

**Colnbrook By-Pass
Harmondsworth
West Drayton
UB7 0FX**

51.483918, -0.485311

Transport Assessment

**S25-240/TA
May 2026**

Prepared by :

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1.0 Introduction

As acting consultants for Three Sixty Design Solutions, Southwest Environmental Limited is to assemble a Transport Statement with regards to the proposed development at Colnbrook Immigration Removal Center.

1.1 Context

The Colnbrook Immigration Removal Centre is a high-security facility situated off the A4 Colnbrook By-Pass.

Due to its location in a PTAL 1b zone, the site is characterised by low public transport accessibility, which necessitates private vehicle use for a significant proportion of the workforce.

Consequently, the current formal parking provision is insufficient to meet demand, and the addition of new parking spaces is required to formalize existing vehicle volumes and ensure the continued safe operation of the facility.

1.2 Scope

The scope of this transport statement will cover the following factors;

- Terms of Reference
- Legislative Background
- Baseline Trip Survey
- Proposed Additional Trips
- Road Layout Improvements



1.3 Legislation & Policy

Transport Planning Policy has moved from an era of “predict and provide” to “restrained growth”. The SACTRA Report 1994 highlighted the need to move away from unrestrained road traffic growth.

The 1994 SACTRA report, titled "Trunk Roads and the Generation of Traffic," was a seminal study that examined the relationship between new road construction and traffic generation. The report found that new roads do indeed generate traffic, and that this induced traffic can offset some or all of the benefits of the new road. The report's findings have had a significant impact on transportation policy in the UK and around the world.

The SACTRA report was commissioned by the UK Department of Transport in response to growing concerns about the environmental impacts of road construction. The report's authors reviewed a wide range of evidence, including both theoretical and empirical studies, and concluded that there was a "clear consensus" that new roads generate traffic.

The report found that the amount of induced traffic depends on a number of factors, including the location of the new road, the type of road, and the amount of existing traffic. However, the report also found that induced traffic is typically significant, and that it can offset some or all of the benefits of the new road.

The SACTRA report's findings have had a significant impact on transportation policy in the UK and around the world. The UK government has adopted a policy of investing in public transportation rather than new roads, and many other countries have followed suit.

The SACTRA report is a valuable resource for anyone who is interested in the relationship between transportation and the environment. The report's findings are clear and well-supported, and they have had a significant impact on transportation policy. From this report and others a number of legislative drivers were established;

1.3.1 Road Traffic Reduction Act 1997

The Road Traffic Reduction Act 1997 introduced the concept of local targets for road traffic reduction but did not identify specific figures; local authorities are expected to set their own targets for reducing either existing levels of traffic, or the anticipated growth of traffic, on local roads.

The Act was introduced in response to concerns about the increasing levels of road traffic in the UK. It placed a duty on local authorities to prepare local transport plans that included measures to reduce road traffic. The Act also gave local authorities powers to introduce a range of traffic management measures, such as traffic calming schemes and road pricing schemes.

The Act has been successful in reducing road traffic in some areas. However, it has also been criticized for being too bureaucratic and for not having done enough to reduce traffic in other areas.



The Road Traffic Reduction Act 1997 is a complex piece of legislation that has had a significant impact on transport policy in the UK. It is important to note that the Act is only one of a number of factors that have influenced the levels of road traffic in the UK. Other factors include changes in the economy, population growth, and technological developments.

1.3.2 The Traffic Management Act 2004

The TMA places a duty on local authorities to make sure traffic moves freely and quickly on their roads and the roads of nearby authorities. The TMA gives councils more tools to manage parking policies, coordinate street works and enforce some moving traffic offences.

The Traffic Management Act 2004 is an Act of Parliament of the United Kingdom that sets out how road networks should be managed by local authorities and includes regulations for roadworks. The Act came into force on 1 April 2004 and has been amended several times since then.

The Act is divided into 14 parts, which cover a wide range of topics, including:

- The designation of traffic officers and their duties
- The management of road networks
- The regulation of the carrying out of works and other activities in the street
- The civil enforcement of traffic contraventions
- The amendment of other legislation

The Act is a complex piece of legislation, but it is an important tool for local authorities in managing their road networks. The Act has been used to introduce a number of new measures to improve road safety and traffic flow, such as variable speed limits and bus lanes.

Here are some of the key provisions of the Act:

- Local authorities have a duty to make sure that traffic moves freely and quickly on their roads and the roads of nearby authorities.
- Local authorities can use a variety of measures to manage traffic, including traffic signs, traffic signals, and road markings.
- Local authorities can also use traffic regulation orders to control traffic, such as by introducing one-way streets or banning certain types of vehicles from certain roads.
- Local authorities can appoint traffic officers to enforce traffic law.
- Traffic officers have a number of powers, including the power to stop and search vehicles and issue fixed penalty notices.
- Local authorities can also use civil enforcement officers to enforce traffic contraventions.
- Civil enforcement officers can issue parking tickets and fixed penalty notices for a range of traffic offences.



- The Traffic Management Act 2004 is an important piece of legislation that has helped to improve road safety and traffic flow in the United Kingdom.

1.3.4 Planning Policy Guidance & NPPF

The NPPF Section 9 (Promoting Sustainable Transport) provides the framework for assessing transport and parking¹. Relevant paragraphs are summarised below:

Paragraph 112: *When setting local parking standards, policies should take into account:*

- (a) *the accessibility of the development;*
- (b) *the type, mix and use of development;*
- (c) *the availability of and opportunities for public transport.*

Paragraph 115: *In assessing specific applications for development, it should be ensured that:*

- (b) *safe and suitable access to the site can be achieved for all users;*
- (d) *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated.*

Paragraph 116: *“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, following mitigation, would be severe...”*

Paragraph 117: *Applications for development should:*

- (c) *create places that are safe, secure and attractive - which minimise the scope for conflicts between pedestrians, cyclists and vehicles...*
- (d) *allow for the efficient delivery of goods, and access by service and emergency vehicles.*

1.3.5 Local Policy

The Hillingdon Local Plan: Part 2 was adopted in 2020, which includes the specific relevant policy: DMT 6 (Vehicle Parking)². With respect to operational site access and vehicle demand management at the Colnbrook IRC, the following is noted:

1.3.5.1 Policy DMT 6 (A)

Policy DMT 6 (A) states that:

“Development proposals must comply with the parking standards transport set out in Appendix B. The Council will take into account the role of the individual development in the context of the wider area and the nature of the use.”

¹<https://www.gov.uk/guidance/national-planning-policy-framework/9-promoting-sustainable-transport>

²https://drive.usercontent.google.com/download?id=1Wp6lZ8G0bDAGXvdO8GfVgBidTrqMdWKH&authuser=0&acrobatsPromotionSource=gdrive_chrome-list



In accordance with Policy DMT 6 and the NPPF, a site-specific approach to parking provision is utilised. The justification for the proposed capacity is based on the following operational criteria:

- Staff and Resident Numbers: The 24-hour operational cycle of the secure facility requires staffing levels that exceed the standard parking ratios typically applied to residential facilities.
- Operational Vehicle Numbers: The site requires unobstructed access for secure transport coaches and heavy goods vehicles (HGVs). Current parking levels result in the use of informal areas, which impacts designated vehicle tracking and logistics routes.
- Facility Location: Due to the site's isolated location and secure perimeter, all vehicle demand must be accommodated within the site boundary to maintain operational integrity.

1.3.6 Accessibility and Walking Distances

The CIHT (2000) "Guidelines for Providing for Journeys on Foot" establish specific distance thresholds for commuting on foot³. These are defined as:

- Desirable: 500m
- Acceptable: 1,000m
- Preferred Maximum: 2,000m

CIHT (2000) guidelines state that a walking distance of 2,000m represents the preferred maximum for a commute; consequently, any distance exceeding 2,000m is deemed not accessible by foot. This technical baseline supports the site-specific parking requirements under Policy DMT 6.

1.4 Guidance & Research

The Department for Transport has published various guides and papers that are relevant to the production of transport statements.

- Transport White Paper – DfT 2004
- Managing our Roads - DfT 2003
- Guidance on Transport Assessment – DCLG / DfT 2007

Also various other authors;

- Methods of Impact Assessment – Peter Morris and Riki Therveral
- Transport Planning and Traffic Engineering - C A O'Flaherty
- Highway Engineering – Martin Rogers
- Understanding the Requirements and Barriers for Modal Shift - WSP

³<https://moderngov.fareham.gov.uk/documents/s30536/CDH.27%20Guidelines%20for%20Providing%20for%20Journeys%20on%20Foot%20CIHT%202000.pdf>



1.4.1 Modal Shift

Private car journeys are by far the most popular transport mode in the UK. It is therefore necessary that various measures are put in place to ensure that a modal shift is created, in relation to the project at Colnbrook By-Pass.

UK Share of Passenger Kilometers (2023):

- Cars, vans & taxis: 85%
- Rail: 9%
- Buses & coaches: 4%
- Pedal cycles: 1%
- Motorcycles: 1%

The Climate Change Committee (CCC) commissioned WSP to conduct research into the types of interventions that can be successful in achieving modal shift from private cars to alternative modes and the barriers and opportunities for these to be effective in influencing people's travel choices. This included a review of evidence on past and current interventions, a survey of public attitudes towards modal shift and focus groups with drivers who would be willing to switch modes for some journeys.

The outputs of the research resulted in six main recommendations to the Committee. Two of these are overarching conclusions relating to best practices that should be followed when establishing any modal shift intervention:

- Achieving meaningful modal shift requires a combination of measures aiming to reduce car use and measures that offer people alternatives, supported by effective communication and engagement activities.
- Interventions should be location-specific and led by local government bodies.

The remaining four are more specific in nature, highlighting the potential for effective interventions in particular areas:

- Changing our relationship with parking and how urban space is best used.
- Reframing the narrative around the comparison in cost between car use and alternative travel modes.
- Focusing interventions on delivering incremental changes.
- Creating a more interconnected system of alternative travel options.



2.0 Base Line Conditions

This chapter contains details on baseline conditions measured and observed.

2.1 Wider Area

The site is located in Harmondsworth within the London Borough of Hillingdon. It is situated along the Colnbrook By-Pass (A4). This arterial road provides strategic access to the M25 and the M4, with an Annual Average Daily Flow (AADF) of 17,240 (measured 2024).

Site location plan can be seen in **Appendix 1**.

2.1.1 Pedestrian Network

Paved footways are provided on both sides of the A4 Colnbrook By-Pass, providing a physical link between Colnbrook, Harmondsworth (17 minute walk) and Longford (15 minute walk). A crossing point is located in the vicinity of the site entrance to facilitate pedestrian movement across the A4.

2.1.2 Cycling Network

The Colnbrook By-Pass (A4) incorporates a cycle lane that facilitates travel between the site and surrounding residential and commercial areas. Approximate cycling durations from the site entrance to key local destinations are as follows:

- West Drayton: 12 minutes
- Slough: 30 minutes
- Hounslow: 33 minutes

We are uncertain of the number of cycle parking places provided, but a proposed number is given in the Parking Survey S25-240/PS

2.1.3 Public Transport

Bus Stops: 2 no. stops at Colnbrook By-Pass/Duke's Bridge (200m walk) and 2 no. stops at Heathrow Park Thistle Hotel (600m walk).

Bus Routes: 5 no. routes (A4, 350, 7x, 81, 423) providing links to Heathrow T5, Slough, Hounslow, and West Drayton.

Rail & Underground: Heathrow Terminal 5 Station (2.4km) and West Drayton Station (4.0km). These provide access to the Elizabeth Line, Piccadilly Line, Heathrow Express, and Great Western Railway.

While daytime frequencies range from 10–20 minutes, overnight service gaps range from 30 minutes to 13 hours depending on the route. Rail stations are primarily accessed via the aforementioned bus links.



2.1.4 Private Car

Access to the strategic road network is provided via the A4 Colnbrook By-Pass. The site currently contains formal parking provision for 308 vehicles. This capacity includes 36 designated van spaces for operational and service use.

2.2 Existing Use of the Site

The site comprises a detention centre, offices and a legal court.

2.3 Adjacent Land Uses

Adjacent Land Use	North	Grass Field	Residential
	East	Car park	Hotel
	South	Highway	Airport
	West	River	Offices
Ground Cover	Urban		

2.4 Access Constraints

We assess below access constraints:

2.4.1 Pedestrian

While physical footway infrastructure exists along the A4 Colnbrook By-Pass, the following constraints impact its utility for staff and visitors:

- **Highway Characteristics:** The A4 is an arterial route with high traffic volumes and significant Heavy Goods Vehicle (HGV) movements. This environment is designed for strategic vehicle throughput rather than high-volume pedestrian activity.
- **Nocturnal Accessibility:** The facility operates on a 24-hour cycle. During nocturnal shift-change intervals, the pedestrian environment is constrained by lower natural surveillance and lighting levels consistent with an industrial/semi-rural corridor.
- **Walk-Time Catchment:** The 2,000m (approx. 25-minute) walking catchment, defined by CIHT as the preferred maximum for commuting, is restricted to the immediate areas of Longford and Harmondsworth. Residential areas beyond these boundaries exceed the preferred maximum walking distances for a daily commute and are therefore deemed not accessible by foot.

2.4.2 Bicycle / E-Bike

While a cycle lane exists along the A4 Colnbrook By-Pass, the following technical constraints are identified:

- **LTN 1/20 Compliance⁴:** The existing infrastructure consists of an unsegregated shared-use path. According to Local Transport Note (LTN) 1/20, this configuration

⁴<https://assets.publishing.service.gov.uk/media/5ffa1f96d3bf7f65d9e35825/cycle-infrastructure-design-ltn-1-20.pdf>



does not meet the preferred standard for segregation on arterial routes with the speed and volume characteristics of the A4.

- Infrastructure Geometry: The effective width of the shared path is finite. This creates potential for modal conflict between pedestrians and cyclists, particularly during concentrated shift-change periods.
- Nocturnal Environmental Conditions: The 24-hour operational cycle necessitates the use of the network during nocturnal hours. The proximity of the unsegregated path to HGV traffic on the A4 provides a different user experience than segregated infrastructure, which may impact uptake rates.

2.4.3 Cars / LGVs

Vehicle access to the site is provided via the A4 Colnbrook By-Pass, which facilitates direct connectivity to the regional strategic road network; however, as discussed in Section 4.0, internal circulation is subject to constraints resulting from insufficient parking capacity. There is good access to the rear of the building as is demonstrated by the conjoining area which is used for service area by the neighbouring buildings. Swept path analysis will show adequate turning and manoeuvring space for refuse lorries, ambulances and fire appliances.

2.4.3 HGVs and Emergency Services

Strategic access for HGVs and Emergency Service vehicles via the A4 Colnbrook By-Pass is maintained at an optimal level. However, internal circulation is subject to the following constraints:

- Internal Tracking Impediments: Insufficient parking capacity results in vehicles stationed on double-yellow lines and footways. This reduces the effective width of internal carriageways.
- Manoeuvrability Constraints: The presence of vehicles in non-designated areas impacts the swept paths required for larger vehicles, which can create logistical delays and obstruct designated emergency access routes.

2.5 Air Quality

The site is located within the London Ultra Low Emission Zone (ULEZ), requiring all vehicles accessing the facility to meet established exhaust emissions standards or be subject to daily charges.

The proposal is to formalise provision for extra traffic, rather than support a proposed increase in traffic. Therefore it is unlikely to have an impact on Air Quality.

2.6 Abnormal Loads

There are no scheduled abnormal load movements on an annual basis. It is foreseeable that a small number of abnormal loads may be generated by the proposed development.

2.7 Base Line Trip Data

The data collected is not strictly baseline data, as the proposed changes are to cater for vehicles that currently use the site.



3.0 Proposed Development

The proposed development comprises the addition of 72 new parking spaces at the Colnbrook Immigration Removal Centre. This expansion is designed to formalise on-site parking provision and support the facility's 24-hour operational requirements.

3.1 Carriageway Capacity

The proposal is unlikely to increase the number of car trips on the surrounding road network. The primary purpose of the additional 72 spaces is to provide formal parking for vehicles that are already visiting the site.

As recorded in the April 2026 survey, a minimum of 59 vehicles are already accessing the facility and parking in unauthorised areas during the day. This figure represents a baseline daytime demand. Because these cars are already part of the existing traffic flow on the A4 Colnbrook By-Pass, providing designated parking is unlikely to add new trips to the network or change the performance of nearby junctions. The development simply relocates existing traffic from pavements and verges into formal parking bays.

We have carried out a PICADY assessment for the two junctions to verify that the existing junctions can support the existing volume of traffic. Both junctions retain a high level of service (LoS); Junction B (Site Cross Road) is at 900% and Junction A (A4 & Site) is at 117%. Results from this modelling are shown in **Appendix 3**. Since the car park was constructed, there has evidently been an increase in demand.

3.2 Trip Frequency

We have considered below trips generated via cars, and service vehicles. We would not expect trips generated by pedestrians and cyclists to have a negative impact on the surrounding network. A full assessment of impacts will be provided as part of the full Transport Statement.

3.2.1 Cars

The provision of 72 additional parking spaces is intended to formalise existing vehicle demand and eliminate the "parking leakage" currently observed within the site perimeter. By increasing the formal capacity, the development will prevent the unauthorised displacement of vehicles onto grass verges, double-yellow lines, and pavements.

3.2.2 Parcel Delivery

There is a designated delivery area, where parcel deliveries, and other goods are unloaded.

3.3 Trip Type

Trip types would be pedestrian, cycle, car, and light goods vehicles.

3.4 Junction Types

We have modelled the 2 junctions that are required to access the site.



3.4.1 Junction A (Wider Site & A4 – Colnbrook Bypass)

The public road adjacent to the site is the A4. There is a turf island in the centre of the A4, meaning that the A4 is considered as uni-directional in the junction model.

3.4.2 Wider Site Cross Road

Upon accessing the wider site, there is a cross roads type junction. Arm D of this cross road is used to access the car park.

4.0 Parking Requirements

The proposed development provides 72 additional parking spaces, bringing the total site capacity to 380 spaces. As the Colnbrook IRC is a Secure Residential Institution (Use Class C2A), Hillingdon's Development Management Policy Appendix C does not provide specific parking standards for this use. In accordance with Hillingdon Policy DMT 6 (A) and NPPF Paragraph 112, the requirement is determined by specific operational needs and site accessibility.

Data from modern secure facility infrastructure indicates that a ratio of 0.90 to 1.0 spaces per bed is required to manage staff volumes, visitor requirements, and shift overlaps. The current site ratio is 0.77, which is below this established benchmark. Increasing the capacity to a 0.95 ratio (380 spaces) is intended to establish the threshold required to accommodate personnel and visitors on-site.

This requirement is further supported by the 85% Practical Capacity threshold, as per CIHT (2006) Guidelines. This industry standard indicates that once a car park exceeds 85% occupancy, it is operationally full, leading to "parking search" time and internal congestion. . Based on the survey data, shown in [Manual Traffic Survey Data](#), which recorded a peak demand of 323 cars, a total of 380 spaces is required to return the facility to a functional 85% occupancy level ($323/0.85 = 380$).

This provision aligns with NPPF Paragraph 117, which requires developments to allow for efficient movement and unobstructed access for service and emergency vehicles. Achieving this 85% practical capacity would likely remove the internal highway safety hazards caused by the current overflow.

4.1.1 Accessibility Justification

The necessity for this parking level is further supported by the site's limited accessibility:

- PTAL Rating: The site is situated in a PTAL 1b zone, confirming low public transport connectivity.
- Walking Thresholds: Under CIHT (2000) guidelines, the distance to major transit hubs exceeds the 2,000m "Preferred Maximum" for commuting on foot.
- Operational Integrity: As noted in NPPF Paragraph 112, policies must take into account the "availability of and opportunities for public transport." Due to the 24-hour



nature of the facility and the lack of nocturnal transit options, private vehicle use is the only viable mode of transport for many of the staff members.

5.0 Conclusions

Given the size, type and location of the development, we do not envisage that the impacts will be “severe” and therefore not in contravention of NPPF Paragraph: 111

The proposal would increase parking provision, which we have evidenced to be required. Existing infrastructure is able to support the existing flows.

6.0 Certification

This report is produced for the sole use of the Client, and no responsibility of any kind, whether for negligence or otherwise, can be accepted for any Third Party who may rely upon it.

The conclusions and recommendations given in this report are based on our understanding of the future plans for the site. If, however, the site is developed for a different use, then a different interpretation might be appropriate.

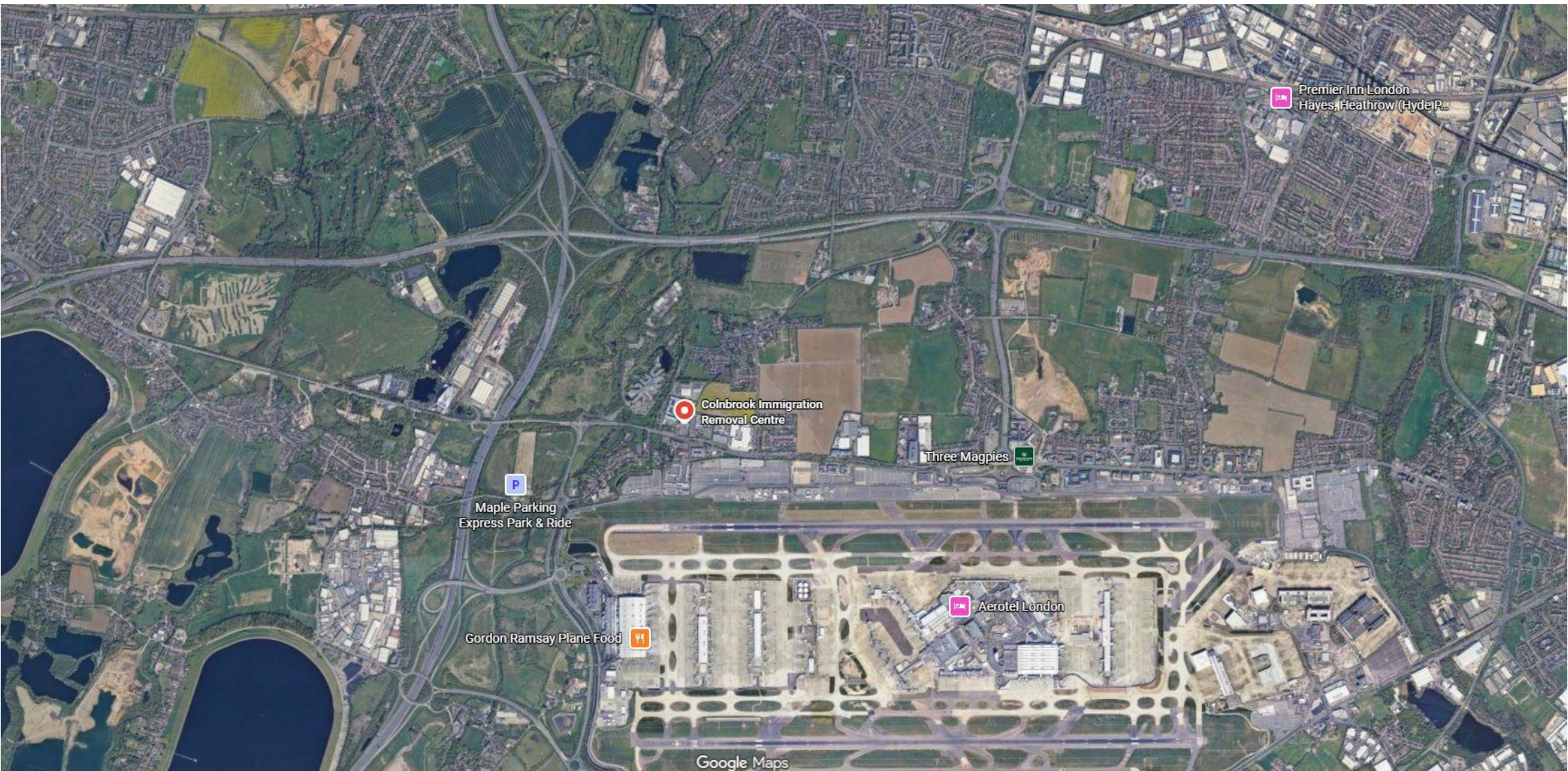
It necessarily relies on the co-operation of other organizations and the free availability of information and total access. No responsibility can, therefore, be accepted for conditions arising from information that was not available to the investigating team as a result of information being withheld or access being denied.

For the avoidance of doubt, the parties hereby expressly agree that the Consultant takes no liability for and gives not warranty against actual traffic related incidents or any post planning stage liabilities in relation to the performance of the service.



Appendix 1

Site Plans



Colnbrook IRC Location





Project Location

Heathrow
Colnbrook By-Pass

Harmondsworth
West Drayton
UB7 0FX



Appendix 2

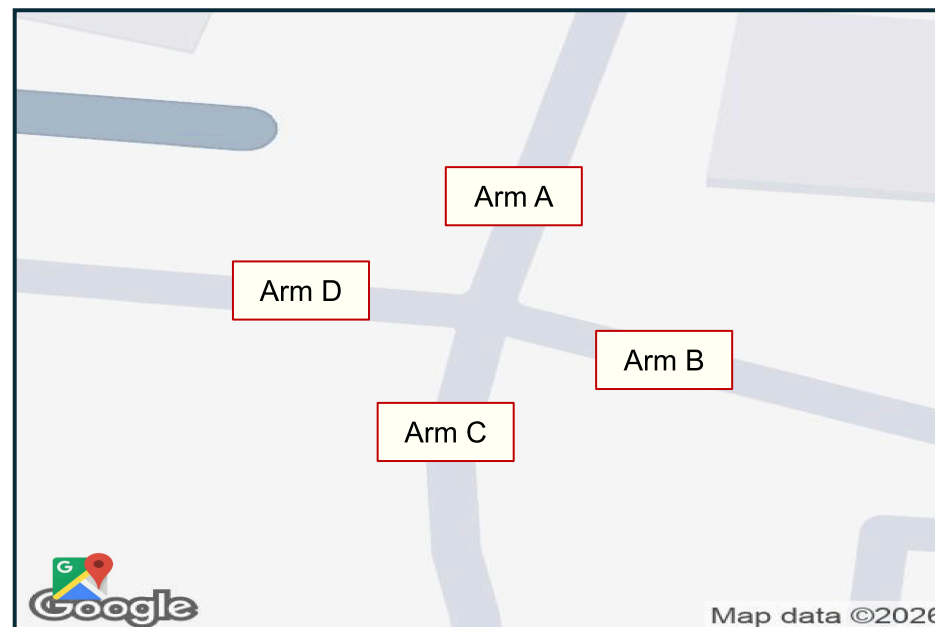
Data



Heathrow – Manual Traffic Survey: Thursday, 30 April 2026

Produced by Streetwise Services Ltd.

Junction: A – (North) Unnamed Road / B – (East) Unnamed Road / C – (South) Unnamed Road / D – (West) Unnamed



Matrix Totals: **Counts**

Show single Session: **Yes**

00:00 to 00:00

Custom Start / End:

12:00

13:00

Show Peak Times:

No

Arm Destination

Arm Origin	Arm Destination				Total	% Total	
	A	B	C	D			
	A	1	5	69	2	77	100.00%
	B	0	2	127	17	146	100.00%
	C	72	127	51	520	770	100.00%
	D	0	15	527	2	544	100.00%
Total	73	149	774	541			
% Total	100.00%	100.00%	100.00%	100.00%			

Classifications

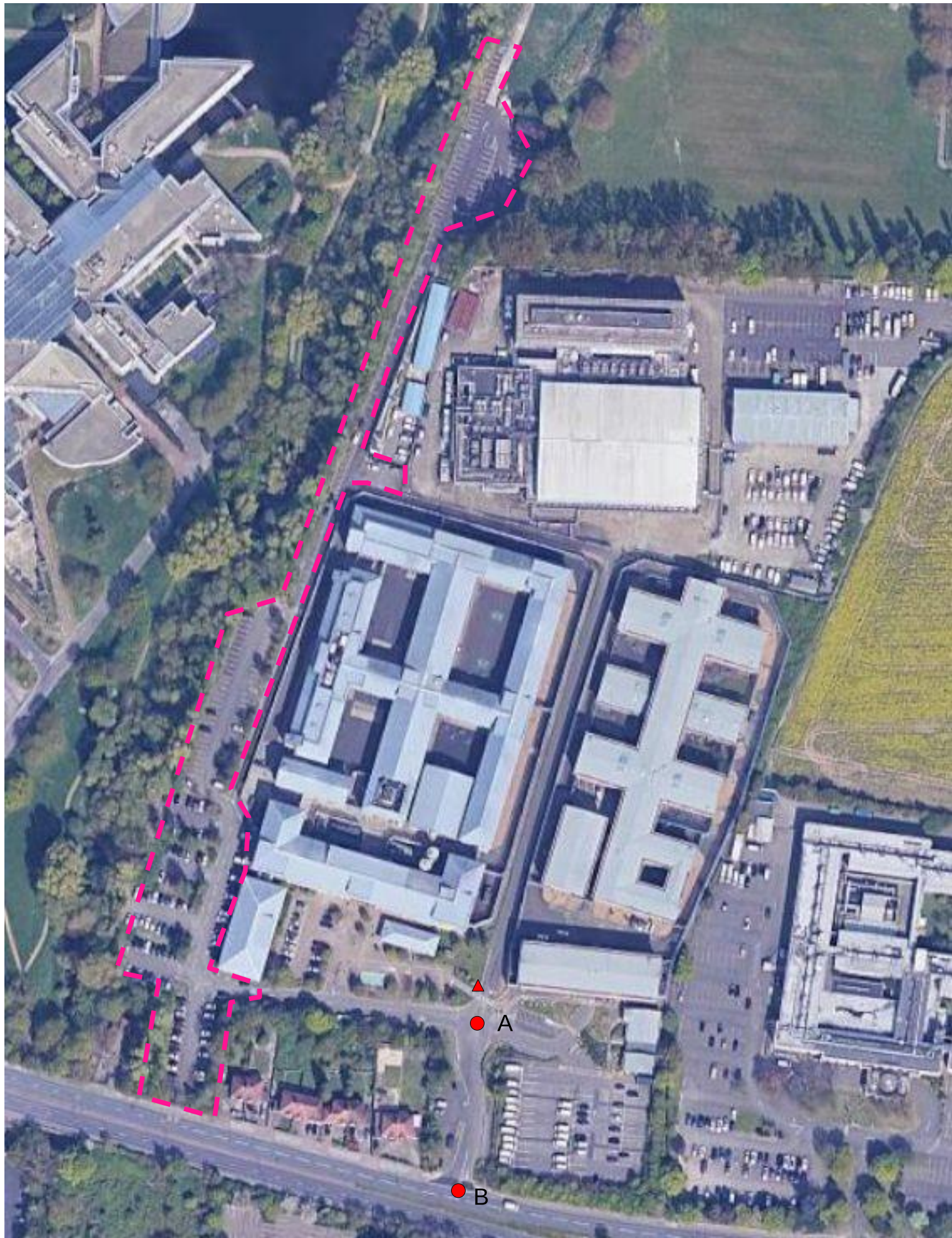
Include

CAR	Yes
LGV	Yes
OGV1	Yes
OGV2	Yes
BUS	Yes
P/CYCLE	Yes
M/CYCLE	Yes



Appendix 3

PICADY Assessment



Transport Assessment Key Features

Pink Dash – Application Site

Red Triangle – CCTV Survey Location

Red Circle – Junctions Modelled (A & B)

Filename: (Junction A4 & Site)
Path:
Report generation date: 14/5/2026 15:34:28

- «2026, AM
- »Junction Network

»Arms

»Traffic Demand

»Origin-Destination Data

»Vehicle Mix

»Detailed Demand Data

»Results

Summary of junction performance

	AM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2026							
Stream B-AC	0.1	0.5	10.10	0.07	B	0.24	A	117 %
Stream C-B	0.0	~1	0.00	0.00	A			[Stream B-AC]

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

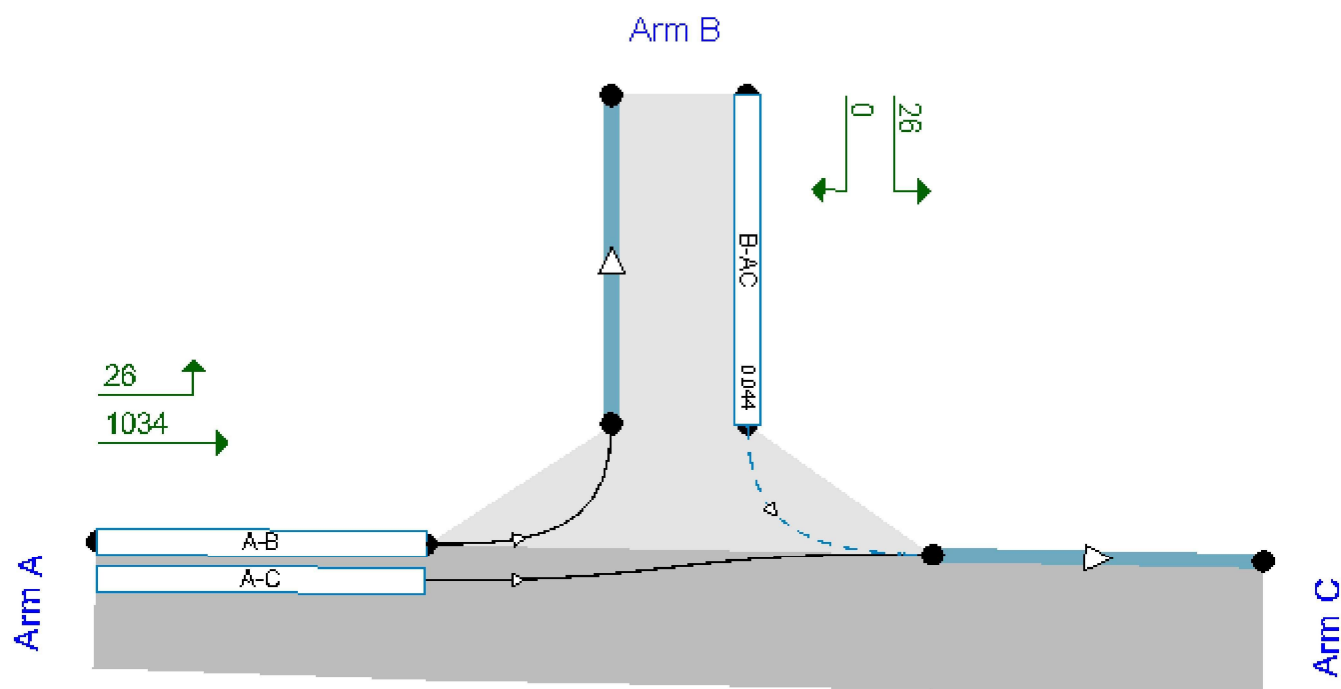
File summary

File Description

Title	(untitled)
Location	
Site number	
Date	14/5/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ZOIDBERG\WT
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/h)
Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75	✓		✓	Delay	0.85	36.00	20.00

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2026	AM	ONE HOUR	08:00	09:30	15	✓

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	A4 / Site Junction	T-Junction	One-way from A to C	0.24	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	117	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	A4 West		Major
B	Site		Minor
C	A4 East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00	✓	1.00				

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.20	0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	449	0.059	0.150	0.094	0.214
1	B-C	574	0.065	0.164	-	-
1	C-B	574	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1060	100.000
B		ONE HOUR	✓	26	100.000
C		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	26	1034
	B	0	0	26
	C	0	0	0

Proportions

	To			
From		A	B	C
	A	0.00	0.02	0.98
	B	0.00	0.00	1.00
	C	0.33	0.33	0.33

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Average PCU Per Veh

	To			
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	798	798
	B	20	20
	C	0	0
08:15-08:30	A	953	953
	B	23	23
	C	0	0
08:30-08:45	A	1167	1167
	B	29	29
	C	0	0
08:45-09:00	A	1167	1167
	B	29	29
	C	0	0
09:00-09:15	A	953	953
	B	23	23
	C	0	0
09:15-09:30	A	798	798
	B	20	20
	C	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.07	10.10	0.1	0.5	B	24	36
C-A						0	0
C-B	0.00	0.00	0.0	~1	A	0	0
A-B						24	36
A-C						949	1423

Main Results for each time segment

08:00 - 08:15

[illegible]

[illegible]

C-B	0.00	0.00	0.00	0.00	0.00			N/A	N/A
-----	------	------	------	------	------	--	--	-----	-----

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.06	0.00	0.00	0.06	0.06			N/A	N/A
C-B	0.00	0.00	0.00	0.00	0.00			N/A	N/A

09:15 - 09:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.05	0.00	0.00	0.05	0.05			N/A	N/A
C-B	0.00	0.00	0.00	0.00	0.00			N/A	N/A

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: Junction B - Cross Roads.j9

Path: C:\Users\WT\Insync\wt@southwest-environmental.co.uk\Google Drive - Shared drives\SWEL DRIVE\Jobs\S25-240 (Colnbrook By Pass)\Transport Assessment\App X - Picady Reports

Report generation date: 14/5/2026 15:16:52

«2026, AM

- »Junction Network
- »Arms
- »Traffic Demand
- »Origin-Destination Data
- »Vehicle Mix
- »Detailed Demand Data
- »Results

Summary of junction performance

	AM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2026							
Stream B-ACD	0.0	0.5	6.48	0.03	A	3.64	A	900 % []
Stream A-BCD	0.0	~1	0.00	0.00	A			
Stream D-ABC	0.0	0.5	8.70	0.04	A			
Stream C-ABD	0.0	0.5	6.23	0.02	A			

There are warnings associated with this model run - see the 'Data Errors and Warnings' tables.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

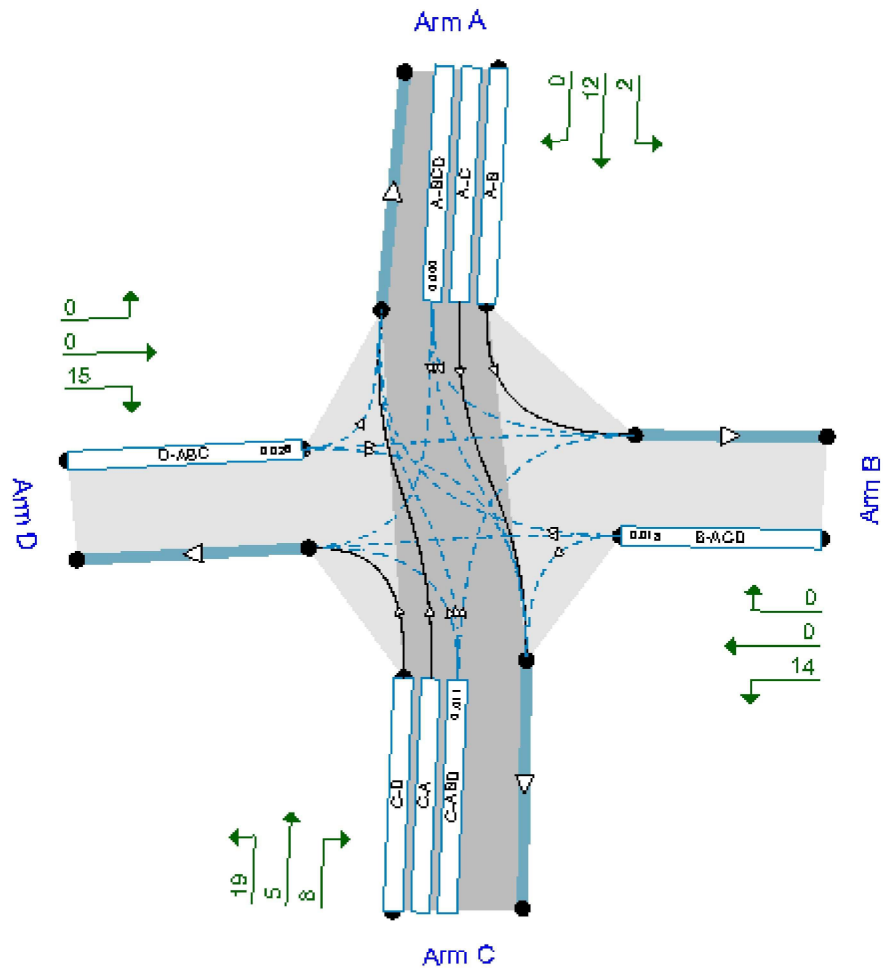
File summary

File Description

Title	(untitled)
Location	
Site number	
Date	14/5/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ZOIDBERG\WT
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/h)
Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75	✓		✓	Delay	0.85	36.00	20.00

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2026	AM	ONE HOUR	08:00	09:30	15	✓

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue Variations cannot be calculated for crossroads.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Site Cross Road	Crossroads	Two-way	3.64	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Arms

Arms

Arm	Name	Description	Arm type
A	untitled		Major
B	untitled		Minor
C	untitled		Major
D	To Car Park		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.00			0.0	✓	0.00
C	6.00			0.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.20	0	0
D	One lane	2.20	0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	574	-	-	-	-	-	-	0.222	0.318	0.222	-	-	-
1	B-A	440	0.080	0.202	0.202	-	-	-	0.127	0.289	-	0.202	0.202	0.101
1	B-C	574	0.088	0.222	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	440	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	B-D, offside lane	440	0.080	0.202	0.202	-	-	-	0.127	0.289	0.127	-	-	-
1	C-B	574	0.222	0.222	0.318	-	-	-	-	-	-	-	-	-
1	D-A	574	-	-	-	-	-	-	0.222	-	0.088	-	-	-
1	D-B, nearside lane	440	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-B, offside lane	440	0.127	0.127	0.289	-	-	-	0.202	0.202	0.080	-	-	-
1	D-C	440	-	0.127	0.289	0.101	0.202	0.202	0.202	0.202	0.080	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

--	--	--	--

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	14	100.000
B		ONE HOUR	✓	14	100.000
C		ONE HOUR	✓	32	100.000
D		ONE HOUR	✓	15	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
	A	0	2	12	0
	B	0	0	14	0
	C	5	8	0	19
	D	0	0	15	0

Proportions

	To				
		A	B	C	D
	A	0.00	0.14	0.86	0.00
	B	0.00	0.00	1.00	0.00
	C	0.16	0.25	0.00	0.59
	D	0.00	0.00	1.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A	B	C	D
	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Average PCU Per Veh

	To				
		A	B	C	D
	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	11	11
	B	11	11
	C	24	24
	D	11	11
08:15-08:30	A	13	13
	B	13	13
	C	29	29
	D	13	13
08:30-08:45	A	15	15
	B	15	15
	C	35	35
	D	17	17
08:45-09:00	A	15	15
	B	15	15
	C	35	35
	D	17	17
09:00-09:15	A	13	13
	B	13	13
	C	29	29
	D	13	13
09:15-09:30	A	11	11
	B	11	11
	C	24	24
	D	11	11

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-ACD	0.03	6.48	0.0	0.5	A	13	19

C-A	4	1			4				
09:15 - 09:30									
Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-ACD	11	3	572	0.018	11	0.0	0.0	6.416	A
A-BCD	0	0	568	0.000	0	0.0	0.0	0.000	A
A-B	2	0.38			2				
A-C	9	2			9				
D-ABC	11	3	433	0.026	11	0.0	0.0	8.534	A
C-ABD	6	2	584	0.011	6	0.0	0.0	6.230	A
C-D	14	4			14				
C-A	4	0.93			4				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-ACD	0.02	0.00	0.00	0.02	0.02			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-ACD	0.02	0.02	0.25	0.45	0.48			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.03	0.25	0.45	0.48			N/A	N/A
C-ABD	0.01	0.01	0.25	0.45	0.48			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-ACD	0.03	0.00	0.00	0.03	0.03			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.03	0.25	0.46	0.48			N/A	N/A
C-ABD	0.02	0.00	0.00	0.02	0.02			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-ACD	0.03	0.00	0.00	0.03	0.03			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.04	0.00	0.00	0.04	0.04			N/A	N/A
C-ABD	0.02	0.00	0.00	0.02	0.02			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-ACD	0.02	0.00	0.00	0.02	0.02			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A

09:15 - 09:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-ACD	0.02	0.00	0.00	0.02	0.02			N/A	N/A
A-BCD	0.00	0.00	0.00	0.00	0.00			N/A	N/A
D-ABC	0.03	0.00	0.00	0.03	0.03			N/A	N/A
C-ABD	0.01	0.00	0.00	0.01	0.01			N/A	N/A