	0	274
16:45	121	18	1	3	0	0	0	143	184	37	3	11	2	0	0	237
17:00	150	21	4	3	2	0	0	180	174	34	4	13	2	0	0	227
17:15	176	17	0	2	0	0	0	195	194	25	2	7	0	0	0	228
17:30	140	11	0	2	1	0	0	154	178	20	2	2	1	0	0	203
17:45	142	15	1	2	1	0	0	161	143	13	1	2	1	1	0	161
18:00	115	8	1	1	0	1	0	126	113	17	1	2	2	0	0	135
18:15	89	10	1	0	0	0	0	100	111	13	2	1	4	1	0	132
18:30	91	8	0	4	1	0	0	104	91	11	0	1	1	0	0	104
18:45	82	8	1	1	0	0	0	92	69	8	0	2	0	0	0	79
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	507	86	4	12	7	0	0	616	415	106	12	10	1	0	0	544
07:15	527	87	8	8	5	0	0	635	455	122	15	10	1	1	0	604
07:30	567	92	9	9	5	0	0	682	511	125	16	7	1	1	0	661
07:45	510	94	9	8	2	1	0	624	544	123	16	8	2	2	0	695
08:00	527	98	10	8	3	2	0	648	526	117	16	10	4	2	0	675
08:15	509	97	7	7	4	2	0	626	507	102	15	17	6	1	0	648
08:30	452	84	5	9	5	3	0	558	460	102	14	20	6	1	0	603
08:45	437	84	5	8	6	3	0	543	399	88	12	21	7	1	0	528
09:00	363	81	6	10	3	2	0	465	357	88	10	23	6	1	0	485
16:00	533	115	11	12	3	0	0	674	811	186	18	40	4	3	0	1062
16:15	538	105	10	13	5	0	0	671	781	171	17	42	5	3	0	1019
16:30	585	95	8	10	4	0	0	702	760	150	11	39	5	1	0	966
16:45	587	67	5	10	3	0	0	672	730	116	11	33	5	0	0	895
17:00	608	64	5	9	4	0	0	690	689	92	9	24	4	1	0	819
17:15	573	51	2	7	2	1	0	636	628	75	6	13	4	1	0	727
17:30	486	44	3	5	2	1	0	541	545	63	6	7	8	2	0	631
17:45	437	41	3	7	2	1	0	491	458	54	4	6	8	2	0	532
18:00	377	34	3	6	1	1	0	422	384	49	3	6	7	1	0	450

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 4a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
 Junction Type: 4-arm Roundabout

	Arm B Approach								Arm B Exit									
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	98	25	3	1	0	0	0	127	29	15	0	1	0	1	0	46		
07:15	138	35	0	4	0	0	0	177	36	7	1	4	0	0	0	48		
07:30	132	27	0	3	0	0	0	162	45	15	5	4	0	0	0	69		
07:45	157	24	3	2	0	0	0	186	63	12	2	2	0	0	0	79		
08:00	142	37	1	1	0	1	0	182	58	13	5	1	0	0	0	77		
08:15	155	27	1	3	0	0	0	186	75	23	2	3	1	0	0	104		
08:30	157	22	2	3	2	1	0	187	86	23	1	1	4	0	0	115		
08:45	141	20	1	0	5	1	0	168	108	15	1	5	0	0	1	130		
09:00	115	17	1	4	1	1	0	139	84	16	4	1	1	0	0	106		
09:15	77	15	4	4	0	0	0	100	55	11	1	1	0	0	0	68		
09:30	85	18	1	0	0	1	0	105	51	9	4	1	0	0	0	65		
09:45	51	9	2	1	0	0	0	63	57	23	4	3	0	0	0	87		
16:00	72	21	4	3	0	1	0	101	105	27	0	1	0	0	0	133		
16:15	118	23	1	4	1	0	0	147	104	16	2	2	0	0	0	124		
16:30	90	21	1	1	0	1	0	114	105	22	1	0	0	0	0	128		
16:45	100	23	0	2	0	0	1	126	109	20	0	1	1	0	0	131		
17:00	121	36	0	0	0	0	0	157	159	24	0	0	1	0	0	184		
17:15	110	14	0	0	0	0	0	124	167	9	0	2	0	0	0	178		
17:30	119	6	0	0	0	0	0	125	223	19	2	0	0	0	0	244		
17:45	107	9	1	0	0	1	0	118	154	12	0	1	0	1	1	169		
18:00	82	9	0	0	0	0	0	91	95	9	0	0	0	1	1	106		
18:15	70	9	1	0	0	0	0	80	91	6	0	0	0	0	0	97		
18:30	76	8	0	0	0	0	0	84	63	9	1	0	0	0	0	73		
18:45	75	4	0	0	0	0	0	79	84	15	0	0	0	0	0	99		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	525	111	6	10	0	0	0	652	173	49	8	11	0	1	0	242		
07:15	569	123	4	10	0	1	0	707	202	47	13	11	0	0	0	273		
07:30	586	115	5	9	0	1	0	716	241	63	14	10	1	0	0	329		
07:45	611	110	7	9	2	2	0	741	282	71	10	7	5	0	0	375		
08:00	595	106	5	7	7	3	0	723	327	74	9	10	5	0	1	426		
08:15	568	86	5	10	8	3	0	680	353	77	8	10	6	0	1	455		
08:30	490	74	8	11	8	3	0	594	333	65	7	8	5	0	1	419		
08:45	418	70	7	8	6	3	0	512	298	51	10	8	1	0	1	369		
09:00	328	59	8	9	1	2	0	407	247	59	13	6	1	0	0	326		
16:00	380	88	6	10	1	2	1	488	423	85	3	4	1	0	0	516		
16:15	429	103	2	7	1	1	1	544	477	82	3	3	2	0	0	567		
16:30	421	94	1	3	0	1	1	521	540	75	1	3	2	0	0	621		
16:45	450	79	0	2	0	0	1	532	658	72	2	3	2	0	0	737		
17:00	457	65	1	0	0	1	0	524	703	64	2	3	1	1	1	775		
17:15	418	38	1	0	0	1	0	458	639	49	2	3	0	2	2	697		
17:30	378	33	2	0	0	1	0	414	563	46	2	1	0	2	2	616		
17:45	335	35	2	0	0	1	0	373	403	36	1	1	0	2	2	445		
18:00	303	30	1	0	0	0	0	334	333	39	1	0	0	1	1	375		

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 4a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
 Junction Type: 4-arm Roundabout

Time	Arm C Approach								Arm C Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	82	31	1	4	1	1	0	120	165	45	3	7	2	0	0	222
07:15	82	29	4	8	0	0	0	123	213	58	2	4	0	0	0	277
07:30	117	43	6	6	0	0	0	172	260	43	0	7	3	0	0	313
07:45	128	32	5	3	0	0	0	168	232	41	2	4	2	0	0	281
08:00	124	39	9	4	1	0	0	177	210	48	4	3	0	0	0	265
08:15	138	33	4	4	1	0	0	180	243	40	3	4	0	0	0	290
08:30	157	39	3	4	5	1	0	209	209	30	3	6	2	2	0	252
08:45	132	27	4	7	0	0	0	170	207	36	1	1	6	2	0	253
09:00	133	26	8	10	4	0	0	181	151	31	2	4	2	1	0	191
09:15	89	33	3	5	0	0	0	130	117	29	4	7	1	1	0	159
09:30	87	18	4	5	2	0	0	116	126	32	2	2	1	1	0	164
09:45	93	34	5	8	1	0	0	141	94	17	2	5	0	0	0	118
16:00	235	67	3	12	1	0	0	318	148	39	8	6	0	1	0	202
16:15	237	49	9	11	0	2	0	308	173	38	2	6	2	0	0	221
16:30	225	60	3	7	1	1	0	297	157	53	4	2	2	1	0	219
16:45	198	45	3	12	3	0	0	261	141	32	1	5	0	0	0	179
17:00	244	44	4	13	3	0	0	308	188	40	4	3	2	0	0	237
17:15	271	31	2	8	0	0	0	312	199	25	0	1	0	0	0	225
17:30	308	32	3	2	1	0	0	346	164	10	0	2	1	0	0	177
17:45	215	22	1	3	1	1	0	243	166	20	2	2	1	0	0	191
18:00	148	23	1	2	2	0	1	177	138	12	1	1	0	0	0	152
18:15	148	16	2	1	4	1	0	172	106	14	2	0	0	0	0	122
18:30	108	14	1	1	1	0	0	125	122	10	0	4	1	0	0	137
18:45	95	18	0	2	0	0	0	115	100	10	1	1	0	0	0	112
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	409	135	16	21	1	1	0	583	870	187	7	22	7	0	0	1093
07:15	451	143	24	21	1	0	0	640	915	190	8	18	5	0	0	1136
07:30	507	147	24	17	2	0	0	697	945	172	9	18	5	0	0	1149
07:45	547	143	21	15	7	1	0	734	894	159	12	17	4	2	0	1088
08:00	551	138	20	19	7	1	0	736	869	154	11	14	8	4	0	1060
08:15	560	125	19	25	10	1	0	740	810	137	9	15	10	5	0	986
08:30	511	125	18	26	9	1	0	690	684	126	10	18	11	6	0	855
08:45	441	104	19	27	6	0	0	597	601	128	9	14	10	5	0	767
09:00	402	111	20	28	7	0	0	568	488	109	10	18	4	3	0	632
16:00	895	221	18	42	5	3	0	1184	619	162	15	19	4	2	0	821
16:15	904	198	19	43	7	3	0	1174	659	163	11	16	6	1	0	856
16:30	938	180	12	40	7	1	0	1178	685	150	9	11	4	1	0	860
16:45	1021	152	12	35	7	0	0	1227	692	107	5	11	3	0	0	818
17:00	1038	129	10	26	5	1	0	1209	717	95	6	8	4	0	0	830
17:15	942	108	7	15	4	1	1	1078	667	67	3	6	2	0	0	745
17:30	819	93	7	8	8	2	1	938	574	56	5	5	2	0	0	642
17:45	619	75	5	7	8	2	1	717	532	56	5	7	2	0	0	602
18:00	499	71	4	6	7	1	1	589	466	46	4	6	1	0	0	523

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Client: PJA
 Project Number: ID06388
 Junction Number: Site 4a
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
 Junction Type: 4-arm Roundabout

	Arm D Approach								Arm D Exit									
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	9	3	1	0	0	0	0	13	4	1	0	0	0	0	0	5		
07:15	10	3	0	0	0	0	0	13	9	1	0	0	0	0	0	10		
07:30	12	5	0	0	0	0	0	17	6	3	0	0	0	0	0	9		
07:45	12	5	0	0	0	0	0	17	7	1	0	0	0	0	0	8		
08:00	18	2	0	0	0	0	0	20	5	4	0	0	0	0	0	9		
08:15	17	4	1	0	0	0	0	22	4	2	0	0	0	0	0	6		
08:30	30	3	0	0	0	0	0	33	9	1	0	0	0	0	0	10		
08:45	21	4	0	0	0	0	1	26	19	3	0	0	0	0	0	22		
09:00	13	6	0	0	0	0	0	19	16	3	0	0	0	0	0	19		
09:15	14	5	0	0	0	0	0	19	10	1	0	0	0	0	0	11		
09:30	10	3	0	0	0	0	0	13	11	2	0	0	0	0	0	13		
09:45	13	1	0	0	0	0	0	14	14	4	1	0	0	0	0	19		
16:00	21	1	1	1	0	0	0	24	16	5	0	0	0	0	0	21		
16:15	21	4	0	0	0	0	0	25	13	3	0	2	0	0	0	18		
16:30	34	11	0	0	0	0	0	45	17	2	0	0	0	0	0	19		
16:45	26	6	0	0	0	0	0	32	11	3	0	0	0	0	1	15		
17:00	24	5	0	0	0	0	0	29	18	8	0	0	0	0	0	26		
17:15	26	2	0	0	0	0	0	28	23	5	0	0	0	0	0	28		
17:30	28	2	1	0	0	0	0	31	30	2	0	0	0	0	0	32		
17:45	22	1	0	0	0	0	1	24	23	2	0	0	0	0	0	25		
18:00	20	1	0	0	0	0	0	21	19	3	0	0	0	0	0	22		
18:15	16	1	0	0	0	0	0	17	15	3	0	0	0	0	0	18		
18:30	22	2	0	0	0	0	0	24	21	2	0	0	0	0	0	23		
18:45	12	3	0	0	0	0	0	15	11	0	0	0	0	0	0	11		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	43	16	1	0	0	0	0	60	26	6	0	0	0	0	0	32		
07:15	52	15	0	0	0	0	0	67	27	9	0	0	0	0	0	36		
07:30	59	16	1	0	0	0	0	76	22	10	0	0	0	0	0	32		
07:45	77	14	1	0	0	0	0	92	25	8	0	0	0	0	0	33		
08:00	86	13	1	0	0	0	1	101	37	10	0	0	0	0	0	47		
08:15	81	17	1	0	0	0	1	100	48	9	0	0	0	0	0	57		
08:30	78	18	0	0	0	0	1	97	54	8	0	0	0	0	0	62		
08:45	58	18	0	0	0	0	1	77	56	9	0	0	0	0	0	65		
09:00	50	15	0	0	0	0	0	65	51	10	1	0	0	0	0	62		
16:00	102	22	1	1	0	0	0	126	57	13	0	2	0	0	1	73		
16:15	105	26	0	0	0	0	0	131	59	16	0	2	0	0	1	78		
16:30	110	24	0	0	0	0	0	134	69	18	0	0	0	0	1	88		
16:45	104	15	1	0	0	0	0	120	82	18	0	0	0	0	1	101		
17:00	100	10	1	0	0	0	1	112	94	17	0	0	0	0	0	111		
17:15	96	6	1	0	0	0	1	104	95	12	0	0	0	0	0	107		
17:30	86	5	1	0	0	0	1	93	87	10	0	0	0	0	0	97		
17:45	80	5	0	0	0	0	1	86	78	10	0	0	0	0	0	88		
18:00	70	7	0	0	0	0	0	77	66	8	0	0	0	0	0	74		

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 4a
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Junction Type: 4-arm Roundabout

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	281	82	5	11	3	1	0	383
07:15	340	92	6	12	0	0	0	450
07:30	425	94	8	13	3	0	0	543
07:45	438	80	8	7	2	0	0	535
08:00	396	102	14	7	1	1	0	521
08:15	460	94	9	8	1	0	0	572
08:30	451	85	7	10	7	3	0	563
08:45	452	74	6	9	8	2	1	552
09:00	355	72	10	15	6	1	0	459
09:15	273	70	8	12	1	1	0	365
09:30	274	60	7	7	3	2	0	353
09:45	241	64	9	13	1	0	0	328
16:00	473	120	13	18	1	1	0	626
16:15	505	103	12	20	2	2	0	644
16:30	487	131	7	10	3	2	0	640
16:45	445	92	4	17	3	0	1	562
17:00	539	106	8	16	5	0	0	674
17:15	583	64	2	10	0	0	0	659
17:30	595	51	4	4	2	0	0	656
17:45	486	47	3	5	2	2	1	546
18:00	365	41	2	3	2	1	1	415
18:15	323	36	4	1	4	1	0	369
18:30	297	32	1	5	2	0	0	337
18:45	264	33	1	3	0	0	0	301
Start Time	Rolling Hour							Total
07:00	1484	348	27	43	8	1	0	1911
07:15	1599	368	36	39	6	1	0	2049
07:30	1719	370	39	35	7	1	0	2171
07:45	1745	361	38	32	11	4	0	2191
08:00	1759	355	36	34	17	6	1	2208
08:15	1718	325	32	42	22	6	1	2146
08:30	1531	301	31	46	22	7	1	1939
08:45	1354	276	31	43	18	6	1	1729
09:00	1143	266	34	47	11	4	0	1505
16:00	1910	446	36	65	9	5	1	2472
16:15	1976	432	31	63	13	4	1	2520
16:30	2054	393	21	53	11	2	1	2535
16:45	2162	313	18	47	10	0	1	2551
17:00	2203	268	17	35	9	2	1	2535
17:15	2029	203	11	22	6	3	2	2276
17:30	1769	175	13	13	10	4	2	1986
17:45	1471	156	10	14	10	4	2	1667
18:00	1249	142	8	12	8	2	1	1422

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 4a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
Arm D: Bungham Lane (W)

PCU Summary																
Time	A to A	A to D	A to C	A to B	B to B	B to A	B to D	B to C	C to C	C to B	C to A	C to D	D to D	D to C	D to B	D to A
07:00	0	0	128	5	0	26	5	99	0	41	85	0	0	8	1	5
07:15	0	0	126	12	0	26	6	150	1	40	91	4	0	6	2	5
07:30	3	1	186	12	0	31	4	131	1	59	119	4	0	7	6	4
07:45	0	1	147	21	0	55	2	134	0	56	114	5	0	9	6	2
08:00	2	0	129	16	0	42	5	136	1	55	127	4	0	5	10	5
08:15	1	1	157	28	0	56	3	132	0	72	114	2	0	8	10	5
08:30	1	3	112	22	0	53	2	139	1	87	127	5	0	10	12	11
08:45	0	9	138	46	0	51	8	114	0	74	102	5	0	7	16	2
09:00	0	3	90	30	0	37	7	101	2	75	118	8	1	6	6	6
09:15	0	3	92	26	1	31	4	72	0	34	100	4	0	7	9	3
09:30	0	5	96	23	1	30	5	69	1	41	82	3	0	3	4	6
09:45	0	4	79	34	0	17	11	38	1	56	93	5	0	8	3	3
16:00	1	8	135	44	2	32	6	66	2	73	254	7	0	10	15	1
16:15	0	4	132	37	0	47	13	94	1	73	248	4	0	5	18	2
16:30	0	4	150	36	1	37	12	65	0	64	242	3	0	10	28	7
16:45	1	4	102	40	0	44	6	78	1	68	208	4	0	5	25	2
17:00	0	5	135	48	1	40	17	99	1	118	207	4	0	10	18	1
17:15	0	7	144	46	0	38	12	74	0	121	193	9	0	8	13	7
17:30	0	5	103	50	0	44	13	68	2	173	163	14	0	8	23	1
17:45	0	5	113	47	1	33	12	72	2	108	130	8	0	9	13	1
18:00	0	6	91	30	1	29	5	56	0	63	107	11	0	7	10	4
18:15	1	1	71	28	0	21	10	50	1	61	109	7	0	2	8	7
18:30	1	5	87	17	0	27	10	47	1	48	71	8	0	8	9	7
18:45	0	2	59	33	0	21	9	49	1	59	58	0	0	5	7	3
Start Time	Rolling Hour															
07:00	3	2	587	50	0	137	17	514	2	195	409	13	0	30	15	16
07:15	5	2	588	60	0	154	17	551	3	210	451	17	0	27	24	16
07:30	6	3	619	76	0	183	14	532	2	243	474	15	0	29	32	16
07:45	4	5	545	87	0	205	12	540	2	270	482	16	0	32	38	23
08:00	4	13	536	112	0	201	18	521	2	288	471	16	0	30	48	23
08:15	2	16	498	126	0	196	20	486	3	308	461	20	1	31	44	24
08:30	1	18	433	124	1	171	21	426	3	269	448	22	1	30	43	22
08:45	0	20	416	124	2	149	24	355	3	223	402	20	1	23	35	17
09:00	0	15	356	112	2	115	27	279	4	206	392	20	1	24	22	18
16:00	2	20	519	157	3	160	37	303	4	278	951	18	0	30	86	12
16:15	1	17	519	161	2	168	48	336	3	322	904	15	0	30	89	12
16:30	1	20	532	170	2	159	47	316	2	371	849	20	0	33	84	17
16:45	1	21	484	184	1	166	48	319	4	480	770	31	0	31	79	11
17:00	0	22	495	191	2	155	54	313	5	520	693	35	0	35	67	10
17:15	0	23	451	174	2	144	42	270	4	465	593	42	0	32	59	13
17:30	1	17	377	155	2	127	40	245	5	404	509	40	0	26	54	13
17:45	2	17	362	122	2	110	37	224	4	279	417	34	0	26	40	19
18:00	2	14	307	108	1	98	34	202	3	231	345	26	0	22	34	21

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 4a

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: B5012 Boscomoor Lane (E)

Arm C: A449 Wolverhampton Road (S)
Arm D: Bingham Lane (W)



Count Method: Vehicles Classes Included: All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:

AM Peak	from:	08:15	until:	08:30	flow:	572
PM Peak	from:	17:00	until:	17:15	flow:	674

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

		To				Total
From		A	B	C	D	
	A	0	5	118	0	123
	B	25	0	97	5	127
	C	80	40	0	0	120
	D	5	1	7	0	13
Total		110	46	222	5	383

HGV Proportions

		To				Total
From		A	B	C	D	
	A	0.0%	0.0%	6.8%	0.0%	6.5%
	B	4.0%	0.0%	3.1%	0.0%	3.1%
	C	6.3%	2.5%	0.0%	0.0%	5.0%
	D	0.0%	0.0%	14.3%	0.0%	7.7%
Total		5.5%	2.2%	5.4%	0.0%	5.0%

Maximum Hourly Junction Flow:

AM Peak	from:	08:00	until:	09:00	flow:	2208
PM Peak	from:	16:45	until:	17:45	flow:	2551

Period Starting: 07:00 *Select the time from the drop-down in cell D31 to show the hourly data for that period*

Movement Counts

		To				Total
From		A	B	C	D	
	A	2	49	563	2	616
	B	136	0	499	17	652
	C	390	178	2	13	583
	D	16	15	29	0	60
Total		544	242	1093	32	1911

HGV Proportions

		To				Total
From		A	B	C	D	
	A	50.0%	2.0%	3.7%	0.0%	3.7%
	B	1.5%	0.0%	2.8%	0.0%	2.5%
	C	5.1%	10.1%	0.0%	0.0%	6.5%
	D	0.0%	0.0%	3.4%	0.0%	1.7%
Total		4.2%	7.9%	3.3%	0.0%	4.1%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 4b
Date of Survey:	31.03.2022
Junction Name:	A449 Wolverhampton Road / St Michael's Road
Junction Type:	T-Junction

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 4b - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

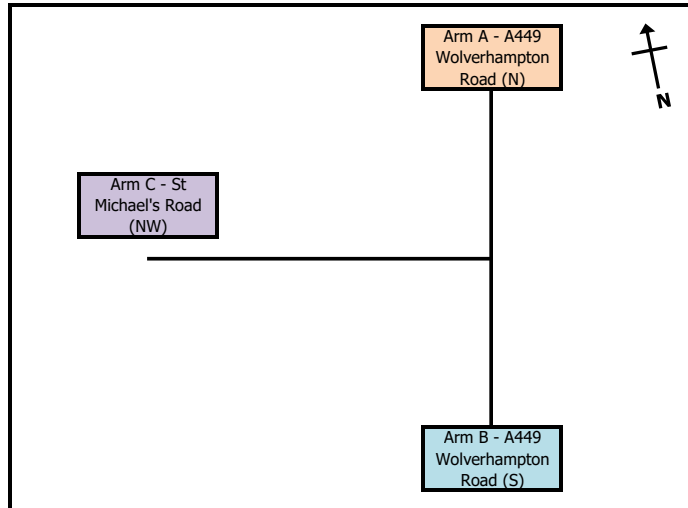
Intelligent Data Collection Limited



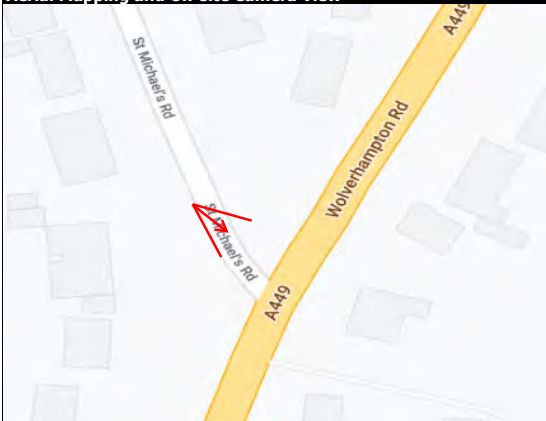
Client: PJA
Project Number: ID06388
Junction Number: Site 4b
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / St Michael's Road
Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
52.722007	-2.116834	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

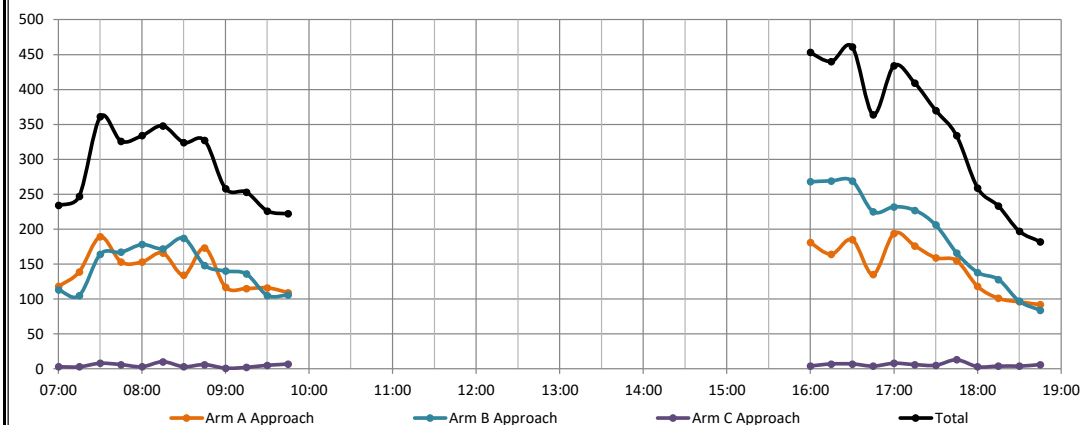


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 4b

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / St Michael's Road
Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
Arm B: A449 Wolverhampton Road (S)

Arm C: St Michael's Road (NW)



Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	0	0	0	0	0	0	0	0	89	21	0	6	2	0	0	118
07:15								0	0	0	0	0	0	0	0	0	108	29	2	0	0	0	0	139
07:30								0	2	0	0	0	0	0	0	2	161	17	2	4	3	0	0	187
07:45								0	1	0	0	0	0	0	0	1	132	16	0	2	2	0	0	152
08:00								0	1	0	0	0	0	0	0	1	116	28	5	3	0	0	0	152
08:15								0	0	1	0	0	0	0	0	1	134	29	2	0	0	0	0	165
08:30								0	0	0	0	0	0	0	0	0	105	22	2	4	0	1	0	134
08:45								0	0	0	0	0	0	0	0	0	147	19	2	1	3	1	0	173
09:00								0	1	0	0	0	0	0	0	1	91	23	0	1	1	0	0	116
09:15								0	0	1	0	0	0	0	0	1	94	14	1	3	1	1	0	114
09:30								0	0	1	0	0	0	0	0	1	88	21	2	2	1	1	0	115
09:45								0	0	0	0	0	0	0	0	0	84	19	2	4	0	0	0	109
16:00								0	4	0	0	0	0	0	0	4	139	30	5	3	0	0	0	177
16:15								0	3	0	0	0	0	0	0	3	125	29	2	4	1	0	0	161
16:30								0	2	0	0	0	0	0	0	2	138	38	3	2	2	0	0	183
16:45								0	1	0	0	0	0	0	0	1	114	16	1	3	0	0	0	134
17:00								0	1	0	0	0	0	0	0	1	158	24	4	4	2	0	1	193
17:15								0	2	0	0	0	0	0	0	2	160	13	0	1	0	0	0	174
17:30								0	1	0	0	0	0	0	0	1	144	10	0	3	1	0	0	158
17:45								0	1	0	0	0	0	0	0	1	137	14	1	1	1	0	0	154
18:00								0	0	0	0	0	0	0	0	0	106	9	1	1	0	1	0	118
18:15								0	0	1	0	0	0	0	0	1	88	11	1	0	0	0	0	100
18:30								0	0	0	0	0	0	0	0	0	84	7	0	4	1	0	0	96
18:45								0	0	0	0	0	0	0	0	0	81	9	1	1	0	0	0	92
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	490	83	4	12	7	0	0	596
07:15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	517	90	9	9	5	0	0	630
07:30	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	543	90	9	9	5	0	0	656
07:45	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	487	95	9	9	2	1	0	603
08:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	502	98	11	8	3	2	0	624
08:15	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	477	93	6	6	4	2	0	588
08:30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	437	78	5	9	5	3	0	537
08:45	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3	420	77	5	7	6	3	0	518
09:00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3	357	77	5	10	3	2	0	454
16:00	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	516	113	11	12	3	0	0	655
16:15	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	535	107	10	13	5	0	1	671
16:30	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	570	91	8	10	4	0	1	684
16:45	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	576	63	5	11	3	0	1	659
17:00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	599	61	5	9	4	0	1	679
17:15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	547	46	2	6	2	1	0	604
17:30	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	475	44	3	5	2	1	0	530
17:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	415	41	3	6	2	1	0	468
18:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	359	36	3	6	1	1	0	406

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 4b

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / St Michael's Road
Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
Arm B: A449 Wolverhampton Road (S)

Arm C: St Michael's Road (NW)

Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	82	19	2	3	1	0	0	107	5	1	0	0	0	0	0	6
07:15								0	69	28	3	4	0	0	0	104	1	0	0	0	0	0	0	1
07:30								0	117	34	3	2	0	0	0	156	8	0	0	0	0	0	0	8
07:45								0	135	24	4	1	0	0	0	164	2	1	0	0	0	0	0	3
08:00								0	123	37	5	3	1	1	0	170	7	1	0	0	0	0	0	8
08:15								0	132	27	4	1	0	0	1	165	7	0	0	0	0	0	0	7
08:30								0	144	33	3	3	1	1	0	185	2	0	0	0	0	0	0	2
08:45								0	121	20	3	3	1	0	0	148	0	0	0	0	0	0	0	0
09:00								0	97	19	5	9	4	0	0	134	5	1	0	0	0	0	0	6
09:15								0	98	29	3	5	0	0	0	135	1	0	0	0	0	0	0	1
09:30								0	77	17	1	4	2	1	0	102	3	0	0	0	0	0	0	3
09:45								0	74	20	2	5	1	0	0	102	3	1	0	0	0	0	0	4
16:00								0	197	49	4	12	1	0	0	263	5	0	0	0	0	0	0	5
16:15								0	199	45	8	11	0	2	0	265	4	0	0	0	0	0	0	4
16:30								0	196	53	2	7	1	1	0	260	5	4	0	0	0	0	0	9
16:45								0	166	35	3	11	2	0	0	217	6	2	0	0	0	0	0	8
17:00								0	181	29	4	13	2	0	0	229	3	0	0	0	0	0	0	3
17:15								0	189	27	2	6	0	0	0	224	3	0	0	0	0	0	0	3
17:30								0	172	20	2	3	1	0	0	198	5	3	0	0	0	0	0	8
17:45								0	142	14	1	2	1	0	0	160	6	0	0	0	0	0	0	6
18:00								0	113	15	1	1	2	1	0	133	5	0	0	0	0	0	0	5
18:15								0	104	13	2	1	4	1	0	125	3	0	0	0	0	0	0	3
18:30								0	83	8	0	1	1	0	0	93	4	0	0	0	0	0	0	4
18:45								0	69	8	0	2	0	0	0	79	5	0	0	0	0	0	0	5
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	403	105	12	10	1	0	0	531	16	2	0	0	0	0	0	18
07:15	0	0	0	0	0	0	0	0	444	123	15	10	1	1	0	594	18	2	0	0	0	0	0	20
07:30	0	0	0	0	0	0	0	0	507	122	16	7	1	1	1	655	24	2	0	0	0	0	0	26
07:45	0	0	0	0	0	0	0	0	534	121	16	8	2	2	1	684	18	2	0	0	0	0	0	20
08:00	0	0	0	0	0	0	0	0	520	117	15	10	3	2	1	668	16	1	0	0	0	0	0	17
08:15	0	0	0	0	0	0	0	0	494	99	15	16	6	1	1	632	14	1	0	0	0	0	0	15
08:30	0	0	0	0	0	0	0	0	460	101	14	20	6	1	0	602	8	1	0	0	0	0	0	9
08:45	0	0	0	0	0	0	0	0	393	85	12	21	7	1	0	519	9	1	0	0	0	0	0	10
09:00	0	0	0	0	0	0	0	0	346	85	11	23	7	1	0	473	12	2	0	0	0	0	0	14
16:00	0	0	0	0	0	0	0	0	758	182	17	41	4	3	0	1005	20	6	0	0	0	0	0	26
16:15	0	0	0	0	0	0	0	0	742	162	17	42	5	3	0	971	18	6	0	0	0	0	0	24
16:30	0	0	0	0	0	0	0	0	732	144	11	37	5	1	0	930	17	6	0	0	0	0	0	23
16:45	0	0	0	0	0	0	0	0	708	111	11	33	5	0	0	868	17	5	0	0	0	0	0	22
17:00	0	0	0	0	0	0	0	0	684	90	9	24	4	0	0	811	17	3	0	0	0	0	0	20
17:15	0	0	0	0	0	0	0	0	616	76	6	12	4	1	0	715	19	3	0	0	0	0	0	22
17:30	0	0	0	0	0	0	0	0	531	62	6	7	8	2	0	616	19	3	0	0	0	0	0	22
17:45	0	0	0	0	0	0	0	0	442	50	4	5	8	2	0	511	18	0	0	0	0	0	0	18
18:00	0	0	0	0	0	0	0	0	369	44	3	5	7	2	0	430	17	0	0	0	0	0	0	17

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 4b

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / St Michael's Road
Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
Arm B: A449 Wolverhampton Road (S)

Arm C: St Michael's Road (NW)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
07:15								0	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
07:30								0	4	1	0	0	0	0	0	5	2	1	0	0	0	0	0	3
07:45								0	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
08:00								0	2	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1
08:15								0	8	0	0	0	0	0	0	8	2	0	0	0	0	0	0	2
08:30								0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
08:45								0	4	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0
09:00								0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
09:15								0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
09:30								0	3	1	0	0	0	0	0	4	1	0	0	0	0	0	0	1
09:45								0	3	0	0	0	0	0	0	3	4	0	0	0	0	0	0	4
16:00								0	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
16:15								0	5	0	0	0	0	0	0	5	2	0	0	0	0	0	0	2
16:30								0	3	0	0	0	0	0	0	3	4	0	0	0	0	0	0	4
16:45								0	1	2	0	0	0	0	0	3	1	0	0	0	0	0	0	1
17:00								0	6	0	0	0	0	0	0	6	2	0	0	0	0	0	0	2
17:15								0	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
17:30								0	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
17:45								0	10	0	0	0	0	0	0	10	3	0	0	0	0	0	0	3
18:00								0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
18:15								0	2	1	0	0	0	0	0	3	1	0	0	0	0	0	0	1
18:30								0	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1
18:45								0	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	11	2	0	0	0	0	0	13	6	1	0	0	0	0	0	7
07:15	0	0	0	0	0	0	0	0	11	2	0	0	0	0	0	13	5	2	0	0	0	0	0	7
07:30	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	7	2	0	0	0	0	0	9
07:45	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15	6	1	0	0	0	0	0	7
08:00	0	0	0	0	0	0	0	0	16	2	0	0	0	0	0	18	3	1	0	0	0	0	0	4
08:15	0	0	0	0	0	0	0	0	14	2	0	0	0	0	0	16	4	0	0	0	0	0	0	4
08:30	0	0	0	0	0	0	0	0	8	2	0	0	0	0	0	10	2	0	0	0	0	0	0	2
08:45	0	0	0	0	0	0	0	0	9	3	0	0	0	0	0	12	2	0	0	0	0	0	0	2
09:00	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	9	6	0	0	0	0	0	0	6
16:00	0	0	0	0	0	0	0	0	11	2	0	0	0	0	0	13	9	0	0	0	0	0	0	9
16:15	0	0	0	0	0	0	0	0	15	2	0	0	0	0	0	17	9	0	0	0	0	0	0	9
16:30	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	15	10	0	0	0	0	0	0	10
16:45	0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	14	9	0	0	0	0	0	0	9
17:00	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	21	11	0	0	0	0	0	0	11
17:15	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	17	10	0	0	0	0	0	0	10
17:30	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	17	8	0	0	0	0	0	0	8
17:45	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	6	0	0	0	0	0	0	6
18:00	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	10	7	0	0	0	0	0	0	7

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 4b
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / St Michael's Road
 Junction Type: T-Junction

	Arm A Approach								Arm A Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	89	21	0	6	2	0	0	118	83	19	2	3	1	0	0	108
07:15	108	29	2	0	0	0	0	139	69	28	3	4	0	0	0	104
07:30	163	17	2	4	3	0	0	189	119	35	3	2	0	0	0	159
07:45	133	16	0	2	2	0	0	153	138	24	4	1	0	0	0	167
08:00	117	28	5	3	0	0	0	153	123	38	5	3	1	1	0	171
08:15	134	30	2	0	0	0	0	166	134	27	4	1	0	0	1	167
08:30	105	22	2	4	0	1	0	134	145	33	3	3	1	1	0	186
08:45	147	19	2	1	3	1	0	173	121	20	3	3	1	0	0	148
09:00	92	23	0	1	1	0	0	117	98	19	5	9	4	0	0	135
09:15	94	15	1	3	1	1	0	115	98	29	3	5	0	0	0	135
09:30	88	22	2	2	1	1	0	116	78	17	1	4	2	1	0	103
09:45	84	19	2	4	0	0	0	109	78	20	2	5	1	0	0	106
16:00	143	30	5	3	0	0	0	181	199	49	4	12	1	0	0	265
16:15	128	29	2	4	1	0	0	164	201	45	8	11	0	2	0	267
16:30	140	38	3	2	2	0	0	185	200	53	2	7	1	1	0	264
16:45	115	16	1	3	0	0	0	135	167	35	3	11	2	0	0	218
17:00	159	24	4	4	2	0	1	194	183	29	4	13	2	0	0	231
17:15	162	13	0	1	0	0	0	176	192	27	2	6	0	0	0	227
17:30	145	10	0	3	1	0	0	159	175	20	2	3	1	0	0	201
17:45	138	14	1	1	1	0	0	155	145	14	1	2	1	0	0	163
18:00	106	9	1	1	0	1	0	118	114	15	1	1	2	1	0	134
18:15	88	12	1	0	0	0	0	101	105	13	2	1	4	1	0	126
18:30	84	7	0	4	1	0	0	96	84	8	0	1	1	0	0	94
18:45	81	9	1	1	0	0	0	92	73	8	0	2	0	0	0	83
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	493	83	4	12	7	0	0	599	409	106	12	10	1	0	0	538
07:15	521	90	9	9	5	0	0	634	449	125	15	10	1	1	0	601
07:30	547	91	9	9	5	0	0	661	514	124	16	7	1	1	1	664
07:45	489	96	9	9	2	1	0	606	540	122	16	8	2	2	1	691
08:00	503	99	11	8	3	2	0	626	523	118	15	10	3	2	1	672
08:15	478	94	6	6	4	2	0	590	498	99	15	16	6	1	1	636
08:30	438	79	5	9	5	3	0	539	462	101	14	20	6	1	0	604
08:45	421	79	5	7	6	3	0	521	395	85	12	21	7	1	0	521
09:00	358	79	5	10	3	2	0	457	352	85	11	23	7	1	0	479
16:00	526	113	11	12	3	0	0	665	767	182	17	41	4	3	0	1014
16:15	542	107	10	13	5	0	1	678	751	162	17	42	5	3	0	980
16:30	576	91	8	10	4	0	1	690	742	144	11	37	5	1	0	940
16:45	581	63	5	11	3	0	1	664	717	111	11	33	5	0	0	877
17:00	604	61	5	9	4	0	1	684	695	90	9	24	4	0	0	822
17:15	551	46	2	6	2	1	0	608	626	76	6	12	4	1	0	725
17:30	477	45	3	5	2	1	0	533	539	62	6	7	8	2	0	624
17:45	416	42	3	6	2	1	0	470	448	50	4	5	8	2	0	517
18:00	359	37	3	6	1	1	0	407	376	44	3	5	7	2	0	437

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 4b
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / St Michael's Road
 Junction Type: T-Junction

	Arm B Approach								Arm B Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	87	20	2	3	1	0	0	113	91	21	0	6	2	0	0	120
07:15	70	28	3	4	0	0	0	105	110	30	2	0	0	0	0	142
07:30	125	34	3	2	0	0	0	164	165	18	2	4	3	0	0	192
07:45	137	25	4	1	0	0	0	167	135	16	0	2	2	0	0	155
08:00	130	38	5	3	1	1	0	178	118	28	5	3	0	0	0	154
08:15	139	27	4	1	0	0	1	172	142	29	2	0	0	0	0	173
08:30	146	33	3	3	1	1	0	187	107	22	2	4	0	1	0	136
08:45	121	20	3	3	1	0	0	148	151	21	2	1	3	1	0	179
09:00	102	20	5	9	4	0	0	140	91	23	0	1	1	0	0	116
09:15	99	29	3	5	0	0	0	136	96	14	1	3	1	1	0	116
09:30	80	17	1	4	2	1	0	105	91	22	2	2	1	1	0	119
09:45	77	21	2	5	1	0	0	106	87	19	2	4	0	0	0	112
16:00	202	49	4	12	1	0	0	268	141	30	5	3	0	0	0	179
16:15	203	45	8	11	0	2	0	269	130	29	2	4	1	0	0	166
16:30	201	57	2	7	1	1	0	269	141	38	3	2	2	0	0	186
16:45	172	37	3	11	2	0	0	225	115	18	1	3	0	0	0	137
17:00	184	29	4	13	2	0	0	232	164	24	4	4	2	0	1	199
17:15	192	27	2	6	0	0	0	227	163	13	0	1	0	0	0	177
17:30	177	23	2	3	1	0	0	206	146	10	0	3	1	0	0	160
17:45	148	14	1	2	1	0	0	166	147	14	1	1	1	0	0	164
18:00	118	15	1	1	2	1	0	138	108	9	1	1	0	1	0	120
18:15	107	13	2	1	4	1	0	128	90	12	1	0	0	0	0	103
18:30	87	8	0	1	1	0	0	97	87	7	0	4	1	0	0	99
18:45	74	8	0	2	0	0	0	84	83	9	1	1	0	0	0	94
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	419	107	12	10	1	0	0	549	501	85	4	12	7	0	0	609
07:15	462	125	15	10	1	1	0	614	528	92	9	9	5	0	0	643
07:30	531	124	16	7	1	1	1	681	560	91	9	9	5	0	0	674
07:45	552	123	16	8	2	2	1	704	502	95	9	9	2	1	0	618
08:00	536	118	15	10	3	2	1	685	518	100	11	8	3	2	0	642
08:15	508	100	15	16	6	1	1	647	491	95	6	6	4	2	0	604
08:30	468	102	14	20	6	1	0	611	445	80	5	9	5	3	0	547
08:45	402	86	12	21	7	1	0	529	429	80	5	7	6	3	0	530
09:00	358	87	11	23	7	1	0	487	365	78	5	10	3	2	0	463
16:00	778	188	17	41	4	3	0	1031	527	115	11	12	3	0	0	668
16:15	760	168	17	42	5	3	0	995	550	109	10	13	5	0	1	688
16:30	749	150	11	37	5	1	0	953	583	93	8	10	4	0	1	699
16:45	725	116	11	33	5	0	0	890	588	65	5	11	3	0	1	673
17:00	701	93	9	24	4	0	0	831	620	61	5	9	4	0	1	700
17:15	635	79	6	12	4	1	0	737	564	46	2	6	2	1	0	621
17:30	550	65	6	7	8	2	0	638	491	45	3	5	2	1	0	547
17:45	460	50	4	5	8	2	0	529	432	42	3	6	2	1	0	486
18:00	386	44	3	5	7	2	0	447	368	37	3	6	1	1	0	416

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 4b
 Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / St Michael's Road
 Junction Type: T-Junction

Time	Arm C Approach								Arm C Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	3	0	0	0	0	0	0	3	5	1	0	0	0	0	0	6		
07:15	2	1	0	0	0	0	0	3	1	0	0	0	0	0	0	1		
07:30	6	2	0	0	0	0	0	8	10	0	0	0	0	0	0	10		
07:45	6	0	0	0	0	0	0	6	3	1	0	0	0	0	0	4		
08:00	2	1	0	0	0	0	0	3	8	1	0	0	0	0	0	9		
08:15	10	0	0	0	0	0	0	10	7	1	0	0	0	0	0	8		
08:30	3	0	0	0	0	0	0	3	2	0	0	0	0	0	0	2		
08:45	4	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0		
09:00	1	0	0	0	0	0	0	1	6	1	0	0	0	0	0	7		
09:15	2	0	0	0	0	0	0	2	1	1	0	0	0	0	0	2		
09:30	4	1	0	0	0	0	0	5	3	1	0	0	0	0	0	4		
09:45	7	0	0	0	0	0	0	7	3	1	0	0	0	0	0	4		
16:00	4	0	0	0	0	0	0	4	9	0	0	0	0	0	0	9		
16:15	7	0	0	0	0	0	0	7	7	0	0	0	0	0	0	7		
16:30	7	0	0	0	0	0	0	7	7	4	0	0	0	0	0	11		
16:45	2	2	0	0	0	0	0	4	7	2	0	0	0	0	0	9		
17:00	8	0	0	0	0	0	0	8	4	0	0	0	0	0	0	4		
17:15	6	0	0	0	0	0	0	6	5	0	0	0	0	0	0	5		
17:30	5	0	0	0	0	0	0	5	6	3	0	0	0	0	0	9		
17:45	13	0	0	0	0	0	0	13	7	0	0	0	0	0	0	7		
18:00	3	0	0	0	0	0	0	3	5	0	0	0	0	0	0	5		
18:15	3	1	0	0	0	0	0	4	3	1	0	0	0	0	0	4		
18:30	4	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4		
18:45	6	0	0	0	0	0	0	6	5	0	0	0	0	0	0	5		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	17	3	0	0	0	0	0	20	19	2	0	0	0	0	0	21		
07:15	16	4	0	0	0	0	0	20	22	2	0	0	0	0	0	24		
07:30	24	3	0	0	0	0	0	27	28	3	0	0	0	0	0	31		
07:45	21	1	0	0	0	0	0	22	20	3	0	0	0	0	0	23		
08:00	19	3	0	0	0	0	0	22	17	2	0	0	0	0	0	19		
08:15	18	2	0	0	0	0	0	20	15	2	0	0	0	0	0	17		
08:30	10	2	0	0	0	0	0	12	9	2	0	0	0	0	0	11		
08:45	11	3	0	0	0	0	0	14	10	3	0	0	0	0	0	13		
09:00	14	1	0	0	0	0	0	15	13	4	0	0	0	0	0	17		
16:00	20	2	0	0	0	0	0	22	30	6	0	0	0	0	0	36		
16:15	24	2	0	0	0	0	0	26	25	6	0	0	0	0	0	31		
16:30	23	2	0	0	0	0	0	25	23	6	0	0	0	0	0	29		
16:45	21	2	0	0	0	0	0	23	22	5	0	0	0	0	0	27		
17:00	32	0	0	0	0	0	0	32	22	3	0	0	0	0	0	25		
17:15	27	0	0	0	0	0	0	27	23	3	0	0	0	0	0	26		
17:30	24	1	0	0	0	0	0	25	21	4	0	0	0	0	0	25		
17:45	23	1	0	0	0	0	0	24	19	1	0	0	0	0	0	20		
18:00	16	1	0	0	0	0	0	17	17	1	0	0	0	0	0	18		

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 4b
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / St Michael's Road
Junction Type: T-Junction

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	179	41	2	9	3	0	0	234
07:15	180	58	5	4	0	0	0	247
07:30	294	53	5	6	3	0	0	361
07:45	276	41	4	3	2	0	0	326
08:00	249	67	10	6	1	1	0	334
08:15	283	57	6	1	0	0	1	348
08:30	254	55	5	7	1	2	0	324
08:45	272	41	5	4	4	1	0	327
09:00	195	43	5	10	5	0	0	258
09:15	195	44	4	8	1	1	0	253
09:30	172	40	3	6	3	2	0	226
09:45	168	40	4	9	1	0	0	222
16:00	349	79	9	15	1	0	0	453
16:15	338	74	10	15	1	2	0	440
16:30	348	95	5	9	3	1	0	461
16:45	289	55	4	14	2	0	0	364
17:00	351	53	8	17	4	0	1	434
17:15	360	40	2	7	0	0	0	409
17:30	327	33	2	6	2	0	0	370
17:45	299	28	2	3	2	0	0	334
18:00	227	24	2	2	2	2	0	259
18:15	198	26	3	1	4	1	0	233
18:30	175	15	0	5	2	0	0	197
18:45	161	17	1	3	0	0	0	182
Start Time	Rolling Hour							Total
07:00	929	193	16	22	8	0	0	1168
07:15	999	219	24	19	6	1	0	1268
07:30	1102	218	25	16	6	1	1	1369
07:45	1062	220	25	17	4	3	1	1332
08:00	1058	220	26	18	6	4	1	1333
08:15	1004	196	21	22	10	3	1	1257
08:30	916	183	19	29	11	4	0	1162
08:45	834	168	17	28	13	4	0	1064
09:00	730	167	16	33	10	3	0	959
16:00	1324	303	28	53	7	3	0	1718
16:15	1326	277	27	55	10	3	1	1699
16:30	1348	243	19	47	9	1	1	1668
16:45	1327	181	16	44	8	0	1	1577
17:00	1337	154	14	33	8	0	1	1547
17:15	1213	125	8	18	6	2	0	1372
17:30	1051	111	9	12	10	3	0	1196
17:45	899	93	7	11	10	3	0	1023
18:00	761	82	6	11	8	3	0	871

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 4b

Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / St Michael's Road
Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
Arm B: A449 Wolverhampton Road (S)
Arm C: St Michael's Road (NW)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	0	128	0	113	6	0	2	1
07:15	0	0	140	0	111	1	0	3	0
07:30	0	2	196	0	160	8	0	5	3
07:45	0	1	157	0	167	3	0	3	3
08:00	0	1	158	0	177	8	0	2	1
08:15	0	1	166	0	168	7	0	8	2
08:30	0	0	140	0	191	2	0	2	1
08:45	0	0	178	0	154	0	0	6	0
09:00	0	1	118	0	152	6	0	0	1
09:15	0	1	119	0	143	1	0	2	0
09:30	0	1	119	0	109	3	0	4	1
09:45	0	0	115	0	111	4	0	3	4
16:00	0	4	183	0	282	5	0	2	2
16:15	0	3	168	0	282	4	0	5	2
16:30	0	2	189	0	271	9	0	3	4
16:45	0	1	138	0	235	8	0	3	1
17:00	0	1	201	0	250	3	0	6	2
17:15	0	2	175	0	233	3	0	3	3
17:30	0	1	163	0	204	8	0	2	3
17:45	0	1	157	0	164	6	0	10	3
18:00	0	0	119	0	136	5	0	2	1
18:15	0	1	101	0	131	3	0	3	1
18:30	0	0	102	0	95	4	0	3	1
18:45	0	0	94	0	82	5	0	2	4
Start Time	Rolling Hour								
07:00	0	3	621	0	551	18	0	13	7
07:15	0	4	651	0	615	20	0	13	7
07:30	0	5	677	0	672	26	0	18	9
07:45	0	3	621	0	702	20	0	15	7
08:00	0	2	642	0	690	17	0	18	4
08:15	0	2	602	0	665	15	0	16	4
08:30	0	2	554	0	640	9	0	10	2
08:45	0	3	534	0	559	10	0	12	2
09:00	0	3	471	0	515	14	0	9	6
16:00	0	10	679	0	1069	26	0	13	9
16:15	0	7	697	0	1037	24	0	17	9
16:30	0	6	704	0	988	23	0	15	10
16:45	0	5	678	0	921	22	0	14	9
17:00	0	5	696	0	851	20	0	21	11
17:15	0	4	614	0	737	22	0	17	10
17:30	0	3	539	0	635	22	0	17	8
17:45	0	2	479	0	526	18	0	18	6
18:00	0	1	416	0	444	17	0	10	7

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 4b

Date of Survey: 31.03.2022
 Junction Name: A449 Wolverhampton Road / St Michael's Road
 Junction Type: T-Junction

Arm A: A449 Wolverhampton Road (N)
 Arm B: A449 Wolverhampton Road (S)
 Arm C: St Michael's Road (NW)



Count Method: Vehicles Classes Included: All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:	AM Peak	from:	07:30	until:	07:45	flow:	361
	PM Peak	from:	16:30	until:	16:45	flow:	461

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	118	0	118
B	107	0	6	113
C	1	2	0	3
Total	108	120	6	234

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	6.8%	0.0%	6.8%
B	5.6%	0.0%	0.0%	5.3%
C	0.0%	0.0%	0.0%	0.0%
Total	5.6%	6.7%	0.0%	6.0%

Maximum Hourly Junction Flow:	AM Peak	from:	07:30	until:	08:30	flow:	1369
	PM Peak	from:	16:00	until:	17:00	flow:	1718

Period Starting: 07:00 *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	596	3	599
B	531	0	18	549
C	7	13	0	20
Total	538	609	21	1168

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	3.9%	0.0%	3.8%
B	4.3%	0.0%	0.0%	4.2%
C	0.0%	0.0%	0.0%	0.0%
Total	4.3%	3.8%	0.0%	3.9%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 5a
Date of Survey:	31.03.2022
Junction Name:	M6 Junction 13
Junction Type:	4-arm Roundabout

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 5a - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

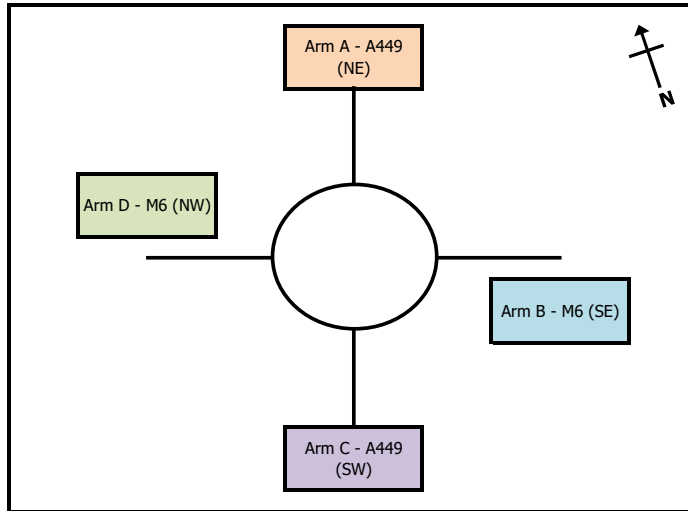
Intelligent Data Collection Limited



Client: PJA Date of Survey: 31.03.2022
 Project Number: ID06388 Junction Name: M6 Junction 13
 Junction Number: Site 5a Junction Type: 4-arm Roundabout

X Coordinate	Y Coordinate	Google Maps Link
52.763704	-2.107825	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

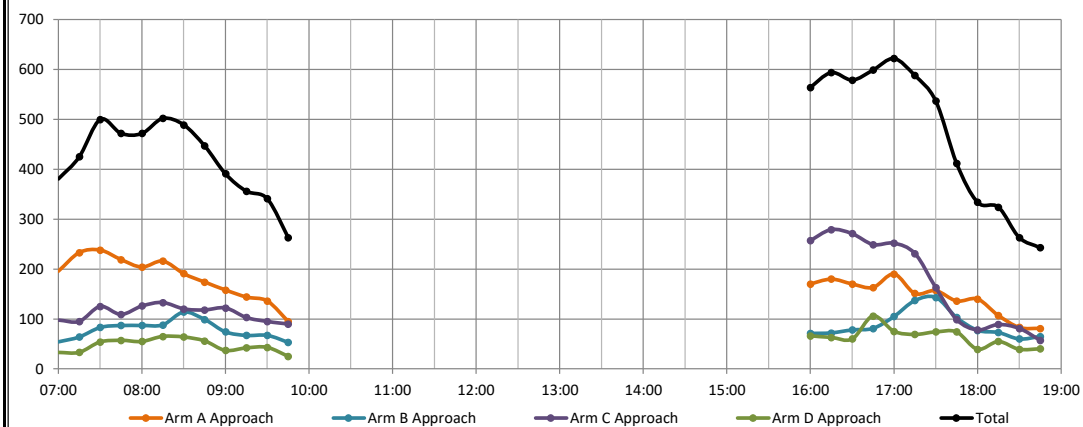


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
 Arm B: M6 (SE)

Arm C: A449 (SW)
 Arm D: M6 (NW)



Time	A to A								A to D								A to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	15	5	0	0	0	0	0	20	39	17	1	1	0	0	0	58
07:15	1	0	0	0	0	0	0	1	23	4	0	0	0	0	0	27	59	10	1	2	0	0	0	72
07:30	0	0	0	0	0	0	0	0	30	9	1	0	0	0	0	40	78	11	0	0	0	0	0	89
07:45	1	0	0	0	0	0	0	1	21	3	0	0	0	0	0	24	67	7	2	2	1	0	1	80
08:00	0	0	0	0	0	0	0	0	26	9	0	0	0	0	0	35	59	11	2	1	0	0	0	73
08:15	0	1	0	0	0	0	0	1	37	4	0	0	0	0	0	41	70	10	1	0	0	0	0	81
08:30	0	0	0	0	0	0	0	0	25	1	1	0	0	0	0	27	66	10	0	1	2	0	0	79
08:45	0	0	0	0	0	0	0	0	23	7	0	1	0	0	0	31	60	11	3	0	2	0	0	76
09:00	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	47	13	0	0	0	1	0	61
09:15	0	0	0	0	0	0	0	0	21	7	0	0	0	0	0	28	40	5	0	1	1	0	0	47
09:30	0	0	0	0	0	0	0	0	9	6	1	0	0	0	0	16	49	16	1	0	0	0	0	66
09:45	0	0	0	0	0	0	0	0	10	4	0	1	0	0	0	15	32	5	1	0	0	0	0	38
16:00	1	0	0	0	0	0	0	1	22	0	0	0	0	0	0	22	62	10	1	1	0	0	0	74
16:15	2	1	0	0	0	0	0	3	8	4	1	0	0	0	0	13	58	9	0	0	2	0	0	69
16:30	1	0	0	0	0	0	0	1	19	4	0	0	0	0	0	23	66	9	0	0	0	0	0	75
16:45	0	0	0	0	0	0	0	0	8	6	0	0	0	0	0	14	65	9	0	0	0	1	1	76
17:00	0	0	0	0	0	0	0	0	14	9	1	0	0	0	0	24	78	7	0	0	1	0	0	86
17:15	1	1	0	0	0	0	0	2	5	6	0	0	0	0	0	11	72	8	0	0	0	1	0	81
17:30	0	0	0	0	0	0	0	0	17	0	1	0	0	1	0	19	66	6	1	0	2	1	0	76
17:45	0	0	0	0	0	0	0	0	9	3	0	0	0	0	0	12	61	2	0	0	1	0	0	64
18:00	1	0	0	0	0	0	0	1	13	4	0	1	0	0	0	18	44	3	0	0	4	1	0	52
18:15	0	0	0	0	0	0	0	0	18	1	0	0	0	0	0	19	36	4	1	1	1	0	0	43
18:30	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	25	0	0	0	0	0	0	25
18:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	40	1	1	0	1	0	0	43
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
07:00	2	0	0	0	0	0	0	2	89	21	1	0	0	0	0	111	243	45	4	5	1	0	1	299
07:15	2	0	0	0	0	0	0	2	100	25	1	0	0	0	0	126	263	39	5	5	1	0	1	314
07:30	1	1	0	0	0	0	0	2	114	25	1	0	0	0	0	140	274	39	5	3	1	0	1	323
07:45	1	1	0	0	0	0	0	2	109	17	1	0	0	0	0	127	262	38	5	4	3	0	1	313
08:00	0	1	0	0	0	0	0	1	111	21	1	1	0	0	0	134	255	42	6	2	4	0	0	309
08:15	0	1	0	0	0	0	0	1	102	13	1	1	0	0	0	117	243	44	4	1	4	1	0	297
08:30	0	0	0	0	0	0	0	0	86	16	1	1	0	0	0	104	213	39	3	2	5	1	0	263
08:45	0	0	0	0	0	0	0	0	70	21	1	1	0	0	0	93	196	45	4	1	3	1	0	250
09:00	0	0	0	0	0	0	0	0	57	18	1	1	0	0	0	77	168	39	2	1	1	1	0	212
16:00	4	1	0	0	0	0	0	5	57	14	1	0	0	0	0	72	251	37	1	1	2	1	1	294
16:15	3	1	0	0	0	0	0	4	49	23	2	0	0	0	0	74	267	34	0	0	3	1	1	306
16:30	2	1	0	0	0	0	0	3	46	25	1	0	0	0	0	72	281	33	0	0	1	2	1	318
16:45	1	1	0	0	0	0	0	2	44	21	2	0	0	1	0	68	281	30	1	0	3	3	1	319
17:00	1	1	0	0	0	0	0	2	45	18	2	0	0	1	0	66	277	23	1	0	4	2	0	307
17:15	2	1	0	0	0	0	0	3	44	13	1	1	0	1	0	60	243	19	1	0	7	3	0	273
17:30	1	0	0	0	0	0	0	1	57	8	1	1	0	1	0	68	207	15	2	1	8	2	0	235
17:45	1	0	0	0	0	0	0	1	46	9	0	1	0	0	0	56	166	9	1	1	6	1	0	184
18:00	1	0	0	0	0	0	0	1	41	6	0	1	0	0	0	48	145	8	2	1	6	1	0	163

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
 Arm B: M6 (SE)

Arm C: A449 (SW)
 Arm D: M6 (NW)



	A to B								B to B								B to A										
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total			
07:00	87	30	1	0	0	0	0	118	0	0	0	0	0	0	0	0	36	14	1	1	0	0	0	52			
07:15	106	25	1	1	0	0	0	133	0	0	0	0	0	0	0	0	37	17	2	0	0	0	0	56			
07:30	91	17	1	0	0	0	0	109	0	0	0	0	0	0	0	0	50	18	3	3	1	0	0	75			
07:45	90	21	2	1	0	0	0	114	1	0	0	0	0	0	0	1	55	21	0	3	0	0	0	79			
08:00	78	16	2	0	0	0	0	96	0	1	0	0	0	0	0	1	56	19	2	4	0	0	0	81			
08:15	72	16	3	2	0	0	0	93	0	0	0	0	0	0	0	0	56	21	0	1	0	0	0	78			
08:30	69	13	1	0	1	1	0	85	2	0	0	0	0	0	0	2	79	19	5	0	0	1	0	104			
08:45	53	10	1	3	0	0	0	67	0	0	0	0	0	0	0	0	60	20	5	2	0	0	0	87			
09:00	60	15	2	1	0	1	0	79	0	0	0	0	0	0	0	0	40	22	4	3	0	1	0	70			
09:15	51	10	3	4	1	0	0	69	1	0	0	0	0	0	0	1	45	13	1	3	0	0	0	62			
09:30	39	12	3	0	0	0	0	54	0	0	0	0	0	0	0	0	49	11	1	1	1	0	0	63			
09:45	29	9	3	1	0	0	0	42	1	0	0	0	0	0	0	1	33	12	2	1	0	1	0	49			
16:00	50	17	1	4	0	1	0	73	1	0	0	0	0	0	0	1	47	18	3	0	0	0	0	68			
16:15	78	17	0	0	0	0	0	95	0	1	0	0	0	0	0	1	50	13	1	1	0	0	0	65			
16:30	56	11	3	1	0	0	0	71	0	0	0	0	0	0	0	0	54	11	3	2	1	0	0	71			
16:45	55	15	1	2	0	0	0	73	0	0	0	0	0	0	0	0	55	14	1	4	0	0	0	74			
17:00	69	8	2	1	0	0	0	80	1	0	0	0	0	0	0	1	85	12	0	1	0	0	0	98			
17:15	51	6	0	0	0	0	0	57	0	0	1	0	0	0	0	1	106	22	2	1	0	0	0	131			
17:30	53	7	0	2	0	0	0	62	1	0	0	0	0	0	0	1	114	18	1	2	0	1	0	136			
17:45	50	7	0	3	0	0	0	60	0	0	0	0	0	0	0	0	82	17	0	2	0	0	0	101			
18:00	63	5	1	0	0	0	0	69	0	0	0	2	0	0	0	2	62	12	0	0	0	0	0	74			
18:15	40	5	0	0	0	0	0	45	0	0	0	0	0	0	0	0	58	12	0	2	0	0	0	72			
18:30	43	7	0	1	0	0	0	51	0	0	0	0	0	0	0	0	50	9	0	0	0	0	0	59			
18:45	27	7	0	0	0	0	0	34	1	0	0	0	0	0	0	1	52	7	2	0	0	0	0	61			
Start Time	Rolling Hour								Total	Rolling Hour								Total	Rolling Hour								Total
07:00	374	93	5	2	0	0	0	474	1	0	0	0	0	0	0	1	178	70	6	7	1	0	0	262			
07:15	365	79	6	2	0	0	0	452	1	1	0	0	0	0	0	2	198	75	7	10	1	0	0	291			
07:30	331	70	8	3	0	0	0	412	1	1	0	0	0	0	0	2	217	79	5	11	1	0	0	313			
07:45	309	66	8	3	1	1	0	388	3	1	0	0	0	0	0	4	246	80	7	8	0	1	0	342			
08:00	272	55	7	5	1	1	0	341	2	1	0	0	0	0	0	3	251	79	12	7	0	1	0	350			
08:15	254	54	7	6	1	2	0	324	2	0	0	0	0	0	0	2	235	82	14	6	0	2	0	339			
08:30	233	48	7	8	2	2	0	300	3	0	0	0	0	0	0	3	224	74	15	8	0	2	0	323			
08:45	203	47	9	8	1	1	0	269	1	0	0	0	0	0	0	1	194	66	11	9	1	1	0	282			
09:00	179	46	11	6	1	1	0	244	2	0	0	0	0	0	0	2	167	58	8	8	1	2	0	244			
16:00	239	60	5	7	0	1	0	312	1	1	0	0	0	0	0	2	206	56	8	7	1	0	0	278			
16:15	258	51	6	4	0	0	0	319	1	1	0	0	0	0	0	2	244	50	5	8	1	0	0	308			
16:30	231	40	6	4	0	0	0	281	1	0	1	0	0	0	0	2	300	59	6	8	1	0	0	374			
16:45	228	36	3	5	0	0	0	272	2	0	1	0	0	0	0	3	360	66	4	8	0	1	0	439			
17:00	223	28	2	6	0	0	0	259	2	0	1	0	0	0	0	3	387	69	3	6	0	1	0	466			
17:15	217	25	1	5	0	0	0	248	1	0	1	2	0	0	0	4	364	69	3	5	0	1	0	442			
17:30	206	24	1	5	0	0	0	236	1	0	0	2	0	0	0	3	316	59	1	6	0	1	0	383			
17:45	196	24	1	4	0	0	0	225	0	0	0	2	0	0	0	2	252	50	0	4	0	0	0	306			
18:00	173	24	1	1	0	0	0	199	1	0	0	2	0	0	0	3	222	40	2	2	0	0	0	266			

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
 Arm B: M6 (SE)

Arm C: A449 (SW)
 Arm D: M6 (NW)



Time	B to D								B to C								C to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	1	0	0	0	1
07:15	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	8	1	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	5	1	1	1	0	0	0	8	0	0	0	0	0	0	0	0
07:45	0	0	1	0	0	0	0	1	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0
08:00	0	1	0	1	0	0	0	2	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	8	1	0	1	0	0	0	10	0	0	0	0	0	0	0	0
08:30	0	1	0	0	0	0	0	1	3	3	0	1	0	0	0	7	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	8	2	0	2	0	0	0	12	1	0	0	0	0	0	0	1
09:00	0	0	1	0	0	0	0	1	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
09:15	0	1	0	0	0	0	0	1	3	0	0	0	0	0	0	3	1	1	0	0	0	0	0	2
09:30	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	4	1	0	0	0	0	0	0	1
09:45	0	0	1	0	0	0	0	1	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0
16:00	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	3	1	0	1	0	0	0	5	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
16:30	1	0	0	0	0	0	0	1	2	3	0	1	0	0	0	6	0	0	0	0	0	0	0	0
16:45	2	1	0	0	0	0	0	3	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1
17:00	1	0	0	0	0	0	0	1	3	1	1	0	0	0	0	5	1	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	5	0	0	0	0	0	0	0	0
17:30	1	0	1	0	0	0	0	2	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
18:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
18:45	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	2	0	1	0	0	0	0	0	1
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	0	1	0	0	0	0	1	17	5	1	1	0	0	0	24	1	0	0	1	0	0	0	2
07:15	0	1	1	1	0	0	0	3	18	5	1	1	0	0	0	25	1	0	0	0	0	0	0	1
07:30	0	1	1	1	0	0	0	3	21	3	1	2	0	0	0	27	0	0	0	0	0	0	0	0
07:45	0	2	1	1	0	0	0	4	19	5	0	2	0	0	0	26	0	0	0	0	0	0	0	0
08:00	0	2	0	1	0	0	0	3	22	6	0	4	0	0	0	32	1	0	0	0	0	0	0	1
08:15	0	1	1	0	0	0	0	2	22	6	0	4	0	0	0	32	1	0	0	0	0	0	0	1
08:30	0	2	1	0	0	0	0	3	17	5	0	3	0	0	0	25	2	1	0	0	0	0	0	3
08:45	0	1	1	0	0	0	0	2	16	3	0	3	0	0	0	22	3	1	0	0	0	0	0	4
09:00	0	1	2	0	0	0	0	3	8	2	0	2	0	0	0	12	2	1	0	0	0	0	0	3
16:00	7	3	0	1	0	0	0	11	7	3	0	1	0	0	0	11	2	0	0	0	0	0	0	2
16:15	7	2	0	1	0	0	0	10	10	4	1	1	0	0	0	16	3	0	0	0	0	0	0	3
16:30	4	1	0	0	0	0	0	5	11	6	1	2	0	0	0	20	2	0	0	0	0	0	0	2
16:45	4	1	1	0	0	0	0	6	13	3	1	1	0	0	0	18	2	0	0	0	0	0	0	2
17:00	2	0	1	0	0	0	0	3	10	4	1	1	0	0	0	16	1	0	0	0	0	0	0	1
17:15	1	0	1	0	0	0	0	2	7	4	0	1	0	0	0	12	0	0	0	0	0	0	0	0
17:30	2	0	1	0	0	0	0	3	5	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	1	2	2	0	0	0	0	0	4	1	0	0	0	0	0	0	1
18:00	1	1	0	0	0	0	0	2	2	2	0	0	0	0	0	4	1	1	0	0	0	0	0	2

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
 Arm B: M6 (SE)

Arm C: A449 (SW)
 Arm D: M6 (NW)



Time	C to B								C to A								C to D							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	43	10	1	0	1	0	0	55	26	12	2	2	0	0	0	42
07:15	0	2	0	0	0	0	0	2	40	3	1	1	4	0	0	49	22	19	2	0	0	0	0	43
07:30	1	0	0	2	0	0	0	3	41	14	0	1	0	1	0	57	48	15	1	1	0	0	0	65
07:45	0	0	0	2	0	0	0	2	54	12	0	0	1	0	0	67	27	13	0	0	0	0	0	40
08:00	5	0	2	0	0	0	0	7	62	5	2	0	0	1	0	70	35	12	1	1	0	0	0	49
08:15	1	0	0	1	0	0	0	2	65	15	2	0	1	0	0	83	34	10	1	3	0	0	0	48
08:30	1	0	0	0	0	0	0	1	68	6	3	0	0	0	0	77	24	14	2	2	0	0	0	42
08:45	2	1	0	0	0	0	0	3	60	5	1	0	0	1	1	68	35	7	2	2	0	0	0	46
09:00	3	0	0	0	0	0	0	3	67	13	2	1	0	0	0	83	24	7	0	5	0	0	0	36
09:15	2	2	1	1	0	0	0	6	44	14	2	0	2	0	0	62	23	7	2	1	0	0	0	33
09:30	0	0	0	0	0	0	0	0	42	14	1	2	3	0	1	63	21	7	1	2	0	0	0	31
09:45	3	2	0	0	0	0	0	5	40	11	1	2	0	0	0	54	21	8	0	1	1	0	0	31
16:00	2	1	1	0	0	0	0	4	75	12	4	0	1	0	0	92	115	30	1	14	0	1	0	161
16:15	5	0	0	1	0	0	0	6	63	9	0	3	2	2	0	79	128	49	5	11	0	0	0	193
16:30	10	1	0	1	0	0	0	12	74	8	0	0	1	1	0	84	126	40	2	7	0	0	0	175
16:45	3	1	0	1	0	0	0	5	58	3	1	0	0	0	0	62	127	38	6	9	1	0	0	181
17:00	3	0	0	0	0	0	0	3	55	5	0	1	1	0	0	62	136	38	3	9	0	0	0	186
17:15	3	0	0	0	0	0	0	3	120	9	2	4	0	0	0	135	67	15	3	8	0	0	0	93
17:30	3	1	0	0	0	0	0	4	90	10	0	0	1	0	0	101	43	11	2	1	1	0	0	58
17:45	1	0	0	0	0	0	0	1	61	5	1	2	0	2	0	71	21	4	1	1	0	0	0	27
18:00	2	0	0	0	0	0	0	2	43	6	0	1	0	0	0	50	22	2	0	2	0	0	0	26
18:15	2	0	0	0	0	0	0	2	53	6	1	0	1	0	0	61	21	4	1	0	0	0	0	26
18:30	2	0	0	0	0	0	0	2	56	7	1	0	0	0	0	64	12	1	0	1	0	0	0	14
18:45	1	0	0	0	0	0	0	1	39	1	0	0	0	0	0	40	12	2	0	1	0	0	0	15
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	1	2	0	4	0	0	0	7	178	39	2	2	6	1	0	228	123	59	5	3	0	0	0	190
07:15	6	2	2	4	0	0	0	14	197	34	3	2	5	2	0	243	132	59	4	2	0	0	0	197
07:30	7	0	2	5	0	0	0	14	222	46	4	1	2	2	0	277	144	50	3	5	0	0	0	202
07:45	7	0	2	3	0	0	0	12	249	38	7	0	2	1	0	297	120	49	4	6	0	0	0	179
08:00	9	1	2	1	0	0	0	13	255	31	8	0	1	2	1	298	128	43	6	8	0	0	0	185
08:15	7	1	0	1	0	0	0	9	260	39	8	1	1	1	1	311	117	38	5	12	0	0	0	172
08:30	8	3	1	1	0	0	0	13	239	38	8	1	2	1	1	290	106	35	6	10	0	0	0	157
08:45	7	3	1	1	0	0	0	12	213	46	6	3	5	1	2	276	103	28	5	10	0	0	0	146
09:00	8	4	1	1	0	0	0	14	193	52	6	5	5	0	1	262	89	29	3	9	1	0	0	131
16:00	20	3	1	3	0	0	0	27	270	32	5	3	4	3	0	317	496	157	14	41	1	1	0	710
16:15	21	2	0	3	0	0	0	26	250	25	1	4	4	3	0	287	517	165	16	36	1	0	0	735
16:30	19	2	0	2	0	0	0	23	307	25	3	5	2	1	0	343	456	131	14	33	1	0	0	635
16:45	12	2	0	1	0	0	0	15	323	27	3	5	2	0	0	360	373	102	14	27	2	0	0	518
17:00	10	1	0	0	0	0	0	11	326	29	3	7	2	2	0	369	267	68	9	19	1	0	0	364
17:15	9	1	0	0	0	0	0	10	314	30	3	7	1	2	0	357	153	32	6	12	1	0	0	204
17:30	8	1	0	0	0	0	0	9	247	27	2	3	2	2	0	283	107	21	4	4	1	0	0	137
17:45	7	0	0	0	0	0	0	7	213	24	3	3	1	2	0	246	76	11	2	4	0	0	0	93
18:00	7	0	0	0	0	0	0	7	191	20	2	1	1	0	0	215	67	9	1	4	0	0	0	81

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
 Arm B: M6 (SE)

Arm C: A449 (SW)
 Arm D: M6 (NW)



Time	D to D								D to C								D to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	1	0	0	0	0	0	0	1	19	5	0	3	0	0	0	27	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	16	6	2	1	0	0	0	25	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	25	5	0	3	0	0	0	33	0	0	0	0	0	0	0	0
07:45	1	0	0	0	0	0	0	1	22	5	0	0	0	0	0	27	0	0	0	0	0	0	0	0
08:00	0	1	1	0	0	0	0	2	23	5	1	1	0	0	0	30	0	0	0	0	0	0	0	0
08:15	1	0	0	0	0	0	0	1	30	6	2	0	0	0	0	38	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	21	7	0	1	0	0	0	29	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	16	4	0	3	0	0	0	23	1	0	0	0	0	0	0	1
09:00	0	0	0	0	0	0	0	0	14	3	0	1	0	0	0	18	0	0	0	0	0	0	0	0
09:15	2	0	0	0	0	0	0	2	12	8	0	3	0	0	0	23	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	15	9	1	0	0	0	0	25	0	0	0	0	0	0	0	0
09:45	1	0	0	0	0	0	0	1	6	3	3	3	0	0	0	15	0	0	0	0	0	0	0	0
16:00	0	1	0	0	0	0	0	1	33	13	2	1	0	0	0	49	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	31	10	2	3	0	0	0	46	0	0	0	0	0	0	0	0
16:30	1	0	0	0	0	0	0	1	30	8	0	3	0	0	0	41	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	41	15	1	7	0	0	0	64	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	29	8	2	1	0	0	0	40	0	0	0	0	0	0	0	0
17:15	1	0	0	0	0	0	0	1	37	6	1	2	1	0	0	47	0	1	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	30	9	0	3	0	0	0	42	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	39	5	0	0	0	0	0	44	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	21	4	0	0	0	0	0	25	0	0	0	0	0	0	0	0
18:15	1	0	0	0	0	0	0	1	22	6	0	2	0	0	0	30	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	22	1	0	2	0	0	0	25	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	17	3	0	0	0	0	0	20	0	0	0	0	0	0	0	0
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	2	0	0	0	0	0	0	2	82	21	2	7	0	0	0	112	0	0	0	0	0	0	0	0
07:15	1	1	1	0	0	0	0	3	86	21	3	5	0	0	0	115	0	0	0	0	0	0	0	0
07:30	2	1	1	0	0	0	0	4	100	21	3	4	0	0	0	128	0	0	0	0	0	0	0	0
07:45	2	1	1	0	0	0	0	4	96	23	3	2	0	0	0	124	0	0	0	0	0	0	0	0
08:00	1	1	1	0	0	0	0	3	90	22	3	5	0	0	0	120	1	0	0	0	0	0	0	1
08:15	1	0	0	0	0	0	0	1	81	20	2	5	0	0	0	108	1	0	0	0	0	0	0	1
08:30	2	0	0	0	0	0	0	2	63	22	0	8	0	0	0	93	1	0	0	0	0	0	0	1
08:45	2	0	0	0	0	0	0	2	57	24	1	7	0	0	0	89	1	0	0	0	0	0	0	1
09:00	3	0	0	0	0	0	0	3	47	23	4	7	0	0	0	81	0	0	0	0	0	0	0	0
16:00	1	1	0	0	0	0	0	2	135	46	5	14	0	0	0	200	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	1	131	41	5	14	0	0	0	191	0	0	0	0	0	0	0	0
16:30	2	0	0	0	0	0	0	2	137	37	4	13	1	0	0	192	0	1	0	0	0	0	0	1
16:45	1	0	0	0	0	0	0	1	137	38	4	13	1	0	0	193	0	1	0	0	0	0	0	1
17:00	1	0	0	0	0	0	0	1	135	28	3	6	1	0	0	173	0	1	0	0	0	0	0	1
17:15	1	0	0	0	0	0	0	1	127	24	1	5	1	0	0	158	0	1	0	0	0	0	0	1
17:30	1	0	0	0	0	0	0	1	112	24	0	5	0	0	0	141	0	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	1	104	16	0	4	0	0	0	124	0	0	0	0	0	0	0	0
18:00	1	0	0	0	0	0	0	1	82	14	0	4	0	0	0	100	0	0	0	0	0	0	0	0

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 5a

Date of Survey: 31.03.2022
Junction Name: M6 Junction 13
Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
Arm B: M6 (SE)

Arm C: A449 (SW)
Arm D: M6 (NW)



D to A								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	3	1	1	0	0	0	0	5
07:15	4	3	1	0	0	0	0	8
07:30	17	4	0	0	0	0	0	21
07:45	26	1	2	0	0	0	0	29
08:00	17	5	1	0	0	0	0	23
08:15	25	1	0	0	0	0	0	26
08:30	29	4	2	0	0	0	0	35
08:45	21	10	0	0	0	1	0	32
09:00	15	3	1	0	0	0	0	19
09:15	8	7	1	1	0	0	0	17
09:30	11	5	0	2	0	0	0	18
09:45	3	6	0	0	0	0	0	9
16:00	6	9	1	0	0	0	0	16
16:15	12	3	1	0	0	1	0	17
16:30	14	4	0	0	0	0	0	18
16:45	29	10	2	1	0	0	0	42
17:00	28	7	0	0	0	0	0	35
17:15	18	1	0	1	0	0	0	20
17:30	28	4	0	0	0	0	0	32
17:45	24	5	1	0	0	0	0	30
18:00	13	0	1	0	0	0	0	14
18:15	22	2	0	0	0	0	0	24
18:30	12	2	0	0	0	0	0	14
18:45	20	0	0	0	0	0	0	20
Start Time	Rolling Hour							Total
07:00	50	9	4	0	0	0	0	63
07:15	64	13	4	0	0	0	0	81
07:30	85	11	3	0	0	0	0	99
07:45	97	11	5	0	0	0	0	113
08:00	92	20	3	0	0	1	0	116
08:15	90	18	3	0	0	1	0	112
08:30	73	24	4	1	0	1	0	103
08:45	55	25	2	3	0	1	0	86
09:00	37	21	2	3	0	0	0	63
16:00	61	26	4	1	0	1	0	93
16:15	83	24	3	1	0	1	0	112
16:30	89	22	2	1	0	0	0	115
16:45	103	22	2	2	0	0	0	129
17:00	98	17	1	1	0	0	0	117
17:15	83	10	2	1	0	0	0	96
17:30	87	11	2	0	0	0	0	100
17:45	71	9	2	0	0	0	0	82
18:00	67	4	1	0	0	0	0	72

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

	Arm A Approach								Arm A Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	141	52	2	1	0	0	0	196	82	25	3	1	1	0	0	112
07:15	189	39	2	3	0	0	0	233	82	23	4	1	4	0	0	114
07:30	199	37	2	0	0	0	0	238	108	36	3	4	1	1	0	153
07:45	179	31	4	3	1	0	1	219	136	34	2	3	1	0	0	176
08:00	163	36	4	1	0	0	0	204	135	29	5	4	0	1	0	174
08:15	179	31	4	2	0	0	0	216	146	38	2	1	1	0	0	188
08:30	160	24	2	1	3	1	0	191	176	29	10	0	0	1	0	216
08:45	136	28	4	4	2	0	0	174	141	35	6	2	0	2	1	187
09:00	124	29	2	1	0	2	0	158	122	38	7	4	0	1	0	172
09:15	112	22	3	5	2	0	0	144	97	34	4	4	2	0	0	141
09:30	97	34	5	0	0	0	0	136	102	30	2	5	4	0	1	144
09:45	71	18	4	2	0	0	0	95	76	29	3	3	0	1	0	112
16:00	135	27	2	5	0	1	0	170	129	39	8	0	1	0	0	177
16:15	146	31	1	0	2	0	0	180	127	26	2	4	2	3	0	164
16:30	142	24	3	1	0	0	0	170	143	23	3	2	2	1	0	174
16:45	128	30	1	2	0	1	1	163	142	27	4	5	0	0	0	178
17:00	161	24	3	1	1	0	0	190	168	24	0	2	1	0	0	195
17:15	129	21	0	0	0	1	0	151	245	33	4	6	0	0	0	288
17:30	136	13	2	2	2	2	0	157	232	32	1	2	1	1	0	269
17:45	120	12	0	3	1	0	0	136	167	27	2	4	0	2	0	202
18:00	121	12	1	1	4	1	0	140	119	18	1	1	0	0	0	139
18:15	94	10	1	1	1	0	0	107	133	20	1	2	1	0	0	157
18:30	74	8	0	1	0	0	0	83	118	18	1	0	0	0	0	137
18:45	71	8	1	0	1	0	0	81	111	8	2	0	0	0	0	121
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	708	159	10	7	1	0	1	886	408	118	12	9	7	1	0	555
07:15	730	143	12	7	1	0	1	894	461	122	14	12	6	2	0	617
07:30	720	135	14	6	1	0	1	877	525	137	12	12	3	2	0	691
07:45	681	122	14	7	4	1	1	830	593	130	19	8	2	2	0	754
08:00	638	119	14	8	5	1	0	785	598	131	23	7	1	4	1	765
08:15	599	112	12	8	5	3	0	739	585	140	25	7	1	4	1	763
08:30	532	103	11	11	7	3	0	667	536	136	27	10	2	4	1	716
08:45	469	113	14	10	4	2	0	612	462	137	19	15	6	3	2	644
09:00	404	103	14	8	2	2	0	533	397	131	16	16	6	2	1	569
16:00	551	112	7	8	2	2	1	683	541	115	17	11	5	4	0	693
16:15	577	109	8	4	3	1	1	703	580	100	9	13	5	4	0	711
16:30	560	99	7	4	1	2	1	674	698	107	11	15	3	1	0	835
16:45	554	88	6	5	3	4	1	661	787	116	9	15	2	1	0	930
17:00	546	70	5	6	4	3	0	634	812	116	7	14	2	3	0	954
17:15	506	58	3	6	7	4	0	584	763	110	8	13	1	3	0	898
17:30	471	47	4	7	8	3	0	540	651	97	5	9	2	3	0	767
17:45	409	42	2	6	6	1	0	466	537	83	5	7	1	2	0	635
18:00	360	38	3	3	6	1	0	411	481	64	5	3	1	0	0	554

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

	Arm B Approach								Arm B Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	38	14	1	1	0	0	0	54	87	30	1	0	0	0	0	118
07:15	42	20	2	0	0	0	0	64	106	27	1	1	0	0	0	135
07:30	55	19	4	4	1	0	0	83	92	17	1	2	0	0	0	112
07:45	61	22	1	3	0	0	0	87	91	21	2	3	0	0	0	117
08:00	59	21	2	5	0	0	0	87	83	17	4	0	0	0	0	104
08:15	64	22	0	2	0	0	0	88	73	16	3	3	0	0	0	95
08:30	84	23	5	1	0	1	0	114	72	13	1	0	1	1	0	88
08:45	68	22	5	4	0	0	0	99	56	11	1	3	0	0	0	71
09:00	43	22	5	3	0	1	0	74	63	15	2	1	0	1	0	82
09:15	49	14	1	3	0	0	0	67	54	12	4	5	1	0	0	76
09:30	51	12	1	2	1	0	0	67	39	12	3	0	0	0	0	54
09:45	34	13	3	2	0	1	0	53	33	11	3	1	0	0	0	48
16:00	49	19	3	0	0	0	0	71	53	18	2	4	0	1	0	78
16:15	54	15	1	2	0	0	0	72	83	18	0	1	0	0	0	102
16:30	57	14	3	3	1	0	0	78	66	12	3	2	0	0	0	83
16:45	61	15	1	4	0	0	0	81	58	16	1	3	0	0	0	78
17:00	90	13	1	1	0	0	0	105	73	8	2	1	0	0	0	84
17:15	108	24	3	2	0	0	0	137	54	7	1	0	0	0	0	62
17:30	120	18	2	2	0	1	0	143	57	8	0	2	0	0	0	67
17:45	83	18	0	2	0	0	0	103	51	7	0	3	0	0	0	61
18:00	62	13	0	2	0	0	0	77	65	5	1	2	0	0	0	73
18:15	59	12	0	2	0	0	0	73	42	5	0	0	0	0	0	47
18:30	51	9	0	0	0	0	0	60	45	7	0	1	0	0	0	53
18:45	54	9	2	0	0	0	0	65	29	7	0	0	0	0	0	36
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	196	75	8	8	1	0	0	288	376	95	5	6	0	0	0	482
07:15	217	82	9	12	1	0	0	321	372	82	8	6	0	0	0	468
07:30	239	84	7	14	1	0	0	345	339	71	10	8	0	0	0	428
07:45	268	88	8	11	0	1	0	376	319	67	10	6	1	1	0	404
08:00	275	88	12	12	0	1	0	388	284	57	9	6	1	1	0	358
08:15	259	89	15	10	0	2	0	375	264	55	7	7	1	2	0	336
08:30	244	81	16	11	0	2	0	354	245	51	8	9	2	2	0	317
08:45	211	70	12	12	1	1	0	307	212	50	10	9	1	1	0	283
09:00	177	61	10	10	1	2	0	261	189	50	12	7	1	1	0	260
16:00	221	63	8	9	1	0	0	302	260	64	6	10	0	1	0	341
16:15	262	57	6	10	1	0	0	336	280	54	6	7	0	0	0	347
16:30	316	66	8	10	1	0	0	401	251	43	7	6	0	0	0	307
16:45	379	70	7	9	0	1	0	466	242	39	4	6	0	0	0	291
17:00	401	73	6	7	0	1	0	488	235	30	3	6	0	0	0	274
17:15	373	73	5	8	0	1	0	460	227	27	2	7	0	0	0	263
17:30	324	61	2	8	0	1	0	396	215	25	1	7	0	0	0	248
17:45	255	52	0	6	0	0	0	313	203	24	1	6	0	0	0	234
18:00	226	43	2	4	0	0	0	275	181	24	1	3	0	0	0	209

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Time	Arm C Approach								Arm C Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	69	22	3	3	1	0	0	98	60	22	1	5	0	0	0	88
07:15	63	24	3	1	4	0	0	95	81	19	3	3	0	0	0	106
07:30	90	29	1	4	0	1	0	125	108	17	1	4	0	0	0	130
07:45	81	25	0	2	1	0	0	109	94	13	2	2	1	0	1	113
08:00	102	17	5	1	0	1	0	126	85	16	3	2	0	0	0	106
08:15	100	25	3	4	1	0	0	133	108	17	3	1	0	0	0	129
08:30	93	20	5	2	0	0	0	120	90	20	0	3	2	0	0	115
08:45	98	13	3	2	0	1	1	118	85	17	3	5	2	0	0	112
09:00	94	20	2	6	0	0	0	122	64	16	0	1	0	1	0	82
09:15	70	24	5	2	2	0	0	103	56	14	0	4	1	0	0	75
09:30	64	21	2	4	3	0	1	95	67	26	2	1	0	0	0	96
09:45	64	21	1	3	1	0	0	90	38	9	4	4	0	0	0	55
16:00	192	43	6	14	1	1	0	257	95	23	3	2	0	0	0	123
16:15	197	58	5	15	2	2	0	279	91	19	2	3	2	0	0	117
16:30	210	49	2	8	1	1	0	271	98	20	0	4	0	0	0	122
16:45	189	42	7	10	1	0	0	249	111	24	1	7	0	1	1	145
17:00	195	43	3	10	1	0	0	252	111	16	3	1	1	0	0	132
17:15	190	24	5	12	0	0	0	231	111	16	1	3	1	1	0	133
17:30	136	22	2	1	2	0	0	163	100	15	1	3	2	1	0	122
17:45	83	9	2	3	0	2	0	99	101	8	0	0	1	0	0	110
18:00	67	8	0	3	0	0	0	78	65	8	0	0	4	1	0	78
18:15	76	10	2	0	1	0	0	89	58	10	1	3	1	0	0	73
18:30	71	8	1	1	0	0	0	81	49	1	0	2	0	0	0	52
18:45	52	4	0	1	0	0	0	57	58	6	1	0	1	0	0	66
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	303	100	7	10	6	1	0	427	343	71	7	14	1	0	1	437
07:15	336	95	9	8	5	2	0	455	368	65	9	11	1	0	1	455
07:30	373	96	9	11	2	2	0	493	395	63	9	9	1	0	1	478
07:45	376	87	13	9	2	1	0	488	377	66	8	8	3	0	1	463
08:00	393	75	16	9	1	2	1	497	368	70	9	11	4	0	0	462
08:15	385	78	13	14	1	1	1	493	347	70	6	10	4	1	0	438
08:30	355	77	15	12	2	1	1	463	295	67	3	13	5	1	0	384
08:45	326	78	12	14	5	1	2	438	272	73	5	11	3	1	0	365
09:00	292	86	10	15	6	0	1	410	225	65	6	10	1	1	0	308
16:00	788	192	20	47	5	4	0	1056	395	86	6	16	2	1	1	507
16:15	791	192	17	43	5	3	0	1051	411	79	6	15	3	1	1	516
16:30	784	158	17	40	3	1	0	1003	431	76	5	15	2	2	1	532
16:45	710	131	17	33	4	0	0	895	433	71	6	14	4	3	1	532
17:00	604	98	12	26	3	2	0	745	423	55	5	7	5	2	0	497
17:15	476	63	9	19	2	2	0	571	377	47	2	6	8	3	0	443
17:30	362	49	6	7	3	2	0	429	324	41	2	6	8	2	0	383
17:45	297	35	5	7	1	2	0	347	273	27	1	5	6	1	0	313
18:00	266	30	3	5	1	0	0	305	230	25	2	5	6	1	0	269

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Time	Arm D Approach								Arm D Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	23	6	1	3	0	0	0	33	42	17	2	2	0	0	0	63		
07:15	20	9	3	1	0	0	0	33	45	23	2	0	0	0	0	70		
07:30	42	9	0	3	0	0	0	54	78	24	2	1	0	0	0	105		
07:45	49	6	2	0	0	0	0	57	49	16	1	0	0	0	0	66		
08:00	40	11	3	1	0	0	0	55	61	23	2	2	0	0	0	88		
08:15	56	7	2	0	0	0	0	65	72	14	1	3	0	0	0	90		
08:30	50	11	2	1	0	0	0	64	49	16	3	2	0	0	0	70		
08:45	38	14	0	3	0	1	0	56	58	14	2	3	0	0	0	77		
09:00	29	6	1	1	0	0	0	37	41	8	1	5	0	0	0	55		
09:15	22	15	1	4	0	0	0	42	46	15	2	1	0	0	0	64		
09:30	26	14	1	2	0	0	0	43	30	13	2	2	0	0	0	47		
09:45	10	9	3	3	0	0	0	25	32	12	1	2	1	0	0	48		
16:00	39	23	3	1	0	0	0	66	138	32	1	14	0	1	0	186		
16:15	43	13	3	3	0	1	0	63	139	54	6	12	0	0	0	211		
16:30	45	12	0	3	0	0	0	60	147	44	2	7	0	0	0	200		
16:45	70	25	3	8	0	0	0	106	137	45	6	9	1	0	0	198		
17:00	57	15	2	1	0	0	0	75	151	47	4	9	0	0	0	211		
17:15	56	8	1	3	1	0	0	69	73	21	3	8	0	0	0	105		
17:30	58	13	0	3	0	0	0	74	61	11	4	1	1	1	0	79		
17:45	63	10	1	0	0	0	0	74	30	7	1	1	0	0	0	39		
18:00	34	4	1	0	0	0	0	39	35	6	0	3	0	0	0	44		
18:15	45	8	0	2	0	0	0	55	41	5	1	0	0	0	0	47		
18:30	34	3	0	2	0	0	0	39	18	2	0	1	0	0	0	21		
18:45	37	3	0	0	0	0	0	40	16	3	0	1	0	0	0	20		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	134	30	6	7	0	0	0	177	214	80	7	3	0	0	0	304		
07:15	151	35	8	5	0	0	0	199	233	86	7	3	0	0	0	329		
07:30	187	33	7	4	0	0	0	231	260	77	6	6	0	0	0	349		
07:45	195	35	9	2	0	0	0	241	231	69	7	7	0	0	0	314		
08:00	184	43	7	5	0	1	0	240	240	67	8	10	0	0	0	325		
08:15	173	38	5	5	0	1	0	222	220	52	7	13	0	0	0	292		
08:30	139	46	4	9	0	1	0	199	194	53	8	11	0	0	0	266		
08:45	115	49	3	10	0	1	0	178	175	50	7	11	0	0	0	243		
09:00	87	44	6	10	0	0	0	147	149	48	6	10	1	0	0	214		
16:00	197	73	9	15	0	1	0	295	561	175	15	42	1	1	0	795		
16:15	215	65	8	15	0	1	0	304	574	190	18	37	1	0	0	820		
16:30	228	60	6	15	1	0	0	310	508	157	15	33	1	0	0	714		
16:45	241	61	6	15	1	0	0	324	422	124	17	27	2	1	0	593		
17:00	234	46	4	7	1	0	0	292	315	86	12	19	1	1	0	434		
17:15	211	35	3	6	1	0	0	256	199	45	8	13	1	1	0	267		
17:30	200	35	2	5	0	0	0	242	167	29	6	5	1	1	0	209		
17:45	176	25	2	4	0	0	0	207	124	20	2	5	0	0	0	151		
18:00	150	18	1	4	0	0	0	173	110	16	1	5	0	0	0	132		

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Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	271	94	7	8	1	0	0	381
07:15	314	92	10	5	4	0	0	425
07:30	386	94	7	11	1	1	0	500
07:45	370	84	7	8	2	0	1	472
08:00	364	85	14	8	0	1	0	472
08:15	399	85	9	8	1	0	0	502
08:30	387	78	14	5	3	2	0	489
08:45	340	77	12	13	2	2	1	447
09:00	290	77	10	11	0	3	0	391
09:15	253	75	10	14	4	0	0	356
09:30	238	81	9	8	4	0	1	341
09:45	179	61	11	10	1	1	0	263
16:00	415	112	14	20	1	2	0	564
16:15	440	117	10	20	4	3	0	594
16:30	454	99	8	15	2	1	0	579
16:45	448	112	12	24	1	1	1	599
17:00	503	95	9	13	2	0	0	622
17:15	483	77	9	17	1	1	0	588
17:30	450	66	6	8	4	3	0	537
17:45	349	49	3	8	1	2	0	412
18:00	284	37	2	6	4	1	0	334
18:15	274	40	3	5	2	0	0	324
18:30	230	28	1	4	0	0	0	263
18:45	214	24	3	1	1	0	0	243
Start Time	Rolling Hour							Total
07:00	1341	364	31	32	8	1	1	1778
07:15	1434	355	38	32	7	2	1	1869
07:30	1519	348	37	35	4	2	1	1946
07:45	1520	332	44	29	6	3	1	1935
08:00	1490	325	49	34	6	5	1	1910
08:15	1416	317	45	37	6	7	1	1829
08:30	1270	307	46	43	9	7	1	1683
08:45	1121	310	41	46	10	5	2	1535
09:00	960	294	40	43	9	4	1	1351
16:00	1757	440	44	79	8	7	1	2336
16:15	1845	423	39	72	9	5	1	2394
16:30	1888	383	38	69	6	3	1	2388
16:45	1884	350	36	62	8	5	1	2346
17:00	1785	287	27	46	8	6	0	2159
17:15	1566	229	20	39	10	7	0	1871
17:30	1357	192	14	27	11	6	0	1607
17:45	1137	154	9	23	7	3	0	1333
18:00	1002	129	9	16	7	1	0	1164

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 5a

Date of Survey: 31.03.2022
Junction Name: M6 Junction 13
Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
Arm B: M6 (SE)

Arm C: A449 (SW)
Arm D: M6 (NW)

PCU Summary																
Time	A to A	A to D	A to C	A to B	B to B	B to A	B to D	B to C	C to C	C to B	C to A	C to D	D to D	D to C	D to B	D to A
07:00	0	20	60	119	0	54	0	2	2	0	57	46	1	31	0	6
07:15	1	27	75	135	0	57	0	8	1	2	55	44	0	27	0	9
07:30	0	41	89	110	0	81	0	10	0	6	58	67	0	37	0	21
07:45	1	24	84	116	1	83	2	6	0	5	68	40	1	27	0	30
08:00	0	35	75	97	1	87	3	3	0	8	70	51	3	32	0	24
08:15	1	41	82	97	0	79	0	11	0	3	85	52	1	39	0	26
08:30	0	28	82	86	2	106	1	8	0	1	79	46	0	30	0	36
08:45	0	32	80	71	0	92	0	15	1	3	67	50	0	27	1	31
09:00	0	18	60	81	0	75	2	3	0	3	85	43	0	19	0	20
09:15	0	28	49	77	1	66	1	3	2	8	65	35	2	27	0	19
09:30	0	17	67	56	0	66	0	5	1	0	68	34	0	26	0	21
09:45	0	16	39	45	1	51	2	3	0	5	57	33	1	20	0	9
16:00	1	22	76	78	1	70	2	0	0	5	95	179	1	51	0	17
16:15	3	14	71	95	1	67	6	1	1	7	84	210	0	51	0	17
16:30	1	23	75	74	0	76	1	7	0	13	84	185	1	45	0	18
16:45	0	14	75	76	0	80	3	4	1	6	63	197	0	74	0	44
17:00	0	25	87	82	1	99	1	6	1	3	64	199	0	42	0	35
17:15	2	11	80	57	2	133	0	6	0	3	141	105	1	51	1	21
17:30	0	19	78	65	1	139	3	4	0	4	102	61	0	46	0	32
17:45	0	12	65	64	0	104	0	2	0	1	73	29	0	44	0	31
18:00	1	19	55	70	5	74	0	1	0	2	51	29	0	25	0	15
18:15	0	19	46	45	0	75	1	0	0	2	63	27	1	33	0	24
18:30	0	7	25	52	0	59	0	1	1	2	65	15	0	28	0	14
18:45	0	4	45	34	1	62	1	2	1	1	40	16	0	20	0	20
Start Time	Rolling Hour															
07:00	2	112	308	479	1	275	2	26	3	12	237	196	2	122	0	65
07:15	2	127	323	458	2	309	5	27	1	20	251	202	4	123	0	83
07:30	2	141	330	420	2	331	5	30	0	22	281	210	5	135	0	101
07:45	2	128	323	396	4	355	6	29	0	17	302	189	5	128	0	116
08:00	1	136	319	351	3	365	4	37	1	15	301	198	4	128	1	117
08:15	1	119	304	335	2	353	3	37	1	10	316	190	1	116	1	113
08:30	0	106	272	315	3	340	4	29	3	15	296	173	2	103	1	106
08:45	0	95	256	284	1	300	3	26	4	14	286	162	2	99	1	90
09:00	0	79	215	258	2	258	4	15	3	16	276	145	3	92	0	68
16:00	5	73	296	323	2	292	12	12	2	31	326	771	2	221	0	96
16:15	4	75	308	327	2	322	11	18	3	30	295	791	1	212	0	114
16:30	3	73	317	289	3	388	5	23	2	26	352	686	2	212	1	119
16:45	2	68	320	280	4	451	7	20	2	16	370	562	1	213	1	133
17:00	2	66	310	268	4	475	4	18	1	11	380	394	1	183	1	119
17:15	3	61	279	255	7	449	3	13	0	10	367	224	1	166	1	98
17:30	1	69	244	243	6	391	4	7	0	9	289	145	1	148	0	101
17:45	1	57	191	231	5	311	1	4	1	7	251	99	1	129	0	83
18:00	1	49	171	201	6	270	2	4	2	7	218	87	1	105	0	73

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 5a
 Date of Survey: 31.03.2022
 Junction Name: M6 Junction 13
 Junction Type: 4-arm Roundabout

Arm A: A449 (NE)
 Arm B: M6 (SE)

Arm C: A449 (SW)
 Arm D: M6 (NW)



Count Method: Vehicles Classes Included: All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow: AM Peak from: 08:15 until: 08:30 flow: 502
 PM Peak from: 17:00 until: 17:15 flow: 622

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To				Total
	A	B	C	D	
From A	0	118	58	20	196
From B	52	0	2	0	54
From C	55	0	1	42	98
From D	5	0	27	1	33
Total	112	118	88	63	381

HGV Proportions

	To				Total
	A	B	C	D	
From A	0.0%	0.8%	3.4%	0.0%	1.5%
From B	3.8%	0.0%	0.0%	0.0%	3.7%
From C	3.6%	0.0%	100.0%	9.5%	7.1%
From D	20.0%	0.0%	11.1%	0.0%	12.1%
Total	4.5%	0.8%	6.8%	6.3%	4.2%

Maximum Hourly Junction Flow: AM Peak from: 07:30 until: 08:30 flow: 1946
 PM Peak from: 16:15 until: 17:15 flow: 2394

Period Starting: 07:00 *Select the time from the drop-down in cell D31 to show the hourly data for that period*

Movement Counts

	To				Total
	A	B	C	D	
From A	2	474	299	111	886
From B	262	1	24	1	288
From C	228	7	2	190	427
From D	63	0	112	2	177
Total	555	482	437	304	1778

HGV Proportions

	To				Total
	A	B	C	D	
From A	0.0%	1.5%	3.3%	0.9%	2.0%
From B	5.3%	0.0%	8.3%	100.0%	5.9%
From C	4.4%	57.1%	50.0%	4.2%	5.4%
From D	6.3%	0.0%	8.0%	0.0%	7.3%
Total	5.0%	2.3%	5.0%	3.3%	4.0%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 5b
Date of Survey:	31.03.2022
Junction Name:	New Road / Market Place / Cannock Road
Junction Type:	T-Junction

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 5b - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

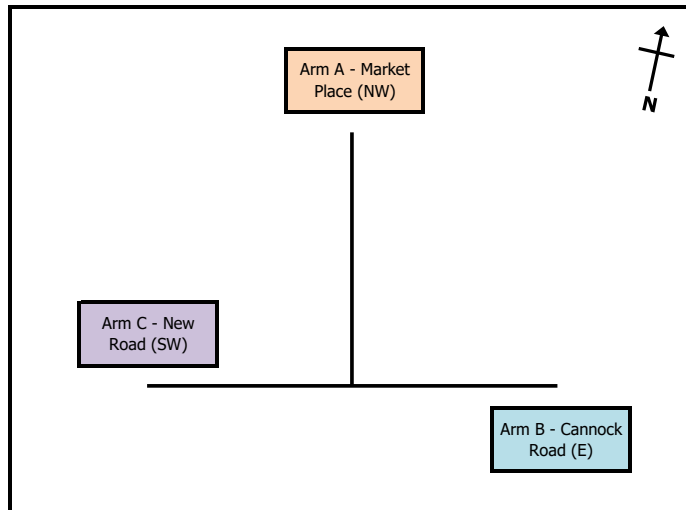
Intelligent Data Collection Limited



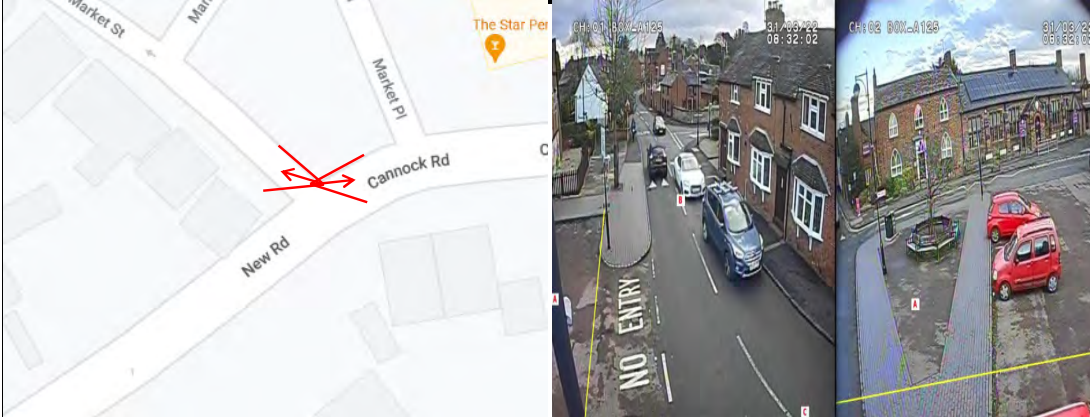
Client: PJA
Project Number: ID06388
Junction Number: Site 5b
Date of Survey: 31.03.2022
Junction Name: New Road / Market Place / Cannock Road
Junction Type: T-Junction

X Coordinate	Y Coordinate	Google Maps Link
52.724550	-2.112711	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

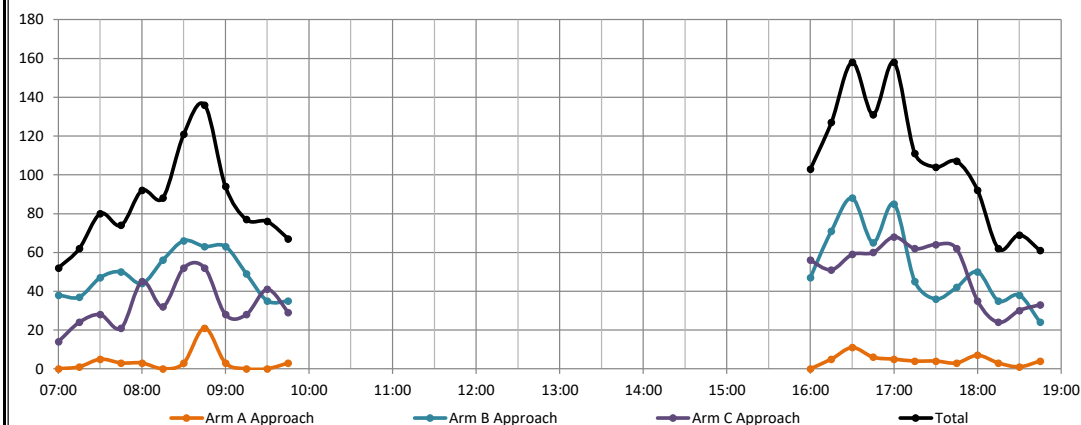


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

The Arm A entry counts relate to the vehicles joining Cannock Road / New Road from the parking area on Market Place.

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5b
 Date of Survey: 31.03.2022
 Junction Name: New Road / Market Place / Cannock Road
 Junction Type: T-Junction

Arm A: Market Place (NW)
 Arm B: Cannock Road (E)

Arm C: New Road (SW)

Time	A to A								A to C								A to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1
07:45	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
08:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
08:45	1	0	0	0	0	0	0	1	7	1	0	0	0	0	1	9	11	0	0	0	0	0	0	11
09:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
16:30	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2	8	0	0	0	0	0	0	8
16:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4
17:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3	1	0	0	0	0	0	4
17:15	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
17:45	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	2	2	0	0	0	0	0	4
18:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
18:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
18:45	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	0	1	0	0	0	0	0	1	5	0	0	0	0	0	0	5	3	0	0	0	0	0	0	3
07:15	1	1	0	0	0	0	0	2	6	0	0	0	0	0	0	6	4	0	0	0	0	0	0	4
07:30	1	1	0	0	0	0	0	2	6	0	0	0	0	0	0	6	3	0	0	0	0	0	0	3
07:45	2	1	0	0	0	0	0	3	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
08:00	3	0	0	0	0	0	0	3	9	1	0	0	0	0	1	11	13	0	0	0	0	0	0	13
08:15	3	0	0	0	0	0	0	3	9	1	0	0	0	0	1	11	13	0	0	0	0	0	0	13
08:30	3	0	0	0	0	0	0	3	9	1	0	0	0	0	1	11	13	0	0	0	0	0	0	13
08:45	2	0	0	0	0	0	0	2	8	1	0	0	0	0	1	10	12	0	0	0	0	0	0	12
09:00	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
16:00	2	0	0	0	0	0	0	2	6	0	0	0	0	0	0	6	14	0	0	0	0	0	0	14
16:15	2	0	0	0	0	0	0	2	6	1	0	0	0	0	0	7	17	1	0	0	0	0	0	18
16:30	3	0	0	0	0	0	0	3	5	1	0	0	0	0	0	6	16	1	0	0	0	0	0	17
16:45	2	0	0	0	0	0	0	2	5	1	0	0	0	0	0	6	10	1	0	0	0	0	0	11
17:00	3	0	0	0	0	0	0	3	5	1	0	0	0	0	0	6	6	1	0	0	0	0	0	7
17:15	3	0	0	0	0	0	0	3	8	0	0	0	0	0	0	8	5	2	0	0	0	0	0	7
17:30	2	0	0	0	0	0	0	2	7	0	0	0	0	0	0	7	6	2	0	0	0	0	0	8
17:45	2	0	0	0	0	0	0	2	6	0	0	0	0	0	0	6	4	2	0	0	0	0	0	6
18:00	2	0	0	0	0	0	0	2	7	0	0	0	0	0	0	7	4	2	0	0	0	0	0	6

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5b
 Date of Survey: 31.03.2022
 Junction Name: New Road / Market Place / Cannock Road
 Junction Type: T-Junction

Arm A: Market Place (NW)
 Arm B: Cannock Road (E)

Arm C: New Road (SW)

Time	B to B								B to A								B to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	11	1	0	0	0	0	0	11	21	5	0	0	0	1	0	27
07:15								0	11	5	0	0	0	0	0	16	12	8	0	0	1	0	0	21
07:30								0	14	6	0	0	0	0	0	20	20	7	0	0	0	0	0	27
07:45								0	20	6	0	0	0	0	0	26	19	4	0	0	0	0	1	24
08:00								0	13	4	0	0	0	0	0	17	22	4	0	0	1	0	0	27
08:15								0	20	3	1	0	0	0	1	25	23	8	0	0	0	0	0	31
08:30								0	36	4	0	0	0	0	1	41	23	2	0	0	0	0	0	25
08:45								0	34	3	0	0	0	0	0	37	20	6	0	0	0	0	0	26
09:00								0	34	5	0	0	0	0	0	39	18	6	0	0	0	0	0	24
09:15								0	25	2	0	0	0	0	0	27	14	6	1	0	1	0	0	22
09:30								0	12	3	0	0	0	0	0	15	17	3	0	0	0	0	0	20
09:45								0	23	2	0	0	0	0	0	25	7	3	0	0	0	0	0	10
16:00								0	18	5	0	0	0	0	0	23	20	3	1	0	0	0	0	24
16:15								0	31	4	0	0	0	0	0	35	28	7	0	0	1	0	0	36
16:30								0	27	5	0	0	0	0	0	32	45	10	0	0	1	0	0	56
16:45								0	16	3	0	0	0	0	0	19	34	10	1	1	0	0	0	46
17:00								0	45	7	0	0	0	0	0	52	25	7	0	0	1	0	0	33
17:15								0	22	2	0	0	0	0	0	24	18	2	0	0	1	0	0	21
17:30								0	20	2	0	0	0	0	0	22	9	3	0	0	2	0	0	14
17:45								0	19	3	0	0	0	0	0	22	18	2	0	0	0	0	0	20
18:00								0	28	1	0	0	0	1	0	30	17	2	0	0	0	1	0	20
18:15								0	25	1	0	0	0	0	0	26	6	2	0	0	1	0	0	9
18:30								0	21	1	0	0	0	0	0	22	15	1	0	0	0	0	0	16
18:45								0	15	0	0	0	0	0	0	15	7	2	0	0	0	0	0	9
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	55	18	0	0	0	0	0	73	72	24	0	0	1	1	1	99
07:15	0	0	0	0	0	0	0	0	58	21	0	0	0	0	0	79	73	23	0	0	2	0	1	99
07:30	0	0	0	0	0	0	0	0	67	19	1	0	0	0	1	88	84	23	0	0	1	0	1	109
07:45	0	0	0	0	0	0	0	0	89	17	1	0	0	0	2	109	87	18	0	0	1	0	1	107
08:00	0	0	0	0	0	0	0	0	103	14	1	0	0	0	2	120	88	20	0	0	1	0	0	109
08:15	0	0	0	0	0	0	0	0	124	15	1	0	0	0	2	142	84	22	0	0	0	0	0	106
08:30	0	0	0	0	0	0	0	0	129	14	0	0	0	0	1	144	75	20	1	0	1	0	0	97
08:45	0	0	0	0	0	0	0	0	105	13	0	0	0	0	0	118	69	21	1	0	1	0	0	92
09:00	0	0	0	0	0	0	0	0	94	12	0	0	0	0	0	106	56	18	1	0	1	0	0	76
16:00	0	0	0	0	0	0	0	0	92	17	0	0	0	0	0	109	127	30	2	1	2	0	0	162
16:15	0	0	0	0	0	0	0	0	119	19	0	0	0	0	0	138	132	34	1	1	3	0	0	171
16:30	0	0	0	0	0	0	0	0	110	17	0	0	0	0	0	127	122	29	1	1	3	0	0	156
16:45	0	0	0	0	0	0	0	0	103	14	0	0	0	0	0	117	86	22	1	1	4	0	0	114
17:00	0	0	0	0	0	0	0	0	106	14	0	0	0	0	0	120	70	14	0	0	4	0	0	88
17:15	0	0	0	0	0	0	0	0	89	8	0	0	0	1	0	98	62	9	0	0	3	1	0	75
17:30	0	0	0	0	0	0	0	0	92	7	0	0	0	1	0	100	50	9	0	0	3	1	0	63
17:45	0	0	0	0	0	0	0	0	93	6	0	0	0	1	0	100	56	7	0	0	1	1	0	65
18:00	0	0	0	0	0	0	0	0	89	3	0	0	0	1	0	93	45	7	0	0	1	1	0	54

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 5b

Date of Survey: 31.03.2022
Junction Name: New Road / Market Place / Cannock Road
Junction Type: T-Junction

Arm A: Market Place (NW)
Arm B: Cannock Road (E)

Arm C: New Road (SW)

Time	C to C								C to B								C to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00								0	8	3	0	0	1	0	0	12	2	0	0	0	0	0	0	2
07:15								0	17	3	0	0	0	0	1	21	3	0	0	0	0	0	0	3
07:30								0	17	2	0	0	1	0	2	22	6	0	0	0	0	0	0	6
07:45								0	16	1	1	0	0	0	0	18	3	0	0	0	0	0	0	3
08:00								0	31	6	1	0	0	0	0	38	4	0	0	0	0	0	3	7
08:15								0	22	5	0	0	0	0	0	27	3	2	0	0	0	0	0	5
08:30								0	36	3	0	0	2	0	0	41	8	1	0	0	0	0	2	11
08:45								0	38	4	0	0	0	0	0	42	9	1	0	0	0	0	0	10
09:00								0	20	5	0	0	0	0	0	25	3	0	0	0	0	0	0	3
09:15								0	15	5	0	0	0	0	0	20	7	1	0	0	0	0	0	8
09:30								0	18	4	1	0	1	0	0	24	17	0	0	0	0	0	0	17
09:45								0	18	4	1	0	0	1	1	25	3	1	0	0	0	0	0	4
16:00								0	34	7	1	0	0	0	0	42	12	1	0	0	0	0	1	14
16:15								0	34	3	1	0	0	0	0	38	10	2	1	0	0	0	0	13
16:30								0	38	8	0	0	1	0	0	47	10	2	0	0	0	0	0	12
16:45								0	30	10	0	0	0	1	0	41	19	0	0	0	0	0	0	19
17:00								0	45	8	0	0	0	0	0	53	11	3	0	0	0	0	1	15
17:15								0	37	10	0	0	0	0	0	47	13	2	0	0	0	0	0	15
17:30								0	43	9	0	0	1	0	0	53	10	1	0	0	0	0	0	11
17:45								0	50	3	0	0	0	0	0	53	9	0	0	0	0	0	0	9
18:00								0	24	6	0	0	0	0	0	30	5	0	0	0	0	0	0	5
18:15								0	18	0	0	0	0	0	0	18	6	0	0	0	0	0	0	6
18:30								0	24	0	0	0	1	0	0	25	5	0	0	0	0	0	0	5
18:45								0	29	2	0	0	0	0	0	31	1	1	0	0	0	0	0	2
Start Time	Rolling Hour								Rolling Hour								Rolling Hour							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	58	9	1	0	2	0	3	73	14	0	0	0	0	0	0	14
07:15	0	0	0	0	0	0	0	0	81	12	2	0	1	0	3	99	16	0	0	0	0	0	3	19
07:30	0	0	0	0	0	0	0	0	86	14	2	0	1	0	2	105	16	2	0	0	0	0	3	21
07:45	0	0	0	0	0	0	0	0	105	15	2	0	2	0	0	124	18	3	0	0	0	0	5	26
08:00	0	0	0	0	0	0	0	0	127	18	1	0	2	0	0	148	24	4	0	0	0	0	5	33
08:15	0	0	0	0	0	0	0	0	116	17	0	0	2	0	0	135	23	4	0	0	0	0	2	29
08:30	0	0	0	0	0	0	0	0	109	17	0	0	2	0	0	128	27	3	0	0	0	0	2	32
08:45	0	0	0	0	0	0	0	0	91	18	1	0	1	0	0	111	36	2	0	0	0	0	0	38
09:00	0	0	0	0	0	0	0	0	71	18	2	0	1	1	1	94	30	2	0	0	0	0	0	32
16:00	0	0	0	0	0	0	0	0	136	28	2	0	1	1	0	168	51	5	1	0	0	0	1	58
16:15	0	0	0	0	0	0	0	0	147	29	1	0	1	1	0	179	50	7	1	0	0	0	1	59
16:30	0	0	0	0	0	0	0	0	150	36	0	0	1	1	0	188	53	7	0	0	0	0	1	61
16:45	0	0	0	0	0	0	0	0	155	37	0	0	1	1	0	194	53	6	0	0	0	0	1	60
17:00	0	0	0	0	0	0	0	0	175	30	0	0	1	0	0	206	43	6	0	0	0	0	1	50
17:15	0	0	0	0	0	0	0	0	154	28	0	0	1	0	0	183	37	3	0	0	0	0	0	40
17:30	0	0	0	0	0	0	0	0	135	18	0	0	1	0	0	154	30	1	0	0	0	0	0	31
17:45	0	0	0	0	0	0	0	0	116	9	0	0	1	0	0	126	25	0	0	0	0	0	0	25
18:00	0	0	0	0	0	0	0	0	95	8	0	0	1	0	0	104	17	1	0	0	0	0	0	18

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5b
 Date of Survey: 31.03.2022
 Junction Name: New Road / Market Place / Cannock Road
 Junction Type: T-Junction

Time	Arm A Approach								Arm A Exit									
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total		
07:00	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	13		
07:15	1	0	0	0	0	0	0	1	14	5	0	0	0	0	0	19		
07:30	5	0	0	0	0	0	0	5	20	6	0	0	0	0	0	26		
07:45	2	1	0	0	0	0	0	3	23	7	0	0	0	0	0	30		
08:00	3	0	0	0	0	0	0	3	18	4	0	0	0	0	3	25		
08:15	0	0	0	0	0	0	0	0	23	5	1	0	0	0	1	30		
08:30	3	0	0	0	0	0	0	3	45	5	0	0	0	0	3	53		
08:45	19	1	0	0	0	0	1	21	44	4	0	0	0	0	0	48		
09:00	3	0	0	0	0	0	0	3	38	5	0	0	0	0	0	43		
09:15	0	0	0	0	0	0	0	0	32	3	0	0	0	0	0	35		
09:30	0	0	0	0	0	0	0	0	29	3	0	0	0	0	0	32		
09:45	3	0	0	0	0	0	0	3	27	3	0	0	0	0	0	30		
16:00	0	0	0	0	0	0	0	0	30	6	0	0	0	0	1	37		
16:15	5	0	0	0	0	0	0	5	42	6	1	0	0	0	0	49		
16:30	11	0	0	0	0	0	0	11	38	7	0	0	0	0	0	45		
16:45	6	0	0	0	0	0	0	6	35	3	0	0	0	0	0	38		
17:00	3	2	0	0	0	0	0	5	56	10	0	0	0	0	1	67		
17:15	4	0	0	0	0	0	0	4	37	4	0	0	0	0	0	41		
17:30	4	0	0	0	0	0	0	4	30	3	0	0	0	0	0	33		
17:45	3	0	0	0	0	0	0	3	29	3	0	0	0	0	0	32		
18:00	5	2	0	0	0	0	0	7	33	1	0	0	0	1	0	35		
18:15	3	0	0	0	0	0	0	3	32	1	0	0	0	0	0	33		
18:30	1	0	0	0	0	0	0	1	26	1	0	0	0	0	0	27		
18:45	4	0	0	0	0	0	0	4	17	1	0	0	0	0	0	18		
Start Time	Rolling Hour								Total	Rolling Hour								Total
07:00	8	1	0	0	0	0	0	9	69	19	0	0	0	0	0	88		
07:15	11	1	0	0	0	0	0	12	75	22	0	0	0	0	3	100		
07:30	10	1	0	0	0	0	0	11	84	22	1	0	0	0	4	111		
07:45	8	1	0	0	0	0	0	9	109	21	1	0	0	0	7	138		
08:00	25	1	0	0	0	0	1	27	130	18	1	0	0	0	7	156		
08:15	25	1	0	0	0	0	1	27	150	19	1	0	0	0	4	174		
08:30	25	1	0	0	0	0	1	27	159	17	0	0	0	0	3	179		
08:45	22	1	0	0	0	0	1	24	143	15	0	0	0	0	0	158		
09:00	6	0	0	0	0	0	0	6	126	14	0	0	0	0	0	140		
16:00	22	0	0	0	0	0	0	22	145	22	1	0	0	0	1	169		
16:15	25	2	0	0	0	0	0	27	171	26	1	0	0	0	1	199		
16:30	24	2	0	0	0	0	0	26	166	24	0	0	0	0	1	191		
16:45	17	2	0	0	0	0	0	19	158	20	0	0	0	0	1	179		
17:00	14	2	0	0	0	0	0	16	152	20	0	0	0	0	1	173		
17:15	16	2	0	0	0	0	0	18	129	11	0	0	0	1	0	141		
17:30	15	2	0	0	0	0	0	17	124	8	0	0	0	1	0	133		
17:45	12	2	0	0	0	0	0	14	120	6	0	0	0	1	0	127		
18:00	13	2	0	0	0	0	0	15	108	4	0	0	0	1	0	113		

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5b
 Date of Survey: 31.03.2022
 Junction Name: New Road / Market Place / Cannock Road
 Junction Type: T-Junction

	Arm B Approach								Arm B Exit							
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	31	6	0	0	0	1	0	38	8	3	0	0	1	0	0	12
07:15	23	13	0	0	1	0	0	37	18	3	0	0	0	0	1	22
07:30	34	13	0	0	0	0	0	47	18	2	0	0	1	0	2	23
07:45	39	10	0	0	0	0	1	50	17	1	1	0	0	0	0	19
08:00	35	8	0	0	1	0	0	44	32	6	1	0	0	0	0	39
08:15	43	11	1	0	0	0	1	56	22	5	0	0	0	0	0	27
08:30	59	6	0	0	0	0	1	66	37	3	0	0	2	0	0	42
08:45	54	9	0	0	0	0	0	63	49	4	0	0	0	0	0	53
09:00	52	11	0	0	0	0	0	63	21	5	0	0	0	0	0	26
09:15	39	8	1	0	1	0	0	49	15	5	0	0	0	0	0	20
09:30	29	6	0	0	0	0	0	35	18	4	1	0	1	0	0	24
09:45	30	5	0	0	0	0	0	35	19	4	1	0	0	1	1	26
16:00	38	8	1	0	0	0	0	47	34	7	1	0	0	0	0	42
16:15	59	11	0	0	1	0	0	71	36	3	1	0	0	0	0	40
16:30	72	15	0	0	1	0	0	88	46	8	0	0	1	0	0	55
16:45	50	13	1	1	0	0	0	65	34	10	0	0	0	1	0	45
17:00	70	14	0	0	1	0	0	85	48	9	0	0	0	0	0	57
17:15	40	4	0	0	1	0	0	45	38	10	0	0	0	0	0	48
17:30	29	5	0	0	2	0	0	36	45	9	0	0	1	0	0	55
17:45	37	5	0	0	0	0	0	42	50	3	0	0	0	0	0	53
18:00	45	3	0	0	0	2	0	50	26	8	0	0	0	0	0	34
18:15	31	3	0	0	1	0	0	35	20	0	0	0	0	0	0	20
18:30	36	2	0	0	0	0	0	38	24	0	0	0	1	0	0	25
18:45	22	2	0	0	0	0	0	24	29	2	0	0	0	0	0	31
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	127	42	0	0	1	1	1	172	61	9	1	0	2	0	3	76
07:15	131	44	0	0	2	0	1	178	85	12	2	0	1	0	3	103
07:30	151	42	1	0	1	0	2	197	89	14	2	0	1	0	2	108
07:45	176	35	1	0	1	0	3	216	108	15	2	0	2	0	0	127
08:00	191	34	1	0	1	0	2	229	140	18	1	0	2	0	0	161
08:15	208	37	1	0	0	0	2	248	129	17	0	0	2	0	0	148
08:30	204	34	1	0	1	0	1	241	122	17	0	0	2	0	0	141
08:45	174	34	1	0	1	0	0	210	103	18	1	0	1	0	0	123
09:00	150	30	1	0	1	0	0	182	73	18	2	0	1	1	1	96
16:00	219	47	2	1	2	0	0	271	150	28	2	0	1	1	0	182
16:15	251	53	1	1	3	0	0	309	164	30	1	0	1	1	0	197
16:30	232	46	1	1	3	0	0	283	166	37	0	0	1	1	0	205
16:45	189	36	1	1	4	0	0	231	165	38	0	0	1	1	0	205
17:00	176	28	0	0	4	0	0	208	181	31	0	0	1	0	0	213
17:15	151	17	0	0	3	2	0	173	159	30	0	0	1	0	0	190
17:30	142	16	0	0	3	2	0	163	141	20	0	0	1	0	0	162
17:45	149	13	0	0	1	2	0	165	120	11	0	0	1	0	0	132
18:00	134	10	0	0	1	2	0	147	99	10	0	0	1	0	0	110

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 5b
 Date of Survey: 31.03.2022
 Junction Name: New Road / Market Place / Cannock Road
 Junction Type: T-Junction

Time	Arm C Approach								Arm C Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	10	3	0	0	1	0	0	14	21	5	0	0	0	1	0	27
07:15	20	3	0	0	0	0	1	24	12	8	0	0	1	0	0	21
07:30	23	2	0	0	1	0	2	28	24	7	0	0	0	0	0	31
07:45	19	1	1	0	0	0	0	21	20	4	0	0	0	0	1	25
08:00	35	6	1	0	0	0	3	45	23	4	0	0	1	0	0	28
08:15	25	7	0	0	0	0	0	32	23	8	0	0	0	0	0	31
08:30	44	4	0	0	2	0	2	52	24	2	0	0	0	0	0	26
08:45	47	5	0	0	0	0	0	52	27	7	0	0	0	0	1	35
09:00	23	5	0	0	0	0	0	28	19	6	0	0	0	0	0	25
09:15	22	6	0	0	0	0	0	28	14	6	1	0	1	0	0	22
09:30	35	4	1	0	1	0	0	41	17	3	0	0	0	0	0	20
09:45	21	5	1	0	0	1	1	29	8	3	0	0	0	0	0	11
16:00	46	8	1	0	0	0	1	56	20	3	1	0	0	0	0	24
16:15	44	5	2	0	0	0	0	51	30	7	0	0	1	0	0	38
16:30	48	10	0	0	1	0	0	59	47	10	0	0	1	0	0	58
16:45	49	10	0	0	0	1	0	60	36	10	1	1	0	0	0	48
17:00	56	11	0	0	0	0	1	68	25	8	0	0	1	0	0	34
17:15	50	12	0	0	0	0	0	62	19	2	0	0	1	0	0	22
17:30	53	10	0	0	1	0	0	64	11	3	0	0	2	0	0	16
17:45	59	3	0	0	0	0	0	62	20	2	0	0	0	0	0	22
18:00	29	6	0	0	0	0	0	35	20	2	0	0	0	1	0	23
18:15	24	0	0	0	0	0	0	24	6	2	0	0	1	0	0	9
18:30	29	0	0	0	1	0	0	30	16	1	0	0	0	0	0	17
18:45	30	3	0	0	0	0	0	33	10	2	0	0	0	0	0	12
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	72	9	1	0	2	0	3	87	77	24	0	0	1	1	1	104
07:15	97	12	2	0	1	0	6	118	79	23	0	0	2	0	1	105
07:30	102	16	2	0	1	0	5	126	90	23	0	0	1	0	1	115
07:45	123	18	2	0	2	0	5	150	90	18	0	0	1	0	1	110
08:00	151	22	1	0	2	0	5	181	97	21	0	0	1	0	1	120
08:15	139	21	0	0	2	0	2	164	93	23	0	0	0	0	1	117
08:30	136	20	0	0	2	0	2	160	84	21	1	0	1	0	1	108
08:45	127	20	1	0	1	0	0	149	77	22	1	0	1	0	1	102
09:00	101	20	2	0	1	1	1	126	58	18	1	0	1	0	0	78
16:00	187	33	3	0	1	1	1	226	133	30	2	1	2	0	0	168
16:15	197	36	2	0	1	1	1	238	138	35	1	1	3	0	0	178
16:30	203	43	0	0	1	1	1	249	127	30	1	1	3	0	0	162
16:45	208	43	0	0	1	1	1	254	91	23	1	1	4	0	0	120
17:00	218	36	0	0	1	0	1	256	75	15	0	0	4	0	0	94
17:15	191	31	0	0	1	0	0	223	70	9	0	0	3	1	0	83
17:30	165	19	0	0	1	0	0	185	57	9	0	0	3	1	0	70
17:45	141	9	0	0	1	0	0	151	62	7	0	0	1	1	0	71
18:00	112	9	0	0	1	0	0	122	52	7	0	0	1	1	0	61

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 5b
Date of Survey: 31.03.2022
Junction Name: New Road / Market Place / Cannock Road
Junction Type: T-Junction

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	41	9	0	0	1	1	0	52
07:15	44	16	0	0	1	0	1	62
07:30	62	15	0	0	1	0	2	80
07:45	60	12	1	0	0	0	1	74
08:00	73	14	1	0	1	0	3	92
08:15	68	18	1	0	0	0	1	88
08:30	106	10	0	0	2	0	3	121
08:45	120	15	0	0	0	0	1	136
09:00	78	16	0	0	0	0	0	94
09:15	61	14	1	0	1	0	0	77
09:30	64	10	1	0	1	0	0	76
09:45	54	10	1	0	0	1	1	67
16:00	84	16	2	0	0	0	1	103
16:15	108	16	2	0	1	0	0	127
16:30	131	25	0	0	2	0	0	158
16:45	105	23	1	1	0	1	0	131
17:00	129	27	0	0	1	0	1	158
17:15	94	16	0	0	1	0	0	111
17:30	86	15	0	0	3	0	0	104
17:45	99	8	0	0	0	0	0	107
18:00	79	11	0	0	0	2	0	92
18:15	58	3	0	0	1	0	0	62
18:30	66	2	0	0	1	0	0	69
18:45	56	5	0	0	0	0	0	61
Start Time	Rolling Hour							Total
07:00	207	52	1	0	3	1	4	268
07:15	239	57	2	0	3	0	7	308
07:30	263	59	3	0	2	0	7	334
07:45	307	54	3	0	3	0	8	375
08:00	367	57	2	0	3	0	8	437
08:15	372	59	1	0	2	0	5	439
08:30	365	55	1	0	3	0	4	428
08:45	323	55	2	0	2	0	1	383
09:00	257	50	3	0	2	1	1	314
16:00	428	80	5	1	3	1	1	519
16:15	473	91	3	1	4	1	1	574
16:30	459	91	1	1	4	1	1	558
16:45	414	81	1	1	5	1	1	504
17:00	408	66	0	0	5	0	1	480
17:15	358	50	0	0	4	2	0	414
17:30	322	37	0	0	4	2	0	365
17:45	302	24	0	0	2	2	0	330
18:00	259	21	0	0	2	2	0	284

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 5b

Date of Survey: 31.03.2022
Junction Name: New Road / Market Place / Cannock Road
Junction Type: T-Junction

Arm A: Market Place (NW)
Arm B: Cannock Road (E)
Arm C: New Road (SW)



PCU Summary									
Time	A to A	A to C	A to B	B to B	B to A	B to C	C to C	C to B	C to A
07:00	0	0	0	0	11	26	0	14	2
07:15	0	0	1	0	16	23	0	20	3
07:30	0	4	1	0	20	27	0	22	6
07:45	1	1	1	0	26	23	0	19	3
08:00	1	1	1	0	17	29	0	39	5
08:15	0	0	0	0	25	31	0	27	5
08:30	1	1	1	0	40	25	0	44	9
08:45	1	8	11	0	37	26	0	42	10
09:00	1	1	1	0	39	24	0	25	3
09:15	0	0	0	0	27	24	0	20	8
09:30	0	0	0	0	15	20	0	26	17
09:45	1	1	1	0	25	10	0	25	4
16:00	0	0	0	0	23	25	0	43	13
16:15	1	2	2	0	35	38	0	39	14
16:30	1	2	8	0	32	58	0	49	12
16:45	0	2	4	0	19	49	0	40	19
17:00	0	1	4	0	52	35	0	53	14
17:15	2	1	1	0	24	23	0	47	15
17:30	0	2	2	0	22	17	0	55	11
17:45	1	2	0	0	22	20	0	53	9
18:00	0	3	4	0	29	19	0	30	5
18:15	1	0	2	0	26	11	0	18	6
18:30	0	1	0	0	22	16	0	27	5
18:45	1	3	0	0	15	9	0	31	2
Start Time	Rolling Hour								
07:00	1	5	3	0	73	99	0	75	14
07:15	2	6	4	0	79	101	0	100	17
07:30	2	6	3	0	88	110	0	107	19
07:45	3	3	3	0	108	108	0	129	22
08:00	3	10	13	0	119	111	0	152	29
08:15	3	10	13	0	141	106	0	138	27
08:30	3	10	13	0	143	99	0	131	30
08:45	2	9	12	0	118	94	0	113	38
09:00	2	2	2	0	106	78	0	96	32
16:00	2	6	14	0	109	169	0	171	58
16:15	2	7	18	0	138	178	0	181	59
16:30	3	6	17	0	127	163	0	189	60
16:45	2	6	11	0	117	123	0	195	59
17:00	3	6	7	0	120	94	0	208	49
17:15	3	8	7	0	97	79	0	185	40
17:30	2	7	8	0	99	67	0	156	31
17:45	2	6	6	0	99	66	0	128	25
18:00	2	7	6	0	92	55	0	106	18

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 5b

Date of Survey: 31.03.2022
 Junction Name: New Road / Market Place / Cannock Road
 Junction Type: T-Junction

Arm A: Market Place (NW)
 Arm B: Cannock Road (E)
 Arm C: New Road (SW)



Count Method: Classes Included: *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:	AM Peak	from:	08:45	until:	09:00	flow:	136
	PM Peak	from:	16:30	until:	16:45	flow:	158

Period Starting: *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	0	0	0	0
From B	11	0	27	38
From C	2	12	0	14
Total	13	12	27	52

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	0.0%	0.0%	0.0%
From B	0.0%	0.0%	0.0%	0.0%
From C	0.0%	8.3%	0.0%	7.1%
Total	0.0%	8.3%	0.0%	1.9%

Maximum Hourly Junction Flow:	AM Peak	from:	08:15	until:	09:15	flow:	439
	PM Peak	from:	16:15	until:	17:15	flow:	574

Period Starting: *Select the time from the drop-down in cell D30 to show the hourly data for that period*

Movement Counts

	To			Total
	A	B	C	
From A	1	3	5	9
From B	73	0	99	172
From C	14	73	0	87
Total	88	76	104	268

HGV Proportions

	To			Total
	A	B	C	
From A	0.0%	0.0%	0.0%	0.0%
From B	0.0%	0.0%	1.0%	0.6%
From C	0.0%	4.1%	0.0%	3.4%
Total	0.0%	3.9%	1.0%	1.5%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkrige

Client:	PJA
Project Number:	ID06388
Junction Number:	Site 6
Date of Survey:	31.03.2022
Junction Name:	Gailey Island
Junction Type:	4-arm Roundabout



Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - MCC Site 6 - 31.03.2022			

[illegible]

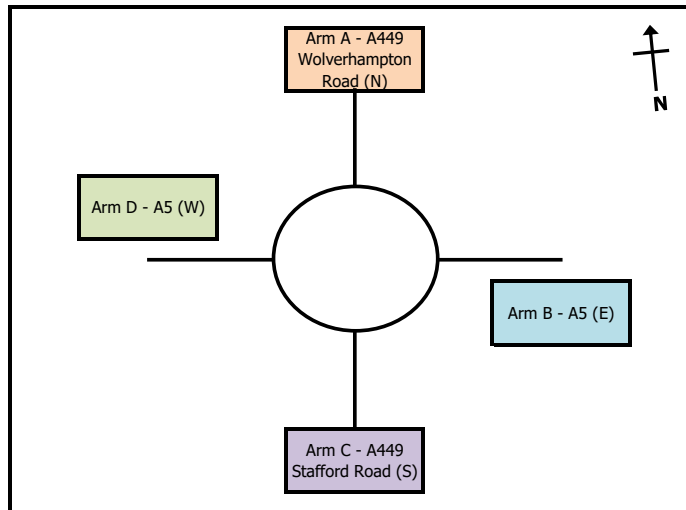
Intelligent Data Collection Limited



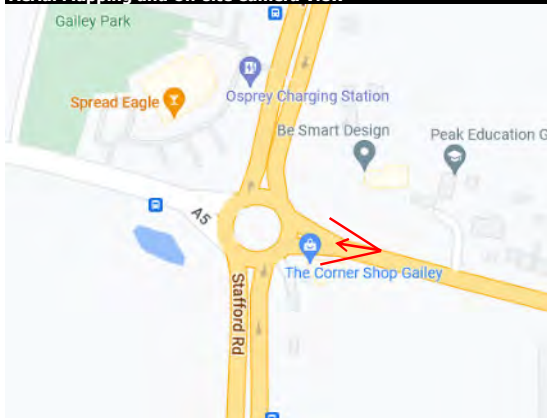
Client: PJA
Project Number: ID06388
Junction Number: Site 6
Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

X Coordinate	Y Coordinate	Google Maps Link
52.693134	-2.131486	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout

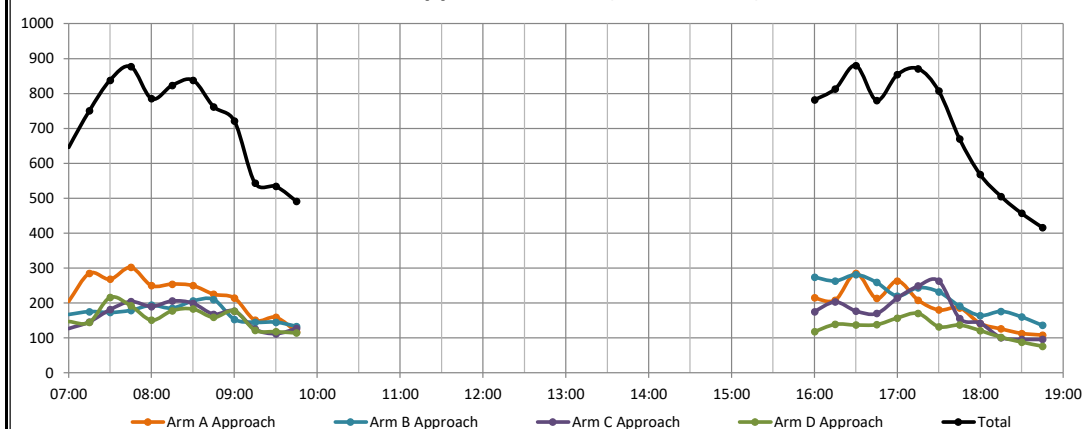


Aerial Mapping and On-site Camera View



Junction Flow Profile

Arm Approach Flows (All Vehicles)



Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events):

A minor incident occurred on Arm B between 08:54 and 09:00 - this had little/no impact on the traffic flows.

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 6
Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: A5 (E)

Arm C: A449 Stafford Road (S)
Arm D: A5 (W)

Time	A to A								A to D								A to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	36	18	3	2	0	0	0	59	83	14	0	3	1	0	0	101
07:15	0	0	0	0	0	0	0	0	54	19	0	1	0	0	0	74	125	22	2	5	0	0	0	154
07:30	0	0	0	0	0	0	0	0	60	13	0	0	0	0	0	73	130	17	1	3	3	0	0	154
07:45	1	0	0	0	0	0	0	1	84	7	0	2	0	0	0	93	126	25	0	2	1	0	1	155
08:00	0	0	0	0	0	0	0	0	64	17	1	0	0	0	0	82	104	18	2	0	1	0	0	125
08:15	0	1	0	0	0	0	0	1	73	15	0	1	0	0	0	89	92	17	2	1	1	0	0	113
08:30	1	1	0	0	0	0	0	2	72	10	1	1	0	0	0	84	94	17	1	4	1	1	0	118
08:45	2	0	0	0	0	0	0	2	48	14	0	0	2	0	0	64	82	12	0	0	1	0	0	95
09:00	1	0	0	0	0	0	0	1	54	10	0	0	1	0	0	65	69	14	2	2	1	0	0	88
09:15	0	0	0	0	0	0	0	0	34	8	0	1	0	0	0	43	64	8	2	2	0	1	0	77
09:30	1	0	0	0	0	0	0	1	32	10	2	1	1	0	0	46	52	11	2	1	0	1	0	67
09:45	2	0	0	0	0	0	0	2	28	4	0	1	0	0	0	33	42	9	0	2	0	0	0	53
16:00	1	0	0	0	0	0	0	1	54	12	2	0	0	1	0	69	74	18	2	2	0	0	0	96
16:15	0	0	0	0	0	0	0	0	62	16	2	3	0	0	0	83	64	21	2	2	0	0	0	89
16:30	2	0	0	0	0	0	0	2	76	19	1	1	1	1	0	99	77	22	3	1	1	1	0	105
16:45	0	1	0	0	0	0	0	1	70	13	0	1	1	0	0	85	64	15	1	2	1	1	0	84
17:00	1	0	0	0	0	0	0	1	92	18	0	1	0	0	0	111	79	16	3	3	2	0	0	103
17:15	0	0	0	0	0	0	0	0	71	7	0	0	0	0	0	78	82	15	1	0	0	0	0	98
17:30	2	0	0	0	0	0	0	2	61	3	1	0	0	0	0	65	84	7	0	1	1	0	0	93
17:45	0	0	0	0	0	0	0	0	63	10	0	0	1	0	0	74	78	4	1	1	0	0	0	84
18:00	0	1	0	0	0	0	0	1	49	3	0	1	0	0	0	53	59	3	1	0	0	0	0	63
18:15	1	0	0	0	0	0	0	1	41	6	2	0	0	0	0	49	53	7	1	0	0	0	0	61
18:30	0	0	0	0	0	0	0	0	37	3	0	0	0	0	0	40	50	5	0	2	0	0	0	57
18:45	0	0	0	0	0	0	0	0	32	3	0	0	0	0	0	35	43	4	0	0	0	0	0	47
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	1	0	0	0	0	0	0	1	234	57	3	5	0	0	0	299	464	78	3	13	5	0	1	564
07:15	1	0	0	0	0	0	0	1	262	56	1	3	0	0	0	322	485	82	5	10	5	0	1	588
07:30	1	1	0	0	0	0	0	2	281	52	1	3	0	0	0	337	452	77	5	6	6	0	1	547
07:45	2	2	0	0	0	0	0	4	293	49	2	4	0	0	0	348	416	77	5	7	4	1	1	511
08:00	3	2	0	0	0	0	0	5	257	56	2	2	2	0	0	319	372	64	5	5	4	1	0	451
08:15	4	2	0	0	0	0	0	6	247	49	1	2	3	0	0	302	337	60	5	7	4	1	0	414
08:30	4	1	0	0	0	0	0	5	208	42	1	2	3	0	0	256	309	51	5	8	3	2	0	378
08:45	4	0	0	0	0	0	0	4	168	42	2	2	4	0	0	218	267	45	6	5	2	2	0	327
09:00	4	0	0	0	0	0	0	4	148	32	2	3	2	0	0	187	227	42	6	7	1	2	0	285
16:00	3	1	0	0	0	0	0	4	262	60	5	5	2	2	0	336	279	76	8	7	2	2	0	374
16:15	3	1	0	0	0	0	0	4	300	66	3	6	2	1	0	378	284	74	9	8	4	2	0	381
16:30	3	1	0	0	0	0	0	4	309	57	1	3	2	1	0	373	302	68	8	6	4	2	0	390
16:45	3	1	0	0	0	0	0	4	294	41	1	2	1	0	0	339	309	53	5	6	4	1	0	378
17:00	3	0	0	0	0	0	0	3	287	38	1	1	1	0	0	328	323	42	5	5	3	0	0	378
17:15	2	1	0	0	0	0	0	3	244	23	1	1	1	0	0	270	303	29	3	2	1	0	0	338
17:30	3	1	0	0	0	0	0	4	214	22	3	1	1	0	0	241	274	21	3	2	1	0	0	301
17:45	1	1	0	0	0	0	0	2	190	22	2	1	1	0	0	216	240	19	3	3	0	0	0	265
18:00	1	1	0	0	0	0	0	2	159	15	2	1	0	0	0	177	205	19	2	2	0	0	0	228

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 6
 Date of Survey: 31.03.2022
 Junction Name: Gailey Island
 Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
 Arm B: A5 (E)
 Arm C: A449 Stafford Road (S)
 Arm D: A5 (W)



Time	A to B								B to B								B to A							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	33	10	0	0	2	0	0	45	0	0	0	0	0	0	0	0	17	1	2	2	0	0	0	22
07:15	40	16	0	1	0	0	0	57	1	0	1	0	0	0	0	2	16	6	2	4	0	0	0	28
07:30	31	9	0	1	0	0	0	41	0	1	0	0	0	0	0	1	10	7	2	0	0	0	0	19
07:45	40	8	1	4	0	0	0	53	0	1	0	0	0	0	0	1	15	8	2	1	0	0	0	26
08:00	30	8	2	3	0	0	0	43	1	0	0	0	0	0	0	1	25	16	1	4	1	0	0	47
08:15	41	7	1	2	0	0	0	51	0	0	0	0	0	0	0	0	24	7	2	3	0	0	0	36
08:30	40	5	0	1	0	0	0	46	1	0	0	0	0	0	0	1	41	12	1	1	3	0	0	58
08:45	54	7	1	0	2	0	0	64	0	1	0	0	0	0	0	1	44	8	2	4	1	0	0	59
09:00	44	12	0	2	2	0	0	60	1	0	0	0	0	0	0	1	27	11	1	3	0	0	0	42
09:15	21	7	0	3	0	0	0	31	2	0	0	0	0	0	0	2	8	11	1	1	0	0	0	21
09:30	35	9	0	1	0	0	0	45	0	0	0	0	0	0	0	0	13	6	1	4	0	0	0	24
09:45	20	7	1	0	0	0	1	29	0	1	0	0	0	0	0	1	13	9	1	3	0	0	0	26
16:00	38	9	1	1	0	0	0	49	0	0	0	0	0	0	0	0	124	37	1	10	0	0	0	172
16:15	31	3	1	1	0	0	0	36	1	0	0	0	0	0	0	1	95	25	2	2	0	0	0	124
16:30	66	10	0	1	1	1	0	79	1	1	0	0	0	0	0	2	100	30	2	8	1	0	0	141
16:45	31	7	0	2	2	1	0	43	0	0	0	0	0	0	0	0	81	16	0	2	0	0	0	99
17:00	41	7	0	0	0	0	0	48	0	0	0	0	0	0	0	0	41	9	1	2	0	0	0	53
17:15	24	6	0	1	0	1	0	32	0	0	0	0	0	0	0	0	42	5	0	3	0	0	0	50
17:30	15	3	1	1	0	0	0	20	0	0	0	0	0	0	0	0	56	6	2	1	0	0	0	65
17:45	21	5	0	2	0	0	0	28	0	0	0	0	0	0	0	0	42	5	0	0	0	0	0	47
18:00	20	4	0	0	0	0	0	24	1	0	0	0	0	0	0	1	33	6	0	2	1	0	0	42
18:15	12	3	0	0	0	0	0	15	0	1	0	0	0	0	0	1	28	3	0	1	1	0	0	33
18:30	12	2	0	2	0	0	0	16	1	0	0	0	0	0	0	1	27	3	0	1	1	0	0	32
18:45	22	3	0	1	0	0	0	26	0	0	0	0	0	0	0	0	18	8	0	0	0	0	0	26
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	144	43	1	6	2	0	0	196	1	2	1	0	0	0	0	4	58	22	8	7	0	0	0	95
07:15	141	41	3	9	0	0	0	194	2	2	1	0	0	0	0	5	66	37	7	9	1	0	0	120
07:30	142	32	4	10	0	0	0	188	1	2	0	0	0	0	0	3	74	38	7	8	1	0	0	128
07:45	151	28	4	10	0	0	0	193	2	1	0	0	0	0	0	3	105	43	6	9	4	0	0	167
08:00	165	27	4	6	2	0	0	204	2	1	0	0	0	0	0	3	134	43	6	12	5	0	0	200
08:15	179	31	2	5	4	0	0	221	2	1	0	0	0	0	0	3	136	38	6	11	4	0	0	195
08:30	159	31	1	6	4	0	0	201	4	1	0	0	0	0	0	5	120	42	5	9	4	0	0	180
08:45	154	35	1	6	4	0	0	200	3	1	0	0	0	0	0	4	92	36	5	12	1	0	0	146
09:00	120	35	1	6	2	0	1	165	3	1	0	0	0	0	0	4	61	37	4	11	0	0	0	113
16:00	166	29	2	5	3	2	0	207	2	1	0	0	0	0	0	3	400	108	5	22	1	0	0	536
16:15	169	27	1	4	3	2	0	206	2	1	0	0	0	0	0	3	317	80	5	14	1	0	0	417
16:30	162	30	0	4	3	3	0	202	1	1	0	0	0	0	0	2	264	60	3	15	1	0	0	343
16:45	111	23	1	4	2	2	0	143	0	0	0	0	0	0	0	0	220	36	3	8	0	0	0	267
17:00	101	21	1	4	0	1	0	128	0	0	0	0	0	0	0	0	181	25	3	6	0	0	0	215
17:15	80	18	1	4	0	1	0	104	1	0	0	0	0	0	0	1	173	22	2	6	1	0	0	204
17:30	68	15	1	3	0	0	0	87	1	1	0	0	0	0	0	2	159	20	2	4	2	0	0	187
17:45	65	14	0	4	0	0	0	83	2	1	0	0	0	0	0	3	130	17	0	4	3	0	0	154
18:00	66	12	0	3	0	0	0	81	2	1	0	0	0	0	0	3	106	20	0	4	3	0	0	133

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 6

Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: A5 (E)

Arm C: A449 Stafford Road (S)
Arm D: A5 (W)



Time	B to D								B to C								C to C							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	51	43	2	5	0	0	0	101	22	8	3	11	0	0	0	44	0	0	0	0	0	0	0	0
07:15	47	36	3	8	0	0	0	94	30	3	5	12	1	0	0	51	0	0	0	0	0	0	0	0
07:30	61	33	3	9	0	0	0	106	25	8	5	9	0	0	0	47	0	0	0	0	0	0	0	0
07:45	58	27	5	11	0	0	0	101	29	8	6	8	0	0	0	51	1	0	0	0	0	0	0	1
08:00	59	26	1	6	0	0	0	92	35	9	2	8	0	0	0	54	0	0	1	0	0	0	0	1
08:15	67	22	2	4	0	1	0	96	30	12	5	6	0	0	0	53	0	0	0	0	0	0	0	0
08:30	49	26	3	11	1	0	0	90	29	14	5	9	0	0	0	57	0	0	0	0	0	0	0	0
08:45	68	25	4	7	1	0	0	105	30	7	5	3	0	0	0	45	0	0	0	0	0	0	0	0
09:00	44	18	2	5	0	0	0	69	20	13	3	5	0	0	0	41	2	0	0	0	0	0	0	2
09:15	42	24	5	9	0	0	0	80	25	7	2	7	1	0	0	42	0	0	0	0	0	0	0	0
09:30	48	27	2	8	0	0	0	85	14	10	4	8	0	0	0	36	0	0	0	0	0	0	0	0
09:45	34	23	2	4	0	0	0	63	19	10	2	12	0	0	0	43	1	0	0	0	0	0	0	1
16:00	51	11	3	8	0	0	0	73	16	4	0	9	0	0	0	29	0	0	0	0	0	0	0	0
16:15	84	15	0	6	0	1	0	106	21	4	0	7	0	0	0	32	0	0	0	0	0	0	0	0
16:30	80	28	1	3	0	0	0	112	18	4	1	3	0	0	0	26	1	0	0	0	0	0	0	1
16:45	98	23	2	10	0	1	0	134	18	1	0	7	0	0	0	26	0	0	0	0	0	0	0	0
17:00	105	23	0	4	0	0	0	132	25	3	2	5	0	0	0	35	0	0	0	0	0	0	0	0
17:15	119	28	1	5	0	1	0	154	22	5	1	12	0	0	0	40	0	0	0	0	0	0	0	0
17:30	97	25	1	4	0	0	0	127	26	7	2	5	0	0	0	40	1	0	0	0	0	0	0	1
17:45	95	13	0	2	0	1	0	111	25	5	1	2	0	0	0	33	2	0	0	0	0	0	0	2
18:00	69	9	0	8	0	0	0	86	26	4	0	5	0	0	0	35	0	0	0	0	0	0	0	0
18:15	93	14	0	3	0	0	0	110	23	4	2	3	0	0	0	32	0	0	0	0	0	0	0	0
18:30	73	6	1	2	0	0	0	82	38	4	0	3	0	0	0	45	0	0	0	0	0	0	0	0
18:45	68	10	0	3	0	0	0	81	25	3	0	1	0	0	0	29	1	0	0	0	0	0	0	1
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	217	139	13	33	0	0	0	402	106	27	19	40	1	0	0	193	1	0	0	0	0	0	0	1
07:15	225	122	12	34	0	0	0	393	119	28	18	37	1	0	0	203	1	0	1	0	0	0	0	2
07:30	245	108	11	30	0	1	0	395	119	37	18	31	0	0	0	205	1	0	1	0	0	0	0	2
07:45	233	101	11	32	1	1	0	379	123	43	18	31	0	0	0	215	1	0	1	0	0	0	0	2
08:00	243	99	10	28	2	1	0	383	124	42	17	26	0	0	0	209	0	0	1	0	0	0	0	1
08:15	228	91	11	27	2	1	0	360	109	46	18	23	0	0	0	196	2	0	0	0	0	0	0	2
08:30	203	93	14	32	2	0	0	344	104	41	15	24	1	0	0	185	2	0	0	0	0	0	0	2
08:45	202	94	13	29	1	0	0	339	89	37	14	23	1	0	0	164	2	0	0	0	0	0	0	2
09:00	168	92	11	26	0	0	0	297	78	40	11	32	1	0	0	162	3	0	0	0	0	0	0	3
16:00	313	77	6	27	0	2	0	425	73	13	1	26	0	0	0	113	1	0	0	0	0	0	0	1
16:15	367	89	3	23	0	2	0	484	82	12	3	22	0	0	0	119	1	0	0	0	0	0	0	1
16:30	402	102	4	22	0	2	0	532	83	13	4	27	0	0	0	127	1	0	0	0	0	0	0	1
16:45	419	99	4	23	0	2	0	547	91	16	5	29	0	0	0	141	1	0	0	0	0	0	0	1
17:00	416	89	2	15	0	2	0	524	98	20	6	24	0	0	0	148	3	0	0	0	0	0	0	3
17:15	380	75	2	19	0	2	0	478	99	21	4	24	0	0	0	148	3	0	0	0	0	0	0	3
17:30	354	61	1	17	0	1	0	434	100	20	5	15	0	0	0	140	3	0	0	0	0	0	0	3
17:45	330	42	1	15	0	1	0	389	112	17	3	13	0	0	0	145	2	0	0	0	0	0	0	2
18:00	303	39	1	16	0	0	0	359	112	15	2	12	0	0	0	141	1	0	0	0	0	0	0	1

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 6
 Date of Survey: 31.03.2022
 Junction Name: Gailey Island
 Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
 Arm B: A5 (E)
 Arm C: A449 Stafford Road (S)
 Arm D: A5 (W)



Time	C to B								C to A								C to D							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	33	15	5	5	0	0	0	58	43	19	1	0	1	0	0	65	4	0	0	0	0	0	0	4
07:15	39	18	2	4	0	0	0	63	50	19	1	2	0	0	0	72	6	3	1	0	1	0	0	11
07:30	53	13	0	8	0	0	0	74	66	25	0	2	0	0	0	93	10	2	1	0	1	0	0	14
07:45	52	17	1	8	0	0	0	78	84	22	3	0	0	0	0	109	12	4	0	0	0	0	0	16
08:00	57	13	5	6	0	0	0	81	74	22	3	2	0	0	0	101	4	3	0	0	0	0	0	7
08:15	55	21	0	8	0	0	0	84	93	13	4	1	1	0	0	112	7	2	1	0	0	0	0	10
08:30	44	15	5	5	0	0	0	69	89	16	3	2	3	0	0	113	12	4	1	0	0	0	0	17
08:45	49	14	3	9	1	0	0	76	65	12	2	4	0	0	0	83	5	4	0	0	0	0	0	9
09:00	47	15	6	12	0	0	0	80	67	11	3	3	0	0	0	84	9	2	0	0	0	0	0	11
09:15	35	16	5	7	0	0	0	63	42	9	1	3	0	0	0	55	3	3	1	0	0	0	0	7
09:30	27	9	5	11	0	0	0	52	42	8	2	2	0	0	0	54	3	1	2	0	0	0	0	6
09:45	30	11	5	9	0	0	0	55	50	12	2	1	1	0	0	66	3	1	1	0	0	0	0	5
16:00	19	4	3	8	1	0	0	35	106	18	2	4	0	1	0	131	9	0	0	0	0	0	0	9
16:15	35	6	0	8	0	0	0	49	109	17	5	4	2	1	0	138	15	0	1	0	0	0	0	16
16:30	24	9	1	5	0	0	0	39	85	25	2	3	1	0	0	116	19	2	0	0	0	0	0	21
16:45	34	11	3	2	0	0	0	50	71	15	4	7	2	0	0	99	19	1	0	0	0	1	0	21
17:00	28	5	3	5	1	0	0	42	123	18	2	5	1	0	0	149	23	0	0	0	0	0	0	23
17:15	42	6	0	3	0	0	0	51	161	13	2	4	0	0	0	180	17	1	0	0	0	0	0	18
17:30	30	6	3	4	0	0	0	43	185	17	2	1	0	0	0	205	14	0	0	0	0	0	0	14
17:45	29	4	0	2	0	0	0	35	96	10	0	3	0	1	0	110	8	1	0	0	0	0	0	9
18:00	27	2	0	0	0	0	0	29	91	9	2	0	1	0	0	103	8	2	0	0	0	0	0	10
18:15	16	0	1	3	0	0	0	20	65	7	1	0	0	1	0	74	7	0	0	0	0	0	0	7
18:30	18	2	2	5	0	0	0	27	52	10	0	0	0	0	0	62	6	1	0	0	0	0	0	7
18:45	22	0	1	2	0	0	0	25	47	7	0	2	0	0	0	56	10	4	0	0	0	0	0	14
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	177	63	8	25	0	0	0	273	243	85	5	4	1	1	0	339	32	9	2	0	2	0	0	45
07:15	201	61	8	26	0	0	0	296	274	88	7	6	0	0	0	375	32	12	2	0	2	0	0	48
07:30	217	64	6	30	0	0	0	317	317	82	10	5	1	0	0	415	33	11	2	0	1	0	0	47
07:45	208	66	11	27	0	0	0	312	340	73	13	5	4	0	0	435	35	13	2	0	0	0	0	50
08:00	205	63	13	28	1	0	0	310	321	63	12	9	4	0	0	409	28	13	2	0	0	0	0	43
08:15	195	65	14	34	1	0	0	309	314	52	12	10	4	0	0	392	33	12	2	0	0	0	0	47
08:30	175	60	19	33	1	0	0	288	263	48	9	12	3	0	0	335	29	13	2	0	0	0	0	44
08:45	158	54	19	39	1	0	0	271	216	40	8	12	0	0	0	276	20	10	3	0	0	0	0	33
09:00	139	51	21	39	0	0	0	250	201	40	8	9	1	0	0	259	18	7	4	0	0	0	0	29
16:00	112	30	7	23	1	0	0	173	371	75	13	18	5	2	0	484	62	3	1	0	0	1	0	67
16:15	121	31	7	20	1	0	0	180	388	75	13	19	6	1	0	502	76	3	1	0	0	1	0	81
16:30	128	31	7	15	1	0	0	182	440	71	10	19	4	0	0	544	78	4	0	0	0	1	0	83
16:45	134	28	9	14	1	0	0	186	540	63	10	17	3	0	0	633	73	2	0	0	0	1	0	76
17:00	129	21	6	14	1	0	0	171	565	58	6	13	1	1	0	644	62	2	0	0	0	0	0	64
17:15	128	18	3	9	0	0	0	158	533	49	6	8	1	1	0	598	47	4	0	0	0	0	0	51
17:30	102	12	4	9	0	0	0	127	437	43	5	4	1	2	0	492	37	3	0	0	0	0	0	40
17:45	90	8	3	10	0	0	0	111	304	36	3	3	1	2	0	349	29	4	0	0	0	0	0	33
18:00	83	4	4	10	0	0	0	101	255	33	3	2	1	1	0	295	31	7	0	0	0	0	0	38

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 6

Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: A5 (E)

Arm C: A449 Stafford Road (S)
Arm D: A5 (W)



Time	D to D								D to C								D to B							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	78	23	0	6	0	0	0	107
07:15	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	18	68	20	2	3	0	0	0	93
07:30	1	0	0	0	0	0	0	1	18	0	0	0	0	0	0	18	117	20	4	5	0	0	0	146
07:45	0	0	0	0	0	0	0	0	15	4	0	0	0	0	0	19	78	32	5	6	0	0	0	121
08:00	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	12	71	16	0	5	0	0	0	92
08:15	0	1	0	0	0	0	0	1	12	3	1	0	0	0	0	16	90	14	7	4	0	0	0	115
08:30	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	15	74	20	2	3	0	0	0	99
08:45	2	0	0	0	0	0	0	2	5	2	0	0	0	0	0	7	65	10	2	6	0	0	0	83
09:00	1	0	0	0	0	0	0	1	8	0	0	0	0	0	0	8	86	12	7	9	0	1	0	115
09:15	0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	14	46	16	0	8	0	0	0	70
09:30	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	7	51	20	3	4	0	1	0	79
09:45	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4	55	15	1	3	0	0	0	74
16:00	0	0	0	0	0	0	0	0	4	1	0	1	0	0	0	6	49	19	0	6	0	0	0	74
16:15	1	0	0	0	0	0	0	1	5	3	0	0	2	0	0	10	48	23	3	6	0	0	0	80
16:30	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	7	49	22	1	6	0	2	0	80
16:45	1	0	0	0	0	0	0	1	8	2	0	0	0	0	0	10	59	24	0	7	0	0	0	90
17:00	2	0	0	0	0	0	0	2	6	1	0	0	0	0	0	7	78	16	0	5	0	0	0	99
17:15	0	0	0	0	0	0	0	0	8	0	1	0	0	0	0	9	61	15	1	3	0	0	0	80
17:30	1	0	0	0	0	0	0	1	4	1	0	0	0	0	0	5	53	8	0	2	0	0	1	64
17:45	0	1	0	0	0	0	0	1	9	0	0	0	0	0	0	9	53	9	1	4	0	0	0	67
18:00	0	0	0	0	0	0	0	0	8	0	0	1	0	0	0	9	50	8	0	4	0	0	0	62
18:15	1	0	0	0	0	0	0	1	9	0	0	0	0	0	0	9	45	3	0	2	0	2	0	52
18:30	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	38	6	0	1	0	0	0	45
18:45	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	29	6	0	5	0	0	0	40
Start Time	Rolling Hour							Total	Rolling Hour							Total	Rolling Hour							Total
07:00	1	0	0	0	0	0	0	1	57	4	0	0	0	0	0	61	341	95	11	20	0	0	0	467
07:15	1	0	0	0	0	0	0	1	62	5	0	0	0	0	0	67	334	88	11	19	0	0	0	452
07:30	1	1	0	0	0	0	0	2	56	8	1	0	0	0	0	65	356	82	16	20	0	0	0	474
07:45	0	1	0	0	0	0	0	1	51	10	1	0	0	0	0	62	313	82	14	18	0	0	0	427
08:00	2	1	0	0	0	0	0	3	41	8	1	0	0	0	0	50	300	60	11	18	0	0	0	389
08:15	3	1	0	0	0	0	0	4	38	7	1	0	0	0	0	46	315	56	18	22	0	1	0	412
08:30	3	0	0	0	0	0	0	3	38	6	0	0	0	0	0	44	271	58	11	26	0	1	0	367
08:45	3	0	0	0	0	0	0	3	29	7	0	0	0	0	0	36	248	58	12	27	0	2	0	347
09:00	1	0	0	0	0	0	0	1	27	6	0	0	0	0	0	33	238	63	11	24	0	2	0	338
16:00	2	0	0	0	0	0	0	2	22	8	0	1	2	0	0	33	205	88	4	25	0	2	0	324
16:15	4	0	0	0	0	0	0	4	24	8	0	0	2	0	0	34	234	85	4	24	0	2	0	349
16:30	3	0	0	0	0	0	0	3	27	5	1	0	0	0	0	33	247	77	2	21	0	2	0	349
16:45	4	0	0	0	0	0	0	4	26	4	1	0	0	0	0	31	251	63	1	17	0	0	1	333
17:00	3	1	0	0	0	0	0	4	27	2	1	0	0	0	0	30	245	48	2	14	0	0	1	310
17:15	1	1	0	0	0	0	0	2	29	1	1	1	0	0	0	32	217	40	2	13	0	0	1	273
17:30	2	1	0	0	0	0	0	3	30	1	0	1	0	0	0	32	201	28	1	12	0	2	1	245
17:45	1	1	0	0	0	0	0	2	33	0	0	1	0	0	0	34	186	26	1	11	0	2	0	226
18:00	1	0	0	0	0	0	0	1	29	0	0	1	0	0	0	30	162	23	0	12	0	2	0	199

Intelligent Data Collection Limited

Client: PJA
 Project Number: ID06388
 Junction Number: Site 6
 Date of Survey: 31.03.2022
 Junction Name: Gailey Island
 Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
 Arm B: A5 (E)

Arm C: A449 Stafford Road (S)
 Arm D: A5 (W)



D to A								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	23	9	0	2	0	0	0	34
07:15	21	8	2	3	0	0	0	34
07:30	35	11	3	2	0	0	0	51
07:45	45	6	0	1	0	0	0	52
08:00	38	7	2	0	0	0	0	47
08:15	37	8	0	1	0	0	0	46
08:30	51	14	0	0	3	1	0	69
08:45	50	11	4	2	0	0	0	67
09:00	44	8	0	1	0	0	0	53
09:15	29	7	1	1	0	0	0	38
09:30	23	5	0	2	2	0	0	32
09:45	23	11	1	1	0	0	0	36
16:00	24	10	1	2	1	0	0	38
16:15	30	12	0	5	1	0	0	48
16:30	40	10	0	0	0	0	0	50
16:45	32	5	0	0	0	0	0	37
17:00	41	6	0	1	1	0	0	49
17:15	74	6	0	1	0	0	0	81
17:30	50	12	0	0	0	0	0	62
17:45	51	6	1	1	1	0	0	60
18:00	41	7	0	0	2	0	0	50
18:15	36	3	0	0	1	0	0	40
18:30	34	1	1	0	0	0	0	36
18:45	27	4	0	0	0	0	0	31
Start Time	Rolling Hour							Total
07:00	124	34	5	8	0	0	0	171
07:15	139	32	7	6	0	0	0	184
07:30	155	32	5	4	0	0	0	196
07:45	171	35	2	2	3	1	0	214
08:00	176	40	6	3	3	1	0	229
08:15	182	41	4	4	3	1	0	235
08:30	174	40	5	4	3	1	0	227
08:45	146	31	5	6	2	0	0	190
09:00	119	31	2	5	2	0	0	159
16:00	126	37	1	7	2	0	0	173
16:15	143	33	0	6	2	0	0	184
16:30	187	27	0	2	1	0	0	217
16:45	197	29	0	2	1	0	0	229
17:00	216	30	1	3	2	0	0	252
17:15	216	31	1	2	3	0	0	253
17:30	178	28	1	1	4	0	0	212
17:45	162	17	2	1	4	0	0	186
18:00	138	15	1	0	3	0	0	157

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 6

Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Time	Arm A Approach								Arm A Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	152	42	3	5	3	0	0	205	83	29	3	4	1	1	0	121
07:15	219	57	2	7	0	0	0	285	87	33	5	9	0	0	0	134
07:30	221	39	1	4	3	0	0	268	111	43	5	4	0	0	0	163
07:45	251	40	1	8	1	0	1	302	145	36	5	2	0	0	0	188
08:00	198	43	5	3	1	0	0	250	137	45	6	6	1	0	0	195
08:15	206	40	3	4	1	0	0	254	154	29	6	5	1	0	0	195
08:30	207	33	2	6	1	1	0	250	182	43	4	3	9	1	0	242
08:45	186	33	1	0	5	0	0	225	161	31	8	10	1	0	0	211
09:00	168	36	2	4	4	0	0	214	139	30	4	7	0	0	0	180
09:15	119	23	2	6	0	1	0	151	79	27	3	5	0	0	0	114
09:30	120	30	4	3	1	1	0	159	79	19	3	8	2	0	0	111
09:45	92	20	1	3	0	0	1	117	88	32	4	5	1	0	0	130
16:00	167	39	5	3	0	1	0	215	255	65	4	16	1	1	0	342
16:15	157	40	5	6	0	0	0	208	234	54	7	11	3	1	0	310
16:30	221	51	4	3	3	3	0	285	227	65	4	11	2	0	0	309
16:45	165	36	1	5	4	2	0	213	184	37	4	9	2	0	0	236
17:00	213	41	3	4	2	0	0	263	206	33	3	8	2	0	0	252
17:15	177	28	1	1	0	1	0	208	277	24	2	8	0	0	0	311
17:30	162	13	2	2	1	0	0	180	293	35	4	2	0	0	0	334
17:45	162	19	1	3	1	0	0	186	189	21	1	4	1	1	0	217
18:00	128	11	1	1	0	0	0	141	165	23	2	2	4	0	0	196
18:15	107	16	3	0	0	0	0	126	130	13	1	1	2	1	0	148
18:30	99	10	0	4	0	0	0	113	113	14	1	1	1	0	0	130
18:45	97	10	0	1	0	0	0	108	92	19	0	2	0	0	0	113
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	843	178	7	24	7	0	1	1060	426	141	18	19	1	1	0	606
07:15	889	179	9	22	5	0	1	1105	480	157	21	21	1	0	0	680
07:30	876	162	10	19	6	0	1	1074	547	153	22	17	2	0	0	741
07:45	862	156	11	21	4	1	1	1056	618	153	21	16	11	1	0	820
08:00	797	149	11	13	8	1	0	979	634	148	24	24	12	1	0	843
08:15	767	142	8	14	11	1	0	943	636	133	22	25	11	1	0	828
08:30	680	125	7	16	10	2	0	840	561	131	19	25	10	1	0	747
08:45	593	122	9	13	10	2	0	749	458	107	18	30	3	0	0	616
09:00	499	109	9	16	5	2	1	641	385	108	14	25	3	0	0	535
16:00	710	166	15	17	7	6	0	921	900	221	19	47	8	2	0	1197
16:15	756	168	13	18	9	5	0	969	851	189	18	39	9	1	0	1107
16:30	776	156	9	13	9	6	0	969	894	159	13	36	6	0	0	1108
16:45	717	118	7	12	7	3	0	864	960	129	13	27	4	0	0	1133
17:00	714	101	7	10	4	1	0	837	965	113	10	22	3	1	0	1114
17:15	629	71	5	7	2	1	0	715	924	103	9	16	5	1	0	1058
17:30	559	59	7	6	2	0	0	633	777	92	8	9	7	2	0	895
17:45	496	56	5	8	1	0	0	566	597	71	5	8	8	2	0	691
18:00	431	47	4	6	0	0	0	488	500	69	4	6	7	1	0	587

Intelligent Data Collection Limited



Client: PJA
 Project Number: ID06388
 Junction Number: Site 6
 Date of Survey: 31.03.2022
 Junction Name: Gailey Island
 Junction Type: 4-arm Roundabout

Time	Arm B Approach								Arm B Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	90	52	7	18	0	0	0	167	144	48	5	11	2	0	0	210
07:15	94	45	11	24	1	0	0	175	148	54	5	8	0	0	0	215
07:30	96	49	10	18	0	0	0	173	201	43	4	14	0	0	0	262
07:45	102	44	13	20	0	0	0	179	170	58	7	18	0	0	0	253
08:00	120	51	4	18	1	0	0	194	159	37	7	14	0	0	0	217
08:15	121	41	9	13	0	1	0	185	186	42	8	14	0	0	0	250
08:30	120	52	9	21	4	0	0	206	159	40	7	9	0	0	0	215
08:45	142	41	11	14	2	0	0	210	168	32	6	15	3	0	0	224
09:00	92	42	6	13	0	0	0	153	178	39	13	23	2	1	0	256
09:15	77	42	8	17	1	0	0	145	104	39	5	18	0	0	0	166
09:30	75	43	7	20	0	0	0	145	113	38	8	16	0	1	0	176
09:45	66	43	5	19	0	0	0	133	105	34	7	12	0	0	1	159
16:00	191	52	4	27	0	0	0	274	106	32	4	15	1	0	0	158
16:15	201	44	2	15	0	1	0	263	115	32	4	15	0	0	0	166
16:30	199	63	4	14	1	0	0	281	140	42	2	12	1	3	0	200
16:45	197	40	2	19	0	1	0	259	124	42	3	11	2	1	0	183
17:00	171	35	3	11	0	0	0	220	147	28	3	10	1	0	0	189
17:15	183	38	2	20	0	1	0	244	127	27	1	7	0	1	0	163
17:30	179	38	5	10	0	0	0	232	98	17	4	7	0	0	1	127
17:45	162	23	1	4	0	1	0	191	103	18	1	8	0	0	0	130
18:00	129	19	0	15	1	0	0	164	98	14	0	4	0	0	0	116
18:15	144	22	2	7	1	0	0	176	73	7	1	5	0	2	0	88
18:30	139	13	1	6	1	0	0	160	69	10	2	8	0	0	0	89
18:45	111	21	0	4	0	0	0	136	73	9	1	8	0	0	0	91
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	382	190	41	80	1	0	0	694	663	203	21	51	2	0	0	940
07:15	412	189	38	80	2	0	0	721	678	192	23	54	0	0	0	947
07:30	439	185	36	69	1	1	0	731	716	180	26	60	0	0	0	982
07:45	463	188	35	72	5	1	0	764	674	177	29	55	0	0	0	935
08:00	503	185	33	66	7	1	0	795	672	151	28	52	3	0	0	906
08:15	475	176	35	61	6	1	0	754	691	153	34	61	5	1	0	945
08:30	431	177	34	65	7	0	0	714	609	150	31	65	5	1	0	861
08:45	386	168	32	64	3	0	0	653	563	148	32	72	5	2	0	822
09:00	310	170	26	69	1	0	0	576	500	150	33	69	2	2	1	757
16:00	788	199	12	75	1	2	0	1077	485	148	13	53	4	4	0	707
16:15	768	182	11	59	1	2	0	1023	526	144	12	48	4	4	0	738
16:30	750	176	11	64	1	2	0	1004	538	139	9	40	4	5	0	735
16:45	730	151	12	60	0	2	0	955	496	114	11	35	3	2	1	662
17:00	695	134	11	45	0	2	0	887	475	90	9	32	1	1	1	609
17:15	653	118	8	49	1	2	0	831	426	76	6	26	0	1	1	536
17:30	614	102	8	36	2	1	0	763	372	56	6	24	0	2	1	461
17:45	574	77	4	32	3	1	0	691	343	49	4	25	0	2	0	423
18:00	523	75	3	32	3	0	0	636	313	40	4	25	0	2	0	384

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 6

Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Time	Arm C Approach								Arm C Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	80	34	6	5	1	1	0	127	111	22	3	14	1	0	0	151
07:15	95	40	4	6	1	0	0	146	173	25	7	17	1	0	0	223
07:30	129	40	1	10	1	0	0	181	173	25	6	12	3	0	0	219
07:45	149	43	4	8	0	0	0	204	171	37	6	10	1	0	1	226
08:00	135	38	9	8	0	0	0	190	150	28	5	8	1	0	0	192
08:15	155	36	5	9	1	0	0	206	134	32	8	7	1	0	0	182
08:30	145	35	9	7	3	0	0	199	136	33	6	13	1	1	0	190
08:45	119	30	5	13	1	0	0	168	117	21	5	3	1	0	0	147
09:00	125	28	9	15	0	0	0	177	99	27	5	7	1	0	0	139
09:15	80	28	7	10	0	0	0	125	101	17	4	9	1	1	0	133
09:30	72	18	9	13	0	0	0	112	70	24	6	9	0	1	0	110
09:45	84	24	8	10	1	0	0	127	65	20	2	14	0	0	0	101
16:00	134	22	5	12	1	1	0	175	94	23	2	12	0	0	0	131
16:15	159	23	6	12	2	1	0	203	90	28	2	9	2	0	0	131
16:30	129	36	3	8	1	0	0	177	101	28	4	4	1	1	0	139
16:45	124	27	7	9	2	1	0	170	90	18	1	9	1	1	0	120
17:00	174	23	5	10	2	0	0	214	110	20	5	8	2	0	0	145
17:15	220	20	2	7	0	0	0	249	112	20	3	12	0	0	0	147
17:30	230	23	5	5	0	0	0	263	115	15	2	6	1	0	0	139
17:45	135	15	0	5	0	1	0	156	114	9	2	3	0	0	0	128
18:00	126	13	2	0	1	0	0	142	93	7	1	6	0	0	0	107
18:15	88	7	2	3	0	1	0	101	85	11	3	3	0	0	0	102
18:30	76	13	2	5	0	0	0	96	95	9	0	5	0	0	0	109
18:45	80	11	1	4	0	0	0	96	74	7	0	1	0	0	0	82
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	453	157	15	29	3	1	0	658	628	109	22	53	6	0	1	819
07:15	508	161	18	32	2	0	0	721	667	115	24	47	6	0	1	860
07:30	568	157	19	35	2	0	0	781	628	122	25	37	6	0	1	819
07:45	584	152	27	32	4	0	0	799	591	130	25	38	4	1	1	790
08:00	554	139	28	37	5	0	0	763	537	114	24	31	4	1	0	711
08:15	544	129	28	44	5	0	0	750	486	113	24	30	4	1	0	658
08:30	469	121	30	45	4	0	0	669	453	98	20	32	4	2	0	609
08:45	396	104	30	51	1	0	0	582	387	89	20	28	3	2	0	529
09:00	361	98	33	48	1	0	0	541	335	88	17	39	2	2	0	483
16:00	546	108	21	41	6	3	0	725	375	97	9	34	4	2	0	521
16:15	586	109	21	39	7	2	0	764	391	94	12	30	6	2	0	535
16:30	647	106	17	34	5	1	0	810	413	86	13	33	4	2	0	551
16:45	748	93	19	31	4	1	0	896	427	73	11	35	4	1	0	551
17:00	759	81	12	27	2	1	0	882	451	64	12	29	3	0	0	559
17:15	711	71	9	17	1	1	0	810	434	51	8	27	1	0	0	521
17:30	579	58	9	13	1	2	0	662	407	42	8	18	1	0	0	476
17:45	425	48	6	13	1	2	0	495	387	36	6	17	0	0	0	446
18:00	370	44	7	12	1	1	0	435	347	34	4	15	0	0	0	400

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 6

Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Time	Arm D Approach								Arm D Exit							
	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	107	32	0	8	0	0	0	147	91	61	5	7	0	0	0	164
07:15	107	28	4	6	0	0	0	145	107	58	4	9	1	0	0	179
07:30	171	31	7	7	0	0	0	216	132	48	4	9	1	0	0	194
07:45	138	42	5	7	0	0	0	192	154	38	5	13	0	0	0	210
08:00	120	24	2	5	0	0	0	151	127	46	2	6	0	0	0	181
08:15	139	26	8	5	0	0	0	178	147	40	3	5	0	1	0	196
08:30	138	36	2	3	3	1	0	183	133	40	5	12	1	0	0	191
08:45	122	23	6	8	0	0	0	159	123	43	4	7	3	0	0	180
09:00	139	20	7	10	0	1	0	177	108	30	2	5	1	0	0	146
09:15	87	25	1	9	0	0	0	122	79	35	6	10	0	0	0	130
09:30	78	28	3	6	2	1	0	118	83	38	6	9	1	0	0	137
09:45	81	27	2	4	0	0	0	114	65	28	3	5	0	0	0	101
16:00	77	30	1	9	1	0	0	118	114	23	5	8	0	1	0	151
16:15	84	38	3	11	3	0	0	139	162	31	3	9	0	1	0	206
16:30	94	34	1	6	0	2	0	137	175	49	2	4	1	1	0	232
16:45	100	31	0	7	0	0	0	138	188	37	2	11	1	2	0	241
17:00	127	23	0	6	1	0	0	157	222	41	0	5	0	0	0	268
17:15	143	21	2	4	0	0	0	170	207	36	1	5	0	1	0	250
17:30	108	21	0	2	0	0	1	132	173	28	2	4	0	0	0	207
17:45	113	16	2	5	1	0	0	137	166	25	0	2	1	1	0	195
18:00	99	15	0	5	2	0	0	121	126	14	0	9	0	0	0	149
18:15	91	6	0	2	1	2	0	102	142	20	2	3	0	0	0	167
18:30	79	7	1	1	0	0	0	88	116	10	1	2	0	0	0	129
18:45	61	10	0	5	0	0	0	76	110	17	0	3	0	0	0	130
Start Time	Rolling Hour							Total	Rolling Hour							Total
07:00	523	133	16	28	0	0	0	700	484	205	18	38	2	0	0	747
07:15	536	125	18	25	0	0	0	704	520	190	15	37	2	0	0	764
07:30	568	123	22	24	0	0	0	737	560	172	14	33	1	1	0	781
07:45	535	128	17	20	3	1	0	704	561	164	15	36	1	1	0	778
08:00	519	109	18	21	3	1	0	671	530	169	14	30	4	1	0	748
08:15	538	105	23	26	3	2	0	697	511	153	14	29	5	1	0	713
08:30	486	104	16	30	3	2	0	641	443	148	17	34	5	0	0	647
08:45	426	96	17	33	2	2	0	576	393	146	18	31	5	0	0	593
09:00	385	100	13	29	2	2	0	531	335	131	17	29	2	0	0	514
16:00	355	133	5	33	4	2	0	532	639	140	12	32	2	5	0	830
16:15	405	126	4	30	4	2	0	571	747	158	7	29	2	4	0	947
16:30	464	109	3	23	1	2	0	602	792	163	5	25	2	4	0	991
16:45	478	96	2	19	1	0	1	597	790	142	5	25	1	3	0	966
17:00	491	81	4	17	2	0	1	596	768	130	3	16	1	2	0	920
17:15	463	73	4	16	3	0	1	560	672	103	3	20	1	2	0	801
17:30	411	58	2	14	4	2	1	492	607	87	4	18	1	1	0	718
17:45	382	44	3	13	4	2	0	448	550	69	3	16	1	1	0	640
18:00	330	38	1	13	3	2	0	387	494	61	3	17	0	0	0	575

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 6
Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Total Junction Flow								
Time	Cars	LGV	OGV1	OGV2	Buses	M/C	Cycle	Total
07:00	429	160	16	36	4	1	0	646
07:15	515	170	21	43	2	0	0	751
07:30	617	159	19	39	4	0	0	838
07:45	640	169	23	43	1	0	1	877
08:00	573	156	20	34	2	0	0	785
08:15	621	143	25	31	2	1	0	823
08:30	610	156	22	37	11	2	0	838
08:45	569	127	23	35	8	0	0	762
09:00	524	126	24	42	4	1	0	721
09:15	363	118	18	42	1	1	0	543
09:30	345	119	23	42	3	2	0	534
09:45	323	114	16	36	1	0	1	491
16:00	569	143	15	51	2	2	0	782
16:15	601	145	16	44	5	2	0	813
16:30	643	184	12	31	5	5	0	880
16:45	586	134	10	40	6	4	0	780
17:00	685	122	11	31	5	0	0	854
17:15	723	107	7	32	0	2	0	871
17:30	679	95	12	19	1	0	1	807
17:45	572	73	4	17	2	2	0	670
18:00	482	58	3	21	4	0	0	568
18:15	430	51	7	12	2	3	0	505
18:30	393	43	4	16	1	0	0	457
18:45	349	52	1	14	0	0	0	416
Start Time	Rolling Hour							Total
07:00	2201	658	79	161	11	1	1	3112
07:15	2345	654	83	159	9	0	1	3251
07:30	2451	627	87	147	9	1	1	3323
07:45	2444	624	90	145	16	3	1	3323
08:00	2373	582	90	137	23	3	0	3208
08:15	2324	552	94	145	25	4	0	3144
08:30	2066	527	87	156	24	4	0	2864
08:45	1801	490	88	161	16	4	0	2560
09:00	1555	477	81	162	9	4	1	2289
16:00	2399	606	53	166	18	13	0	3255
16:15	2515	585	49	146	21	11	0	3327
16:30	2637	547	40	134	16	11	0	3385
16:45	2673	458	40	122	12	6	1	3312
17:00	2659	397	34	99	8	4	1	3202
17:15	2456	333	26	89	7	4	1	2916
17:30	2163	277	26	69	9	5	1	2550
17:45	1877	225	18	66	9	5	0	2200
18:00	1654	204	15	63	7	3	0	1946

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Junction Number: Site 6

Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: A5 (E)

Arm C: A449 Stafford Road (S)
Arm D: A5 (W)

PCU Summary																
Time	A to A	A to D	A to C	A to B	B to B	B to A	B to D	B to C	C to C	C to B	C to A	C to D	D to D	D to C	D to B	D to A
07:00	0	63	106	47	0	26	109	60	0	67	66	4	0	6	115	37
07:15	0	75	162	58	3	34	106	70	0	69	75	13	0	18	98	39
07:30	0	73	161	42	1	20	119	61	0	84	96	16	1	18	155	55
07:45	1	96	158	59	1	28	118	64	1	89	111	16	0	19	131	53
08:00	0	83	127	48	1	54	100	65	2	91	105	7	0	12	99	48
08:15	1	90	116	54	0	41	102	63	0	94	116	11	1	17	124	47
08:30	2	86	124	47	1	63	107	71	0	78	120	18	0	15	104	71
08:45	2	66	96	67	1	66	117	51	0	90	89	9	2	7	92	72
09:00	1	66	93	65	1	46	77	49	2	99	89	11	1	8	130	54
09:15	0	44	80	35	2	23	94	53	0	75	59	8	0	14	80	40
09:30	1	49	69	46	0	30	96	48	0	69	58	7	0	7	85	37
09:45	2	34	56	29	1	30	69	60	1	69	69	6	0	4	78	38
16:00	1	69	100	51	0	186	85	41	0	48	137	9	0	7	82	42
16:15	0	88	93	38	1	128	113	41	0	59	147	17	1	12	89	56
16:30	2	101	108	81	2	153	116	30	1	46	122	21	0	7	87	50
16:45	1	87	88	47	0	102	147	35	0	54	112	20	1	10	99	37
17:00	1	112	110	48	0	56	137	43	0	51	158	23	2	7	106	51
17:15	0	78	99	33	0	54	160	56	0	55	186	18	0	10	84	82
17:30	2	66	95	22	0	67	133	48	1	50	207	14	1	5	66	62
17:45	0	75	86	31	0	47	113	36	2	38	113	9	1	9	73	63
18:00	1	54	64	24	1	46	96	42	0	29	105	10	0	10	67	52
18:15	1	50	62	15	1	35	114	37	0	24	74	7	1	9	53	41
18:30	0	40	60	19	1	34	85	49	0	35	62	7	0	7	46	37
18:45	0	35	47	27	0	26	85	30	1	28	59	14	0	5	47	31
Start Time	Rolling Hour															
07:00	1	307	587	206	5	108	451	256	1	310	347	48	1	61	499	184
07:15	1	326	608	207	6	136	443	261	3	334	386	51	1	67	482	195
07:30	2	341	563	203	3	143	439	254	3	359	428	49	2	66	508	204
07:45	4	354	525	208	3	186	427	264	3	353	452	51	1	63	457	220
08:00	5	325	463	216	3	224	426	251	2	354	431	44	3	51	418	238
08:15	6	308	429	233	3	216	402	235	2	361	415	48	4	47	449	245
08:30	5	262	393	213	5	198	395	225	2	341	358	45	3	44	406	237
08:45	4	226	337	212	4	165	384	202	2	332	296	35	3	36	387	202
09:00	4	194	297	175	4	129	336	210	3	311	276	31	1	33	374	169
16:00	4	346	388	216	3	568	462	147	1	207	518	67	2	36	357	185
16:15	4	389	399	214	3	439	514	149	1	211	539	81	4	36	381	194
16:30	4	379	405	208	2	365	561	164	1	206	578	82	3	34	376	221
16:45	4	343	392	150	0	279	578	181	1	210	663	75	4	32	355	233
17:00	3	331	390	133	0	224	543	182	3	193	664	64	4	31	328	258
17:15	3	273	343	109	1	214	503	181	3	171	612	51	2	34	290	259
17:30	4	245	306	91	2	195	456	162	3	141	500	40	3	33	259	218
17:45	2	219	270	88	3	162	408	163	2	126	354	33	2	35	240	192
18:00	2	179	232	85	3	141	380	158	1	116	300	38	1	31	213	161

Intelligent Data Collection Limited

Client: PJA
Project Number: ID06388
Junction Number: Site 6

Date of Survey: 31.03.2022
Junction Name: Gailey Island
Junction Type: 4-arm Roundabout

Arm A: A449 Wolverhampton Road (N)
Arm B: A5 (E)

Arm C: A449 Stafford Road (S)
Arm D: A5 (W)



Count Method: Vehicles Classes Included: All Classes *Select the count method and desired user classes from the drop-downs in cells D8 and G8*

Maximum 15-minute Junction Flow:

AM Peak	from:	07:45	until:	08:00	flow:	877
PM Peak	from:	16:30	until:	16:45	flow:	880

Period Starting: 07:00 *Select the time from the drop-down in cell D15 to show the 15-minute data for that period*

Movement Counts

		To				Total
From		A	B	C	D	
	A	0	45	101	59	205
	B	22	0	44	101	167
	C	65	58	0	4	127
	D	34	107	6	0	147
Total		121	210	151	164	646

HGV Proportions

		To				Total
From		A	B	C	D	
	A	0.0%	4.4%	4.0%	8.5%	5.4%
	B	18.2%	0.0%	31.8%	6.9%	15.0%
	C	3.1%	17.2%	0.0%	0.0%	9.4%
	D	5.9%	5.6%	0.0%	0.0%	5.4%
Total		6.6%	8.6%	11.9%	7.3%	8.7%

Maximum Hourly Junction Flow:

AM Peak	from:	07:30	until:	08:30	flow:	3323
PM Peak	from:	16:30	until:	17:30	flow:	3385

Period Starting: 07:00 *Select the time from the drop-down in cell D31 to show the hourly data for that period*

Movement Counts

		To				Total
From		A	B	C	D	
	A	1	196	564	299	1060
	B	4	193	402	694	694
	C	339	273	1	45	658
	D	171	467	61	1	700
Total		606	940	819	747	3112

HGV Proportions

		To				Total
From		A	B	C	D	
	A	0.0%	4.6%	3.7%	2.7%	3.6%
	B	15.8%	25.0%	31.1%	11.4%	17.6%
	C	2.9%	12.1%	0.0%	8.9%	7.1%
	D	7.6%	6.6%	0.0%	0.0%	6.3%
Total		6.3%	7.9%	9.9%	7.8%	8.1%

Bold entries in the above tables indicate the maximum movement, approach and exit flows for the selected time period, and similarly with the HGV proportions



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 1a
Date of Survey:	31.03.2022
Junction Name:	A449 Stone Cross / Pinfold Lane
Survey Type:	Queue Length Survey

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkrigde - Queue Site 1a - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 1a
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Pinfold Lane
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.726061	-2.116314	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)

Any shaded entries indicate where queues reach the extent of the camera view.



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 1b
Date of Survey:	31.03.2022
Junction Name:	A449 Stone Cross / Crown Bridge
Survey Type:	Queue Length Survey

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkrige - Queue Site 1b - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 1b
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Crown Bridge
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.725572	-2.116193	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 1c
Date of Survey:	31.03.2022
Junction Name:	A449 / St Michael's Square
Survey Type:	Queue Length Survey

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkrigde - Queue Site 1c - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 1c
Date of Survey: 31.03.2022
Junction Name: A449 / St Michael's Square
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.725076	-2.116084	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 2a
Date of Survey:	31.03.2022
Junction Name:	A449 Wolverhampton Road / New Road
Survey Type:	Queue Length Survey



Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - Queue Site 2a - 31.03.2022			

[illegible]

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 2a
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / New Road
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.723859	-2.115881	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)

The shaded entries for Lane B1 are when the queues reach back through and past Site 5b. When this occurs the complete queue is assigned to Site 2a and not Site 5b, which is not the cause.



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 3a
Date of Survey:	31.03.2022
Junction Name:	Cannock Road / B5012 Wolgarston Way
Survey Type:	Queue Length Survey



Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 PenkrIDGE - Queue Site 3a - 31.03.2022			

[illegible]

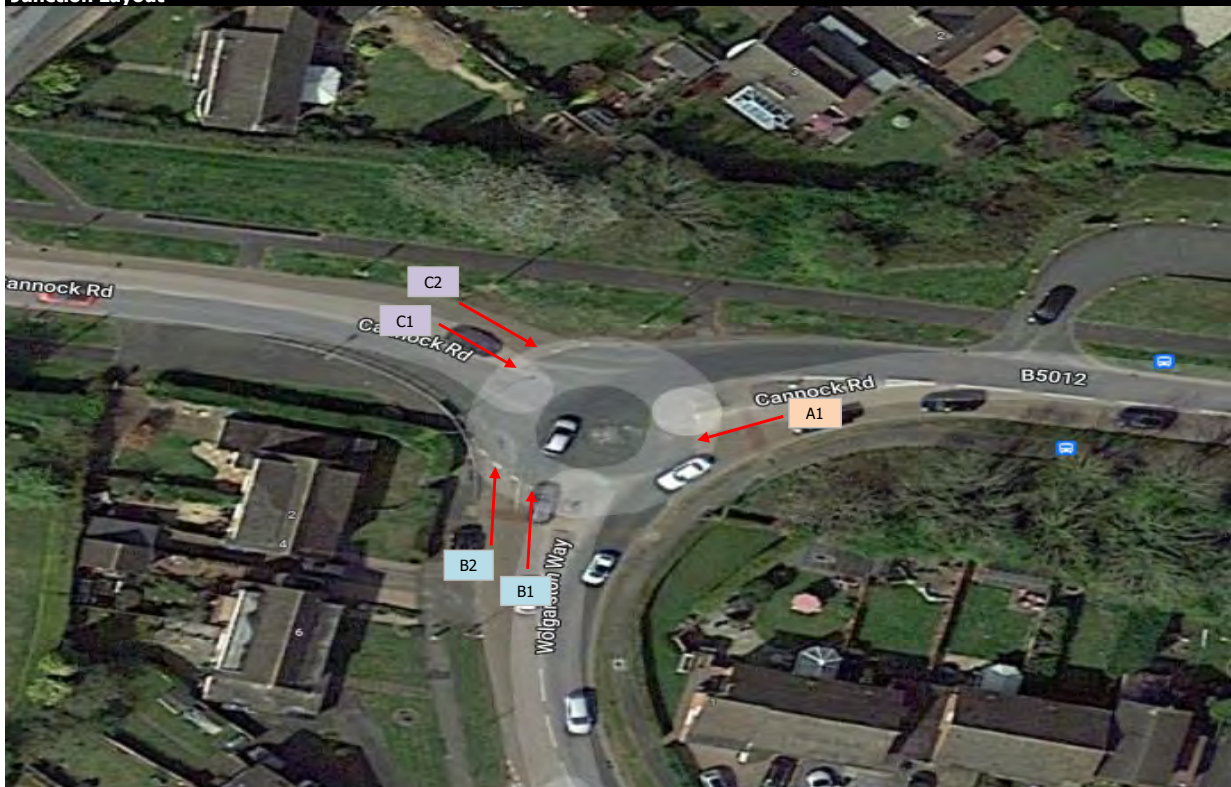
Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 3a
Date of Survey: 31.03.2022
Junction Name: Cannock Road / B5012 Wolgarston Way
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.723412	-2.103288	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)

Any shaded entries indicate where queues reach the extent of the camera view.

This image shows a large, dense grid of small, illegible text blocks, likely representing a data table or a collection of micro-text samples. The grid is composed of many rows and columns of small, dark, rectangular blocks, each containing text that is too small to be read. The overall appearance is that of a high-resolution scan of a document page filled with text.

A large grid of small squares, likely representing a microarray or a similar experimental design.



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 3b
Date of Survey:	31.03.2022
Junction Name:	A449 Stone Cross / Penkridge Market Access
Survey Type:	Queue Length Survey

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkrige - Queue Site 3b - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 3b
Date of Survey: 31.03.2022
Junction Name: A449 Stone Cross / Penkridge Market Access
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.727111	-2.116494	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 4a
Date of Survey:	31.03.2022
Junction Name:	A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Survey Type:	Queue Length Survey



Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkridge - Queue Site 4a - 31.03.2022			

[illegible]

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 4a
Date of Survey: 31.03.2022
Junction Name: A449 Wolverhampton Road / B5012 Boscomoor Lane / Bungham Lane
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.718162	-2.118087	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)

Any shaded entries indicate where queues reach the extent of the camera view.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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[illegible]



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 4b
Date of Survey:	31.03.2022
Junction Name:	A449 Wolverhampton Road / St Michael's Road
Survey Type:	Queue Length Survey



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 5a
Date of Survey:	31.03.2022
Junction Name:	M6 Junction 13
Survey Type:	Queue Length Survey

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkrige - Queue Site 5a - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 5a
Date of Survey: 31.03.2022
Junction Name: M6 Junction 13
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.763749	-2.107943	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 5b
Date of Survey:	31.03.2022
Junction Name:	New Road / Market Place / Cannock Road
Survey Type:	Queue Length Survey

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	10.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkrige - Queue Site 5b - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 5b
Date of Survey: 31.03.2022
Junction Name: New Road / Market Place / Cannock Road
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.724550	-2.112711	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)



Intelligent Data Collection Limited Penkridge

Client:	PJA
Project Number:	ID06388
Site Number:	Site 6
Date of Survey:	31.03.2022
Junction Name:	Gailey Island
Survey Type:	Queue Length Survey

Quality Assurance and Issue Record



Quality Assurance

Revision	Rev A			
Date	07.04.2022			
Prepared by	Richard Collins			
Signature				
Checked by	Luke Martin			
Signature				
Project Director	Paul O'Neill			
Signature				
Project Number	ID06388			
File Ref	ID06388 Penkrigde - Queue Site 6 - 31.03.2022			

Issue Record

Issued to	Date			
	11.04.2022			
Beth Street	E-mail			

Intelligent Data Collection Limited



Client: PJA
Project Number: ID06388
Site Number: Site 6
Date of Survey: 31.03.2022
Junction Name: Gailey Island
Survey Type: Queue Length Survey

X Coordinate	Y Coordinate	Google Maps Link
52.693134	-2.131486	Click Here
AM Peak Conditions	PM Peak Conditions	
Snow Showers	Showers	

Junction Layout



Queue Length Methodology

The snapshot queue length, in vehicles, is reported by lane for each five-minute period.

These are segregated into 'light' and 'heavy' vehicles, and are then presented as a snapshot queue length using the assumption that a light vehicle contributes 6m to a queue and a heavy vehicle 15m. These values can be updated by the user.

Vehicle Length Assumptions (metres)

Lights	Heavies
6	15

Additional Notes (Factors which may impact on survey results such as accidents, roadworks, special events)

Any shaded entries indicate where queues reach the extent of the camera view.



Appendix J Demand Management Technical Note

Technical Note

Project: Land North of Penkridge

Subject: Mitigation – Demand Management Methodology

Client:	St Philips & Bloor Homes	Version:	A
Project No:	6161	Author:	LW
Date:	27 May 2022	Approved:	SB

I Introduction

- 1.1.1 This technical note sets out the methodology undertaken to quantify the impact of active travel mitigation interventions.
- 1.1.2 This note should be read in conjunction with the Strategic Transport Assessment prepared by PJA to support the Land North of Penkridge site allocation within the South Staffordshire Local Plan.

2 Penkridge Station Trips

- 2.1.1 As part of the active travel strategy for the site, it is proposed to provide improved cycle infrastructure along the A449 and Pinfold Lane, St Michaels Square and Church Lane to provide a direct, high quality route between the proposed development and Penkridge train station. As a result of these improvements the accessibility of the station, and subsequent mode share for trips made by train is considered to improve significantly.
- 2.1.2 The anticipated increase in train trips has been calculated based on information within the TDM, as follows:
 - Destinations with a direct service from Penkridge station have been identified;
 - The proportion of journeys to work from the site that end within 1km of an identified station has been extracted from the TDM and summarised in Table 12-1.

- This proportion has been applied to the total vehicle trip generation for employment journey purposes to understand the actual number of vehicle trips that could be undertaken by train, and to which station they would travel.
- This station trip generation has then been applied to the TDM zone network to understand the percentage of trips at each zone that could travel by train.
- A 50% mode shift has been applied to the number of vehicle trips that could be undertaken by train. This is on the basis that not everyone that can travel by train will choose to do so.
- The result then been applied to the vehicle trip generation and distribution to understand the actual number of trips and the distribution.

Table 2-1: Percentage of Employment Trips within 1km of a station

Station	Zone	Employment Trips %
Stafford	1 & 4	9%
Stone	1	1%
Longport	1	0%
Stoke on Trent	1	1%
Wolverhampton	15	5%
Smethwick Galton	18	1%
Birmingham New Street	18	1%
Kidsgrove	1	0%

2.1.3 The resultant reduction in vehicle trips between the development and zones that route towards a station is set out below.

Table 2-2: Reduction in Vehicle Trips as a result of Active Travel Interventions to Penkridge Train Station

Zone	AM Peak Hour			PM Peak Hour		
	Arrivals	Departures	Total	Arrivals	Departures	Total
1	-4	-12	-16	-8	-4	-12
2	0	0	0	0	0	0
3	-1	-2	-3	-1	-1	-2
4	-1	-2	-3	-1	-1	-2
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	-2	-7	-9	-5	-2	-7
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	-1	-1	0	0	-1
Total	-8	-24	-32	-16	-8	-24

3 Penkridge Village Centre Trips

3.1 Overview

3.1.1 As part of the active travel strategy for the site, it is proposed to provide improved cycle infrastructure along the A449 to provide a direct, high quality route between the proposed development and Penkridge village centre. As a result of this improvement, the cycling mode share to destinations within Penkridge is anticipated to improve significantly, compared to the 2011 baseline figure of 2.4%.

3.1.2 The anticipated cycle mode share, and resultant reduction in vehicle trips, for journeys between the development site and Penkridge, has been calculated based on a combination of information derived from the TDM and the Propensity to Cycle Tool (PCT).

3.2 Propensity to Cycle Tool

3.2.1 The PCT provides an evidence base to inform cycling investment based upon the likely uptake of cycling at MSOA/LSOA level. Based on 2011 census data, it provides details of baseline levels of cycling as well as a range of anticipated future scenarios to represent the likely increase in cycling in these areas. For the purposes of this assessment, the 'Base' and 'Go Dutch' scenarios have been utilised:

Base

- Based on the 2011 Census data, for commuter origin destination trips for those living in England and Wales in 2011. The MSOA layer of the PCT is derived from origin-destination pairs between MSOAs.
- A number of additional datasets were merged with the initial origin-destination dataset to enhance the data, including income deprivation, urban-rural status and sparsity,.
- Estimated Distance and Gradient of the 'fastest' routes between the origin and destination using information available at CycleStreets.net, with gradient measured as a percentage corresponding to the average slope experiences along the course of the route
- Background Mortality Rate stratified by age category, sex, and home local authority
- Car Ownership and Ethnicity sourced from appropriate 2011 Census datasets

Government Target (equality)

- Assumes cycling uptake will double nationally, corresponding with the DfT target stated in the draft Cycling Delivery Plan to double cycling in England between 2013 and 2025.
- Assumes the doubling will occur equally across all socio-demographic groups and therefore is based solely on trip distance and hilliness.

Government Target (near market)

- Assumes cycling uptake will double nationally, corresponding with the DfT target stated in the draft Cycling Delivery Plan to double cycling in England between 2013 and 2025.
- Models the increase based on trip distance and hilliness but also assumes the doubling will occur differently depending on socio-demographic factors. For example, if there are a greater number of younger men residing in a location, but a below-average current cycling mode share, the amount of people cycling is anticipated to more than double.

Gender Equality

- Assumes that male propensity to cycle remains the same as recorded in the 2011 Census and that female propensity will rise to match male cycling rates, with no consideration given to distance or hilliness.
- Only has a significant difference in percentage uptake where there is an existing large disparity between male and female cycling rates, furthermore if there is no cycling commuting trips in the location, there will be no increase anticipated.

Go Dutch

- Assumes that in the future English cycling infrastructure and attitudes to cycling may equal that of Dutch infrastructure and attitudes, but retains the original distance and hilliness from

baseline levels of cycling. This means that in some cases the Go Dutch scenario may show a decrease in cycling uptake compared to the baseline, such as in an areas with an existing high cycle mode share.

E-bike

- Assumes that an increase in cycling could be achieved through the widespread uptake of electric bikes.
- Adds to the Go Dutch scenario whereby it assumes that all cyclists accounted for in the Go Dutch scenario also own an E-bike, therefore assuming that these cyclists will be more likely to travel greater distances and on hillier routes.
- Scenario is considered most effective to represent the potential cycling uptake in particularly hilly areas or those areas that are of a greater distance from workplaces such as rural areas.

Table 3-1: PCT Outputs - South Staffordshire 001 Commuting Trips (Internal)

Scenario	Cycle Mode Share	Increase in cycle mode share from base
2011 Base	2.4%	-
Government Target	8.2%	+5.8%
Government Near Market	8.8%	+6.4%
Gender Equality	3.9%	+1.5%
Go Dutch	39.9%	+37.5%
E-Bike	44.3%	+41.9%

3.2.2 In terms of the difference in percentage uptake, the list of future scenarios outlined above generally runs in ascending order, with the government target scenarios representing the smallest increase in cycle mode share and the e-bike scenario showing the largest increase in mode share.

3.3 Methodology

1.1.1 PCT data for the Go Dutch scenario has been used in this assessment as it is considered that this provides the most realistic and appropriate estimate of likely uplift in cycling following implementation of a direct, high quality route between the proposed development and Penkridge village centre and softer behaviour change methods through the Travel Plan for the site.

1.1.2 The 2011 Base and Go Dutch scenario has been downloaded at MSOA level to identify the percentage of the population travelling to work by bike within South Staffordshire 001 MSOA in

each scenario. The assessment was restricted to only this O-D pair as the South Staffordshire 001 MSOA wholly covers the area within 8km of the site.

3.3.1 The revised mode share for journeys between the site and Penkridge village centre (zone 7) has been calculated as follows:

- 1 Mode share data extracted from PCT for journeys within South Staffordshire 001 MSOA;
- 2 Percentage increase in cycle trips between 2011 Baseline and Go Dutch scenario calculated for specific OD pair (31.7% increase);
- 3 Corresponding percentage reduction calculated across non-cycling modes;
- 4 Forecast percentage reduction in car driver trips applied to outputs from TDM for employment and non-food retail trips to/from the development site and Zone 7 (Penkridge Village Centre).

3.3.2 For the purposes of this assessment, it is assumed that trips would transfer to cycling from all modes apart from walking and train (Step 3) The level of reduction in non-cycling modes has been calculated on a proportionate basis.

Table 3-2: Revised Mode Share - Journeys Between Proposed Development and Zone 7

Mode	2011 Base Mode Share	Revised Mode Share	% Change
Walk	26.0%	26.0%	0.0%
Cycle	2.4%	39.9%	+37.5%
Car Driver	60.6%	28.6%	-32.0%
Car Passenger	7.9%	3.7%	-4.2%
Motorbike	0.6%	0.3%	-0.3%
Train	0.6%	0.6%	0.0%
Bus	1.7%	0.8%	-0.9%
Other	0.3%	0.2%	-0.2%
Total	100.0%	100.0%	-

3.3.3 The forecast 32% reduction in vehicle trips between the development and zone 7 have been applied to the employment and retail (non-food) trip generation. The reduction in total vehicle trip generation, by destination zone is set out below.

Table 3-3: Reduction in Vehicle Trips as a result of Active Travel Interventions to Penkridge Village Centre

Zone	AM Peak Hour			PM Peak Hour		
	Arrivals	Departures	Total	Arrivals	Departures	Total
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	-9	-25	-33	-25	-12	-37
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
Total	-9	-24	-33	-25	-12	-37

Combined Impact

- 1.1.3 The impact of mode shift on town centre and train station trips have been combined and total development flows revised. The revised development travel demand is summarised in Table 12-6 below.

Table 3-4: Reduction in Vehicle Trips as a result of Combined Active Travel Interventions

Zone	AM Peak Hour			PM Peak Hour		
	Arrivals	Departures	Total	Arrivals	Departures	Total
1	-4	-12	-16	-8	-4	-12
2	0	0	0	0	0	0
3	-1	-2	-3	-1	-1	-2
4	-1	-2	-3	-1	-1	-2
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	-9	-25	-33	-25	-12	-37
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	-2	-7	-9	-5	-2	-7
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	-1	-1	0	0	-1
Total	-17	-48	-65	-41	-19	-60

1.1.4 The resultant total development trip generation and distribution is summarised in Table 12—7 below.

Table 3-5: Revised Development Vehicle Trip Generation and Distribution

Zone	AM Peak Hour			PM Peak Hour		
	Arrivals	Departures	Total	Arrivals	Departures	Total
1	9	26	36	18	9	26
2	20	57	76	63	30	93
3	13	36	49	24	12	36
4	1	3	5	2	1	3
5	1	2	3	1	1	2
6	10	29	39	20	9	29
7	31	90	121	92	44	136
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	19	55	74	42	20	63
11	0	0	0	0	0	0
12	2	7	9	4	2	7
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	16	45	60	37	18	55
16	0	0	0	0	0	0
17	0	1	1	0	0	1
18	4	12	16	8	4	12
Total	127	363	489	313	150	463

- 1.1.5 Overall, the active travel interventions result in a reduction of in vehicle trips of 11.7% and 11.5% in the AM and PM peaks respectively.

4 Summary

- 4.1.1 This technical note has sets out the methodology undertaken to quantify the reduction in vehicle trips likely as a result of the active travel mitigation interventions proposed.
- 4.1.2 Overall, it is estimated that the active travel interventions will result in a reduction of 11.7% and 11.5% of development trips in the AM and PM peaks respectively.