Transportation Consultancy

VALUE EXCEED TRUST EXCELLENCE CLARITY

Coleg Sir Gar, Pibwrlwyd Lane

Client: WEPCo
Project: Coleg Sir Gar
Date: September 2025

WEPco

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1. Introduction

1.1 Overview

The Transportation Consultancy Ltd ('ttc') has been appointed by WEPCo Limited to provide traffic and transport consultancy services with regards to a planning application for the development of a new Creative Arts Hub and Vocational Skills Hub at the Coleg Sir Gar Pibwrlywd Campus that will provide a combined Gross Internal Floor Area of 14,857sqm (herein referred to as "the Campus"). The Site location is shown at **Figure 1.1** below.

Figure 1.1 Site Location in Strategic Context

The Campus is located on the northern and southern side of Pibwrlwyd Lane and to the east of the A484, approximately 2km south of Camarthen and the Railway Station. There are bus stops located close to the College on the A484, north of the roundabout, providing access to bus services 195, 197, 198, B13 and X11 Cymru Clipper. The application refers to just the area to the north of Pibwrlwyd Lane (the MIM area).

1.2 Site Allocation

In the adopted Development Plan, the site is part of the defined development limits boundary and included in the Pibwrlwyd strategic Mixed-use allocation, including education use associated with Coleg Sir Gar, residential use, employment uses, and commercial leisure use. The Development Plan's proposals map shows the

strategic site identified via the policy annotation GA1/MU2. There are no mapped constraints for the development site.

The Revised Local Development Plan (2018-2033) although not yet adopted, has significant material weight when determining development applications, along with the adopted Local Development Plan, due to it being in the latter stages of preparation and examination. In the Revised Development Plan the site is again part of the defined development limits boundary and included in the Pibwrlwyd strategic mixed-use allocation, including education use associated with Coleg Sir Gar, residential use, employment use, and commercial leisure use.

The site has a defined residential allocation of approximately 247 new homes under policy PrC1/MU2. Once again there are no mapped constraints for the development site. Aside from the expansion of the College, the rest of the allocated land has been preliminarily assessed by Asbri Transport as part of the Candidate Site submission for the Local Plan. This work was undertaken in May 2023 and, where appropriate, we have drawn on this work.

1.3 Existing College

The existing Pibwrlwyd Campus is home to a wide range of curricula that spans further and higher education. This includes Art and Design, Animal Science, Automotive Engineering, Business and Management, Catering and Hospitality, Equine Studies, Leisure and Tourism, Teacher Training and Veterinary Nursing. The land around the Campus is considered to have a rural setting albeit it is located a short distance from Camarthen town centre.

1.4 Proposals

The overarching development proposal will result in the creation of a new Creative Arts Hub catering for an additional 700 students and the new Vocational Skills Hub catering for an additional 1,685 students (all FTE), with a mix of full and part-time delivery including evenings and weekends.

The new College will bring together all Campus locations including Pibwrlwyd, Ammanford and Jobs Well.

A proposed Masterplan is provided in **Appendix A**.

1.5 Pre-Application Consultation / Discussions

In developing the proposals, regular meetings were held with CCC Highways in order to keep them informed about the evolution of the design as well take on board any relevant comments. As well as this, we obtained a number of formal pre-application responses, all of which are on record and have been reflected in the design.

At this moment in time, for the PAC process, although the plans are considered frozen at this stage, there will be additional design changes made for the full submission in order to refine the plans further and to take into account any further comments from the Council.

1.6 Structure of Report

This report considers the effect of development in transport terms including active travel, car parking, cycle parking, access, trip generation, highways impact, servicing and deliveries as well as proposing improvements, where deemed necessary / appropriate.

The remainder of the report is structured as follows:

- Section 2 sets out the existing situation as well as the accessibility of the College by non-car modes of transport; including an assessment of highway safety;
- Section 3 sets out the relevant planning policy;
- Section 4 sets out the development proposals in detail;
- Section 5 sets out the trip generation and the potential highway effects of the development;
- Section 5 sets out the potential highways impact of development;
- Section 6 provides an indicative TIS that will be developed further for the planning application; and,
- Section 7 provides a summary and conclusion.

2. Existing Situation

2.1 Overview

This section of the TA outlines the existing conditions, existing access arrangements, sustainable transport links and local highway network. A review of personal injury accident data is also provided. The content of the section has been collated to supplement the criteria of the Active Travel Act Guidance which is applicable in Wales.

2.2 Site Location and Surrounding Area

The existing Pibwrlwyd Campus is home to a wide range of curricula that span further and higher education. This includes Art and Design, Animal Science, Automotive Engineering, Business and Management, Catering and Hospitality, Equine Studies, Leisure and Tourism, Teacher Training and Veterinary Nursing. The land around the Campus has a rural setting albeit is located a short distance from Carmarthen town centre. An existing site layout drawing is shown in **Figure 2.1**.

In total, the following staff and pupil numbers are currently accommodated across all Campus locations; this is based on the data we have received from the College:

- Jobs Well Campus - 412 learners and 62 staff;
- Ammanford Campus - 1,471 learners and 92 staff;
- Pibwrlwyd Campus - 1,459 learners and 117 staff; and,
- **TOTAL - 3,342 learners and 271 staff (3,613 total).**

Figure 2.1 Existing College Layout

2.3 Existing College Access

The existing Pibwrlwyd Campus is currently served by three vehicle access points including one directly east of the roundabout with the A484 serving the northern buildings and main car park, a central access serving the northern and southern buildings and an eastern access serving the southern buildings only.

There is also an existing access to a southern overspill parking area which is opposite the existing access to the northern buildings, off Pibwrlqyd Lane.

Access by foot can be taken from all existing access points along Pibwrlwyd Lane albeit some routes are not clearly marked and likely to be used / operate as shared space. The College would therefore benefit from improvements to the public realm along Pibwrlwyd Lane, that will be set out in this Report.

2.4 Traffic Surveys

Traffic surveys were undertaken by Asbri Transport in March 2023 for the wider allocation, which included those shown in **Figure 2.2** where there were 2 x ATC's and 3 x JTC's. Given that these surveys are less than 3 years old, it is considered acceptable to use this traffic survey data for assessments within this Transport Assessment.

Figure 2.2 Asbri Traffic Count Locations

In addition to the above, ttc also commissioned the following surveys to supplement this information:

- In / Counts JTC's at the College access points to assist with current traffic flows and parking accumulation (Wednesday 19th June 2024); and
- ATC between location 2 and 3 on the above plan to assist with the positioning of a construction access on the A484 (July 2025 – 1-week).

A summary of information is provided in **Table 2.1** below. It is pertinent to note that the in / out counts have been factored based on a spot count of the car park during a busy period, to ensure that any reductions due to the term coming to an end have been factored based on a spot count.

Table 2.2 JTC In / Out Calculations

Time Period	Main College Car Park Flows IN	Main College Car Park Flows OUT	1-hour Parking Accumulation	
			Survey	Factored
07:00 - 08:00	7	4	5	7
08:00 – 09:00	35	9	33	44
09:00 – 10:00	45	10	68	90
10:00 – 11:00	6	4	70	93
11:00 – 12:00	4	10	64	85
12:00 – 13:00	8	25	47	63
13:00 – 14:00	17	8	56	74
14:00 – 15:00	8	14	48	73
15:00 – 16:00	2	3	50	66
16:00 – 17:00	19	48	20	27
17:00 – 18:00	2	19	3	4
18:00 – 19:00	3	2	1	1

With regards to the above, the surveys identified a maximum parking demand of circa 70 spaces in the main Campus car park albeit following a spot count in term time, this has been factored up to circa 100 vehicles parked as a maximum in the main car park to the north of Pibwrlwyd Lane (and circa 30 cars parked to the south). The busy periods for the Campus tend to be between 09:45 – 12:00 and during the spot count, there were 125 cars parked across the entire Campus in all car parks.

In addition to the above, parking survey spot-counts were also undertaken at the other Campus locations, which indicated the total number of spaces across all three locations, as shown in **Table 2.3**. With regards to a paring ratio, it can be concluded that based on a total of 3,613 staff and learners across all Campus sites (and a total of circa 310 spaces parking demand at all locations), there is a current demand of around **1 space per 11.5 learners and staff across all Campus locations as an average (3,613 / 310 = 11.5).**

Further to this, if the existing Pibwrlwyd Campus parking ratio of leaners and staff to cars parked is used for the entire Campus (125 cars parked), which is 8% (1,455 learners + 118 staff = 1,573), and apply this to the

overall leaners and staff to be at the Campus in the future (3,613 in total), then this equates to a future demand of circa 290 parking spaces overall (with 30 spaces to the south and 260 to the north).

Table 2.3 Coleg Sir Gar Total Parking Demand (All Surveyed Campus Locations)

Time	Ammanford	Jobs Well	Pibwrlwyd	Total
07:00-08:00	13	17	7	37
08:00-09:00	94	23	44	161
09:00-10:00	146	40	90	276
10:00-11:00	148	65	93	306
11:00-12:00	148	64	89	297
12:00-13:00	145	66	63	274
13:00-14:00	122	69	74	265
14:00-15:00	125	68	66	259
15:00-16:00	113	69	65	247
16:00-17:00	92	61	27	180
17:00-18:00	13	57	4	74
18:00-19:00	4	50	1	55

Local Highway Network

The key highway links in the vicinity of the proposed development site are managed and maintained by CCC in their role as the Local Highway Authority. The key highway links are described below with the local routes shown in **Figure 2.3** below and descriptions below.

A484

The A484 is a key regional distributor road within Carmarthenshire providing a direct connection between Carmarthen and the A40 / A48 to the north and Kidwelly, Pembrey and Llanelli to the south. Within the immediate vicinity of the Campus the A484 is well lit with a carriageway width of around 7.5 metres. There is generally no direct frontage on either side of the carriageway. On the western side of the carriageway there is a 3-metre-wide shared use walking and cycling path which is designated as National Cycle Network Route 4. This cycling route runs along the alignment of the A484 providing direct connections between the site, Carmarthen, Llanelli and beyond.

Pibwrlwyd Lane

Pibwrlwyd Lane is a rural lane providing access to the Pibwrlwyd Campus of Coleg Sir Gar, some agricultural land uses and residential properties, which connects with the A484 at the 4-arm Pibrlwyd Roundabout. Within the vicinity of the A484 and the access / egress arrangement to / from Coleg Sir Gar the lane is around 6 metres wide with double yellow line 'no parking or waiting at any time' restrictions in place. Along this stretch of carriageway, the lane is also well lit and surfaced to a high standard. Following the egress arrangement to Coleg Sir Gar the lane narrows to a rural residential access lane around 4 metres in width.

A48/A40

The A48 / A40 are two of the major strategic routes within the region. They connect with the A484 via Pensarn Roundabout on the north-western periphery of the site. The A48 trunk road provides a direct connection between Carmarthen and the M4 motorway around 19km to the south-east of the site. The A40 trunk road provides direct connections between Carmarthen to West Wales including Haverfordwest and to the east to Brecon and Abergavenny and continues to until it reaches the M40 at High Wycombe. Within the immediate vicinity of the site both roads are dual carriageways subject to the national speed limit.

Figure 2.3 Site Location and Local Highway Network

2.5 Sustainable Travel

Introduction

Walking and cycling form sustainable modes of transport which not only provide benefits to residents but help to reduce the amount of congestion and pollution within the area.

Guidance on the preferred maximum walking distances to amenities is given in the Chartered Institution of Highways and Transportation (CIHT) document, Providing for Journeys on Foot (2000). The Guidelines indicate that a walking distance of 400m is acceptable for trips to bus stops and local shops, with 800m being the preferred maximum. The corresponding walking distances for trips to work and school are given as 500m and 1,000m, respectively. A preferred general maximum walking distance of 2,000m is identified.

Manual for Streets (MfS) reinforces this advice, stating that "*walkable neighbourhoods*" should have a range of facilities within 800m (a 10-minute walk). However, this is not regarded as the upper limit for walking

journeys and MfS notes that walking offers the greatest potential to replace short car trips, particularly those under 2km.

Cycling also provides the opportunity as a substitute for a short car journey, with the CIHT document, *Planning for Cycling*, stating:

'The majority of cycling trips are for short distances, with 80% being less than five miles and with 40% being less than two miles. However, the majority of trips by all modes are also short distances (67% are less than five miles, and 38% are less than two miles); therefore, the bicycle is a potential mode for many of these trips (DfT, 2014a).'

The Active Travel Act Design Guidance states that:

'Walking as a mode of travel predominates for journeys of less than two miles whilst cycling is more convenient for longer journeys, typically of up to five miles for regular journeys.'

Walking

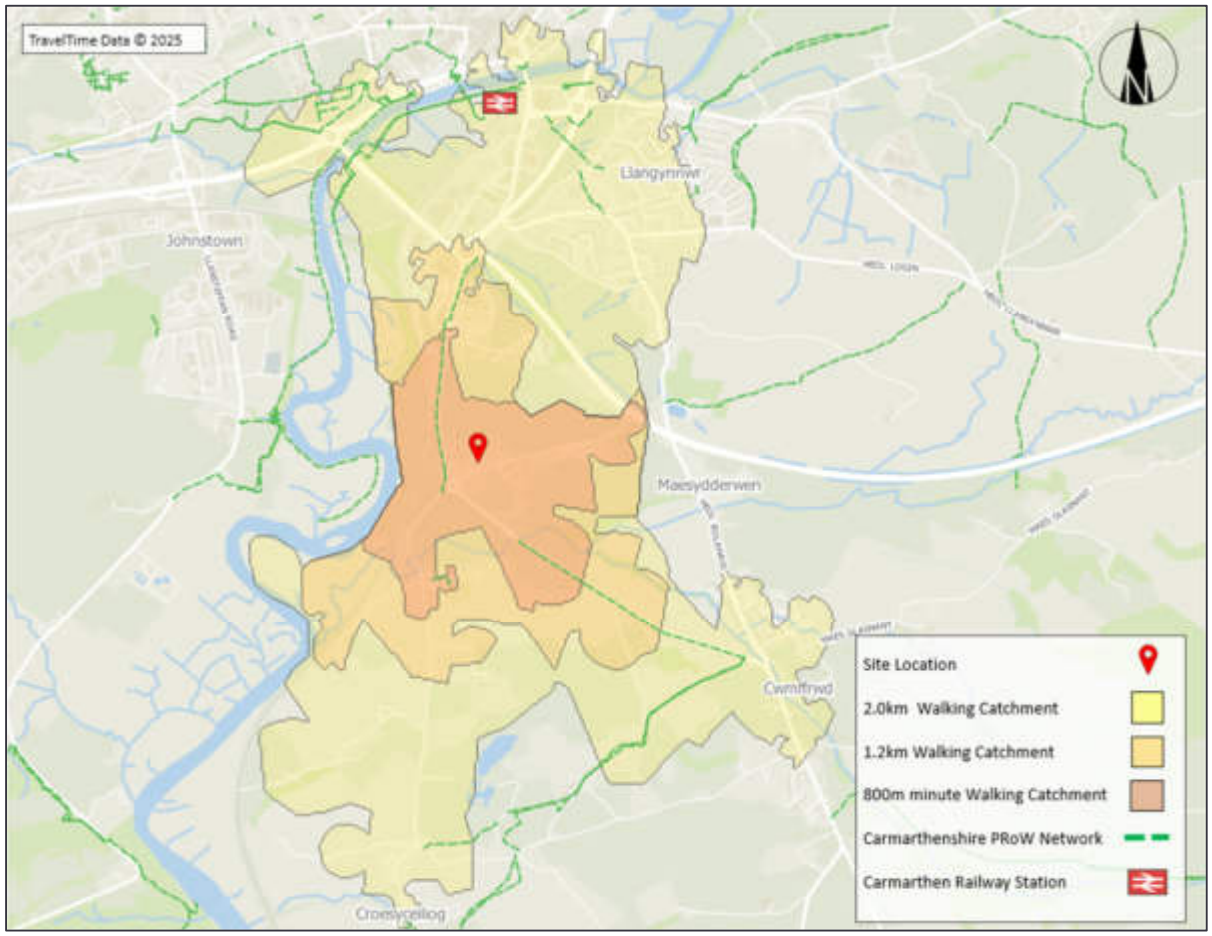
The Campus is well situated to benefit from local walking infrastructure which connects the Campus to local public transport opportunities and local facilities. Figure 2.4 indicates walking catchments for 800m to 2km, as well as the PROW network (albeit not all footways) as well as the location of Carmarthen Railway Station. It is pertinent to note that the Railway Station is just within the 2km walk distance.

Within the vicinity of the College, Pibwrlwyd Lane provides a footway on the southern side of the carriageway as well as an intermittent footway on the northern side. This footway connects to the A484 in both the north and the south, where further footways are provided. To the north and south are shared use paths that provide a connection to the town centre in the north via a network of footways and crossings.

In the local area, pedestrian crossing infrastructure includes the following:

- Crossing opportunities at the Pibwrlwyd Lane / A484 roundabout in the form of dropped kerbs, tactile paving and refuge islands. This enables crossing over to / from the footway located on the western side of the A484 between the College and the town centre;
- Refuge island with dropped kerbs and tactile paving at the location of the existing bus stops, as well as at the access opposite Halfords in the north;
- Staggered signalised crossing opposite Morrisons supermarket; and,
- Underpass routes at the Pensarn Roundabout.

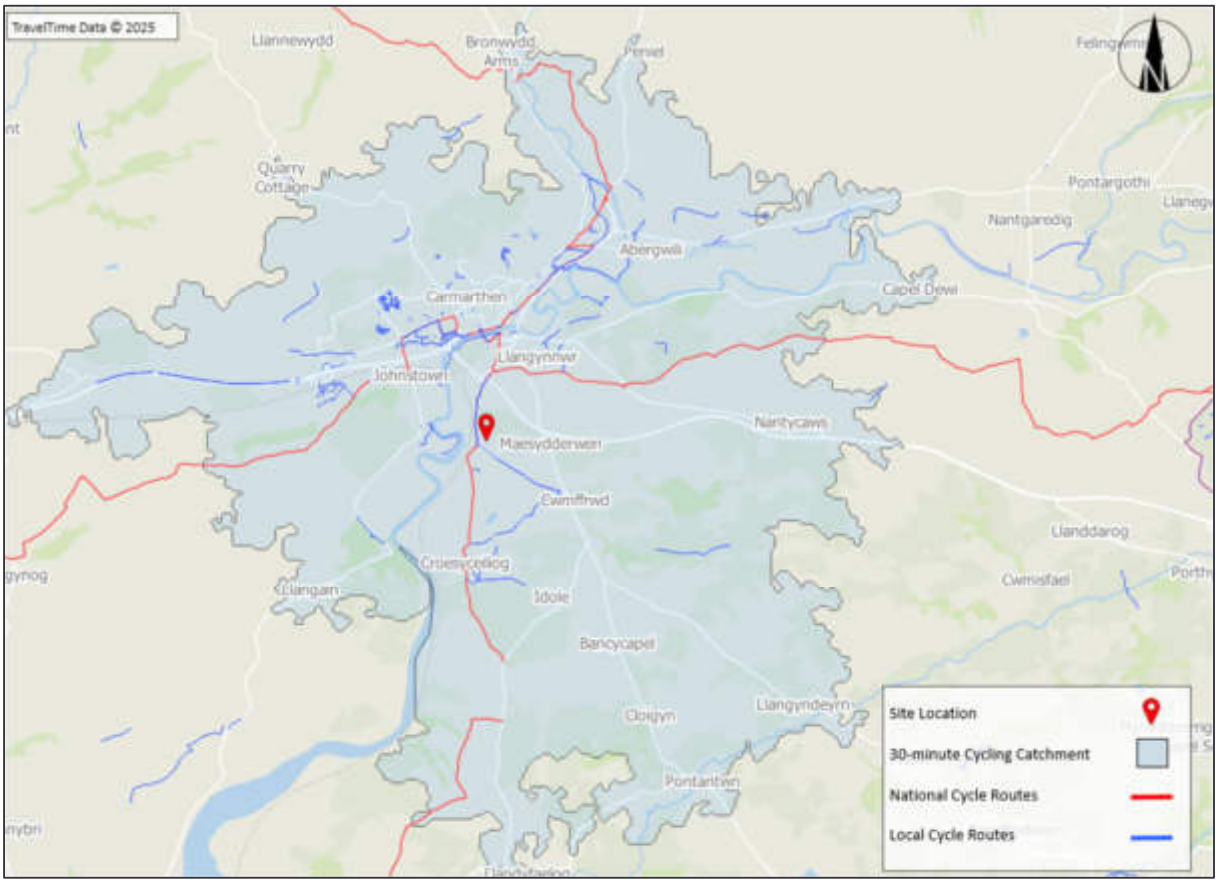
Figure 2.4 Walking Catchments and PROW Network



Cycling

The College is located close to / along National Cycle Routes as well as shared use routes, as shown in **Figure 2.5** below. There are a number of shared use paths in the local area that connect the Campus to the town centre in the north including the bus station and railway station in the north.

Figure 2.5 30-Minute / 8km Cycle Catchment and Local Cycle Routes



Public Transport

Bus Services

The closest bus stops to the Campus are located towards the west along the A484 and within a 150m walk. The northbound and southbound stops provide access to services including the main services 195, 197, and X11. The routes provide services between Llanelli bus station and Carmarthen Bus Station at frequent intervals throughout the morning, day and evening. A route map is shown in **Figure 2.6** below (all operated by First Bus).

Figure 2.6 Local Bus Route Map

Rail services

The closest railway station to the College is Carmarthen, which can be accessed by bus, walking and cycling. The station is located circa 2km to the north and provides services to destinations such as London Paddington, Milford Haven, Cardiff, Tenby and Pembroke. With regards to the travel survey, around 2% of learners currently travel to the Campus by train.

2.6 Existing Travel Patterns

Travel surveys were undertaken at each Campus location with the results shown in Table 2.4.

As shown below, it can be seen that the most accessible location is Pibwrlwyd Campus, with by far the lowest car driver modal share, the highest number of char sharers and the highest level of public transport usage. This further supports this location as the most optimum location for the proposals to occur (i.e., when compared to the other Campus locations).

Table 2.4 Method of Travel to College

Mode	Ammanford	JobsWell	Pibwrlwyd
Walk	5%	9%	2%
Cycle	0%	0%	2%
Car drive alone	65%	73%	43%
Car as passenger	3%	5%	11%
Car dropped off or picked up	2%	0%	7%
Public Bus	2%	7%	12%
Funded Bus	21%	4%	20%
Train	0%	0%	2%
Other	3%	2%	2%
Total	100%	100%	100%

2.7 Personal Injury Accident Data

The purpose of assessing recorded PIAs is to determine whether there is a history of accidents in proximity to the proposed development site and to investigate whether there are any patterns or contributing factors to the accidents recorded.

The impact of casualties differs according to the severity of the injuries sustained. Three groups are usually differentiated as follows:

- **Fatal:** Any death that occurs within 30 days from causes arising out of the accident;
- **Serious:** Records casualties who require hospital treatment and have lasting injuries, but who do not die within the recording period for a fatality; and,
- **Slight:** Where casualties have injuries that do not require hospital treatment, or, if they do, the effects of the injuries quickly subside.

The PIA search area included links and junctions within the vicinity of the proposed development site. The PIA data search has revealed only 3 slight accidents over a 5-year period within the vicinity of the Campus. Overall, whilst all PIAs are regrettable, the frequency and severity of accidents recorded within the search area over the latest five-year period does not suggest there are any inherent safety issues on the network. As a result, the proposed development is not predicted to have a material impact on highway safety.

3. Planning Policy

3.1 National Planning Policy

Llwybr Newydd: The Wales Transport Strategy 2021

Llwybr Newydd, the Wales Transport Strategy sets out a vision for how our transport system can deliver priorities for Wales, helping to put us on a pathway to creating a more prosperous, green and equal society. The national Wales Transport Strategy was published in March 2021.

The Transport Strategy aims to bring services to people in order to reduce the need to travel and notes that *'if more people can walk and cycle for everyday trips, we will reduce our dependency on cars.'*

It sets a long-term direction and three urgent and immediate priorities:

- **Priority 1:** Bring services to people in order to reduce the need to travel;
- **Priority 2:** Allow people and goods to move easily from door to door by accessible, sustainable and efficient transport services and infrastructure; and,
- **Priority 3:** Encourage people to make the change to more sustainable transport.

The thrust of Llwybr Newydd is to achieve a shift away from private car use to more sustainable transport modes for the majority of journeys. Investment will be promoted into low-carbon, accessible, efficient and sustainable transport services and infrastructure that enable more people to walk, cycle and use public transport, and lower emission vehicles.

Where there is a need for new transport infrastructure, the sustainable transport hierarchy should be considered to give priority to meeting the demand for travel by walking, cycling and public transport ahead of private motor vehicles.

Future Wales: The National Plan 2040

Future Wales is the national development framework for Wales which sets out the direction for development in Wales up to 2040. Future Wales aims to promote development that enhances wellbeing and quality of life.

Future Wales pledges to shape growth around sustainable forms of transport and places that make people and the environment healthier. Development will focus on active travel and public transport, allied with a reduced reliance on private vehicles.

Policy 12: Regional Connectivity of Future Wales outlines the following with regard to car parking at future developments:

- *"Planning authorities must act to reduce levels of car parking in urban areas, including supporting car-free developments in accessible locations and developments with car parking spaces that allow them to be converted to other uses over time. Where car parking is provided for new non-residential development, planning authorities should seek a minimum of 10% of car parking spaces to have electric vehicle charging points."*

Planning Policy Wales (edition 12, 2024)

Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Assembly Government (the Assembly Government). It is supplemented by a series of Technical Advice Notes (TANs). Procedural advice is given in circulars and policy clarification letters.

Edition 12 was published in February 2024. PPW states at Section 4.1 that:

'The planning system should enable people to access jobs and services through shorter, more efficient and sustainable journeys, by walking, cycling and public transport. By influencing the location, scale, density, mix of uses and design of new development, the planning system can improve choice in transport and secure accessibility in a way which supports sustainable development, increases physical activity, improves health and helps to tackle the causes of climate change and airborne pollution by:

- *Bringing services to people to reduce the need to travel. This is not about preventing travel altogether, it is about planning ahead for better physical and digital connectivity to support access to more local services, and more home and remote working. If more people can walk and cycle for everyday trips, we will reduce our dependency on cars.*
- *Allowing people and goods to move easily from door-to-door by accessible, sustainable and efficient transport. To achieve this, we will need to invest in reliable, efficient and affordable transport services that people want to use, can use and do use. We also need the transport infrastructure to support those services. We will make sure our transport infrastructure is safe, accessible, well-maintained and future-proofed, to adapt to climate change.*
- *Where we need new transport infrastructure, we will use the sustainable transport hierarchy to give priority to meeting the demand for travel by walking, cycling and public transport ahead of private motor vehicles.*
- *Encouraging people to make the change to more sustainable transport. If we are going to meet our climate change targets, we also need people to travel differently. Which means making it easier to do the right thing. We will do this by making low-carbon sustainable transport more attractive and more affordable, and by adopting innovations.'*

The overreaching goal of The Welsh Government is to reduce reliance on single occupancy vehicles and support a modal shift to walking, cycling and public transport.

PPW states that:

'The planning system has a key role to play in reducing the need to travel and supporting sustainable transport, by facilitating developments which:

- *Are sited in the right locations, where they can be easily accessed by sustainable*
- *Modes of travel and without the need for a car;*
- *Are designed in a way which integrates them with existing land uses and neighbourhoods: and;*
- *Make it possible for all short journeys within and beyond the development to be easily made by walking and cycling.'*

Promoting Walking and Cycling

PPW details the Welsh Government's objective of promoting active travel and references the Active Travel (Wales) Act 2013. This Act is referenced at para, 4.1.26 where PPW 12 states:

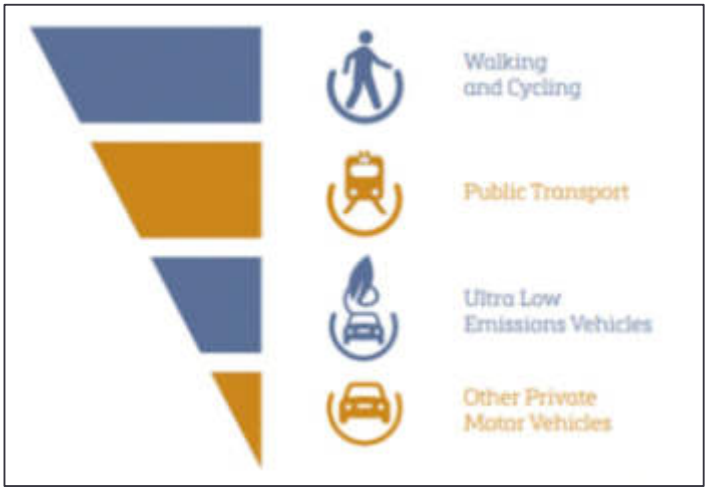
'The Active Travel (Wales) Act 2013 makes walking and cycling the preferred option for shorter journeys, particularly everyday journeys, such as to and from a workplace or education establishment, or in order to

access health, leisure or other services or facilities. The Active Travel Act requires local authorities to produce Active Travel Network Maps (ATNMs), identifying the walking and cycling routes required to create fully integrated networks for walking and cycling to access work, education, services and facilities'.

PPW also states that:

- *'The planning system has an important role to play in promoting and supporting the delivery of the Active Travel Act and creating the right environments and infrastructure to make it easier for people to walk and cycle, including new and improved routes and related facilities.'*

PPW includes at Figure 9 the following Sustainable Transport Hierarchy for Planning:



In relation to the sustainable transport hierarchy, PPW states that:

- *'The sustainable transport hierarchy should be used to reduce the need to travel, prevent car-dependent developments in unsustainable locations, and support the delivery of schemes located, designed and supported by infrastructure which prioritises access and movement by active and sustainable transport. The sustainable transport hierarchy must be a key principle in the preparation of development plans, including site allocations, and when considering and determining planning applications.'*

Parking

In relation to parking, PPW details:

- *'Car parking provision is a major influence on how people choose to travel and the pattern of development. Where and how cars are parked can in turn be a major factor in the quality of a place.'*

Additionally, PPW states:

- *'A design-led approach to the provision of car parking should be taken, which ensures an appropriate level of car parking is integrated in a way which does not dominate the development. Parking provision should be informed by the local context, including public transport accessibility, urban design principles and the objective of reducing reliance on the private car and supporting a modal shift to walking, cycling and public transport.'*

PPW notes that Local authorities are required to develop an integrated parking strategy which complies with the overall transport and locational policies of the development plan. Additionally, maximum levels of parking for broad classes of development should be established in conjunction with a threshold size of development above which such levels will apply.

Technical Advice Note 18 also details national planning policy on parking matters and this is described in sub-section 2.6.

Technical Advice Note 18: Transport (TAN18)

TAN 18 identifies that Planning Policy Wales and the Wales Transport Strategy both aim to secure the provision of transport infrastructure and services, which improve accessibility, build a stronger economy, improve road safety and foster more sustainable communities.

To achieve this and the core objectives, the following initiatives relevant to the proposed development are:

- *'Reducing the need to travel;*
- *Promoting walking and cycling;*
- *Managing parking provision; and,*
- *Encouraging the location of development near other related uses to encourage multi-purpose trips.'*

TAN 18 notes that where larger housing development applications require a Transport Assessment information on measures to encourage sustainable travel, (as detailed in TAN 18) shall be incorporated in the TA.

Transport Implementation Strategy

It is considered that the proposed development is fully in compliance with all relevant national and local planning and transport related planning policy guidance.

A Travel Plan will be prepared for the development which will detail measures and objectives to encourage and facilitate sustainable travel to and from the proposed development by staff and learners. The Travel Plan encompasses the principal objective and component of the Transport Implementation Strategy as required by guidance detailed in Planning Policy Wales Technical Advice Note 18: Transport.

Paragraph 9.7 of TAN 18 states:

- *'TIS resulting from the TA process are intended to incorporate all components of a Travel Plan and ensure these are integrated with design elements of new development.'*
- *In conclusion, it is considered that in transport and planning policy terms the planning application proposes 'accessible housing development' as defined in paragraphs 3.4 to 3.6 in Planning Policy Wales Technical Advice Note 18: Transport.'*

Active Travel Act Guidance 2021 (Wales)

The Active Travel Act places a requirement on local authorities to continuously improve facilities for those who walk and cycle and to prepare information, such as maps, that identify current and potential future routes for their use.

The Act also requires highway authorities to have regard in the construction and improvement of highways to enhance provision for cyclists and pedestrians. The Active Travel Act makes provision for:

- *'Approved maps of existing active travel routes and related facilities in a local authority's area;*
- *Approved integrated network maps of the new and improved active travel routes and related facilities needed to create integrated networks of active travel routes and related facilities in a local authority's area;*

- *Requiring local authorities to have regard to integrated network maps in preparing transport policies and to make continuous improvements in the range and quality of active travel routes and related facilities; and,*
- *Requiring the Welsh Ministers and local authorities, in constructing and improving highways, to have regard to the desirability of enhancing the provision made for walking and cycling.'*

With regards to new development, there is further guidance:

- *'Developments that do not adequately make provision for walking and cycling should not be approved. This may include adequate off-site improvements for pedestrians and cyclists using existing highways that are affected by the development.*
- *Planning Policy Wales requires that sustainable transport measures be included before the development is complete "Importantly, sustainable transport infrastructure and services should be prioritised and put in place from the outset, before people have moved in and travel patterns have been established.'*

3.2 Local Policy

Second Deposit Revised Carmarthenshire Local Development Plan 2018 – 2033

- *'Strategic Policy – SP 17: Transport and Accessibility Sustainable and deliverable development requires an integrated, accessible, reliable, efficient, safe, and sustainable transport network to underpin delivery'.*
- *'TRA2: Active Travel Proposals which enhance walking and cycling access by incorporating the following within the site, and/or making financial contributions towards the delivery of off-site provision, will be supported.'* This includes
- *'TRA5: Highways and Access Standards in Development Proposals for development will be permitted where they: a) Incorporate the necessary access standards reflecting the road classification and conditions; b) Include appropriate visibility splays and design features necessary to ensure highway safety and that the ease of movement is maintained, and enhanced where required; c) Do not generate unacceptable levels of traffic which has a detrimental impact on the surrounding road network, highway safety, or would cause significant harm to the amenity of residents. d) Will not result in offsite congestion in terms of parking or service provision.'*

3.3 Vehicle Parking Standards

Parking standards dictate a level of 1 space per each member of teaching staff, 1 space per 2 ancillary staff, 1 space per 5 students and 5 visitor spaces. This would require a parking level in excess of 500 spaces and is not considered a sustainable approach for the site.

It is considered that this location is not Zone 1, therefore Zone 2 – 6 standards have been applied.

3.4 Policy Summary

With regards to planning policy at all levels, the following can be concluded, with the effects of development set out later in the Report.

- The Campus is already located at the site and therefore has an established location which is deemed to be accessible.

- The Campus is accessible by foot, bicycle and public transport.
- The proposals seek to further enhance connectivity to the wider Active Travel Network as well as contribute by including improvements along Pibwrlwyd Lane.
- The proposals do not result in a detrimental impact on the highway network.

4. Development Proposal

4.1 Proposal Overview

The development proposal will result in the creation of a new Creative Arts Hub catering for an additional 700 students and the new Vocational Skills Hub catering for an additional 1,685 students (all FTE), with a mix of full and part-time delivery including evenings and weekends. The new College will bring together all Campus locations including Pibwrlwyd, Ammanford and Jobs Well into one location.

In total, it is expected that the Campus will provide space for up to 3,613 learners and staff overall albeit this is subject to confirmation. As previously noted, it is expected that the future total capacity at the Campus will be in the region of 1,100 learners, up from 400 learners at the moment, so a roughly 2.75x increase in the number of pupils.

4.2 Parking Strategy / Justification

The proposed parking strategy has been discussed and agreed in principle with CCC Highways albeit the strategy is also set out below and is based on an assessment of potential parking demand undertaken using a number of methodologies. It is pertinent to note that it is difficult to predict the exact number of spaces, albeit a high-level number estimation can be reached and also further refined following PAC submission.

Policy Parking Requirements

Parking standards dictate a level of 1 space per each member of teaching staff, 1 space per 2 ancillary staff, 1 space per 5 students and 5 visitor spaces. It is considered that this location is not Zone 1, therefore Zone 2 – 6 standards have been applied. **This would however require a parking level in excess of 500 spaces** and is not considered a sustainable approach for the Campus, particularly given the number of coaches that the College with run.

Parking Based on Existing Surveys across College Campus Locations

As shown in the existing car park surveys, there is an approximate **maximum existing car parking demand of circa 310 spaces across all existing Campus locations**. This does not however take into the account the more sustainable location of the Pibwrlwyd Campus, which has the lowest level of car driver usage (43% car driver alone).

If the existing Pibwrlwyd Campus parking ratio of leaners and staff to cars parked is used for the entire Campus (125 cars parked in the most recent spot count over the Campus), which is 8% of total people at the Campus (1,455 learners + 118 staff = 1,573 in total), and apply this to the overall leaners and staff to be at the Campus in the future (3,613 in total), **then this equates to circa 290 parking spaces overall (with circa 35 spaces to the south and circa 255 spaces to the north).**

Parking Demand Based on Maximum Pupil Uplifts

The existing college has a maximum capacity of around 400 learners with the future College having a capacity of around 1,100 learners; this represents an increase of around 2.75 / 275%. **If the existing in / out ATC profile is uplifted by this ratio, then this results in a parking accumulation / demand of 263 spaces across the northern part of the Campus.**

Parking Provision / Demand Summary

Based on an assessment of determining / justifying appropriate levels of parking numbers for the redeveloped College, it is reasonable to suggest that future parking demand could be in the region of 250 spaces, with this level of parking striking the right balance when considered against improvements to sustainable / active travel measures and the number of coaches that will be in operation.

The current masterplan shows up to approximately 250 spaces in the northern main car park area, which, does not necessarily accord to standards, however, does accord with the predicted demand at the Campus. In total the overall parking on the Campus is as follows:

- 240 standard spaces;
- 12 disabled spaces;
- 2 van / minibus spaces for maintenance / small deliveries; and,
- 9 - 10 coach spaces for up to 13m / 57-seater coaches.

4.3 Coach Parking

It is proposed that coach parking is undertaken to the south of Pibwrlwyd Lane. This was subject to a lengthy design process whereby it was determined that this location was the most suitable.

The coach area provides space for 7 - 9 coaches, with 1 coach space available at the main Campus entrance to the north of Pibwrlwyd Lane. On this basis, space for 10 coaches could be accommodated without impacting the operation of the public highway.

As previously noted, around 20% of pupils currently travel to Pibwrlwyd Campus by funded bus. Discussions with the education department at the Council has indicated that there would be a requirement for up to 10 buses in the future, which has a total capacity of circa 570 pupils based on 57-seater / 13m coaches (which are the maximum coach sizes expected).

- Drawing Reference 211245-100, 211245-101 and 211245-102 (Appendix B)

4.4 Access

Vehicle Access

It is proposed that vehicle access will be taken from the following locations:

Pibwrlwyd Lane West (North - Main Car Park Access)

The existing junction will be amended to an all-movements junction which allows both ‘in’ and ‘out’ trips to occur; the existing arrangement is an ‘in’ only from this location. It is pertinent to note that final drawings will be finalised as part of the planning application.

Pibwrlyd Lane West (South - Coach Access)

The southern area will be upgraded from the existing overspill car park, to provide a coach drop-off / pick-up area. There will be a separate ‘in’ and ‘out’ access to ensure this area operates effectively. It is pertinent to note that final drawings will be finalised as part of the planning application.

Pibwrlwyd Lane East (East - Construction Workshop Access)

A new access will be provided in this location, providing access to the construction workshops on the eastern side of the Campus. It is pertinent to note that final drawings will be finalised as part of the planning application.

Pedestrian and Cycling Access (Active Travel)

It is proposed that main pedestrian access is taken from the A484 via a new connection albeit access is also able to be taken adjacent to the vehicular entrance from Pibwrlwyd Lane.

It is proposed that main cyclist access will be taken from the new connection onto the A484 in the west.

Further footway and crossing infrastructure improvements are to be provided along Pibwrlwyd Lane to enhance connectivity.

- Drawing Reference – 211245-109 (Appendix C)

4.5 Visibility Splays

Visibility splays have been provided for each access junction based on 20mph as per the advice located in https://datamap.gov.wales/maps/roads-affected-by-changes-to-the-speed-limit-on-restricted-roads/view#/. This requires splays of 2.4m by 25m in accordance with Manual for Streets.

Pedestrian visibility splays will also be incorporated in the final scheme.

- Drawing Reference 211245-108 (Appendix D)

4.6 Stopping-up Order and Highway Dedication

In order to deliver the proposals, there will need to be a level of stopping up to the public highway as well as highway dedication.

- Drawing Reference 211245-107 (Appendix E)

4.7 Road Safety Audit

A Stage 1 Road Safety Audit is yet to be undertaken albeit this will be undertaken for the planning submission. An audit brief will be discussed and agreed in advance with the Council.

4.8 Cycle parking

Cycle parking will be provided for both learners and staff. Staff provision will be located within the building. Learner provision will be provided on the northern part of the Campus to tie-in with the Active Travel route provided from the A484 in the west.

4.9 Deliveries and Servicing Strategy

Deliveries will be undertaken for both sides of the Campus including the main building and the construction workshop albeit the nature of deliveries will be different. It is pertinent to note that the construction workshops will be limited to 10m rigid vehicles only, with a maximum of 2 deliveries per day as a worst-case.

Deliveries will be managed and details kept on record / file.

With regards to refuse collection, this will be undertaken in the same manner as the delivery strategy.

- Drawing Reference 211245-103, 211245-104 and 211245-106 (Appendix F)

4.10 Emergency Service Access

Emergency service vehicles can access the site and serve the required areas, with a fire strategy prepared as a separate document.

5. Effects of Development

5.1 Vehicle and Multi-Modal Trip Generation

In order to determine an appropriate car driver trip generation for the new Campus, a combination of data has been used based on the existing in / out count information which has been calibrated based on car park spot counts, the multi-modal data and the proposed level of car parking provided at the site (circa 97 existing demand and 250 spaces proposed = factor of circa 2.5).

It is also pertinent to note that up to 9 – 10 coaches can be accommodated at the Campus, with there expected to be a large proportion of pupils arriving by bus (in excess of 20% in the future). The proposed car driver trip generation is provided in **Table 5.1** and the full estimated multi-modal is provided in **Table 5.2**.

It is difficult to exactly predict the level of College Campus traffic on the basis that there are a few unknowns with regards to the future operation and the catchment areas. The below is based on the best possible synthesis of available data, although some numbers have growth applied, with arrival / departure profiles slightly imbalanced as a result.

The below is however seen as a fair reflection with regards to total two-way traffic and, in particular during the morning and evening peak periods.

Table 5.1 Indicative Car Driver / Car Share Campus Vehicle Trip Generation

Vehicle Trip	AM Peak		PM Peak		Daily	
	IN	OUT	IN	OUT	IN	OUT
Vehicle Trips (Existing North side only)	47	9	21	70	203	205
Vehicle Trips (Existing Whole Campus)	62	11	34	78	266	269
Vehicle Trips (Proposed North Side only)	135	26	68	190	587	591
Car Driver (Net Additional)	**+73**	**+15**	**+34**	**+111**	**+321**	**+323**

As shown above, there could be an additional two-way flow of 88 vehicles in the morning peak and 145 vehicles in the evening peak. Over the course of an entire day, the new Campus could generate demand for an additional 644 two-way vehicle trips.

It is pertinent to note that this likely to be an over-estimation on the basis of how many coaches the College would provide in the future, with capacity for in the region of 500 pupils over the course of an entire day. Increases in walking, cycle and public transport are also expected and will be further promoted through the Travel Plan.

Table 5.2 Indicative Proposed Multi-Modal Trip Generation (Net Additional)

Mode	AM Peak		PM Peak		Daily	
	IN	OUT	IN	OUT	IN	OUT
Walk (2%)	+1	+0	+1	+2	+6	+6
Cycle (2%)	+1	+0	+1	+2	+6	+6
Car drive alone (43%)	+34	+7	+16	+51	+148	+149
Car passenger (11%)	+9	+2	+4	+13	+39	+39
Car dropped off or picked up (7%)	+5	+1	+2	+8	+22	+23
Public Bus (12%)	+9	+2	+4	+13	+39	+39
Funded Bus (20%)	+11	+2	+5	+17	+48	+48
Train (2%)	+1	+0	+1	+2	+6	+6
Other (2%)	+1	+0	+1	+2	+6	+6
Total (100%)	**+73**	**+15**	**+34**	**+111**	**+321**	**+323**

5.2 Highway Impact and Traffic Distribution

A distribution exercise was undertaken based on turning counts at the Pibwrlwyd Lane roundabout and then distributed on the network in accordance with further network turning flows.

With regards to the resultant highway impact, Table 5.3 sets this out in summary and Appendix G sets this out in more detail in Flow Diagram format, with the following scenarios presented:

- Surveyed Flows 2023 AM, PM Peak
- Factored Surveyed Flows Observed 2025 AM, PM Peak
- Development Traffic AM, PM Peak
- Wider Allocation Traffic AM, PM Peak
- Base Scenario 2027 AM, PM Peak
- Development Scenario 2027 AM, PM Peak
- Base Scenario 2032 AM, PM Peak
- Development Scenario 2032 AM, PM Peak

Table 5.3 Junction Impacts (Two-way Flows) AM Peak

Junction	Observed 2025	Dev Traffic	Allocation Traffic	Base Scenario 2027*	Dev Scenario 2027	Base Scenario 2032**	Dev Scenario 2032
Pibwrlwyd Roundabout	1,820	+88	+52	1,847	3,869	1,873	1,961
A484 New Priority Junction	1,717	+68	+263	1,849	1,917	1,980	2,048
Morrisons Roundabout	2,339	+68	+251	2,465	2,533	2,590	2,658
Pensarn Roundabout	4,997	+68	+216	5,106	5,174	5,214	5,282

Note: 2027 includes 50% of committed development and 2032 includes 100% of committed development

Table 5.4 Junction Impacts (Two-way Flows) PM Peak

Junction	Observed 2025	Dev Traffic	Allocation Traffic	Base Scenario 2027	Dev Scenario 2027	Base Scenario 2032	Dev Scenario 2032
Pibwrlwyd Roundabout	1,266	+145	+76	1,304	1,449	1,342	1,487
A484 New Priority Junction	1,256	+117	+375	1,444	1,561	1,631	1,749
Morrisons Roundabout	2,164	+117	+338	2,333	2,450	2,502	2,619
Pensarn Roundabout	4,924	+117	+275	5,061	5,179	5,199	5,316

Note: 2027 includes 50% of committed development and 2032 includes 100% of committed development

5.3 Junction Modelling

Junction modelling was undertaken at the above locations for the aforementioned scenarios, with an overall result provided in Table 5.5 below and detailed outputs provided in Appendix H. A Red / Amber / Green (RAG) system has been adopted to assist with identifying the results of each scenario.

The junction modelling indicates that that none of the assessed junction are expected to experience capacity problems albeit the Morrison's roundabout is approaching an RFC of 0.85.

This is reasonably consistent with the Asbri Transport TA modelling outputs, which indicated the following overarching results for each junction:

- Pibwrlwyd Roundabout - Max RFC of 0.65 in the PM Peak in 2037.
- A484 New Priority Junction - Max RFC of 0.83 in the PM Peak in 2037.
- Morrisons Roundabout - Max RFC of 0.86 in the PM Peak in 2037.
- Pensarn Roundabout - Operating close to capacity with limited available PRC in the AM Peak.

Table 5.5 TTC Junction Modelling RAG Summary (Overall Junction Performance)

Junction	Observed 2025 AM/PM	Base Scenario 2027 AM/PM	Dev Scenario 2027 AM/PM	Base Scenario 2032 AM/PM	Dev Scenario 2032 AM/PM
Pibwrlwyd Roundabout	Max RFC = 0.56	Max RFC = 0.58	Max RFC = 0.61	Max RFC = 0.59	Max RFC = 0.61
A484 New Priority Junction	Max RFC = 0.00	Max RFC = 0.00	Max RFC = 0.35	Max RFC = 0.69	Max RFC = 0.74
Morrisons Roundabout	Max RFC = 0.70	Max RFC = 0.76	Max RFC = 0.76	Max RFC = 0.81	Max RFC = 0.81
Pensarn Roundabout	PRC = 4.1%	PRC = 5.8%	PRC = 5.5%	PRC = 4.4%	PRC = 3.5%

Note: Green = below 0.85 / 85%, Amber = 0.85 / 85% to 0.99 / 99%, Red = Above 1.0 / 100%

As shown above, there are considered to be no material concerns with regards to the junction modelling outputs albeit the Pensarn Roundabout does begin to experience conditions which should be considered by the Council / SWTRA.

6. Indicative Transport Implementation Strategy (TIS)

6.1 Introduction

A TIS *"should set objectives and targets relating to managing travel demand for the development and set out the infrastructure, demand management measures and financial contributions necessary to achieve them. The TIS should set a framework for monitoring the objectives and targets, including the future modal split of transport to development sites".*

A Transport Implementation Strategy is set out in the following sections below.

6.2 Active Travel and Highway Improvements

- Active Travel connection directly to / from the A484;
- Footway enhancements to Pibwrlwyd Lane;
- Crossing improvements to Pibwrlwyd Lane; and,
- Internal footway links.

6.3 Coach Management Plan

A Coach Management Plan will be prepared for the planning application and will include the following overarching details:

- Details on the coach numbers;
- Details on the strategy for maximising uptake along with funding;
- Details on the layout, design and any associated vehicle tracking; and,
- Details on day to day operation and management.

6.4 Delivery Servicing Management Plan

A DSP will be conditioned as part of the planning approval.

6.5 Travel Plan

A standalone Travel Plan has been prepared as part of the PAC submission and will be subject to monitoring requirements.

6.6 Construction Management

A CEMP will be prepared by the Contractor and TTC will provide high level information in the Transport Assessment submitted for the planning application.

If necessary, a draft CEMP can be prepared for the planning application.

6.7 Road Safety Audit

This will be undertaken as part of the planning application.

The RSA will cover Pibwrlwyd Lane including all access points and changes to the public highway.

6.8 Funding

Any relevant funding mechanisms will be set out, which will include that related to WEPCo, the College and Carmarthenshire County Council where any allowances or inclusions for improvements are able to be delivered through Council mechanisms such as the INM.

7. Summary and Conclusion

7.1 Summary

The following can be summarised with regards to the existing Campus:

- The existing Pibwrlwyd Campus is home to a wide range of curricula that span further and higher education. This includes Art and Design, Animal Science, Automotive Engineering, Business and Management, Catering and Hospitality, Equine Studies, Leisure and Tourism, Teacher Training and Veterinary Nursing. The land around the Campus has a rural setting.
- The existing Pibwrlwyd Campus is served by three vehicle access points including one directly east of the roundabout with the A484 serving the northern buildings and main car park, a central access serving the northern and southern buildings and an eastern access serving the southern buildings only.
- In total, the following staff and pupil numbers are currently accommodated across all Campus locations; this is based on the data we have received from the College:
    - Jobs Well Campus - 412 learners and 62 staff
    - Ammanford Campus - 1,471 learners and 92 staff
    - Pibwrlwyd Campus - 1,459 learners and 117 staff
    - **TOTAL** - **3,342 learners and 271 staff**
- The Campus is located on the northern and southern side of Pibwrlwyd Lane and to the east of the A484, approximately 2km south of Camarthen and the Railway Station. There are bus stops located close to the College on the A484, north of the roundabout, providing access to bus services 195, 197, 198, B13 and X11 Cymru Clipper.
- The Campus is well located to take advantage of sustainable and active travel modes, with Pibwrlwyd Campus having the lowest car driver modal share at 43%.
- The Campus is well located to take advantage of active modes of transport albeit the location just outside the town centre is noted, with uptake by these modes currently reasonable low, with 2% walking, 2% cycling and 14% arriving by public bus (12%) and train (2%).
- There are no existing highway safety concerns on the roads surrounding the Campus location at Pibwrlwyd.

The following can be summarised with regards to the proposed Campus:

- The development proposal will result in the creation of a new Creative Arts Hub catering for an additional 700 students and the new Vocational Skills Hub catering for an additional 1,685 students (all FTE), with a mix of full and part-time delivery including evenings and weekends. The new College will bring together all Campus locations including Pibwrlwyd, Ammanford and Jobs Well. In total, it is expected that the Campus will provide space for up to 3,613 learners and staff albeit this is subject to confirmation. Notwithstanding this, for the purpose of this Transport Assessment, this worst-case scenario has been used.
- The current masterplan shows up to approximately 250 spaces in the northern main car park area, which, does not necessarily accord to standards, however, does accord with the predicted demand at the Campus. In total the overall parking on the Campus is split as 240 standard spaces, 12 disabled

spaces, 2 van / minibus spaces for maintenance / small deliveries and, 8 to 9 coach spaces for up to 13m / 57-seater coaches.

- It is proposed that coach parking is undertaken to the south of Pibwrlwyd Lane. This was subject to a lengthy design process whereby it was determined that this location was the most suitable. The coach area provides space for 7 - 9 coaches, with 1 coach space available at the main Campus entrance to the north of Pibwrlwyd Lane.
- Cycle parking will be provided for both learners and staff. Staff provision will be located within the building. Learner provision will be provided on the northern part of the Campus to tie-in with the Active Travel route provided from the A484 in the west.
- Deliveries and servicing will be undertaken within the site and a DSP can be conditioned.
- With regards to trip generation the Campus could generate up to 88 two-way vehicle trips in the AM peak and 145 two-way trips in the PM peak albeit this is likely to be an over-estimation on the basis that the College will be running a significant number of coaches which will further drive down the number of car trips.
- An assessment of trip impact has been undertaken and determines that the proposals would not result in any capacity increases to a level that would be deemed to be at or over capacity and / or require mitigation.
- A Transport Implementation Strategy (TIS) has been undertaken and will be developed further for the planning application submission.

7.2 Conclusion

In conclusion, it is deemed that the proposals for Coleg Sir Gar at Pibwrlwyd Campus are acceptable in highways and transport terms.

7.3 Next Steps

The view of CCC highways will be obtained and following on from any discussions (as well as consultation responses), relevant changes will be made to the scheme and the Transport Assessment / Travel Plan prior to the final submission.

Appendix A
Campus Masterplan

Note

1. Do not scale from this drawing
2. To be read in conjunction with Project Risk Register
3. To be read in conjunction with all other Landscape Architect's drawings

KEY

Site

- Planning Application Boundary
- Existing Building to be demolished
- Existing Vegetation

Key

- (A) Main Entrance
- (B) Southern Pedestrian Approach — From Pibwrlwyd Lane
- (C) Western Pedestrian Approach — From existing bus stop on A484
- (D) Vehicle Parking — TBC nr. standard spaces; TBC nr. accessible spaces
- (E) SuDS Features — Feature raingardens to central public realm spaces and infiltration basins to external landscape areas
- (F) Central Plaza — External plaza space with planting and ampitheatre seating
- (G) Terraced Landscape — Terraced landscape with lawn and incidental art features
- (H) Art Terrace
- (I) ILS Garden — With external classroom and horticulture areas, feature trees, communal and secluded seating
- (J) Construction Yard — To rear of workshops
- (K) Service Access Road — Access for service, maintenance, emergencyand other vehicular users requiring access to workshops
- (L) ILS Pedestrian Access
- (M) Covered Cycle Shelter — TBC nr. spaces
- (N) Boundary Hedge Planting
- (O) Plant Compound & Substation
- (P) Subterranean Bin Store
- (Q) Plant Room
- (R) Existing Bus Stop
- (S) Coach Drop-off and Pedestrian Crossings
- (T) Pedestrian Footpath Connection to A484

ID	RISK	MITIGATION	DATE MITIGATED

RESIDUAL PROJECT RISKS

DATE	REV	DESCRIPTION OF REVISION	DRAWN BY	APPROVED BY

REVISIONS

STATUS - DRAWING PURPOSE

S2 - *Issued for Pre-Application Consultation*

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CLIENT :

The Welsh Education Partnership (WEPco)

PROJECT TITLE :

Coleg Sir Gâr, Pibwrlwyd

DRAWING TITLE :

Illustrative Masterplan

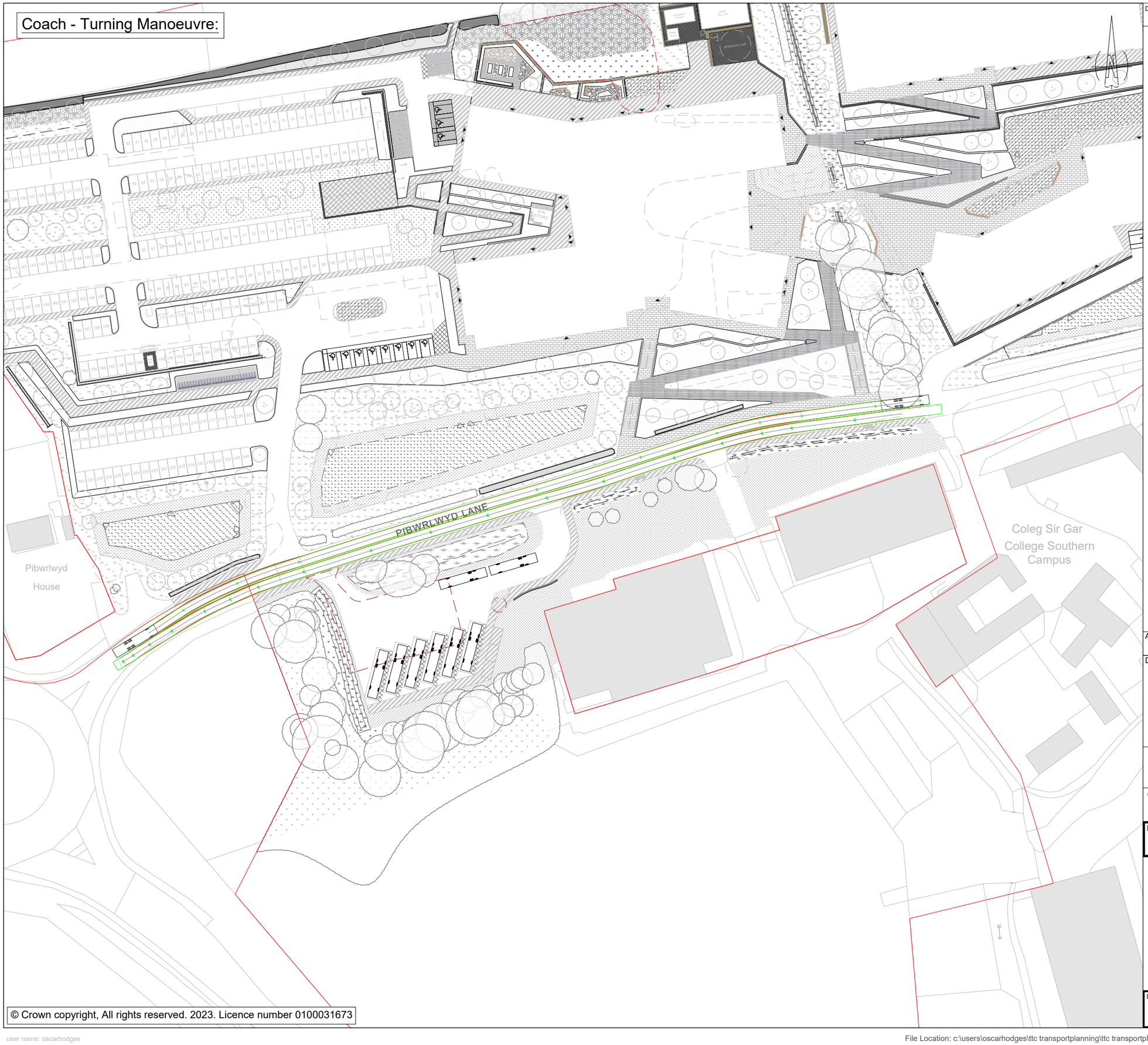
DRAWING SCALE :	DRAWN BY :	DRAWN DATE :
1:750	JJ	05/11/2024
PAPER SIZE :	APPROVED BY :	ALA PROJECT CODE:
A1	BH	ALA824

DRAWING NUMBER : **CR0301-ALA-ZZ-ZZ-D-L-20001**

REVISION : **P01**

Appendix B
Coach Tracking

Coach - Turning Manoeuvre:



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Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

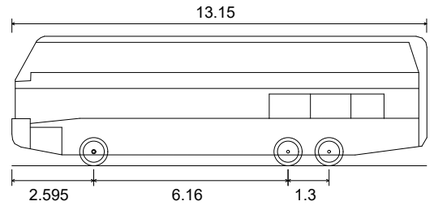
Key:

- Site Boundary
- Architect Layout
- Vehicle Body
- Wheel Base

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.

Vehicle Profile:



Overall Length	13.150m
Overall Width	2.550m
Overall Body Height	4.104m
Min Body Ground Clearance	0.343m
Track Width	2.550m
Lock to Lock Time	6.00s
Wall to Wall Turning Radius	11.065m

A3 SCALE
1:1000

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
Luxury Coach Swept Path Analysis

Client
WEPCo

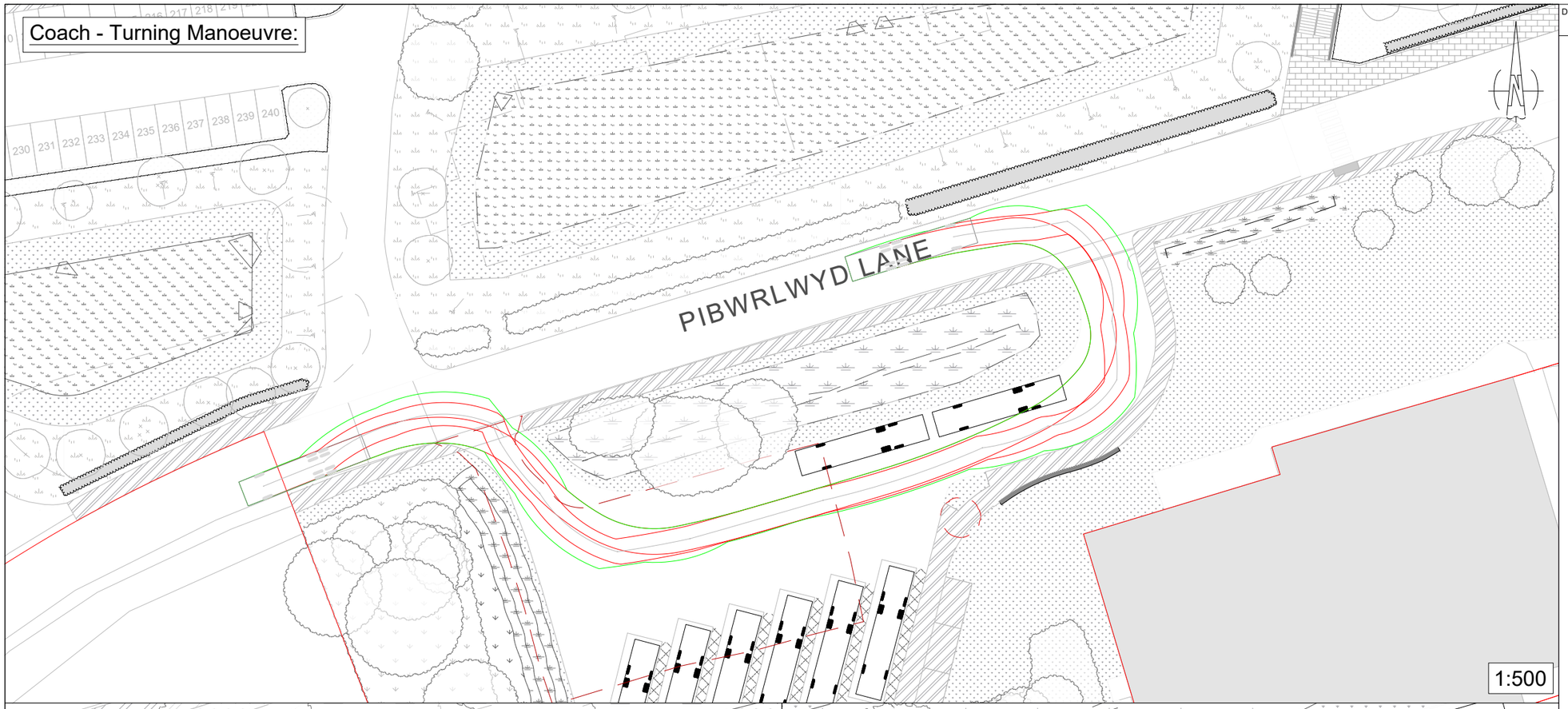
Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

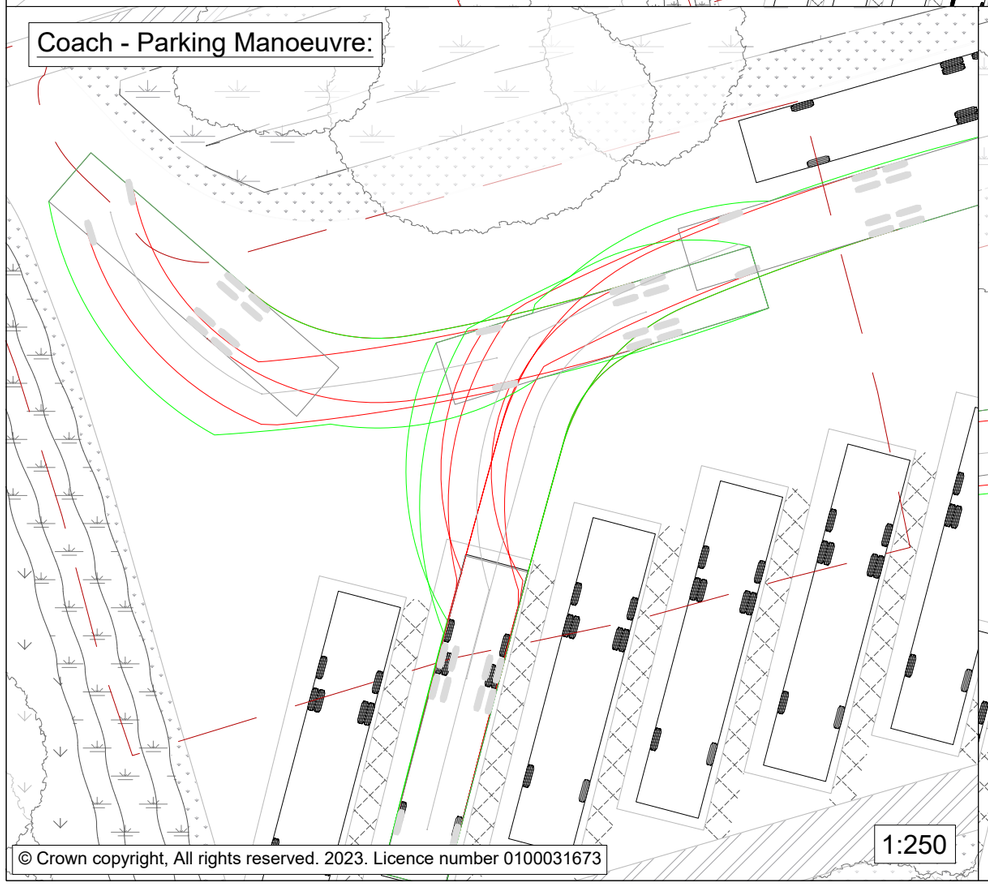
Drawing Number
211245-100

Revision
-

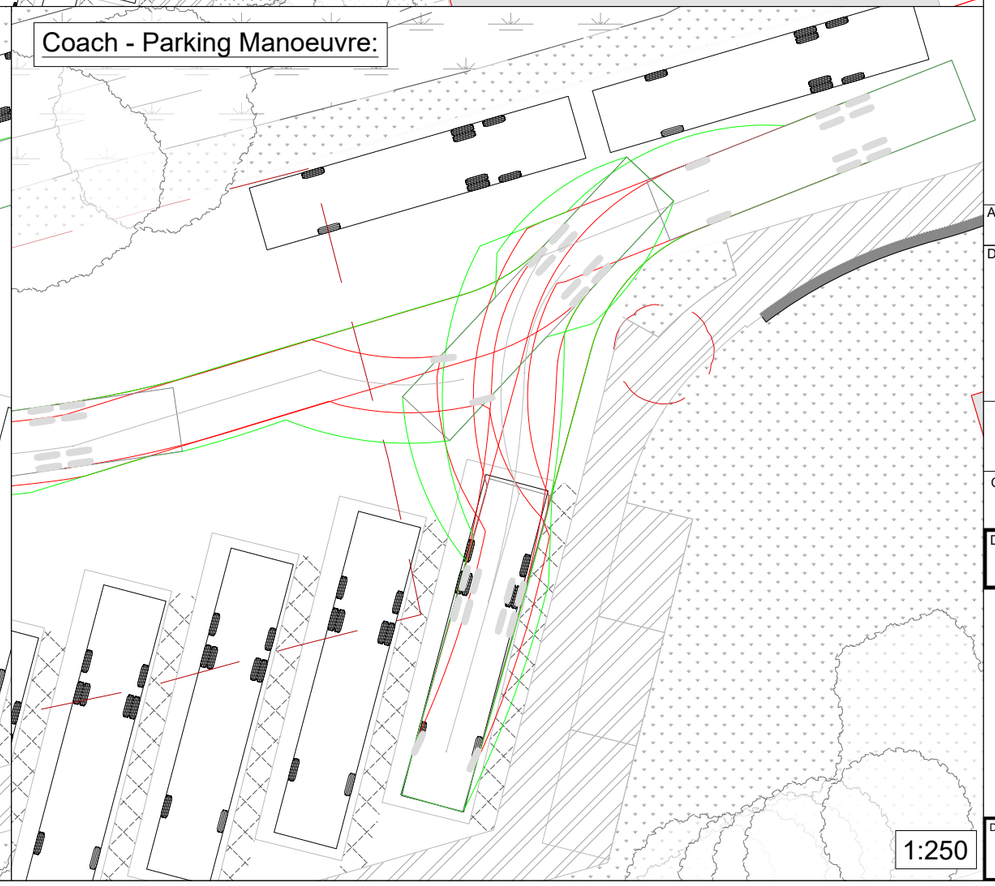
Coach - Turning Manoeuvre:



Coach - Parking Manoeuvre:



Coach - Parking Manoeuvre:



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Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

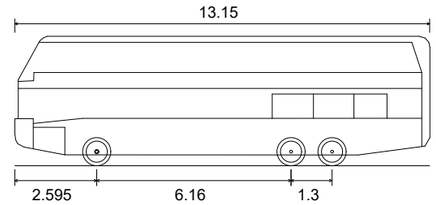
Key:

- Site Boundary
- Architect Layout
- Vehicle Body
- Wheel Base

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.

Vehicle Profile:



Overall Length	13.150m
Overall Width	2.550m
Overall Body Height	4.104m
Min Body Ground Clearance	0.343m
Track Width	2.550m
Lock to Lock Time	6.00s
Wall to Wall Turning Radius	11.065m

A3 SCALE
As shown

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
Luxury Coach Swept Path Analysis

Client
WEPCo

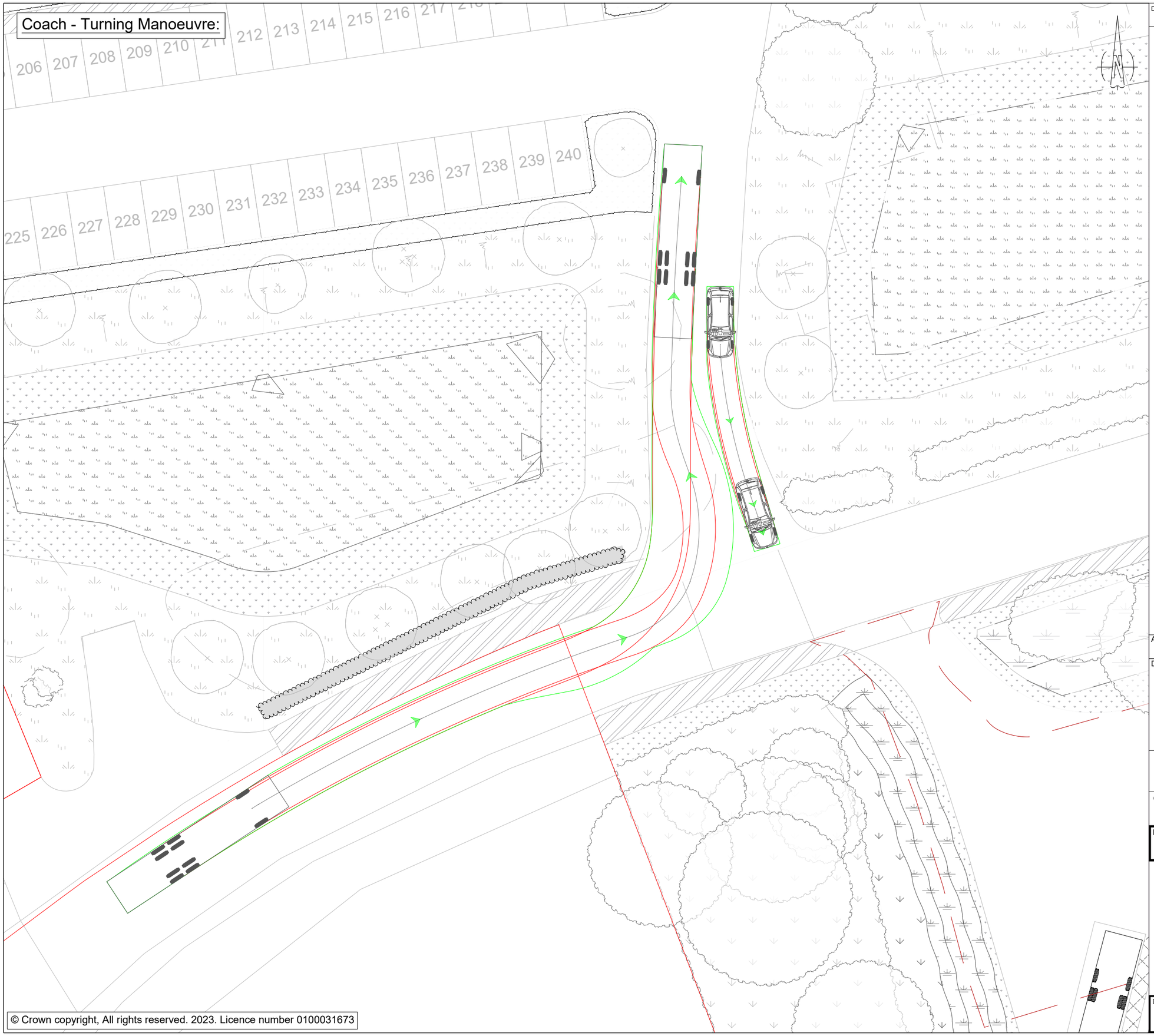
Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

Drawing Number
211245-101

Revision
-

Coach - Turning Manoeuvre:



Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

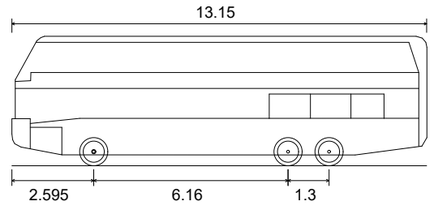
Key:

- Site Boundary
- Architect Layout
- Vehicle Body
- Wheel Base

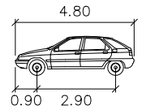
Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.

Vehicle Profile:



Overall Length	13.150m
Overall Width	2.550m
Overall Body Height	4.104m
Min Body Ground Clearance	0.343m
Track Width	2.550m
Lock to Lock Time	6.00s
Wall to Wall Turning Radius	11.065m



SDV

	meters
Width	: 1.80
Track	: 1.80
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

A3 SCALE
1:1000

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
Luxury Coach Swept Path Analysis

Client
WEPCo

Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

Drawing Number
211245-102

Revision
-

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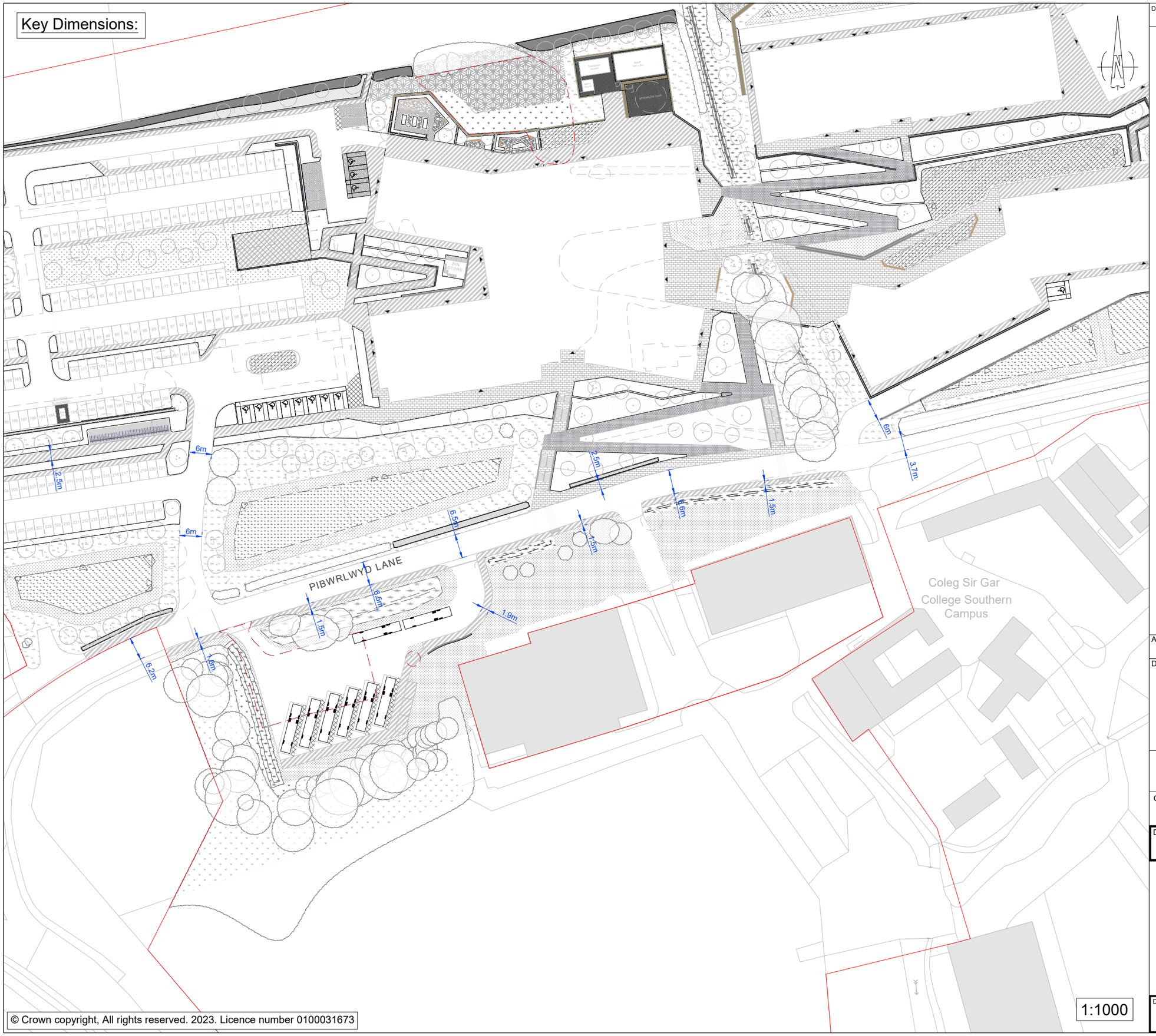
Appendix C
Geometric Measurements

Key Dimensions:



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1:1000

Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

Key:

- Site Boundary
- Architect Layout
- Dimensions (X.Xm)

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.

A3 SCALE
As shown

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
Key Dimensions

Client
WEPCo

Drawing Status
Planning

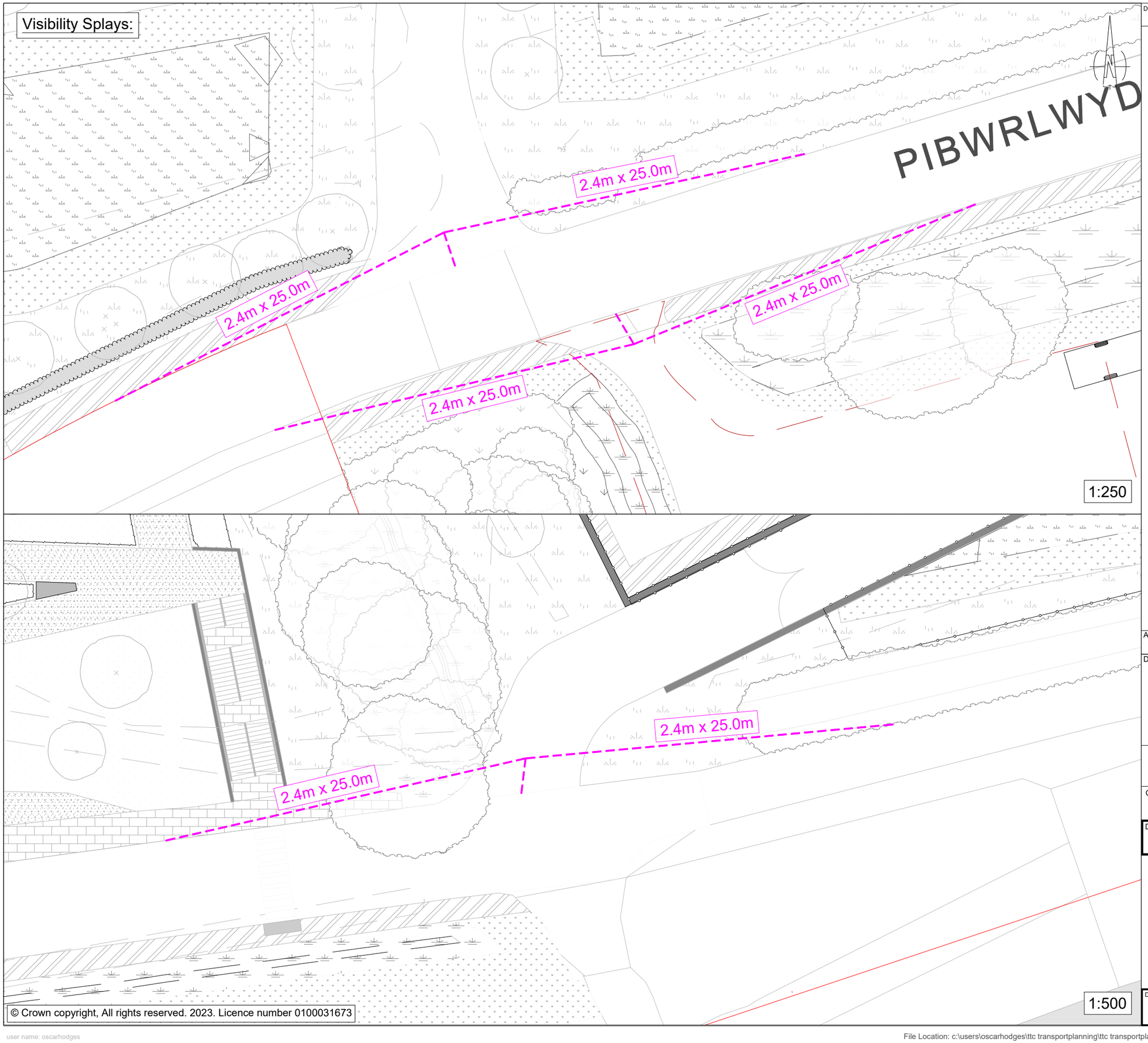
27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

Drawing Number
211245-109

Revision
-

Appendix D
Visibility Splay Drawings

Visibility Splays:



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Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

Key:

- Site Boundary
- Architect Layout
- Visibility Splays (2.4m x 25.0m)

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.
3. Visibility splays have been based on a design speed of 20mph.

A3 SCALE
As shown

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
Visibility Splays

Client
WEPCo

Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

Drawing Number
211245-108

Revision
-

Appendix E
Stopping-up / Highway Dedication Indicative Drawing

Indicative Areas to be Stopped Up:

1:250

Indicative Areas to be Dedicated:

1:500

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Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

Key:

- Site Boundary
- Architect Layout
- Indicative Areas to be Stopped Up
- Indicative Areas to be Dedicated
- Highway Boundary
- Ownership to be Confirmed

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.
3. Highway boundary extents have been interpretted based on data obtained from the Council.

A3 SCALE
As shown

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
Stopping Up and Dedicated Land Plan

Client
WEPCo

Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

Drawing Number
211245-107

Revision
-

Appendix F
Delivery Vehicle Tracking

Rigid Vehicle - Ingress Manoeuvre:

Rigid Vehicle - Egress Manoeuvre:

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Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

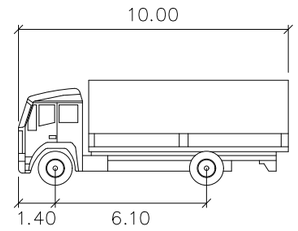
Key:

- Site Boundary
- Architect Layout
- Vehicle Body
- Wheel Base

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.

Vehicle Profile:



Large Truck

	meters
Width	: 2.55
Track	: 2.55
Lock to Lock Time	: 6.0
Steering Angle	: 37.7

A3 SCALE
1:250

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
10m Rigid Vehicle Swept Path Analysis

Client
WEPCo

Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

Drawing Number
211245-103

Revision
-

Rigid Vehicle - Turning Manoeuvre:

Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

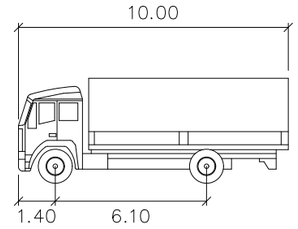
Key:

- Site Boundary
- Architect Layout
- Vehicle Body
- Wheel Base

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.

Vehicle Profile:



Large Truck

	meters
Width	: 2.55
Track	: 2.55
Lock to Lock Time	: 6.0
Steering Angle	: 37.7

A3 SCALE
1:500

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
10m Rigid Vehicle Swept Path Analysis

Client
WEPCo

Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

Drawing Number
211245-104

Revision
-

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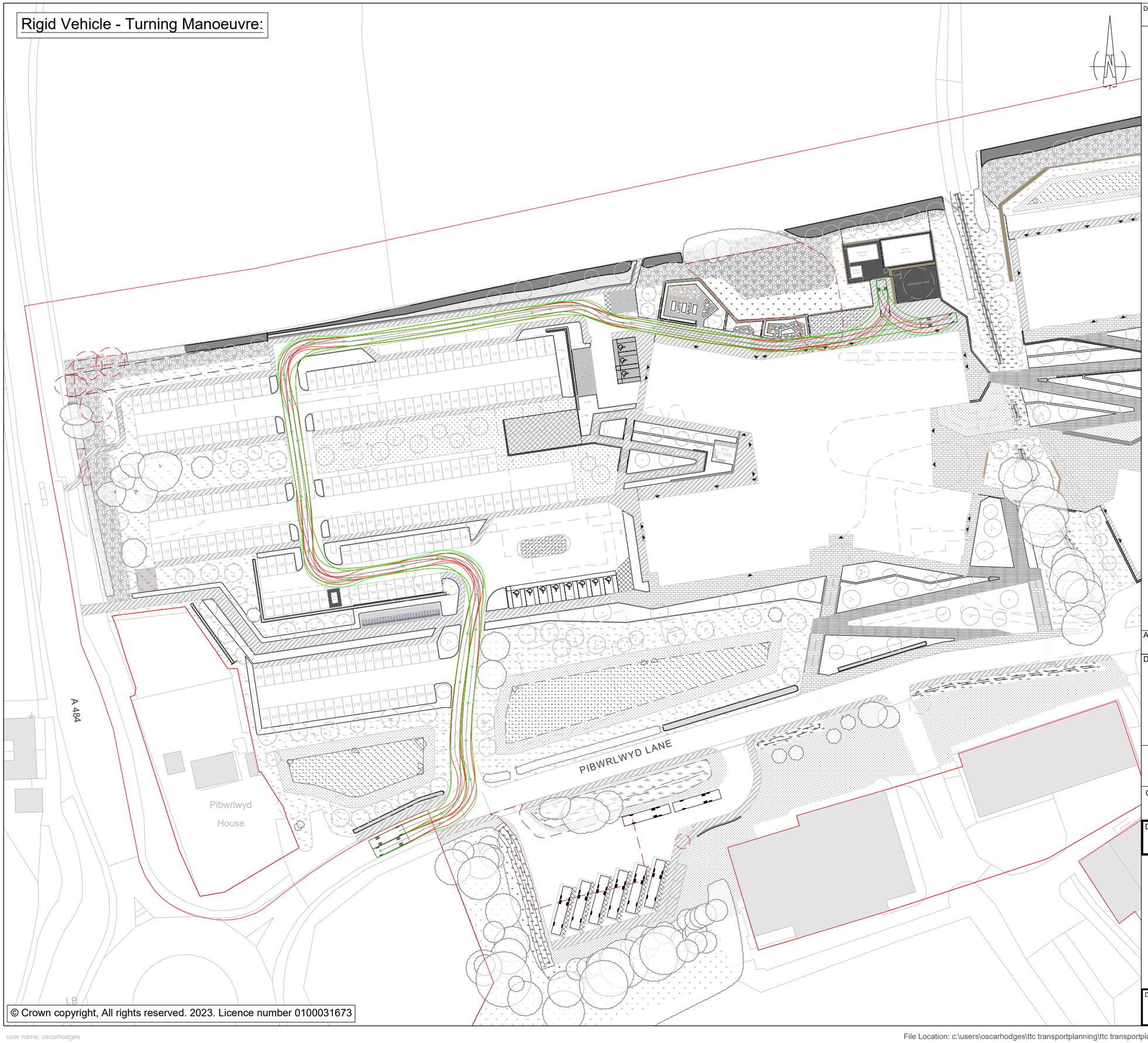
Rigid Vehicle - Turning Manoeuvre:



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Date of 1st Issue	Description	Drawn by	Checked by
15/09/25	First Issue	OH	AH

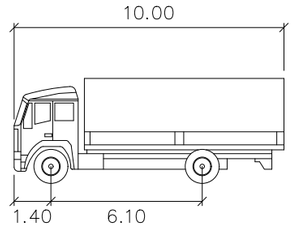
Key:

- Site Boundary
- Architect Layout
- Vehicle Body
- Wheel Base

Notes:

1. Drawing units are in metres unless specified otherwise.
2. Drawing is based on architectural layout produced by Ares Design.

Vehicle Profile:



Large Truck

	meters
Width	: 2.55
Track	: 2.55
Lock to Lock Time	: 6.0
Steering Angle	: 37.7

A3 SCALE
1:500

Drawing Title
WEPCo, Coleg Sir Gar
PAC Submission Drawings
10m Rigid Vehicle Swept Path Analysis

Client
WEPCo

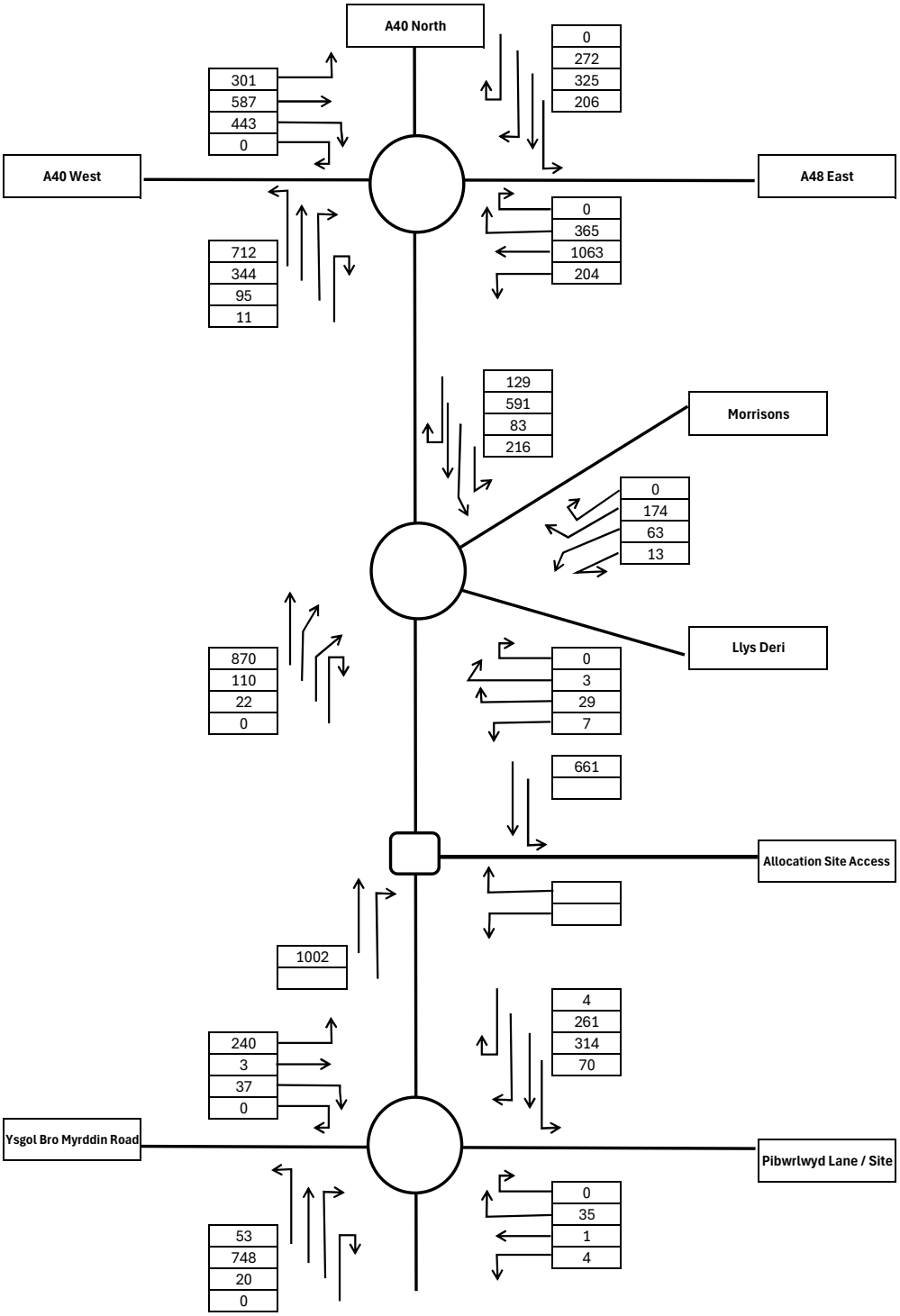
Drawing Status
Planning

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-tp.com

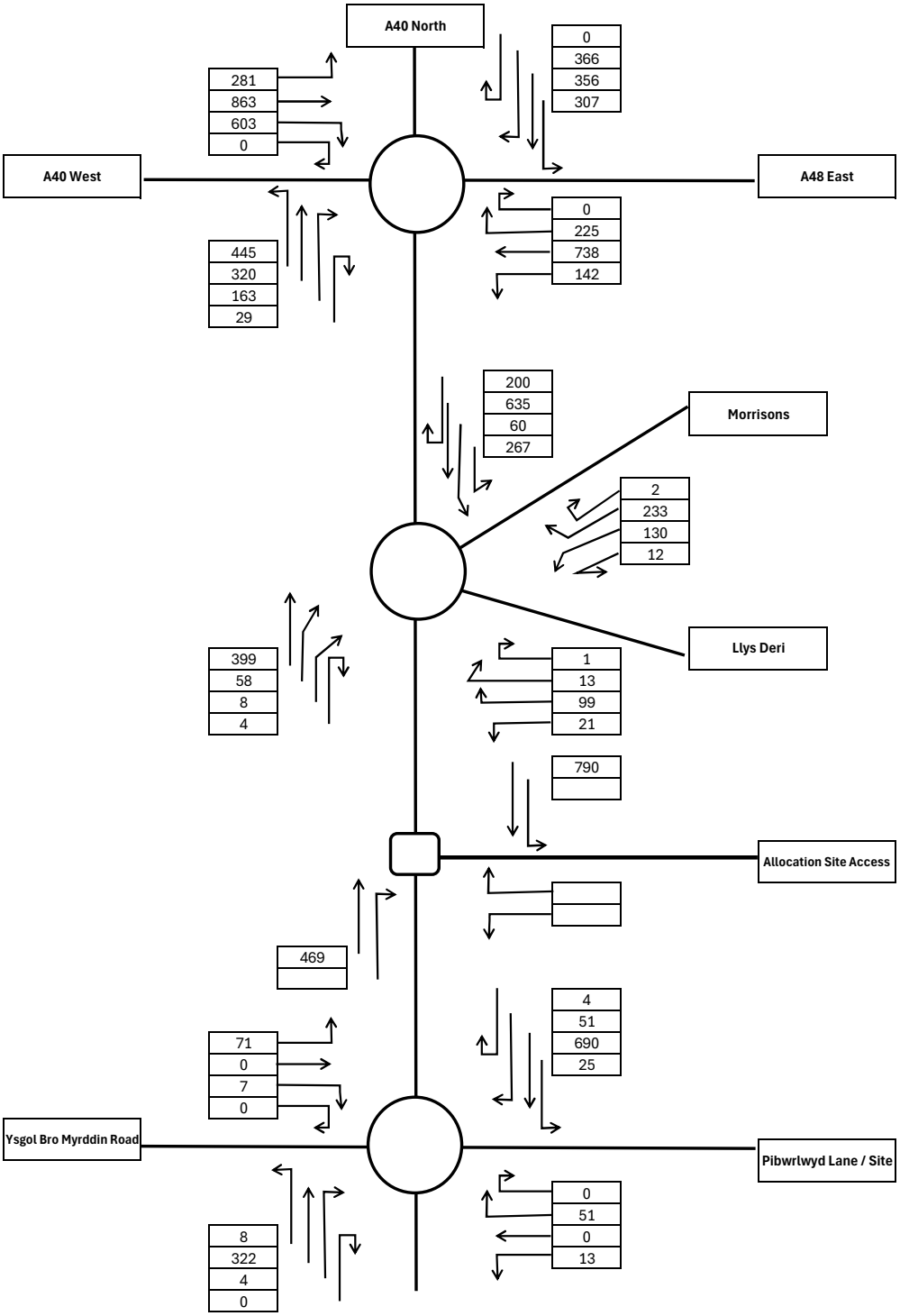
Drawing Number
211245-106

Revision
-

Appendix G
Traffic Flow Diagrams



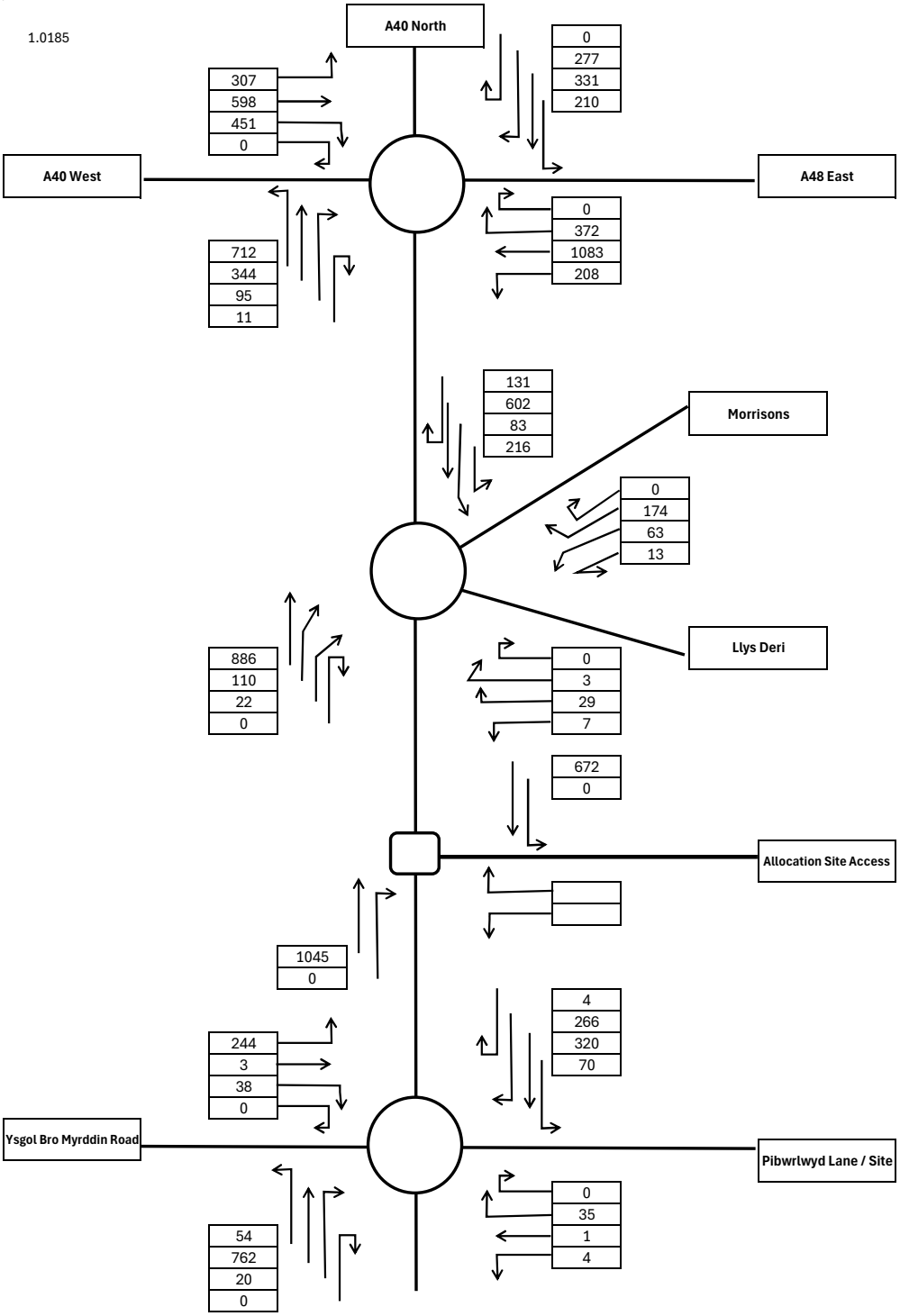
Observed AM Peak 2023



Observed PM Peak 2023

TEMPro Growth

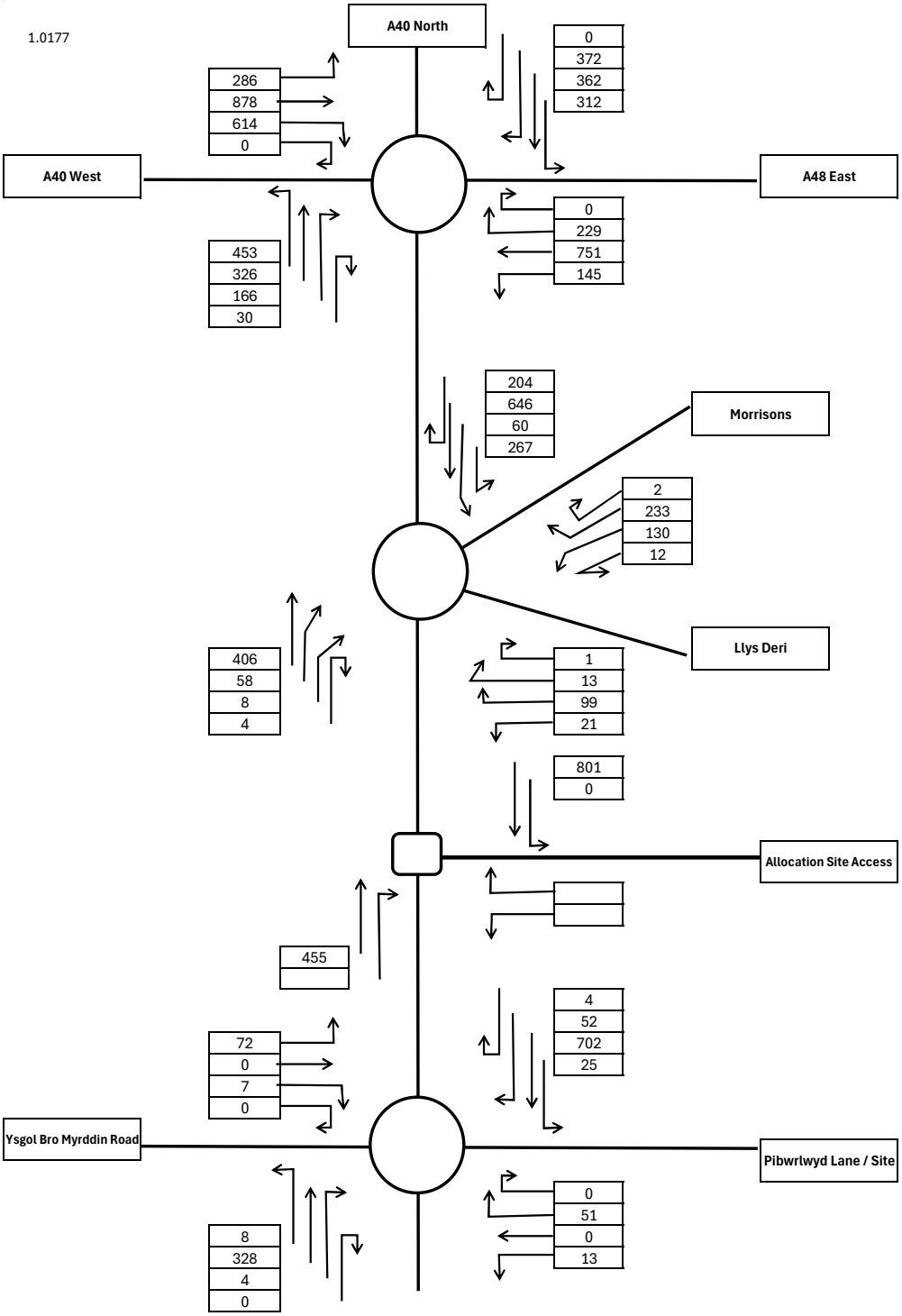
AM 1.0185



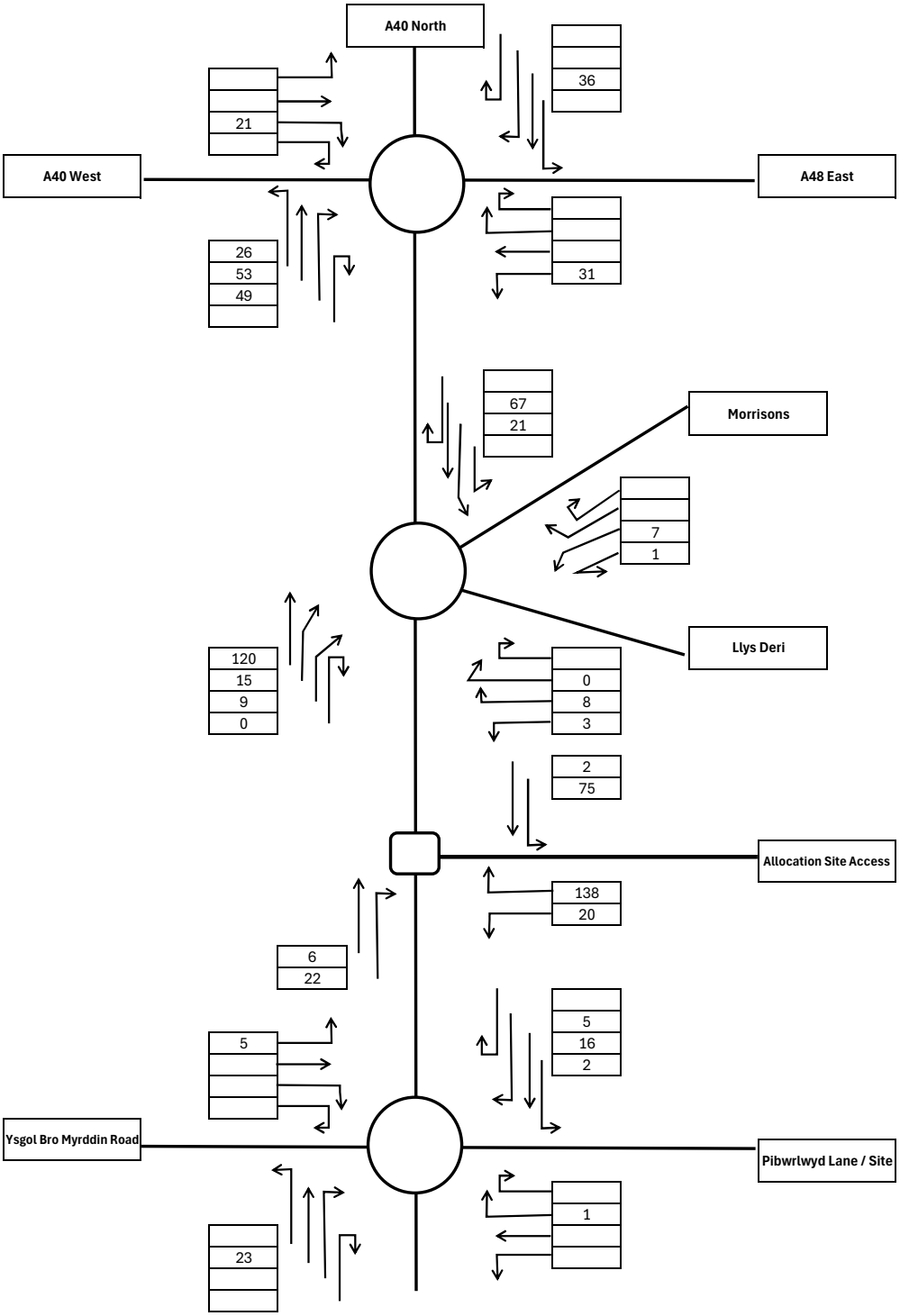
Growthed AM Peak 2025

TEMPro Growth

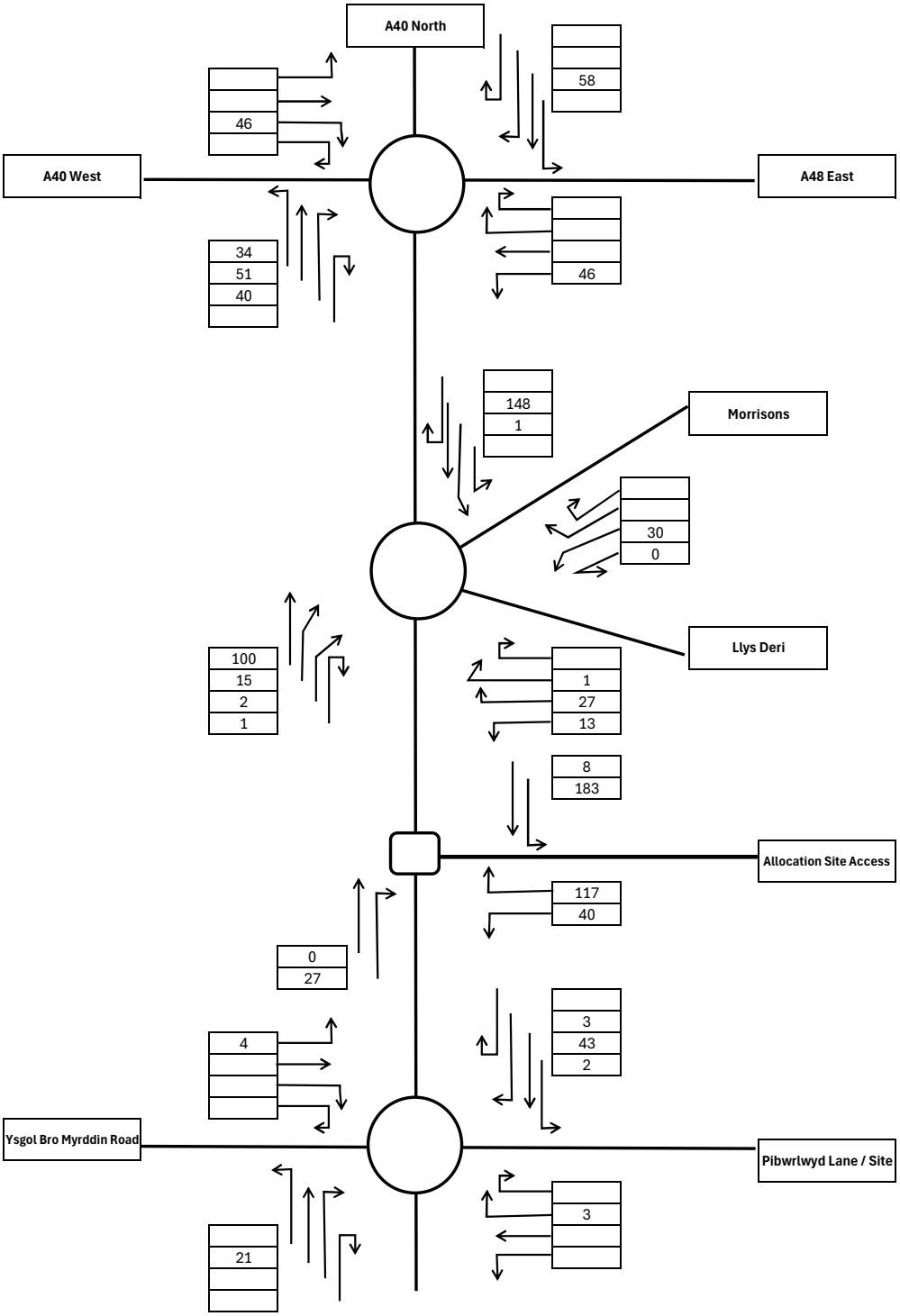
PM 1.0177



Growthed PM Peak 2025

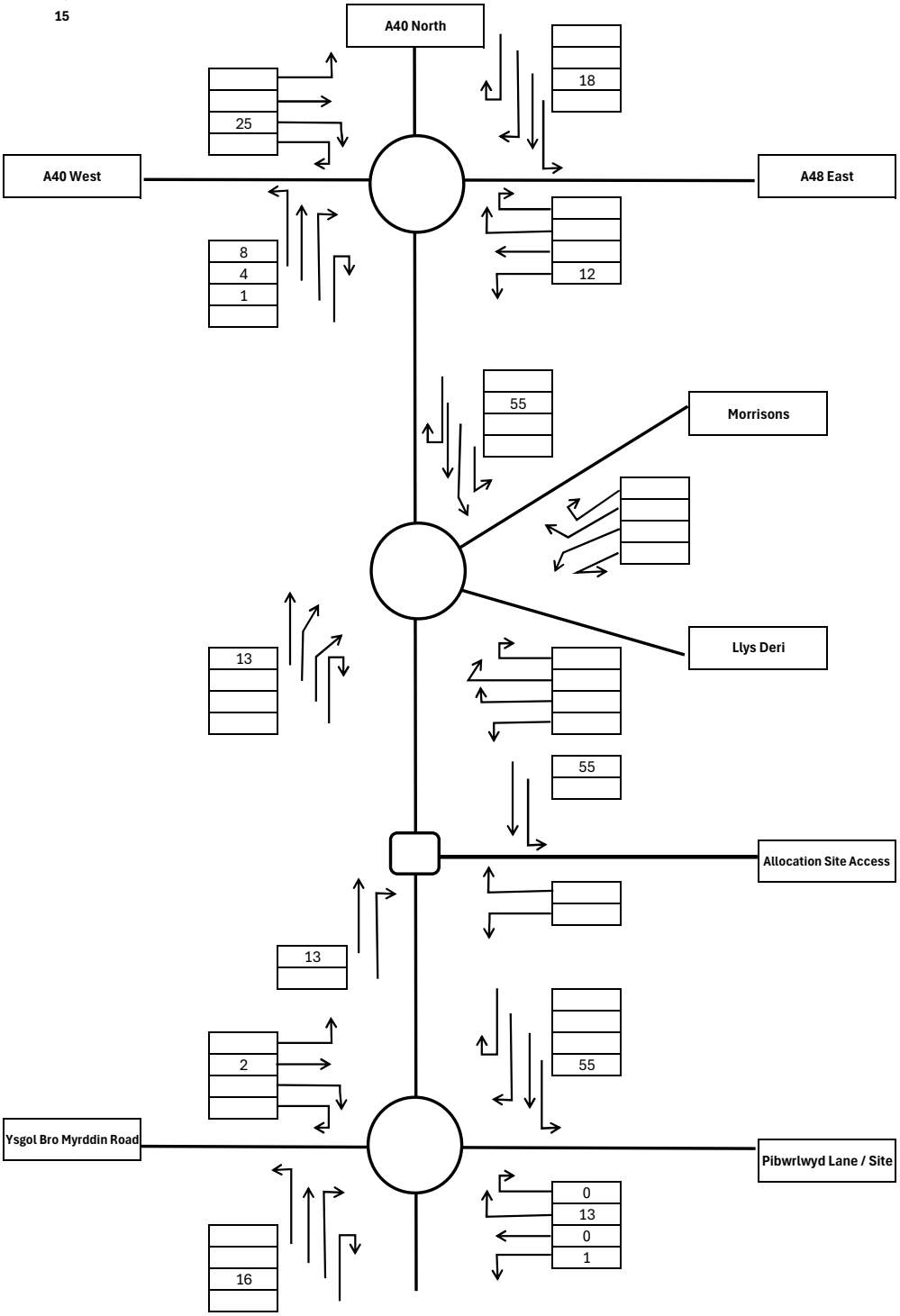


Full Allocation Traffic AM



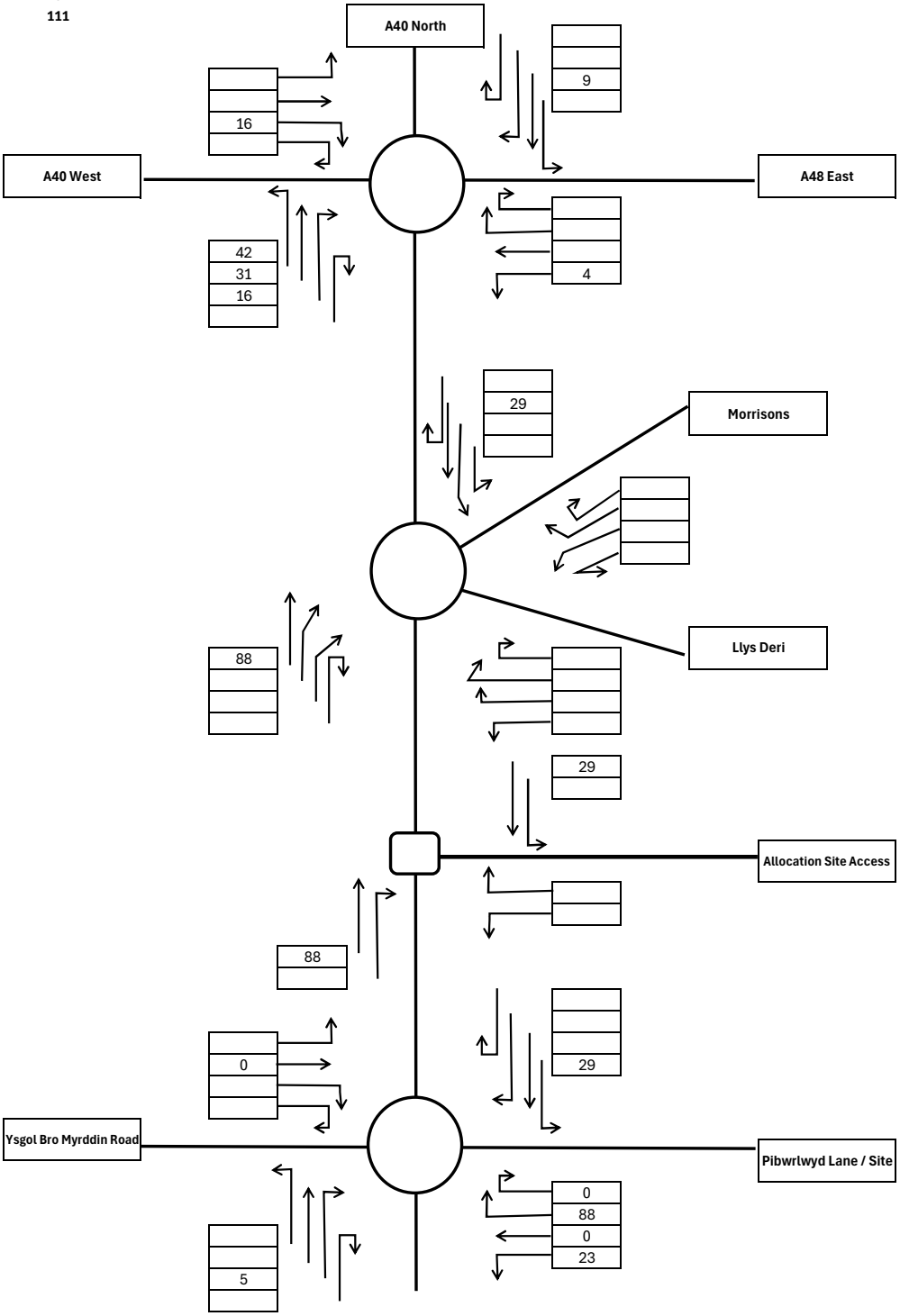
Full Allocation Traffic PM

IN	73
OUT	15

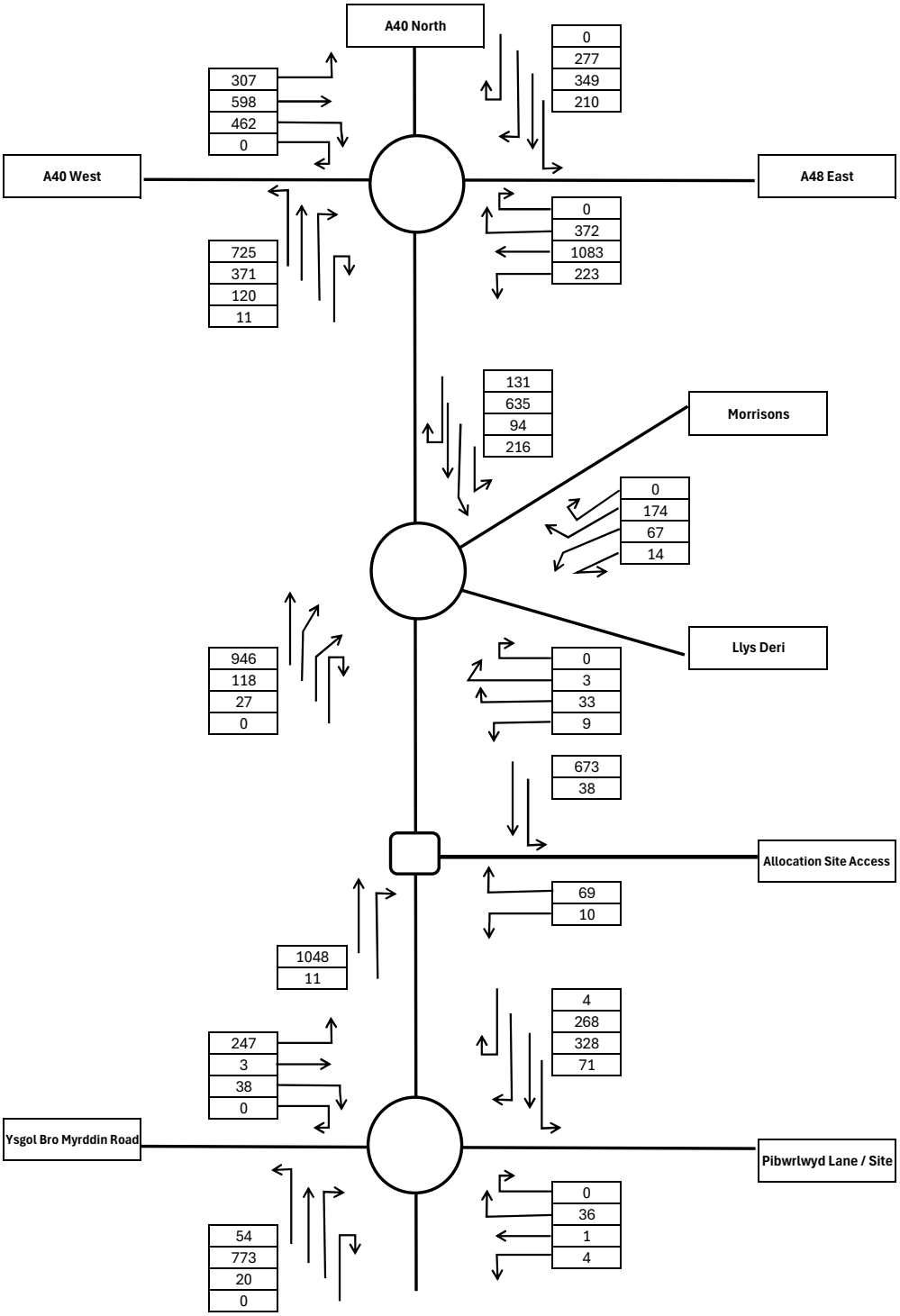


Development Traffic AM

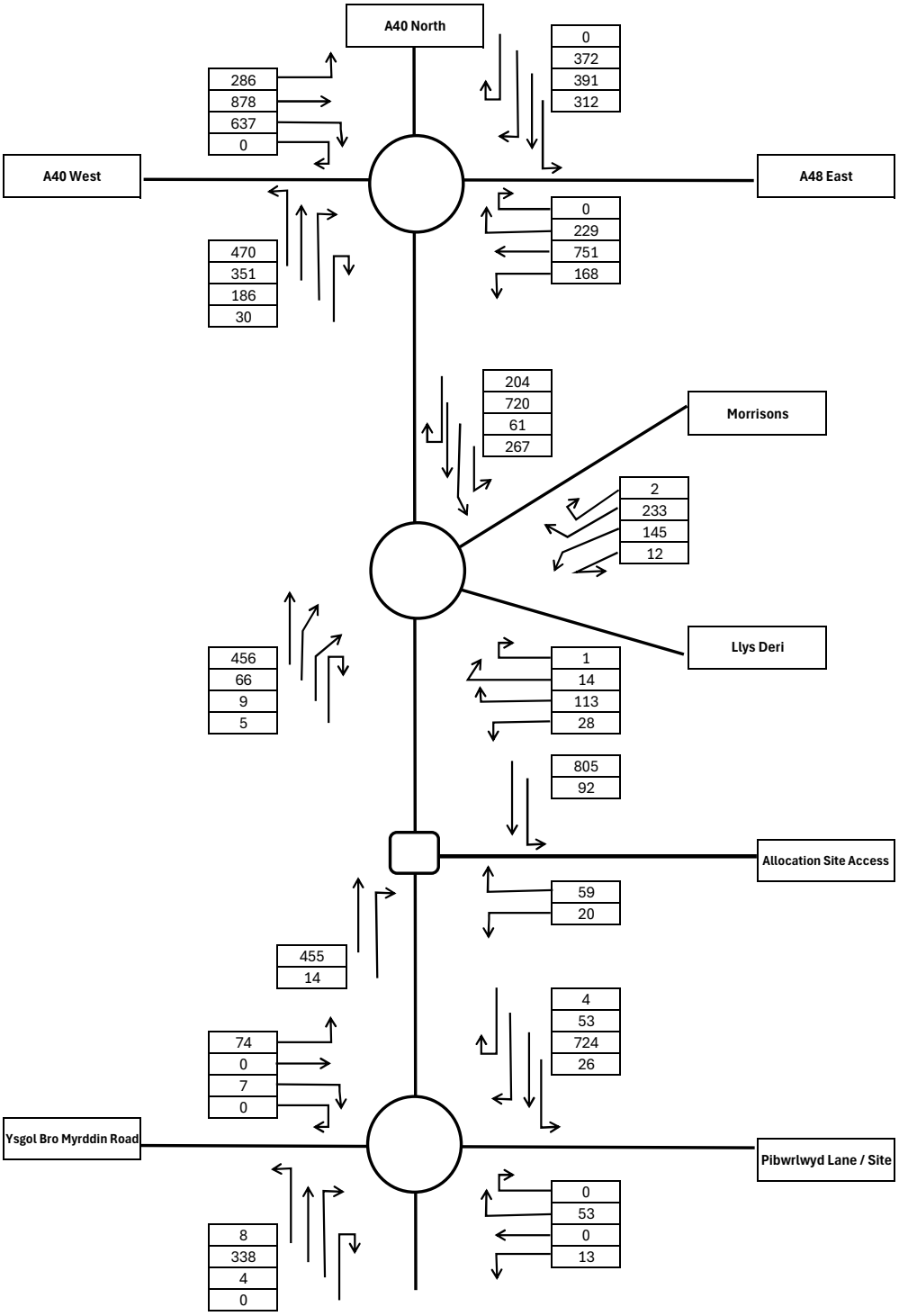
IN 34
OUT 111



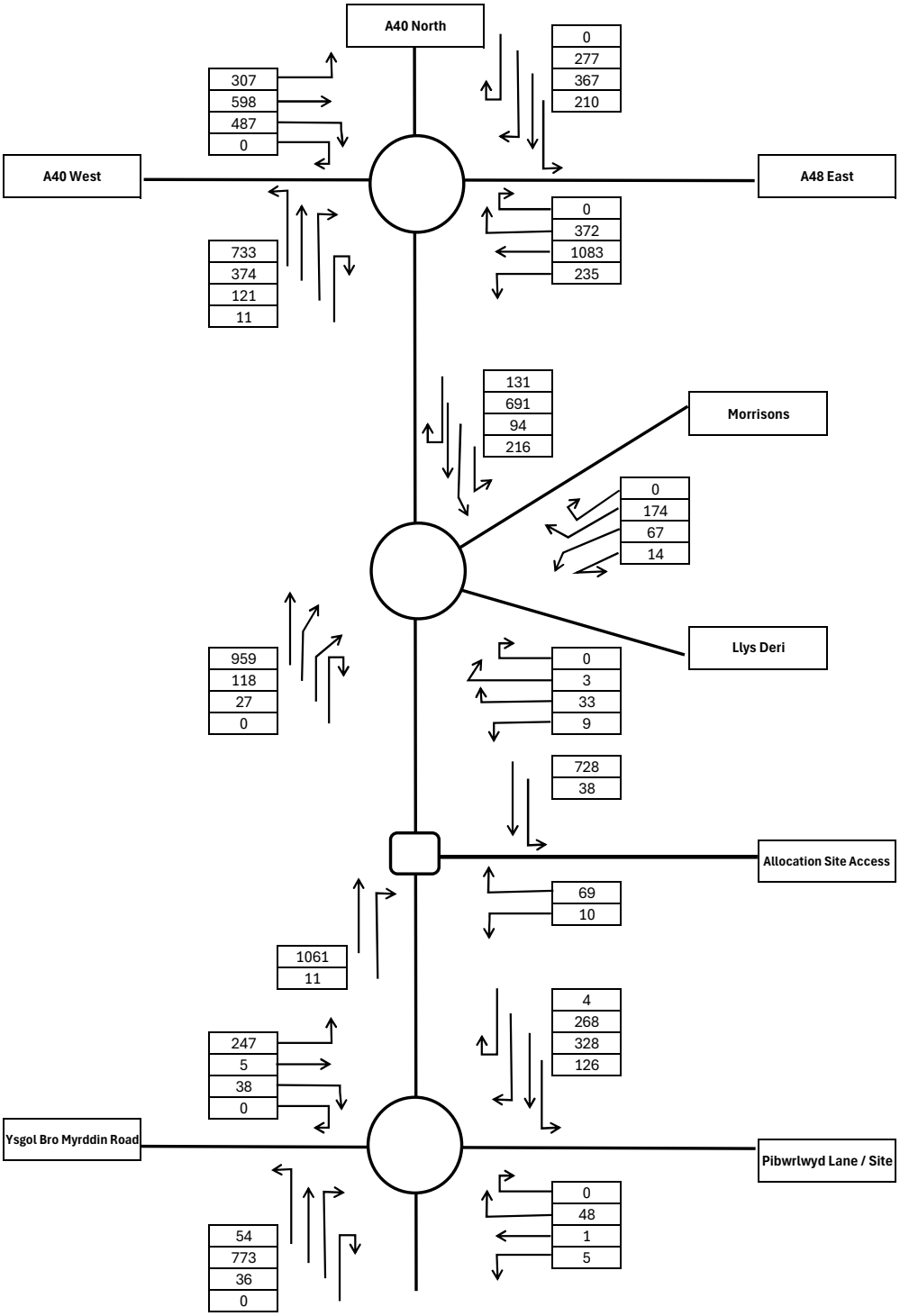
Development Traffic PM



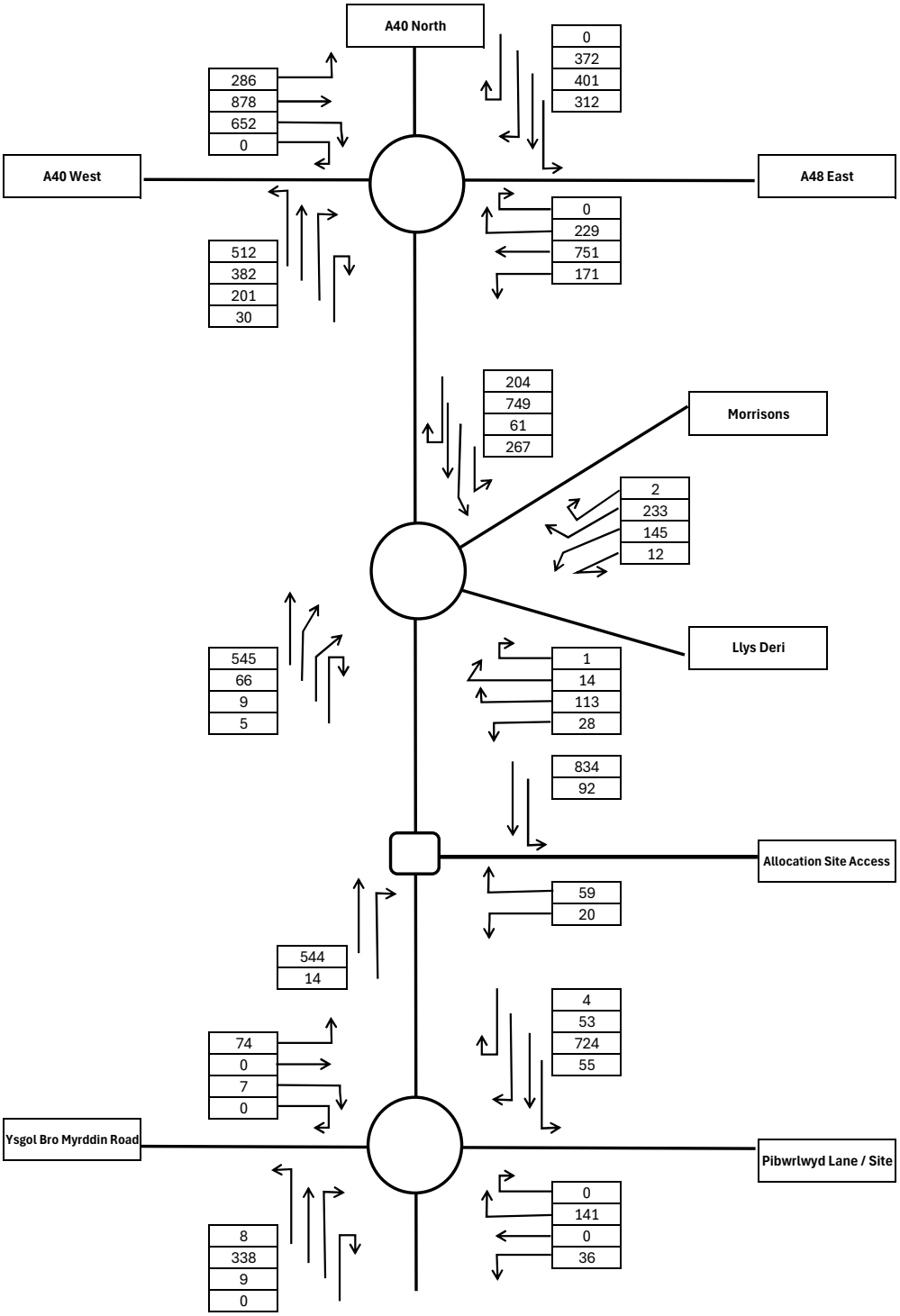
Base AM Peak 2027



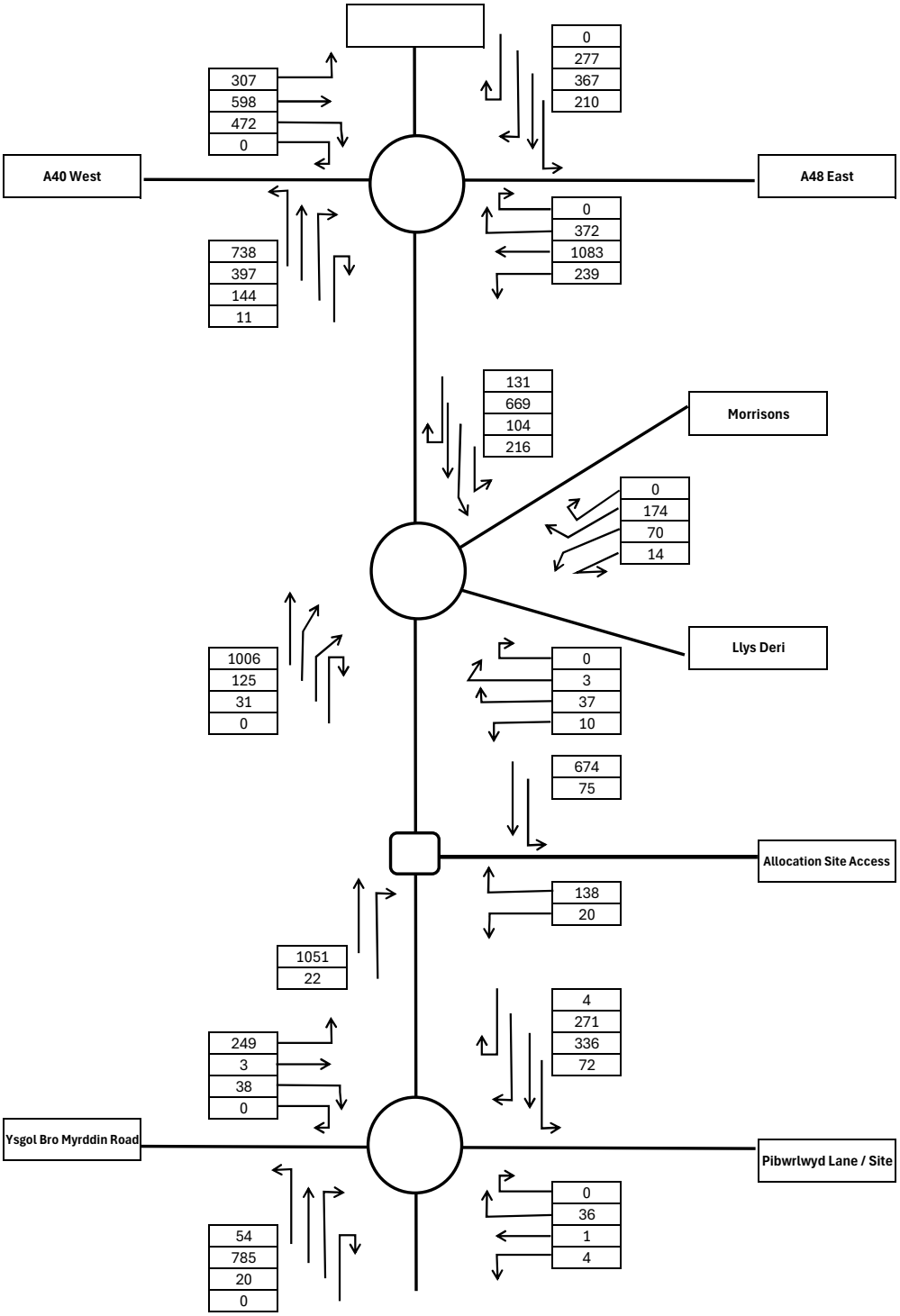
Base PM Peak 2027



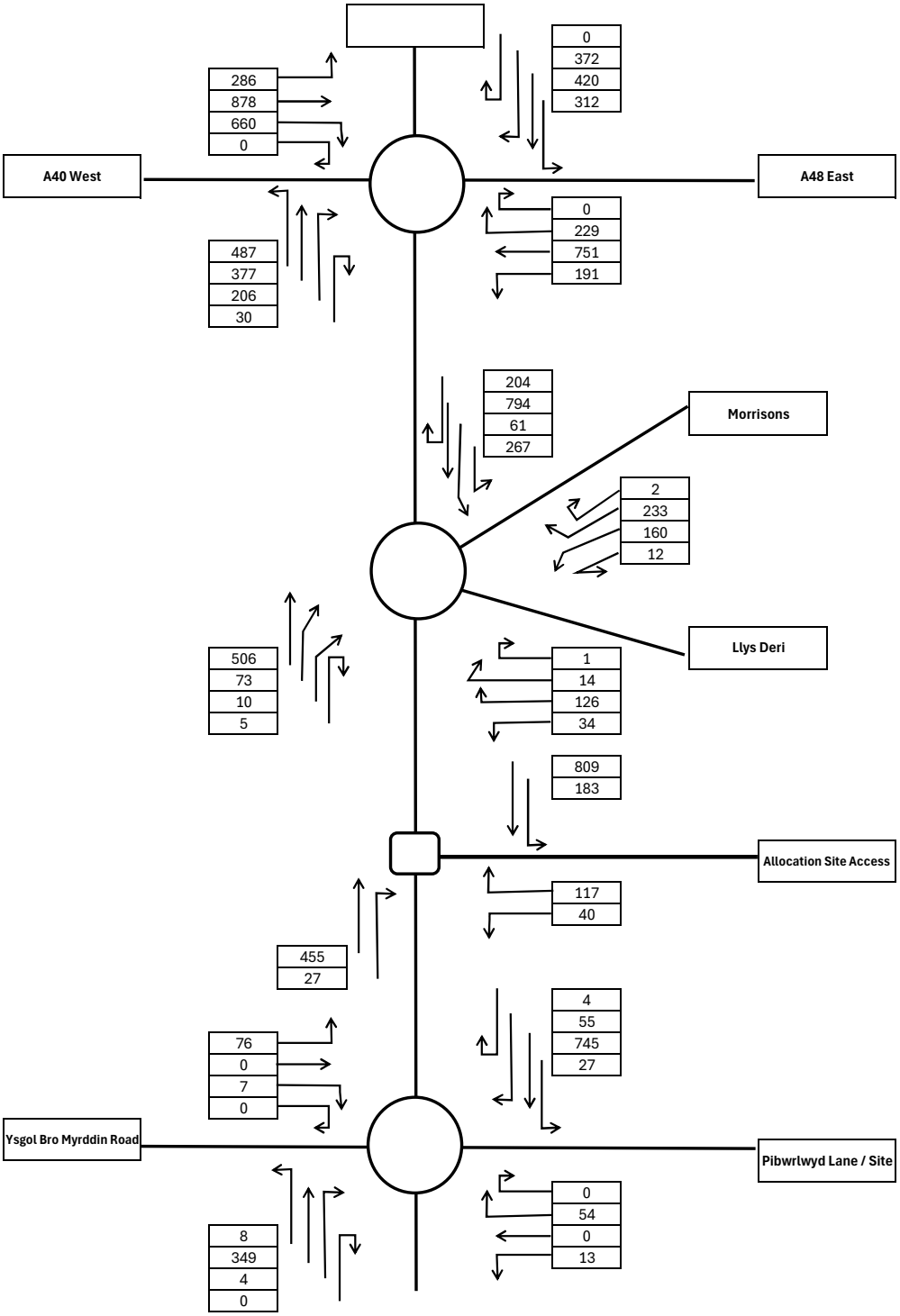
Development PM Peak 2027



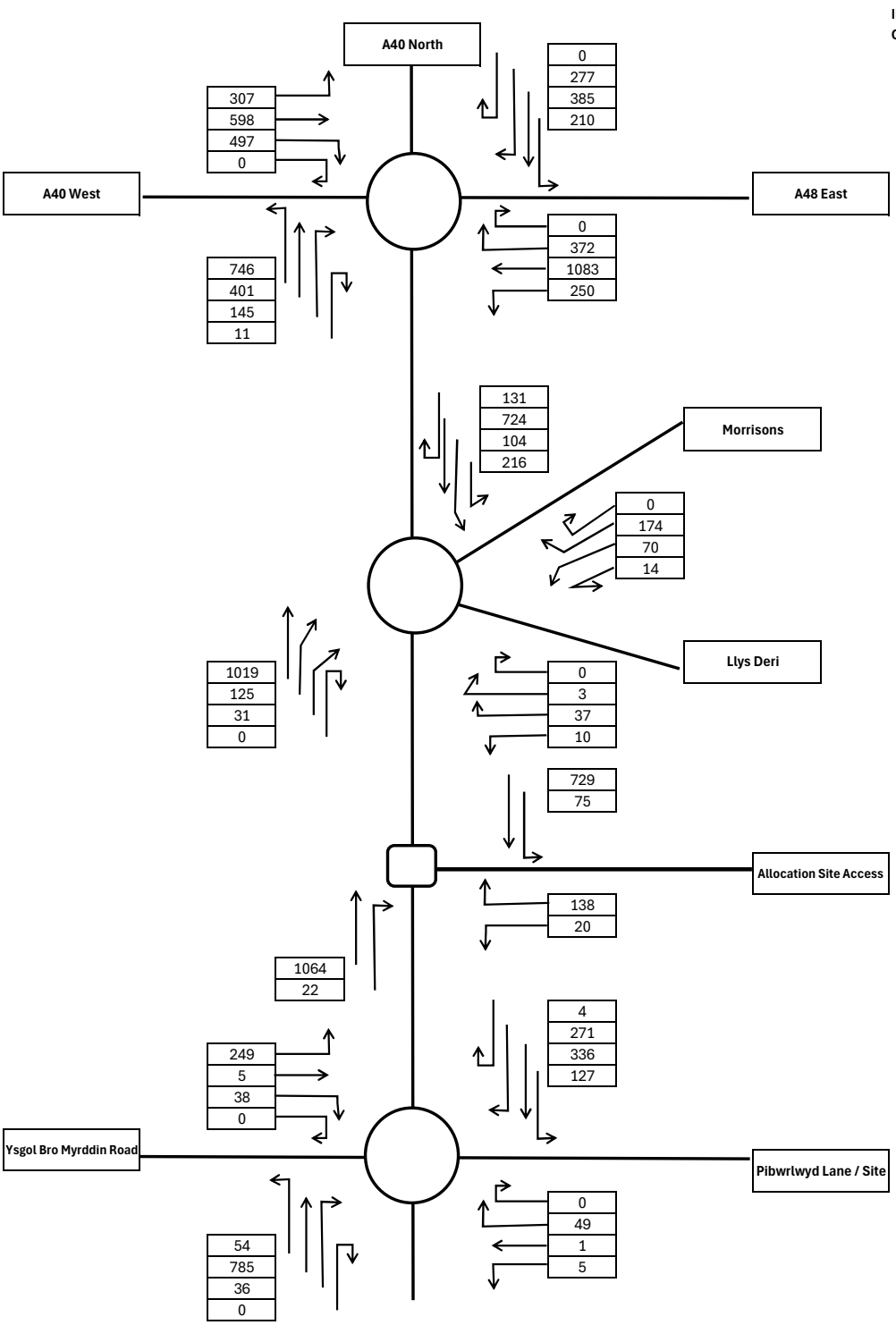
Development PM Peak 2027



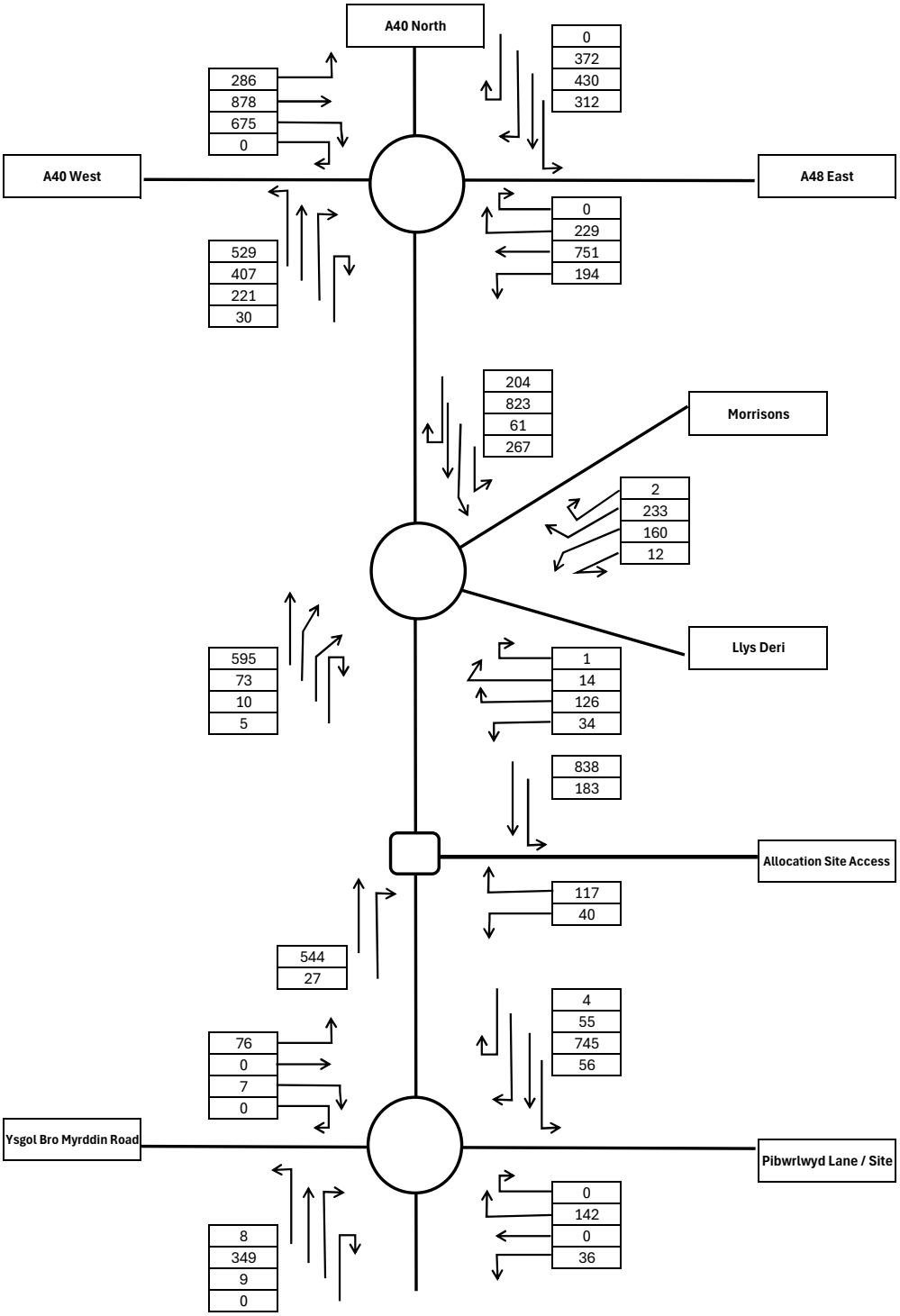
Base AM Peak 2032



Base PM Peak 2032



Development PM Peak 2032



Development PM Peak 2032

Appendix H
Junction modelling Outputs

Junctions 11

PICADY 11 - Priority Intersection Module

Version: 11.0.0.2177
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+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

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Filename: Import of A484 - Site Access Scenarios.j11
Path: C:\Users\OscarHodges\TTC Transportplanning\TTC Transportplanning Team Site - Documents\TTC - Projects\211245 - Coleg Sir Gar\Data\Junctions 10
Report generation date: 12/08/2025 10:24:51

»2025 | | AM
»2025 | | PM
»2027 | Base | AM
»2027 | Base | PM
»2027 | Base+Dev | AM
»2027 | Base+Dev | PM
»2032 | Base | AM
»2032 | Base | PM
»2032 | Base+Dev | AM
»2032 | Base+Dev | PM

Summary of junction performance

	AM				PM			
	Set ID	Queue (PCU)	RFC	LOS	Set ID	Queue (PCU)	RFC	LOS
	2025							
Stream B-C	D1	0.0	0.00	A	D2	0.0	0.00	A
Stream B-A		0.0	0.00	A		0.0	0.00	A
Stream C-AB		0.0	0.00	A		0.0	0.00	A
	2027 - Base							
Stream B-C	D3	0.0	0.03	A	D4	0.1	0.05	A
Stream B-A		0.5	0.33	C		0.3	0.22	C
Stream C-AB		0.1	0.07	A		0.1	0.05	A
	2027 - Base+Dev							
Stream B-C	D5	0.0	0.03	A	D6	0.1	0.06	A
Stream B-A		0.5	0.36	D		0.3	0.25	C
Stream C-AB		0.1	0.08	A		0.1	0.06	A
	2032 - Base							
Stream B-C	D7	0.1	0.08	B	D8	0.1	0.13	B
Stream B-A		2.0	0.69	F		0.9	0.47	D
Stream C-AB		0.4	0.15	A		0.2	0.11	A
	2032 - Base+Dev							
Stream B-C	D9	0.1	0.11	C	D10	0.2	0.13	B
Stream B-A		2.6	0.75	F		1.1	0.52	D
Stream C-AB		0.5	0.16	A		0.3	0.12	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	06/05/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\OscarHodges
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025		AM	ONE HOUR	07:45	09:15	15
D2	2025		PM	ONE HOUR	16:45	18:15	15
D3	2027	Base	AM	ONE HOUR	07:45	09:15	15
D4	2027	Base	PM	ONE HOUR	16:45	18:15	15
D5	2027	Base+Dev	AM	ONE HOUR	07:45	09:15	15
D6	2027	Base+Dev	PM	ONE HOUR	16:45	18:15	15
D7	2032	Base	AM	ONE HOUR	07:45	09:15	15
D8	2032	Base	PM	ONE HOUR	16:45	18:15	15
D9	2032	Base+Dev	AM	ONE HOUR	07:45	09:15	15
D10	2032	Base+Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2025 | | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.00	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.00	A

Arms

Arms

Arm	Name	Description	Arm type
A	A484 North		Major
B	Site Access		Minor
C	A484 South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.60			100.0	✓	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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	7.60	5.11	4.47	4.21		1.50	100	100

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	583	0.099	0.250	0.157	0.357
B-C	714	0.102	0.257	-	-
C-B	632	0.228	0.228	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
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

Demand Set Details

ID	Year	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	672	100.000
B		✓	0	100.000
C		✓	1045	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	672
	B	0	0	0
	C	1045	0	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.00	0.00	0.0	A
B-A	0.00	0.00	0.0	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	584	0.000	0	0.0	0.000	A
B-A	0	0.00	333	0.000	0	0.0	0.000	A
C-AB	0	0.00	517	0.000	0	0.0	0.000	A
C-A	787	0.00			787			
A-B	0	0.00			0			
A-C	506	0.00			506			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	559	0.000	0	0.0	0.000	A
B-A	0	0.00	285	0.000	0	0.0	0.000	A
C-AB	0	0.00	494	0.000	0	0.0	0.000	A
C-A	939	0.00			939			
A-B	0	0.00			0			
A-C	604	0.00			604			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	524	0.000	0	0.0	0.000	A
B-A	0	0.00	218	0.000	0	0.0	0.000	A
C-AB	0	0.00	463	0.000	0	0.0	0.000	A
C-A	1151	0.00			1151			
A-B	0	0.00			0			
A-C	740	0.00			740			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	524	0.000	0	0.0	0.000	A
B-A	0	0.00	218	0.000	0	0.0	0.000	A
C-AB	0	0.00	463	0.000	0	0.0	0.000	A
C-A	1151	0.00			1151			
A-B	0	0.00			0			
A-C	740	0.00			740			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	559	0.000	0	0.0	0.000	A
B-A	0	0.00	285	0.000	0	0.0	0.000	A
C-AB	0	0.00	494	0.000	0	0.0	0.000	A
C-A	939	0.00			939			
A-B	0	0.00			0			
A-C	604	0.00			604			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	584	0.000	0	0.0	0.000	A
B-A	0	0.00	333	0.000	0	0.0	0.000	A
C-AB	0	0.00	517	0.000	0	0.0	0.000	A
C-A	787	0.00			787			
A-B	0	0.00			0			
A-C	506	0.00			506			

2025 | | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.00	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.00	A

Traffic Demand

Demand Set Details

ID	Year	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2025	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	801	100.000
B		✓	0	100.000
C		✓	455	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	801
	B	0	0	0
	C	455	0	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.00	0.00	0.0	A
B-A	0.00	0.00	0.0	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	559	0.000	0	0.0	0.000	A
B-A	0	0.00	379	0.000	0	0.0	0.000	A
C-AB	0	0.00	495	0.000	0	0.0	0.000	A
C-A	343	0.00			343			
A-B	0	0.00			0			
A-C	603	0.00			603			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	529	0.000	0	0.0	0.000	A
B-A	0	0.00	339	0.000	0	0.0	0.000	A
C-AB	0	0.00	468	0.000	0	0.0	0.000	A
C-A	409	0.00			409			
A-B	0	0.00			0			
A-C	720	0.00			720			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	487	0.000	0	0.0	0.000	A
B-A	0	0.00	284	0.000	0	0.0	0.000	A
C-AB	0	0.00	431	0.000	0	0.0	0.000	A
C-A	501	0.00			501			
A-B	0	0.00			0			
A-C	882	0.00			882			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	487	0.000	0	0.0	0.000	A
B-A	0	0.00	284	0.000	0	0.0	0.000	A
C-AB	0	0.00	431	0.000	0	0.0	0.000	A
C-A	501	0.00			501			
A-B	0	0.00			0			
A-C	882	0.00			882			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	529	0.000	0	0.0	0.000	A
B-A	0	0.00	339	0.000	0	0.0	0.000	A
C-AB	0	0.00	468	0.000	0	0.0	0.000	A
C-A	409	0.00			409			
A-B	0	0.00			0			
A-C	720	0.00			720			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0.00	559	0.000	0	0.0	0.000	A
B-A	0	0.00	379	0.000	0	0.0	0.000	A
C-AB	0	0.00	495	0.000	0	0.0	0.000	A
C-A	343	0.00			343			
A-B	0	0.00			0			
A-C	603	0.00			603			

2027 | Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.03	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.03	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2027	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	711	100.000
B		✓	79	100.000
C		✓	1059	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	38	673
	B	69	0	10
	C	1048	11	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	8.97	0.0	A
B-A	0.33	23.03	0.5	C
C-AB	0.07	3.53	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	0.00	495	0.015	7	0.0	7.380	A
B-A	52	0.00	364	0.143	51	0.2	11.475	B
C-AB	31	0.00	1075	0.029	31	0.0	3.521	A
C-A	766	0.00			766			
A-B	29	0.00			29			
A-C	507	0.00			507			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	0.00	465	0.019	9	0.0	7.901	A
B-A	62	0.00	309	0.201	62	0.2	14.545	B
C-AB	50	0.00	1174	0.043	50	0.1	3.276	A
C-A	902	0.00			902			
A-B	34	0.00			34			
A-C	605	0.00			605			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	0.00	413	0.027	11	0.0	8.951	A
B-A	76	0.00	232	0.327	75	0.5	22.786	C
C-AB	98	0.00	1317	0.075	98	0.1	3.028	A
C-A	1068	0.00			1068			
A-B	42	0.00			42			
A-C	741	0.00			741			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	0.00	412	0.027	11	0.0	8.971	A
B-A	76	0.00	232	0.327	76	0.5	23.028	C
C-AB	98	0.00	1317	0.075	98	0.1	3.032	A
C-A	1067	0.00			1067			
A-B	42	0.00			42			
A-C	741	0.00			741			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	0.00	464	0.019	9	0.0	7.916	A
B-A	62	0.00	309	0.201	63	0.3	14.684	B
C-AB	50	0.00	1174	0.043	51	0.1	3.288	A
C-A	902	0.00			902			
A-B	34	0.00			34			
A-C	605	0.00			605			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	0.00	495	0.015	8	0.0	7.388	A
B-A	52	0.00	364	0.143	52	0.2	11.549	B
C-AB	31	0.00	1076	0.029	31	0.0	3.527	A
C-A	766	0.00			766			
A-B	29	0.00			29			
A-C	507	0.00			507			

2027 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.90	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.90	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2027	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	897	100.000
B		✓	79	100.000
C		✓	469	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	92	805
	B	59	0	20
	C	455	14	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	9.32	0.1	A
B-A	0.22	15.96	0.3	C
C-AB	0.05	5.15	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	490	0.031	15	0.0	7.581	A
B-A	44	0.00	399	0.111	44	0.1	10.129	B
C-AB	20	0.00	730	0.027	20	0.0	5.141	A
C-A	333	0.00			333			
A-B	69	0.00			69			
A-C	606	0.00			606			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	456	0.039	18	0.0	8.211	A
B-A	53	0.00	353	0.150	53	0.2	11.974	B
C-AB	28	0.00	755	0.036	27	0.1	5.020	A
C-A	394	0.00			394			
A-B	83	0.00			83			
A-C	724	0.00			724			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	408	0.054	22	0.1	9.315	A
B-A	65	0.00	290	0.224	65	0.3	15.907	C
C-AB	42	0.00	795	0.053	42	0.1	4.865	A
C-A	475	0.00			475			
A-B	101	0.00			101			
A-C	886	0.00			886			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	408	0.054	22	0.1	9.323	A
B-A	65	0.00	290	0.224	65	0.3	15.963	C
C-AB	42	0.00	795	0.053	42	0.1	4.874	A
C-A	474	0.00			474			
A-B	101	0.00			101			
A-C	886	0.00			886			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	456	0.039	18	0.0	8.221	A
B-A	53	0.00	353	0.150	53	0.2	12.022	B
C-AB	28	0.00	756	0.037	28	0.1	5.037	A
C-A	394	0.00			394			
A-B	83	0.00			83			
A-C	724	0.00			724			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	489	0.031	15	0.0	7.594	A
B-A	44	0.00	399	0.111	45	0.1	10.171	B
C-AB	20	0.00	730	0.027	20	0.0	5.150	A
C-A	333	0.00			333			
A-B	69	0.00			69			
A-C	606	0.00			606			

2027 | Base+Dev | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.12	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.12	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2027	Base+Dev	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	766	100.000
B		✓	79	100.000
C		✓	1072	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	38	728
	B	69	0	10
	C	1061	11	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	9.42	0.0	A
B-A	0.36	26.28	0.5	D
C-AB	0.08	3.53	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	0.00	485	0.016	7	0.0	7.532	A
B-A	52	0.00	351	0.148	51	0.2	11.980	B
C-AB	32	0.00	1077	0.030	32	0.0	3.519	A
C-A	775	0.00			775			
A-B	29	0.00			29			
A-C	548	0.00			548			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	0.00	452	0.020	9	0.0	8.120	A
B-A	62	0.00	293	0.212	62	0.3	15.531	C
C-AB	52	0.00	1177	0.044	52	0.1	3.274	A
C-A	911	0.00			911			
A-B	34	0.00			34			
A-C	654	0.00			654			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	0.00	395	0.028	11	0.0	9.386	A
B-A	76	0.00	213	0.357	75	0.5	25.900	D
C-AB	104	0.00	1323	0.079	104	0.1	3.029	A
C-A	1076	0.00			1076			
A-B	42	0.00			42			
A-C	802	0.00			802			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	11	0.00	393	0.028	11	0.0	9.415	A
B-A	76	0.00	213	0.357	76	0.5	26.278	D
C-AB	104	0.00	1323	0.079	104	0.1	3.032	A
C-A	1076	0.00			1076			
A-B	42	0.00			42			
A-C	802	0.00			802			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	0.00	451	0.020	9	0.0	8.141	A
B-A	62	0.00	293	0.212	63	0.3	15.722	C
C-AB	52	0.00	1178	0.045	53	0.1	3.286	A
C-A	911	0.00			911			
A-B	34	0.00			34			
A-C	654	0.00			654			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	0.00	485	0.016	8	0.0	7.541	A
B-A	52	0.00	351	0.148	52	0.2	12.065	B
C-AB	32	0.00	1077	0.030	32	0.0	3.528	A
C-A	775	0.00			775			
A-B	29	0.00			29			
A-C	548	0.00			548			

2027 | Base+Dev | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.92	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.92	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2027	Base+Dev	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	926	100.000
B		✓	79	100.000
C		✓	558	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	92	834
	B	59	0	20
	C	544	14	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	9.58	0.1	A
B-A	0.25	17.99	0.3	C
C-AB	0.06	4.87	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	484	0.031	15	0.0	7.673	A
B-A	44	0.00	381	0.116	44	0.1	10.649	B
C-AB	22	0.00	775	0.029	22	0.0	4.857	A
C-A	398	0.00			398			
A-B	69	0.00			69			
A-C	628	0.00			628			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	449	0.040	18	0.0	8.347	A
B-A	53	0.00	333	0.159	53	0.2	12.856	B
C-AB	32	0.00	811	0.039	32	0.1	4.696	A
C-A	470	0.00			470			
A-B	83	0.00			83			
A-C	750	0.00			750			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	398	0.055	22	0.1	9.565	A
B-A	65	0.00	265	0.245	64	0.3	17.900	C
C-AB	50	0.00	866	0.058	50	0.1	4.500	A
C-A	564	0.00			564			
A-B	101	0.00			101			
A-C	918	0.00			918			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	398	0.055	22	0.1	9.576	A
B-A	65	0.00	265	0.245	65	0.3	17.987	C
C-AB	50	0.00	866	0.058	50	0.1	4.506	A
C-A	564	0.00			564			
A-B	101	0.00			101			
A-C	918	0.00			918			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	449	0.040	18	0.0	8.359	A
B-A	53	0.00	333	0.159	54	0.2	12.921	B
C-AB	32	0.00	811	0.039	32	0.1	4.713	A
C-A	470	0.00			470			
A-B	83	0.00			83			
A-C	750	0.00			750			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	484	0.031	15	0.0	7.686	A
B-A	44	0.00	381	0.116	45	0.1	10.697	B
C-AB	22	0.00	775	0.029	23	0.0	4.865	A
C-A	398	0.00			398			
A-B	69	0.00			69			
A-C	628	0.00			628			

2032 | Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		3.90	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.90	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2032	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	749	100.000
B		✓	158	100.000
C		✓	1073	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	75	674
	B	138	0	20
	C	1051	22	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.08	14.82	0.1	B
B-A	0.69	50.32	2.0	F
C-AB	0.15	3.65	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	469	0.032	15	0.0	7.934	A
B-A	104	0.00	357	0.291	102	0.4	14.029	B
C-AB	63	0.00	1073	0.059	63	0.1	3.640	A
C-A	745	0.00			745			
A-B	56	0.00			56			
A-C	507	0.00			507			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	418	0.043	18	0.0	8.995	A
B-A	124	0.00	300	0.413	123	0.7	20.149	C
C-AB	102	0.00	1172	0.087	102	0.2	3.441	A
C-A	862	0.00			862			
A-B	67	0.00			67			
A-C	606	0.00			606			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	278	0.079	22	0.1	14.037	B
B-A	152	0.00	222	0.685	147	1.9	45.618	E
C-AB	202	0.00	1316	0.154	201	0.4	3.312	A
C-A	979	0.00			979			
A-B	83	0.00			83			
A-C	742	0.00			742			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	265	0.083	22	0.1	14.822	B
B-A	152	0.00	222	0.685	151	2.0	50.325	F
C-AB	203	0.00	1317	0.154	203	0.4	3.324	A
C-A	978	0.00			978			
A-B	83	0.00			83			
A-C	742	0.00			742			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	412	0.044	18	0.0	9.157	A
B-A	124	0.00	300	0.413	129	0.7	21.587	C
C-AB	103	0.00	1173	0.088	104	0.2	3.460	A
C-A	862	0.00			862			
A-B	67	0.00			67			
A-C	606	0.00			606			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	467	0.032	15	0.0	7.973	A
B-A	104	0.00	357	0.291	105	0.4	14.341	B
C-AB	63	0.00	1074	0.059	64	0.1	3.651	A
C-A	744	0.00			744			
A-B	56	0.00			56			
A-C	507	0.00			507			

2032 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.30	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.30	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2032	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	992	100.000
B		✓	157	100.000
C		✓	482	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	183	809
	B	117	0	40
	C	455	27	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	11.82	0.1	B
B-A	0.47	25.04	0.9	D
C-AB	0.11	5.40	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	0.00	467	0.065	30	0.1	8.239	A
B-A	88	0.00	387	0.228	87	0.3	11.967	B
C-AB	39	0.00	716	0.054	39	0.1	5.386	A
C-A	324	0.00			324			
A-B	138	0.00			138			
A-C	609	0.00			609			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	0.00	424	0.085	36	0.1	9.276	A
B-A	105	0.00	339	0.311	105	0.4	15.335	C
C-AB	54	0.00	740	0.074	54	0.1	5.328	A
C-A	379	0.00			379			
A-B	165	0.00			165			
A-C	727	0.00			727			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	0.00	350	0.126	44	0.1	11.734	B
B-A	129	0.00	272	0.473	127	0.9	24.529	C
C-AB	84	0.00	778	0.108	84	0.2	5.285	A
C-A	447	0.00			447			
A-B	201	0.00			201			
A-C	891	0.00			891			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	0.00	349	0.126	44	0.1	11.818	B
B-A	129	0.00	272	0.473	129	0.9	25.044	D
C-AB	84	0.00	778	0.108	84	0.2	5.297	A
C-A	446	0.00			446			
A-B	201	0.00			201			
A-C	891	0.00			891			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	0.00	422	0.085	36	0.1	9.326	A
B-A	105	0.00	339	0.311	107	0.5	15.630	C
C-AB	55	0.00	741	0.074	55	0.1	5.351	A
C-A	379	0.00			379			
A-B	165	0.00			165			
A-C	727	0.00			727			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	0.00	466	0.065	30	0.1	8.272	A
B-A	88	0.00	387	0.228	89	0.3	12.110	B
C-AB	39	0.00	717	0.055	39	0.1	5.401	A
C-A	324	0.00			324			
A-B	138	0.00			138			
A-C	609	0.00			609			

2032 | Base+Dev | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		4.98	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.98	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2032	Base+Dev	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	804	100.000
B		✓	158	100.000
C		✓	1086	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	75	729
	B	138	0	20
	C	1064	22	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	19.67	0.1	C
B-A	0.75	67.32	2.6	F
C-AB	0.16	3.65	0.5	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	458	0.033	15	0.0	8.127	A
B-A	104	0.00	344	0.302	102	0.4	14.782	B
C-AB	65	0.00	1075	0.060	65	0.1	3.641	A
C-A	753	0.00			753			
A-B	56	0.00			56			
A-C	549	0.00			549			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	402	0.045	18	0.0	9.376	A
B-A	124	0.00	285	0.436	123	0.7	22.061	C
C-AB	107	0.00	1176	0.091	106	0.2	3.445	A
C-A	870	0.00			870			
A-B	67	0.00			67			
A-C	655	0.00			655			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	228	0.097	22	0.1	17.437	C
B-A	152	0.00	202	0.751	145	2.4	57.639	F
C-AB	214	0.00	1322	0.162	213	0.5	3.332	A
C-A	981	0.00			981			
A-B	83	0.00			83			
A-C	803	0.00			803			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	0.00	205	0.107	22	0.1	19.671	C
B-A	152	0.00	202	0.751	151	2.6	67.319	F
C-AB	215	0.00	1323	0.163	215	0.5	3.344	A
C-A	980	0.00			980			
A-B	83	0.00			83			
A-C	803	0.00			803			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	0.00	392	0.046	18	0.0	9.644	A
B-A	124	0.00	285	0.436	131	0.8	24.492	C
C-AB	107	0.00	1177	0.091	109	0.2	3.465	A
C-A	869	0.00			869			
A-B	67	0.00			67			
A-C	655	0.00			655			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	0.00	456	0.033	15	0.0	8.175	A
B-A	104	0.00	344	0.302	105	0.4	15.168	C
C-AB	65	0.00	1076	0.061	66	0.1	3.653	A
C-A	752	0.00			752			
A-B	56	0.00			56			
A-C	549	0.00			549			

2032 | Base+Dev | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.54	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.54	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2032	Base+Dev	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1021	100.000
B		✓	157	100.000
C		✓	571	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	183	838
	B	117	0	40
	C	544	27	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.13	12.73	0.2	B
B-A	0.52	30.38	1.1	D
C-AB	0.12	5.10	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	0.00	460	0.065	30	0.1	8.364	A
B-A	88	0.00	369	0.239	87	0.3	12.693	B
C-AB	44	0.00	762	0.058	44	0.1	5.087	A
C-A	386	0.00			386			
A-B	138	0.00			138			
A-C	631	0.00			631			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	0.00	414	0.087	36	0.1	9.507	A
B-A	105	0.00	318	0.331	104	0.5	16.806	C
C-AB	63	0.00	797	0.079	63	0.1	4.988	A
C-A	450	0.00			450			
A-B	165	0.00			165			
A-C	753	0.00			753			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	0.00	330	0.134	44	0.2	12.579	B
B-A	129	0.00	247	0.522	127	1.0	29.431	D
C-AB	101	0.00	850	0.119	101	0.3	4.905	A
C-A	527	0.00			527			
A-B	201	0.00			201			
A-C	923	0.00			923			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	0.00	327	0.135	44	0.2	12.730	B
B-A	129	0.00	247	0.522	129	1.1	30.384	D
C-AB	102	0.00	850	0.119	102	0.3	4.915	A
C-A	527	0.00			527			
A-B	201	0.00			201			
A-C	923	0.00			923			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	0.00	412	0.087	36	0.1	9.580	A
B-A	105	0.00	318	0.331	107	0.5	17.258	C
C-AB	63	0.00	798	0.079	64	0.2	5.011	A
C-A	450	0.00			450			
A-B	165	0.00			165			
A-C	753	0.00			753			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	0.00	459	0.066	30	0.1	8.399	A
B-A	88	0.00	369	0.239	89	0.3	12.870	B
C-AB	44	0.00	763	0.058	44	0.1	5.102	A
C-A	386	0.00			386			
A-B	138	0.00			138			
A-C	631	0.00			631			

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Import of Morrisons Roundabout Scenarios.j11
Path: C:\Users\OscarHodges\TTC Transportplanning\TTC Transportplanning Team Site - Documents\TTC - Projects\211245 - Coleg Sir Gar\Data\Junctions 10
Report generation date: 12/08/2025 10:54:15

»2025 | | AM
»2025 | | PM
»2027 | Base | AM
»2027 | Base | PM
»2027 | Base + Dev | AM
»2027 | Base + Dev | PM
»2032 | Base | AM
»2032 | Base | PM
»2032 | Base + Dev | AM
»2032 | Base + Dev | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2025									
Arm B	D1	0.2	2.88	0.18	A	D2	0.4	3.44	0.28	A
Arm C		0.1	5.98	0.07	A		0.4	9.56	0.28	A
Arm D		2.3	7.63	0.70	A		0.6	3.91	0.36	A
Arm A		1.6	5.00	0.61	A		2.2	6.05	0.69	A
	2027 - Base									
Arm B	D3	0.2	2.98	0.19	A	D4	0.4	3.69	0.31	A
Arm C		0.1	6.24	0.08	A		0.6	11.66	0.36	B
Arm D		3.0	9.25	0.76	A		0.7	4.26	0.41	A
Arm A		1.8	5.43	0.64	A		2.7	7.13	0.73	A
	2027 - Base + Dev									
Arm B	D5	0.2	3.08	0.19	A	D6	0.5	3.77	0.31	A
Arm C		0.1	6.54	0.08	A		0.6	12.21	0.37	B
Arm D		3.2	9.60	0.76	A		0.9	4.82	0.48	A
Arm A		2.1	5.98	0.67	A		2.9	7.60	0.75	A
	2032 - Base									
Arm B	D7	0.2	3.08	0.20	A	D8	0.5	3.97	0.33	A
Arm C		0.1	6.50	0.09	A		0.8	14.69	0.44	B
Arm D		4.0	11.64	0.81	B		0.8	4.66	0.46	A
Arm A		2.0	5.93	0.67	A		3.4	8.60	0.78	A
	2032 - Base + Dev									
Arm B	D9	0.3	3.18	0.20	A	D10	0.5	4.13	0.34	A
Arm C		0.1	6.83	0.09	A		0.8	16.03	0.45	C
Arm D		4.3	12.20	0.82	B		1.1	5.44	0.53	A
Arm A		2.3	6.58	0.70	A		3.9	9.56	0.79	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	06/05/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\OscarHodges
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025		AM	ONE HOUR	07:45	09:15	15
D2	2025		PM	ONE HOUR	16:45	18:15	15
D3	2027	Base	AM	ONE HOUR	07:45	09:15	15
D4	2027	Base	PM	ONE HOUR	16:45	18:15	15
D5	2027	Base + Dev	AM	ONE HOUR	07:45	09:15	15
D6	2027	Base + Dev	PM	ONE HOUR	16:45	18:15	15
D7	2032	Base	AM	ONE HOUR	07:45	09:15	15
D8	2032	Base	PM	ONE HOUR	16:45	18:15	15
D9	2032	Base + Dev	AM	ONE HOUR	07:45	09:15	15
D10	2032	Base + Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2025 | | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	5.93	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.93	A

Arms

Arms

Arm	Name	Description	No give-way line
B	Morrisons		
C	Llys Deri		
D	A484 South		
A	A484 North		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
B	7.34	7.34	0.0	12.5	55.0	34.9		
C	3.47	7.03	3.3	14.6	55.0	64.8		
D	3.73	7.20	15.2	56.6	55.0	25.1		
A	4.21	7.00	32.9	53.1	55.0	37.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
B	0.648	2121
C	0.440	1114
D	0.620	1822
A	0.631	1951

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	250	100.000
C		✓	39	100.000
D		✓	1018	100.000
A		✓	1032	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	0	13	63	174
	C	3	0	7	29
	D	110	22	0	886
	A	216	83	602	131

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.18	2.88	0.2	A
C	0.07	5.98	0.1	A
D	0.70	7.63	2.3	A
A	0.61	5.00	1.6	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	188	629	1714	0.110	188	0.1	2.359	A
C	29	728	794	0.037	29	0.0	4.705	A
D	766	253	1665	0.460	763	0.8	3.975	A
A	777	101	1887	0.412	774	0.7	3.228	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	225	752	1633	0.138	225	0.2	2.555	A
C	35	871	731	0.048	35	0.1	5.171	A
D	915	303	1635	0.560	914	1.3	4.981	A
A	928	121	1874	0.495	927	1.0	3.794	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	275	921	1524	0.181	275	0.2	2.881	A
C	43	1066	645	0.067	43	0.1	5.974	A
D	1121	371	1593	0.704	1117	2.3	7.496	A
A	1136	148	1857	0.612	1134	1.6	4.962	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	275	923	1523	0.181	275	0.2	2.884	A
C	43	1068	645	0.067	43	0.1	5.982	A
D	1121	371	1592	0.704	1121	2.3	7.630	A
A	1136	149	1857	0.612	1136	1.6	4.996	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	225	755	1631	0.138	225	0.2	2.561	A
C	35	874	730	0.048	35	0.1	5.183	A
D	915	303	1634	0.560	919	1.3	5.067	A
A	928	122	1874	0.495	930	1.0	3.823	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	188	632	1711	0.110	188	0.1	2.365	A
C	29	731	793	0.037	29	0.0	4.716	A
D	766	254	1665	0.460	768	0.9	4.022	A
A	777	102	1886	0.412	778	0.7	3.251	A

2025 | | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	5.34	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.34	A

Traffic Demand

Demand Set Details

ID	Year	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2025	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	377	100.000
C		✓	134	100.000
D		✓	476	100.000
A		✓	1177	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	2	12	130	233
	C	13	1	21	99
	D	58	8	4	406
	A	267	60	646	204

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.28	3.44	0.4	A
C	0.28	9.56	0.4	A
D	0.36	3.91	0.6	A
A	0.69	6.05	2.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	284	692	1672	0.170	283	0.2	2.590	A
C	101	914	712	0.142	100	0.2	5.878	A
D	358	414	1566	0.229	357	0.3	2.976	A
A	886	64	1910	0.464	883	0.9	3.493	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	339	829	1584	0.214	339	0.3	2.890	A
C	120	1094	633	0.190	120	0.2	7.018	A
D	428	496	1515	0.282	428	0.4	3.310	A
A	1058	77	1902	0.556	1057	1.2	4.251	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	415	1013	1464	0.284	415	0.4	3.428	A
C	148	1339	525	0.281	147	0.4	9.497	A
D	524	606	1446	0.362	523	0.6	3.898	A
A	1296	95	1891	0.685	1292	2.1	5.979	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	415	1016	1462	0.284	415	0.4	3.436	A
C	148	1342	524	0.282	148	0.4	9.560	A
D	524	608	1445	0.363	524	0.6	3.906	A
A	1296	95	1891	0.685	1296	2.2	6.048	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	339	833	1581	0.214	339	0.3	2.899	A
C	120	1099	631	0.191	121	0.2	7.070	A
D	428	498	1514	0.283	429	0.4	3.318	A
A	1058	77	1902	0.556	1062	1.3	4.303	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	284	696	1670	0.170	284	0.2	2.597	A
C	101	919	710	0.142	101	0.2	5.917	A
D	358	416	1564	0.229	359	0.3	2.986	A
A	886	65	1910	0.464	888	0.9	3.527	A

2027 | Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	6.88	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.88	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2027	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	255	100.000
C		✓	45	100.000
D		✓	1091	100.000
A		✓	1076	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	0	14	67	174
	C	3	0	9	33
	D	118	27	0	946
	A	216	94	635	131

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.19	2.98	0.2	A
C	0.08	6.24	0.1	A
D	0.76	9.25	3.0	A
A	0.64	5.43	1.8	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	192	665	1690	0.114	191	0.1	2.403	A
C	34	755	782	0.043	34	0.0	4.810	A
D	821	256	1664	0.494	817	1.0	4.235	A
A	810	111	1881	0.431	807	0.8	3.343	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	229	796	1605	0.143	229	0.2	2.616	A
C	40	904	717	0.056	40	0.1	5.324	A
D	981	306	1632	0.601	979	1.5	5.489	A
A	967	133	1867	0.518	966	1.1	3.991	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	281	974	1490	0.188	280	0.2	2.977	A
C	50	1107	628	0.079	49	0.1	6.226	A
D	1201	375	1590	0.756	1195	3.0	8.995	A
A	1185	162	1848	0.641	1182	1.8	5.380	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	281	977	1488	0.189	281	0.2	2.981	A
C	50	1109	627	0.079	50	0.1	6.237	A
D	1201	375	1590	0.756	1201	3.0	9.251	A
A	1185	163	1848	0.641	1185	1.8	5.429	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	229	800	1603	0.143	229	0.2	2.623	A
C	40	907	715	0.057	41	0.1	5.339	A
D	981	307	1632	0.601	987	1.5	5.631	A
A	967	134	1866	0.518	970	1.1	4.029	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	192	669	1687	0.114	192	0.1	2.407	A
C	34	759	780	0.043	34	0.0	4.823	A
D	821	257	1663	0.494	824	1.0	4.299	A
A	810	112	1880	0.431	811	0.8	3.374	A

2027 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	6.19	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.19	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2027	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	392	100.000
C		✓	156	100.000
D		✓	536	100.000
A		✓	1252	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	2	12	145	233
	C	14	1	28	113
	D	66	9	5	456
	A	267	61	720	204

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.31	3.69	0.4	A
C	0.36	11.66	0.6	B
D	0.41	4.26	0.7	A
A	0.73	7.13	2.7	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	295	750	1635	0.181	294	0.2	2.684	A
C	117	982	682	0.172	117	0.2	6.353	A
D	404	425	1559	0.259	402	0.3	3.108	A
A	943	73	1905	0.495	939	1.0	3.711	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	352	897	1539	0.229	352	0.3	3.032	A
C	140	1175	597	0.235	140	0.3	7.860	A
D	482	509	1507	0.320	481	0.5	3.508	A
A	1126	87	1896	0.594	1124	1.4	4.652	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	432	1097	1410	0.306	431	0.4	3.676	A
C	172	1437	482	0.356	171	0.5	11.521	B
D	590	622	1436	0.411	589	0.7	4.245	A
A	1378	107	1883	0.732	1374	2.7	6.996	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	432	1101	1407	0.307	432	0.4	3.688	A
C	172	1441	481	0.357	172	0.6	11.656	B
D	590	624	1435	0.411	590	0.7	4.259	A
A	1378	107	1883	0.732	1378	2.7	7.127	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	352	903	1536	0.229	353	0.3	3.044	A
C	140	1181	595	0.236	141	0.3	7.951	A
D	482	512	1505	0.320	483	0.5	3.526	A
A	1126	87	1895	0.594	1130	1.5	4.736	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	295	754	1632	0.181	295	0.2	2.693	A
C	117	987	680	0.173	118	0.2	6.409	A
D	404	428	1557	0.259	404	0.4	3.125	A
A	943	73	1904	0.495	945	1.0	3.760	A

2027 | Base + Dev | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	7.28	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.28	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2027	Base + Dev	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	255	100.000
C		✓	45	100.000
D		✓	1104	100.000
A		✓	1132	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	0	14	67	174
	C	3	0	9	33
	D	118	27	0	959
	A	216	94	691	131

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.19	3.08	0.2	A
C	0.08	6.54	0.1	A
D	0.76	9.60	3.2	A
A	0.67	5.98	2.1	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	192	707	1663	0.115	191	0.1	2.447	A
C	34	797	764	0.044	34	0.0	4.931	A
D	831	256	1664	0.500	827	1.0	4.285	A
A	852	111	1881	0.453	849	0.8	3.478	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	229	847	1572	0.146	229	0.2	2.679	A
C	40	954	694	0.058	40	0.1	5.503	A
D	992	306	1632	0.608	990	1.5	5.587	A
A	1018	133	1867	0.545	1016	1.2	4.226	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	281	1035	1450	0.194	280	0.2	3.078	A
C	50	1168	601	0.082	49	0.1	6.527	A
D	1216	375	1590	0.765	1209	3.1	9.301	A
A	1246	162	1848	0.674	1243	2.0	5.915	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	281	1038	1448	0.194	281	0.2	3.083	A
C	50	1170	600	0.083	50	0.1	6.544	A
D	1216	375	1590	0.765	1215	3.2	9.601	A
A	1246	163	1848	0.675	1246	2.1	5.983	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	229	851	1570	0.146	230	0.2	2.686	A
C	40	958	693	0.058	41	0.1	5.522	A
D	992	307	1632	0.608	999	1.6	5.743	A
A	1018	134	1866	0.545	1021	1.2	4.278	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	192	711	1660	0.116	192	0.1	2.454	A
C	34	802	762	0.044	34	0.0	4.946	A
D	831	257	1663	0.500	833	1.0	4.351	A
A	852	112	1880	0.453	854	0.8	3.514	A

2027 | Base + Dev | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	6.57	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.57	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2027	Base + Dev	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	392	100.000
C		✓	156	100.000
D		✓	625	100.000
A		✓	1281	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	2	12	145	233
	C	14	1	28	113
	D	66	9	5	545
	A	267	61	749	204

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.31	3.77	0.5	A
C	0.37	12.21	0.6	B
D	0.48	4.82	0.9	A
A	0.75	7.60	2.9	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	295	771	1621	0.182	294	0.2	2.712	A
C	117	1003	673	0.175	117	0.2	6.462	A
D	471	425	1559	0.302	469	0.4	3.293	A
A	964	73	1905	0.506	960	1.0	3.797	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	352	923	1522	0.231	352	0.3	3.075	A
C	140	1201	586	0.239	140	0.3	8.060	A
D	562	509	1507	0.373	561	0.6	3.805	A
A	1152	87	1896	0.608	1150	1.5	4.811	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	432	1129	1390	0.311	431	0.4	3.754	A
C	172	1469	468	0.367	171	0.6	12.048	B
D	688	622	1437	0.479	687	0.9	4.794	A
A	1410	107	1883	0.749	1405	2.9	7.442	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	432	1133	1387	0.311	432	0.5	3.767	A
C	172	1473	467	0.368	172	0.6	12.208	B
D	688	624	1435	0.479	688	0.9	4.817	A
A	1410	107	1883	0.749	1410	2.9	7.605	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	352	929	1519	0.232	353	0.3	3.091	A
C	140	1207	583	0.240	141	0.3	8.163	A
D	562	512	1505	0.373	563	0.6	3.829	A
A	1152	87	1895	0.608	1157	1.6	4.911	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	295	776	1618	0.182	295	0.2	2.722	A
C	117	1009	670	0.175	118	0.2	6.519	A
D	471	428	1557	0.302	471	0.4	3.319	A
A	964	73	1904	0.506	967	1.0	3.848	A

2032 | Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	8.22	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.22	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2032	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	258	100.000
C		✓	50	100.000
D		✓	1162	100.000
A		✓	1120	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	0	14	70	174
	C	3	0	10	37
	D	125	31	0	1006
	A	216	104	669	131

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.20	3.08	0.2	A
C	0.09	6.50	0.1	A
D	0.81	11.64	4.0	B
A	0.67	5.93	2.0	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	194	701	1667	0.117	194	0.1	2.444	A
C	38	783	770	0.049	37	0.1	4.914	A
D	875	259	1662	0.526	870	1.1	4.521	A
A	843	119	1875	0.450	840	0.8	3.467	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	232	839	1577	0.147	232	0.2	2.675	A
C	45	937	702	0.064	45	0.1	5.478	A
D	1045	310	1630	0.641	1042	1.8	6.094	A
A	1007	143	1861	0.541	1005	1.2	4.203	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	284	1027	1456	0.195	284	0.2	3.072	A
C	55	1147	610	0.090	55	0.1	6.484	A
D	1279	379	1587	0.806	1271	3.9	11.081	B
A	1233	174	1841	0.670	1230	2.0	5.861	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	284	1029	1454	0.195	284	0.2	3.076	A
C	55	1149	609	0.090	55	0.1	6.500	A
D	1279	380	1587	0.806	1279	4.0	11.644	B
A	1233	175	1840	0.670	1233	2.0	5.928	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	232	843	1574	0.147	232	0.2	2.682	A
C	45	941	700	0.064	45	0.1	5.494	A
D	1045	311	1630	0.641	1053	1.8	6.340	A
A	1007	144	1860	0.541	1010	1.2	4.255	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	194	705	1664	0.117	194	0.1	2.451	A
C	38	787	768	0.049	38	0.1	4.929	A
D	875	260	1661	0.527	878	1.1	4.612	A
A	843	120	1875	0.450	845	0.8	3.501	A

2032 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	7.34	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.34	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2032	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	407	100.000
C		✓	175	100.000
D		✓	594	100.000
A		✓	1326	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	2	12	160	233
	C	14	1	34	126
	D	73	10	5	506
	A	267	61	794	204

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.33	3.97	0.5	A
C	0.44	14.69	0.8	B
D	0.46	4.66	0.8	A
A	0.78	8.60	3.4	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	306	806	1599	0.192	305	0.2	2.782	A
C	132	1048	653	0.202	131	0.3	6.878	A
D	447	435	1553	0.288	446	0.4	3.247	A
A	998	79	1901	0.525	994	1.1	3.950	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	366	965	1496	0.245	366	0.3	3.185	A
C	157	1255	562	0.280	157	0.4	8.862	A
D	534	520	1500	0.356	533	0.5	3.724	A
A	1192	94	1891	0.630	1190	1.7	5.115	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	448	1178	1357	0.330	447	0.5	3.954	A
C	193	1534	440	0.438	191	0.8	14.386	B
D	654	636	1428	0.458	653	0.8	4.638	A
A	1460	115	1878	0.778	1453	3.4	8.348	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	448	1183	1354	0.331	448	0.5	3.973	A
C	193	1539	437	0.440	193	0.8	14.692	B
D	654	638	1426	0.458	654	0.8	4.660	A
A	1460	116	1878	0.778	1460	3.4	8.599	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	366	972	1491	0.245	367	0.3	3.204	A
C	157	1263	559	0.281	159	0.4	9.027	A
D	534	524	1497	0.357	535	0.6	3.744	A
A	1192	95	1891	0.630	1199	1.7	5.251	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	306	811	1595	0.192	307	0.2	2.794	A
C	132	1055	650	0.203	132	0.3	6.955	A
D	447	438	1551	0.288	448	0.4	3.267	A
A	998	79	1901	0.525	1001	1.1	4.013	A

2032 | Base + Dev | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	8.74	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.74	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2032	Base + Dev	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	258	100.000
C		✓	50	100.000
D		✓	1175	100.000
A		✓	1175	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	0	14	70	174
	C	3	0	10	37
	D	125	31	0	1019
	A	216	104	724	131

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.20	3.18	0.3	A
C	0.09	6.83	0.1	A
D	0.82	12.20	4.3	B
A	0.70	6.58	2.3	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	194	742	1640	0.118	194	0.1	2.489	A
C	38	824	752	0.050	37	0.1	5.039	A
D	885	259	1662	0.532	880	1.1	4.579	A
A	885	119	1875	0.472	881	0.9	3.607	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	232	889	1545	0.150	232	0.2	2.740	A
C	45	987	680	0.066	45	0.1	5.665	A
D	1056	310	1630	0.648	1054	1.8	6.213	A
A	1056	143	1861	0.568	1055	1.3	4.458	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	284	1086	1417	0.200	284	0.2	3.177	A
C	55	1207	584	0.094	55	0.1	6.808	A
D	1294	379	1587	0.815	1284	4.1	11.545	B
A	1294	174	1841	0.703	1290	2.3	6.484	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	284	1090	1415	0.201	284	0.3	3.183	A
C	55	1210	582	0.095	55	0.1	6.828	A
D	1294	380	1587	0.815	1293	4.3	12.201	B
A	1294	175	1840	0.703	1294	2.3	6.582	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	232	894	1542	0.150	232	0.2	2.751	A
C	45	991	678	0.066	45	0.1	5.685	A
D	1056	311	1630	0.648	1066	1.9	6.492	A
A	1056	144	1860	0.568	1060	1.3	4.528	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	194	747	1637	0.119	194	0.1	2.497	A
C	38	829	750	0.050	38	0.1	5.058	A
D	885	260	1661	0.533	888	1.2	4.672	A
A	885	120	1875	0.472	886	0.9	3.650	A

2032 | Base + Dev | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		B, C, D, A	8.08	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.08	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2032	Base + Dev	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
B		✓	407	100.000
C		✓	175	100.000
D		✓	683	100.000
A		✓	1355	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		B	C	D	A
From	B	2	12	160	233
	C	14	1	34	126
	D	73	10	5	595
	A	267	61	823	204

Vehicle Mix

Heavy Vehicle %

		To			
		B	C	D	A
From	B	0	0	0	3
	C	0	0	0	4
	D	1	6	0	2
	A	3	2	3	2

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B	0.34	4.13	0.5	A
C	0.45	16.03	0.8	C
D	0.53	5.44	1.1	A
A	0.79	9.56	3.9	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	306	827	1585	0.193	305	0.2	2.860	A
C	132	1070	644	0.205	131	0.3	7.201	A
D	514	435	1553	0.331	512	0.5	3.521	A
A	1020	79	1901	0.537	1015	1.2	4.158	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	366	990	1479	0.247	366	0.3	3.287	A
C	157	1281	551	0.285	157	0.4	9.373	A
D	614	520	1500	0.409	613	0.7	4.136	A
A	1218	94	1891	0.644	1216	1.8	5.458	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	448	1209	1337	0.335	447	0.5	4.110	A
C	193	1565	426	0.452	191	0.8	15.614	C
D	752	636	1428	0.527	750	1.1	5.400	A
A	1492	115	1878	0.794	1484	3.8	9.218	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	448	1215	1333	0.336	448	0.5	4.135	A
C	193	1571	423	0.455	193	0.8	16.026	C
D	752	638	1426	0.527	752	1.1	5.440	A
A	1492	116	1878	0.795	1492	3.9	9.563	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	366	999	1474	0.248	367	0.3	3.311	A
C	157	1290	547	0.288	159	0.4	9.578	A
D	614	524	1497	0.410	616	0.7	4.171	A
A	1218	95	1891	0.644	1226	1.9	5.634	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B	306	833	1581	0.194	307	0.2	2.873	A
C	132	1077	641	0.206	132	0.3	7.294	A
D	514	438	1551	0.332	515	0.5	3.547	A
A	1020	79	1901	0.537	1023	1.2	4.231	A

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.0.0.2177
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Filename: Import of Pibwrlwyd Roundabout Model (250409)(TTC).j11
Path: C:\Users\OscarHodges\TTC Transportplanning\TTC Transportplanning Team Site - Documents\TTC - Projects\211245 - Coleg Sir Gar\Data\Junctions 10
Report generation date: 12/08/2025 10:56:39

»2025 | Observed | AM
»2025 | Observed | PM
»2027 | Base | AM
»2027 | Base | PM
»2027 | Base + Dev | AM
»2027 | Base + Dev | PM
»2032 | Base | AM
»2032 | Base | PM
»2032 | Base + Dev | AM
»2032 | Base + Dev | PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2025 - Observed									
A E - East	D1	0.0	2.90	0.03	A	D2	0.1	3.24	0.06	A
B S - South		1.1	4.46	0.53	A		0.2	2.40	0.20	A
C W - West		0.3	3.62	0.24	A		0.1	2.33	0.05	A
D N - North		0.9	4.67	0.48	A		1.3	5.38	0.56	A
	2027 - Base									
A E - East	D3	0.0	2.92	0.04	A	D4	0.1	3.29	0.06	A
B S - South		1.2	4.54	0.54	A		0.3	2.42	0.20	A
C W - West		0.3	3.66	0.24	A		0.1	2.35	0.06	A
D N - North		1.0	4.75	0.49	A		1.4	5.59	0.58	A
	2027 - Base + Dev									
A E - East	D5	0.0	2.95	0.05	A	D6	0.2	3.70	0.16	A
B S - South		1.2	4.69	0.55	A		0.3	2.55	0.22	A
C W - West		0.3	3.75	0.25	A		0.1	2.46	0.06	A
D N - North		1.2	5.26	0.53	A		1.5	5.93	0.60	A
	2032 - Base									
A E - East	D7	0.0	2.94	0.04	A	D8	0.1	3.34	0.06	A
B S - South		1.2	4.62	0.55	A		0.3	2.45	0.21	A
C W - West		0.3	3.71	0.25	A		0.1	2.37	0.06	A
D N - North		1.0	4.83	0.50	A		1.5	5.83	0.59	A
	2032 - Base + Dev									
A E - East	D9	0.0	2.97	0.05	A	D10	0.2	3.76	0.17	A
B S - South		1.3	4.79	0.56	A		0.3	2.57	0.22	A
C W - West		0.3	3.80	0.25	A		0.1	2.48	0.06	A
D N - North		1.2	5.37	0.54	A		1.6	6.19	0.62	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	09/04/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\AndrewHughes
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	Observed	AM	ONE HOUR	07:45	09:15	15
D2	2025	Observed	PM	ONE HOUR	16:45	18:15	15
D3	2027	Base	AM	ONE HOUR	07:45	09:15	15
D4	2027	Base	PM	ONE HOUR	16:45	18:15	15
D5	2027	Base + Dev	AM	ONE HOUR	07:45	09:15	15
D6	2027	Base + Dev	PM	ONE HOUR	16:45	18:15	15
D7	2032	Base	AM	ONE HOUR	07:45	09:15	15
D8	2032	Base	PM	ONE HOUR	16:45	18:15	15
D9	2032	Base + Dev	AM	ONE HOUR	07:45	09:15	15
D10	2032	Base + Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2025 | Observed | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.37	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.37	A

Arms

Arms

Arm	Name	Description	No give-way line
A E	East		
B S	South		
C W	West		
D N	North		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A E - East	3.51	6.13	21.9	38.7	50.0	20.7		
B S - South	4.10	7.25	14.0	76.5	50.0	13.2		
C W - West	3.52	8.03	15.8	53.7	50.0	17.2		
D N - North	3.26	6.24	15.4	22.4	50.0	31.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A E - East	0.630	1729
B S - South	0.686	1967
C W - West	0.671	1914
D N - North	0.580	1547

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025	Observed	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	40	100.000
B S - South		✓	836	100.000
C W - West		✓	285	100.000
D N - North		✓	660	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	4	1	35
	B S - South	20	0	54	762
	C W - West	3	38	0	244
	D N - North	70	320	266	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.03	2.90	0.0	A
B S - South	0.53	4.46	1.1	A
C W - West	0.24	3.62	0.3	A
D N - North	0.48	4.67	0.9	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	30	471	1432	0.021	30	0.0	2.585	A
B S - South	629	229	1809	0.348	627	0.5	3.068	A
C W - West	215	616	1501	0.143	214	0.2	2.794	A
D N - North	497	46	1520	0.327	495	0.5	3.554	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	36	564	1374	0.026	36	0.0	2.710	A
B S - South	752	275	1778	0.423	751	0.7	3.535	A
C W - West	256	737	1420	0.180	256	0.2	3.092	A
D N - North	593	55	1515	0.392	593	0.6	3.955	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	44	690	1294	0.034	44	0.0	2.900	A
B S - South	920	336	1736	0.530	919	1.1	4.438	A
C W - West	314	902	1309	0.240	313	0.3	3.615	A
D N - North	727	67	1508	0.482	726	0.9	4.659	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	44	691	1293	0.034	44	0.0	2.902	A
B S - South	920	337	1736	0.530	920	1.1	4.455	A
C W - West	314	904	1308	0.240	314	0.3	3.619	A
D N - North	727	67	1508	0.482	727	0.9	4.672	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	36	566	1373	0.026	36	0.0	2.714	A
B S - South	752	276	1778	0.423	753	0.7	3.552	A
C W - West	256	740	1418	0.181	257	0.2	3.101	A
D N - North	593	55	1515	0.392	594	0.7	3.970	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	30	473	1431	0.021	30	0.0	2.590	A
B S - South	629	231	1809	0.348	630	0.5	3.084	A
C W - West	215	619	1499	0.143	215	0.2	2.802	A
D N - North	497	46	1520	0.327	498	0.5	3.573	A

2025 | Observed | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.28	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.28	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2025	Observed	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	64	100.000
B S - South		✓	340	100.000
C W - West		✓	79	100.000
D N - North		✓	783	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	13	0	51
	B S - South	4	0	8	328
	C W - West	0	7	0	72
	D N - North	25	702	52	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.06	3.24	0.1	A
B S - South	0.20	2.40	0.2	A
C W - West	0.05	2.33	0.1	A
D N - North	0.56	5.38	1.3	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	48	574	1368	0.035	48	0.0	2.769	A
B S - South	256	80	1912	0.134	255	0.2	2.194	A
C W - West	59	291	1720	0.035	59	0.0	2.168	A
D N - North	589	8	1542	0.382	587	0.6	3.805	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	58	687	1296	0.044	57	0.0	2.949	A
B S - South	306	96	1901	0.161	306	0.2	2.278	A
C W - West	71	348	1681	0.042	71	0.0	2.235	A
D N - North	704	10	1541	0.457	703	0.8	4.342	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	70	841	1199	0.059	70	0.1	3.236	A
B S - South	374	118	1886	0.198	374	0.2	2.403	A
C W - West	87	426	1629	0.053	87	0.1	2.334	A
D N - North	862	12	1540	0.560	860	1.3	5.348	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	70	842	1198	0.059	70	0.1	3.239	A
B S - South	374	118	1886	0.198	374	0.2	2.403	A
C W - West	87	426	1629	0.053	87	0.1	2.334	A
D N - North	862	12	1540	0.560	862	1.3	5.375	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	58	689	1295	0.044	58	0.0	2.953	A
B S - South	306	96	1901	0.161	306	0.2	2.278	A
C W - West	71	348	1681	0.042	71	0.0	2.237	A
D N - North	704	10	1541	0.457	706	0.9	4.368	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	48	577	1366	0.035	48	0.0	2.773	A
B S - South	256	81	1912	0.134	256	0.2	2.195	A
C W - West	59	292	1719	0.035	60	0.0	2.170	A
D N - North	589	8	1542	0.382	590	0.6	3.833	A

2027 | Base | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.44	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2027	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	41	100.000
B S - South		✓	847	100.000
C W - West		✓	288	100.000
D N - North		✓	671	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	4	1	36
	B S - South	20	0	54	773
	C W - West	3	38	0	247
	D N - North	71	328	268	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.04	2.92	0.0	A
B S - South	0.54	4.54	1.2	A
C W - West	0.24	3.66	0.3	A
D N - North	0.49	4.75	1.0	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	31	478	1428	0.022	31	0.0	2.595	A
B S - South	638	232	1808	0.353	635	0.5	3.093	A
C W - West	217	625	1495	0.145	216	0.2	2.813	A
D N - North	505	46	1520	0.332	503	0.5	3.581	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	37	573	1368	0.027	37	0.0	2.723	A
B S - South	761	277	1776	0.429	761	0.8	3.572	A
C W - West	259	748	1413	0.183	259	0.2	3.119	A
D N - North	603	55	1515	0.398	603	0.7	3.998	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	45	701	1287	0.035	45	0.0	2.918	A
B S - South	933	340	1734	0.538	931	1.2	4.515	A
C W - West	317	916	1300	0.244	317	0.3	3.657	A
D N - North	739	67	1508	0.490	738	1.0	4.724	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	45	702	1287	0.035	45	0.0	2.920	A
B S - South	933	340	1733	0.538	933	1.2	4.535	A
C W - West	317	917	1299	0.244	317	0.3	3.663	A
D N - North	739	67	1508	0.490	739	1.0	4.746	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	37	575	1367	0.027	37	0.0	2.727	A
B S - South	761	278	1776	0.429	763	0.8	3.591	A
C W - West	259	750	1411	0.183	259	0.2	3.125	A
D N - North	603	55	1515	0.398	604	0.7	4.015	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	31	481	1426	0.022	31	0.0	2.598	A
B S - South	638	233	1807	0.353	639	0.6	3.110	A
C W - West	217	628	1493	0.145	217	0.2	2.820	A
D N - North	505	46	1520	0.332	506	0.5	3.603	A

2027 | Base | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.42	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.42	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2027	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	66	100.000
B S - South		✓	350	100.000
C W - West		✓	81	100.000
D N - North		✓	807	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	13	0	53
	B S - South	4	0	8	338
	C W - West	0	7	0	74
	D N - North	26	724	53	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.06	3.29	0.1	A
B S - South	0.20	2.42	0.3	A
C W - West	0.06	2.35	0.1	A
D N - North	0.58	5.59	1.4	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	50	591	1357	0.037	50	0.0	2.794	A
B S - South	263	83	1910	0.138	263	0.2	2.206	A
C W - West	61	300	1714	0.036	61	0.0	2.178	A
D N - North	608	8	1542	0.394	605	0.7	3.876	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	59	707	1283	0.046	59	0.0	2.983	A
B S - South	315	99	1899	0.166	314	0.2	2.293	A
C W - West	73	359	1674	0.044	73	0.0	2.247	A
D N - North	725	10	1541	0.471	725	0.9	4.456	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	73	866	1184	0.061	73	0.1	3.287	A
B S - South	385	121	1884	0.205	385	0.3	2.425	A
C W - West	89	439	1620	0.055	89	0.1	2.351	A
D N - North	889	12	1540	0.577	887	1.4	5.563	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	73	868	1183	0.061	73	0.1	3.290	A
B S - South	385	121	1884	0.205	385	0.3	2.425	A
C W - West	89	439	1620	0.055	89	0.1	2.351	A
D N - North	889	12	1540	0.577	888	1.4	5.593	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	59	710	1282	0.046	59	0.0	2.988	A
B S - South	315	99	1899	0.166	315	0.2	2.294	A
C W - West	73	359	1674	0.044	73	0.0	2.248	A
D N - North	725	10	1541	0.471	727	0.9	4.486	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	50	594	1355	0.037	50	0.0	2.798	A
B S - South	263	83	1910	0.138	264	0.2	2.207	A
C W - West	61	301	1713	0.036	61	0.0	2.180	A
D N - North	608	8	1542	0.394	609	0.7	3.906	A

2027 | Base + Dev | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.72	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.72	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2027	Base + Dev	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	54	100.000
B S - South		✓	863	100.000
C W - West		✓	290	100.000
D N - North		✓	726	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	5	1	48
	B S - South	36	0	54	773
	C W - West	5	38	0	247
	D N - North	126	328	268	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.05	2.95	0.0	A
B S - South	0.55	4.69	1.2	A
C W - West	0.25	3.75	0.3	A
D N - North	0.53	5.26	1.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	41	478	1428	0.028	41	0.0	2.612	A
B S - South	650	241	1802	0.361	647	0.6	3.142	A
C W - West	218	646	1481	0.147	218	0.2	2.847	A
D N - North	547	59	1512	0.361	544	0.6	3.779	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	49	573	1368	0.035	49	0.0	2.746	A
B S - South	776	288	1769	0.439	775	0.8	3.650	A
C W - West	261	773	1396	0.187	260	0.2	3.170	A
D N - North	653	71	1505	0.434	652	0.8	4.295	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	59	701	1287	0.046	59	0.0	2.951	A
B S - South	950	353	1725	0.551	948	1.2	4.668	A
C W - West	319	946	1280	0.249	319	0.3	3.743	A
D N - North	799	87	1496	0.534	798	1.2	5.241	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	59	702	1287	0.046	59	0.0	2.953	A
B S - South	950	353	1724	0.551	950	1.2	4.691	A
C W - West	319	948	1279	0.250	319	0.3	3.751	A
D N - North	799	87	1496	0.534	799	1.2	5.265	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	49	575	1367	0.036	49	0.0	2.751	A
B S - South	776	289	1768	0.439	778	0.8	3.673	A
C W - West	261	776	1394	0.187	261	0.2	3.177	A
D N - North	653	71	1505	0.434	654	0.8	4.319	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	41	481	1426	0.029	41	0.0	2.616	A
B S - South	650	242	1801	0.361	651	0.6	3.159	A
C W - West	218	649	1479	0.148	219	0.2	2.857	A
D N - North	547	60	1512	0.361	547	0.6	3.808	A

2027 | Base + Dev | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.63	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.63	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2027	Base + Dev	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	177	100.000
B S - South		✓	355	100.000
C W - West		✓	81	100.000
D N - North		✓	836	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	36	0	141
	B S - South	9	0	8	338
	C W - West	0	7	0	74
	D N - North	55	724	53	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.16	3.70	0.2	A
B S - South	0.22	2.55	0.3	A
C W - West	0.06	2.46	0.1	A
D N - North	0.60	5.93	1.5	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	133	591	1357	0.098	133	0.1	2.986	A
B S - South	267	149	1865	0.143	267	0.2	2.272	A
C W - West	61	369	1667	0.037	61	0.0	2.241	A
D N - North	629	12	1540	0.409	627	0.7	3.987	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	159	707	1283	0.124	159	0.1	3.250	A
B S - South	319	178	1845	0.173	319	0.2	2.381	A
C W - West	73	442	1618	0.045	73	0.0	2.329	A
D N - North	752	14	1538	0.489	750	1.0	4.630	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	195	866	1184	0.165	195	0.2	3.695	A
B S - South	391	218	1818	0.215	391	0.3	2.546	A
C W - West	89	541	1551	0.057	89	0.1	2.461	A
D N - North	920	18	1536	0.599	918	1.5	5.888	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	195	868	1183	0.165	195	0.2	3.699	A
B S - South	391	218	1817	0.215	391	0.3	2.547	A
C W - West	89	542	1551	0.057	89	0.1	2.461	A
D N - North	920	18	1536	0.599	920	1.5	5.927	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	159	710	1282	0.124	159	0.1	3.256	A
B S - South	319	178	1845	0.173	319	0.2	2.382	A
C W - West	73	443	1618	0.045	73	0.0	2.330	A
D N - North	752	14	1538	0.489	754	1.0	4.665	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	133	594	1355	0.098	133	0.1	2.992	A
B S - South	267	149	1864	0.143	267	0.2	2.275	A
C W - West	61	371	1666	0.037	61	0.0	2.244	A
D N - North	629	12	1540	0.409	630	0.7	4.020	A

2032 | Base | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.52	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.52	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2032	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	41	100.000
B S - South		✓	859	100.000
C W - West		✓	290	100.000
D N - North		✓	683	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	4	1	36
	B S - South	20	0	54	785
	C W - West	3	38	0	249
	D N - North	72	336	271	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.04	2.94	0.0	A
B S - South	0.55	4.62	1.2	A
C W - West	0.25	3.71	0.3	A
D N - North	0.50	4.83	1.0	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	31	487	1423	0.022	31	0.0	2.605	A
B S - South	647	234	1806	0.358	644	0.6	3.122	A
C W - West	218	634	1489	0.147	218	0.2	2.829	A
D N - North	514	46	1520	0.338	512	0.5	3.613	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	37	583	1362	0.027	37	0.0	2.736	A
B S - South	772	280	1775	0.435	771	0.8	3.617	A
C W - West	261	759	1406	0.185	260	0.2	3.143	A
D N - North	614	55	1515	0.405	613	0.7	4.046	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	45	713	1280	0.035	45	0.0	2.936	A
B S - South	946	343	1732	0.546	944	1.2	4.602	A
C W - West	319	929	1292	0.247	319	0.3	3.698	A
D N - North	752	67	1508	0.499	751	1.0	4.814	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	45	715	1279	0.035	45	0.0	2.938	A
B S - South	946	344	1731	0.546	946	1.2	4.624	A
C W - West	319	930	1291	0.247	319	0.3	3.705	A
D N - North	752	67	1508	0.499	752	1.0	4.829	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	37	585	1361	0.027	37	0.0	2.740	A
B S - South	772	281	1774	0.435	774	0.8	3.637	A
C W - West	261	761	1404	0.186	261	0.2	3.150	A
D N - North	614	55	1515	0.405	615	0.7	4.064	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	31	489	1421	0.022	31	0.0	2.608	A
B S - South	647	235	1806	0.358	648	0.6	3.138	A
C W - West	218	637	1487	0.147	219	0.2	2.839	A
D N - North	514	46	1520	0.338	515	0.5	3.633	A

2032 | Base | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.58	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.58	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2032	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	67	100.000
B S - South		✓	361	100.000
C W - West		✓	83	100.000
D N - North		✓	831	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	13	0	54
	B S - South	4	0	8	349
	C W - West	0	7	0	76
	D N - North	27	745	55	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.06	3.34	0.1	A
B S - South	0.21	2.45	0.3	A
C W - West	0.06	2.37	0.1	A
D N - North	0.59	5.83	1.5	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	50	608	1346	0.037	50	0.0	2.818	A
B S - South	272	85	1909	0.142	271	0.2	2.218	A
C W - West	62	309	1707	0.037	62	0.0	2.188	A
D N - North	626	8	1542	0.406	623	0.7	3.951	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	60	728	1270	0.047	60	0.1	3.017	A
B S - South	325	101	1897	0.171	324	0.2	2.310	A
C W - West	75	369	1667	0.045	75	0.0	2.260	A
D N - North	747	10	1541	0.485	746	0.9	4.577	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	74	891	1168	0.063	74	0.1	3.337	A
B S - South	397	124	1882	0.211	397	0.3	2.448	A
C W - West	91	452	1611	0.057	91	0.1	2.368	A
D N - North	915	12	1540	0.594	913	1.5	5.791	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	74	893	1167	0.063	74	0.1	3.341	A
B S - South	397	124	1882	0.211	397	0.3	2.448	A
C W - West	91	453	1611	0.057	91	0.1	2.368	A
D N - North	915	12	1540	0.594	915	1.5	5.830	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	60	731	1269	0.047	60	0.1	3.024	A
B S - South	325	102	1897	0.171	325	0.2	2.313	A
C W - West	75	370	1666	0.045	75	0.0	2.261	A
D N - North	747	10	1541	0.485	749	1.0	4.613	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	50	612	1344	0.038	50	0.0	2.823	A
B S - South	272	85	1908	0.142	272	0.2	2.222	A
C W - West	62	310	1707	0.037	63	0.0	2.190	A
D N - North	626	8	1542	0.406	627	0.7	3.986	A

2032 | Base + Dev | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.81	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.81	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2032	Base + Dev	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	55	100.000
B S - South		✓	875	100.000
C W - West		✓	292	100.000
D N - North		✓	738	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	5	1	49
	B S - South	36	0	54	785
	C W - West	5	38	0	249
	D N - North	127	336	271	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.05	2.97	0.0	A
B S - South	0.56	4.79	1.3	A
C W - West	0.25	3.80	0.3	A
D N - North	0.54	5.37	1.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	41	487	1423	0.029	41	0.0	2.623	A
B S - South	659	244	1800	0.366	656	0.6	3.170	A
C W - West	220	656	1475	0.149	219	0.2	2.865	A
D N - North	556	59	1512	0.367	553	0.6	3.816	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	49	583	1362	0.036	49	0.0	2.760	A
B S - South	787	292	1767	0.445	786	0.8	3.699	A
C W - West	263	785	1388	0.189	262	0.2	3.197	A
D N - North	663	71	1505	0.441	663	0.8	4.348	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	61	713	1280	0.047	61	0.0	2.972	A
B S - South	963	357	1722	0.560	962	1.3	4.766	A
C W - West	321	961	1270	0.253	321	0.3	3.790	A
D N - North	813	87	1496	0.543	811	1.2	5.340	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	61	715	1279	0.047	61	0.0	2.974	A
B S - South	963	358	1721	0.560	963	1.3	4.791	A
C W - West	321	962	1269	0.253	321	0.3	3.797	A
D N - North	813	87	1496	0.543	813	1.2	5.366	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	49	585	1361	0.036	49	0.0	2.765	A
B S - South	787	293	1766	0.445	788	0.8	3.721	A
C W - West	263	787	1386	0.189	263	0.2	3.207	A
D N - North	663	71	1505	0.441	665	0.8	4.373	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	41	489	1421	0.029	41	0.0	2.629	A
B S - South	659	245	1799	0.366	660	0.6	3.193	A
C W - West	220	659	1473	0.149	220	0.2	2.876	A
D N - North	556	60	1512	0.367	556	0.6	3.842	A

2032 | Base + Dev | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A E, B S, C W, D N	4.80	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.80	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2032	Base + Dev	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A E - East		✓	178	100.000
B S - South		✓	366	100.000
C W - West		✓	83	100.000
D N - North		✓	860	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	36	0	142
	B S - South	9	0	8	349
	C W - West	0	7	0	76
	D N - North	56	745	55	4

Vehicle Mix

Heavy Vehicle %

		To			
		A E - East	B S - South	C W - West	D N - North
From	A E - East	0	8	0	0
	B S - South	0	0	0	1
	C W - West	0	0	0	0
	D N - North	9	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A E - East	0.17	3.76	0.2	A
B S - South	0.22	2.57	0.3	A
C W - West	0.06	2.48	0.1	A
D N - North	0.62	6.19	1.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	134	608	1346	0.100	134	0.1	3.014	A
B S - South	276	151	1863	0.148	275	0.2	2.286	A
C W - West	62	378	1661	0.038	62	0.0	2.252	A
D N - North	647	12	1540	0.421	645	0.7	4.066	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	160	728	1270	0.126	160	0.1	3.290	A
B S - South	329	181	1843	0.179	329	0.2	2.400	A
C W - West	75	453	1611	0.046	75	0.0	2.343	A
D N - North	773	14	1538	0.503	772	1.0	4.758	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	196	891	1168	0.168	196	0.2	3.759	A
B S - South	403	221	1815	0.222	403	0.3	2.572	A
C W - West	91	554	1543	0.059	91	0.1	2.480	A
D N - North	947	18	1536	0.616	945	1.6	6.144	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	196	893	1167	0.168	196	0.2	3.764	A
B S - South	403	221	1815	0.222	403	0.3	2.573	A
C W - West	91	555	1542	0.059	91	0.1	2.480	A
D N - North	947	18	1536	0.616	947	1.6	6.193	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	160	731	1268	0.126	160	0.1	3.297	A
B S - South	329	181	1843	0.179	329	0.2	2.403	A
C W - West	75	454	1610	0.046	75	0.0	2.345	A
D N - North	773	14	1538	0.503	775	1.0	4.800	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A E - East	134	612	1344	0.100	134	0.1	3.021	A
B S - South	276	152	1863	0.148	276	0.2	2.291	A
C W - West	62	380	1660	0.038	63	0.0	2.255	A
D N - North	647	12	1540	0.421	649	0.7	4.103	A