

Land West of St Athan

Transport Assessment

Client: Hallam Land

03 July 2025

Document Reference: C22133/TA02



This document is formatted for double sided printing.

© Apex Transport Planning Ltd.

All Rights Reserved.

Registered Office:

30 Summerfield Avenue

Cardiff

CF14 3QA

QUALITY MANAGEMENT

REPORT DETAILS

Issued by	Apex Transport Planning Ltd Clockwise, Brunel House 2 Fitzalan Road Cardiff CF24 0HA Tel: 02920 619 361 info@apex.tp.co.uk www.apex.tp.co.uk	
Client	Hallam Land	
Project Name	Land West of St Athan	
Report Title	Transport Assessment	
Report Ref.	TA02	
Project No.	C22133	
Date	03/07/2025	

ISSUE HISTORY

Issue No.	Status	Date	Produced by	Approved by	Revision Details
1	Final	01/07/2025	DC	DC	First Issue
2	Final	03/07/2025	DC	DC	Second Issue

NOTICE

This report has been prepared for Hallam Land in accordance with the terms and conditions of appointment. Apex Transport Planning Ltd cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

The material presented in this report is confidential. This report has been prepared and is intended solely for Hallam Land for use in relation to the Land West of St Athan project.

CONTENTS

1.	INTRODUCTION	1
1.1	Background	1
1.2	Site Location	1
1.3	Scope of Report	2
2.	PLANNING CONTEXT	3
2.1	Introduction	3
2.2	Relevant Planning Policies	3
2.3	Relevant Planning Applications	7
3.	EXISTING HIGHWAY NETWORK	11
3.1	Existing Traffic Flows	11
3.2	Road Safety	12
4.	CONNECTIVITY BY SUSTAINABLE MODES OF TRAVEL	14
4.1	Introduction	14
4.2	Walking	14
4.3	Cycling	16
4.4	Distances to Facilities	17
4.5	Public Transport	20
4.6	Committed Transport Improvements	21
4.7	Existing Travel Behaviour and Car Ownership	22
4.8	Summary	24
5.	POTENTIAL DEVELOPMENT AND ACCESS	26
5.1	Overview	26
5.2	Potential Vehicular Access - Overall Site	26
5.3	Site Layout	30
5.4	Pedestrian and Cyclist Access	31
5.5	Parking	32
6.	TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT	33
6.1	Introduction	33
6.2	Potential Development Vehicle Trip Generation	33
6.3	Trip Distribution and Assignment	35
7.	FUTURE YEAR TRAFFIC FLOWS	37
7.1	Overview	37
7.2	Future Year Baseline Traffic Flows	37
7.3	Committed Development	37
7.4	Future Year Traffic Flows and Assessment Scenarios	38
8.	POTENTIAL TRAFFIC IMPACTS	40
8.1	Introduction	40
8.2	Potential Percentage Impacts	40
9.	OPERATIONAL ASSESSMENTS	42
9.1	Overview	42
9.2	Extent of Assessment	42

9.3	Assessment Scenarios	42
9.4	Model Inputs	42
9.5	Model Reporting Outputs	43
9.6	Operational Assessment Results Summary	43
9.7	Junction 1 - Weycock Cross Roundabout Results	44
9.8	Junction 2 - B4265 / Fontgary Road priority junction results	47
9.9	Junction 3 - Gileston Crossroads priority crossroad junction results	48
9.10	Junction 4 - Proposed Site Access junction results	49
9.11	Junction 5 - B4265 / Northern Access Road roundabout results	50
9.12	Junction 6 - B4265 / Llanmaes Road signal junction results	51
9.13	Junction 7 - B4265 / Cowbridge Road roundabout results	54
10.	MITIGATION	56
10.1	Gileston Crossroads	56
10.2	Overview of Mitigation	58
10.3	Public Right of Way Enhancements	59
10.4	Travel Plan	59
11.	SUMMARY AND CONCLUSIONS	61
11.1	Summary	61
11.2	Conclusions	63

Tables

Table 4-1: Proximity of the site to local services and facilities	18
Table 4-2: Bus services operating from St Athan	20
Table 4-3: Journey to Work Mode Split (Census 2011)	23
Table 6-1: Potential Residential Use - Vehicle Trip Rates and Generation	34
Table 6-2: Potential Commercial Use - Vehicle Trip Rates and Generation	34
Table 8-1: Potential Percentage Impacts at key junctions	40
Table 9-1: Junctions 10 Summary: 2024 Base – Weycock Cross Roundabout	45
Table 9-2: Maximum average queue length comparison – Weycock Cross Roundabout	45
Table 9-3: Junctions 10 Summary: 2036 Base – Weycock Cross Roundabout	46
Table 9-4: Junctions 10 Summary: 2036 Base + Development – Weycock Cross Roundabout	46
Table 9-5: Junctions 10 Summary: 2036 Base + Development + Land E of St Athan – Weycock Cross Roundabout	46
Table 9-6: Junctions 10 Summary: B4265 / Fontgary Road priority junction	47
Table 9-7: B4265 / Fontgary Road priority junction - queue length comparisons	47
Table 9-8: Junctions 10 Summary: Gileston Crossroads junction	48
Table 9-9: Gileston Crossroads junction - queue length comparisons	49
Table 9-10: Junctions 10 Summary: Site Access / B4265 Roundabout	49
Table 9-11: LinSig Summary: Site Access / B4265 Signals – 2036 Base + Development + Land East of St Athan	50
Table 9-12: Junctions 10 Summary: B4265 / Northern Access Road Roundabout	51
Table 9-13: B4265 / Northern Access Road Roundabout - queue length comparisons	51
Table 9-14: 2024 Base LinSig summary – B4265 / Llanmaes Road	52
Table 9-15: Maximum average queue length comparison – B4265 / Llanmaes Road	52
Table 9-16: 2036 Future Base LinSig summary – B4265 / Llanmaes Road	53
Table 9-17: 2036 Future Base + Development LinSig summary – B4265 / Llanmaes Road	53
Table 9-18: 2036 Future Base + Development + Land East of St Athan LinSig summary – B4265 / Llanmaes Road	53
Table 9-19: Junctions 10 Summary: B4265 / Cowbridge Road Roundabout	54
Table 9-20: B4265 / Cowbridge Road Roundabout - queue length comparisons	54
Table 10-1: Gileston Crossroads Indicative Mitigation - LinSig summary 2036 Future Base + Development	57
Table 10-2: Gileston Crossroads Indicative Mitigation - LinSig summary 2036 Future Base + Development + Land E of St Athan	57
Table 10-3: Potential Mitigation which could be delivered by the site	59

Figures

Figure 1-1: Indicative Site Location	2
Figure 2-1: LDP Allocated Sites	7
Figure 2-2: Consented Neighbouring Schemes	8
Figure 2-3: Land East of B4265 TA Addendum Traffic Flows at B426/Gileston Road Junction	9
Figure 3-1: Obtained Traffic Survey Locations	11
Figure 3-2: Location of recorded PIA's within vicinity of the site	12
Figure 4-1: VoGC Integrated Network Walking Map	15
Figure 4-2: Public Rights of Way	16
Figure 4-3: VoGC Integrated Network Cycling Map	17
Figure 4-4: Location of facilities within proximity of the site	19
Figure 4-5: Arcadis Suggested - Indicative St Athan Rail Station Location (Section C area)	22
Figure 5-1: Guidance for approximate junction provision based on the DMRB	28
Figure 6-1: Commuting flows from Vale of Glamorgan 014 MSOA	35

Appendices

Appendix A	Concept Masterplan
Appendix B	Base Traffic Survey Data
Appendix C	Traffic Flow Diagrams
Appendix D	Active Travel Routes and Facilities Plan
Appendix E	Potential Bus Diversions Plan
Appendix F	General Arrangement of Proposed Site Access Roundabout
Appendix G	General Arrangement of Proposed Site Access Signal Controlled Junction
Appendix H	Swept Path Analysis
Appendix I	Indicative Footway Improvement on Llantwit Road
Appendix J	TRICS Outputs – Residential
Appendix K	TRICS Outputs – Commercial Use
Appendix L	Traffic Distribution Analysis
Appendix M	Geometric Measurements of Junctions 10 modelled junctions
Appendix N	Junctions 10 and LinSig Outputs
Appendix O	Indicative Signal Controlled Junction Improvement at Gileston Crossroads

1. INTRODUCTION

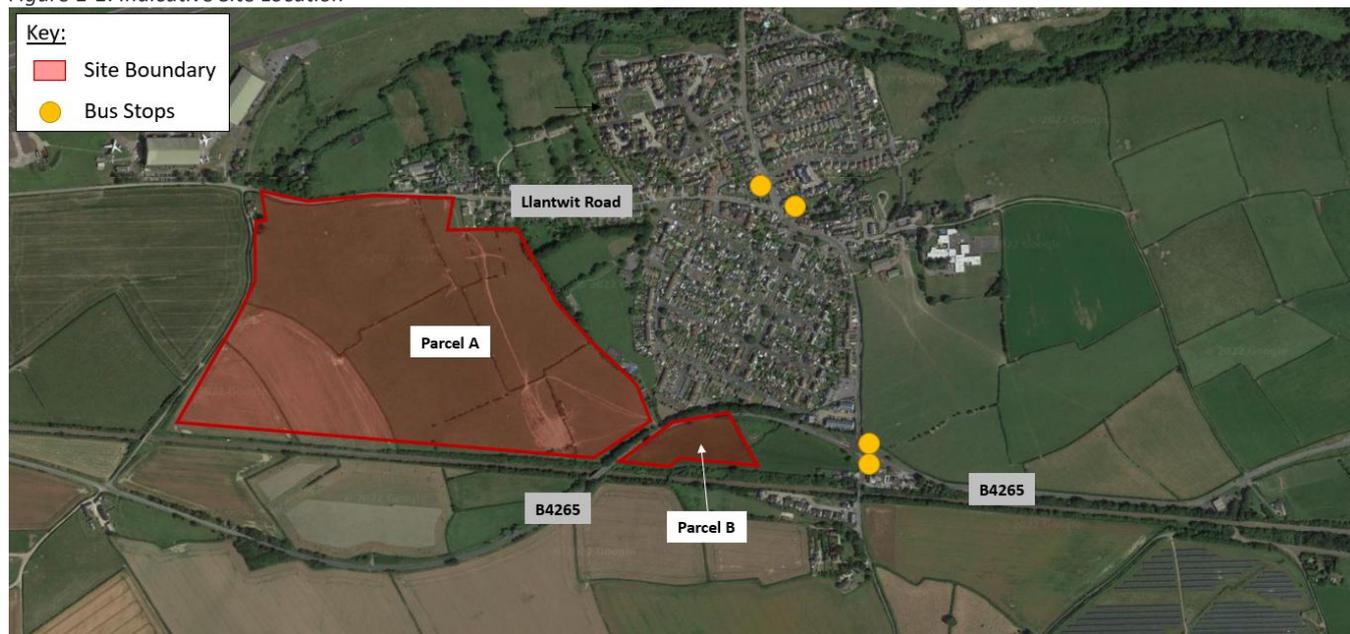
1.1 Background

- 1.1.1 Apex Transport Planning Ltd ('Apex TP') has been commissioned by Hallam Land to produce a Transport Assessment (TA) in relation to a potential residential development on Land to the West of St Athan.
- 1.1.2 The overall site comprises of two parcels of land either side of the B4265. The larger parcel of land has been referred to in this report as Parcel A, for ease, and has an area of c. 28 hectares and is situated to the north of the B4265. The smaller parcel of land has been referred to as Parcel B and has an area of c. 1.5 hectares, situated to the south of the B4265. The two parcels are proposed as a single allocation in the emerging Vale of Glamorgan Council (VoGC) Replacement Local Development Plan (RLDP) as Key Site 5 (KS5) in the Preferred Strategy (November 2023).
- 1.1.3 The TA has been produced to inform a Candidate Site Submission for the overall site (KS5). The report focuses on the highways and transport implications of a potential development in this location.
- 1.1.4 A Transport Appraisal (TN01) was previously produced by Apex to support the Candidate Site, this provided a detailed assessment of the potential development and the surrounding network, as well as an access appraisal and mitigation strategy. The highway authority provided comments on the site as part of the VoGC preferred strategy and this more detailed Transport Assessment has been produced to consider those comments in full. In particular, this has included consideration of the impact of the development at a number of junctions on the surrounding highway network, with the scope of this work discussed and agreed with the highway authority. This TA (TA02) therefore builds upon the previously produced TN01, updating and providing further information, where this is required.
- 1.1.5 In addition to this, based on the ongoing discussions with VoGC on all matters, the concept masterplan has been revised from that previously produced and submitted. This concept masterplan showing the potential development is provided in Appendix A.

1.2 Site Location

- 1.2.1 The candidate site is situated on the south-western edge of St Athan village, extending from Llantwit Road to the north to the B4265 and the rail line to the south. The main parcel of land is bordered to the north by Llantwit Road, to the east by St Athan Park, to the south by the railway line and to the west by open grassland which is an allocated employment site (and an enterprise zone). The indicative site location is broadly shown in Figure 1-1.

Figure 1-1: Indicative Site Location



Source: Google Maps

1.2.2 The report has been based on a potential development of up to 600 dwellings supported by commercial uses as part of a mixed use approach. There is theoretical capacity for a higher density of development on the site, and the highway network does not necessarily preclude this, but a development of 600 dwellings is considered a robust upper level of development. The site also offers land for a potential rail station and transport interchange.

1.2.3 The dwellings on Parcel A would be served via a primary spine road from a new access from the B4265, with access and the layout considered in more detail in Section 5. A concept masterplan showing the potential development is provided in Appendix A.

1.3 Scope of Report

1.3.1 This report has been structured to include the following:

- Connectivity of the site by sustainable modes
- Consideration of the baseline highway position, in terms of traffic flows and road safety
- The location and suitability of potential access arrangements
- Forecast trip generation and distribution
- Potential impacts across the network
- Potential mitigation to improve sustainable access and accommodate vehicle movements appropriately

2. PLANNING CONTEXT

2.1 Introduction

2.1.1 This TA has taken into consideration key policy and design guidance at a national and local level. This chapter provides a summary of the key policy objectives and development-related planning requirements.

2.2 Relevant Planning Policies

Future Wales: The National Plan 2040

- 2.2.1 Future Wales – The National Plan 2040 is a 20-year national development framework, setting the direction of development for the whole of Wales to 2040. The plan seeks to provide a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonization and climate resilience, developing strong ecosystems and improving the health and well-being of our communities.
- 2.2.2 It sets out a plan-led system and a hierarchy of development plans for Wales. The National Plan 2040 is supported by Strategic Development Plans at a regional level and Local Development Plans at local authority level. It will also inform decisions on nationally significant infrastructure projects under the developments of national significance process. Planning decisions at every level of the planning system in Wales must be taken in accordance with the development plan as a whole.
- 2.2.3 In relation to transport, it is stated on page 51 that *“Growth should be shaped around sustainable forms of transport and places that make us and the environment healthier”*. Page 55 continues on to state that *“Development will focus on active travel and public transport, allied with a reduced reliance on private vehicles”*.
- 2.2.4 In the supporting text for Policy 2 - *Shaping Urban Growth and Regeneration – Strategic Placemaking*, it is stated that *“To enable active and healthy lives, people should be able to easily walk to local facilities and public transport.”*
- 2.2.5 Policy 11 sets out National Connectivity, this states that *“Our priorities are to encourage longer distance trips to be made by public transport, while also making longer journeys possible by electric vehicles.”*
- 2.2.6 Policy 12 sets out Regional Connectivity. This states that *“in urban areas our priorities are improving and integrating active travel and public transport.”*
- 2.2.7 In relation to Active Travel and developments it is stated that *“Active travel must be an essential and integral component of all new developments, large and small.”*
- 2.2.8 In relation to travelling in Wales, on page 84 it is stated that *“The Welsh Government’s aim is to reduce the need to travel, particularly by private vehicles, and support a modal shift to walking, cycling and public transport.”*
- 2.2.9 On page 174, supporting Policy 36, it is stated that *“Welsh Government wishes to see development built in sustainable locations that are supported by the active travel and public transport infrastructure and services needed to enable people to live active and healthy lives.”*
- 2.2.10 Page 66 relates to Strategic Placemaking Principles. This states that *“to create activity throughout the day and enable people to walk and cycle, rather than being reliant on travelling by car, places should*

have a rich mix of residential, commercial and community uses within close proximity to each other. Urban growth and regeneration should integrate different uses within neighbourhoods.”

- 2.2.11 As such, the key themes are that development should be sited where it can benefit from active travel and public transport connections and reduce the need to travel by car. Facilities should be within easy walking distance and a key priority is to encourage electric vehicle use, particularly for longer journeys.
- 2.2.12 The site is situated on the edge of the existing residential area of St Athan with key facilities and services within suitable walking distance. Active travel connections will be provided as part of the potential development to ensure it is integrated with the existing provision and encourages walking and cycling for local journeys. The site is also well situated to benefit from public transport services. In addition, electric vehicle charging will be provided to encourage the use of more sustainable vehicles. Due to the size of the site, it may also be developed with internal facilities, which would benefit both existing and potential future residents.
- 2.2.13 Finally, the site location would enable new housing to be located adjacent to an existing employment allocation (the enterprise zone), which would create opportunities for active travel and sustainable lifestyles.
- 2.2.14 The site location is therefore considered consistent with the policies and aims of Future Wales and further details of the sustainable connectivity are set out within Section 4.

Planning Policy Wales 12th Edition (PPW12)

- 2.2.15 PPW12 provides overarching Welsh Government policies with transport policies set out in Section 4.1. This states in paragraph 4.1.10 *“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*
 - *make it possible for all short journeys within and beyond the development to be easily made by walking and cycling.”*
- 2.2.16 PPW12 sets out a *“Sustainable Transport Hierarchy for Planning”* in Figure 9. This states in paragraph 4.1.12 *“It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling and public transport ahead of the private motor vehicles. The transport hierarchy recognises that Ultra Low Emission Vehicles also have an important role to play in the decarbonisation of transport.”*
- 2.2.17 It continues to state that *“The sustainable transport hierarchy should be used to reduce the need to travel [and] prevent car-dependent developments in unsustainable locations.”*
- 2.2.18 However, PPW12 recognises the differences between development in different areas and the need to consider local context, with paragraph 4.1.17 stating *“Different approaches to sustainable transport will be required in different parts of Wales... and new development will need to reflect local circumstances.”*
- 2.2.19 PPW12 also states in paragraph 3.39 that development should *“where possible, offer good active travel connections to the centres of settlements to reduce the need to travel by car for local journeys.”*
- 2.2.20 The location of the site on the edge of St Athan means that there are good travel connections to the centre of St Athan, which is accessible by walking, cycling and public transport. Further details are provided within Section 4 which demonstrate that the site location is fully compliant with PPW12.

Technical Advice Note 18: Transport (TAN18)

- 2.2.21 The importance of walking and cycling in contributing towards sustainable travel patterns is detailed in the guidance contained within TAN18: Transport (March 2007). The guidance emphasises not only the role walking and cycling can have as main modes of transport for local journeys but also the considerable contribution they play in forming parts of longer journeys by public transport.
- 2.2.22 The importance of the location of a site in relation to encouraging sustainable travel is set out within paragraph 3.3 which states *“The location of new residential development has a significant influence on travel patterns as the majority of trips start or finish at home... It should be a key aim of development plans to identify residential sites that are accessible to jobs, shops and services by modes other than the car.”*
- 2.2.23 Paragraph 3.8 continues on to state that *“Locations that are highly accessible by a variety of travel modes offer significant opportunities to make travel patterns more sustainable.”*
- 2.2.24 As such it is recognised by TAN18 that the sustainable location of a site can assist in facilitating sustainable travel habits. The site is situated in a sustainable location accessible by walking and cycling to community uses, leisure uses, retail, schools and public transport stops, therefore fully in accordance with transport policies in TAN18.

The Wales National Transport Strategy 2021 – Llwybr Newydd

- 2.2.25 Llwybr Newydd, a new path, the Wales Transport Strategy 2021 sets out the priorities for the transport system in Wales over the next 20 years. The vision is for an accessible, sustainable and efficient transport system that:
- Brings services to people in order to reduce the need to travel
 - Allows people and goods to move early from door-to-door by accessible, sustainable transport
 - Encourages people to make the change to more sustainable transport.
- 2.2.26 The plan prioritises better physical and digital connectivity, more local services, more home and remote working and more active travel. The aim is to achieve a shift away from private car use to more sustainable transport modes for the majority of journeys. Investment will be directed to low-carbon, accessible, efficient and sustainable transport services and infrastructure that enables more people to walk, cycle and use public transport and low-emissions vehicles. Transport infrastructure needs to be safe, accessible, well-maintained and managed. It will need to future-proof adaptation to climate change and facilitate more sustainable transport choices.
- 2.2.27 The Wales National Transport Strategy proposes a Sustainable Transport Hierarchy to guide decisions, which prioritises walking and cycling, public transport and ultra-low emissions vehicles over other private motor vehicles.
- 2.2.28 Short term priorities will be to contribute to four long-term, well-being ambitions over the next 20 years:
- Good for people and communities – a more equal and healthier Wales
 - Good for the environment – a more resilient and globally responsible Wales
 - Good for places and the economy – a more prosperous Wales with cohesive communities
 - Good for Culture and the Welsh Language – a thriving Welsh language and culture.

2.2.29 Transport for Wales will deliver these transport priorities through a detailed five-year National Transport Delivery Plan, based on a Statement of Funds Available to provide more certainty over funding available, and Regional Transport Plans.

VoGC – Local Development Plan (LDP) 2011-2026

2.2.30 The existing LDP provides transportation policies in SP7 setting out details of strategic improvements being delivered to bring forwards strategic sites.

2.2.31 Within the LDP Objectives, Objective 2 highlights the importance that new developments are located in sustainable locations to minimise the need to travel.

2.2.32 Objective 3 is *“To reduce the need for Vale of Glamorgan residents to travel to meet their daily needs and enabling them greater access to sustainable forms of transport”*. It sets out that *“The LDP will seek to increase the use of sustainable transport and reduce congestion by concentrating new development within the settlements... which are, or can be, well served by public transport or by walking or cycling. It seeks to reduce people’s propensity to travel by private car by increasing the use of sustainable transport.”*

2.2.33 MD2 relates to the design of new development and in relation to transport it outlines that *“in order to create high quality, healthy, sustainable, and locally distinct places development proposals should:*

Provide a safe and accessible environment for all users, giving priority to pedestrians, cyclists, and public transport users

Have no unacceptable impact on highway safety nor cause or exacerbate existing traffic congestion to an unacceptable degree”

2.2.34 St Athan is identified as one of three Strategic Opportunity Areas in the Wales Spatial Plan offering significant regional benefits, with the following objectives identified for the area:

- Provide for a range and choice of new housing, including affordable housing for existing and future residents to support the strategic role of St Athan as a key development opportunity.
- Provide opportunities for new and enhanced community facilities and infrastructure to support existing and future development proposals and the needs of existing and future residents.
- Improve access to and within St Athan through a range of transport measures to support and facilitate economic investment.
- Improve walking and cycling facilities within and around St Athan.

2.2.35 Policy SP7 Transportation outlines the key priorities for the delivery of strategic transportation infrastructure which include a new northern access road at St Athan enterprise zone. The policy states that ‘priority will be given to schemes that improve highway safety and accessibility, public transport, walking and cycling’.

2.2.36 Paragraph 6.95 states that *“as part of the Enterprise Zone and associated housing development at and around St Athan, it is considered essential to deliver walking and cycling infrastructure on Eglwys Brewis Road when the Northern Access Road is development, given the importance of linking St Athan to Llantwit Major to access the transport interchange. This will provide real sustainable transport options to residents of St Athan.”*

2.2.37 Within the document, the B4265/Gileston Road Priority Junction is identified as a junction which will be at or over capacity as a result of the LDP by 2026 and are required by Policy MG16 to mitigate the impact of development of development on the highway network.

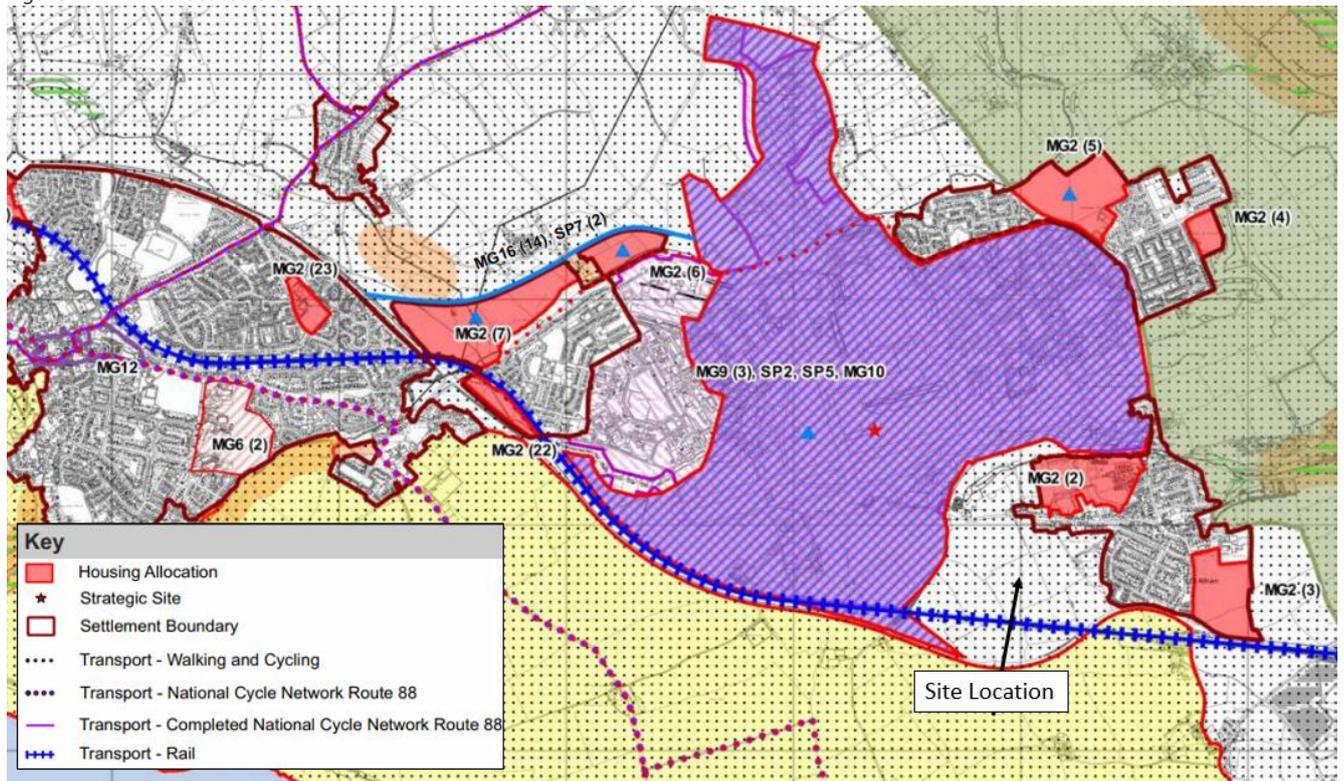
2.2.38 Paragraph 7.8 states that “All new development should be highly accessible. Walking and cycling have an important role to play in the management of movement across the area, particularly reducing the number of short trips taken by car. Developers will be required to ensure that new developments encourage walking and cycling by giving careful consideration to location, design, access arrangements, travel ‘desire lines’ through a development, and integration with existing and potential off-site links. Providing safe and convenient walking and cycling environments will help tackle health problems associated with physical inactivity and social exclusion factors arising from car dependency, poor access to services and public transport facilities.”

2.2.39 The potential development is consistent with the LDP as there are alternative modes of travel available.

2.3 Relevant Planning Applications

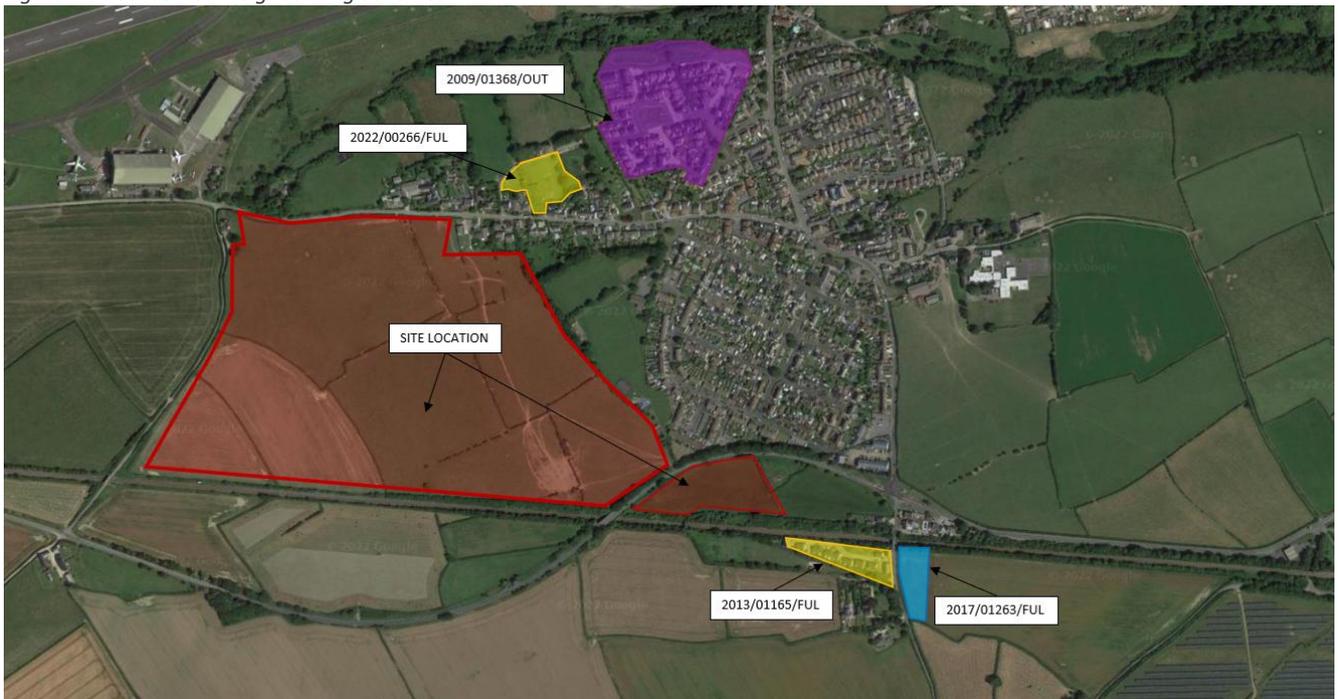
2.3.1 A review of recent planning applications within the vicinity of the site has shown that there are a number of relevant schemes in and around St Athan, including allocated sites and consented schemes, which have been summarised below and shown in Figure 2-1 and Figure 2-2.

Figure 2-1: LDP Allocated Sites



Source: VoGC LDP Proposals Map

Figure 2-2: Consented Neighbouring Schemes



Source: Google Maps

Allocated Site MG2 (2) Land at Higher End, St Athan

- 2.3.2 Within the LDP, a 9.78 hectare site to the north-west of St Athan was allocated for 220 dwellings. The eastern part of the site received planning permission for 100 dwellings (Ref: 2009/01368/OUT) with access from St John’s View and is now fully built. A smaller application for 25 affordable dwellings from Newydd Housing Association was submitted on the southern part of the site accessed from Llantwit Road. This application has been approved (Ref: 2022/00266/FUL) in 2024. The scheme incorporates a new access junction onto Llantwit Road. The highway authority response raised no concerns with the suitability of Llantwit Road for accommodating pedestrian movements to and from this site.
- 2.3.3 As such, the remaining part of the site allocation could therefore come forwards for up to 95 dwellings with access either achieved via St John’s View or an alternative access from Llantwit Road (it is unclear whether the proposed access to the approved 25 unit affordable scheme would be acceptable for access to additional units). No application for the remaining part of the site appears to have been submitted to VoGC.

Allocated Site MG2 (3) Land at Church Farm, St Athan

- 2.3.4 Within the LDP, an 8.47 hectare site to the east of St Athan was allocated for 250 dwellings. No application for the site has yet been submitted to VoGC. However, this is also a Candidate Site for the RLDP and has been considered in full within this TA.

Allocated Site MG2 (5) – 2016/01427/OUT – Land off Cowbridge Road

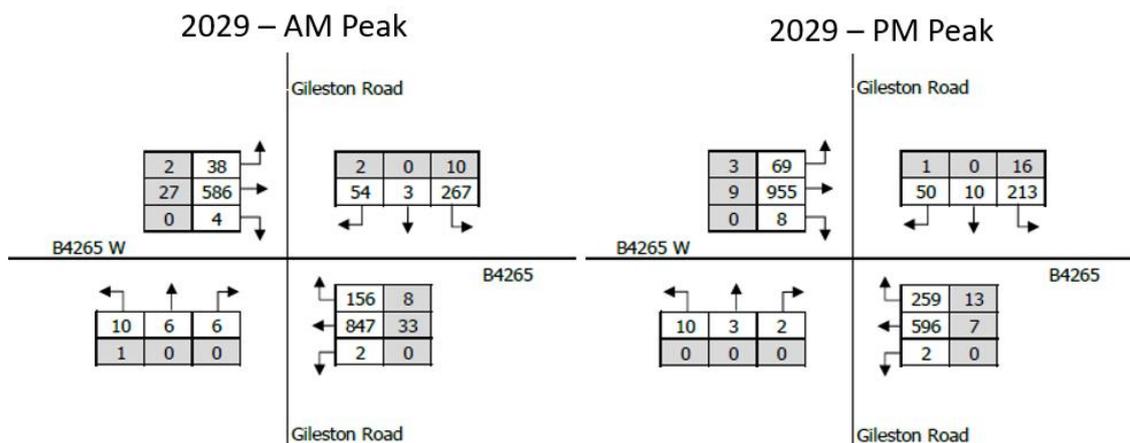
- 2.3.5 An application was consented for a residential development of up to 253 units located approximately 1.5km to the north of St Athan, which was allocated within the LDP under reference MG2 (5). The application was supported by a Transport Assessment by Acstro. Within the TA, a junction capacity assessment was undertaken of the crossroad junction of the B4265 and Gileston Road which demonstrated that the junction is reaching capacity on the Gileston Road (N) arm during the AM peak period, however, it does not exceed capacity during the PM peak period. As part of the development,

modest widening and flaring of Gileston Road’s northern approach to the junction was proposed to increase capacity.

Allocated Site MG2 (7) Land East of B4265, Site A

- 2.3.6 Within the LDP, a 15.8 hectare site located to the west of MOD St Athan was allocated for 375 dwellings to be accessed from the new Northern Access Road.
- 2.3.7 An application was approved in outline for up to 140 residential dwellings on land east of the B4265 in January 2022 (App Ref: 2020/00351/OUT). This was supported by a Transport Assessment and Transport Assessment Addendum produced by WYG. This site is situated approximately 1km to the northwest of the candidate site.
- 2.3.8 This TA and TA Addendum included an assessment of a number of junctions along the B4265 including the Gileston Road junction to the east of the site. Forecast flows were provided to 2029, which included a number of committed developments and the approved site traffic. A screenshot of the flows provided in Figure 5.20 and 5.21 of the TA Addendum showing the movements at the B4265 and Gileston Road junction in a 2029 future year inclusive of all development traffic is provided in Figure 2-3.

Figure 2-3: Land East of B4265 TA Addendum Traffic Flows at B426/Gileston Road Junction



- 2.3.9 This demonstrates that there are likely to be between approximately 628 eastbound movements and 911 westbound movements past the candidate site in the AM peak period and approximately 1,032 eastbound movements and 656 westbound movements past the candidate site in the PM peak period.
- 2.3.10 In addition, the overall Gileston Road / B4265 junction accommodates between 2,000 – 2,150 movements across all arms of the junction in the AM and PM peak hours. The level of traffic generated by a potential development on the land west of St Athan would likely have a low percentage impact on the flows at this junction. This has been considered further in Section 8.
- 2.3.11 The junction modelling showed that the Gileston Road / B4265 junction would operate within capacity during the AM peak period and over capacity in the PM peak period with the addition of all committed and strategic development in 2029. A mitigation scheme was considered at the junction, as part of the Cowbridge Road application (discussed further below). With the mitigation scheme, the junction would continue to operate within capacity during the AM peak period and over capacity in the PM peak period. The assessment concluded that the traffic associated with the proposed development is not detrimental to junction operation and is due to the level of forecast development within the local area that is yet to be consented.

Allocated Site MG9 (3), MG10, SP2 (2) – St Athan, Aerospace Business Park (part of St Athan – Cardiff Airport Enterprise Zone

- 2.3.12 Directly to the west of the site, land was allocated for 305 hectares of gross strategic employment, with a net developable area of 208 hectares for training, education and employment excellence, particularly for military and aerospace sectors and has been designated as an Enterprise Zone. Within the allocation, there was no mention of a proposed access location. There is the potential for providing a suitable access through the land west of St Athan candidate site to assist in delivering this employment land, although this would need further consideration and is not included in this assessment.

2009/01368/OUT – Land at St Johns Well

- 2.3.13 An application was consented on land at St Johns Well for a residential development of up to 100 dwellings.

2013/01165/FUL – Old Station Yard

- 2.3.14 An application was consented for the demolition and redevelopment of a former car park to provide 23 affordable dwellings. The proposals involved a footway along the site frontage, however this does not connect to the B4265.

- 2.3.15 VoGC Highways raised no objections to the works subject to the provision of highway improvements to connect the site with St Athan village to the north through improved lighting and highway improvements at the junction with the B4265. As part of the consent, the applicant made a financial contribution for the upgrade of an existing informal crossing on the B4265 to the west of the junction with Gileston Road. The works have now been implemented and included signage and lighting upgrades, provision of anti-skid surfacing, an uncontrolled crossing island, and upgrades to the bus stops and footpath.

2017/01263/FUL – Land off Gileston Road

- 2.3.16 An application was consented for an affordable residential development of 18 dwellings on land to the east of Gileston Road. The proposals involved the provision of a 2m footway along the site frontage. VoGC Highways raised no objection to the development.

3. EXISTING HIGHWAY NETWORK

3.1 Existing Traffic Flows

3.1.1 To establish a baseline traffic position on the network against which the potential development can be assessed, a number of turning counts, including queue length surveys were undertaken on the surrounding highway network.

3.1.2 The extent of the surveys was discussed with VoGC with the resultant scope of surveys obtained shown in Figure 3-1 and summarised as follows:

- 1) Weycock Cross roundabout
- 2) B4265 / Fontgary Road priority junction
- 3) Gileston Crossroads priority crossroad junction
- 4) Proposed Site Access location (no survey undertaken)
- 5) B4265 / Northern Access Road roundabout
- 6) B4265 / Llanmaes Road signal junction
- 7) B4265 / Cowbridge Road roundabout

Figure 3-1: Obtained Traffic Survey Locations



Source: Google Maps

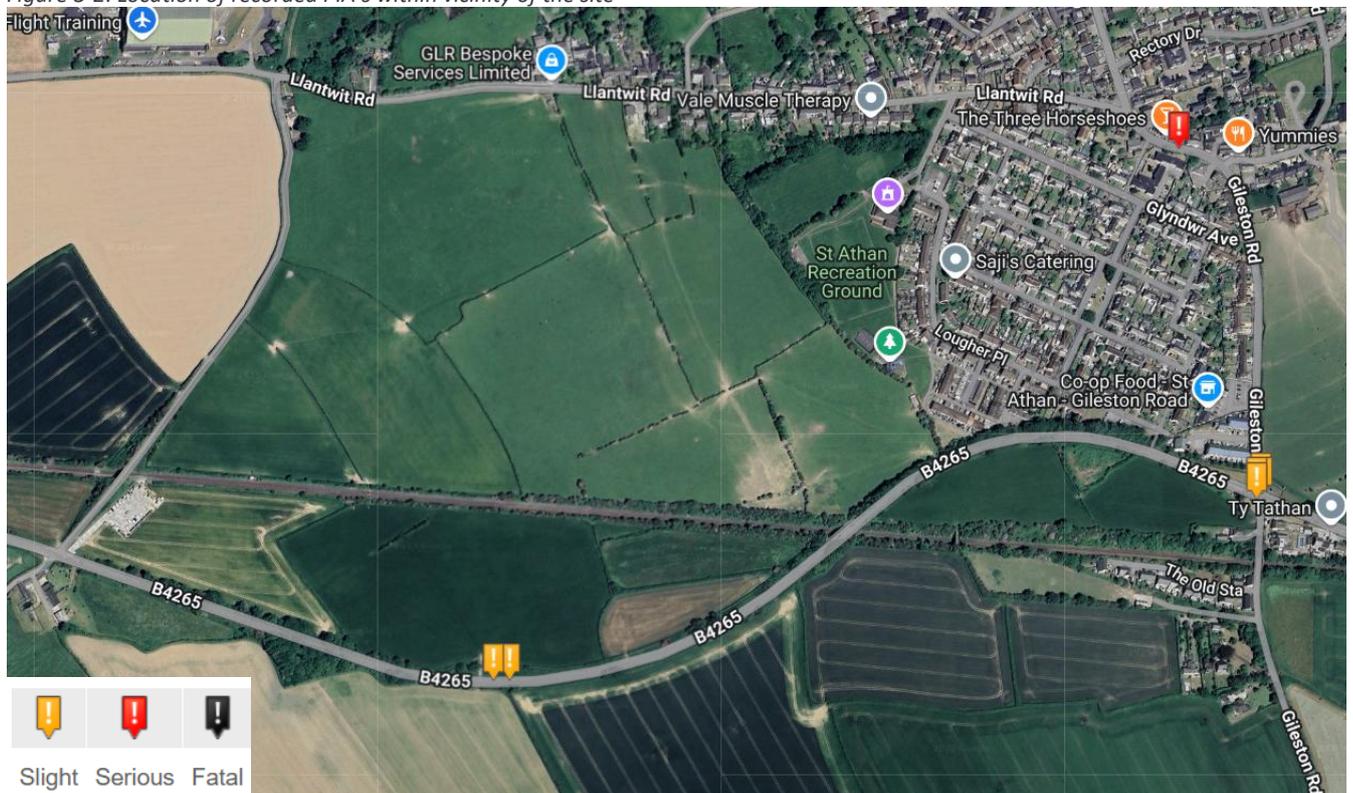
3.1.3 Six turning count surveys were undertaken by independent traffic survey specialists, PCC. The full traffic survey and queue length data is included within Appendix B.

3.1.4 The turning count survey was carried out on Wednesday 20th March 2024 between the hours of 0700 – 1000 and 1500 – 1900. The turning count survey showed the peak hourly flows occurred at the majority of junctions between 0745 – 0845 in the AM peak and 1530 – 1630 in the PM peak. As such, these have been used as the network peak hours against which to assess the impact of the potential development. However, where higher peak hour flows were recorded at specific junctions in a different hour, these flows have been utilised in the network peak scenario, so all assessments of individual junctions could be considered against the worst case network peak hour. The peak hour turning count traffic flows are included in traffic flow diagrams within Appendix C. Where the flows are used from a slightly different peak hour to 0745 – 0845 in the AM peak and 1530 – 1630 in the PM peak, this is shown adjacent to each junction.

3.2 Road Safety

- 3.2.1 Personal Injury Accident (PIA) data has been reviewed from data published annually by the Department for Transport (DfT). The statistics provide PIA data which has been recorded using the STATS19 accident reporting form. This review covers the three-year period prior to the pandemic between 1st January 2017 and 31st December 2019, data from the two years during the pandemic between 1st January 2020 and 31st December 2021, as well as the most recent publicly available data which covers up to 31 December 2023. The most recent seven years of data has therefore been reviewed, which includes the most recent five full years of data outside of the pandemic.
- 3.2.2 The study area considered within the analysis covers the local highway network within the vicinity of the site boundary and the key routes through St Athan's village. The locations of recorded PIAs are shown in Figure 3-2.

Figure 3-2: Location of recorded PIA's within vicinity of the site



Source: Crashmap.co.uk

- 3.2.3 Over the seven year period, seven PIAs occurred within the study area. Six of the PIAs resulted in slight injuries and one of the PIAs was classified as a serious injury PIA. There were no fatal accidents during this time.
- 3.2.4 One of the PIAs involved pedestrians, which was the serious PIA along Rectory Road. This involved a collision with a car colliding with a pedestrian crossing at the signal controlled crossing point. There were no further collisions involving pedestrians within the study area and none involving school aged children. In addition, there were no PIAs involving pedestrians on Llantwit Road. On this basis the route to the school and pedestrian routes within the wider area are considered safe and appropriate to accommodate walking movements.

- 3.2.5 Two of the PIAs involved cyclists, the first of which was a slight incident at the B4265 / Gileston Road junction. The potential development can provide a shared footway / cycleway on the northern side of the B4265 which would enhance cycle infrastructure between the site and St Athan, as well as a contribution towards an identified strategic cycle route on Gileston Road and therefore this should assist with improving conditions for cycling at this location.
- 3.2.6 The remaining cyclist PIA occurred to the west of the site on the B4265 which involved a collision between a car and a cyclist.
- 3.2.7 A cluster of four slight PIAs occurred at the B4265 and Gileston Road junction, of which one involved a cyclist. Two occurred in 2017, one in 2021 and one in 2022. The recent improvements to the junction were undertaken in 2021 which involved widening and flaring and therefore this has the potential for enhancing safety at the junction. These improvements together with the potential shared footway/cycleway which can be provided as part of a development, and the contribution towards strategic cycle improvements, would also help to improve safety for all users.
- 3.2.8 There were no further clusters of four PIAs within the study area and therefore no indication of a further recurring safety issue which would require mitigation.
- 3.2.9 There were no PIAs on the B4265 and Llantwit Road adjacent to the site boundary. As such, there is no evidence of an existing safety issue on the boundaries of the site and therefore there are no evidenced safety issues that would preclude potential access points being provided along the site boundary. There is also no evidence of a safety issue in relation to Llantwit Road which currently accommodates walking, cycling and vehicular movements.
- 3.2.10 As such, although all incidents are regrettable, the PIAs that occurred do not indicate a specific pattern or issue with the geometry of the highway that would be exacerbated by a potential residential development on the overall site or new accesses into the site. There is also no indication of a potential issue relating to active travel movements on the main routes to key facilities.

4. CONNECTIVITY BY SUSTAINABLE MODES OF TRAVEL

4.1 Introduction

4.1.1 This section sets out the connectivity of the site to the surrounding area by sustainable modes of travel and demonstrates its proximity to schools, public transport, facilities, services and employment. The site location is demonstrated to be consistent with sustainable transport policies in Future Wales, PPW12, TAN18 and the LDP.

4.2 Walking

4.2.1 Alongside cycling, walking is the most important mode of travel at a local level and offers the greatest potential to replace short car journeys.

4.2.2 The location of the site on the edge of St Athan provides opportunities to access nearby services and facilities within walking and cycling distances, including local bus services.

Existing Walking Infrastructure

4.2.3 Existing pedestrian infrastructure surrounding the site is limited.

4.2.4 The B4265 is not provided with a footway along the carriageway, however grass verges are provided on both sides measuring circa 1.7m in width. Due to vehicular speeds along the carriageway, it is unlikely pedestrians would walk along the grass verges. However, a potential footway / cycleway arrangement has been considered and is shown in Section 5. In addition, there is some potential for providing improvements along Llantwit Road, as well as the potential for delivering routes connecting from the eastern boundary of the site into the residential areas. On this basis, the sustainable connectivity has considered that these routes are in place and the routes and distances to facilities considered accordingly. Further details of potential improvements have also been summarised separately within this section.

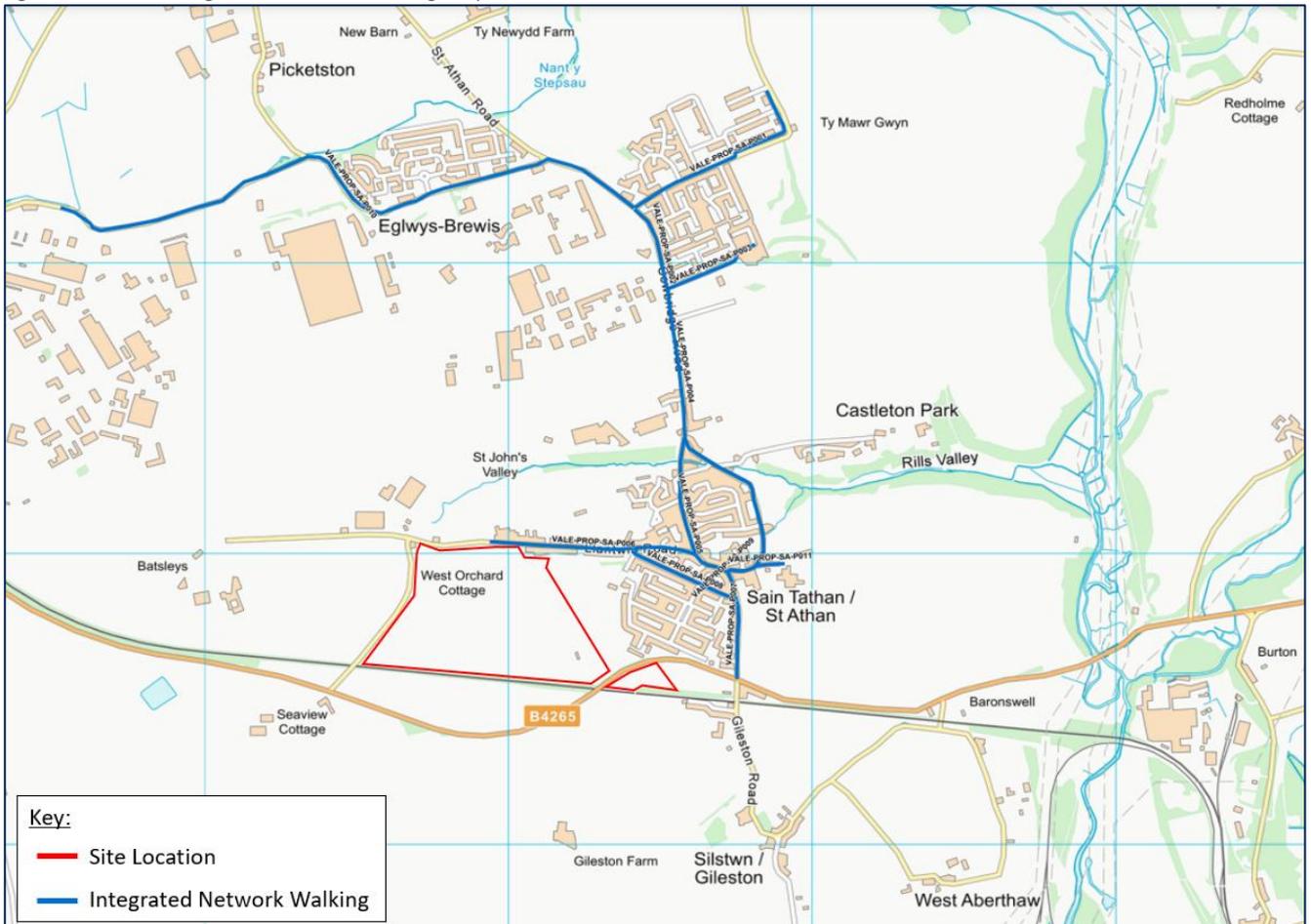
4.2.5 The existing Llantwit Road arrangements provide an intermittent footway along the northern side of the carriageway measuring approximately 1m in width, however the majority of the route to the east from the site to the St Athan Community Centre junction operates as a shared space with pedestrians walking on-carriageway and stepping onto the verge, as needed, when vehicles approach. This has occurred safely over an extended period (as set out in Section 3), due to the low speeds and flows on this route. To the east of the St Athan Community Centre junction, the footway remains continuous on at least one side of the carriageway and increases in width on approach to St Athan village centre.

4.2.6 Dropped kerb crossings with tactile paving are provided at the Llantwit Road junction with Rectory Road which enables crossing from the footway on the northern side to the footways to the south on Rectory Road. A signal controlled crossing is provided on Rectory Road which forms part of the route to Rock Road and St Athan Primary School, as well as other facilities within the village centre.

4.2.7 Gileston Road to the north of the B4265 is provided with a continuous footway on the western side of the carriageway which facilitates pedestrian access to bus stops, facilities and amenities provided in St Athan.

4.2.8 The VoGC integrated network walking map is shown in Figure 4-1. It is noted that the entire of the Llantwit Road and Gileston Road routes are shown as part of the integrated walking network.

Figure 4-1: VoGC Integrated Network Walking Map

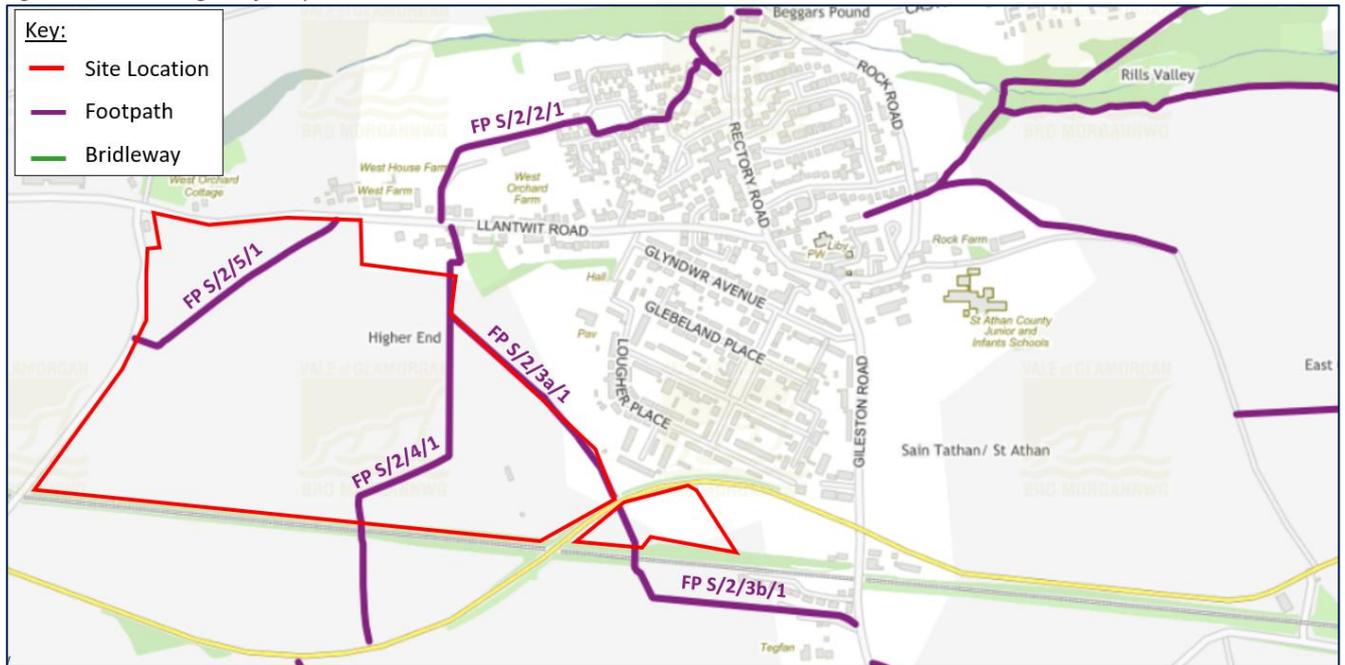


Source: Vale of Glamorgan Active Travel

Public Rights of Way

- 4.2.9 The site is connected to a network of Public Rights of Way (PRoW) which provide connections in and around the locality. PRoWs in the vicinity of the site are shown in Figure 4-2.
- 4.2.10 Footpath S2/4/1 bisects the centre of Parcel A which connects the B4265 to the south to Llantwit Road to the north. In addition, Footpath S2/3a/2 runs along Site A's eastern boundary from the B4265 and connects with Footpath S2/4/1 to the north. Together these PRoW connects provide alternative links to the surrounding areas including to the north where key employment uses are situated. These routes will also be enhanced and/or realigned, as needed, as part of any potential development scheme to further encourage their use by existing and potential future residents. In addition, this will include an improved crossing arrangement of the B4265.
- 4.2.11 Footpath S2/3b/1 bisects Parcel B and connects the B4265 to Gilston Road.

Figure 4-2: Public Rights of Way



Source: Vale of Glamorgan Interactive Map

Potential Improvements to Walking Infrastructure

- 4.2.12 As part of the potential development, improvements could be delivered along Llantwit Road through a combination of priority give-ways, short lengths of parking restrictions, pedestrian markings, traffic calming and new footway provision to ensure a continuous and safe pedestrian route. There may also be the potential for closing Llantwit Road to through traffic to the airfield, which will assist in providing an improved pedestrian environment for existing and potential future users. All improvements can be delivered within the adopted highway.
- 4.2.13 A dedicated 3m wide shared footway/cycleway can be provided on the northern side of the B4265, as set out in Section 5, to enhance connectivity to St Athan and ensure that a safe, continuous walking route is provided to facilities and amenities. A footway route on the southern side of the carriageway can also be provided, in addition to a crossing of the B4265.
- 4.2.14 The development can be designed to enhance the public right of way running through and adjacent to the site boundaries. This will improve the quality of the route and provide an alternative traffic free route through and adjacent to the site. This offers both a potential alternative traffic free route to the west, as well as a leisure route for both existing and potential future residents. As such, this will encourage active travel movements in accordance with PPW12.
- 4.2.15 The existing and potential walking (and cycling) infrastructure and possible pedestrian connections between the site and its surrounds have been considered within an active travel routes and facilities plan which has been provided in Appendix D. This is based on a previous iteration of the concept masterplan, but the connectivity principles remain valid. These potential improvements will be explored as part of the development to enhance connectivity to St Athan facilities and amenities.

4.3 Cycling

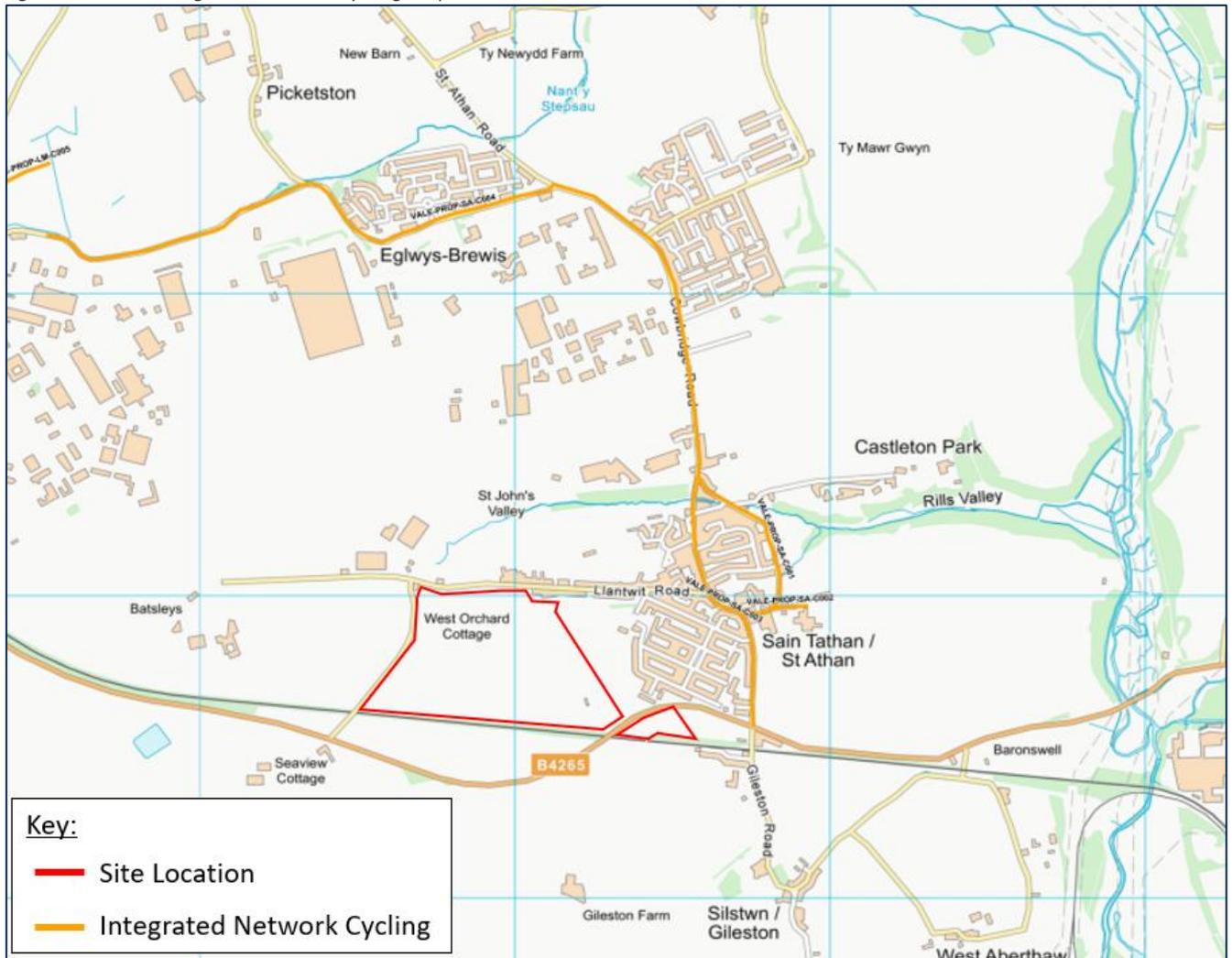
Existing Cycling Infrastructure

- 4.3.1 Existing cycling infrastructure surrounding the site is limited, however the local road network through the village is conducive to cycling. Gleston Road and Cowbridge Road form part of the proposed

integrated network cycle route, providing a link from St Athan to industrial and employment uses in Eglwys-Brewis.

4.3.2 The VoGC integrated network cycling map is shown in Figure 4-3. There is an opportunity for the site to provide a proportional contribution towards the key routes identified by VoGC, to assist in delivering this strategic infrastructure as well as provide formal routes within the site, where feasible.

Figure 4-3: VoGC Integrated Network Cycling Map



Source: Vale of Glamorgan Active Travel

Potential Cycling Infrastructure

4.3.3 As part of the potential development a dedicated 3m wide shared footway/cycleway can be provided on the northern side of the B4265 as set out in Section 5, to enhance connectivity to St Athan and ensure that a safe, continuous cycle route is provided to facilities and amenities. This would also connect to the integrated cycle route along Gileston Road.

4.4 Distances to Facilities

4.4.1 There are a number of publications which suggest guidance for appropriate and acceptable walking and cycling distances to facilities. For reference, these have been summarised as follows.

- Welsh Government - Active Travel (Wales) Act 2013: Within the ATADG it is stated within paragraph 4.1.4 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". This equates to walking distances of up to 3.2km and cycling distances of up to 8km.

- This also states in paragraph 9.5.3 that *"Walkable neighbourhoods also referred to as 'low-traffic neighbourhoods', or 'active neighbourhoods', (see figure 9.6) are characterised by having a range of facilities within 20 minutes' walking distance which people may access comfortably on foot."* This would equate to c. 1.6km.
- Department for Transport (DfT) - Manual for Streets (2007): MfS states that 'walkable neighbourhoods' are typically characterised by having a range of facilities within 10 minutes walking distance (c. 800 metres). MfS also acknowledges that this is not an upper limit and references previous planning policy guidance in that it is generally acknowledged that walking offers the greatest potential to replace short car trips, particularly under 2.0km.
- CIHT (2015) - Planning for Walking: In relation to shorter trips in particular, (section 2.1) states that across Britain about '80% of journeys shorter than 1 mile (1.6km) are made wholly on foot'.
- CIHT - Guidelines for Providing for Journeys on Foot (2000): suggests preferred maximum distances are up to 2.0km.
- DfT - LTN1/20 Cycle Infrastructure Design (paragraph 2.2.2) – states that *"Two out of every three personal trips are less than five miles in length, an achievable distance to cycle for most people"* (c. 8.0km).

4.4.2 As such, based on guidance, it is considered that suitable walking distances could be up to 3.2km but journeys within 2.0km have a greater potential to be made on foot. The majority of journeys within 1.6km are also made by walking. A 2.0km distance equates to around a 25-minute walk travelling at 3mph (4.8kph). Sites with a range of facilities within a 1.6km walk would be situated in a highly sustainable location being in a 'walkable neighbourhood'.

4.4.3 It is considered that journeys of up to 8km are within a suitable cycling distance. A cycling journey of 8.0km would equate to approximately a 25-minute travel time.

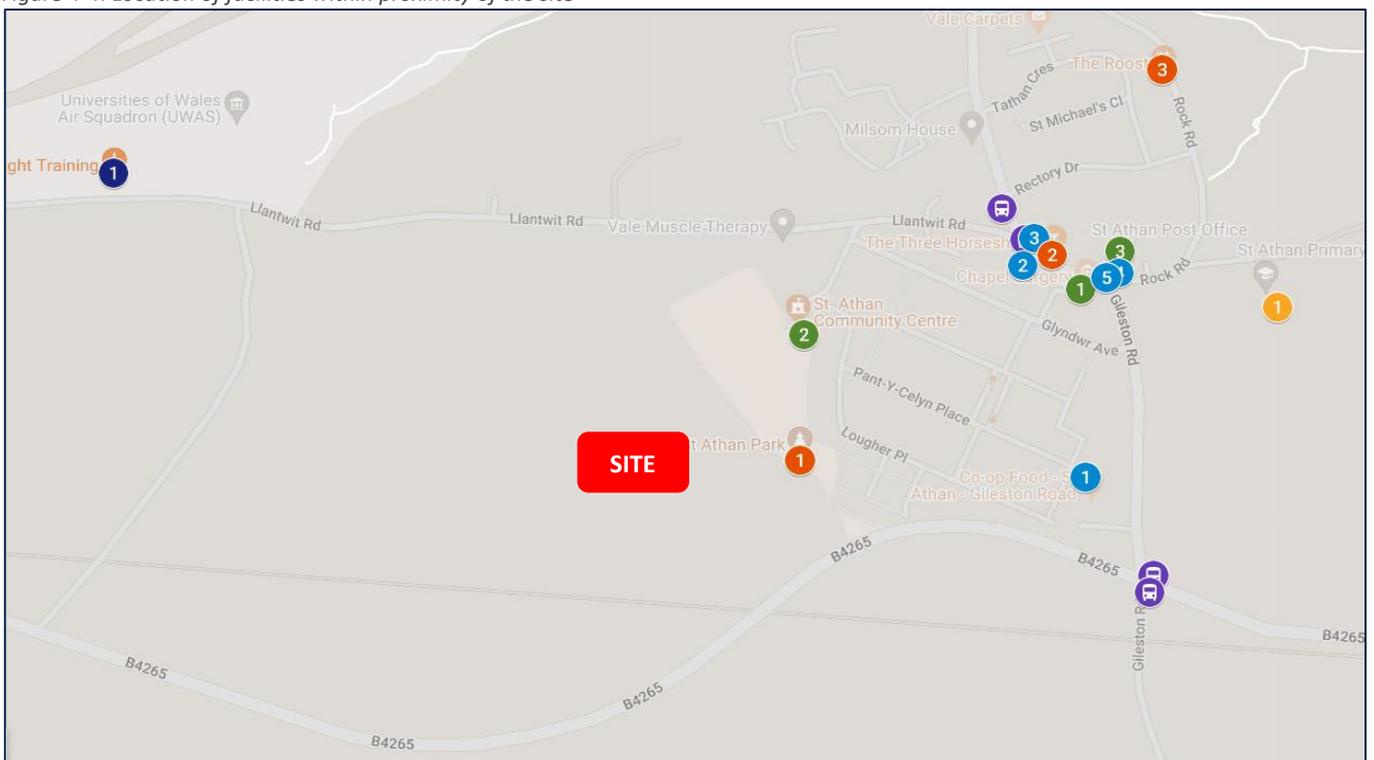
4.4.4 To demonstrate the site's connectivity, facilities within appropriate distances have been summarised in Table 4-1. These facilities have been summarised based on approximate travel distances from the two potential site accesses (for walking and cycling) to the north and south via appropriate routes (including the proposed routes), not straight-line distances. The location of these facilities in the context of the site are shown in Figure 4-4, together with the indicative access points. The facilities are also shown in the active travel routes and facilities plan in Appendix D (albeit this has alternative numbering to the table below and some additional facilities shown).

Table 4-1: Proximity of the site to local services and facilities

Facility / Amenity	B4265 Access			Llantwit Road Access			
	Distance (m)	Journey Times (mins)		Distance (m)	Journey Times (mins)		
		Walk	Cycle		Walk	Cycle	
Retail							
① Co-op Food St Athan	550	7	2	1,000	13	4	
② Londis, Ash Stores	800	10	3	600	8	2	
③ St Athan Pharmacy	800	10	3	600	8	2	
④ St Athan Post Office	750	9	3	750	9	3	
⑤ Lifestyle Express	750	9	3	750	9	3	
Community Facilities							
① Chapel Surgery	750	9	3	700	9	3	
② St Athan Community Centre	600	8	2	500	6	2	
③ St Athan Library	800	10	3	750	9	3	
Western Vale Family Practice	800	10	3	600	8	2	

Facility / Amenity	B4265 Access			Llantwit Road Access		
	Distance (m)	Journey Times (mins)		Distance (m)	Journey Times (mins)	
		Walk	Cycle		Walk	Cycle
East Street Dental Centre	4,900	61	18	4,800	60	18
Employment						
① Horizon Flight Training	1,800	23	7	550	7	2
Welsh Government Aerospace Business Park	4,100	51	15	4,000	50	15
Npower Power Station	3,000	38	11	3,700	46	14
Education						
① St Athan Primary School	900	11	3	900	11	3
Llantwit Major School	4,600	58	17	4,600	58	17
Leisure						
① St Athan Park	600	8	2	700	9	3
② The Three Horseshoes	800	10	3	650	8	2
③ The Roost	1,100	14	4	1,000	13	4
Llantwit Major Leisure Centre	4,500	56	17	4,500	56	17
Public Transport						
🚌 War Memorial	450	6	2	1,100	14	4
🚌 Rectory Road	850	11	3	600	8	2
🚌 Llantwit Major	5,000	63	19	4,800	60	18

Figure 4-4: Location of facilities within proximity of the site



Source: Google Maps

Note: Numbers and colours correlate to Table 4-1

4.4.5 Table 4-1 and Figure 4-4 show there are a number and range of facilities and services situated within walking and cycling distance of the site. All services and facilities are within the Welsh Government guidance prescribed walking and cycling distances.

4.4.6 There are key facilities situated with an 800-metre walk from both potential access locations, which includes a range of local convenience stores, a pharmacy, library, GP and post office and a number of bus stops. As such, the site has a number of key facilities situated in a ‘walkable neighbourhood’ consistent with the guidance in MfS. In addition, there are key facilities situated with a 1.2km walk (15 minutes), which include a Primary School, local park and community centre.

- 4.4.7 As such, the site is considered to have good accessibility to a number and range of key facilities for which walking and cycling would be attractive options.
- 4.4.8 The scheme itself would also be providing a mixed use including a commercial area and a community area which will facilitate journeys by sustainable modes and contain movements within the site rather than on the wider network.
- 4.4.9 The site is therefore considered to be situated in a location which provides access to a number of key facilities within active travel distances. This will encourage walking and cycling and reduce the reliance on the private car, consistent with relevant policy and guidance, including sustainable transport policies in Future Wales, PPW12, the LDP and TAN18.

4.5 Public Transport

Bus

- 4.5.1 The nearest bus stops to the site are located along the B4265 at the junction with Gileston Road (Stop: War Memorial), within a 450m walk distance from the potential site access onto the B4265. The nearest bus stops from the northern part of the site are located along Rectory Road, within 600m of the potential connection onto Llantwit Road. Both stops are served by the same bus services, which have been summarised in Table 4-2.

Table 4-2: Bus services operating from St Athan

Route No.	Route	Frequency				
		Mon-Fri Peaks	Mon-Fri Daytime	Mon-Fri Evening	Sat	Sun
304	Cardiff – Barry – Llantwit Major Interchange	Hourly	Hourly	Hourly	Hourly	Every 2 hours
905	Cardiff Airport – Boverton – Rhoose	Hourly	No service between 09:30 and 15:30	No service	No service	No service

- 4.5.2 The bus services provide services to Cardiff, Barry, Llantwit and Boverton operating on an hourly basis during the peak commuting hours and therefore the services provide a viable opportunity for future end-users to travel by bus to and from work. Bus services can also be used to access destinations for leisure, retail and health purposes.
- 4.5.3 As such, the services offer a realistic and attractive travel option for potential future residents of the site. This will assist in minimising the vehicle trip generation and reduce the need for residents to own or travel by car.
- 4.5.4 However, although the services stop within close proximity of the site, there may be an opportunity for diverting the 304 service through the site on a loop to improve access for existing residents, in addition to enabling an improved connection through to the adjacent enterprise zone to the west. The services could also connect to an interchange facility provided on the southern land parcel. An additional 600 dwellings and potential new commercial area will assist in improving the viability of the existing services, through additional patronage and these services would be promoted to any potential future residents to ensure that sustainable transport was engrained into any future scheme.
- 4.5.5 A potential existing bus route diversions plan has been produced and is provided in Appendix E to demonstrate how services could be diverted. This is based on a previous iteration of the concept masterplan, but the principles remain valid. This includes an option for a potential bus gate from Llantwit Road, albeit this is not currently shown on the concept masterplan. All options would require discussions with operators to assess the viability for diverting / extending the services.

Rail

- 4.5.6 Llantwit Major Rail Station is located approximately 4.8km from the site within an 18 minute cycle or a 16 minute bus journey using the 304 service.
- 4.5.7 Llantwit Major Rail Station provides 8 secure cycle parking spaces adjacent to Platform 2, which potential future residents could utilise for a combined cycle then rail journey.
- 4.5.8 Llantwit Major Rail Station is situated on the Vale of Glamorgan Line. It provides 2-3 services per hour in each direction to local and regional destinations, including Cardiff, Bridgend, Aberdare, Merthyr Tydfil, Barry, and Pontypridd.
- 4.5.9 There is a journey time of c. 13 minutes to Bridgend, 40 minutes for journeys to Cardiff and 20 minutes to Barry.
- 4.5.10 As such, it is possible to use rail services for commuting purposes, particularly to Barry, Cardiff and Bridgend, although rail could also be used for other journey purposes such as leisure, retail, or business journeys. A combined cycle (or bus) and rail journey offers some potential for replacing car journeys and reducing the requirement for owning or travelling by car.

4.6 Committed Transport Improvements

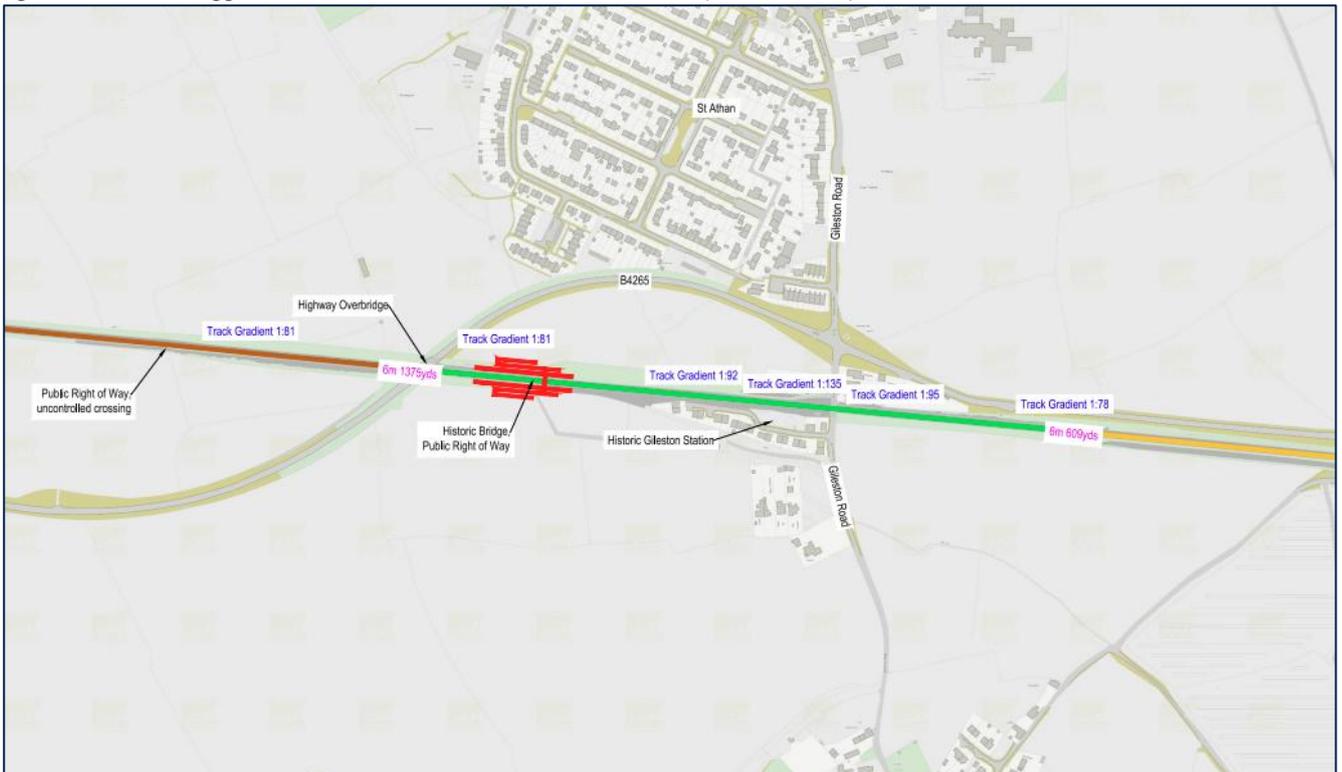
South Wales Metro

- 4.6.1 Llantwit Major Rail Station is located on the Vale of Glamorgan Line and has seen enhancements to the frequency of services with an additional service per hour between Cardiff and Bridgend provided from December 2023, and some decreases in journey times as part of the South Wales Metro project. This has provided an enhanced service, increasing the attractiveness of rail services to potential future residents of the site.

St Athan Railway Station

- 4.6.2 VoGC commissioned Arcadis in November 2021 to undertake a study to determine whether the provision of a new railway station in St Athan is feasible and to determine if a suitable site exists. A feasibility report was produced in May 2022. A potential station location (in Section C within the study) which was identified was partly within the candidate site area. The location of this station is shown in

Figure 4-5: Arcadis Suggested - Indicative St Athan Rail Station Location (Section C area)



Source: Arcadis St Athan Railway Station Preliminary Feasibility Study – May 2022

4.6.3 The potential site development and new access proposals therefore offers the potential for facilitating the delivery of a new railway station. This would further improve the sustainable transport connections for both existing and potential future residents, as well as assist in delivering the allocated enterprise zone adjacent to the site.

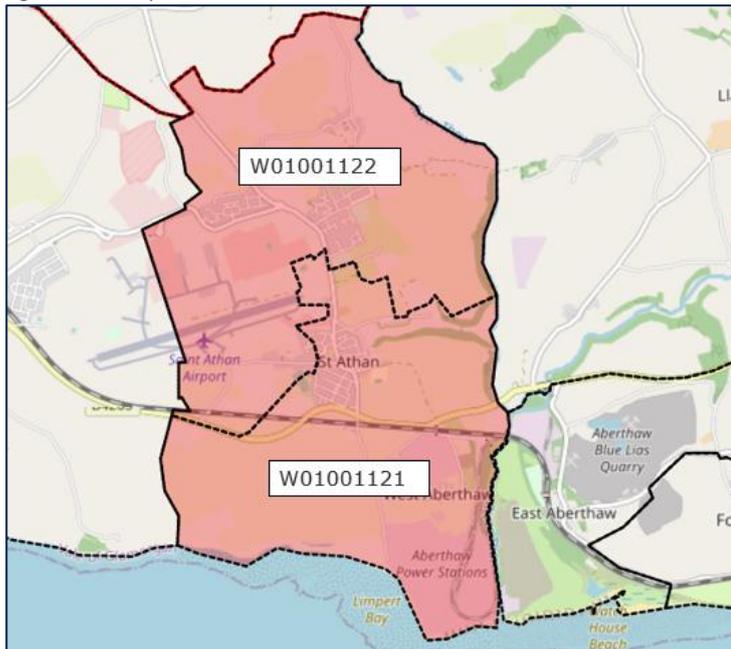
4.6.4 The potential location of a new railway station is also shown on the concept masterplan in Appendix A.

4.7 Existing Travel Behaviour and Car Ownership

Modal Share

4.7.1 The site is located across lower layer super output areas (LSOA) W01001121 and W01001122 as shown in Figure 2-3.

Figure 2-3: Output Areas which the site is situated within



Source: Nomis

4.7.2 Table 2-1 shows how the existing residents of the LSOA area currently travel to work, together with a comparison against all households in VoGC, as obtained from 2011 Census data using the Nomis website. An average of the two LSOA areas has also been shown.

Table 4-3: Journey to Work Mode Split (Census 2011)

Mode	LSOA W01001121	LSOA W01001122	Average LSOA	VoGC
Public Transport	8%	5%	6%	5%
Car Driver	74%	52%	63%	75%
Motorcycle	1%	1%	1%	1%
Car Passenger	6%	4%	5%	8%
Bicycle	1%	5%	3%	1%
On Foot	8%	31%	19%	8%
Other	2%	2%	3%	1%
Total	100%	100%	100%	100%

4.7.3 The census data shows that on average 63% of residents living in the area surrounding the site and commuting to work travel as a car driver, with 19% walking, 6% travelling by public transport, 3% by cycle and 5% as a car passenger. Across both LSOA areas, and specifically the northern LSOA there was a high proportion of travel on foot at between 8% and 31% of movements, demonstrating that the candidate site is likely to be situated in a location which is conducive for walking movements to the surrounding area.

4.7.4 The data shows that residents in this area have a higher level of sustainable transport modes than across the entire of VoGC for journeys to work. This is reflective of the sustainable location of the site.

4.7.5 There were up to 5% of trips made by cycling to work, although a lower level in the southern LSOA, which reflects that there is currently no existing infrastructure connecting with this area. The potential development site has the opportunity to provide a shared footway/ cycleway to provide a direct cycle link to St Athan, as well as a proportional contribution towards the delivery of identified key strategic cycle infrastructure along Gileston Road. This should assist in increasing movements by cycling from both existing and potential future residents.

- 4.7.6 These statistics have been adjusted to exclude working from home. If this was included, c.4-6% of residents currently in work, do so from home rather than commuting and this is likely to have significantly increased since 2011. This is also in accordance with the Welsh Government aspirations to increase home working. As such, this would reduce the number of potential residents travelling by car to work.
- 4.7.7 Travelling to work is only one journey purpose during peak hours from a residential site. A significant proportion of journeys will also be for education, leisure, and retail purposes and these are likely to have higher levels of sustainable travel, particularly given the number of facilities which are situated within suitable walking distances from the site.
- 4.7.8 The data demonstrates that there is high potential for walking and public transport trips to be made to and from the site and that these movements already occur in this area. There is the potential for cycling trips to be made through the delivery of the strategic cycle route identified by VoGC and a development of the site has the potential for contributing towards this improvement, as well as providing new infrastructure along the B4265.

Car Ownership

- 4.7.9 The 2011 Census data has been reviewed for the average car ownership across output areas W01001121 and W01001122. This has been compared to the average across the entire of VoGC. This shows that there are 1.3 cars per household, on average, across both LSOA areas. Approximately 17% of households do not own a car and 51% own one car.
- 4.7.10 Across the entire of VoGC, the average car ownership is 1.15 cars per household and 26% of households do not own a car.
- 4.7.11 As such, the level of car ownership in the LSOA's in which the site is situated is in broadly similar to the level of car ownership across the entire of VoGC, which shows that this is unlikely to be a car dominated development.

4.8 Summary

- 4.8.1 The site is situated in a sustainable location on the edge of St Athan village. In relation to walking and cycling, the site can deliver;
- A new footway / cycleway connection adjacent to the B4265 to connect to St Athan
 - An improved crossing of the B4265 which links in with the existing public rights of way and connects Parcels A and B
 - Enhancements to the public rights of way within the site
 - Improvements to the pedestrian environment along Llantwit Road
 - Potential integration with the existing village at St Athan Park
 - A proportional contribution towards VoGC identified strategic cycle routes within the local area
- 4.8.2 As such, potential future residents will be able to walk or cycle to a number and range of facilities, services and employment within appropriate distances, reducing the need to own a car. In this regard, the site location is consistent with the sustainable transport policies in PPW12 and is situated in a 'walkable neighbourhood' location based on the Welsh Government definition.
- 4.8.3 The site also has good public transport links, which provide a suitable, attractive and realistic alternative to travelling by car. This includes an hourly bus service which also links to Llantwit Major Rail Station. The public transport connections will assist in minimising the need for residents to travel

by car. It will also benefit and attract residents that would prefer to travel by public transport. This will minimise the impact of the development and reduce the parking demand on or off the site.

- 4.8.4 The site could also divert bus service 304 service through the site on a loop or connecting to an interchange facility, to further ensure that residents are close to a bus stop, as well as assist with access to a bus service for the employment allocation on the adjacent site to the west. In addition, the potential development and new access arrangements could facilitate the delivery of a new railway station for St Athan, identified by VoGC.
- 4.8.5 The scheme itself would also be providing a mixed use including a commercial area and a community area which will facilitate journeys by sustainable modes and contain movements within the site rather than on the wider network.
- 4.8.6 In transport and sustainable connectivity terms, the site is able to meet the requirements of the National Sustainable Placemaking Outcomes of PPW12 and the Strategic Placemaking Principles of Future Wales and therefore the site is suitably located for a residential development, particularly with the enhancements it will be able to deliver or contribute towards.

5. POTENTIAL DEVELOPMENT AND ACCESS

5.1 Overview

- 5.1.1 The proposed development would be for a residential led scheme up to 600 dwellings supported by commercial / community uses as part of a mixed use approach. The site also offers land for a potential rail station and transport interchange.
- 5.1.2 Although there would be a mixed use approach across each site, for the purposes of this assessment, it has been assumed that all residential use is situated in Parcel A and a Commercial Area is situated in Parcel B. The Commercial Area could extend to a floorspace of 2,825sqm (assuming two storeys).
- 5.1.3 A community area would also provide a mix of uses, with up to 800sqm of floorspace in Parcel A. This would potentially be for café/restaurant, office or other commercial uses. As this is expected to serve a local purpose for residents as a walkable facility and that the significant majority of trips relating to these uses would either be contained on the site, pass-by, diverted or transferred trips, the trip generation from these uses has not been considered further in this assessment.
- 5.1.4 A concept masterplan showing the potential development is provided in Appendix A.
- 5.1.5 The dwellings on Parcel A would be served via a primary spine road from a new access from the B4265, with access and the layout considered in more detail within this section.
- 5.1.6 The access appraisal considers the potential site access arrangements in terms of their safety and suitability for accommodating a potential residential development of up to 600 dwellings on Parcel A and a commercial area on Parcel B. To inform this analysis, recent road safety records at the access location and key routes have been considered in Section 3, which demonstrate there are no specific safety issues which would preclude an access along the site frontage.
- 5.1.7 The access arrangements have considered the extent of the site boundary, and the extent of Highway Maintainable at Public Expense (HMPE), which has been obtained from the VoGC online mapping.

5.2 Potential Vehicular Access - Overall Site

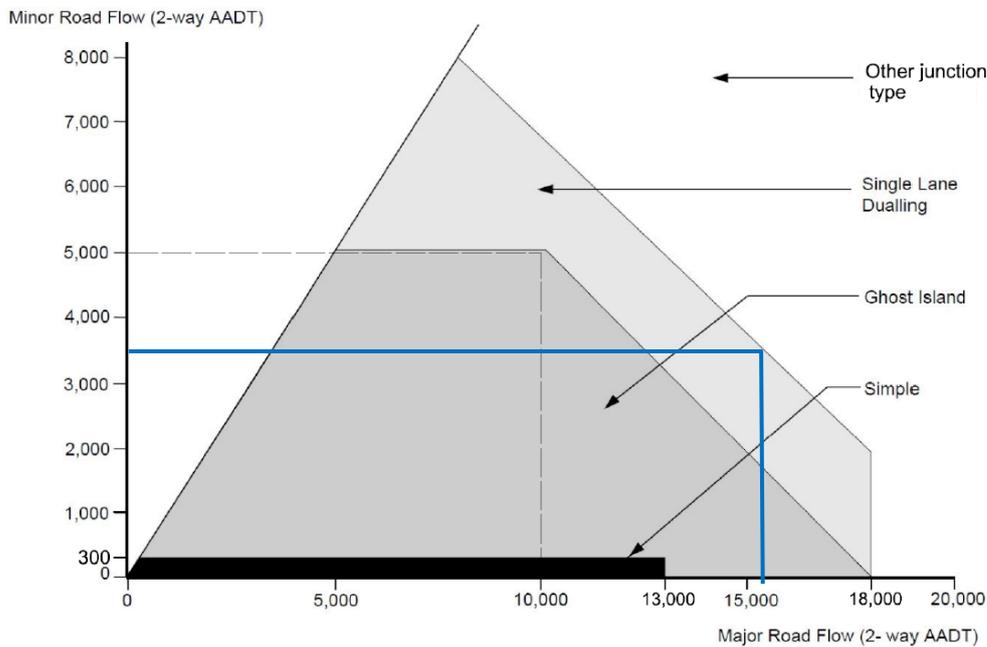
Overview

- 5.2.1 Access to Parcel A can be provided in the form of either a new roundabout junction or a signal controlled junction onto the B4265 at the south-eastern boundary. This would provide access to both Parcel A as well as Parcel B, through providing a four armed roundabout / junction. A roundabout is considered to be consistent with other junctions to the west along the B4265 including where it adjoins the Northern Access Road, Heol Pentre'r Cwrt and Cowbridge Road. However, the highway authority has suggested a signal controlled junction would be preferable, as this may provide improved active travel links between the two sites.
- 5.2.2 A single vehicle access is appropriate for the potential development site. In relation to a single point of vehicle access or a 'cul-de-sac' development, paragraph 4.5.7 of MfS states:
"Cul-de-sacs may be required because of topography, boundary or other constraints. Cul-de-sacs can also be useful in keeping motor traffic levels low in a particular area, but any through connections for pedestrians and cyclists should be well overlooked with active frontages. Cul-de-sacs can also provide the best solution for developing awkward sites where through routes are not practical (Fig. 4.9)."
- 5.2.3 It also states that caution should be taken on internal design in relation to turning heads and providing for service vehicles. This has been recognised and considered in the design of the concept masterplan,

which would be able to accommodate service vehicles appropriately. As such, a single point of access and a cul-de-sac arrangement is in accordance with advice in MfS which recognises that on some sites, such as this one, they can provide the best solution.

- 5.2.4 The existing Llantwit Road could also be stopped up at its western end, and access through to the existing employment uses on the airfield obtained from the new roundabout / signal junction onto the B4265. There is also an option for a potential new site access onto the B4265 to facilitate access to part of the allocated Enterprise Zone to the west of the site. However, this would require further consideration which is not included within this assessment.
- 5.2.5 The site can also provide a secondary or emergency access onto Llantwit Road to its north-western boundary which enables access in the event of an emergency which blocks the roundabout onto the B4265. However, this would not be accessible in 'normal' conditions, to ensure that vehicular traffic does not impact the route along Llantwit Road.
- 5.2.6 The DMRB in CD123 provides an approximate junction provision based on daily flows on major and minor arms of junctions, within Figure 2.3.1. Based on the observed 2024 traffic flows along the B4265, the peak hour two-way flows past the site on the B4265 would be:
- AM Peak – eb: 361, wb: 393, total: 754
 - PM Peak – eb: 414, wb: 370, total: 784
- 5.2.7 These movements have also been shown in traffic flow diagrams in Appendix C.
- 5.2.8 By factoring the peak hour flows by 10 (a rough adjustment factor) this would equate to 15,380 daily two-way movements. By way of comparison, the DfT traffic count data provides a manual count from 2019 on the B4265 just to the east of the site access junction (Count Point 812011). This shows a two-way daily flow of 11,830 vehicles. As such, 15,380 movements is considered robust and allows for future growth and developments.
- 5.2.9 Considering the potential flows into and out of a residential site, this confirms that a roundabout (or signals) is likely to be an appropriate junction type. This is shown in Figure 5-1 based on the DMRB figure, therefore a roundabout or signal controlled junction are considered to robustly accommodate potential future increases in flows.

Figure 5-1: Guidance for approximate junction provision based on the DMRB



5.2.10 The provision of a roundabout or signal controlled junction is in accordance with national and local guidance and ensures robustness to accommodate all future traffic flows.

Access Location

5.2.11 A vehicular access from Llantwit Road for 'normal' traffic conditions is not considered appropriate due to the width of the carriageway along Llantwit Road and to ensure it remains appropriate for walking and cycling, as currently. An access from the B4265 was therefore considered the only viable option to and from the site.

5.2.12 The access location from the B4265 has considered the constraints, which relate to the railway line and bridge, surrounding land ownerships outside of the applicants control, existing vegetation and existing speed limits. It is of note that none of the vegetation along the site boundary or the B4265 to the east is subject to a tree preservation order (TPO), however, the access location and improvements to provide a footway / cycleway aim to minimise the impact on this vegetation.

5.2.13 The site boundary is contiguous with the adopted highway boundary and as such an access in this location and visibility splays can be delivered within land in the applicants control or within the adopted highway.

General Arrangement Roundabout Access Design

5.2.14 A general arrangement drawing of a potential roundabout site access design has been produced and is shown in Apex Drawing Number C22133-ATP-DR-TP-001 in Appendix F. This is considered the most appropriate location in which to situate the access to achieve appropriate forward visibility splays along the B4265, minimise the impact on the vegetation on the northern side of the B4265, accommodate a footway / cycleway and ensure the roundabout has an appropriate layout to minimise the impact on through vehicle movements.

5.2.15 To the east of the roundabout, the carriageway edge has been realigned to the south to accommodate a 3m wide footway / cycleway on the northern side and a 2m footway on the southern side. This ties into the roundabout with an acceptable alignment and all HGV movements can travel along the

realigned carriageway appropriately as the inner radii remains appropriate. This also ensures potential residents from both sites are connected to St Athan via suitable footway routes.

- 5.2.16 The roundabout is designed with a diameter of c. 45m and with flares on all arms to enable through traffic and site traffic to have separate queuing to improve the capacity and minimise the impact on through movements. This is consistent with the layout at the Northern Access Road roundabout to the west and is therefore considered appropriate.
- 5.2.17 The visibility to the roundabout has been shown at 120m in each direction to the roundabout, which is appropriate for 40mph speeds. This is appropriate for the site location, although a traffic regulation order (TRO) amendment may be required to relocate the 40mph signage to the west and ensure the entire roundabout is within this posted speed limit.
- 5.2.18 The visibility splays to and from the roundabout would be maintained between a height of 0.6m and 2m along their length. All land for the junction and the visibility splays is within the control of the applicant or in the adopted highway and as such the visibility splays and all amendments, footways and cycleways can be delivered appropriately.
- 5.2.19 In addition, forward visibility is available for vehicles approaching the access at similar levels to that from the junction in each direction.
- 5.2.20 The alignment of the junction and the visibility has been provided in order to accommodate a footway / cycleway on the northern side and the footway on the south side of the carriageway. This will require the set back of hedgerow and tree removal on the southern side of the carriageway. This considers that the B4265 would become a 40mph area along this section, although there may be an aspiration for 30mph given the potential for a new rail station to be located in this area, which would in turn significantly reduce the stopping sight distance requirements.
- 5.2.21 It is considered that a roundabout would be the preferred access option in this location, as this is more in keeping with the junctions along this corridor, as well as providing a speed reduction feature and more of a 'feature' entrance to the scheme. However, it is noted that the preferred option of the highway authority is a signal arrangement, so this has been considered separately as follows.

General Arrangement Signal Junction Access Design

- 5.2.22 A general arrangement drawing of a potential signal controlled site access design has been produced and is shown in Apex Drawing Number C22133-ATP-DR-TP-018 in Appendix G. As for the roundabout, this is considered the most appropriate location in which to situate the access to achieve appropriate forward visibility splays along the B4265, minimise the impact on the vegetation on the northern side of the B4265, accommodate a footway / cycleway and ensure the signals have an appropriate layout and flare storage to minimise the impact on through vehicle movements.
- 5.2.23 The signal junction provides right turning lanes on the eastern and western arms, as well as right turn storage for the site access arms. Signal controlled pedestrian crossings are provided on the eastern and northern arms, which would have their own pedestrian stage, although the right turn into Parcel B and the left turn out of Parcel B can run during this pedestrian stage.
- 5.2.24 All other aspects of visibility and geometry in relation to the B4265 remain the same as that shown for the roundabout.

Footways and Cycleways

- 5.2.25 The potential access designs both show a 3m wide footway /cycleway on the northern side of the roundabout, which continues along the B4265 to the east of the site and connects to the existing footway provision. This could continue further to the east and tie in with Gileston Road and connect to the proposed strategic route (which the site could provide a proportional contribution towards). The provision provides a continuous walking and cycle connection to the nearest bus stops and to amenities and facilities located within St Athan from the southern boundary of the site.
- 5.2.26 A footway has also been shown on the southern side of the carriageway connecting to the east. The roundabout accommodates a dropped kerb crossing within the traffic splitter island to accommodate pedestrians crossing from the southern site to the northern site and the footway / cycleway appropriately. The signal junction provides crossings on the northern and eastern arms, which would have their own stage.
- 5.2.27 The crossing on the B4265 could be widened to accommodate a cyclist crossing, if needed, with the 3m wide route extending back into the site. The crossing points would be broadly in the location of the existing public right of way, so would provide an enhancement to the existing crossing arrangements.
- 5.2.28 Both designs provide suitable pedestrian and cyclist connections to and from Parcel B.

Swept Paths

- 5.2.29 Swept path analysis has been undertaken demonstrating that the potential roundabout junction can accommodate HGVs entering and exiting the roundabout. This is shown in Apex Drawing Number C22133-ATP-DR-TP-002 in Appendix H.

5.3 Site Layout

- 5.3.1 As shown in the concept masterplan in Appendix A, the access road will continue into the site as the main spine road which will serve dwellings along its frontage and enable access to other internal routes which then connect to internal driveways and shared spaces.
- 5.3.2 The internal site layout will be designed to minimise the speeds of vehicular traffic and prioritise walking and cycling movements and will include the provision of shared surfaces, where appropriate. This is in accordance with the transport hierarchy in PPW12.
- 5.3.3 The main spine road itself will be designed to accommodate buses and would route through the centre of the site, enabling buses to enter an exit from the B4265. In addition, there is an option to provide a potential route from the B4265 to the allocated employment site to the west, enabling delivery of this land. To bring forwards this connection and ensure that there is no impact from vehicle movements on Llantwit Road, Llantwit Road can be stopped up for through vehicle movements to the west of the residential area, so that all vehicle movements to and from the employment site and the potential residential development site would utilise the potential B4265 roundabout access. This would provide a benefit to existing residents along Llantwit Road by reducing vehicle movements along this route and ensuring it remained suitable and safe for shared use by walking, cycling and vehicles. If needed, a suitable turning area within the northern area of the site could be provided. This arrangement would require further study and has not been considered in this assessment.
- 5.3.4 The Spine Road would also provide a loop arrangement so it could potentially accommodate a bus service, if needed, as well as improving the efficiency of refuse vehicle movements. This would also improve the resilience of the main route within the site, in case of an incident. The Spine Road also

allows a potential future connection directly into the allocated employment site to the west, if needed and would safeguard space to enable this connection via the western boundary.

- 5.3.5 The site will be designed to keep speeds to 20mph along the main spine road and 15mph - 20mph on the minor roads connecting to this. Suitable forward visibility around bends would be provided. Two cars will be able to pass along the main access road, including at bends. The access road will also be designed to adoptable standards.
- 5.3.6 The design of the site would enable refuse vehicles to manoeuvre safely and appropriately, with appropriate widths to accommodate these vehicles. Where required, turning heads can be provided within the site and these are shown on the concept masterplan. As such, refuse vehicles will be able to enter and exit the site in forward gear.
- 5.3.7 The site layout would be safe and suitable for a potential residential development of up to 600 dwellings and can accommodate all vehicles likely to use the site.
- 5.3.8 In relation to Parcel B, the site has been shown with a loop road arrangement which will facilitate the delivery of a transport interchange and appropriate connectivity to a potential rail station. The internal layout will also allow suitable access to the mixed use area.

5.4 Pedestrian and Cyclist Access

- 5.4.1 The potential access design (both signals and roundabout) shows a 2m footway on the southern side of the B4265 and a 3m footway / cycleway on the northern side of the B4265 connecting the access to St Athan to the east. The shared footway / cycleway can continue into the site to enable cyclist access throughout the potential development.
- 5.4.2 In the event where the new railway station does not come forward, an active travel link can be provided from the site to Llantwit Major within the adopted highway. This will ensure that residents would have a clear and convenient link to the closest rail infrastructure.
- 5.4.3 Within the site itself, pedestrian and cycle infrastructure will be prioritised to enhance connections and the permeability of the site to encourage pedestrian and cycle movements throughout the site.
- 5.4.4 The site would also provide pedestrian and cyclist connections onto Llantwit Road along the northern boundary. Llantwit Road would remain suitable for walking and cycling movements, particularly if subject to a reduction in through vehicle movements associated with the employment uses at the St Athan airfield. However, if needed, potential mitigation can be provided along this route and this has been considered. A possible footway varying between 1m and 1.5m along the length of Llantwit Road could be implemented within the adopted highway, if needed. This is shown in an indicative improvements plan in Appendix I.
- 5.4.5 This would also be provided with suitable priority give-way workings where the carriageway narrows, and if needed, parking restrictions to enable two-way flows. It is considered that this would offer a benefit to existing and potential future residents and can be delivered by the potential development. However, the existing route is also considered suitable for shared use by pedestrians, cyclists and vehicles due to the low traffic speeds and flows, particularly if the route is stopped up at the western end of the existing residential area.
- 5.4.6 In addition, further connections can be considered on the eastern boundary to integrate the site with the surrounding area, particularly through the play area and St Athan Community Centre. These would ensure there are a choice of routes connecting the site to the existing residential area, ensuring excellent connectivity from all areas of the site, as well as suitable routes from existing areas to the

facilities on the site, and through to the existing and potential future employment areas on the adjacent enterprise zone allocation.

5.5 Parking

Car Parking

- 5.5.1 The car parking provision will be in accordance with VoGC's Supplementary Planning Guidance (SPG) – Car Parking Standards, as adopted in 2011 and updated in 2019 ('the Parking SPG').
- 5.5.2 In accordance with the SPG, the site is situated within Zone E location which is set out as a 'Deep Rural' location, however it is of note that St Athan is classed as Zone C 'Suburban'. The maximum parking standards in Zones A-E for new residential houses are 1 space per bedroom (maximum requirement 3 spaces) for residents and for visitors there is a requirement of 1 space per 5 units.
- 5.5.3 The parking provision is not shown on the concept masterplan. However, provision will be made in accordance with the standards. A lower parking provision than the maximum shown within the standards may also be appropriate for this location. This would encourage sustainable travel and would be in accordance with the SPG which allows for flexibility in the standards, subject to local circumstances. This would also be in accordance with relevant policies on car ownership and sustainable travel within Future Wales.
- 5.5.4 Electric vehicle charging points and/or infrastructure can also be provided in accordance with the policies in Future Wales for increasing electric vehicle use (Policy 11 and 12). The level of provision can be discussed and agreed as part of any forthcoming planning application.
- 5.5.5 Suitable car parking will therefore be provided on the site.

Cycle Parking

- 5.5.6 The SPG sets out the cycle parking standards in VoGC. It states a requirement for one space per five bedrooms for apartments for long stay parking.
- 5.5.7 As the site will likely be mainly for housing, there will be sufficient space provided for on-plot cycle storage at each dwelling. This may be in the form of a garage or garden shed and full details would be provided as part of any forthcoming planning application.

6. TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT

6.1 Introduction

- 6.1.1 This section considers the likely level of vehicle movements generated by the potential development upon the surrounding highway network and the distribution and assignment of these trips.
- 6.1.2 The vehicle trip generation has been undertaken using the Trip Rate Information Computer System (TRICS). The TRICS database predicts the likely numbers of arrivals and departures by utilising surveys of existing sites. The database has been analysed for sites with similar characteristics in terms of use, scale, location and accessibility. Trip rates have been obtained and applied to estimate trip generation during network peak hours and over a daily period. The network peak hours have been shown in Section 3, but the peak hours for the trip rates may occur during different time periods. As such, for robustness, the TRICS peak hours have been applied to the network peak hours in this assessment.
- 6.1.3 The residential dwellings can be built to encourage working from home in accordance with the aspirations of the Welsh Government. This will attract residents who wish to work from home and assist in constraining the level of vehicle generation from the site onto the local network. The TRICS trip rates have been obtained from surveys of existing residential sites. Given the Welsh Government aspiration for 30% of the workforce to work from home, or close to home, this could reduce future trip rates accordingly in comparison to these existing sites. As such, the obtained rates are considered robust.
- 6.1.4 In addition, the trip distribution analysis does not reflect movements which could be contained within the overall site and adjacent allocated enterprise zone area. If movements were generated into the enterprise zone area, these would not travel onto the B4265 or further onto the highway network.
- 6.1.5 Finally, the forecast trip generation is considered to be a worst case scenario as any future application would be supported by an appropriate Travel Plan which would contain measures aimed at reducing the vehicle trips from the site and promoting the use of sustainable modes of travel.

6.2 Potential Development Vehicle Trip Generation

Residential Use

- 6.2.1 The TRICS category '03 - RESIDENTIAL/M – MIXED PRIVATE/AFFORDABLE HOUSING' has been selected to derive trip rates for the potential residential development. The site is likely to be developed for a mixture of affordable and private housing, and affordable tenure typically has lower vehicle generation. As such, the mixed nature of this category is considered appropriate to apply to all the sites. Indeed, the car ownership in the surrounding area suggests that the site could have a low level of ownership and vehicle movements on the network.
- 6.2.2 The following parameters have been applied to the search criteria to obtain sites of a similar nature:
- Located in England and Wales (excluding London)
 - Vehicle Surveys
 - Monday to Friday
 - Sites with over 100 dwellings
 - Edge of Town and Suburban Locations
 - From 2010 onwards (excluding sites surveyed during the pandemic)
 - Population within 5 miles less than 250,000
 - Removal of sites in areas with car ownership more than 1.5 vehicle per household

- Removal of sites in non-comparable locations

6.2.3 The application of these parameters resulted in identifying 20 comparable sites. The full TRICS report is included in Appendix J. The resultant vehicle trip rates, and vehicle trip generation are summarised in Table 6-1. All 600 units have been assumed to be accessed from the north site for the purposes of this assessment.

Table 6-1: Potential Residential Use - Vehicle Trip Rates and Generation

Time Period	Trip Rates (per dwelling)			Trip Generation (600 dwellings)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
AM Peak (08:00-09:00)	0.168	0.416	0.584	101	250	351
PM Peak (17:00-18:00)	0.356	0.19	0.546	214	114	328
12 Hours (07:00-19:00)	2.339	2.392	4.731	1403	1435	2838

6.2.4 Table 6-1 demonstrates that the residential elements of the scheme are forecast to generate 351 two-way vehicular movements during the AM network peak hour (08:00 – 09:00) and 328 two-way vehicular movements in the PM network peak hour (17:00 - 18:00).

6.2.5 Over a 12 hour period, the potential residential use is forecast to generate 2,838 two-way vehicle movements.

Commercial use within mixed use area

6.2.6 The TRICS category ‘02 - EMPLOYMENT/A - OFFICE’ has been selected to derive trip rates for the potential commercial use on Parcel B. This is likely to be the most robust employment trip generator and as such is considered appropriate to use in this assessment.

6.2.7 The following parameters have been applied to the search criteria to obtain sites of a similar nature:

- Located in England and Wales (excluding London)
- Vehicle Surveys
- Monday to Friday
- Sites up to 4,000 sqm
- Edge of Town and Suburban Locations
- From 2010 onwards (excluding sites surveyed during the pandemic)
- Population within 5 miles less than 250,000
- Removal of sites with non-comparable public transport

6.2.8 The application of these parameters resulted in identifying 5 comparable sites. The full TRICS report is included in Appendix K. The resultant vehicle trip rates, and vehicle trip generation are summarised in Table 6-1. All commercial use has been assumed to be accessed from the south site.

Table 6-2: Potential Commercial Use - Vehicle Trip Rates and Generation

Time Period	Trip Rates (per 100sqm)			Trip Generation (2,825 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
AM Peak (08:00-09:00)	2.089	0.166	2.255	59	5	64
PM Peak (17:00-18:00)	0.296	2.828	3.124	8	80	88
12 Hours (07:00-19:00)	8.152	8.197	16.349	230	232	462

6.2.9 Table 6-1 demonstrates that the commercial use element of the scheme is forecast to generate 64 two-way vehicular movements during the AM network peak hour (08:00 – 09:00) and 88 two-way vehicular movements in the PM network peak hour (17:00 - 18:00).

6.2.10 Over a 12 hour period, the potential commercial use is forecast to generate 462 two-way vehicle movements.

Potential Rail Station

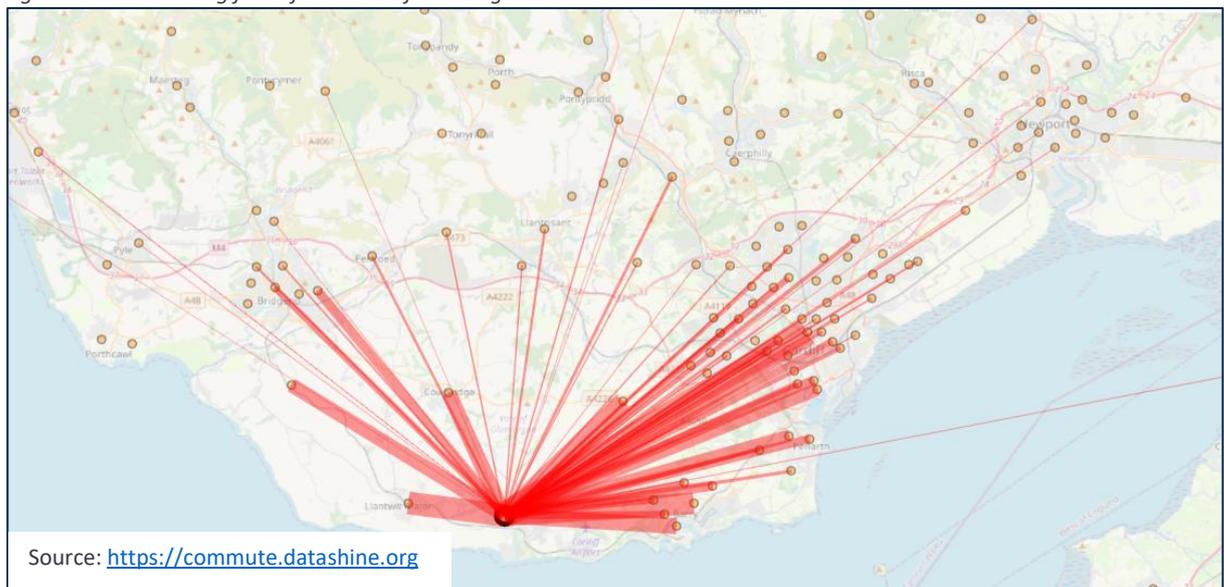
6.2.11 In order to allow some consideration of vehicle movements to and from a potential rail station, a total of 60 arrivals and 60 departures has been assumed in each peak hour (120 two-way movements in each peak hour). These would all travel to and from the southern site access. It is assumed that these would relate to pick up / drop off hence the arrivals and departures being the same.

6.3 Trip Distribution and Assignment

6.3.1 To estimate the likely distribution of the forecast vehicle movements on the network, Census origin-destination data has been considered for all journeys to work from Middle Layer Super Output Area (MSOA) Vale of Glamorgan 014 (in which the site is situated). This distribution has been applied to all movements to and from each site for ease of analysis.

6.3.2 The directions of travel for commuting journeys are shown in Figure 6-1 obtained from the Datashine website. The thickness of the line indicates the number of people travelling from Vale of Glamorgan 014 to the MSOA where they work. This shows that there are journeys in all directions from the site. As such, vehicles are likely to disperse across the network, minimising the impacts of the development generated traffic on specific routes on the wider network.

Figure 6-1: Commuting flows from Vale of Glamorgan 014 MSOA



6.3.3 The Datashine website provides a table of the number of journeys from VoGC 014 into other MSOA's using the 2011 Census data. This has been utilised to determine the percentage of journeys on each route from the site. The journey to work data is not currently available from the 2021 data, but the 2011 information is considered appropriate to use in this regard. Journeys have been distributed based on the most likely routes from the site to their employment MSOA's. The route choices and calculation of the distribution on the local highway network is shown in Appendix L.

6.3.4 By way of summary, the distribution on the wider network through considering the analysis from this site is as follows:

- Gileston Road – 14.1%

- **East of Gileston Road on B4265: 62.7%**

- » Llancadle Road – 3.2%
- » Fontgary Road – 4.4%
- » Waycock Road – 4.7%
- » A4226 – 39.8%
- » Pontypridd Road – 10.6%

- **West of Site Access on B4265: 23.2%**

- » Northern Access Road – 9.6%
- » Llanmaes Road North – 1.1%
- » Llanmaes Road South – 4.6%
- » Cowbridge Road North – 7.9%

6.3.5 These have been shown as percentage turning movements on the network, with the percentages by movement at key junctions shown within the traffic flow diagrams in traffic flow diagrams in Appendix C.

6.3.6 The resultant assigned traffic in the AM and PM peak hours associated with the potential development has been provided in the traffic flow diagrams in Appendix C.

7. FUTURE YEAR TRAFFIC FLOWS

7.1 Overview

7.1.1 This section outlines the future year traffic flows against which the impact of the development has been considered. This includes consideration of committed / potential future committed developments and TEMPRO growth factors.

7.2 Future Year Baseline Traffic Flows

7.2.1 In addition to a 2024 base year assessment (for validation purposes), a future year of 2036 has been assessed. The assessment of 2036 was agreed with the highway authority.

7.2.2 To take account of background traffic growth on the local highway network within the vicinity of the site between 2024 and 2036, growth factors have been applied to the obtained 2024 base flow data. These growth factors have been calculated using the TEMPRO v8.1 computer programme which considers growth in population, employment, and car ownership based on information derived from the National Trip Ends Model (NTEM).

7.2.3 The growth has been considered using the 'Core Scenario'. The Core Scenario provides a consistent, common comparator scenario for decision-making, to assess all projects and options against. A description of the Core Scenario is set out in the DfT - Transport Analysis Guidance (TAG) Unit M4, Forecasting and Uncertainty (paragraph 3.1.3):

"The core scenario represents a world in which future deviation from historic trends in the key drivers of demand and current government policies is minimal; not a world that is necessarily desirable. It does not represent a statistical 'expected value', but one possible outcome amongst many."

7.2.4 As such, the Core Scenario may not be a desirable outcome nor an expected one but is based on historical trends in behaviour. An alternative assumption with modal shift and technological advances may see significantly lower growth rates, and that would be equally valid, but the Core Scenario is considered to be the most robust position for this assessment.

7.2.5 Growth rates within The Vale of Glamorgan have been considered based on all road types using the Core Scenario. The growth rates used in the AM and PM peak hours are summarised as follows:

- 2024-2036 – AM Peak: 1.121
- 2024-2036 – PM Peak: 1.120

7.2.6 The long term effects of the pandemic on travel behaviour, particularly for commuting are not yet known. There is likely to be an increase in homeworking and reduction in peak hour vehicle movements into the future, particularly with technological and infrastructure improvements and efficiencies. A significant increase in homeworking would also be in accordance with the aspirations of Welsh Government.

7.2.7 As such, the application of unfettered growth rates based on traffic projections (particularly those in the Core Scenario), is considered a robust method of obtaining future year traffic flows.

7.3 Committed Development

7.3.1 A review of planning applications in the surrounding area has not identified any specific developments which should be considered within the assessment, which currently have planning permission but have not yet been built out, that would materially increase flows within the study area over those

allowed for within the growth rates. The outstanding allocations are already factored into the growth rates and as such have not been considered separately.

- 7.3.2 However, an additional site is also being promoted to the east of St Athan and being promoted by Barratt David Wilson Homes. This is being promoted for a residential retail development with transport analysis being undertaken by Lime Transport and is a partly allocated site within the existing LDP.
- 7.3.3 TEMPRO guidance specifies that the growth factors for individual areas are derived from forecasts at a local authority level which are informed by allocated housing and employment sites within the associated local development plans. As the land east of St Athan site is allocated for residential use itself, there would be an element of double counting in the factored background traffic flows through the application of growth rates in addition to the distribution of traffic associated with this site. However, it has also been considered separately for robustness.
- 7.3.4 Lime Transport has provided details of the trip generation and distribution in relation to the site, in order that this can be considered within this assessment appropriately and for consistency with their assessment of the land east of St Athan site.
- 7.3.5 The scheme would be delivered in phases but the site is promoting a 1,860 sqm foodstore and up to 550 dwellings. The retail trips have been assumed as 'wholly new' trips (apart from a small percentage of internal trips to/from the residential), whereas in practice it is assumed that 85%+ will be trips that are already on the network, with existing residents from St Athan travelling to foodstores within Barry, Bridgend, Llantwit Major and Cowbridge. However, assuming these are wholly new trips allows for a robust assessment.
- 7.3.6 Based on the provided information from the Lime Transport analysis, the land east of St Athan site would generate the following vehicle movements:
- AM Peak – 115 arrivals and 237 departures
 - PM Peak – 264 arrivals and 218 departures
- 7.3.7 These movements have been distributed on the network using the Lime Transport distribution calculations, which were also provided. The resultant land east of St Athan movements on the network are shown in the traffic flow diagrams in Appendix C.

7.4 Future Year Traffic Flows and Assessment Scenarios

- 7.4.1 The 2024 base traffic flows have been factored by the calculated growth rates. The assigned potential development and land east of St Athan flows have then been added to the background flows to enable a future year assessment.
- 7.4.2 The resultant future year base, future year base plus development and future year base plus development plus east of St Athan traffic flow diagrams in the AM and PM peak hours are set out within the traffic flow diagrams in Appendix C. These scenarios are summarised as follows:
- 2036 Future Base – AM Peak (0745-0845)
 - 2036 Future Base – PM Peak (1530-1630)
 - 2036 Future Base plus development – AM Peak (0745-0845)
 - 2036 Future Base plus development – PM Peak (1530-1630)
 - 2028 Future Base plus development, sensitivity (wider allocation site) – AM Peak (0745-0845)
 - 2028 Future Base plus development, sensitivity (wider allocation site) – PM Peak (1530-1630)

7.4.3 These resultant traffic flows have been used as a basis to establish the potential suitability of the access arrangements, as well as the potential impact of the scheme on the surrounding highway network. For robustness, the peak development and land east of St Athan peak hour trips have been assumed to occur in the same hour as the background traffic peak hours.

8. POTENTIAL TRAFFIC IMPACTS

8.1 Introduction

8.1.1 Based on the trip generation analysis and obtained 2024 baseline traffic flows, a percentage impact assessment for the development trips against the existing movements on the network has been undertaken. This has considered the impact of development generated trips during the network AM and PM peak hours. The impacts of have been set out separately by the total movements through each of the key junctions on the network, as identified in Section 3.

8.1.2 In addition, junction modelling has also been undertaken at these junctions, as well as at the site access in Section 9. This also considers the suitability of the access arrangements and that they would not have a material impact on through movements on the B4265.

8.1.3 The percentage impacts have considered the land west of St Athan site only, with the junction modelling considering the land west of St Athan site, as well as a further scenario considering the additional trips generated by the land east of St Athan site. The junction modelling therefore considers the impact of both proposed allocations in St Athan.

8.2 Potential Percentage Impacts

8.2.1 The 2024 base traffic flows and the potential development flows at each key junction during the network AM and PM peak hours have been set out within Table 8-1, together with the percentage change in movements through each junction.

Table 8-1: Potential Percentage Impacts at key junctions

Link	AM Peak (0745-0845)				PM Peak (1530-1630)			
	2024 Base Flows	Dev Flows	Base + Dev	% Change	2024 Base Flows	Dev Flows	Base + Dev	% Change
1) Weycock Cross roundabout	2804	296	3100	10.6%	2734	295	3029	10.8%
2) B4265 / Fontgary Road priority junction	1029	320	1349	31.1%	1120	319	1439	28.5%
3) Gileston Crossroads priority crossroad junction	1163	411	1574	35.3%	1256	411	1667	32.7%
5) B4265 / Northern Access Road roundabout	740	127	867	17.2%	840	126	966	15.0%
6) B4265 / Llanmaes Road signal junction	1072	75	1147	7.0%	1200	74	1274	6.2%
7) B4265 / Cowbridge Road roundabout	1230	43	1273	3.5%	1276	43	1319	3.4%

8.2.2 As shown in Table 8-1 the potential development is anticipated to have a maximum increase in vehicular movements through the Gileston Crossroads of 35% in the AM peak hour.

8.2.3 At the Weycock Cross roundabout, the flows are forecast to change by c. 10%, although beyond this the flows would be distributed in a number of directions and would be unlikely to have a material impact on the operation of further junctions.

8.2.4 At the B4265 / Llanmaes Road and B4265 / Cowbridge Road junctions the site is forecast to have between just a 3.4% and 7.0% increase in background flows. As such, beyond this location, vehicle movements would dissipate and would be unlikely to have material impact.

8.2.5 A such, a key impact is likely to be at the Gileston Road / B4265 junction immediately to the east of the site which is shown as operating over capacity within the planning applications summarised in Section 2.

8.2.6 However, all junctions have been considered in modelling undertaken and provided in Section 9.

9. OPERATIONAL ASSESSMENTS

9.1 Overview

9.1.1 This section sets out the extent of the highway network over which the impact of the potential development has been assessed, the assessment scenarios and details of the operational assessments of key junctions.

9.2 Extent of Assessment

9.2.1 The study area considers the impact of the development at all junctions where traffic survey data has been obtained and as shown in Figure 3-1. In summary the junctions considered are:

- 1) Weycock Cross roundabout
- 2) B4265 / Fontgary Road priority junction
- 3) Gileston Crossroads priority crossroad junction
- 4) Proposed Site Access location
- 5) B4265 / Northern Access Road roundabout
- 6) B4265 / Llanmaes Road signal junction
- 7) B4265 / Cowbridge Road roundabout

9.3 Assessment Scenarios

9.3.1 Assessments have been undertaken during the network AM (0745 - 0845) and PM (1530 - 1630) peak hours. The scenarios which have been assessed within this TA are summarised as follows:

- 2024 Base – AM Peak (0745-0845)
- 2024 Base – PM Peak (1530-1630)
- 2036 Future Base – AM Peak (0745-0845)
- 2036 Future Base – PM Peak (1530-1630)
- 2036 Future Base plus development – AM Peak (0745-0845)
- 2036 Future Base plus development – PM Peak (1530-1630)
- 2028 Future Base plus development, sensitivity (wider allocation site) – AM Peak (0745-0845)
- 2028 Future Base plus development, sensitivity (wider allocation site) – PM Peak (1530-1630)

9.4 Model Inputs

9.4.1 The operational assessments have been undertaken using the TRL software Junctions 10 (for priority junctions and roundabouts) and the JCT software LinSig V3 (for signal controlled junctions).

9.4.2 The modelling using Junctions 10 has been undertaken using total traffic flows and HGV percentages. The geometric parameters have been obtained from OS mapping measurements with these provided for each relevant junction in Appendix M.

9.4.3 Modelling for the signal controlled junction has been undertaken using passenger car units (PCUs) with a value of two PCU's being applied to all bus and HGV movements. All other movements, including motorcycles and cycles have been assumed as one PCU.

9.4.4 For the signal junction at Llanmaes Road, the signal timing data has been obtained from VoGC.

9.4.5 A comparison of the 2024 base modelled queue lengths against the surveyed queue lengths has also been made to assist with model validation and to consider whether the model represents observed conditions. It is noted that the queue lengths in both the model and from the surveys represent

average conditions on one day and that there are typical daily fluctuations in queues and flows, however, it is considered that this is an appropriate method to enable the impact of the development to be considered.

9.5 Model Reporting Outputs

9.5.1 The outputs of Junctions 10 provide a number of measurements to ascertain information of a junction's operation. The key measurements which have been considered in the assessments are:

- 'Ratio of Flow to Capacity' (RFC)
- Maximum queue lengths
- Delay in seconds per vehicle
- Level of service indicated by a letter between A (well within capacity) and F (at or over capacity)

9.5.2 The main indication of the performance of a junction is given by the RFC for each lane. The peak capacity is realised when the demand flow at the entry is great enough to cause a continuous queue of vehicles to wait on approach to the stop line. This is reached when the RFC attains a value of 1, albeit more typically the capacity is considered to be at an RFC 0.85 or 0.9.

9.5.3 LinSig provides a number of measures of junction capacity and operation, being traffic intensity (Degree of Saturation – DoS and Practical Reserve Capacity – PRC) as well as queue lengths and delays.

9.5.4 Within LinSig the PRC (practical reserve capacity) provides a measure of overall capacity, and this is reported for the junction as a whole as a positive or negative value. A Degree of Saturation (DoS) is reported for each junction arm, with a value of less than 90% generally considered acceptable. A value of 100% indicates that traffic demand is equal to capacity.

9.5.5 The total delay in PCU/hour is provided within the LinSig outputs. This provides another useful indicator as to the impact of development generated traffic on the operation of junctions through the change in delay for individual vehicles and the network as a whole.

9.5.6 Queue lengths provide an indication of how the overall junction performance may affect adjacent junctions on the highway network. The queue lengths are presented as Mean Maximum Queues (MMQ) over an hourly period. These can be compared with the obtained queue length data to verify that the model is broadly similar to the observed operation of the junction. Changes in queue lengths provide a useful indicator as to a development's impact on the operation of a junction, and whether this will impact upstream junctions.

9.5.7 When considering the change in the operation of the junction all of these factors will be considered to form a view as to whether the impact of development generated traffic or the amendment to the site access arm would result in a material impact on the network.

9.5.8 The full Junctions 10 and LinSig outputs for all scenarios are included in Appendix N.

9.6 Operational Assessment Results Summary

9.6.1 The junction modelling has been set out and summarised by junction as follows.

9.6.2 Prior to undertaking future year models, the advice contained within TRL's Junctions 10 user guide has been followed, which states that *"In general, for any use of the program, you should check wherever possible that the results approximately match observed behaviour at the junction before modelling other scenarios"*.

- 9.6.3 All base models have been reviewed to ensure, as far as possible, they reasonably represent the observed operation of the junction. This process has been informed by queue length surveys. The queue survey data is shown in Appendix B. Although queue length surveys are a snapshot of one specific day, these have been used as a reference point for the junction operation.
- 9.6.4 Where changes have been made to the base model to consider queue length surveys and/or unequal lane usage, these are to ensure a robust base model is provided for future year assessments, and changes have been explained for individual junctions.

9.7 Junction 1 - Weycock Cross Roundabout Results

Overview

- 9.7.1 This junction was assessed using the ARCADY module in Junctions 10. The observation of the base traffic flow data and the junction arrangements showed that on the northern arm (Waycock Road) and the western arm (Port Road W) there were separate lanes for left turning and ahead / right movements.
- 9.7.2 As such, queue lengths and vehicle flows are not equal across the two lanes on each of these arms. On this basis, for a robust analysis, the model has considered each lane independently to model the effects of unequal lane usage. Otherwise, an ARCADY model would assume that all traffic uses all the space available equally which can overestimate the capacity at the junction.
- 9.7.3 All traffic going ahead/right has been assumed to use the right lane and all traffic turning left, the left lane on each of these two arms. In order to accurately model the effects of the unequal lane usage, the left turn lane has been modelled on the 'right' of the ahead/right lanes, with the left turning traffic exiting the model before passing the ahead/right entry lane and therefore not adding traffic to the circulatory flow. The Arms have been modelled as follows:
- Arm A1-L – Waycock Road – Left Turn Lane
 - Arm A2-RA – Waycock Road – Right/Ahead Lane
 - Arm B – Port Road (East)
 - Arm C – Pontypridd Road
 - Arm D1-L – Port Road (West) – Left Turn Lane
 - Arm D2-RA – Port Road (West) – Right/Ahead Lane
- 9.7.4 As an example, Arm A1-L flows have been modelled exiting at Arm A2-RA so that left turning movements are not included within the circulatory traffic past the ahead/right turning movements from the same Entry Arm. Arm A2-RA traffic is then distributed around the roundabout to the relevant exit arm. In reality the Arm A1-L traffic would be exiting at Arm B, but this does not affect the entry capacity calculations and allows separate calculations to be determined for each lane.
- 9.7.5 The turning movements at Arm B – Port Road and the lane markings mean that the majority of vehicles use the nearside lane and lane starvation occurs for the offside flare lane. As such, queuing regularly occurs in the nearside lane only. As such, for robustness, this arm has been modelled as a single lane with no flare, so assumes that all traffic utilises one lane and the outside lane flare is not used.
- 9.7.6 The effective flare lane has been slightly reduced on Arm C from the measured value, to more accurately reflect the length of storage and ensure robustness in the model on this arm.

2024 Base Model

9.7.7 The results of the 2024 Base assessment are summarised in Table 9-1.

Table 9-1: Junctions 10 Summary: 2024 Base – Weycock Cross Roundabout

Arm	AM Peak (0745 – 0845)				PM Peak (1545 – 1645)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
Arm A1-L – Waycock Road – Left Turn Lane	0.5	10.21	0.35	B	0.3	8.87	0.24	A
Arm A2-RA – Waycock Road – Right/Ahead Lane	4.6	37.75	0.84	E	7.4	56.53	0.91	F
Arm B – Port Road (East)	10.0	52.00	0.93	F	16.9	80.73	0.99	F
Arm C – Pontypridd Road	2.2	9.65	0.69	A	1.4	7.88	0.59	A
Arm D1-L – Port Road (West) – Left Turn Lane	0.6	8.59	0.35	A	0.5	7.70	0.34	A
Arm D2-RA – Port Road (West) – Right/Ahead Lane	17.0	91.27	0.99	F	18.1	89.76	1.00	F

9.7.8 Table 9-1 demonstrates that the Weycock Cross roundabout currently operates over its maximum theoretical capacity (RFC of 0.85) with a maximum RFC of 1.0 reported in the PM peak on Arm F – Port Road (West) in the ahead / right lane.

9.7.9 Table 9-2 provides a comparison between the modelled queue length outputs shown in Table 9-1 and the queue survey data.

Table 9-2: Maximum average queue length comparison – Weycock Cross Roundabout

Arm	AM Peak (0745 – 0845)			PM Peak (1545 – 1645)		
	Observed (vehicles)	Model (vehicles)	+ / -	Observed (vehicles)	Model (vehicles)	+ / -
Arm A1-L – Waycock Road – Left Turn Lane	2.9	0.5	-2.4	1.8	0.3	-1.5
Arm A2-RA – Waycock Road – Right/Ahead Lane	9.5	4.6	-4.9	11.1	7.4	-3.7
Arm B – Port Road (East)	11	10	-1	16.1	16.9	0.8
Arm C – Pontypridd Road	8	2.2	-5.8	9.2	1.4	-7.8
Arm D1-L – Port Road (West) – Left Turn Lane	1.9	0.6	-1.3	1.8	0.5	-1.3
Arm D2-RA – Port Road (West) – Right/Ahead Lane	27.5	17	-10.5	23.5	18.1	-5.4

9.7.10 Table 9-2 demonstrates that the model shows a slightly lower level of queuing than observed at the junction, although the difference is considered to be minimal in modelling terms. The base model has also provided robust geometry on all arms which reflects the lane usage, lane starvation and turning movements. As such, it is considered that the model appropriately reflects the existing operation of the junction and is therefore valid and acceptable to assess future year conditions and the impact of the development.

2036 Future Year Assessments

9.7.11 The results of the operational assessments for the future year in 2036 are summarised in Table 9-3 for the 2036 baseline scenario, in Table 9-4 for the 2036 baseline plus development and in Table 9-5 for the 2036 baseline plus development plus land east of St Athan scheme scenario.

Table 9-3: Junctions 10 Summary: 2036 Base – Weycock Cross Roundabout

Arm	AM Peak (0745 – 0845)				PM Peak (1545 – 1645)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
Arm A1-L – Weycock Road – Left Turn Lane	0.7	11.43	0.41	B	0.4	9.62	0.28	A
Arm A2-RA – Weycock Road – Right/Ahead Lane	12.1	87.60	0.97	F	23.9	148.06	1.05	F
Arm B – Port Road (East)	38.3	155.84	1.07	F	56.4	246.16	1.13	F
Arm C – Pontypridd Road	3.6	14.13	0.79	B	2.0	9.85	0.67	A
Arm D1-L – Port Road (West) – Left Turn Lane	0.7	9.86	0.41	A	0.7	8.60	0.39	A
Arm D2-RA – Port Road (West) – Right/Ahead Lane	60.7	275.91	1.16	F	62.4	259.74	1.15	F

Table 9-4: Junctions 10 Summary: 2036 Base + Development – Weycock Cross Roundabout

Arm	AM Peak (0745 – 0845)				PM Peak (1545 – 1645)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
Arm A1-L – Weycock Road – Left Turn Lane	0.7	11.56	0.41	B	0.4	9.70	0.28	A
Arm A2-RA – Weycock Road – Right/Ahead Lane	15.9	109.78	1.00	F	31.3	186.44	1.08	F
Arm B – Port Road (East)45-0845	78.4	341.14	1.18	F	127.6	578.03	1.27	F
Arm C – Pontypridd Road	4.5	17.52	0.82	C	2.4	11.56	0.71	B
Arm D1-L – Port Road (West) – Left Turn Lane	0.8	10.04	0.43	B	0.7	8.72	0.41	A
Arm D2-RA – Port Road (West) – Right/Ahead Lane	175.4	844.96	1.41	F	146.3	672.28	1.33	F

Table 9-5: Junctions 10 Summary: 2036 Base + Development + Land E of St Athan – Weycock Cross Roundabout

Arm	AM Peak (0745 – 0845)				PM Peak (1545 – 1645)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
Arm A1-L – Weycock Road – Left Turn Lane	0.7	11.59	0.41	B	0.4	9.72	0.28	A
Arm A2-RA – Weycock Road – Right/Ahead Lane	18.6	124.34	1.01	F	41.2	240.99	1.12	F
Arm B – Port Road (East)	88.6	399.35	1.20	F	165.6	742.75	1.33	F
Arm C – Pontypridd Road	5.0	19.18	0.84	C	2.9	13.22	0.75	B
Arm D1-L – Port Road (West) – Left Turn Lane	0.9	10.57	0.46	B	0.8	8.99	0.43	A
Arm D2-RA – Port Road (West) – Right/Ahead Lane	247.6	1196.05	1.53	F	195.0	865.86	1.41	F

9.7.12 The Weycock Cross roundabout is forecast to operate above capacity in the base scenario in a future year. The addition of the development traffic is forecast to worsen this situation, however the model starts to break down over an RFC of 1 and queue lengths exponentially increase. As such, although the development is forecast to worsen the situation, the impacts shown are over estimated.

9.7.13 In addition, the unfettered growth assumes that all movements currently on the network would remain travelling with the same behaviour. If this junction is operating over capacity, people would choose to travel by alternative modes, via different routes or travel at different times. As such, the level of operation as shown in Table 9-4 is unlikely to occur. The capacity constraint at the junction can therefore assist with encouraging users to travel by more sustainable modes which is in line with the aspirations of Welsh Government.

9.7.14 Given the roundabout already experiences a capacity issue and the development is not the cause of this, as well as the distance from the site, it is not considered that mitigation should be a requirement for the delivery of the land west of St Athan site.

9.7.15 It is also understood that alternative sites are being brought forwards within the preferred strategy directly to the northeast and southwest of the Weycock Cross roundabout and it is considered likely that these would trigger a requirement for improvements to this junction. These may also have the potential to provide additional land for improvements at the junction to deliver any such improvements.

9.8 Junction 2 - B4265 / Fontgary Road priority junction results

9.8.1 This junction was assessed using the PICADY module in Junctions 10.

9.8.2 Given the scale of the junction and the separation between the right and left turn lanes on the minor arm, this junction has been modelled using the one lane plus flare geometry based on measurements every 5m from the stop line. The flare length has been measured at 3 PCUs.

9.8.3 The results of the Junctions 10 modelling for all base and future year scenarios at the B4265 / Fontgary Road priority junction has been summarised in Table 9-6.

Table 9-6: Junctions 10 Summary: B4265 / Fontgary Road priority junction

Arm	AM Peak (0730 – 0830)				PM Peak (1530 – 1630)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
2024 Base								
Fontgary Road – Right Turn	0.3	7.16	0.25	A	0.3	7.11	0.24	A
Fontgary Road – Left Turn	0.1	15.31	0.07	C	0.1	12.64	0.12	B
B4265 west – Right Turn	0.3	7.99	0.22	A	0.4	8.15	0.25	A
2036 Base								
Fontgary Road – Right Turn	0.4	7.71	0.28	A	0.4	7.70	0.27	A
Fontgary Road – Left Turn	0.1	16.99	0.08	C	0.2	14.20	0.14	B
B4265 west – Right Turn	0.4	8.57	0.25	A	0.4	8.75	0.28	A
2036 Base + Development								
Fontgary Road – Right Turn	0.5	8.69	0.32	A	0.5	9.04	0.32	A
Fontgary Road – Left Turn	0.2	22.51	0.10	C	0.3	20.03	0.19	C
B4265 west – Right Turn	0.5	9.58	0.30	A	0.5	10.10	0.33	B
2036 Base + Development + Land E of St Athan								
Fontgary Road – Right Turn	0.5	9.24	0.34	A	0.6	10.71	0.39	B
Fontgary Road – Left Turn	0.2	27.76	0.13	D	0.4	28.05	0.25	D
B4265 west – Right Turn	0.6	10.39	0.34	B	0.7	11.55	0.38	B

9.8.4 The junction capacity modelling results demonstrates that the junction will perform acceptably, with minimal queuing and spare capacity in all scenarios.

9.8.5 The base model has been reviewed to ensure, as far as possible, that it reasonably represents the observed operation of the junction. This process has been informed by queue length surveys, although it is recognised these are a snapshot of one specific day.

9.8.6 The comparison of queue length surveys and the 2024 base model outputs is provided in Table 9-7.

Table 9-7: B4265 / Fontgary Road priority junction - queue length comparisons

Arm	Observed queues (vehicle)		Apex modelled queues (vehicle)		Check
	AM	PM	AM	PM	
Fontgary Road – Right Turn	0.6	1.2	0.3	0.3	✓
Fontgary Road – Left Turn	2.5	2.7	0.1	0.1	✓
B4265 west – Right Turn	0.9	2.1	0.3	0.4	✓

- 9.8.7 The queue length analysis demonstrates that the modelled and observed queues, which are a snapshot of a single day, are within typical daily variations and comparable with low levels of queuing on all arms. This verifies that the base model appropriately reflects the existing operation of the junction and is therefore appropriate to assess future year conditions. The conclusion that the junction would operate well within capacity therefore remains valid.
- 9.8.8 The development of the site would not have a material impact on the operation of this junction and no improvements are considered to be required.
- 9.9 Junction 3 - Gileston Crossroads priority crossroad junction results
- 9.9.1 This junction was assessed using the PICADY module in Junctions 10.
- 9.9.2 All measurements for this junction have been taken from the Acstro assessment supporting the approved application - Land East of Cowbridge Road for Edenstone Homes (from Appendix 5 of the Transport Assessment - Jan 2018). This application proposed junction improvements which have since been implemented - and this model was accepted, therefore is considered appropriate to use within this assessment.
- 9.9.3 One adjustment has been made to reduce the northern arm to one lane for robustness and to more appropriately reflect the observed operation and queuing, as the flare length suffers from lane starvation. The major arm width has also been reduced from 9m to 6.3m, as this is in line with the width of the carriageway either side of the right turn lane. The centre lane has been measured with a width of 3m with blocking queue lengths of 2 PCU for the eastbound lane and 3 PCU for the westbound lane.
- 9.9.4 The results of the Junctions 10 modelling for all base and future year scenarios at the Gileston Crossroads junction has been summarised in Table 9-8.

Table 9-8: Junctions 10 Summary: Gileston Crossroads junction

Arm	AM Peak (0730 – 0830)				PM Peak (1530 – 1630)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
2024 Base								
Gileston Road (North)	2.0	24.13	0.67	C	2.0	24.87	0.68	C
B4265 (west)	0.0	7.46	0.01	A	0.0	7.73	0.02	A
Gileston Road (South)	0.1	10.59	0.07	B	0.1	14.07	0.12	B
B4265 (east)	0.6	10.34	0.36	B	0.9	12.00	0.46	B
2036 Base								
Gileston Road (North)	3.5	39.24	0.79	E	3.7	41.66	0.80	E
B4265 (west)	0.0	7.81	0.02	A	0.0	8.13	0.02	A
Gileston Road (South)	0.1	11.50	0.08	B	0.2	16.42	0.15	C
B4265 (east)	0.7	11.31	0.42	B	1.2	13.54	0.53	B
2036 Base + Development								
Gileston Road (North)	31.9	293.55	1.16	F	42.2	388.93	1.24	F
B4265 (west)	0.0	8.51	0.02	A	0.0	9.14	0.02	A
Gileston Road (South)	0.1	15.60	0.11	C	0.3	29.24	0.24	D
B4265 (east)	1.0	13.39	0.48	B	1.8	15.31	0.59	C
2036 Base + Development + Land E of St Athan								
Gileston Road (North)	84.9	787.46	1.49	F	120.6	1178.15	1.74	F
B4265 (west)	0.0	9.03	0.02	A	0.0	9.96	0.03	A
Gileston Road (South)	0.2	20.28	0.14	C	1.1	107.12	0.58	F
B4265 (east)	1.8	15.44	0.59	C	4.6	21.84	0.76	C

- 9.9.5 The junction capacity modelling results demonstrates that the junction performs acceptably in the 2024 base period, with minimal queuing and spare capacity. The junction continues to operate within capacity with no significant queuing in the 2036 base period.
- 9.9.6 The addition of the development traffic, the majority of which travels through the junction on the B4265 causes the junction to operate over capacity. This is then worsened by the addition of the land east of St Athan site.
- 9.9.7 The base model has been reviewed to ensure, as far as possible, that it reasonably represents the observed operation of the junction. This process has been informed by queue length surveys, although it is recognised these are a snapshot of one specific day.
- 9.9.8 The comparison of queue length surveys and the 2024 base model outputs is provided in Table 9-9.

Table 9-9: Gileston Crossroads junction - queue length comparisons

Arm	Observed queues (vehicle)		Apex modelled queues (vehicle)		Check
	AM	PM	AM	PM	
Gileston Road (North)	2.5	2.7	2.0	2.0	✓
B4265 (west)	0.0	0.2	0.0	0.0	✓
Gileston Road (South)	0.9	0.8	0.1	0.1	✓
B4265 (east)	1.9	2.1	0.6	0.9	✓

- 9.9.9 The queue length analysis demonstrates that the modelled and observed queues, which are a snapshot of a single day, are within typical daily variations and comparable with low levels of queuing on all arms. This verifies that the base model appropriately reflects the existing operation of the junction and is therefore appropriate to assess future year conditions.
- 9.9.10 However, given that the scheme would cause this junction to operate over capacity, a potential signal controlled mitigation option has been considered in terms of design and modelling in Section 10 of this report.

9.10 Junction 4 - Proposed Site Access junction results

Roundabout

- 9.10.1 This junction was assessed using the ARCADY module in Junctions 10. As this is not an existing junction, the assessment has only been undertaken in the 2036 future year, with the inclusion of development flows.
- 9.10.2 The results of the Junctions 10 modelling for all base and future year scenarios at the potential roundabout site access have been summarised in Table 9-10.

Table 9-10: Junctions 10 Summary: Site Access / B4265 Roundabout

Arm	AM Peak (0730 – 0830)				PM Peak (1530 – 1630)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
2036 Base + Development								
Arm A – Site Access North	0.3	4.43	0.25	A	0.1	4.01	0.12	A
Arm B – B4265 East	1.0	5.30	0.50	A	1.0	5.20	0.50	A
Arm C – Site Access South	0.1	3.84	0.07	A	0.2	4.31	0.16	A
Arm D – B4265 West	0.6	3.83	0.35	A	0.8	4.56	0.43	A
2036 Base + Development + Land E of St Athan								
Arm A – Site Access North	0.3	4.50	0.26	A	0.1	4.13	0.12	A
Arm B – B4265 East	1.1	5.62	0.53	A	1.1	5.49	0.53	A
Arm C – Site Access South	0.1	3.94	0.07	A	0.2	4.43	0.16	A
Arm D – B4265 West	0.6	3.91	0.36	A	0.9	4.81	0.46	A

9.10.3 Table 9-10 demonstrates that the Site Access / B4265 roundabout is forecast to operate well within its maximum theoretical capacity with a maximum RFC of 0.53 reported in the AM and PM peaks on the B4265 east arm. There is minimal queueing shown in the model, so the proposals would not have an material impact on delay for through movements on the B4265.

9.10.4 As such, the roundabout site access arrangement is considered safe and suitable for accommodating the forecast movements associated with the site.

Signal Controlled Junction

9.10.5 The potential signal controlled junction has been modelled using LinSig.

9.10.6 The phasing and staging were based on the likely operation of the junction, with right turn movements on the B4265 running in their own phase separate from the ahead movement phase. This enables the right turning movement into Parcel B to run at the same time as the pedestrian crossing phases.

9.10.7 All traffic phases were set with a minimum time of 7 seconds, with right turn movements having a minimum time of 5 seconds. Pedestrian phases run for a minimum of 10 seconds.

9.10.8 Intergreen times were calculated using Table 6-1 of the Traffic Signs Manual based on the conflict distances between phases.

9.10.9 All cycle times have been assumed at 120 seconds.

9.10.10 The saturation flows have been based on geometric measurements of the junction layout and calculated based on the RR67 methodology with all lanes assumed to be nearside lanes.

9.10.11 The results of the 2036 future year base plus development plus land east of St Athan assessment are in Table 9-11.

Table 9-11: LinSig Summary: Site Access / B4265 Signals – 2036 Base + Development + Land East of St Athan

Arm / Lane	AM Peak (0745 - 0845)			PM Peak (1530 - 1630)		
	Queue (PCU)	Total Delay (PCU / Hr)	DoS	Queue (PCU)	Total Delay (PCU / Hr)	DoS
Site Access N Ahead Right Left	8.5	5.8	83.3%	4.2	3.1	75.1%
B4265 E Left Ahead Right	22.1	9.5	85.9%	18.6	8.8	81.2%
Site Access S Left Right Ahead	1.9	1.3	41.4%	5.4	4.0	80.2%
B4265 W Right Ahead Left	14.7	5.3	66.0%	19.7	7.3	78.8%
Overall PRC	10.8%			10.8%		
Total Delay	23.2 PCU / Hr			23.2 PCU / Hr		
Cycle Time	120			120		

9.10.12 The results demonstrate that a potential signal controlled junction at the site access would operate below a DoS of 90% on all arms. This is a robust assessment as the application of growth factors, together with the land east of St Athan traffic has an element of double counting, given the land east of St Athan site is allocated and would be included in the calculation of the growth factors.

9.10.13 As such, the signal controlled junction access arrangement is considered safe and suitable for accommodating the forecast movements associated with the site.

9.11 Junction 5 - B4265 / Northern Access Road roundabout results

9.11.1 This junction was assessed using the ARCADY module in Junctions 10.

9.11.2 The results of the Junctions 10 modelling for all base and future year scenarios at the B4265 / Northern Access Road roundabout have been summarised in Table 9-12.

Table 9-12: Junctions 10 Summary: B4265 / Northern Access Road Roundabout

Arm	AM Peak (0745 – 0845)				PM Peak (1530 – 1630)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
2024 Base								
Arm A - Northern Access Road	0.1	2.65	0.12	A	0.2	2.73	0.18	A
Arm B - B4265 Southeast	0.3	2.99	0.20	A	0.2	2.98	0.19	A
Arm C - B4265 Northwest	0.3	2.78	0.21	A	0.3	2.66	0.20	A
2036 Base								
Arm A - Northern Access Road	0.2	2.73	0.13	A	0.3	2.84	0.21	A
Arm B - B4265 Southeast	0.3	3.10	0.23	A	0.3	3.10	0.22	A
Arm C - B4265 Northwest	0.3	2.87	0.23	A	0.3	2.75	0.23	A
2036 Base + Development								
Arm A - Northern Access Road	0.2	2.80	0.15	A	0.3	2.96	0.23	A
Arm B - B4265 Southeast	0.4	3.28	0.28	A	0.4	3.27	0.26	A
Arm C - B4265 Northwest	0.4	2.98	0.25	A	0.3	2.87	0.25	A
2036 Base + Development + Land E of St Athan								
Arm A - Northern Access Road	0.2	2.81	0.15	A	0.3	3.00	0.23	A
Arm B - B4265 Southeast	0.4	3.35	0.29	A	0.4	3.33	0.28	A
Arm C - B4265 Northwest	0.4	3.00	0.26	A	0.4	2.93	0.27	A

- 9.11.3 The junction capacity modelling results demonstrates that the junction will perform acceptably, with minimal queuing and spare capacity in all scenarios.
- 9.11.4 The base model has been reviewed to ensure, as far as possible, that it reasonably represents the observed operation of the junction. This process has been informed by queue length surveys, although it is recognised these are a snapshot of one specific day.
- 9.11.5 The comparison of queue length surveys and the 2024 base model outputs is provided in Table 9-13.

Table 9-13: B4265 / Northern Access Road Roundabout - queue length comparisons

Arm	Observed queues (vehicle)		Apex modelled queues (vehicle)		Check
	AM	PM	AM	PM	
Arm A - Northern Access Road	0.9	1.1	0.1	0.2	✓
Arm B - B4265 Southeast	0.8	1.6	0.3	0.2	✓
Arm C - B4265 Northwest	0.0	0.0	0.3	0.3	✓

- 9.11.6 The queue length analysis demonstrates that the modelled and observed queues, which are a snapshot of a single day, are within typical daily variations and comparable, with low levels of queuing on all arms. This verifies that the base model appropriately reflects the existing operation of the junction and is therefore appropriate to assess future year conditions. The conclusion that the junction would operate well within capacity therefore remains valid.
- 9.11.7 The development of the site would not have a material impact on the operation of this junction and no improvements are considered to be required.

9.12 Junction 6 - B4265 / Llanmaes Road signal junction results

Overview

- 9.12.1 The signal timings at this junction have been obtained from VoGC and used within the assessment. This included phasing, staging, phase minimum times, intergreen times, phase delays and cycle times.

VoGC also provided a scaled drawing of the signal layout which has been used to obtain geometric measurements to calculated.

9.12.2 The saturation flows have been calculated for each lane based on measurements from the junction drawing based on the RR67 methodology.

2024 Base Scenario

9.12.3 The results of the 2024 base assessment are summarised in Table 9-14.

Table 9-14: 2024 Base LinSig summary – B4265 / Llanmaes Road

Arm / Lane	AM Peak (0745 - 0845)			PM Peak (1545 - 1645)		
	Queue (PCU)	Total Delay (PCU / Hr)	DoS	Queue (PCU)	Total Delay (PCU / Hr)	DoS
Llanmaes Road (n) Left Right	0.5	0.2 (0.2+0.0)	7.66%	0.9	0.4 (0.4+0.0)	14.6%
B4265 (e) Ahead	1.6	0.7	20.6%	1.6	0.7	19.0%
B4265 (e) Right Ahead	5.3	2.5 (2.5+0.1)	58.7%	6.4	2.9 (2.8+0.1)	61.6%
Llanmaes Road (s) Left Right	5.1	2.8 (1.9+0.9)	59.5%	3.6	2.7 (1.6+1.1)	58.7%
B4265 (w) Ahead	0.1	0.1	1.7%	0.2	0.1	2.7%
B4265 (w) Right Ahead	4	2.9 (1.8+1.1)	50.8%	4.1	3.3 (1.6+1.7)	59.2%
Overall PRC	51.3%			46.2%		
Total Delay	10.77 pcu/Hr			11.47 pcu/Hr		
Cycle Time	70			70		

9.12.4 Table 9-14 demonstrates that the B4265 / Llanmaes Road junction operates within its maximum theoretical capacity (DoS of 100%) with a maximum DoS of 61.6% reported in the PM peak on the B4265 east arm. The queue lengths do not extend back to upstream junctions.

9.12.5 In addition, although not shown in the summary table, the queuing in the internal lanes does not block back through the junction.

9.12.6 The base model has been reviewed to ensure, as far as possible, that it reasonably represents the observed operation of the junction. This process has been informed by queue length surveys, although it is recognised these are a snapshot of one specific day. Table 9-15 provides a comparison between the modelled queue length outputs shown in Table 9-14 and the queue survey data.

Table 9-15: Maximum average queue length comparison – B4265 / Llanmaes Road

Arm	AM Peak (0745 - 0845)			PM Peak (1545 - 1645)		
	Observed (vehicles)	Model (vehicles)	+ / -	Observed (vehicles)	Model (vehicles)	+ / -
Llanmaes Road (n) Left Right	1.6	0.5	-1.1	1.9	0.9	-1.0
B4265 (e) Ahead	2.2	1.6	-0.6	2.5	1.6	-0.9
B4265 (e) Right Ahead	5.2	5.3	0.1	11.9	6.4	-5.5
Llanmaes Road (s) Left Right	7.7	5.1	-2.6	7.2	3.6	-3.6
B4265 (w) Ahead	0.1	0.1	0.0	0.5	0.2	-0.3
B4265 (w) Right Ahead	7.1	4.0	-3.1	8.7	4.1	-4.6

9.12.7 It is considered that the queue length analysis demonstrates that the modelled and observed queues are within typical daily variations and broadly comparable. As such, the base model appropriately reflects the existing operation of the junction and is therefore valid and acceptable to assess future year conditions.

2036 Future Year Base

9.12.8 The results of the 2036 future year base assessment are summarised in Table 9-16.

Table 9-16: 2036 Future Base LinSig summary – B4265 / Llanmaes Road

Arm / Lane	AM Peak (0745 - 0845)			PM Peak (1545 - 1645)		
	Queue (PCU)	Total Delay (PCU / Hr)	DoS	Queue (PCU)	Total Delay (PCU / Hr)	DoS
Llanmaes Road (n) Left Right	0.6	0.3 (0.2+0.0)	8.5%	1.0	0.5 (0.5+0.0)	16.1%
B4265 (e) Ahead	1.8	0.8	23.0%	1.8	0.8	21.3%
B4265 (e) Right Ahead	6.1	3.0 (2.9+0.1)	65.8%	7.4	3.5 (3.4+0.1)	68.8%
Llanmaes Road (s) Left Right	6.3	3.4 (2.3+1.1)	66.7%	4.6	3.2 (1.9+1.3)	65.8%
B4265 (w) Ahead	0.1	0.1	2.0%	0.3	0.1	3.1%
B4265 (w) Right Ahead	5.1	3.4 (2.1+1.2)	56.9%	4.8	3.8 (1.9+2.0)	66.3%
Overall PRC		34.9%			30.7%	
Total Delay		12.75 pcu/Hr			13.58 pcu/Hr	
Cycle Time		70			70	

9.12.9 Table 9-16 demonstrates that the junction operates well within capacity in the 2036 future year, with a maximum DoS of 68.8% in the PM peak on the B4265 eastern arm. The queue lengths remain within the available capacity on the internal arms without blocking back through the junction.

2036 Future Year Base + Development

9.12.10 The results of the 2036 future year base plus development assessment are in Table 9-17.

Table 9-17: 2036 Future Base + Development LinSig summary – B4265 / Llanmaes Road

Arm / Lane	AM Peak (0745 - 0845)			PM Peak (1545 - 1645)		
	Queue (PCU)	Total Delay (PCU / Hr)	DoS	Queue (PCU)	Total Delay (PCU / Hr)	DoS
Llanmaes Road (n) Left Right	0.6	0.3 (0.3+0.1)	9.4%	1.1	0.5 (0.5+0.0)	17.8%
B4265 (e) Ahead	2.0	0.9	24.6%	2.0	0.8	22.3%
B4265 (e) Right Ahead	6.6	3.2 (3.1+0.1)	67.1%	7.8	3.6 (3.5+0.1)	68.9%
Llanmaes Road (s) Left Right	6.7	3.7 (2.5+1.3)	70.9%	4.9	3.6 (2.0+1.6)	70.6%
B4265 (w) Ahead	0.1	0.1	1.8%	0.3	0.1	2.9%
B4265 (w) Right Ahead	5.3	3.5 (2.2+1.2)	58.4%	5.0	3.8 (1.9+1.9)	66.3%
Overall PRC		27.0%			27.5%	
Total Delay		13.67 pcu/Hr			14.30 pcu/Hr	
Cycle Time		70			70	

9.12.11 Table 9-17 demonstrates that with the addition of development traffic, the junction would remain operating below a DoS of 90% on all arms, with a minimal change in operation at the junction from the future base position.

2036 Future Year Base + Development + Land East of St Athan

9.12.12 The results of the 2036 future year base plus development plus land east of St Athan assessment are in Table 9-18.

Table 9-18: 2036 Future Base + Development + Land East of St Athan LinSig summary – B4265 / Llanmaes Road

Arm / Lane	AM Peak (0745 - 0845)			PM Peak (1545 - 1645)		
	Queue (PCU)	Total Delay (PCU / Hr)	DoS	Queue (PCU)	Total Delay (PCU / Hr)	DoS
Llanmaes Road (n) Left Right	0.6	0.3 (0.3+0.1)	9.4%	1.1	0.5 (0.5+0.0)	17.8%
B4265 (e) Ahead	2.0	0.9	24.6%	2.0	0.8	21.3%
B4265 (e) Right Ahead	7.4	3.7 (3.5+0.1)	71.9%	8.0	3.6 (3.5+0.1)	69.0%
Llanmaes Road (s) Left Right	6.7	3.7 (2.5+1.3)	70.9%	4.9	3.6 (2.0+1.6)	70.6%
B4265 (w) Ahead	0.1	0.1	1.8%	0.2	0.1	2.8%
B4265 (w) Right Ahead	5.6	3.6 (2.3+1.3)	60.4%	5.5	4.2 (2.1+2.0)	71.8%
Overall PRC		25.3%			45.3%	
Total Delay		14.67 pcu/Hr			10.12 pcu/Hr	
Cycle Time		70			70	

9.12.13 Table 9-17 demonstrates that with the addition of development traffic, the junction would remain operating below a DoS of 90% on all arms, with a minimal change in operation at the junction.

9.12.14 This is also a robust assessment as the application of growth factors, together with the land east of St Athan traffic has an element of double counting, given that site is allocated and would be included in the calculation of the growth factors.

9.12.15 As such, the potential development of the site would not have a material impact on the operation of this junction and no improvements are considered to be required.

9.13 Junction 7 - B4265 / Cowbridge Road roundabout results

9.13.1 This junction was assessed using the ARCADY module in Junctions 10.

9.13.2 The results of the Junctions 10 modelling for all base and future year scenarios at the B4265 / Cowbridge Road roundabout have been summarised in Table 9-19.

Table 9-19: Junctions 10 Summary: B4265 / Cowbridge Road Roundabout

Arm	AM Peak (0715 – 0815)				PM Peak (1515 – 1615)			
	Queue (veh)	Max Delay (s)	RFC	LOS	Queue (veh)	Max Delay (s)	RFC	LOS
2024 Base								
Arm A - Cowbridge Road N	0.3	2.82	0.22	A	0.5	3.15	0.32	A
Arm B - B4262 E	0.5	2.81	0.32	A	0.4	2.65	0.28	A
Arm C - Cowbridge Road S	0.2	2.85	0.16	A	0.1	2.61	0.11	A
Arm D - B4265 W	0.1	2.59	0.10	A	0.1	2.37	0.11	A
2036 Base								
Arm A - Cowbridge Road N	0.3	2.95	0.25	A	0.6	3.38	0.36	A
Arm B - B4262 E	0.6	3.00	0.36	A	0.5	2.81	0.31	A
Arm C - Cowbridge Road S	0.2	3.01	0.19	A	0.1	2.72	0.13	A
Arm D - B4265 W	0.1	2.71	0.12	A	0.1	2.45	0.12	A
2036 Base + Development								
Arm A - Cowbridge Road N	0.4	2.98	0.26	A	0.6	3.45	0.38	A
Arm B - B4262 E	0.6	3.07	0.37	A	0.5	2.86	0.32	A
Arm C - Cowbridge Road S	0.2	3.05	0.19	A	0.1	2.75	0.13	A
Arm D - B4265 W	0.1	2.74	0.12	A	0.1	2.47	0.12	A
2036 Base + Development + Land E of St Athan								
Arm A - Cowbridge Road N	0.4	3.00	0.26	A	0.6	3.50	0.38	A
Arm B - B4262 E	0.7	3.13	0.38	A	0.5	2.91	0.34	A
Arm C - Cowbridge Road S	0.2	3.08	0.19	A	0.2	2.79	0.13	A
Arm D - B4265 W	0.1	2.76	0.12	A	0.2	2.51	0.13	A

9.13.3 The junction capacity modelling results demonstrates that the junction will perform acceptably, with minimal queuing and spare capacity in all scenarios.

9.13.4 The base model has been reviewed to ensure, as far as possible, that it reasonably represents the observed operation of the roundabout. This process has been informed by queue length surveys, although it is recognised these are a snapshot of one specific day.

9.13.5 The comparison of queue length surveys and the 2024 base model outputs is provided in Table 9-20.

Table 9-20: B4265 / Cowbridge Road Roundabout - queue length comparisons

Arm	Observed queues (vehicle)		Apex modelled queues (vehicle)		Check
	AM	PM	AM	PM	
Arm A - Cowbridge Road N	1.0	2.2	0.3	0.5	✓
Arm B - B4262 E	2.4	2.0	0.5	0.4	✓
Arm C - Cowbridge Road S	1.4	1.6	0.2	0.1	✓
Arm D - B4265 W	1.5	1.5	0.1	0.1	✓

- 9.13.6 The queue length analysis demonstrates that the modelled and observed queues, which are a snapshot of a single day, are within typical daily variations and comparable, with low levels of queuing on all arms. This verifies that the base model appropriately reflects the existing operation of the junction and is therefore appropriate to assess future year conditions. The conclusion that the junction would operate well within capacity therefore remains valid.
- 9.13.7 The development of the site would not have a material impact on the operation of this junction and no improvements are considered to be required.

10. MITIGATION

10.1 Gileston Crossroads

Potential Improvement Scheme

- 10.1.1 A potential improvement scheme has been considered at this location and an indicative sketch arrangement of a signal controlled junction has been produced and provided in Appendix O. This incorporates a signal controlled crossing on the B4265, which would provide a benefit for existing and potential future residents crossing at this location. The junction arrangement is one possible option for mitigation of the junction. This is considered to be a good starting point for an alternative arrangement, which is also considered beneficial from safety perspective, as the existing priority give-way crossroads had a cluster of accidents. A signal junction will ease movements out of Gileston Road onto the B4265, as well as improve the environment for pedestrians and cyclists.
- 10.1.2 The junction is constrained by the war memorial monument and as such the northern and southern arms are positioned as such that right turn movements cannot have a non-hooking arrangement, which would be the preferred option for queue storage at a signal junction. A non-standard hooking arrangement has been shown, which increases the queue storage for the westbound movement. The eastbound movement has a minimal level of right turners and as such, there is a short right turn lane to accommodate this and this movement also gives way to right turners from east to north. To enable the west to south movement to be made whilst minimising the potential for blocking back occurring, keep clear markings have been shown on the westbound right turn lane.
- 10.1.3 In modelling terms, the arrangements would have a limited difference in comparison to a non-hooking arrangement, which could be accommodated, with a minor relocation of the war memorial. The war memorial monument also limits the extent of flare lane which can be provided on the northern arm (Gileston Road). This can accommodate 2 PCUs and has therefore been modelled as such.
- 10.1.4 If the highway authority wish to explore alternative arrangements for mitigation then further engagement with the promoters of the east of St Athan site is recommended given the land on that site is contiguous with the junction and the highway boundary, which may offer up further options for the memorial relocation and therefore the realignment of one or more arms which is likely to provide a further capacity benefit. However, the indicative arrangements presented in this section provide an indicative mitigation option within the adopted highway and without the relocation of the war memorial.
- 10.1.5 A roundabout is not considered feasible to provide at this location, without impacting on the war memorial monument, unless it is possible to relocate this slightly, potentially into the land within the east of St Athan site.
- 10.1.6 The junction improvements have been considered together with junction modelling to ascertain the potential benefits that would arise through this initial indicative option.

Junction modelling

- 10.1.7 The possible option for a signal controlled junction arrangement at Gileston Crossroads has been modelled using LinSig based on the indicative design produced.
- 10.1.8 The phasing and staging have been based on the likely operation of this indicative junction arrangement, with right turns from the B4265 running as give-way movements only as part of the main B4265 ahead phases. This improves the efficiency of the junction.

10.1.9 All traffic phases were set with a minimum time of 7 seconds. Pedestrian crossing phases run for a minimum of 5 seconds. Intergreen times were calculated using Table 6-1 of the Traffic Signs Manual based on the conflict distances between phases. All cycle times have been assumed at 120 seconds.

10.1.10 The saturation flows have been based on geometric measurements of the junction layout and calculated based on the RR67 methodology with all lanes assumed to be nearside lanes.

10.1.11 The results of the 2036 future year base plus development are summarised in Table 9-11 with the full outputs from LinSig provided in Appendix N.

Table 10-1: Gileston Crossroads Indicative Mitigation - LinSig summary 2036 Future Base + Development

Arm / Lane	AM Peak (0745 - 0845)			PM Peak (1530 - 1630)		
	Queue (PCU)	Total Delay (PCU / Hr)	DoS	Queue (PCU)	Total Delay (PCU / Hr)	DoS
Gileston Road (n) Right Ahead Left	10.2	4.6 (1.3+3.2)	66.2%	11.5	5.4 (1.3+4.1)	74.5%
B4265 E Ahead Left Right	14.9	5.7 (3.3+2.5)	65.6%	16.2	6.5 (3.3+3.1)	75.6%
Gileston Road (s) Left Ahead Right	1.0	0.5	21.7%	1.4	0.8	31.2%
B4265 W Right Left Ahead	15.7	4.5 (3.9+0.6)	64.8%	14.9	4.1 (3.5+0.6)	62.5%
Overall PRC	36.0%			19.1%		
Total Delay	15.36 PCU / Hr			16.75 PCU / Hr		
Cycle Time	120			120		

10.1.12 The results demonstrate that the indicative signal controlled arrangement shown at the Gileston Crossroads would operate within capacity on all arms (well below a DoS of 100%), inclusive of the traffic generated by the site. The operation offers an improvement over the existing junction arrangements in the 2036 base scenario, which are forecast to operate with a lower level of spare capacity. The existing arrangements are also more difficult for vehicles to exit from Gileston Road onto the B4265, so the indicative improvement also offers a safety benefit.

10.1.13 The results of the 2036 future year base plus development plus land east of St Athan assessment are in Table 9-11.

Table 10-2: Gileston Crossroads Indicative Mitigation - LinSig summary 2036 Future Base + Development + Land E of St Athan

Arm / Lane	AM Peak (0745 - 0845)			PM Peak (1530 - 1630)		
	Queue (PCU)	Total Delay (PCU / Hr)	DoS	Queue (PCU)	Total Delay (PCU / Hr)	DoS
Gileston Road (n) Right Ahead Left	14.1	6.6 (1.8+4.8)	80.6%	21.5	13.4 (3.4+10.0)	97.5%
B4265 E Ahead Left Right	18.2	8.1 (4.3+3.8)	83.0%	26.5	16.5 (9.0+7.6)	97.4%
Gileston Road (s) Left Ahead Right	1.0	0.5	21.7%	1.4	0.8	31.2%
B4265 W Right Left Ahead	16.4	4.7 (4.0+0.7)	66.5%	15.6	4.2 (3.4+0.7)	64.3%
Overall PRC	8.4%			-8.4%		
Total Delay	19.98 PCU / Hr			34.83 PCU / Hr		
Cycle Time	120			120		

10.1.14 The results demonstrate that the indicative signal controlled arrangement at the Gileston Crossroads would operate below a DoS of 100% on all arms, inclusive of the development and land east of St Athan sites. This is a robust assessment as the application of growth factors, together with the land east of St Athan traffic has an element of double counting, given the land east of St Athan site is allocated and would be included in the calculation of the growth factors.

10.1.15 As such, the indicative signal controlled junction access arrangement operates within capacity and facilitates the delivery of future growth in this area. The arrangements also offer a safety benefit for

vehicles exiting from Gileston Road, as well as providing improved facilities for active travel movements. The indicative signal controlled junction arrangement therefore offers a mitigation option using entirely adopted highway that allows the junction to operate appropriately, whilst delivering a significant benefit over the existing situation.

10.1.16 This is just one indicative option that has been presented at this stage. If the highway authority wish to explore alternative arrangements for mitigation then further engagement with the promoters of the east of St Athan site is recommended given the land on that site is contiguous with the junction and the highway boundary, which may offer up further options for the memorial relocation. This may enable the realignment of one or more arms, which is likely to provide a further capacity benefit from increased flare lengths, straightening up the crossroads, and enabling non-hooking right turn movements. However, the indicative arrangements presented in this section provide one possible mitigation option within the adopted highway and without the relocation of the war memorial.

10.1.17 A potential development of the site can provide a contribution towards the delivery of a signal junction such as the indicative scheme shown.

10.2 Overview of Mitigation

10.2.1 Potential mitigation based on the analysis within this report has been summarised within Table 10-3.

Table 10-3: Potential Mitigation which could be delivered by the site

Walking	Cycling	Public Transport	Highway Network
<p>Provision of new 3m wide shared footway/cycleway on the northern side of the B4265.</p> <p>Provision of a footway on the southern side of the B4265.</p> <p>New crossing on the B4265 at the roundabout / signal junction access. This will improve the crossing on the existing public right of way route.</p> <p>New signal controlled crossing at the Gileston Road crossroads if a signal junction mitigation is delivered.</p> <p>Potential to reduce vehicle movements on Llantwit Road, improving environment for walking and cycling.</p> <p>Potential improvements for pedestrians along Llantwit Road to deliver a footway along its length.</p> <p>The development can be designed to enhance the public right of way running through and adjacent to the site boundaries.</p> <p>Further pedestrian links can be explored at the eastern boundary of the site with the existing village.</p>	<p>Provision of new 3m wide shared footway/cycleway on the northern side of the B4265.</p> <p>Proportional contributions towards the delivery of a strategic cycle route along Gileston Road.</p> <p>Cycle routes provided within the site and connecting to the Llantwit Road and western boundaries to improve cyclist access for existing and potential future residents, which will include connections to the enterprise zone allocation and the existing employment at St Athan airfield, as well as enable a cycling connection to any potential future rail station.</p>	<p>Provision of new walking routes to existing bus stops.</p> <p>Potential diversion of route 304 through the site.</p> <p>Internal site design provides a loop road to facilitate a bus connection.</p> <p>Potential to provide a potential bus interchange.</p> <p>The potential development and new roundabout / signal access onto the B4265 could help in the delivery of a new railway station for St Athan. This could be delivered alongside a bus interchange to create a transport interchange and provide a benefit to existing residents.</p>	<p>Potential signal arrangement at the Gileston Road junction, which will improve safety, ease movements out of Gileston Road, provide improved active travel infrastructure, facilitate growth in the area and can operate within capacity.</p> <p>New roundabout / signalled junction site access onto the B4265 and spine road into the site.</p> <p>Potential for reduced speed limit on the B4265 to improve active travel conditions along the edge of St Athan.</p>

10.3 Public Right of Way Enhancements

10.3.1 The development can be designed to enhance the public rights of way running through the site, as well as provide linkages from the routes running adjacent to the boundary into the site. This will improve the quality of the routes and provide an alternative traffic free route through and adjacent to the site. This offers both a potential alternative route to facilities and services, as well as a leisure route for both existing and potential future residents. As such, this will encourage active travel movements in accordance with PPW12.

10.4 Travel Plan

10.4.1 To further promote sustainable means of travel a Travel Plan would be produced as part of any forthcoming planning application, which would be submitted to, discussed and agreed with VoGC prior to first occupation of the site. This would promote the use of alternative modes of transport through the implementation of measures and initiatives.

- 10.4.2 A key measure within a Travel Plan would be the provision of a resident welcome pack for each household. This will advise residents of local facilities and safe and suitable walking routes. These packs will be kept up to date by a travel plan coordinator. These packs will also include details of cycle routes and public transport timetables and any discounts which may have been obtained with local retailers or public transport operators.
- 10.4.3 As such, a Travel Plan will incorporate measures to encourage sustainable travel including modal shift and monitoring of travel movements to ensure it fully promotes active travel and public transport.
- 10.4.4 This will also be a key measure to minimise the impact of any potential future development on the network.

11. SUMMARY AND CONCLUSIONS

11.1 Summary

- 11.1.1 Apex Transport Planning Ltd ('Apex TP') have produced a Transport Assessment (TA) in relation to a potential residential development on Land to the West of St Athan.
- 11.1.2 The overall site comprises of two parcels of land either side of the B4265. The larger parcel of land has been referred to in this report as Parcel A, for ease, and has an area of c. 28 hectares and is situated to the north of the B4265. The smaller parcel of land has been referred to as Parcel B and has an area of c. 1.5 hectares, situated to the south of the B4265. The two parcels are proposed as a single allocation in the emerging Vale of Glamorgan Council (VoGC) Replacement Local Development Plan (RLDP) as Key Site 5 (KS5) in the Preferred Strategy (November 2023).
- 11.1.3 The TA has been produced to inform a Candidate Site Submission for the overall site (KS5).
- 11.1.4 This report has been prepared to provide the necessary information for the Vale of Glamorgan Council (VoGC) to consider the merits of the site/s in terms of location, connectivity, highway safety and the impact on the local highway network.
- 11.1.5 The assessments within this report have been based on a potential development of up to 600 dwellings supported by commercial uses as part of a mixed use approach. The site also offers land for a potential rail station and transport interchange.
- 11.1.6 The site is situated in a sustainable location on the edge of St Athan village. Potential future residents can walk or cycle to a significant number and range of facilities, services and employment within appropriate distances, reducing the need to own a car. This would include the facilities being delivered as part of the mixed use scheme. In this regard, the site location is consistent with the sustainable transport policies in PPW12 and is situated in a 'walkable neighbourhood' location, in accordance with the Welsh Government definition.
- 11.1.7 The potential development could provide improvements to the pedestrian and cyclist infrastructure through the delivery of footways, cycleways, and crossing points, as well as proportional contributions to strategic cycle routes. The development can also be designed to enhance the public right of way running through and adjacent to the site boundaries. This will improve the quality of routes and provide an alternative traffic free route.
- 11.1.8 The site also has good public transport links, which provide a suitable, attractive and realistic alternative to travelling by car. This includes an hourly bus service which also links to Llantwit Major Rail Station. The site could divert bus service 304 service through the site on a loop to further ensure that residents are close to a bus stop, in addition to delivering a bus interchange. The additional patronage from a significant development will also improve the ongoing viability of the service.
- 11.1.9 In addition, the potential development and new roundabout / signal access from the B4265 could assist in the delivery of a new railway station for St Athan, which is a strategic aspiration of VoGC for which detailed studies on the location of a site have been undertaken. This can be delivered alongside a transport interchange.
- 11.1.10 Potential future residents would have a good choice of modes of travel for all journey purposes, which will assist in constraining the level of vehicle generation from the site and minimise the impact of the development. They also benefit and attract residents that would prefer to travel by public transport.

The improvements which could be delivered by a potential development will also benefit existing residents in the surrounding area.

- 11.1.11 The proposed access into the site has been shown from a new roundabout or signal controlled junction onto the B4265. The access has been designed with an appropriate capacity to accommodate future background and potential development flows. A roundabout design is also considered to be consistent with other roundabouts along the B4265 within close proximity of the site.
- 11.1.12 The site access designs are in accordance with relevant design guidance, providing suitable geometry and visibility and would accommodate walking and cycling links and crossings.
- 11.1.13 At the northern end of the site, a connection can also be made to Llantwit Road, although currently this is only anticipated as a pedestrian and cycle link. The provision of a vehicular connection offers the potential for closing Llantwit Road for through vehicle movements to the adjacent enterprise zone, although this would need further consideration. If this were to be provided, this would provide an improved access route through to the enterprise zone and reduce vehicle movements on Llantwit Road adjacent to the residential properties fronting the road.
- 11.1.14 Further pedestrian (and cycle) links could also be provided, linking from the eastern boundary of the site to connect into the existing residential areas. The overall site would therefore be highly permeable and connected to the surrounding area and this would also benefit existing residents looking to walk and cycle to facilities on the site and the adjacent allocated enterprise zone to the west.
- 11.1.15 Obtained road safety data does not indicate an existing safety issue which would be exacerbated by a potential development of the sites or demonstrate an issue at the proposed site access locations.
- 11.1.16 A robust analysis of trip generation and distribution has been undertaken and impacts considered at key junctions on the highway network, with the study area agreed with VoGC. This identified that the majority of junctions would either operate within capacity with the inclusion of the development, as well as the land east of St Athan site, in addition to other future background growth to 2036.
- 11.1.17 However, an indicative mitigation scheme has been produced for the Gileston Road crossroads which shows a signal controlled junction entirely within the adopted highway. This would operate within capacity, as well as provide pedestrian / cyclist crossings, and improve safety for vehicles exiting from Gileston Road onto the B4265. This would also facilitate the delivery of growth in this area. This is just one option for an improvement at this location which can be delivered within the adopted highway and without the relocation of the war memorial. However, if the highway authority wishes to explore alternative arrangements for mitigation, further engagement with the promoters of the land east of St Athan site is recommended, as this could offer further options for additional improvements as that site is adjacent to the junction and contiguous with the adopted highway.
- 11.1.18 The site can provide a reasonable and proportionate contribution towards the delivery of an improvement scheme at this junction.
- 11.1.19 Beyond the considered study area, vehicles would dissipate on the network, which would minimise on the wider network. As such, the potential development would not materially change the operation of any further junctions on the network.
- 11.1.20 The site will be designed to aid residents who choose to work from home, in accordance with the aspirations of Welsh Government. In addition, a Travel Plan would be produced with targets to constrain vehicle movements. These measures would further minimise the impact of vehicle movements on the network.

11.1.21 Electric vehicle charging points or infrastructure will also be provided for each household in accordance with the policies in Future Wales for increasing electric vehicle use (Policies 11 and 12). Together with the number of sustainable access points and mitigation, this further promotes more sustainable travel to and from the site.

11.2 Conclusions

11.2.1 The site location will encourage and promote sustainable travel behaviour and would therefore be in accordance with transport policies in Future Wales, PPW12, TAN18, Active Travel Act and the existing LDP.

11.2.2 The site has the potential to assist in the delivery of a St Athan Railway Station.

11.2.3 The potential development can deliver or contribute towards suitable mitigation to ensure it does not have an unacceptable impact on road safety or a material impact on the operation or capacity of the highway network.

11.2.4 Access can be appropriately provided onto the highway network, including for pedestrians and cyclists.

11.2.5 This report has demonstrated that the site is appropriate for residential development in relation to connectivity, access and highway impacts, as well as facilitating the delivery of improvements for existing residents.

Appendix A Concept Masterplan



Landscape

1. Multi-functional landscape edge to north, with active travel routes, surface water attenuation, new and retained planting and providing a sensitive setting for Listed buildings and Scheduled Ancient Monument
2. North-south green corridor including retained hedgerow, new planting and swales
3. Community allotments and orchard
4. Neighbourhood Equipped Area of Play (NEAP)
5. Local Equipped Area of Play (LEAP)
6. New sports pitch sitting adjacent to existing pitches
7. Parkland sitting alongside St Athan Park accommodating retained and diverted sections of Public Right of Way (PRoW), retained hedgerow and drainage
8. Surface water attenuation within Green Infrastructure
9. Multi-functional setting for south-east parcel, including Local Area of Play (LAP) and drainage
10. Landscape edge with footpath network and swales
11. Retained hedgerows, strengthened with new planting
12. Open space with second LEAP and attenuation pond
13. Landscape edge with retained hedgerow alongside lane

Development

14. Potential St Athan Parkway Railway Station
15. Flexible employment provision alongside station, including local retail/commercial use
16. An increase in scale and density at key nodes, including feature buildings at the gateway to development
17. A range of residential densities across the development to create a varied character and aid placemaking
18. Potential mixed use / community uses around focal space
19. Built form to face the public realm
20. Community building, including toilets for allotment users

Access

21. Roundabout access from B4265 with safe pedestrian crossing
22. New foot/cycle path alongside the B4265
23. Potential railway station / transport interchange
24. PRoW route across footbridge to south
25. Tree-lined primary street as part of a distinctive street hierarchy
26. Retained PRoW network to support active travel
27. Potential improved crossing of railway
28. Pedestrian access to lane
29. Potential future highway link to proposed Enterprise Zone (Subject to further consideration)
30. Retained PRoW access to site
31. Network of active travel routes (including diverted PRoW) within landscape edges
32. Pedestrian link towards employment area
33. Foot/cycle connection to Llantwit Road
34. Internal highway loop to support potential bus service
35. Pedestrian access to Llantwit Road
36. Foot/cycle link to Llantwit Road
37. Retained PRoW access from Llantwit Road
38. Pedestrian footway improvements along Llantwit Road
39. Improvements to Gileston Road and B4265 crossroads
40. Potential extension to St Athan Park and green space

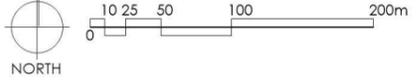
Context

41. Community Centre with two sports pitches and skate park
42. Play area and MUGA
43. St Athan Local Centre with a range of facilities
44. St Athan Primary School
45. Co-op foodstore
46. Proposed Enterprise Zone

A Updates to Llantwit Road links and allotments
Amendments
MD HP 21/11/2024
By Chk'd Date

SITE PROMOTION

Land West of St Athan: Concept Masterplan



Job No./Drawing No 22553/3006/A	Job Title Land West of St Athan	
Scale Date Drawn Chk'd 1:5000 02/24 MD JE	Drawing Title Concept Masterplan	
All Dimensions to be checked on site OS Licence No: 100022432		
pad Design Ltd - The Tobacco Factory - Raleigh Road - Bristol BS3 1TF - Tel. 0117 9530059 - www.pad-design.com		

Appendix B Base Traffic Survey Data



St. Athan, Wednesday 20th March 2024

Junction: 1
Approach: A4226 Waycock Road

TIME	Left to A4226 Port Road West (E)								Ahead to B4266 Pontypridd Road								Right to A4226 Port Road West (W)							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	1	17	4	0	2	0	24	0	0	18	5	3	0	0	26	0	0	12	3	0	4	0	19
07:15 - 07:30	0	0	18	3	0	1	0	22	0	0	32	9	0	0	0	41	0	0	10	9	3	3	2	27
07:30 - 07:45	0	0	26	1	0	0	0	27	0	0	30	9	0	0	0	39	0	0	33	5	0	2	2	42
07:45 - 08:00	0	0	54	10	0	0	0	64	0	0	53	12	0	0	0	65	0	0	25	6	0	0	0	31
Hourly Total	0	1	115	18	0	3	0	137	0	0	133	35	3	0	0	171	0	0	80	23	3	9	4	119
08:00 - 08:15	0	0	47	6	1	1	0	55	0	0	47	15	0	0	0	62	0	0	37	6	0	1	0	44
08:15 - 08:30	0	0	24	4	0	1	0	29	0	0	53	7	0	0	0	60	0	0	29	5	0	2	0	36
08:30 - 08:45	0	0	24	1	1	0	0	26	0	1	50	7	0	0	0	58	0	1	50	5	1	2	1	60
08:45 - 09:00	0	0	21	4	0	0	0	25	0	0	29	3	0	0	0	32	0	0	34	10	1	0	0	45
Hourly Total	0	0	116	15	2	2	0	135	0	1	179	32	0	0	0	212	0	1	150	26	2	5	1	185
09:00 - 09:15	0	0	14	4	0	0	0	18	0	0	24	4	1	0	0	29	0	0	13	8	1	0	0	22
09:15 - 09:30	0	0	16	3	0	2	0	21	0	0	37	2	0	0	0	39	0	0	18	1	0	0	0	19
09:30 - 09:45	0	0	12	8	1	0	0	21	0	0	25	2	0	0	0	27	0	0	22	7	3	4	0	36
09:45 - 10:00	0	0	7	6	0	0	0	13	0	0	19	1	1	0	0	21	0	0	25	3	0	3	0	31
Hourly Total	0	0	49	21	1	2	0	73	0	0	105	9	2	0	0	116	0	0	78	19	4	7	0	108
TOTAL	0	1	280	54	3	7	0	345	0	1	417	76	5	0	0	499	0	1	308	68	9	21	5	412
15:00 - 15:15	0	0	18	4	1	0	0	23	0	0	34	5	0	0	0	39	0	1	54	8	0	6	0	69
15:15 - 15:30	0	0	32	4	1	0	0	37	0	0	22	3	1	0	0	26	0	0	70	3	1	1	0	75
15:30 - 15:45	0	1	37	4	0	0	0	42	0	2	22	5	0	0	0	29	0	0	58	10	0	1	2	71
15:45 - 16:00	0	0	33	5	0	1	0	39	0	0	26	8	0	0	0	34	0	1	47	4	1	1	0	54
Hourly Total	0	1	120	17	2	1	0	141	0	2	104	21	1	0	0	128	0	2	229	25	2	9	2	269
16:00 - 16:15	0	0	24	1	0	0	1	26	0	0	25	6	0	0	0	31	0	0	61	7	1	1	0	70
16:15 - 16:30	0	1	23	2	2	1	0	29	0	0	34	11	0	1	0	46	0	0	65	4	0	2	0	71
16:30 - 16:45	0	0	19	4	0	0	0	23	0	1	48	11	1	0	0	61	0	0	80	3	0	1	0	84
16:45 - 17:00	0	0	34	3	0	1	0	38	0	0	52	12	2	0	0	66	0	0	73	9	0	3	0	85
Hourly Total	0	1	100	10	2	1	0	116	0	1	159	40	3	1	0	204	0	0	279	23	1	7	0	310
17:00 - 17:15	0	1	27	4	0	0	0	32	0	0	33	5	0	0	0	38	0	0	76	14	0	1	0	91
17:15 - 17:30	0	1	43	4	0	0	0	48	0	0	32	5	0	0	0	37	0	0	76	7	0	0	0	83
17:30 - 17:45	0	0	32	5	0	0	0	37	0	2	32	2	0	0	0	36	0	1	87	6	0	4	1	99
17:45 - 18:00	0	2	32	3	0	0	0	37	0	2	19	3	0	0	0	24	0	0	79	4	0	1	0	84
Hourly Total	0	4	134	16	0	0	0	154	0	4	116	15	0	0	0	135	0	1	318	31	0	6	1	357
18:00 - 18:15	0	0	12	1	0	0	0	13	0	0	31	4	0	0	0	35	0	0	56	2	0	0	0	58
18:15 - 18:30	0	0	27	0	0	0	0	27	0	0	26	6	0	0	0	32	0	1	61	8	0	1	0	71
18:30 - 18:45	0	2	13	2	0	0	0	17	0	0	22	5	0	0	0	27	0	0	58	3	0	1	0	62
18:45 - 19:00	0	0	19	2	0	0	0	21	0	2	34	2	0	0	0	38	0	0	51	2	0	1	0	54
Hourly Total	0	2	71	5	0	0	0	78	0	2	113	17	0	0	0	132	0	1	226	15	0	3	0	245
TOTAL	0	8	425	48	4	3	1	489	0	9	492	93	4	1	0	599	0	4	1052	94	3	25	3	1181



St. Athan, Wednesday 20th March 2024

Junction: 1
Approach: A4226 Port Road West (East)

TIME	Left to B4266 Pontypridd Road							Ahead to A4226 Port Road West (W)							Right to A4226 Waycock Road							U-Turn										
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	1	0	10	0	1	0	0	12	0	0	6	1	2	3	1	13	0	0	47	11	2	0	0	60	0	0	0	0	0	0	0	0
07:15 - 07:30	0	0	17	3	1	1	0	23	0	0	5	3	0	2	1	11	0	0	50	12	0	0	0	62	0	0	0	0	0	0	0	
07:30 - 07:45	0	0	23	3	1	0	0	27	0	0	33	5	0	1	0	39	0	0	68	8	3	1	0	80	0	0	1	0	0	0	1	
07:45 - 08:00	1	0	26	3	0	0	0	30	0	0	23	4	0	0	0	27	0	0	65	8	4	0	0	77	0	0	0	0	0	0	0	
Hourly Total	2	0	76	9	3	1	1	92	0	0	67	13	2	6	2	90	0	0	230	39	9	1	0	279	0	0	1	0	0	0	1	
08:00 - 08:15	0	0	47	7	1	0	1	56	0	0	52	5	0	0	0	57	0	0	36	13	0	0	0	49	0	0	0	0	0	0	0	
08:15 - 08:30	0	0	91	8	1	0	1	101	0	0	32	8	2	1	2	45	0	0	36	3	2	0	0	41	0	0	1	0	0	0	1	
08:30 - 08:45	0	0	69	4	0	0	0	73	0	0	42	2	3	3	0	50	0	0	35	7	1	0	0	43	0	0	0	0	0	0	0	
08:45 - 09:00	0	0	30	5	0	1	0	36	0	0	41	14	4	0	1	60	0	0	24	1	0	1	1	27	0	0	0	0	0	0	0	
Hourly Total	0	0	237	24	2	1	2	266	0	0	167	29	9	4	3	212	0	0	131	24	3	1	1	160	0	0	1	0	0	0	1	
09:00 - 09:15	0	0	44	6	0	1	0	51	0	0	40	11	0	0	0	51	0	0	34	5	0	0	1	40	0	0	2	1	0	0	3	
09:15 - 09:30	0	0	42	5	0	0	0	47	0	0	27	20	0	0	1	48	0	0	41	4	1	0	0	46	0	0	0	0	0	0	0	
09:30 - 09:45	0	0	36	3	1	0	0	40	0	0	33	9	3	2	0	47	0	0	27	3	0	0	0	30	0	0	0	1	0	0	1	
09:45 - 10:00	0	0	26	3	0	0	0	29	1	0	32	21	0	2	0	56	0	0	32	2	0	0	0	34	0	0	0	0	0	0	0	
Hourly Total	0	0	148	17	1	1	0	167	1	0	132	61	3	4	1	202	0	0	134	14	1	0	1	150	0	0	2	2	0	0	4	
TOTAL	2	0	461	50	6	3	3	525	1	0	366	103	14	14	6	504	0	0	496	77	13	2	2	589	0	0	4	2	0	0	6	
15:00 - 15:15	0	0	69	6	0	0	0	75	0	0	83	2	0	1	2	88	0	0	7	7	2	0	0	16	0	0	0	0	0	0	0	
15:15 - 15:30	0	0	64	7	1	0	0	72	0	0	87	7	0	2	2	98	0	0	8	4	0	0	0	12	0	0	3	0	0	0	3	
15:30 - 15:45	0	0	49	2	0	1	0	52	0	0	101	12	0	3	2	118	0	0	10	6	2	2	0	20	0	0	1	0	0	0	1	
15:45 - 16:00	0	1	53	8	0	0	0	62	0	1	77	6	0	0	0	84	0	0	23	14	0	0	0	37	0	0	0	0	0	0	0	
Hourly Total	0	1	235	23	1	1	0	261	0	1	348	27	0	6	6	388	0	0	48	31	4	2	0	85	0	0	4	0	0	0	4	
16:00 - 16:15	0	0	45	5	0	0	0	50	0	1	77	2	1	0	0	81	0	0	16	8	0	1	0	25	0	0	1	0	0	0	1	
16:15 - 16:30	0	0	48	8	0	0	0	56	0	0	90	6	0	0	0	96	0	0	30	13	0	0	0	43	0	0	0	0	0	0	0	
16:30 - 16:45	0	1	42	7	0	0	0	50	0	0	66	10	0	1	1	78	1	0	15	13	0	0	0	29	0	0	0	0	0	0	0	
16:45 - 17:00	0	0	43	6	0	0	0	49	0	0	77	2	0	0	1	80	0	0	36	9	0	0	1	46	0	0	1	0	0	0	1	
Hourly Total	0	1	178	26	0	0	0	205	0	1	310	20	1	1	2	335	1	0	97	43	0	1	1	143	0	0	2	0	0	0	2	
17:00 - 17:15	0	0	46	5	0	0	0	51	0	0	99	7	0	0	0	106	0	0	22	8	0	0	0	30	0	0	0	1	0	0	1	
17:15 - 17:30	0	0	48	0	0	0	0	48	0	1	87	9	0	0	1	98	0	0	31	1	0	0	0	32	0	0	0	0	0	0	0	
17:30 - 17:45	0	4	45	5	0	0	0	54	1	2	75	8	0	2	0	88	0	0	12	4	0	0	0	16	0	0	0	0	0	0	0	
17:45 - 18:00	0	0	47	2	0	0	0	49	0	0	87	6	0	0	0	93	0	0	12	2	1	0	0	15	0	0	0	0	0	0	0	
Hourly Total	0	4	186	12	0	0	0	202	1	3	348	30	0	2	1	385	0	0	77	15	1	0	0	93	0	0	0	1	0	0	1	
18:00 - 18:15	0	0	50	1	0	0	0	51	0	0	73	5	0	0	1	79	0	0	17	1	0	0	0	18	0	0	0	0	0	0	0	
18:15 - 18:30	0	0	41	1	0	0	0	42	0	2	68	2	0	0	0	72	0	0	16	2	0	0	0	18	0	0	0	0	0	0	0	
18:30 - 18:45	0	0	43	4	0	0	0	47	0	1	68	6	0	0	0	75	0	0	10	0	0	0	0	10	0	0	0	0	0	0	0	
18:45 - 19:00	0	0	36	1	0	0	0	37	0	0	68	3	0	0	0	71	0	0	14	4	0	0	0	18	0	0	0	0	0	0	0	
Hourly Total	0	0	170	7	0	0	0	177	0	3	277	16	0	0	1	297	0	0	57	7	0	0	0	64	0							
TOTAL	0	6	769	68	1	1	0	845	1	8	1283	93	1	9	10	1405	1	0	279	96	5	3	1	385	0	0	6	1	0	0	7	



St. Athan, Wednesday 20th March 2024

Junction: 1
Approach: B4266 Pontypridd Road

TIME	Left to A4226 Port Road West (W)							Ahead to A4226 Waycock Road							Right to A4226 Port Road West (E)							U-Turn										
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	59	15	0	0	0	74	0	0	20	3	0	0	0	23	0	0	32	9	0	0	1	42	0	0	0	0	0	0	0	0
07:15 - 07:30	0	0	77	12	0	0	0	89	0	0	10	5	0	0	0	15	0	0	39	5	0	0	0	44	0	0	1	0	0	0	0	0
07:30 - 07:45	0	1	75	8	3	0	0	87	0	0	10	1	0	1	0	12	0	0	58	9	1	0	0	68	0	0	1	0	0	0	0	0
07:45 - 08:00	0	1	73	8	1	0	0	83	0	1	23	2	0	0	0	26	0	1	50	6	1	0	0	58	0	0	0	0	0	0	0	0
Hourly Total	0	2	284	43	4	0	0	333	0	1	63	11	0	1	0	76	0	1	179	29	2	0	1	212	0	0	2	0	0	0	0	2
08:00 - 08:15	0	0	62	15	1	0	0	78	0	0	26	1	0	0	0	27	0	0	83	13	1	0	0	97	0	0	2	1	0	0	0	0
08:15 - 08:30	0	2	63	8	0	0	0	73	0	0	28	4	0	0	0	32	0	0	76	17	1	0	0	94	0	0	4	1	0	0	0	0
08:30 - 08:45	0	0	50	11	1	0	0	62	0	0	20	1	0	0	0	21	0	0	1	75	12	1	1	91	0	0	1	0	0	0	0	0
08:45 - 09:00	0	0	61	6	0	0	0	67	0	0	18	2	0	0	0	20	0	0	69	15	0	0	0	84	0	0	0	0	0	0	0	0
Hourly Total	0	2	236	40	2	0	0	280	0	0	92	8	0	0	0	100	0	1	303	57	3	1	1	366	0	0	7	2	0	0	0	9
09:00 - 09:15	0	0	52	6	0	0	0	58	0	0	22	4	0	0	0	26	0	1	52	8	2	0	0	63	0	0	1	1	0	0	0	0
09:15 - 09:30	0	0	40	3	1	0	0	44	0	0	20	3	0	0	0	23	0	1	39	8	0	0	0	48	0	0	1	0	0	0	0	0
09:30 - 09:45	0	0	40	7	0	0	0	47	0	0	10	4	0	0	0	14	1	1	41	11	1	0	0	55	0	0	0	0	0	0	0	0
09:45 - 10:00	0	0	27	3	0	0	0	30	0	0	10	3	0	0	0	13	0	0	53	13	0	0	0	66	0	0	1	0	0	0	0	0
Hourly Total	0	0	159	19	1	0	0	179	0	0	62	14	0	0	0	76	1	3	185	40	3	0	0	232	0	0	3	1	0	0	0	4
TOTAL	0	4	679	102	7	0	0	792	0	1	217	33	0	1	0	252	1	5	667	126	8	1	2	810	0	0	12	3	0	0	0	15
15:00 - 15:15	0	0	30	7	2	0	0	39	0	0	18	1	0	0	0	19	0	0	86	4	1	0	0	91	0	0	2	0	0	0	0	0
15:15 - 15:30	3	0	31	7	0	1	0	42	0	0	9	3	0	0	0	12	0	0	88	12	1	0	0	101	0	0	1	0	0	0	0	0
15:30 - 15:45	0	0	25	6	1	0	0	32	0	1	22	1	0	0	0	24	0	0	81	11	1	0	1	94	0	0	1	0	0	0	0	0
15:45 - 16:00	0	0	23	14	0	0	0	37	0	0	32	7	0	0	0	39	0	1	65	3	1	0	1	71	0	0	1	0	0	0	0	0
Hourly Total	3	0	109	34	3	1	0	150	0	1	81	12	0	0	0	94	0	1	320	30	4	0	2	357	0	0	5	0	0	0	0	5
16:00 - 16:15	0	0	40	10	0	0	1	51	0	0	24	2	0	0	0	26	0	0	68	7	1	0	1	77	0	0	3	0	0	0	0	0
16:15 - 16:30	0	1	39	9	0	0	0	49	0	0	24	2	0	0	0	26	0	1	65	10	0	0	0	76	0	0	2	2	0	0	0	0
16:30 - 16:45	0	0	28	11	2	0	0	41	0	0	21	4	0	0	0	25	0	0	57	6	0	0	1	64	0	0	2	0	0	0	0	0
16:45 - 17:00	0	0	35	8	1	0	0	44	0	0	17	0	0	0	0	17	0	0	65	9	0	1	0	75	0	0	2	1	0	0	0	0
Hourly Total	0	1	142	38	3	0	1	185	0	0	86	8	0	0	0	94	0	1	255	32	1	1	2	292	0	0	9	3	0	0	0	12
17:00 - 17:15	0	1	41	8	0	0	0	50	0	0	28	0	0	0	0	28	0	0	66	10	0	0	0	76	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	44	1	0	0	0	45	0	0	18	0	0	0	0	18	0	0	59	15	0	0	0	74	0	0	1	0	0	0	0	0
17:30 - 17:45	0	0	30	2	0	0	0	32	0	0	26	1	0	0	0	27	0	0	62	4	0	0	0	66	0	0	2	1	0	0	0	0
17:45 - 18:00	0	0	24	1	0	0	0	25	0	0	36	1	0	0	0	37	0	0	69	6	0	0	0	75	0	0	4	0	0	0	0	0
Hourly Total	0	1	139	12	0	0	0	152	0	0	108	2	0	0	0	110	0	0	256	35	0	0	0	291	0	0	7	1	0	0	0	8
18:00 - 18:15	0	0	32	3	0	0	0	35	1	0	31	0	0	0	0	32	0	0	51	5	0	0	0	56	0	0	2	0	0	0	0	0
18:15 - 18:30	0	0	20	6	0	0	0	26	0	0	25	1	0	0	0	26	0	0	57	6	0	0	0	63	1	0	3	0	0	0	0	0
18:30 - 18:45	0	0	26	1	0	0	0	27	0	0	18	1	0	0	0	19	0	0	56	3	0	0	0	59	0	0	1	1	0	0	0	0
18:45 - 19:00	0	0	23	2	0	0	0	25	0	0	27	1	0	0	0	28	0	0	50	3	0	0	0	53	0	0	0	0	0	0	0	0
Hourly Total	0	0	101	12	0	0	0	113	1	0	101	3	0	0	0	105	0	0	214	17	0	0	0	231	1	0	6	1	0	0	0	8
TOTAL	3	2	491	96	6	1	1	600	1	1	376	25	0	0	0	403	0	2	1045	114	5	1	4	1171	1	0	27	5	0	0	0	33



St. Athan, Wednesday 20th March 2024

Junction: 1
 Approach: A4226 Port Road West (West)

TIME	Left to A4226 Waycock Road								Ahead to A4226 Port Road West (E)								Right to B4266 Pontypridd Road							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	61	9	0	1	0	71	0	0	49	8	1	1	1	60	0	1	25	6	0	0	1	33
07:15 - 07:30	0	0	64	9	1	2	0	76	0	0	64	10	0	0	1	75	0	1	50	11	1	1	0	64
07:30 - 07:45	0	1	75	7	0	3	0	86	0	1	72	11	0	1	0	85	0	0	42	5	0	1	0	48
07:45 - 08:00	0	0	49	6	0	4	2	61	0	0	80	10	0	0	0	90	0	0	65	7	0	0	1	73
Hourly Total	0	1	249	31	1	10	2	294	0	1	265	39	1	2	2	310	0	2	182	29	1	2	2	218
08:00 - 08:15	0	0	42	4	0	4	0	50	0	0	58	6	2	1	1	68	0	0	80	6	0	0	0	86
08:15 - 08:30	0	0	36	7	0	1	0	44	0	1	46	4	0	0	2	53	0	1	72	4	1	0	0	78
08:30 - 08:45	0	1	39	4	1	3	0	48	0	0	51	8	0	3	1	63	0	0	92	7	0	0	0	99
08:45 - 09:00	0	0	43	7	1	3	0	54	0	0	65	12	1	2	1	81	0	0	82	17	2	0	0	101
Hourly Total	0	1	160	22	2	11	0	196	0	1	220	30	3	6	5	265	0	1	326	34	3	0	0	364
09:00 - 09:15	0	0	41	4	0	4	0	49	0	0	68	13	2	0	0	83	0	0	77	11	2	0	1	91
09:15 - 09:30	0	0	24	5	2	3	0	34	1	0	63	5	0	2	0	71	0	0	56	8	1	0	0	65
09:30 - 09:45	0	0	21	7	1	3	0	32	0	2	51	8	2	1	0	64	0	1	54	10	1	0	0	66
09:45 - 10:00	0	0	28	2	0	2	0	32	0	0	46	18	1	0	1	66	0	0	47	5	4	0	0	56
Hourly Total	0	0	114	18	3	12	0	147	1	2	228	44	5	3	1	284	0	1	234	34	8	0	1	278

TOTAL	0	2	523	71	6	33	2	637	1	4	713	113	9	11	8	859	0	4	742	97	12	2	3	860
--------------	----------	----------	------------	-----------	----------	-----------	----------	------------	----------	----------	------------	------------	----------	-----------	----------	------------	----------	----------	------------	-----------	-----------	----------	----------	------------

15:00 - 15:15	0	0	37	2	2	1	2	44	0	0	42	9	1	0	1	53	0	0	40	4	0	0	0	44
15:15 - 15:30	0	0	37	2	0	0	0	39	2	0	55	9	1	1	0	68	0	1	64	7	0	0	0	72
15:30 - 15:45	0	0	18	6	1	1	0	26	0	2	42	8	2	0	2	56	0	1	49	5	0	0	0	55
15:45 - 16:00	0	0	44	6	1	1	1	53	0	0	81	7	0	1	1	90	0	1	72	10	0	0	0	83
Hourly Total	0	0	136	16	4	3	3	162	2	2	220	33	4	2	4	267	0	3	225	26	0	0	0	254
16:00 - 16:15	0	1	69	7	1	1	1	80	0	0	62	13	0	2	0	77	0	2	77	18	0	0	2	99
16:15 - 16:30	0	0	39	3	1	2	0	45	0	0	75	15	0	1	0	91	0	0	71	9	0	0	0	80
16:30 - 16:45	0	0	35	3	1	1	0	40	0	0	60	10	0	0	0	70	0	1	63	9	0	1	0	74
16:45 - 17:00	0	0	32	3	0	1	0	36	0	0	43	8	1	0	0	52	0	0	63	9	1	0	1	74
Hourly Total	0	1	175	16	3	5	1	201	0	0	240	46	1	3	0	290	0	3	274	45	1	1	3	327
17:00 - 17:15	0	0	31	5	0	2	0	38	0	0	57	14	1	0	1	73	0	1	60	2	0	0	0	63
17:15 - 17:30	0	0	46	3	0	1	0	50	0	0	71	13	1	0	1	86	0	0	63	4	0	0	0	67
17:30 - 17:45	0	2	26	6	0	0	0	34	0	0	68	5	0	0	0	73	1	0	63	3	0	0	0	67
17:45 - 18:00	0	0	28	3	0	1	0	32	0	0	77	7	0	0	1	85	0	0	53	4	0	0	0	57
Hourly Total	0	2	131	17	0	4	0	154	0	0	273	39	2	0	3	317	1	1	239	13	0	0	0	254
18:00 - 18:15	0	1	37	3	1	2	0	44	0	0	80	6	0	0	0	86	0	0	65	8	0	0	0	73
18:15 - 18:30	0	1	29	1	1	2	0	34	0	0	57	4	0	0	0	61	0	0	53	1	0	0	0	54
18:30 - 18:45	0	0	56	3	0	1	0	60	0	0	55	3	0	0	0	58	0	1	59	4	0	0	0	64
18:45 - 19:00	0	2	19	3	0	1	0	25	0	1	56	2	0	0	1	60	0	0	43	4	0	0	0	47
Hourly Total	0	4	141	10	2	6	0	163	0	1	248	15	0	0	1	265	0	1	220	17	0	0	0	238

TOTAL	0	7	583	59	9	18	4	680	2	3	981	133	7	5	8	1139	1	8	958	101	1	1	3	1073
--------------	----------	----------	------------	-----------	----------	-----------	----------	------------	----------	----------	------------	------------	----------	----------	----------	-------------	----------	----------	------------	------------	----------	----------	----------	-------------



St. Athan, Wednesday 20th March 2024

Junction: 2
Approach: B4265 East

TIME	Left to Fontgary Road								Ahead to B4265 (W)							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	1	0	0	0	0	1	0	0	32	14	1	3	0	50
07:15 - 07:30	0	0	5	5	0	0	1	11	0	0	38	10	1	6	1	56
07:30 - 07:45	0	0	5	2	0	2	0	9	0	1	81	10	1	4	1	98
07:45 - 08:00	0	1	6	1	0	0	0	8	0	0	76	10	3	0	0	89
Hourly Total	0	1	17	8	0	2	1	29	0	1	227	44	6	13	2	293
08:00 - 08:15	0	0	1	0	0	0	0	1	0	0	73	17	1	1	0	92
08:15 - 08:30	0	0	3	0	0	1	0	4	0	0	56	10	0	0	1	67
08:30 - 08:45	0	0	1	0	0	1	0	2	0	0	57	14	2	4	1	78
08:45 - 09:00	0	0	1	0	0	0	0	1	0	1	69	13	4	3	0	90
Hourly Total	0	0	6	0	0	2	0	8	0	1	255	54	7	8	2	327
09:00 - 09:15	0	0	2	0	0	0	0	2	0	1	30	13	1	1	0	46
09:15 - 09:30	0	0	0	2	0	0	0	2	0	0	32	17	2	0	1	52
09:30 - 09:45	0	0	0	1	0	2	0	3	0	0	29	11	0	3	0	43
09:45 - 10:00	0	0	2	0	0	4	0	6	1	1	34	17	1	3	0	57
Hourly Total	0	0	4	3	0	6	0	13	1	2	125	58	4	7	1	198
TOTAL	0	1	27	11	0	10	1	50	1	4	607	156	17	28	5	818
15:00 - 15:15	0	0	0	1	0	3	0	4	0	5	77	12	2	3	0	99
15:15 - 15:30	0	0	1	0	0	2	0	3	0	0	73	11	0	3	2	89
15:30 - 15:45	0	0	1	0	0	0	0	1	0	0	86	15	0	2	0	103
15:45 - 16:00	0	0	0	1	0	1	0	2	0	0	76	11	0	1	0	88
Hourly Total	0	0	2	2	0	6	0	10	0	5	312	49	2	9	2	379
16:00 - 16:15	0	0	2	0	0	2	0	4	0	2	67	10	1	0	0	80
16:15 - 16:30	0	0	3	2	0	2	0	7	0	1	85	10	0	1	1	98
16:30 - 16:45	0	0	5	0	0	1	0	6	0	1	74	6	0	1	0	82
16:45 - 17:00	0	0	4	0	0	2	0	6	0	0	80	10	1	0	0	91
Hourly Total	0	0	14	2	0	7	0	23	0	4	306	36	2	2	1	351
17:00 - 17:15	0	0	7	1	0	3	0	11	0	0	77	7	1	1	1	87
17:15 - 17:30	0	0	6	0	0	0	0	6	0	0	83	5	1	0	0	89
17:30 - 17:45	0	0	8	0	0	2	1	11	0	0	97	6	1	1	0	105
17:45 - 18:00	0	0	4	0	0	2	0	6	0	0	77	5	1	0	0	83
Hourly Total	0	0	25	1	0	7	1	34	0	0	334	23	4	2	1	364
18:00 - 18:15	0	0	1	0	0	0	0	1	0	0	65	6	1	0	0	72
18:15 - 18:30	0	0	2	0	0	1	0	3	0	0	64	3	1	0	0	68
18:30 - 18:45	0	0	4	0	0	0	0	4	0	0	83	4	0	0	0	87
18:45 - 19:00	0	0	4	0	0	2	0	6	0	0	52	1	0	0	0	53
Hourly Total	0	0	11	0	0	3	0	14	0	0	264	14	2	0	0	280
TOTAL	0	0	52	5	0	23	1	81	0	9	1216	122	10	13	4	1374



Junction: 2
Approach: Fontgary Road

TIME	Left to B4265 (W)								Right to B4265 (E)							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	15	2	0	0	0	17	0	0	2	0	1	2	0	5
07:15 - 07:30	0	0	9	1	1	4	1	16	0	0	2	0	0	2	0	4
07:30 - 07:45	0	0	19	4	0	0	1	24	0	0	1	0	0	3	0	4
07:45 - 08:00	0	0	34	7	0	3	1	45	0	0	3	0	0	2	0	5
Hourly Total	0	0	77	14	1	7	3	102	0	0	8	0	1	9	0	18
08:00 - 08:15	0	0	37	5	0	1	2	45	0	0	1	1	0	0	0	2
08:15 - 08:30	0	0	30	3	0	2	0	35	0	0	1	1	0	2	0	4
08:30 - 08:45	0	0	22	2	0	1	1	26	0	0	1	0	0	2	0	3
08:45 - 09:00	0	0	20	2	0	0	1	23	0	0	2	0	0	1	0	3
Hourly Total	0	0	109	12	0	4	4	129	0	0	5	2	0	5	0	12
09:00 - 09:15	0	0	39	4	0	0	0	43	0	0	3	0	0	3	0	6
09:15 - 09:30	0	0	16	3	0	1	0	20	0	0	0	1	0	0	0	1
09:30 - 09:45	0	0	14	1	0	1	1	17	0	0	2	1	2	1	0	6
09:45 - 10:00	0	0	16	3	0	0	0	19	0	0	2	0	0	1	0	3
Hourly Total	0	0	85	11	0	2	1	99	0	0	7	2	2	5	0	16
TOTAL	0	0	271	37	1	13	8	330	0	0	20	4	3	19	0	46
15:00 - 15:15	0	0	15	1	1	1	1	19	0	0	1	1	0	1	0	3
15:15 - 15:30	0	0	21	3	0	0	0	24	0	0	2	0	1	1	0	4
15:30 - 15:45	0	0	29	0	0	0	1	30	0	0	2	0	1	0	0	3
15:45 - 16:00	1	0	26	3	1	0	1	32	0	0	0	2	0	0	1	3
Hourly Total	1	0	91	7	2	1	3	105	0	0	5	3	2	2	1	13
16:00 - 16:15	1	1	42	7	0	0	2	53	0	0	16	3	0	0	0	19
16:15 - 16:30	0	0	24	2	0	1	1	28	0	0	9	0	0	1	0	10
16:30 - 16:45	0	0	34	2	0	0	1	37	0	0	3	3	0	3	0	9
16:45 - 17:00	0	1	25	5	1	0	1	33	0	0	6	0	0	1	0	7
Hourly Total	1	2	125	16	1	1	5	151	0	0	34	6	0	5	0	45
17:00 - 17:15	0	0	17	1	0	0	0	18	0	0	3	0	0	0	0	3
17:15 - 17:30	0	0	18	2	1	0	0	21	0	0	4	0	0	1	0	5
17:30 - 17:45	0	0	28	2	0	0	1	31	0	0	4	0	0	0	0	4
17:45 - 18:00	0	0	26	1	0	0	0	27	0	0	1	0	0	1	0	2
Hourly Total	0	0	89	6	1	0	1	97	0	0	12	0	0	2	0	14
18:00 - 18:15	0	0	18	1	0	0	0	19	0	0	6	0	0	2	0	8
18:15 - 18:30	1	0	20	2	0	0	0	23	0	0	1	0	0	2	0	3
18:30 - 18:45	0	0	17	2	0	0	1	20	0	0	2	0	0	0	0	2
18:45 - 19:00	0	0	19	0	0	0	0	19	0	0	0	0	0	1	0	1
Hourly Total	1	0	74	5	0	0	1	81	0	0	9	0	0	5	0	14
TOTAL	3	2	379	34	4	2	10	434	0	0	60	9	2	14	1	86



St. Athan, Wednesday 20th March 2024

Junction: 2
Approach: B4265 West

TIME	Ahead to B4265 (E)							Right to Fontgary Road								
	CYCLE	M/CYCLE	CAR	LGV	DGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	DGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	46	6	0	0	0	52	0	0	4	0	1	0	0	5
07:15 - 07:30	0	1	66	9	0	1	0	77	0	0	9	1	0	0	1	11
07:30 - 07:45	0	1	96	12	0	1	1	111	1	0	17	4	0	1	1	24
07:45 - 08:00	0	0	79	14	1	1	0	95	0	0	22	6	0	3	0	31
Hourly Total	0	2	287	41	1	3	1	335	1	0	52	11	1	4	2	71
08:00 - 08:15	0	0	85	5	1	4	2	97	1	0	25	2	0	2	1	31
08:15 - 08:30	0	2	66	6	1	3	0	78	0	0	21	4	0	3	2	30
08:30 - 08:45	0	0	69	11	3	2	1	86	0	0	23	6	0	0	0	29
08:45 - 09:00	0	0	67	9	1	2	0	79	0	0	23	4	2	3	0	32
Hourly Total	0	2	287	31	6	11	3	340	1	0	92	16	2	8	3	122
09:00 - 09:15	1	1	65	6	3	1	0	77	0	0	9	7	1	1	0	18
09:15 - 09:30	0	0	44	11	6	5	1	67	0	0	13	3	1	2	0	19
09:30 - 09:45	0	1	69	14	0	1	1	86	0	0	15	4	2	2	1	24
09:45 - 10:00	0	0	65	6	1	1	0	73	0	0	18	2	0	2	0	22
Hourly Total	1	2	243	37	10	8	2	303	0	0	55	16	4	7	1	83
TOTAL	1	6	817	109	17	22	6	978	2	0	199	43	7	19	6	276
15:00 - 15:15	1	1	51	6	1	1	0	61	0	0	24	6	0	0	0	30
15:15 - 15:30	0	2	63	6	1	0	0	72	0	0	28	3	0	3	2	36
15:30 - 15:45	0	1	86	12	1	3	0	103	0	0	24	3	0	2	2	31
15:45 - 16:00	0	0	95	19	1	1	0	116	0	0	22	5	1	0	2	40
Hourly Total	1	4	295	43	4	5	0	352	0	0	108	17	1	5	6	137
16:00 - 16:15	0	1	93	12	0	3	0	109	0	0	23	2	0	4	0	29
16:15 - 16:30	0	1	81	17	1	0	0	100	1	0	23	6	0	1	0	31
16:30 - 16:45	0	1	78	13	2	1	1	96	0	1	26	2	0	1	0	30
16:45 - 17:00	0	0	66	7	0	0	0	73	0	0	39	2	0	0	1	42
Hourly Total	0	3	318	49	3	4	1	378	1	1	111	12	0	6	1	132
17:00 - 17:15	0	1	78	7	2	1	0	89	1	1	39	5	0	0	0	46
17:15 - 17:30	0	0	59	6	0	1	0	66	0	0	31	6	0	2	0	39
17:30 - 17:45	0	0	69	7	0	0	0	76	0	0	39	1	0	0	1	41
17:45 - 18:00	0	0	69	6	0	0	0	75	0	0	36	2	0	0	0	38
Hourly Total	0	1	275	26	2	2	0	306	1	1	145	14	0	2	1	164
18:00 - 18:15	0	0	66	11	0	1	0	78	1	0	22	3	0	0	0	26
18:15 - 18:30	0	0	48	3	1	0	0	52	0	0	16	0	0	0	1	17
18:30 - 18:45	0	0	54	2	0	0	0	56	1	0	17	0	0	0	0	18
18:45 - 19:00	0	1	32	3	0	1	0	37	0	0	14	1	0	0	0	15
Hourly Total	0	1	200	19	1	2	0	223	2	0	69	4	0	0	1	76
TOTAL	1	9	1088	137	10	13	1	1259	4	2	433	47	1	13	9	509



St. Athan, Wednesday 20th March 2024

Junction: 3

Approach: Gileston Road North

TIME	Left to B4265 (E)								Ahead to Gileston Road (S)								Right to B4265 (W)								U-Turn							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	36	6	0	0	1	43	0	0	1	1	0	0	0	2	0	0	11	2	0	0	0	13	0	0	0	0	0	0	0	0
07:15 - 07:30	0	1	40	6	0	0	1	48	0	0	2	1	0	0	0	3	0	0	11	3	0	0	0	14	0	0	0	0	0	0	0	0
07:30 - 07:45	1	0	46	9	0	0	1	57	0	0	1	0	0	0	0	1	0	0	12	1	0	0	0	13	0	0	0	0	0	0	0	0
07:45 - 08:00	0	0	42	6	0	0	0	48	0	0	3	0	0	0	0	3	0	0	14	3	0	0	0	17	0	0	0	0	0	0	0	0
Hourly Total	1	1	164	27	0	0	3	196	0	0	7	2	0	0	0	9	0	0	48	9	0	0	0	57	0							
08:00 - 08:15	1	0	45	5	0	0	1	52	0	0	2	0	0	0	0	2	0	0	14	1	0	0	0	15	0	0	0	0	0	0	0	0
08:15 - 08:30	0	1	39	9	0	0	1	50	0	0	1	1	0	0	0	2	0	0	15	2	0	0	0	17	0	0	0	0	0	0	0	0
08:30 - 08:45	0	0	43	4	0	0	0	47	0	0	3	0	0	0	0	3	0	0	13	0	0	0	1	14	0	0	0	0	0	0	0	0
08:45 - 09:00	1	0	38	5	0	0	0	44	0	0	2	1	0	0	0	3	0	0	14	2	0	0	0	16	0	0	0	0	0	0	0	0
Hourly Total	2	1	165	23	0	0	2	193	0	0	8	2	0	0	0	10	0	0	56	5	0	0	1	62	0							
09:00 - 09:15	0	0	35	4	1	1	0	41	0	0	4	0	0	0	0	4	0	0	16	0	0	0	0	16	0	0	0	0	0	0	0	0
09:15 - 09:30	0	1	29	4	1	1	0	36	0	0	2	2	0	0	0	4	0	0	12	0	0	0	0	12	0	0	0	0	0	0	0	0
09:30 - 09:45	0	0	35	11	1	0	1	48	0	0	2	0	0	0	0	2	0	0	7	0	1	0	0	8	0	0	0	0	0	0	0	0
09:45 - 10:00	0	0	29	4	0	0	0	33	0	0	2	1	0	0	0	3	0	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0
Hourly Total	0	1	128	23	3	2	1	158	0	0	10	3	0	0	0	13	0	0	45	0	1	0	0	46	0							
TOTAL	3	3	457	73	3	2	6	547	0	0	25	7	0	0	0	32	0	0	149	14	1	0	1	165	0							
15:00 - 15:15	0	1	27	4	2	1	0	35	0	0	1	0	0	0	0	1	0	0	14	0	0	1	0	15	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	42	7	0	0	2	51	0	0	0	0	0	0	0	0	0	0	10	0	0	0	1	11	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	55	4	0	2	0	61	0	0	2	1	0	0	0	3	0	0	12	1	0	0	0	13	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	60	7	1	0	2	70	0	0	1	0	0	0	0	1	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0
Hourly Total	0	1	184	22	3	3	4	217	0	0	4	1	0	0	0	5	0	0	45	1	0	1	1	48	0							
16:00 - 16:15	0	0	29	7	0	0	0	36	0	0	4	0	0	0	0	4	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0
16:15 - 16:30	1	0	40	5	1	0	0	47	0	0	1	5	0	0	0	6	0	0	1	11	1	0	0	13	0	0	0	0	0	0	0	0
16:30 - 16:45	0	2	44	3	1	0	0	50	0	0	2	1	0	0	0	3	0	0	9	0	0	0	0	9	0	0	0	0	0	1	0	1
16:45 - 17:00	0	0	31	2	0	0	1	34	0	0	2	1	0	0	0	3	0	0	13	1	1	0	0	15	0	0	0	0	0	0	0	0
Hourly Total	1	2	144	17	2	0	1	167	0	1	13	2	0	0	0	16	0	0	42	2	1	0	0	46	0	0	0	0	0	1	0	1
17:00 - 17:15	0	1	48	1	0	0	0	50	0	0	2	0	0	0	0	2	0	0	9	2	0	0	0	11	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	34	3	0	0	0	37	0	0	7	0	0	0	0	7	0	0	8	1	0	0	0	9	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	37	5	0	0	1	43	0	0	1	1	0	0	0	2	0	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0
17:45 - 18:00	1	0	53	5	0	0	0	59	0	0	2	0	0	0	0	2	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0
Hourly Total	1	1	172	14	0	0	1	189	0	0	12	1	0	0	0	13	0	0	37	3	0	0	0	40	0							
18:00 - 18:15	0	0	39	4	0	0	0	43	0	0	2	0	0	0	0	2	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0
18:15 - 18:30	0	0	35	1	0	0	1	37	2	0	2	0	0	0	0	4	0	0	9	1	0	0	0	10	0	0	0	0	0	0	0	0
18:30 - 18:45	0	0	30	0	0	0	0	30	0	0	2	1	0	0	0	3	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0
18:45 - 19:00	0	1	21	0	0	0	0	22	0	0	2	0	0	0	0	2	0	0	9	1	0	0	0	10	0	0	1	0	0	0	0	1
Hourly Total	0	1	125	5	0	0	1	132	2	0	8	1	0	0	0	11	0	0	29	2	0	0	0	31	0	0	1	0	0	0	0	1
TOTAL	2	5	625	58	5	3	7	705	2	1	37	5	0	0	0	45	0	0	153	8	1	1	1	165	0	0	1	0	1	0	0	2



St. Athan, Wednesday 20th March 2024

Junction: 3
Approach: B4265 East

TIME	Left to Gileston Road (S)								Ahead to B4265 (W)								Right to Gileston Road (N)							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	0	1	0	0	0	1	0	1	28	8	1	2	0	40	0	0	18	6	0	0	0	24
07:15 - 07:30	0	0	1	0	0	0	0	1	0	0	29	12	0	7	0	48	0	0	16	6	0	0	2	24
07:30 - 07:45	0	0	5	0	0	0	0	5	0	1	68	10	0	3	0	82	0	0	19	1	1	1	2	24
07:45 - 08:00	0	0	1	0	0	0	0	1	0	1	65	10	3	2	0	81	0	0	48	5	0	0	1	54
Hourly Total	0	0	7	1	0	0	0	8	0	3	190	40	4	14	0	251	0	0	101	18	1	1	5	126
08:00 - 08:15	0	0	1	2	0	0	0	3	0	0	62	7	1	3	0	73	0	0	41	9	0	0	2	52
08:15 - 08:30	0	0	0	0	0	0	0	0	0	0	67	14	0	2	0	83	0	0	35	8	0	0	0	43
08:30 - 08:45	0	0	1	1	0	0	0	2	0	0	50	10	2	5	1	68	0	0	36	5	0	0	2	43
08:45 - 09:00	0	0	2	1	1	0	0	4	0	1	55	8	1	2	0	67	0	0	24	6	0	0	1	31
Hourly Total	0	0	4	4	1	0	0	9	0	1	234	39	4	12	1	291	0	0	136	28	0	0	5	169
09:00 - 09:15	0	0	0	0	1	0	0	1	0	1	38	10	1	3	0	53	0	0	29	8	0	0	0	37
09:15 - 09:30	0	0	2	1	0	0	0	3	0	0	42	13	1	3	0	59	0	0	15	7	1	0	1	24
09:30 - 09:45	0	0	1	1	0	0	0	2	0	0	34	9	1	3	0	47	0	0	21	4	0	0	1	26
09:45 - 10:00	0	0	1	1	0	0	0	2	1	1	33	11	1	3	0	50	0	0	20	6	0	0	0	26
Hourly Total	0	0	4	3	1	0	0	8	1	2	147	43	4	12	0	209	0	0	85	25	1	0	2	113
TOTAL	0	0	15	8	2	0	0	25	1	6	571	122	12	38	1	751	0	0	322	71	2	1	12	408
15:00 - 15:15	0	0	2	0	1	0	0	3	0	3	53	10	1	4	0	71	0	2	43	9	1	0	0	55
15:15 - 15:30	0	0	3	0	0	0	0	3	0	0	52	8	0	3	2	65	0	0	43	7	0	1	0	51
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	70	11	0	4	0	85	0	0	50	3	0	0	1	54
15:45 - 16:00	0	0	2	1	0	0	0	3	0	0	57	6	1	1	0	65	0	0	49	4	1	0	0	54
Hourly Total	0	0	7	1	1	0	0	9	0	3	232	35	2	12	2	286	0	2	185	23	2	1	1	214
16:00 - 16:15	0	0	1	0	0	0	0	1	0	0	65	8	0	0	0	73	2	3	51	7	0	0	3	66
16:15 - 16:30	0	0	2	1	0	0	0	3	0	1	79	8	1	3	1	93	0	1	33	5	1	0	1	41
16:30 - 16:45	0	0	0	0	0	0	0	0	0	1	71	9	1	1	0	83	0	0	41	9	0	0	1	51
16:45 - 17:00	0	0	3	1	0	0	0	4	0	1	57	15	0	2	0	75	0	0	47	3	1	0	1	52
Hourly Total	0	0	6	2	0	0	0	8	0	3	272	40	2	6	1	324	2	4	172	24	2	0	6	210
17:00 - 17:15	0	0	1	1	0	0	0	2	0	0	55	7	0	1	1	64	0	0	51	1	0	0	0	52
17:15 - 17:30	0	0	1	0	0	0	0	1	0	0	61	7	0	0	0	68	0	0	53	7	0	0	0	60
17:30 - 17:45	0	0	2	1	0	0	0	3	0	0	72	6	0	2	0	81	0	0	42	5	0	0	0	47
17:45 - 18:00	0	0	1	0	0	0	0	1	0	0	64	7	0	1	0	72	0	0	49	4	0	0	1	54
Hourly Total	0	0	5	2	0	0	0	7	0	0	253	27	0	4	1	285	0	0	195	17	0	0	1	213
18:00 - 18:15	0	0	2	0	0	0	0	2	0	0	60	5	0	0	0	65	0	0	33	6	0	0	0	39
18:15 - 18:30	0	0	2	0	0	0	0	2	0	0	48	2	0	0	0	50	1	0	33	5	0	0	0	39
18:30 - 18:45	0	0	0	0	0	0	0	0	0	1	63	5	0	0	0	69	0	0	41	3	0	0	1	45
18:45 - 19:00	0	0	1	0	0	0	0	1	0	0	42	1	0	0	0	43	0	0	44	1	0	0	0	45
Hourly Total	0	0	5	0	0	0	0	5	0	1	213	13	0	0	0	227	1	0	151	15	0	0	1	168
TOTAL	0	0	23	5	1	0	0	29	0	7	970	115	4	22	4	1122	3	6	703	79	4	1	9	805



St. Athan, Wednesday 20th March 2024

Junction: 3

Approach: Gileston Road South

TIME	Left to B4265 (W)								Ahead to Gileston Road (N)								Right to B4265 (E)								
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	
07:00 - 07:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	
07:15 - 07:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	2	
07:30 - 07:45	0	0	3	1	0	0	0	4	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	3	
07:45 - 08:00	0	0	4	1	0	0	0	5	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	
Hourly Total	0	0	7	2	0	0	0	9	0	0	5	1	0	0	0	6	0	0	2	2	0	0	0	4	
08:00 - 08:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	2	
08:15 - 08:30	0	0	3	0	0	0	0	3	1	0	1	1	0	0	0	3	0	0	1	0	0	0	0	1	
08:30 - 08:45	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
08:45 - 09:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	3	0	0	0	0	3	
Hourly Total	0	0	5	1	0	0	0	6	1	0	4	1	0	0	0	6	0	0	7	0	0	0	0	7	
09:00 - 09:15	0	0	1	0	0	0	0	1	0	0	3	0	1	0	0	4	0	0	1	0	0	0	0	1	
09:15 - 09:30	0	0	4	0	0	0	0	4	0	0	2	1	0	0	0	3	0	0	3	0	1	0	0	4	
09:30 - 09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:45 - 10:00	0	0	3	0	0	0	0	3	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	
Hourly Total	0	0	8	0	0	0	0	8	0	0	6	1	1	0	0	8	0	0	5	0	1	0	0	6	
TOTAL	0	0	20	3	0	0	0	23	1	0	15	3	1	0	0	20	0	0	14	2	1	0	0	17	
15:00 - 15:15	0	0	1	0	0	0	0	1	0	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	3	0	1	0	0	4	0	0	4	1	0	0	0	5	0	0	0	0	1	0	0	1	
15:30 - 15:45	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	
15:45 - 16:00	0	0	2	1	0	0	0	3	0	0	1	2	0	0	0	3	0	0	3	2	0	0	0	5	
Hourly Total	0	0	6	3	1	0	0	10	0	0	6	3	1	0	0	10	0	0	4	3	1	0	0	8	
16:00 - 16:15	0	0	1	0	0	1	0	2	0	0	1	1	0	0	0	2	0	0	4	0	0	0	0	4	
16:15 - 16:30	0	0	3	0	0	0	0	3	0	0	3	0	0	0	0	3	0	0	3	0	0	0	0	3	
16:30 - 16:45	0	0	2	0	0	0	0	2	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	
16:45 - 17:00	0	0	1	1	0	0	0	2	0	1	2	3	0	0	0	6	0	0	3	0	0	0	0	3	
Hourly Total	0	0	7	1	0	1	0	9	0	1	9	4	0	0	0	14	0	0	10	0	0	0	0	10	
17:00 - 17:15	0	0	2	2	0	0	0	4	0	0	2	2	0	0	0	4	0	0	0	0	0	0	0	0	
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	2	0	0	0	0	2	
17:30 - 17:45	0	0	2	0	0	0	0	2	0	0	1	1	0	0	0	2	0	0	1	0	0	0	0	1	
17:45 - 18:00	0	0	1	0	0	0	0	1	0	0	5	1	0	0	0	6	0	0	1	0	0	0	0	1	
Hourly Total	0	0	5	2	0	0	0	7	0	0	11	4	0	0	0	15	0	0	4	0	0	0	0	4	
18:00 - 18:15	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
18:15 - 18:30	0	0	2	0	0	0	0	2	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	
18:30 - 18:45	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:45 - 19:00	0	0	3	0	0	0	0	3	0	0	2	0	0	0	0	2	0	0	1	0	0	0	0	1	
Hourly Total	0	0	8	0	0	0	0	8	0	0	6	0	0	0	0	6	0	0	2	0	0	0	0	2	
TOTAL	0	0	26	6	1	1	0	34	0	1	32	11	1	0	0	45	0	0	20	3	1	0	0	24	



St. Athan, Wednesday 20th March 2024

Junction: 3
Approach: B4265 West

TIME	Left to Gileston Road (N)								Ahead to B4265 (E)								Right to Gileston Road (S)								U-Turn							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	3	1	0	0	0	4	0	1	37	10	1	1	0	50	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	
07:15 - 07:30	0	0	4	0	0	0	0	4	0	0	45	6	0	0	0	51	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	
07:30 - 07:45	0	0	2	3	0	0	1	6	0	1	70	13	1	3	0	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45 - 08:00	0	0	11	2	0	0	0	13	0	0	55	17	2	2	1	77	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	
Hourly Total	0	0	20	6	0	0	1	27	0	2	207	46	4	6	1	266	0	0	6	3	0	0	0	9	0	0	0	0	0	0	0	
08:00 - 08:15	0	0	11	0	0	0	0	11	0	0	64	3	2	3	1	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:15 - 08:30	0	0	16	0	0	0	0	16	0	1	50	9	5	5	1	71	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	
08:30 - 08:45	0	0	18	1	0	0	0	19	0	0	56	12	3	1	1	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:45 - 09:00	0	0	18	1	0	0	0	19	0	0	48	13	4	5	0	70	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	
Hourly Total	0	0	63	2	0	0	0	65	0	1	218	37	14	14	3	287	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	
09:00 - 09:15	0	0	8	2	0	0	0	10	0	1	50	11	2	2	0	66	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	
09:15 - 09:30	0	0	14	2	1	0	0	17	0	0	36	13	5	6	1	61	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	
09:30 - 09:45	0	0	5	2	0	0	0	7	0	0	49	8	1	2	1	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
09:45 - 10:00	0	0	6	5	1	0	0	12	0	0	48	7	3	2	0	60	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	
Hourly Total	0	0	33	11	2	0	0	46	0	1	183	39	11	12	2	248	0	0	7	0	0	0	0	7	0	0	0	0	0	0	0	
TOTAL	0	0	116	19	2	0	1	138	0	4	608	122	29	32	6	801	0	0	16	4	0	0	0	20	0	0	0	0	0	0	0	
15:00 - 15:15	0	0	16	2	0	0	0	18	0	0	38	6	1	1	2	48	0	0	1	1	1	0	0	3	0	0	0	0	0	0	0	
15:15 - 15:30	0	0	9	1	0	0	0	10	0	2	57	7	0	3	0	69	0	0	3	0	0	1	0	4	0	0	0	0	0	0	0	
15:30 - 15:45	0	0	17	1	1	0	0	19	0	1	70	14	1	3	0	89	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	
15:45 - 16:00	0	0	12	0	0	0	0	12	0	0	68	17	2	4	0	91	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
Hourly Total	0	0	54	4	1	0	0	59	0	3	233	44	4	11	2	297	0	0	8	1	1	1	0	11	0	0	0	0	0	0	0	
16:00 - 16:15	0	0	16	3	1	0	0	20	0	1	69	10	1	7	0	88	0	0	2	1	0	0	0	3	0	0	1	0	0	0	1	
16:15 - 16:30	0	0	13	0	0	0	0	13	0	1	53	17	2	1	0	74	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
16:30 - 16:45	0	1	15	2	0	0	0	18	0	0	65	10	2	1	1	79	0	0	4	1	0	0	0	5	0	0	0	0	0	0	0	
16:45 - 17:00	0	0	12	1	0	0	1	14	0	0	72	9	0	2	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	1	56	6	1	0	1	65	0	2	259	46	5	11	1	324	0	0	7	2	0	0	0	9	0	0	1	0	0	0	1	
17:00 - 17:15	0	1	12	5	0	0	0	18	0	1	75	13	3	2	0	94	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
17:15 - 17:30	0	0	12	3	0	0	0	15	0	0	65	10	0	3	0	78	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
17:30 - 17:45	0	0	17	0	0	0	0	17	0	0	68	5	0	0	0	73	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	
17:45 - 18:00	0	0	13	4	0	0	0	17	0	0	60	6	1	1	0	68	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
Hourly Total	0	1	54	12	0	0	0	67	0	1	268	34	4	6	0	313	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	
18:00 - 18:15	0	0	9	1	0	0	0	10	0	0	47	4	0	1	0	52	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	
18:15 - 18:30	0	0	8	1	0	0	0	9	0	0	29	1	0	0	0	30	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
18:30 - 18:45	0	0	9	1	0	0	0	10	0	1	33	1	1	0	0	36	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	
18:45 - 19:00	0	0	12	1	0	0	0	13	0	0	24	4	1	2	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	38	4	0	0	0	42	0	1	133	10	2	3	0	149	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	
TOTAL	0	2	202	26	2	0	1	233	0	7	893	134	15	31	3	1083	0	0	24	4	1	1	0	30	0	0	1	0	0	0	1	



Junction: 5
 Approach: Northern Access Road

TIME	To B4265 (E)							To B4265 (W)								
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	1	0	0	0	0	1	0	0	4	0	0	0	0	4
07:15 - 07:30	0	0	1	0	0	0	0	1	0	0	9	3	0	0	0	12
07:30 - 07:45	0	0	1	2	1	1	0	5	0	0	9	3	0	0	0	12
07:45 - 08:00	0	0	8	0	0	1	1	10	0	0	26	2	0	0	0	28
Hourly Total	0	0	11	2	1	2	1	17	0	0	48	8	0	0	0	56
08:00 - 08:15	0	0	9	1	0	0	1	11	0	0	21	1	1	2	0	25
08:15 - 08:30	0	0	11	0	0	1	3	15	0	0	26	3	0	0	0	29
08:30 - 08:45	0	0	11	0	0	0	0	11	0	1	28	1	0	1	0	31
08:45 - 09:00	0	0	4	1	0	0	0	5	0	0	13	2	0	0	0	15
Hourly Total	0	0	35	2	0	1	4	42	0	1	88	7	1	3	0	100
09:00 - 09:15	0	0	7	0	0	1	1	9	1	1	12	2	2	0	0	16
09:15 - 09:30	0	0	6	0	1	1	0	8	0	0	14	2	0	0	0	16
09:30 - 09:45	0	0	3	1	0	1	0	5	0	1	15	3	1	0	0	20
09:45 - 10:00	0	0	8	2	2	0	0	12	0	0	12	0	1	0	0	13
Hourly Total	0	0	24	3	3	3	1	34	1	2	53	7	2	0	0	65
TOTAL	0	0	70	7	4	6	6	93	1	3	189	22	3	3	0	221
15:00 - 15:15	0	0	7	2	0	0	0	9	1	0	35	3	1	0	0	40
15:15 - 15:30	0	0	6	1	0	1	0	8	0	0	25	3	0	1	0	29
15:30 - 15:45	0	0	13	1	0	0	0	14	0	0	79	5	1	0	0	85
15:45 - 16:00	0	0	9	0	0	1	0	10	0	0	35	5	0	0	1	41
Hourly Total	0	0	35	4	0	2	0	41	1	0	174	16	2	1	1	195
16:00 - 16:15	0	1	11	2	0	0	1	15	0	0	32	3	0	0	1	36
16:15 - 16:30	0	0	13	0	0	0	0	13	1	1	49	1	0	0	0	52
16:30 - 16:45	0	0	8	0	0	0	0	8	0	0	34	5	0	0	1	40
16:45 - 17:00	0	0	9	1	0	1	0	11	0	0	18	2	0	0	0	20
Hourly Total	0	1	41	3	0	1	1	47	1	1	133	11	0	0	2	148
17:00 - 17:15	0	0	7	0	1	1	0	9	0	0	25	0	0	0	1	26
17:15 - 17:30	0	0	11	0	0	0	0	11	0	0	20	2	0	0	0	22
17:30 - 17:45	0	0	9	0	0	0	0	9	0	0	20	1	0	0	0	21
17:45 - 18:00	0	0	4	1	0	0	0	5	0	0	34	2	0	0	0	36
Hourly Total	0	0	31	1	1	1	0	34	0	0	99	5	0	0	1	105
18:00 - 18:15	0	0	9	0	0	1	0	10	0	0	12	0	0	0	0	12
18:15 - 18:30	0	0	2	0	0	0	0	2	0	0	22	0	0	0	0	22
18:30 - 18:45	0	0	4	0	0	0	0	4	1	0	12	1	0	0	0	14
18:45 - 19:00	0	0	4	1	0	0	0	5	0	0	17	1	0	0	0	18
Hourly Total	0	0	19	1	0	1	0	21	1	0	63	2	0	0	0	66
TOTAL	0	1	126	9	1	5	1	143	3	1	469	34	2	1	4	514



St. Athan, Wednesday 20th March 2024

Junction: 5
Approach: B4265 East

TIME	To B4265 (W)							To Northern Access Road								
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	22	3	0	0	0	25	0	0	1	0	1	0	0	2
07:15 - 07:30	0	1	35	10	0	1	0	47	0	0	5	2	0	0	0	7
07:30 - 07:45	0	0	43	10	0	0	0	53	0	0	6	0	0	2	0	8
07:45 - 08:00	0	1	64	6	3	1	0	75	0	0	6	1	0	1	0	8
Hourly Total	0	2	164	29	3	2	0	200	0	0	18	3	1	3	0	25
08:00 - 08:15	0	1	50	5	1	3	0	60	0	0	6	0	0	0	1	7
08:15 - 08:30	0	0	49	4	1	1	0	55	0	0	9	2	0	0	1	12
08:30 - 08:45	0	0	38	8	0	1	3	50	0	0	5	2	0	0	0	7
08:45 - 09:00	0	0	40	7	1	2	0	50	0	1	6	0	1	1	0	9
Hourly Total	0	1	177	24	3	7	3	215	0	1	26	4	1	1	2	35
09:00 - 09:15	0	0	34	2	1	0	0	37	0	0	9	3	1	0	0	13
09:15 - 09:30	0	0	41	8	1	2	0	52	0	0	6	3	0	0	0	9
09:30 - 09:45	0	0	30	6	0	2	0	38	0	0	3	1	0	1	0	5
09:45 - 10:00	0	0	28	6	0	3	0	37	0	0	2	1	1	2	0	6
Hourly Total	0	0	133	22	2	7	0	164	0	0	20	8	2	3	0	33
TOTAL	0	3	474	75	8	16	3	579	0	1	64	15	4	7	2	93
15:00 - 15:15	0	3	42	8	0	2	0	55	0	0	7	2	0	1	1	11
15:15 - 15:30	0	0	32	5	1	1	0	39	0	0	13	1	0	1	0	15
15:30 - 15:45	0	0	48	5	0	0	0	53	0	0	11	1	0	0	1	13
15:45 - 16:00	0	0	48	8	0	0	0	56	0	0	7	0	0	2	0	9
Hourly Total	0	3	170	26	1	3	0	203	0	0	38	4	0	4	2	48
16:00 - 16:15	0	1	61	6	0	1	0	69	0	0	5	0	0	0	0	5
16:15 - 16:30	0	0	43	6	1	0	1	51	0	0	9	0	0	0	0	9
16:30 - 16:45	0	1	63	3	0	0	0	67	0	0	9	1	1	0	0	11
16:45 - 17:00	0	0	38	7	1	0	0	46	0	0	10	0	0	1	0	11
Hourly Total	0	2	205	22	2	1	1	233	0	0	33	1	1	1	0	36
17:00 - 17:15	0	1	44	4	0	0	1	50	0	0	7	0	0	0	0	7
17:15 - 17:30	0	0	40	2	0	0	0	42	0	0	8	0	0	1	0	9
17:30 - 17:45	0	0	52	6	0	0	0	58	0	0	2	0	0	1	0	3
17:45 - 18:00	0	0	29	3	0	0	0	32	0	0	9	2	0	0	0	11
Hourly Total	0	1	165	15	0	0	1	182	0	0	26	2	0	2	0	30
18:00 - 18:15	0	0	29	2	0	0	0	31	0	0	8	1	0	0	0	9
18:15 - 18:30	0	0	28	1	0	0	0	29	0	0	1	1	0	0	0	2
18:30 - 18:45	0	0	37	4	0	0	0	41	0	0	6	0	0	0	0	6
18:45 - 19:00	0	1	34	0	0	0	0	35	0	0	2	0	0	0	0	2
Hourly Total	0	1	128	7	0	0	0	136	0	0	17	2	0	0	0	19
TOTAL	0	7	668	70	3	4	2	754	0	0	114	9	1	7	2	133



St. Athan, Wednesday 20th March 2024

Junction: 5
Approach: B4265 West

TIME	To Northern Access Road								To B4265 (E)								U-T			
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV
07:00 - 07:15	0	0	13	3	0	0	0	16	0	0	19	8	0	0	0	27	0	0	0	0
07:15 - 07:30	0	0	18	7	0	0	2	27	0	0	34	4	0	1	0	39	0	0	0	0
07:30 - 07:45	0	0	17	4	0	3	0	24	0	0	48	6	0	3	1	58	0	0	0	0
07:45 - 08:00	1	0	32	3	0	0	0	36	0	0	42	12	1	1	0	56	0	0	0	0
Hourly Total	1	0	80	17	0	3	2	103	0	0	143	30	1	5	1	180	0	0	0	0
08:00 - 08:15	0	1	18	2	1	0	1	23	0	0	44	2	0	6	0	52	0	0	0	0
08:15 - 08:30	0	0	17	2	1	0	0	20	0	0	37	3	3	1	1	45	0	0	0	0
08:30 - 08:45	0	0	25	1	0	1	0	27	0	0	36	7	3	1	0	47	0	0	0	0
08:45 - 09:00	0	0	23	3	0	0	0	26	0	0	41	5	3	5	0	54	0	0	0	0
Hourly Total	0	1	83	8	2	1	1	96	0	0	158	17	9	13	1	198	0	0	0	0
09:00 - 09:15	0	1	21	3	1	0	0	26	0	1	30	8	2	1	0	42	0	0	0	0
09:15 - 09:30	0	0	16	8	0	0	0	24	0	0	37	9	2	2	0	50	0	0	0	0
09:30 - 09:45	0	0	13	5	0	0	0	18	0	0	33	4	0	2	0	39	0	0	0	0
09:45 - 10:00	0	0	14	1	0	0	0	15	0	0	36	9	1	5	0	51	0	0	0	0
Hourly Total	0	1	64	17	1	0	0	83	0	1	136	30	5	10	0	182	0	0	0	0
TOTAL	1	2	227	42	3	4	3	282	0	1	437	77	15	28	2	560	0	0	0	0
15:00 - 15:15	1	0	16	1	0	0	0	18	0	0	26	3	2	1	0	32	0	0	0	0
15:15 - 15:30	0	0	27	0	0	0	0	27	0	2	46	10	1	5	0	64	0	0	0	0
15:30 - 15:45	1	0	30	1	1	0	0	33	0	1	42	9	0	0	0	52	0	0	0	0
15:45 - 16:00	0	1	17	1	0	0	1	20	0	0	55	3	0	2	0	60	0	0	0	0
Hourly Total	2	1	90	3	1	0	1	98	0	3	169	25	3	8	0	208	0	0	0	0
16:00 - 16:15	0	1	24	3	0	0	0	28	0	0	41	8	0	3	0	52	0	0	1	0
16:15 - 16:30	0	0	22	1	0	0	0	23	0	0	33	6	0	2	0	41	0	0	0	0
16:30 - 16:45	0	0	18	2	0	0	0	20	0	0	63	8	1	0	0	72	0	0	0	0
16:45 - 17:00	0	0	19	2	0	0	0	21	1	0	54	4	1	0	0	60	0	0	0	0
Hourly Total	0	1	83	8	0	0	0	92	1	0	191	26	2	5	0	225	0	0	1	0
17:00 - 17:15	0	0	22	2	0	0	0	24	0	1	51	12	0	1	0	65	0	0	0	0
17:15 - 17:30	0	0	19	2	0	0	0	21	0	0	54	9	0	1	0	64	0	0	0	0
17:30 - 17:45	0	0	21	0	0	0	0	21	0	1	49	3	0	0	0	53	0	0	0	0
17:45 - 18:00	0	0	19	0	0	0	0	19	0	1	45	3	0	0	0	49	0	0	0	0
Hourly Total	0	0	81	4	0	0	0	85	0	3	199	27	0	2	0	231	0	0	0	0
18:00 - 18:15	0	0	11	1	0	0	0	12	0	0	35	3	0	0	0	38	0	0	0	0
18:15 - 18:30	0	0	9	0	0	0	0	9	0	0	33	0	0	0	0	33	0	0	0	0
18:30 - 18:45	0	0	11	1	0	0	0	12	0	0	21	5	1	0	0	27	0	0	0	0
18:45 - 19:00	0	0	18	0	0	0	0	18	0	0	24	6	0	0	0	30	0	0	0	0
Hourly Total	0	0	49	2	0	0	0	51	0	0	113	14	1	0	0	128	0	0	0	0
TOTAL	2	2	303	17	1	0	1	326	1	6	672	92	6	15	0	792	0	0	1	0



Junction: 6
Approach: Llanmaes Road North

TIME	To Access Road							To B4265 (E)							To Llanmaes Road (S)							To B4265 (W)									
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
07:00-07:15	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	2	0	0	0	0	2	0	0	1	0	0	0	1
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	0	0	3	0	0	0	3
07:30-07:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	4	0	0	0	4
07:45-08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	0	0	2	1	0	0	3
Hourly Total	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0	0	9	2	0	0	0	11	0	0	10	1	0	0	11
08:00-08:15	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	7	3	1	0	0	11	0	0	2	0	0	0	2
08:15-08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	4	0	0	0	4
08:30-08:45	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	4	0	0	0	0	4	0	0	2	0	0	0	2
08:45-09:00	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5	0	0	12	0	0	0	0	12	0	0	3	0	0	0	3
Hourly Total	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	10	0	0	28	3	1	0	0	32	0	0	11	0	0	0	11
09:00-09:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	4	0	0	0	0	4	0	0	6	0	0	0	6
09:15-09:30	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	4	0	0	0	0	4	0	0	7	0	0	0	7
09:30-09:45	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0	0	6	2	0	0	0	8	0	0	5	0	0	0	8
09:45-10:00	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	0	0	3	1	0	0	0	4	0	0	1	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	7	4	0	0	0	11	0	0	17	3	0	0	0	20	0	0	19	0	0	0	19
TOTAL	0	0	0	0	0	0	0	0	0	0	18	6	0	0	0	24	0	0	64	8	1	0	0	63	0	0	40	1	0	0	41
15:00-15:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	3	1	0	0	0	4	0	0	2	0	0	0	2
15:30-15:45	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	14	1	0	0	0	15	0	0	1	0	0	0	1
15:45-16:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	9	0	0	0	0	9	0	0	6	1	0	0	7
Hourly Total	0	0	0	0	0	0	0	0	0	0	4	2	0	0	0	6	0	0	29	3	0	0	0	32	0	0	9	1	0	0	10
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	2	0	0	0	11	0	0	1	1	0	0	2
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	4	0	0	0	10	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	6	2	0	0	0	8	0	0	2	2	0	0	4
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	0	0	1	1	0	0	2
Hourly Total	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	30	6	0	0	0	36	0	0	4	4	0	0	8
17:00-17:15	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	6	0	0	0	0	8	0	0	2	0	0	0	2
17:15-17:30	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	8	0	0	0	0	8	0	0	1	0	0	0	1
17:30-17:45	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	12	2	0	0	0	14	0	0	2	0	0	0	2
17:45-18:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	5	0	0	0	0	5	1	0	1	0	0	0	2
Hourly Total	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	2	0	31	2	0	0	0	33	1	0	6	0	0	0	7
18:00-18:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	5	1	0	0	0	7	0	0	1	0	0	0	1
18:15-18:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	8	0	0	0	0	8	0	0	6	0	0	0	6
18:30-18:45	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	5	0	0	0	0	5	0	0	4	0	0	0	4
18:45-19:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	5	0	0	0	0	5	0	0	2	0	0	0	2
Hourly Total	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	1	0	23	1	0	0	0	25	0	0	13	0	0	0	13
TOTAL	0	0	0	0	0	0	0	0	0	0	25	2	0	0	0	27	3	0	113	14	0	0	0	130	1	0	32	5	0	0	38



St. Athan, Wednesday 20th March 2024

Junction: 6
Approach: B4265 West

TIME	To Llanmaes Road (N)							To Access Road							To B4265 (E)							To Llanmaes Road (S)							TOTAL						
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS							
07:00-07:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15-07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30-07:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45-08:00	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00-08:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15-08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30-08:45	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45-09:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00-09:15	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15-09:30	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	40	13	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30-09:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45-10:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	8	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	1	138	37	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	18	5	0	0	0	0	0	0	0	0	0	0	0	0	1	461	97	14	29	2	0	0	0	0	0	0	0	0	0	0	0	0	289
15:00-15:15	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	35
15:15-15:30	0	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	2	42	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	47
15:30-15:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
15:45-16:00	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	53	6	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	46
Hourly Total	0	0	13	2	0	0	0	0	0	0	0	0	0	0	0	0	3	152	21	2	8	1	0	0	0	0	0	0	0	0	0	0	0	0	176
16:00-16:15	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	8	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	47
16:15-16:30	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	36	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	53
16:30-16:45	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
16:45-17:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	56	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Hourly Total	1	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	1	197	26	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	167
17:00-17:15	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	1	63	15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50
17:15-17:30	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	71
17:30-17:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	50	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
17:45-18:00	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	36	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61
Hourly Total	0	0	10	1	1	0	0	0	0	0	0	0	0	0	0	0	3	209	29	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	229
18:00-18:15	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
18:15-18:30	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
18:30-18:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
18:45-19:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
Hourly Total	0	0	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	106	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	135
TOTAL	1	0	52	4	1	0	0	0	0	0	0	0	0	0	0	0	1	7	664	85	5	15	1	0	0	0	0	0	0	0	0	0	0	0	721



St. Athan, Wednesday 20th March 2024

Junction: 7
 Approach: B4270 Cowbridge Road

TIME	Left to B4265 (E)								Ahead to Cowbridge Road								Right to B4265 (W)							
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00 - 07:15	0	0	20	7	2	0	0	29	0	0	6	0	0	0	0	6	0	0	6	0	0	0	0	6
07:15 - 07:30	0	0	29	10	0	3	1	43	0	0	11	3	0	0	0	14	0	0	6	1	2	0	0	9
07:30 - 07:45	0	0	25	5	1	7	1	39	0	0	11	0	0	0	0	11	0	0	7	2	1	0	0	10
07:45 - 08:00	0	0	30	11	1	3	0	45	0	0	18	3	0	0	0	21	0	0	13	3	0	0	0	16
Hourly Total	0	0	104	33	4	13	2	156	0	0	46	6	0	0	0	52	0	0	32	6	3	0	0	41
08:00 - 08:15	0	0	35	5	0	6	0	46	0	0	24	1	0	0	0	25	0	0	8	1	0	0	0	9
08:15 - 08:30	0	0	35	5	2	1	1	44	0	0	15	6	1	0	0	22	0	0	11	0	0	1	0	12
08:30 - 08:45	0	0	41	8	3	3	1	56	0	0	13	1	0	0	0	14	0	0	10	2	0	0	0	12
08:45 - 09:00	0	0	27	18	4	4	0	53	0	0	16	3	0	0	0	19	0	0	6	3	0	0	0	9
Hourly Total	0	0	138	36	9	14	2	199	0	0	68	11	1	0	0	80	0	0	35	6	0	1	0	42
09:00 - 09:15	0	1	32	13	2	0	0	48	0	0	15	2	0	0	0	17	0	0	9	4	0	0	0	13
09:15 - 09:30	1	0	28	13	4	0	0	46	0	0	15	10	0	0	0	23	0	0	8	1	0	0	0	9
09:30 - 09:45	0	0	26	8	0	1	0	35	0	0	9	3	0	0	0	12	0	0	7	3	0	0	0	10
09:45 - 10:00	0	0	29	10	2	7	0	48	0	0	10	1	0	0	0	11	0	0	5	2	0	0	0	7
Hourly Total	1	1	115	44	8	8	0	177	0	0	47	16	0	0	0	63	0	0	29	10	0	0	0	39
TOTAL	1	1	357	113	21	35	4	532	0	0	161	33	1	0	0	195	0	0	96	22	3	1	0	122
15:00 - 15:15	0	0	46	8	1	2	0	57	0	0	23	2	0	0	0	25	0	0	11	2	0	0	0	13
15:15 - 15:30	0	0	55	9	1	3	0	68	0	0	20	3	0	0	0	23	0	0	17	3	0	0	0	20
15:30 - 15:45	0	0	51	10	3	0	1	65	0	0	26	2	0	0	0	28	0	0	16	1	0	0	0	17
15:45 - 16:00	1	1	66	9	0	3	0	80	0	0	30	0	0	0	0	30	1	0	22	3	0	0	0	26
Hourly Total	1	1	218	36	5	8	1	270	0	0	99	7	0	0	0	106	1	0	66	9	0	0	0	76
16:00 - 16:15	0	0	66	14	0	2	1	83	0	0	31	1	0	0	0	32	0	0	13	2	0	0	0	15
16:15 - 16:30	0	1	71	8	0	2	0	82	0	0	23	5	0	0	0	28	0	0	13	3	0	0	0	16
16:30 - 16:45	0	0	72	7	1	0	1	81	0	0	19	7	0	0	0	26	0	2	12	2	0	0	0	16
16:45 - 17:00	0	1	73	6	0	0	0	80	0	0	37	5	0	0	0	42	0	2	12	3	1	0	0	18
Hourly Total	0	2	282	35	1	4	2	326	0	0	110	18	0	0	0	128	0	4	50	10	1	0	0	65
17:00 - 17:15	0	2	94	20	0	1	0	117	0	0	41	4	0	0	0	45	0	0	15	2	0	0	0	17
17:15 - 17:30	0	0	107	15	1	1	0	124	0	0	45	2	0	0	0	47	0	0	12	3	0	0	0	15
17:30 - 17:45	0	1	53	6	0	0	0	60	0	0	30	4	0	0	0	34	0	0	17	1	0	0	0	18
17:45 - 18:00	0	1	67	7	0	0	0	75	0	0	21	0	0	0	0	21	0	0	17	3	0	0	0	20
Hourly Total	0	4	321	48	1	2	0	376	0	0	137	10	0	0	0	147	0	0	61	9	0	0	0	70
18:00 - 18:15	0	0	52	3	0	0	0	55	0	0	25	1	0	0	0	26	0	0	8	0	0	0	0	8
18:15 - 18:30	0	0	58	3	0	0	0	61	0	0	31	0	0	0	0	31	0	0	13	0	0	0	0	13
18:30 - 18:45	0	0	37	0	2	0	0	39	1	0	24	2	0	0	0	27	0	0	7	2	0	0	0	9
18:45 - 19:00	0	0	26	5	0	0	1	32	0	0	14	1	0	0	0	15	0	0	12	0	0	0	0	12
Hourly Total	0	0	173	11	2	0	1	187	1	0	94	4	0	0	0	99	0	0	40	2	0	0	0	42
TOTAL	1	7	994	130	9	14	4	1159	1	0	440	39	0	0	0	480	1	4	217	30	1	0	0	253



Junction: 7
Approach: B4265 East

TIME	Left to Cowbridge Road							Ahead to B4265 (W)							Right to B4270 Cowbridge Road							U-Turn									
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
07:00-07:15	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0	10	0	0	65	8	0	0	1	75	0	0	0	0	0	0	0
07:15-07:30	0	0	4	0	0	0	0	4	0	0	9	1	1	0	0	11	0	1	69	15	0	1	0	86	0	0	0	0	0	0	0
07:30-07:45	0	0	5	0	0	0	0	5	0	0	11	3	0	0	1	16	0	0	81	20	0	1	0	102	0	0	0	0	0	0	0
07:45-08:00	0	0	5	0	0	0	0	5	0	0	17	1	0	0	0	18	0	1	88	14	3	3	1	110	0	0	0	0	0	0	0
Hourly Total	0	0	14	0	0	0	0	14	0	0	45	7	1	0	1	54	0	2	299	57	3	5	2	368	0	0	0	0	0	0	0
08:00-08:15	0	0	6	1	0	0	0	7	0	0	11	3	2	0	1	17	0	1	114	9	2	5	1	132	0	0	0	0	0	0	0
08:15-08:30	0	0	2	2	0	0	0	4	0	0	19	0	0	1	0	20	0	0	90	10	2	3	0	106	0	0	0	0	0	0	0
08:30-08:45	0	0	5	1	0	0	0	6	0	0	13	1	0	0	0	14	0	2	86	5	0	2	0	99	0	0	0	0	0	0	0
08:45-09:00	0	0	12	1	0	0	0	13	0	0	17	2	0	0	3	22	0	1	61	14	1	3	1	81	0	0	0	0	0	0	0
Hourly Total	0	0	29	5	0	0	0	34	0	0	60	6	2	1	4	73	0	4	381	42	5	13	2	417	0	0	0	0	0	0	0
09:00-09:15	0	0	8	1	0	0	0	9	0	0	14	1	0	0	0	15	0	0	70	3	2	0	0	76	0	0	2	0	0	0	2
09:15-09:30	1	0	5	0	0	0	0	6	0	0	12	1	1	1	0	16	0	0	52	12	2	0	0	66	0	0	0	0	0	0	0
09:30-09:45	0	0	2	0	0	0	0	2	0	0	10	3	1	0	0	14	0	0	53	8	1	6	0	68	0	0	1	0	0	0	1
09:45-10:00	0	0	4	0	0	0	0	4	0	0	10	2	0	0	0	12	0	1	44	10	2	4	0	60	0	0	0	0	0	0	0
Hourly Total	1	0	19	1	0	0	0	21	0	0	55	7	2	1	0	65	0	1	219	33	7	10	0	270	0	0	3	0	0	0	3
TOTAL	1	0	62	6	0	0	0	69	0	0	160	20	5	2	5	192	0	7	869	132	16	28	4	1056	0	0	3	0	0	0	3
15:00-15:15	0	0	10	0	0	0	0	10	0	0	14	2	1	0	0	17	0	0	50	11	2	2	0	65	0	0	1	0	0	0	1
15:15-15:30	0	0	6	1	0	0	0	7	0	0	31	7	1	0	0	39	0	3	47	11	2	2	0	63	0	0	0	0	0	0	0
15:30-15:45	0	0	9	1	0	0	0	10	0	0	31	3	0	0	0	35	0	0	69	15	1	1	0	86	0	0	0	0	0	0	0
15:45-16:00	0	0	8	0	0	0	0	8	0	0	39	3	0	0	2	44	0	0	61	15	2	0	0	79	0	0	1	0	0	0	1
Hourly Total	0	0	33	2	0	0	0	35	0	0	119	15	2	0	2	134	0	3	227	46	7	5	0	290	0	0	1	1	0	0	2
16:00-16:15	0	0	9	1	0	0	0	10	0	0	17	4	0	0	0	21	0	2	56	13	0	0	2	71	0	0	0	0	0	0	0
16:15-16:30	0	0	6	0	0	0	0	6	0	0	17	2	0	0	0	19	0	0	63	12	0	0	2	77	0	0	0	0	0	0	0
16:30-16:45	0	0	9	0	0	0	0	9	0	0	20	4	0	0	0	24	0	0	54	9	1	0	1	65	0	0	0	0	0	0	0
16:45-17:00	0	0	6	0	0	0	0	6	0	0	23	2	0	0	0	25	0	0	51	11	0	0	0	62	0	0	0	0	0	0	0
Hourly Total	0	0	30	1	0	0	0	31	0	0	77	12	0	0	0	89	0	2	224	43	1	0	5	275	0	0	0	0	0	0	0
17:00-17:15	0	0	8	2	1	0	0	11	0	0	19	2	2	0	1	24	0	0	49	7	0	0	0	56	0	0	1	0	0	0	1
17:15-17:30	0	0	9	0	0	0	0	9	0	0	11	1	0	0	0	12	0	0	49	4	0	0	0	53	0	0	0	0	0	0	0
17:30-17:45	0	0	7	0	0	0	0	7	0	0	19	0	0	0	0	19	0	0	47	2	0	0	0	49	0	0	0	0	0	0	0
17:45-18:00	0	0	9	1	0	0	0	10	0	0	18	1	0	0	0	19	0	0	37	4	1	0	0	42	0	0	0	0	0	0	0
Hourly Total	0	0	33	3	1	0	0	37	0	0	67	4	2	0	1	74	0	0	192	17	1	0	0	206	0	0	1	0	0	0	1
18:00-18:15	0	0	8	0	1	0	0	9	0	0	11	2	0	0	0	13	0	0	37	1	0	0	0	38	0	0	0	0	0	0	0
18:15-18:30	0	0	5	1	0	0	0	6	0	0	9	2	0	0	0	11	0	0	41	0	0	0	0	41	0	0	0	0	0	0	0
18:30-18:45	0	0	8	1	0	0	0	9	0	0	12	1	0	0	0	13	0	0	48	4	0	0	0	52	0	0	0	0	0	0	0
18:45-19:00	0	0	7	0	0	0	0	7	0	0	17	0	0	0	0	17	0	1	43	0	0	0	0	44	0	0	0	0	0	0	0
Hourly Total	0	0	28	2	1	0	0	31	0	0	48	5	0	0	0	54	0	1	169	6	0	0	0	175	0	0	0	0	0	0	0
TOTAL	0	0	124	8	2	0	0	134	0	0	308	36	4	0	3	351	0	6	892	113	9	5	5	940	0	0	2	1	0	0	3



Junction: 7
Approach: Cowbridge Road

TIME	Left to B4265 (W)							Ahead to B4270 Cowbridge Road							Right to B4265 (E)							U-Turn										
	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
07:00-07:15	0	0	0	0	0	0	0	0	0	0	17	3	0	0	0	20	0	0	8	1	0	0	0	9	0	0	0	0	0	0	0	
07:15-07:30	0	0	4	0	0	0	0	4	0	1	26	3	0	0	0	30	0	0	11	0	0	0	0	11	0	0	0	0	0	0	0	
07:30-07:45	0	0	2	1	0	0	0	3	0	0	42	7	0	0	0	49	0	0	17	4	0	0	0	21	0	0	0	0	0	0	0	
07:45-08:00	0	0	3	1	0	0	0	4	0	0	22	6	0	0	0	28	0	0	10	1	0	0	0	11	0	0	0	0	0	0	0	
Hourly Total	0	0	9	2	0	0	0	11	0	1	107	19	0	0	0	127	0	0	46	6	0	0	0	52	0	0	0	0	0	0	0	
08:00-08:15	0	0	2	0	0	0	0	2	0	0	37	5	0	0	0	42	0	0	13	1	0	0	0	14	0	0	0	1	0	0	1	
08:15-08:30	0	0	4	1	0	0	0	5	0	0	35	5	0	0	0	40	0	0	9	0	0	0	0	9	0	0	1	0	0	0	1	
08:30-08:45	0	0	7	2	0	0	0	9	0	0	36	6	0	0	0	42	0	0	14	2	0	0	0	16	0	0	0	0	0	0	0	
08:45-09:00	0	0	2	0	0	0	0	2	0	0	32	4	0	0	0	36	0	0	18	0	0	0	0	18	0	0	0	0	0	0	0	
Hourly Total	0	0	19	3	0	0	0	19	0	0	149	20	0	0	0	169	0	0	54	3	0	0	0	57	0	0	1	1	0	0	2	
09:00-09:15	0	0	7	3	0	0	0	10	0	0	27	4	0	0	0	31	0	0	11	1	0	0	0	12	0	0	1	0	0	0	1	
09:15-09:30	0	0	4	0	0	0	0	4	0	0	15	0	0	0	0	15	0	0	15	0	0	0	0	15	0	0	1	0	0	0	1	
09:30-09:45	0	0	3	3	0	0	0	6	0	0	17	5	0	0	0	22	0	0	6	0	0	0	0	6	0	0	2	0	0	0	2	
09:45-10:00	0	0	1	0	0	0	0	1	0	1	20	4	0	0	0	25	0	0	11	3	0	0	0	14	0	0	0	0	0	0	0	0
Hourly Total	0	0	15	6	0	0	0	21	0	1	79	13	0	0	0	93	0	0	43	4	0	0	0	47	0	0	4	0	0	0	4	
TOTAL	0	0	39	11	0	0	0	50	0	2	326	52	0	0	0	380	0	0	143	13	0	0	0	156	0	0	6	1	0	0	6	
15:00-15:15	1	0	4	1	0	0	0	6	0	0	11	5	0	0	0	16	0	0	9	0	0	0	0	9	0	0	0	0	0	0	0	
15:15-15:30	0	0	3	1	0	0	0	4	0	0	20	3	0	0	0	23	0	0	13	1	0	0	0	14	0	0	0	0	0	0	0	
15:30-15:45	0	0	2	2	0	0	0	4	0	0	11	8	0	0	0	19	0	0	15	1	0	0	0	16	0	0	2	0	0	0	2	
15:45-16:00	0	0	5	2	0	0	0	7	0	0	17	5	0	0	0	22	0	0	18	0	0	0	0	18	0	0	1	0	0	0	1	
Hourly Total	1	0	14	6	0	0	0	21	0	0	59	21	0	0	0	80	0	0	55	2	0	0	0	57	0	0	3	0	0	0	3	
16:00-16:15	0	0	3	0	0	0	0	3	0	0	10	4	0	0	0	14	0	0	7	1	0	0	0	8	0	0	0	0	0	0	0	
16:15-16:30	0	0	3	1	0	0	0	4	0	0	12	0	0	0	0	12	0	0	12	1	0	0	0	13	0	0	0	0	0	0	0	
16:30-16:45	0	0	2	1	0	0	0	3	0	0	12	1	0	0	0	15	0	0	12	2	0	0	0	14	0	0	1	0	0	0	1	
16:45-17:00	0	0	1	1	0	0	0	2	0	0	10	0	0	0	0	10	0	0	11	0	0	0	0	11	0	0	0	0	0	0	0	
Hourly Total	0	0	9	3	0	0	0	12	0	0	44	6	0	0	0	49	0	0	44	4	0	0	0	49	0	0	1	0	0	0	1	
17:00-17:15	0	0	6	0	0	0	0	6	0	0	12	2	0	0	0	14	0	0	16	0	0	0	0	16	0	0	0	1	0	0	1	
17:15-17:30	0	0	4	0	0	0	1	5	0	0	14	5	0	0	0	19	0	0	13	0	0	0	0	13	0	0	0	0	0	0	0	
17:30-17:45	0	0	10	0	0	0	0	10	0	0	21	3	0	0	0	24	0	0	26	0	0	0	0	26	0	0	1	0	0	0	1	
17:45-18:00	0	0	5	0	0	0	0	5	0	0	16	2	0	0	0	18	0	1	16	0	0	0	0	17	0	0	1	0	0	0	1	
Hourly Total	0	0	25	0	0	0	1	26	0	0	63	12	0	0	0	75	0	1	71	0	0	0	0	72	0	0	2	1	0	0	3	
18:00-18:15	0	0	4	0	0	0	0	4	0	0	13	0	1	0	0	14	0	0	10	2	0	0	0	12	0	0	0	0	0	0	0	
18:15-18:30	0	0	4	0	0	0	0	4	0	0	8	0	0	0	0	8	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	
18:30-18:45	0	0	6	0	0	0	0	6	0	0	16	1	0	0	0	17	0	0	10	0	0	0	0	10	0	0	0	0	0	0	0	
18:45-19:00	0	0	5	0	0	0	0	5	0	0	11	3	0	0	0	14	0	0	10	0	0	0	0	10	0	0	0	0	0	0	0	
Hourly Total	0	0	19	0	0	0	0	19	0	0	48	4	1	0	0	53	0	0	38	2	0	0	0	40	0	0	0	0	0	0	0	
TOTAL	1	0	67	9	0	0	1	78	0	0	214	42	1	0	0	297	0	1	208	8	0	0	0	217	0	0	6	1	0	0	7	



Junction: 7
Approach: B4265 West

TIME	Left to B4270 Cowbridge Road							Ahead to B4265 (E)							Right to Cowbridge Road							U-Turn										
	CYCLE	M/CYCLE	CAR	LGV	DGV1	DGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	DGV1	DGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	DGV1	DGV2	BUS	TOTAL	CYCLE	M/CYCLE	CAR	LGV	DGV1	DGV2	BUS	TOTAL
07:00-07:15	0	0	1	0	0	0	0	1	0	0	7	8	0	0	1	16	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0	4
07:15-07:30	0	0	6	0	0	0	0	6	0	0	9	3	1	0	1	14	0	0	4	1	0	0	0	5	0	0	0	0	0	0	5	
07:30-07:45	0	0	6	1	0	0	0	7	0	0	15	5	0	0	0	20	0	0	7	2	0	0	0	9	0	0	0	0	0	0	9	
07:45-08:00	0	0	8	0	0	1	0	9	0	0	15	4	0	0	0	17	0	0	7	3	0	0	0	10	0	0	0	0	0	0	10	
Hourly Total	0	0	21	1	0	1	0	23	0	0	44	20	1	0	2	67	0	0	21	7	0	0	0	28	0	0	0	0	0	0	28	
08:00-08:15	0	0	10	1	0	0	0	11	0	0	11	2	0	0	0	13	0	0	10	2	0	0	0	12	0	0	0	0	0	0	12	
08:15-08:30	0	0	9	1	0	0	0	10	0	0	9	0	3	1	0	13	1	0	9	5	0	0	0	15	0	0	0	0	0	0	15	
08:30-08:45	0	0	9	1	0	0	0	10	0	0	12	2	0	0	0	14	1	0	6	0	0	0	0	7	0	0	0	0	0	0	7	
08:45-09:00	0	0	5	0	0	0	0	5	0	0	12	0	1	0	1	14	0	0	12	3	0	0	0	15	0	0	0	0	0	0	15	
Hourly Total	0	0	33	0	0	0	0	33	0	0	44	4	4	1	1	54	2	0	27	10	0	0	0	40	0	0	0	0	0	0	40	
09:00-09:15	0	0	8	0	0	0	0	8	0	0	14	3	2	0	0	19	0	0	12	3	0	0	0	15	0	0	0	0	0	0	15	
09:15-09:30	0	0	11	3	0	0	0	14	0	0	11	3	0	0	0	14	0	0	7	4	0	0	0	11	0	0	0	0	0	0	11	
09:30-09:45	0	0	7	0	0	0	0	7	0	0	8	0	0	0	0	8	0	0	8	0	0	0	0	8	0	0	0	0	0	0	8	
09:45-10:00	0	1	4	0	0	0	0	5	0	0	13	3	0	0	0	16	0	0	6	2	0	0	0	8	0	0	0	0	0	0	8	
Hourly Total	0	1	30	3	0	0	0	34	0	0	46	9	2	0	0	57	0	0	33	9	0	0	0	42	0	0	0	0	0	0	42	
TOTAL	0	1	84	9	0	1	0	95	0	0	134	33	7	1	3	178	2	0	91	26	0	0	0	119	0	0	0	0	0	0	119	
15:00-15:15	0	0	4	3	0	0	0	7	0	1	6	0	0	0	0	7	0	0	6	0	0	0	0	6	0	0	0	0	0	0	6	
15:15-15:30	0	0	6	1	0	1	0	8	0	1	11	1	0	1	0	14	0	0	11	2	0	0	0	13	0	0	0	0	0	0	13	
15:30-15:45	1	0	13	3	0	0	0	17	0	1	19	2	0	0	0	22	0	0	10	0	0	0	0	15	0	0	0	0	0	0	15	
15:45-16:00	0	0	9	0	0	0	0	9	0	0	15	0	1	0	1	17	0	0	15	1	0	0	0	16	0	0	0	0	0	0	16	
Hourly Total	1	0	32	7	0	1	0	41	0	3	51	3	1	1	1	56	0	0	42	3	0	0	0	46	0	0	0	0	0	0	46	
16:00-16:15	0	0	6	1	0	0	0	7	0	0	15	4	0	0	0	19	0	0	12	0	0	0	0	12	0	0	0	0	0	0	12	
16:15-16:30	0	0	4	0	0	0	0	4	0	0	13	4	0	0	0	17	0	0	7	2	0	0	0	9	0	0	0	0	0	0	9	
16:30-16:45	0	0	3	0	0	0	0	3	0	0	12	2	0	0	0	14	0	0	6	0	0	0	0	6	0	0	1	0	0	0	7	
16:45-17:00	0	0	14	1	0	0	0	15	1	0	16	3	1	0	0	21	0	0	10	1	0	0	0	11	0	0	0	0	0	0	11	
Hourly Total	0	0	27	2	0	0	0	29	1	0	66	13	1	0	0	71	0	0	35	3	0	0	0	39	0	0	1	0	0	0	39	
17:00-17:15	0	1	6	0	0	0	0	7	0	0	13	2	0	0	0	16	0	0	11	2	0	0	0	13	0	0	0	0	0	0	13	
17:15-17:30	0	0	9	0	0	0	0	9	0	0	18	0	0	0	0	18	0	0	12	0	0	0	0	12	0	0	0	0	0	0	12	
17:30-17:45	0	0	8	0	0	0	0	8	0	0	7	0	0	0	0	7	0	0	7	1	0	0	0	8	0	0	0	0	0	0	8	
17:45-18:00	0	0	10	0	0	0	0	10	0	0	23	0	0	0	0	23	0	0	13	1	0	0	0	14	0	0	0	0	0	0	14	
Hourly Total	0	1	33	0	0	0	0	34	0	0	61	2	0	0	0	63	0	0	43	4	0	0	0	47	0	0	0	0	0	0	47	
18:00-18:15	0	0	2	0	0	0	0	2	0	0	11	2	0	0	0	13	0	0	7	1	0	0	0	8	0	0	0	0	0	0	8	
18:15-18:30	0	0	5	1	0	0	0	6	0	0	13	2	0	0	0	16	0	0	4	1	0	0	0	5	0	0	0	0	0	0	5	
18:30-18:45	0	0	2	1	0	0	0	3	0	0	6	0	0	0	0	6	0	0	7	0	0	0	0	7	0	0	0	0	0	0	7	
18:45-19:00	0	0	10	2	0	0	0	12	0	0	11	0	0	0	0	11	0	0	7	1	0	0	0	8	0	0	0	0	0	0	8	
Hourly Total	0	0	23	4	0	0	0	27	0	0	41	4	0	0	0	45	0	0	28	3	0	0	0	29	0	0	0	0	0	0	29	
TOTAL	1	1	119	13	0	1	0	131	1	3	209	22	2	1	1	239	0	0	148	13	0	0	0	158	0	0	1	0	0	0	159	



St Athan - 5 Minute Max Queue Length Survey, Wednesday 20th March 2024

Time	A4226 Waycock Road Lane 1	A4226 Waycock Road Lane 2	A4226 Port Road W East Lane 1	A4226 Port Road W East Lane 2	B4266 Pontpridd Road Lane 1	B4266 Pontpridd Road Lane 2	A4226 Port Road W East Lane 1	A4226 Port Road W East Lane 2
07:05	0	2	0	0	6	2	1	4
07:10	1	1	1	1	2	2	4	4
07:15	1	8	0	2	4	1	4	26
07:20	0	3	2	0	3	0	2	26
07:25	1	7	2	1	8	2	3	24
07:30	2	5	5	2	7	1	1	23
07:35	0	6	1	2	5	1	4	14
07:40	2	8	4	6	8	3	8	28
07:45	1	7	5	1	7	0	2	27
07:50	3	9	4	3	4	2	2	21
07:55	7	7	3	2	4	2	2	28
08:00	1	7	7	4	8	2	2	24
08:05	6	9	3	3	4	1	5	29
08:10	3	6	6	2	9	3	2	28
08:15	3	13	6	3	6	2	1	30
08:20	3	7	8	1	4	3	1	28
08:25	3	13	6	2	7	2	3	22
08:30	2	11	11	2	8	2	1	30
08:35	1	13	19	1	4	2	1	32
08:40	0	10	22	3	5	2	1	31
08:45	1	7	23	3	3	1	2	28
08:50	3	5	8	2	3	2	2	28
08:55	3	15	2	1	3	0	3	30
09:00	2	8	4	5	2	1	3	28
09:05	2	4	7	2	4	4	2	29
09:10	2	6	4	3	3	1	1	27
09:15	1	9	2	1	3	2	1	21
09:20	0	4	4	3	3	1	1	3
09:25	1	5	6	1	3	2	2	5
09:30	1	8	3	1	5	2	1	5
09:35	2	2	5	3	2	0	1	2
09:40	1	5	6	0	4	2	2	15
09:45	1	5	4	2	3	1	2	4
09:50	2	10	5	2	5	4	1	6
09:55	0	8	3	3	4	1	1	8
10:00	1	4	3	2	2	1	1	4

15:05	2	11	11	1	3	6	1	14
15:10	1	9	15	1	5	1	1	4
15:15	1	8	7	2	4	1	1	6
15:20	3	6	14	2	7	1	1	12
15:25	2	12	8	0	3	0	2	8
15:30	4	14	14	1	4	0	1	8
15:35	5	15	15	3	8	2	1	8
15:40	2	13	18	3	11	2	1	6
15:45	2	6	7	2	5	4	1	16
15:50	2	7	8	1	8	4	1	28
15:55	3	10	4	2	9	2	2	30
16:00	3	11	6	3	5	7	2	31
16:05	3	14	9	1	5	2	2	28
16:10	2	9	13	4	7	0	2	32
16:15	1	12	21	1	10	2	1	28
16:20	1	14	24	3	10	1	3	28
16:25	3	14	25	2	5	2	2	27
16:30	1	9	19	2	8	1	2	11
16:35	1	9	14	1	4	1	1	6
16:40	0	13	12	2	6	2	2	9
16:45	3	10	12	0	8	1	2	14
16:50	1	12	13	3	6	1	1	19
16:55	2	13	17	3	10	1	1	12
17:00	1	10	24	4	5	1	1	17
17:05	2	9	19	1	5	2	2	13
17:10	3	8	22	0	5	4	2	17
17:15	1	12	25	0	12	4	3	28
17:20	4	9	11	3	13	1	2	29
17:25	3	10	14	1	12	3	1	12
17:30	3	10	15	2	9	1	1	28
17:35	1	10	13	2	11	2	0	11
17:40	4	10	21	2	8	3	1	4
17:45	1	6	24	2	13	1	1	7
17:50	3	7	14	1	8	1	2	12
17:55	3	12	11	1	5	1	1	22
18:00	3	8	4	2	7	1	0	2
18:05	1	5	4	2	5	2	1	5
18:10	1	8	5	1	3	2	2	3
18:15	2	9	5	1	8	1	3	5
18:20	0	5	8	1	5	1	2	2
18:25	2	5	4	1	2	2	1	4
18:30	1	7	7	1	4	3	2	8
18:35	1	3	5	1	4	1	1	2
18:40	1	5	4	1	2	1	3	4
18:45	1	3	2	1	3	1	1	4
18:50	1	5	2	1	5	3	2	6
18:55	2	4	2	3	4	1	1	4
19:00	2	2	2	1	3	1	1	4



St Athan - 5 Minute Max Queue Length Survey, Wednesday 20th March 2024

Time	B4265 East (Slip)	Fontgary Road Lane 1	Fontgary Road Lane 2	B4265 West
07:05	0	0	0	0
07:10	0	0	1	0
07:15	0	1	3	1
07:20	0	1	0	0
07:25	0	1	0	1
07:30	0	2	2	2
07:35	0	0	0	1
07:40	0	3	0	3
07:45	0	1	1	1
07:50	0	6	2	1
07:55	0	4	0	1
08:00	0	4	1	0
08:05	0	1	0	1
08:10	0	6	1	0
08:15	0	0	1	1
08:20	0	1	0	0
08:25	0	2	1	1
08:30	0	0	0	3
08:35	0	2	2	1
08:40	0	0	0	2
08:45	0	2	0	1
08:50	0	1	0	1
08:55	0	1	1	2
09:00	0	2	0	0
09:05	0	1	1	1
09:10	0	0	0	1
09:15	0	2	2	2
09:20	0	1	1	0
09:25	0	0	0	1
09:30	0	0	0	0
09:35	0	0	1	1
09:40	0	2	1	0
09:45	0	1	1	1
09:50	0	3	0	2
09:55	0	0	2	0
10:00	0	1	0	0

15:05	0	1	1	4
15:10	0	2	0	3
15:15	0	1	1	1
15:20	1	0	1	1
15:25	0	3	0	3
15:30	0	1	1	1
15:35	0	2	0	1
15:40	0	1	1	1
15:45	0	3	1	3
15:50	0	3	1	4
15:55	0	2	0	2
16:00	0	1	1	1
16:05	0	10	3	4
16:10	0	2	2	3
16:15	0	1	1	2
16:20	0	2	2	1
16:25	0	3	1	1
16:30	0	2	0	2
16:35	0	1	1	1
16:40	0	2	1	1
16:45	0	4	1	3
16:50	0	1	2	1
16:55	0	1	1	5
17:00	0	1	0	1
17:05	0	0	1	1
17:10	0	1	1	3
17:15	0	2	1	2
17:20	0	1	1	3
17:25	0	1	2	1
17:30	0	2	0	1
17:35	0	0	2	1
17:40	0	1	0	2
17:45	0	3	1	1
17:50	0	3	0	1
17:55	0	2	0	2
18:00	0	4	1	1
18:05	0	1	1	0
18:10	0	1	2	3
18:15	0	1	1	1
18:20	0	0	0	3
18:25	0	2	0	0
18:30	0	3	1	0
18:35	0	0	0	0
18:40	0	2	0	1
18:45	0	1	0	1
18:50	0	3	0	0
18:55	0	1	0	1
19:00	0	0	0	0



St Athan - 5 Minute Max Queue Length Survey, Wednesday 20th March 2024

Time	Gileston Road North	B4265 East	Gileston Road North	B4265 West
07:05	1	0	1	0
07:10	4	0	0	0
07:15	3	1	0	0
07:20	1	0	1	1
07:25	2	3	1	0
07:30	2	2	1	0
07:35	2	1	1	0
07:40	2	2	0	0
07:45	3	1	0	0
07:50	2	3	2	0
07:55	1	2	0	0
08:00	4	2	2	0
08:05	1	1	1	0
08:10	3	4	0	0
08:15	3	2	1	0
08:20	3	1	1	0
08:25	3	2	3	0
08:30	3	2	0	0
08:35	3	2	0	0
08:40	2	0	0	0
08:45	4	1	1	0
08:50	3	5	1	0
08:55	2	2	1	0
09:00	3	1	1	0
09:05	1	2	0	0
09:10	1	1	1	0
09:15	3	2	0	0
09:20	3	1	1	0
09:25	1	0	2	0
09:30	0	0	0	0
09:35	3	1	0	0
09:40	4	1	0	0
09:45	2	0	2	0
09:50	3	1	1	0
09:55	3	3	0	0
10:00	1	1	0	0

15:05	1	3	0	0
15:10	2	3	1	0
15:15	2	3	0	0
15:20	2	3	1	0
15:25	3	2	1	0
15:30	3	1	2	1
15:35	3	1	1	0
15:40	2	3	0	0
15:45	4	5	0	0
15:50	3	2	1	0
15:55	2	1	1	0
16:00	3	2	1	0
16:05	3	2	1	1
16:10	3	1	0	0
16:15	2	2	2	0
16:20	3	3	1	0
16:25	2	1	1	1
16:30	3	2	0	0
16:35	4	2	1	0
16:40	3	3	1	0
16:45	2	2	1	0
16:50	3	2	0	0
16:55	3	0	2	1
17:00	2	6	1	0
17:05	1	2	1	0
17:10	4	3	0	0
17:15	3	5	1	0
17:20	1	4	0	0
17:25	2	2	0	0
17:30	1	2	0	0
17:35	6	2	1	0
17:40	4	3	0	0
17:45	3	4	0	0
17:50	1	9	1	0
17:55	3	2	1	0
18:00	2	3	0	0
18:05	2	2	0	0
18:10	4	0	1	0
18:15	3	2	0	0
18:20	4	1	0	0
18:25	1	3	2	0
18:30	3	1	1	0
18:35	2	2	0	0
18:40	2	2	0	0
18:45	3	1	1	0
18:50	1	0	0	0
18:55	1	1	0	0
19:00	1	0	0	0



St Athan - 5 Minute Max Queue Length Survey, Wednesday 20th March 2024

Time	Northern Acc Road Lane 1	Northern Acc Road Lane 2	B4265 South Lane 1	B4265 South Lane 2	B4265 West Lane 1	B4265 West Lane 2
07:05	0	0	0	0	0	0
07:10	0	1	0	0	0	0
07:15	0	0	0	0	0	0
07:20	0	0	2	1	0	0
07:25	0	1	0	0	4	0
07:30	0	1	1	0	0	0
07:35	0	0	0	0	0	0
07:40	0	3	4	0	0	0
07:45	1	2	0	0	0	0
07:50	0	0	3	0	0	0
07:55	0	1	0	0	0	0
08:00	0	2	1	0	0	0
08:05	0	2	2	0	0	0
08:10	0	1	0	0	0	0
08:15	0	0	0	0	0	0
08:20	0	0	0	0	0	0
08:25	0	3	0	0	0	0
08:30	0	0	2	1	0	0
08:35	0	0	0	0	0	0
08:40	0	1	0	0	0	0
08:45	0	0	2	0	0	0
08:50	0	0	0	2	0	0
08:55	0	0	0	0	0	0
09:00	0	2	0	0	0	0
09:05	0	0	0	0	0	0
09:10	0	0	0	3	0	0
09:15	0	0	0	0	2	0
09:20	0	0	0	0	0	0
09:25	1	1	0	0	0	0
09:30	0	0	0	0	0	0
09:35	0	0	0	0	0	0
09:40	0	0	1	0	0	0
09:45	0	0	0	0	0	0
09:50	1	3	0	0	0	0
09:55	0	0	0	0	0	0
10:00	1	1	0	0	0	0

15:05	0	1	0	0	0	0
15:10	0	0	2	0	0	0
15:15	0	0	3	0	1	4
15:20	0	0	2	0	0	0
15:25	0	2	1	1	0	0
15:30	0	0	0	0	0	0
15:35	0	0	3	0	0	0
15:40	0	4	5	0	0	0
15:45	0	0	1	0	0	0
15:50	0	0	0	0	0	0
15:55	0	0	0	0	0	0
16:00	0	0	2	0	0	0
16:05	1	0	4	0	0	0
16:10	0	1	3	0	0	0
16:15	0	3	0	0	0	0
16:20	0	2	0	0	0	0
16:25	1	0	0	0	0	0
16:30	0	2	0	0	0	0
16:35	0	0	3	0	0	0
16:40	0	1	0	0	0	0
16:45	0	2	4	0	0	0
16:50	0	0	0	0	0	0
16:55	0	0	0	0	0	0
17:00	0	2	1	0	0	0
17:05	0	0	1	0	0	3
17:10	0	0	0	0	0	0
17:15	1	2	0	0	0	0
17:20	1	1	1	0	0	0
17:25	0	1	0	0	0	0
17:30	0	0	0	0	0	0
17:35	0	0	3	0	0	0
17:40	0	0	0	0	0	0
17:45	0	3	6	0	0	0
17:50	0	1	0	0	0	0
17:55	0	1	0	0	0	0
18:00	0	0	0	0	0	0
18:05	0	0	0	0	0	0
18:10	0	0	0	0	0	0
18:15	0	0	0	0	0	0
18:20	0	0	0	0	0	0
18:25	0	1	1	0	0	0
18:30	0	0	0	0	0	0
18:35	0	0	1	0	0	0
18:40	1	0	0	0	0	0
18:45	0	0	0	0	0	0
18:50	0	2	0	0	0	0
18:55	0	0	0	0	0	0
19:00	0	0	0	0	0	0



St Athan - 5 Minute Max Queue Length Survey, Wednesday 20th March 2024

Time	North Lane 1	North Lane 2	B4265 East Lane 1	B4265 East Lane 2	B4265 East Lane 3	Llanmaes Road Lane 1	Llanmaes Road Lane 12	B4265 West Lane 1	B4265 West Lane 2	B4265 West Lane 3
07:05	1	0	0	4	0	4	1	0	3	2
07:10	1	0	1	4	0	3	2	0	3	1
07:15	1	2	0	3	0	6	2	0	4	1
07:20	0	2	1	3	0	3	1	0	2	0
07:25	0	1	1	4	0	2	2	0	4	1
07:30	0	2	1	5	0	5	2	0	4	3
07:35	0	0	2	6	1	2	4	0	3	0
07:40	0	2	2	7	1	10	2	0	5	1
07:45	0	0	3	6	0	1	1	1	8	3
07:50	0	1	3	6	0	5	1	1	9	4
07:55	0	1	1	4	1	2	2	0	8	1
08:00	0	0	3	5	0	7	2	0	3	0
08:05	0	1	3	4	0	6	2	0	3	2
08:10	0	3	2	5	0	5	2	0	5	4
08:15	3	1	1	6	0	6	3	0	3	3
08:20	1	3	2	3	0	4	3	0	4	1
08:25	0	1	2	6	0	6	3	0	3	5
08:30	0	1	1	6	0	7	2	0	3	5
08:35	0	1	3	4	0	7	3	0	3	2
08:40	0	0	3	6	1	5	1	0	4	3
08:45	0	2	1	4	0	4	4	0	5	4
08:50	0	2	1	8	0	3	2	0	3	5
08:55	0	3	1	4	0	5	3	0	4	2
09:00	1	3	1	4	0	5	3	0	4	3
09:05	1	1	1	5	0	4	3	0	5	4
09:10	0	1	2	5	0	4	3	1	7	2
09:15	0	2	3	3	0	5	2	0	4	3
09:20	0	1	1	4	0	4	3	0	4	2
09:25	0	2	2	4	0	3	3	0	3	5
09:30	0	1	2	5	0	3	2	1	6	3
09:35	1	2	0	2	0	4	2	0	2	1
09:40	0	1	2	5	0	3	3	1	4	2
09:45	1	2	3	4	0	5	3	0	3	1
09:50	1	1	0	3	0	2	3	0	3	2
09:55	1	2	1	3	0	3	2	0	4	1
10:00	1	0	1	3	0	2	2	0	4	3

15:05	0	1	2	4	0	4	3	0	3	1
15:10	1	0	3	3	1	6	2	0	3	5
15:15	1	1	1	12	0	6	4	0	3	3
15:20	1	1	1	10	0	6	1	1	0	5
15:25	0	1	1	2	0	6	3	1	5	6
15:30	0	1	2	5	0	7	4	2	7	5
15:35	0	1	2	2	0	5	5	0	2	5
15:40	0	4	2	23	1	7	4	1	7	6
15:45	1	1	4	25	1	8	4	0	4	4
15:50	0	2	4	16	2	2	2	1	3	3
15:55	0	3	2	6	0	4	3	1	5	6
16:00	0	1	3	12	0	3	2	0	4	2
16:05	0	1	2	7	0	3	6	1	8	4
16:10	1	1	1	5	0	1	4	2	2	4
16:15	1	2	2	15	0	3	4	0	5	4
16:20	0	2	2	4	0	2	2	0	2	4
16:25	0	0	3	10	2	3	2	0	5	7
16:30	0	1	4	8	0	5	2	0	5	5
16:35	2	0	1	5	0	2	3	1	6	4
16:40	0	1	2	4	0	3	1	1	8	6
16:45	2	3	3	12	0	4	1	1	4	2
16:50	0	1	0	5	0	4	1	0	4	3
16:55	0	3	0	5	0	2	4	0	4	2
17:00	1	2	0	5	1	5	2	1	4	5
17:05	0	2	2	4	0	3	1	1	5	4
17:10	0	1	4	7	0	2	2	2	6	5
17:15	0	1	2	5	0	4	1	0	4	5
17:20	0	2	2	3	0	3	1	0	8	5
17:25	0	1	1	3	0	2	3	1	6	7
17:30	1	1	4	2	0	3	2	0	5	8
17:35	1	4	3	6	0	3	1	0	6	3
17:40	0	3	1	1	0	2	2	0	4	4
17:45	1	2	2	3	0	1	3	0	5	6
17:50	0	1	3	5	1	3	4	1	4	3
17:55	0	1	4	4	0	1	2	0	5	5
18:00	0	0	1	4	0	4	3	2	3	2
18:05	1	2	3	4	0	2	3	0	5	4
18:10	0	0	1	2	0	3	3	1	4	3
18:15	0	1	3	2	0	2	1	0	4	2
18:20	0	2	1	2	0	5	3	1	3	3
18:25	0	2	2	3	1	5	1	1	4	2
18:30	1	1	3	4	0	2	1	0	4	3
18:35	0	1	1	4	0	3	4	0	1	5
18:40	2	1	3	3	0	3	3	0	2	2
18:45	0	1	2	3	0	6	1	1	4	0
18:50	0	1	1	4	0	2	3	0	1	2
18:55	0	1	1	5	0	2	3	0	1	3
19:00	0	0	1	3	0	2	2	0	1	1

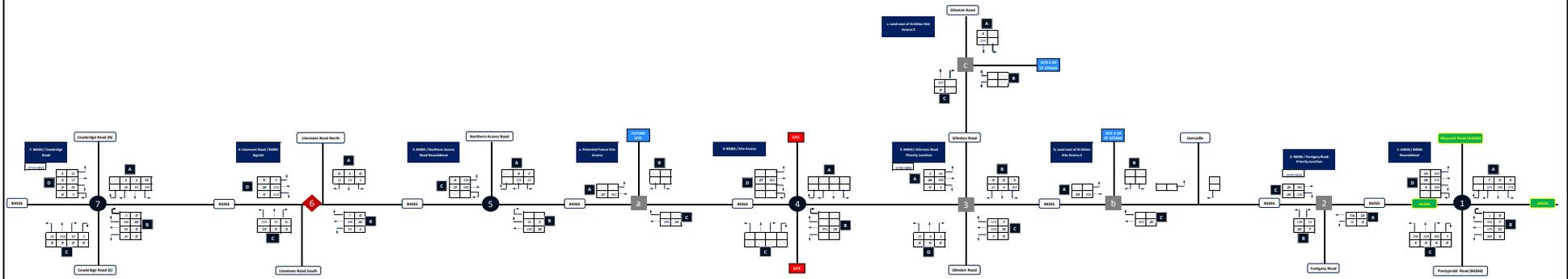


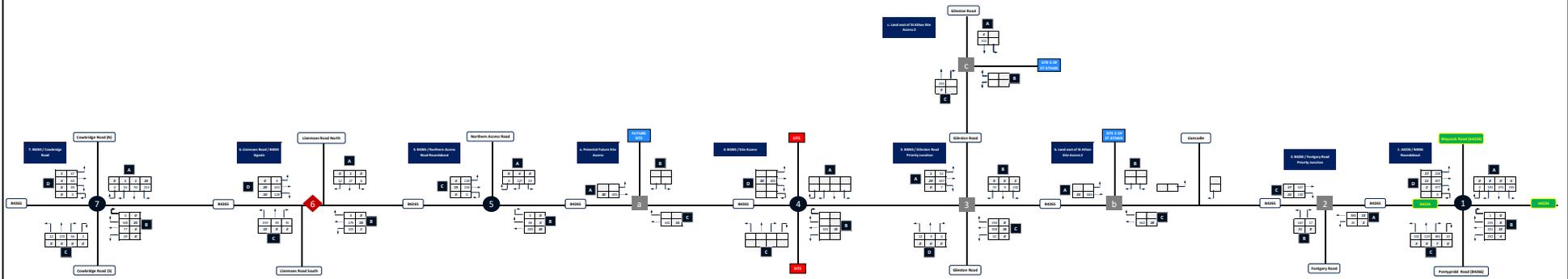
St Athan - 5 Minute Max Queue Length Survey, Wednesday 20th March 2024

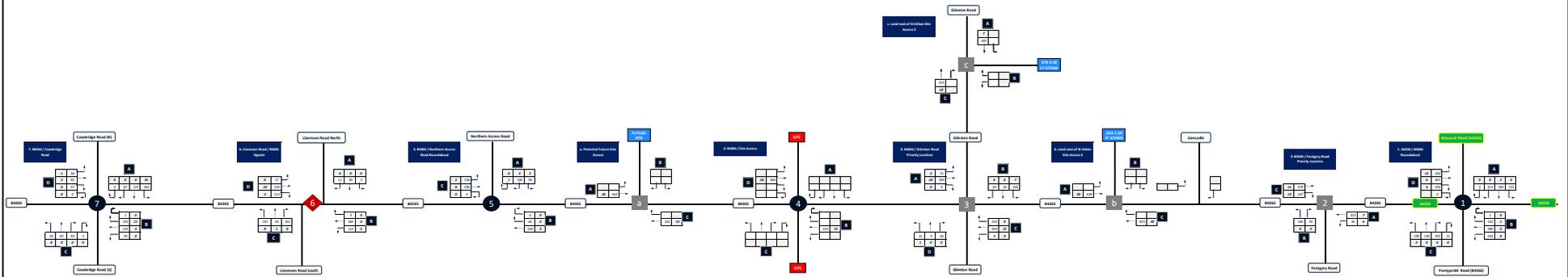
Time	B4270	B4265 East	Cowbridge Road	B4265 West
07:05	0	1	0	0
07:10	0	0	0	0
07:15	0	0	1	0
07:20	0	1	0	0
07:25	1	0	2	2
07:30	1	1	2	1
07:35	0	3	3	1
07:40	1	5	1	2
07:45	0	2	2	4
07:50	0	1	0	0
07:55	2	1	1	2
08:00	0	4	1	0
08:05	3	7	1	1
08:10	3	1	2	4
08:15	1	3	4	1
08:20	0	3	2	0
08:25	0	4	3	0
08:30	0	6	0	0
08:35	2	0	3	1
08:40	0	0	3	1
08:45	0	2	2	3
08:50	4	1	2	1
08:55	0	0	0	2
09:00	1	0	1	0
09:05	0	0	2	0
09:10	1	1	2	1
09:15	2	1	1	0
09:20	0	0	0	0
09:25	0	0	1	0
09:30	0	0	1	0
09:35	0	4	1	0
09:40	0	0	0	0
09:45	3	0	3	0
09:50	0	0	1	1
09:55	0	0	1	0
10:00	0	0	0	0

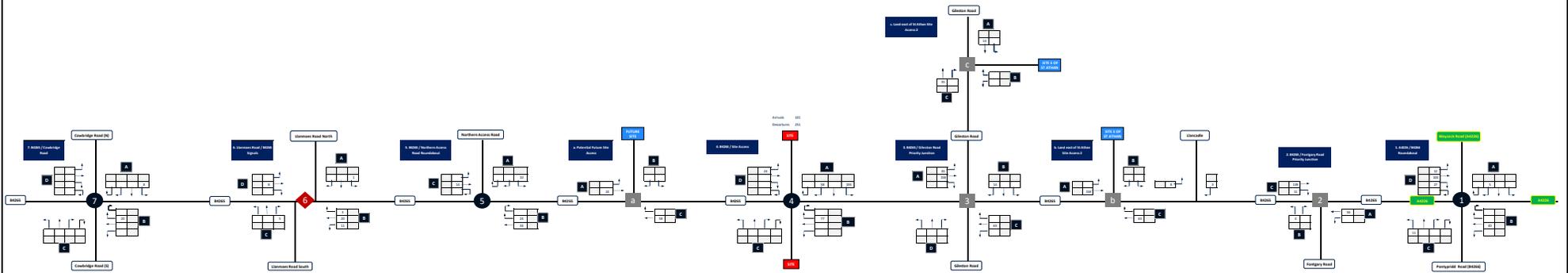
15:05	0	0	1	0
15:10	0	0	0	0
15:15	0	0	0	0
15:20	4	8	1	0
15:25	3	0	2	1
15:30	0	0	2	2
15:35	5	0	1	0
15:40	2	5	2	2
15:45	0	0	1	3
15:50	4	1	4	3
15:55	0	0	2	1
16:00	3	4	1	1
16:05	1	2	1	3
16:10	2	2	1	1
16:15	0	2	2	0
16:20	2	0	0	2
16:25	2	1	2	1
16:30	0	0	1	0
16:35	0	5	1	0
16:40	2	4	1	1
16:45	0	0	1	0
16:50	1	0	0	0
16:55	1	2	1	0
17:00	0	5	0	1
17:05	0	4	0	0
17:10	0	0	1	0
17:15	2	6	1	1
17:20	2	1	0	3
17:25	0	4	1	4
17:30	2	2	0	0
17:35	0	0	0	0
17:40	2	6	1	1
17:45	1	0	0	0
17:50	0	4	0	0
17:55	1	1	1	0
18:00	0	4	1	1
18:05	1	0	1	0
18:10	0	0	0	0
18:15	2	0	1	3
18:20	0	0	0	0
18:25	0	0	2	0
18:30	0	1	0	0
18:35	0	1	0	0
18:40	0	0	0	0
18:45	1	0	0	0
18:50	1	0	1	0
18:55	0	0	1	0
19:00	0	0	0	0

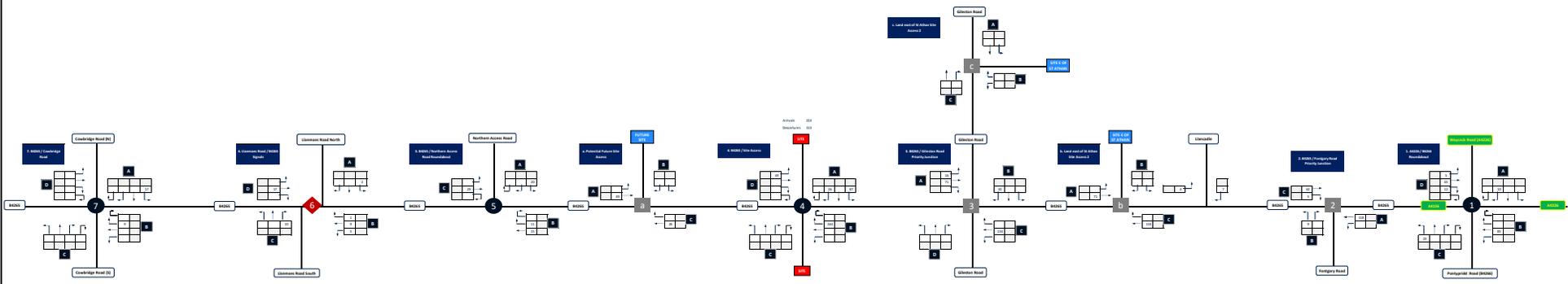
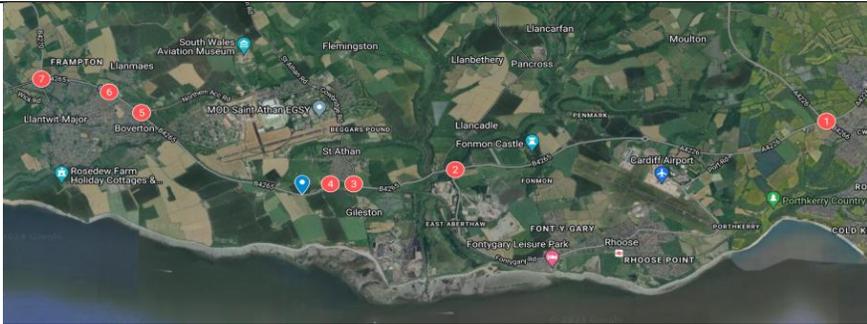
Appendix C Traffic Flow Diagrams

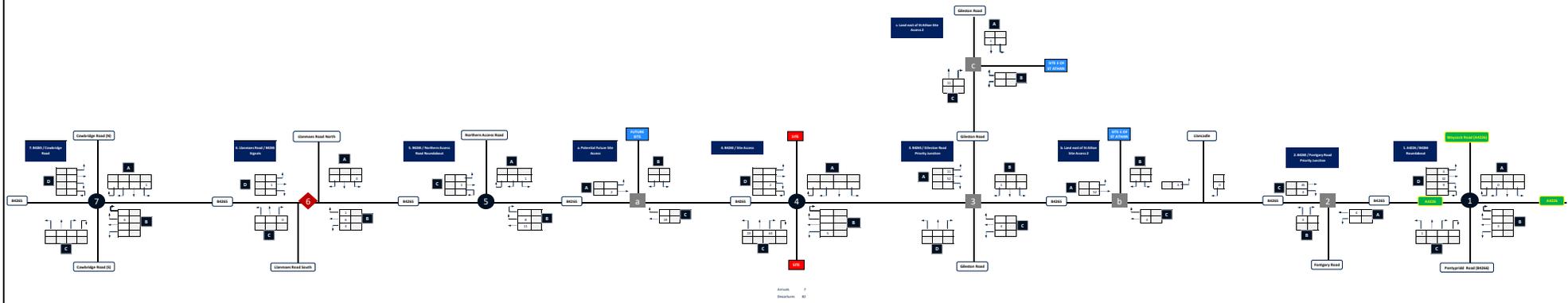


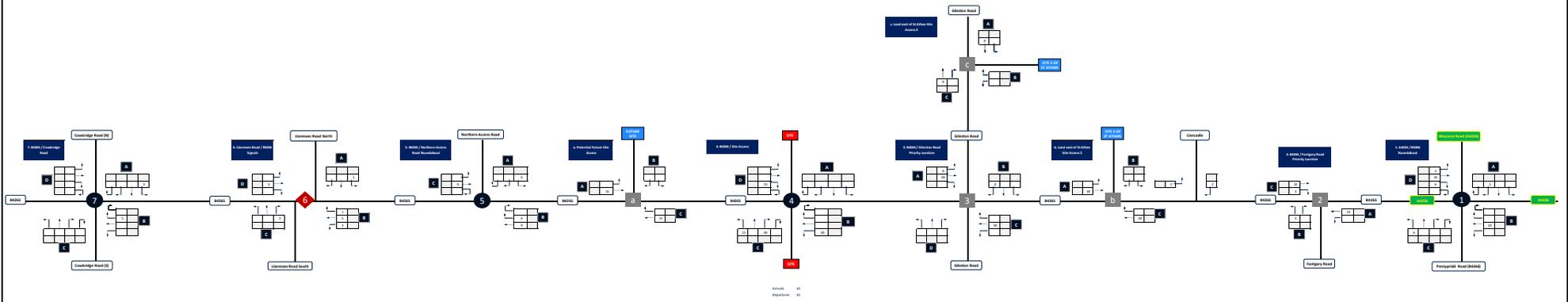


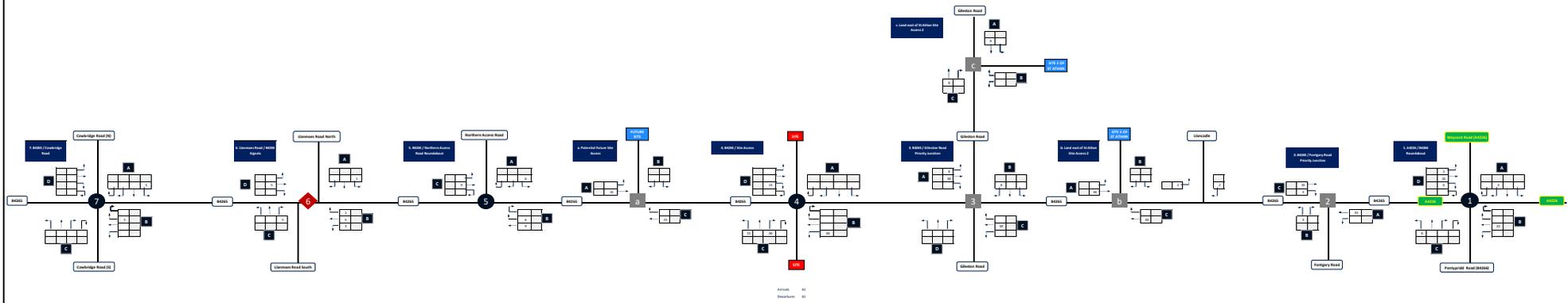


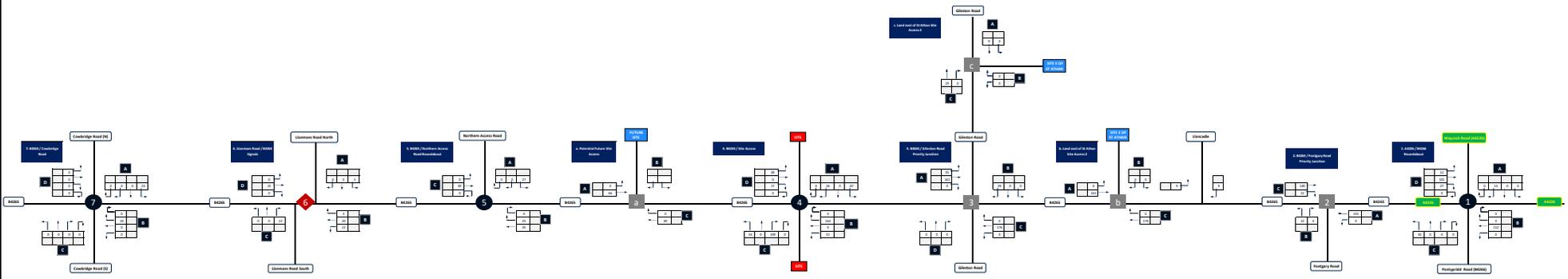


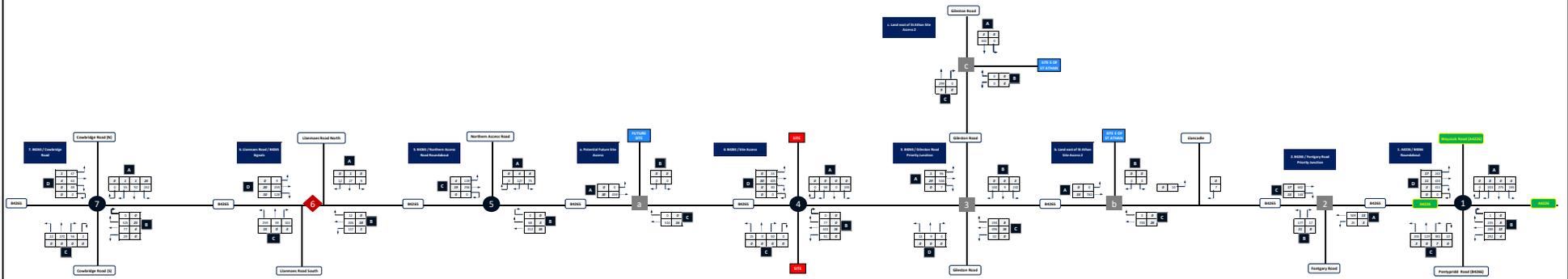


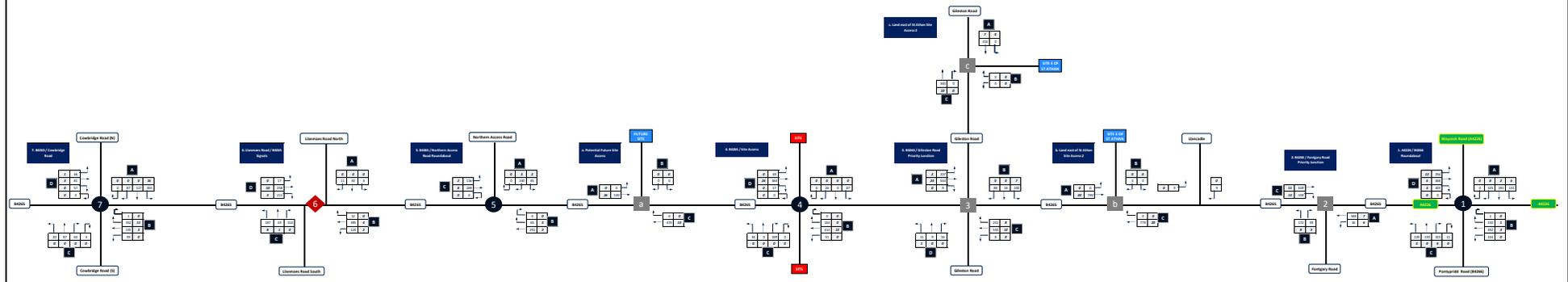
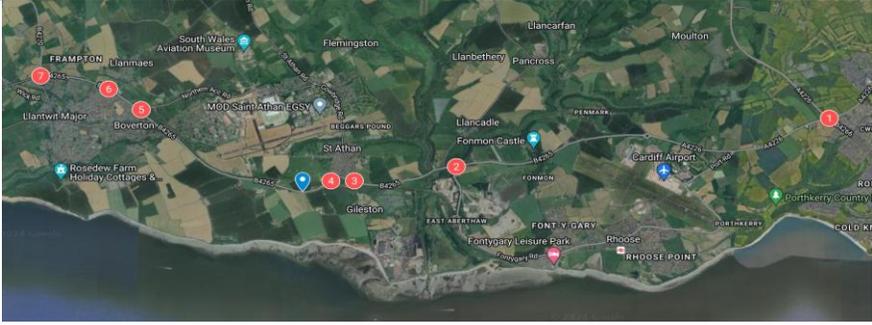


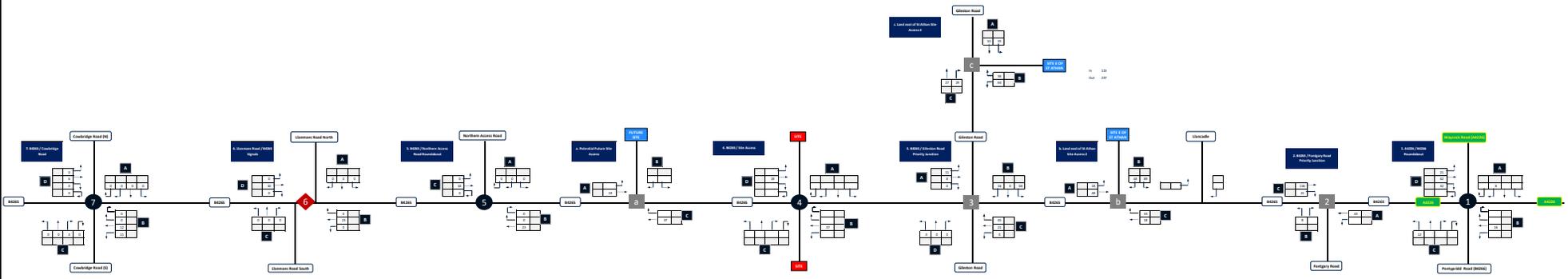


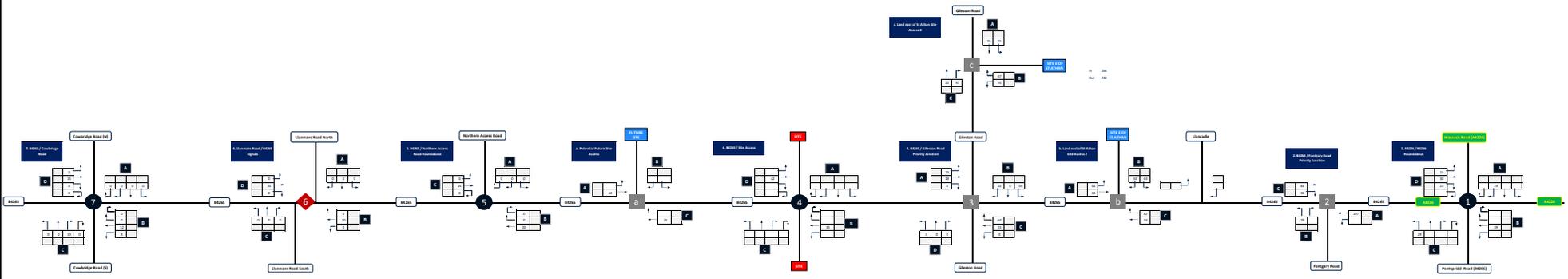


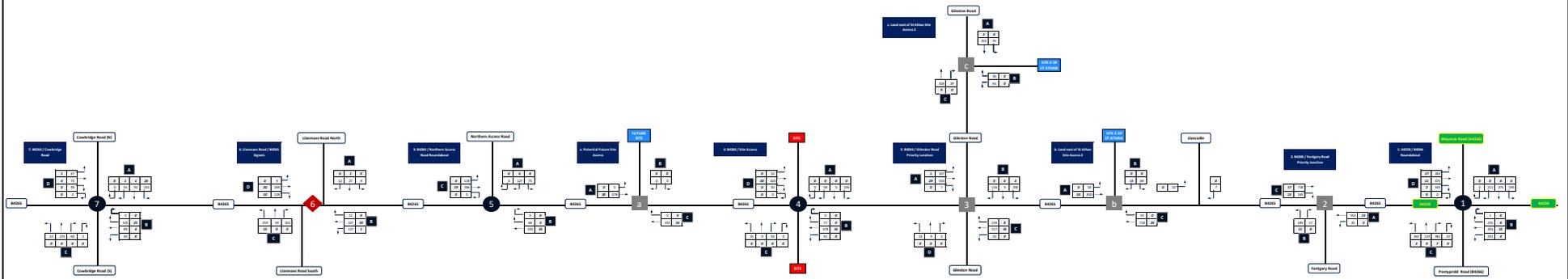


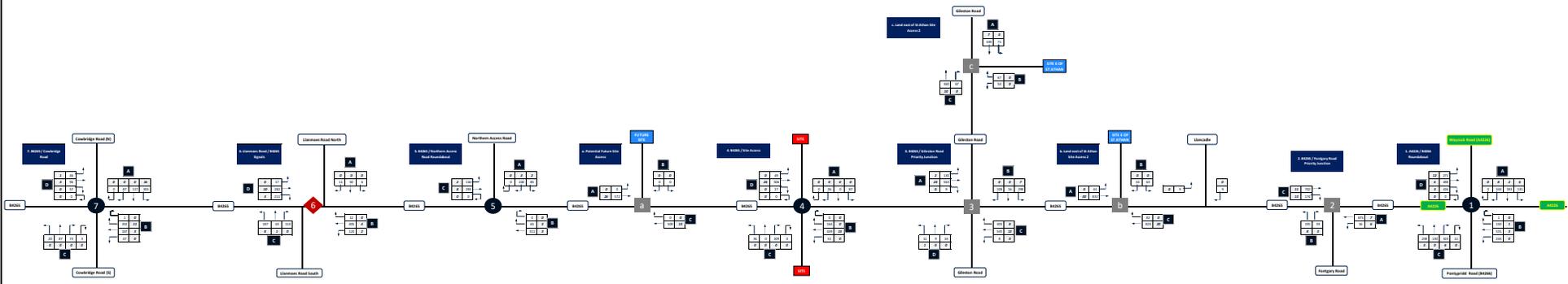
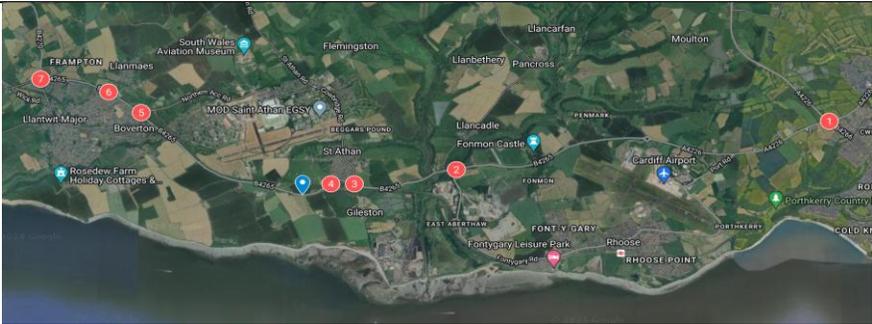




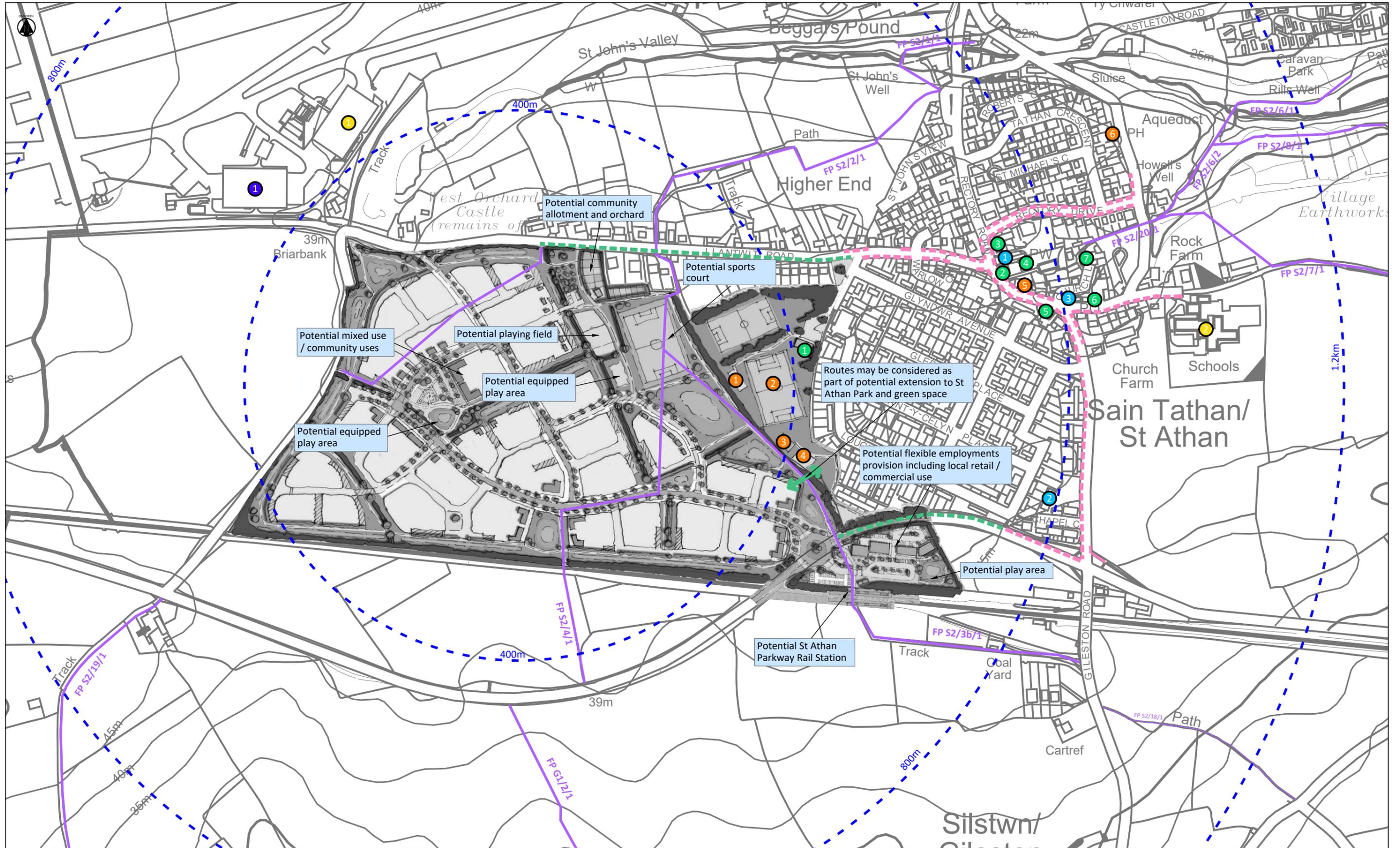








Appendix D Active Travel Routes and Facilities Plan



- KEY**
- 1 Skatepark
 - 2 St Athan recreation ground
 - 3 Basketball court
 - 4 Playground
 - 5 The Three Horseshoes public house
 - 6 The Roost public house
 - 7 St Athan Community Centre
 - 8 St Athan Pharmacy
 - 9 Hairdressers
 - 10 Western Vale Family Practice

- 11 Chapel Surgery
- 12 St Athan Library
- 13 Post Office
- 14 The Co-op Food
- 15 Londis
- 16 Lifestyle Express
- 17 Universities of Wales Air Squadron (UWAS)
- 18 St Athan Primary School

- 19 Horizon Flight Training
- 20 New Infrastructure
- 21 Existing Infrastructure
- 22 Public Right of Way

NOTES

- Drawing is based on OS mapping data. Ordnance Survey, © Crown Copyright and database rights 2024. OS AC0000813445.
- Drawing is supplemented by PAD Architects concept masterplan drawing no. 22553/3002B. This has been overlaid onto OS mapping as a best fit.
- Public Right of Ways have reproduced from the Vale of Glamorgan online mapping.

REVISIONS

Rev	Date	Description	By	App
P03	21/02/24	Third Issue. Minor change to site layout alignment and amended to greyscale.	SD	DC
P02	13/02/24	Second Issue	SD	DC
P01	02/02/24	First Issue	SD	DC

Apex
TRANSPORT PLANNING

CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 361
e: cardiff@apexp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apexp.co.uk

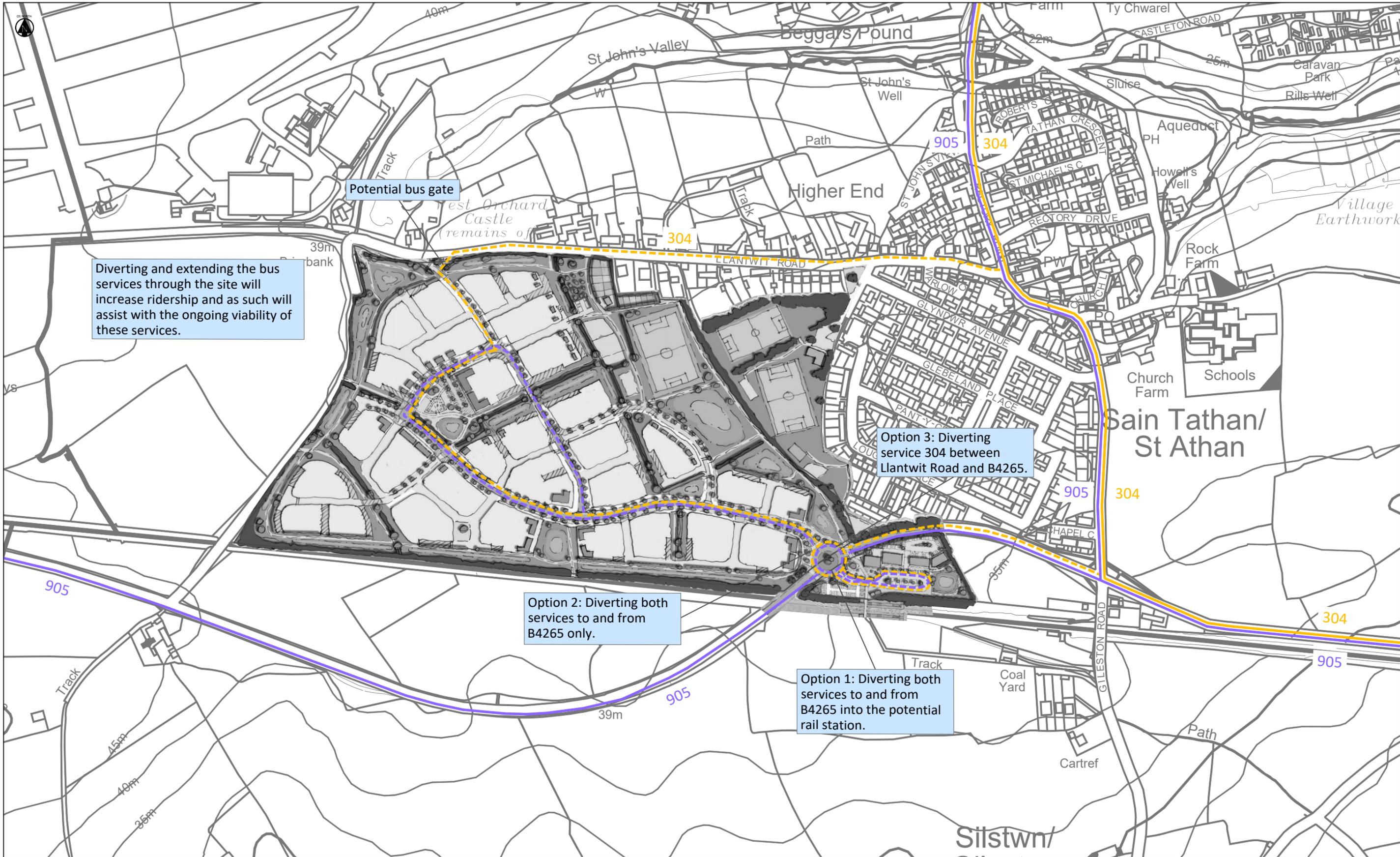
CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND WEST OF ST ATHAN

TITLE
ACTIVE TRAVEL ROUTES AND FACILITIES PLAN

PROJECT NO. C22-133	SCALE @ A3 NOT TO SCALE
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-006	

Appendix E Potential Bus Diversions Plan



Diverting and extending the bus services through the site will increase ridership and as such will assist with the ongoing viability of these services.

Option 3: Diverting service 304 between Llantwit Road and B4265.

Option 2: Diverting both services to and from B4265 only.

Option 1: Diverting both services to and from B4265 into the potential rail station.

KEY

Bus route 304	
Bus route 304 diverted / extended	
Bus route 905	
Bus route 905 diverted / extended	

NOTES

- Drawing is based on OS mapping data. Ordnance Survey, © Crown Copyright and database rights 2024, OS AC0000813445.
- Drawing is supplemented by PAD Architects concept masterplan drawing no. 22553/3002B. This has been overlaid onto OS mapping as a best fit.

REVISIONS (CONTINUED)

Rev	Date	Description	By	App
P03	21/02/24	Third Issue. Minor change to site layout alignment and amended to greyscale.	SD	DC
P02	13/02/24	Second Issue	SD	DC
P01	02/02/24	First Issue	SD	DC

REVISIONS

Rev	Date	Description	By	App
P03	21/02/24	Third Issue. Minor change to site layout alignment and amended to greyscale.	SD	DC
P02	13/02/24	Second Issue	SD	DC
P01	02/02/24	First Issue	SD	DC

Apex
TRANSPORT PLANNING

CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 361
e: cardiff@apexp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apexp.co.uk

CLIENT
HALLAM LAND MANAGEMENT LTD

TITLE
POTENTIAL EXISTING BUS ROUTE DIVERSIONS

PROJECT NO.
C22-133

SCALE @ A3
NOT TO SCALE

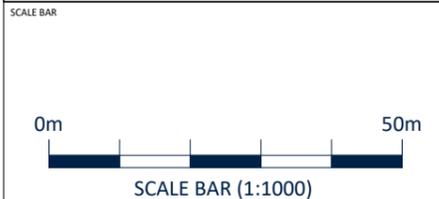
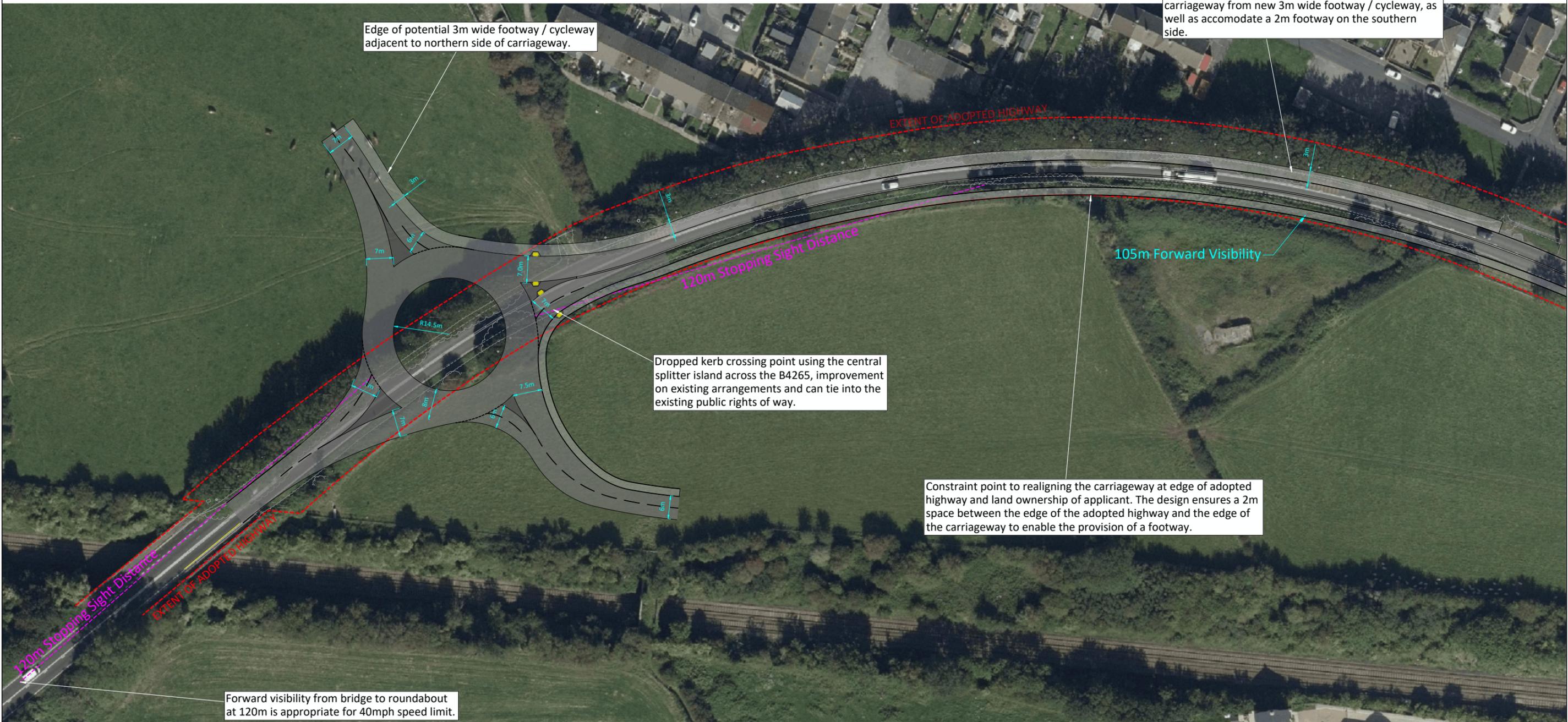
STATUS DESCRIPTION
INFORMATION

DRAWING NO.
C22133-ATP-DR-TP-007

STATUS
S2

PROJECT	LAND WEST OF ST ATHAN
---------	-----------------------

Appendix F General Arrangement of Proposed Site Access Roundabout



KEY

--	--

- NOTES
1. General Arrangement drawing suitable for information only.
 2. This drawing is not suitable for construction.
 3. The content of this drawing is subject to detailed design considerations such as ground conditions, utilities, drainage and signage.
 4. Drawing is based on OS mapping data. Ordnance Survey, (c) Crown Copyright 2022. All rights reserved. Licence number 100022432
 5. Extent of adopted highway is approximate and based on third party information.
 7. All land ownership and rights of way to be confirmed.
 8. Assumes all landscaping can be altered and no trees are subject to TPO.
 9. Please do not scale from this drawing.

REVISIONS (CONTINUED)

--	--	--	--	--

REVISIONS

PO2	09/12/22	Second Issue.	DC	DC
PO1	01/11/22	First Issue.	DC	DC
Rev	Date	Description	By	App

Apex
TRANSPORT PLANNING

11-13 PENHILL ROAD
CARDIFF
CF11 9PQ
t: 02920 619 361
e: info@apexp.co.uk

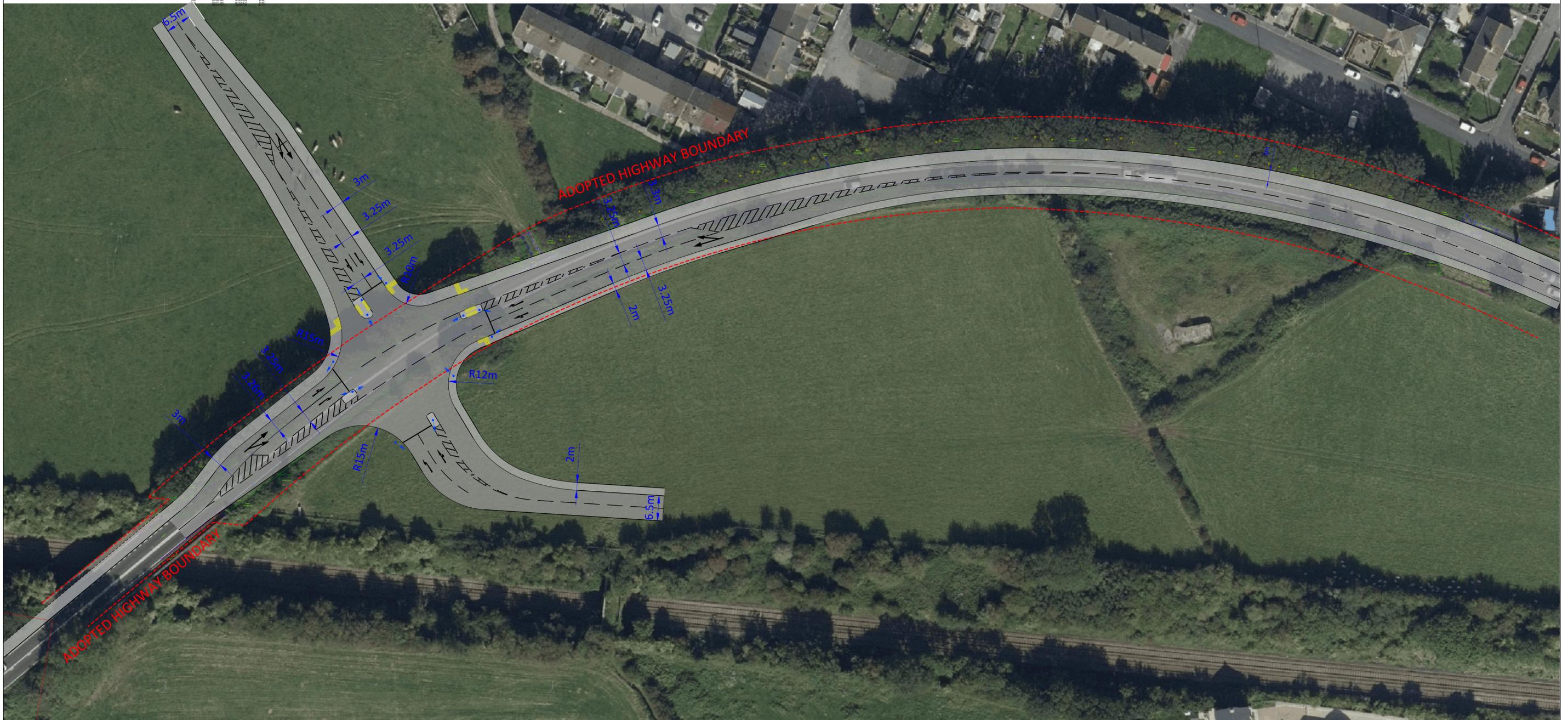
CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND AT ST ATHAN

TITLE
GENERAL ARRANGEMENT OF POTENTIAL ROUNDABOUT TO NORTH AND SOUTH LAND PARCELS

PROJECT NO. C22-133	SCALE @ A3 1:250
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-001	

Appendix G General Arrangement of Proposed Site Access Signal Controlled Junction



SCALE BAR

SCALE BAR (1:500)

- NOTES
1. Preliminary design for information purposes only.
 2. The content of this drawing is subject to detailed design considerations such as ground conditions, utilities, drainage and signage.
 3. Drawing is based on topographical survey data supplement with OS mapping and aerial imagery. Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432. (c) Getmapping plc 2024.
 4. Extent of adopted highway has been based on information on the Vale of Glamorgan Council website.
 5. All land ownership details and rights of way to be confirmed.
 6. Assumes all landscaping can be altered and no trees are subject to TPO.
 7. Please do not scale from this drawing.

NOTES (CONT.)

REVISIONS (CONTINUED)

REVISIONS

Rev	Date	Description	By	App
P01	25/06/24	First Issue	GP	DC

Apex
TRANSPORT PLANNING

CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU

t: 02920 619 361
e: cardiff@apexp.co.uk

t: 0117 427 0414
e: bristol@apexp.co.uk

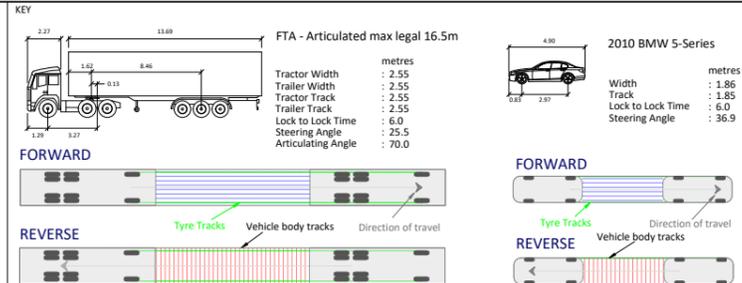
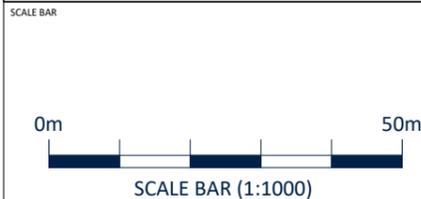
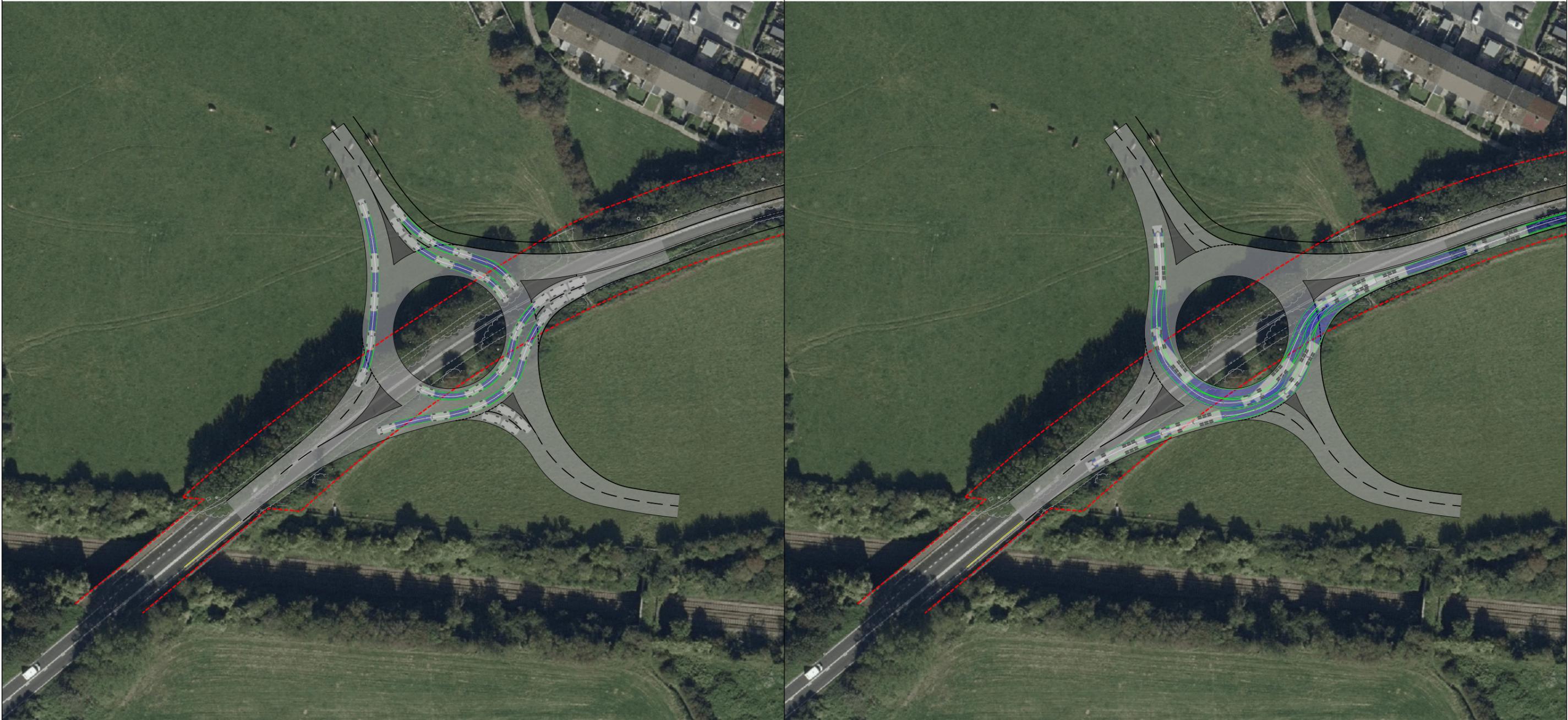
CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND WEST OF ST ATHAN

TITLE
GENERAL ARRANGEMENT OF POTENTIAL SIGNAL CONTROLLED SITE ACCESS / B4265 JUNCTION WITH FOOTWAY / CYCLEWAY

PROJECT NO. C22-133	SCALE @ A1 1:500
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-018	

Appendix H Swept Path Analysis



REVISIONS (CONTINUED)

Rev	Date	Description	By	App

REVISIONS

Rev	Date	Description	By	App

Apex
TRANSPORT PLANNING

11-13 PENHILL ROAD
CARDIFF
CF11 9PQ
t: 02920 619 361
e: info@apexp.co.uk

CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND AT ST ATHAN

TITLE SWEPT PATH ANALYSIS OF LARGE CAR AND ARTICULATED HGV	
PROJECT NO. C22-133	SCALE @ A3 1:250
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-002	

Appendix I Indicative Footway Improvement on Llantwit Road

Appendix J TRICS Outputs – Residential

Filtering Summary

Land Use	03/M	RESIDENTIAL/MIXED PRIVATE/AFFORDABLE HOUSING
Selected Trip Rate Calculation Parameter Range	200-1000 DWELLS	
Actual Trip Rate Calculation Parameter Range	238-882 DWELLS	
Date Range	Minimum: 01/01/10	Maximum: 28/03/22
Parking Spaces Range	All Surveys Included	
Parking Spaces Per Dwelling Range:	All Surveys Included	
Bedrooms Per Dwelling Range:	All Surveys Included	
Percentage of dwellings privately owned:	All Surveys Included	
Days of the week selected	Monday	1
	Tuesday	1
	Wednesday	8
	Thursday	2
Main Location Types selected	Edge of Town	9
	Neighbourhood Centre (PPS6 Local Centre)	3
Population within 500m	All Surveys Included	
Population <1 Mile ranges selected	1,001 to 5,000	3
	5,001 to 10,000	5
	10,001 to 15,000	2
	15,001 to 20,000	1
	20,001 to 25,000	1
Population <5 Mile ranges selected	5,001 to 25,000	2
	25,001 to 50,000	2
	50,001 to 75,000	3
	125,001 to 250,000	5
Car Ownership <5 Mile ranges selected	1.1 to 1.5	9
	1.6 to 2.0	3
PTAL Rating	No PTAL Present	12

Calculation Reference: AUDIT-502501-221101-1144

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : M - MIXED PRIVATE/AFFORDABLE HOUSING
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	2 days
	HC HAMPSHIRE	3 days
	SC SURREY	1 days
03	SOUTH WEST	
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	NF NORFOLK	5 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 238 to 882 (units:)
 Range Selected by User: 200 to 1000 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 28/03/22

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	8 days
Thursday	2 days

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

Selected survey types:

Manual count	9 days
Directional ATC Count	3 days

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

Selected Locations:

Edge of Town	9
Neighbourhood Centre (PPS6 Local Centre)	3

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

Selected Location Sub Categories:

Residential Zone	6
Village	3
Out of Town	1
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village,

Secondary Filtering selection:

Use Class:

C3 12 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	3 days
5,001 to 10,000	5 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days

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

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	2 days
50,001 to 75,000	3 days
125,001 to 250,000	5 days

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

Car ownership within 5 miles:

1.1 to 1.5	9 days
1.6 to 2.0	3 days

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

Travel Plan:

Yes	10 days
No	2 days

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

PTAL Rating:

No PTAL Present	12 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters (Cont.)

9	NF-03-M-46 DEREHAM ROAD NORWICH	MIXED HOUSES & FLATS	NORFOLK
	Edge of Town No Sub Category Total No of Dwellings: 338 <i>Survey date: WEDNESDAY 15/09/21</i>		<i>Survey Type: MANUAL</i>
10	NF-03-M-48 ATLANTIC AVENUE NORWICH SPROWSTON	MIXED HOUSES & FLATS	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings: 882 <i>Survey date: WEDNESDAY 22/09/21</i>		<i>Survey Type: DIRECTIONAL ATC COUNT</i>
11	SC-03-M-02 DEEPCUT BRIDGE ROAD NEAR FRIMLEY DEEPCUT	HOUSES & FLATS	SURREY
	Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 342 <i>Survey date: WEDNESDAY 10/02/10</i>		<i>Survey Type: MANUAL</i>
12	WL-03-M-04 WARNEFORD CRESCENT NEAR SALISBURY LONGHEDGE	MIXED HOUSES & FLATS	WILTSHIRE
	Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 544 <i>Survey date: THURSDAY 18/11/21</i>		<i>Survey Type: MANUAL</i>

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
EC-03-M-01	Covid
HC-03-M-14	Covid
KC-03-M-04	Covid
NF-03-M-40	Covid
SC-03-M-06	not comparable location
WK-03-M-01	not comparable location
WS-03-M-04	not comparable location
WS-03-M-16	not comparable location

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	374	0.079	12	374	0.326	12	374	0.405
08:00 - 09:00	12	374	0.168	12	374	0.416	12	374	0.584
09:00 - 10:00	12	374	0.149	12	374	0.163	12	374	0.312
10:00 - 11:00	12	374	0.119	12	374	0.141	12	374	0.260
11:00 - 12:00	12	374	0.132	12	374	0.138	12	374	0.270
12:00 - 13:00	12	374	0.148	12	374	0.130	12	374	0.278
13:00 - 14:00	12	374	0.155	12	374	0.151	12	374	0.306
14:00 - 15:00	12	374	0.144	12	374	0.185	12	374	0.329
15:00 - 16:00	12	374	0.292	12	374	0.182	12	374	0.474
16:00 - 17:00	12	374	0.296	12	374	0.189	12	374	0.485
17:00 - 18:00	12	374	0.356	12	374	0.190	12	374	0.546
18:00 - 19:00	12	374	0.301	12	374	0.181	12	374	0.482
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.339			2.392			4.731

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

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

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	238 - 882 (units:)
Survey date range:	01/01/10 - 28/03/22
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	21
Surveys manually removed from selection:	8

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

Appendix K TRICS Outputs – Commercial Use

Filtering Summary

Land Use	02/A	EMPLOYMENT/OFFICE
Selected Trip Rate Calculation Parameter Range	118-4000 sqm GFA	
Actual Trip Rate Calculation Parameter Range	1824-2600 sqm GFA	
Date Range	Minimum: 01/01/10	Maximum: 23/11/22
Parking Spaces Range	All Surveys Included	
Days of the week selected	Tuesday	4
	Thursday	1
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	3
	Edge of Town	2
Inclusion of Servicing Vehicles Counts	Servicing vehicles Included	4 - Selected
	Servicing vehicles Excluded	17 - Selected
Population within 500m	All Surveys Included	
Population <1 Mile ranges selected	1,001 to 5,000	1
	5,001 to 10,000	2
	10,001 to 15,000	1
	15,001 to 20,000	1
Population <5 Mile ranges selected	25,001 to 50,000	1
	100,001 to 125,000	1
	125,001 to 250,000	3
Car Ownership <5 Mile ranges selected	1.1 to 1.5	5
PTAL Rating	No PTAL Present	5
Filter by Site Operations Breakdown	All Surveys Included	

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	SC SURREY	1 days
03	SOUTH WEST	
	WL WILTSHIRE	1 days
08	NORTH WEST	
	BB BLACKBURN WITH DARWEN	1 days
09	NORTH	
	DH DURHAM	1 days
10	WALES	
	CP CAERPHILLY	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 1824 to 2600 (units: sqm)
Range Selected by User: 118 to 4000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 23/11/22

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

Selected survey days:

Tuesday 4 days
Thursday 1 days

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

Selected survey types:

Manual count 5 days
Directional ATC Count 0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre) 3
Edge of Town 2

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

Selected Location Sub Categories:

Industrial Zone 2
Development Zone 1
Residential Zone 1
Built-Up Zone 1

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included 4 days - Selected
Servicing vehicles Excluded 17 days - Selected

Secondary Filtering selection:

Use Class:

Not Known 5 days

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

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	3 days

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

Car ownership within 5 miles:

1.1 to 1.5	5 days
------------	--------

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

Travel Plan:

No	5 days
----	--------

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

PTAL Rating:

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

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

LIST OF SITES relevant to selection parameters

1	BB-02-A-02 FURTHERGATE BLACKBURN	OFFICES	BLACKBURN WITH DARWEN
	Suburban Area (PPS6 Out of Centre) Built-Up Zone Total Gross floor area: 2600 sqm <i>Survey date: TUESDAY 04/06/13</i>		<i>Survey Type: MANUAL</i>
2	CP-02-A-02 SIR ALFRED OWEN WAY CAERPHILLY	INSURANCE COMPANY	CAERPHILLY
	Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 1824 sqm <i>Survey date: THURSDAY 13/10/22</i>		<i>Survey Type: MANUAL</i>
3	DH-02-A-02 DURHAM ROAD NEAR DURHAM BOWBURN	CONSTRUCTION COMPANY	DURHAM
	Edge of Town Industrial Zone Total Gross floor area: 2000 sqm <i>Survey date: TUESDAY 27/11/12</i>		<i>Survey Type: MANUAL</i>
4	SC-02-A-15 BOXGROVE ROAD GUILDFORD	ACCOUNTANTS	SURREY
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area: 1896 sqm <i>Survey date: TUESDAY 05/10/10</i>		<i>Survey Type: MANUAL</i>
5	WL-02-A-01 THE CRESCENT AMESBURY SUNRISE WAY	PET INSURANCE COMPANY	WILTSHIRE
	Edge of Town Development Zone Total Gross floor area: 2500 sqm <i>Survey date: TUESDAY 18/09/18</i>		<i>Survey Type: MANUAL</i>

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DA-02-A-02	not comparable PT

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	2164	0.481	5	2164	0.194	5	2164	0.675
08:00 - 09:00	5	2164	2.089	5	2164	0.166	5	2164	2.255
09:00 - 10:00	5	2164	1.821	5	2164	0.425	5	2164	2.246
10:00 - 11:00	5	2164	0.536	5	2164	0.360	5	2164	0.896
11:00 - 12:00	5	2164	0.268	5	2164	0.314	5	2164	0.582
12:00 - 13:00	5	2164	0.656	5	2164	0.675	5	2164	1.331
13:00 - 14:00	5	2164	0.702	5	2164	0.601	5	2164	1.303
14:00 - 15:00	5	2164	0.591	5	2164	0.527	5	2164	1.118
15:00 - 16:00	5	2164	0.296	5	2164	0.444	5	2164	0.740
16:00 - 17:00	5	2164	0.296	5	2164	0.970	5	2164	1.266
17:00 - 18:00	5	2164	0.296	5	2164	2.828	5	2164	3.124
18:00 - 19:00	5	2164	0.120	5	2164	0.693	5	2164	0.813
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			8.152			8.197			16.349

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

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

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	1824 - 2600 (units: sqm)
Survey date date range:	01/01/10 - 23/11/22
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
08:00 - 09:00	5	2164	0.009	5	2164	0.009	5	2164	0.018
09:00 - 10:00	5	2164	0.028	5	2164	0.037	5	2164	0.065
10:00 - 11:00	5	2164	0.000	5	2164	0.009	5	2164	0.009
11:00 - 12:00	5	2164	0.009	5	2164	0.000	5	2164	0.009
12:00 - 13:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
13:00 - 14:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
14:00 - 15:00	5	2164	0.009	5	2164	0.009	5	2164	0.018
15:00 - 16:00	5	2164	0.009	5	2164	0.009	5	2164	0.018
16:00 - 17:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
17:00 - 18:00	5	2164	0.046	5	2164	0.046	5	2164	0.092
18:00 - 19:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.110			0.119			0.229

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
08:00 - 09:00	5	2164	0.009	5	2164	0.000	5	2164	0.009
09:00 - 10:00	5	2164	0.018	5	2164	0.028	5	2164	0.046
10:00 - 11:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
11:00 - 12:00	5	2164	0.009	5	2164	0.009	5	2164	0.018
12:00 - 13:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
13:00 - 14:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
14:00 - 15:00	5	2164	0.018	5	2164	0.009	5	2164	0.027
15:00 - 16:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
16:00 - 17:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
17:00 - 18:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
18:00 - 19:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.054			0.046			0.100

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
08:00 - 09:00	5	2164	0.028	5	2164	0.000	5	2164	0.028
09:00 - 10:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
10:00 - 11:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
11:00 - 12:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
12:00 - 13:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
13:00 - 14:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
14:00 - 15:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
15:00 - 16:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
16:00 - 17:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
17:00 - 18:00	5	2164	0.000	5	2164	0.009	5	2164	0.009
18:00 - 19:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.028			0.009			0.037

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

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
 CYCLISTS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

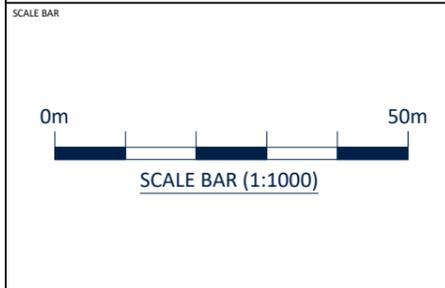
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
08:00 - 09:00	5	2164	0.009	5	2164	0.000	5	2164	0.009
09:00 - 10:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
10:00 - 11:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
11:00 - 12:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
12:00 - 13:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
13:00 - 14:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
14:00 - 15:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
15:00 - 16:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
16:00 - 17:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
17:00 - 18:00	5	2164	0.000	5	2164	0.009	5	2164	0.009
18:00 - 19:00	5	2164	0.000	5	2164	0.000	5	2164	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.009			0.018

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

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

Appendix L Traffic Distribution Analysis

Appendix M Geometric Measurements of Junctions 10 modelled junctions



KEY

NOTES

- Measurements are based on OS mapping data, supplemented by aerial mapping. Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432. (c) Getmapping plc 2024.

REVISIONS (CONTINUED)

REVISIONS

PO1	31/05/24	First Issue	SD	DC
Rev	Date	Description	By	App

Apex
TRANSPORT PLANNING

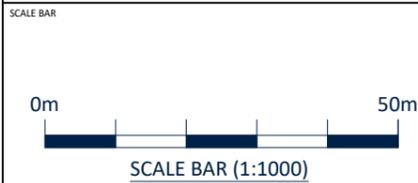
CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 361
e: cardiff@apexp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apexp.co.uk

CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND WEST OF ST ATHAN

TITLE GEOMETRY MEASUREMENTS OF THE PORT ROAD WEST / B4266 ROUNDABOUT	
PROJECT NO. C22-133	SCALE @ A3 1:1000
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-014	



KEY

NOTES

- Measurements are based on OS mapping data, supplemented by aerial mapping. Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432. (c) Getmapping plc 2024.

REVISIONS (CONTINUED)

PO1	31/05/24	First Issue	SD	DC
Rev	Date	Description	By	App

REVISIONS

PO1	31/05/24	First Issue	SD	DC
Rev	Date	Description	By	App

Apex
TRANSPORT PLANNING

CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 361
e: cardiff@apexp.co.uk

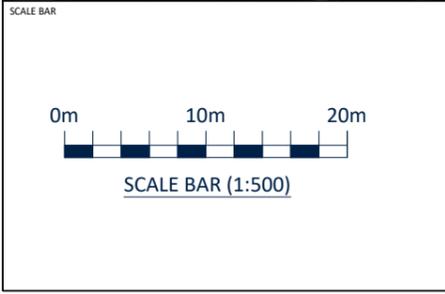
RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apexp.co.uk

CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND WEST OF ST ATHAN

TITLE
GEOMETRY MEASUREMENTS OF THE
FONTGARY ROAD / B4265 JUNCTION

PROJECT NO. C22-133	SCALE @ A3 1:1000
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-015	



KEY

NOTES

- Measurements are based on OS mapping data, supplemented by aerial mapping. Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432. (c) Getmapping plc 2024.

REVISIONS (CONTINUED)

REVISIONS

PO1	29/05/24	First Issue	SD	DC
Rev	Date	Description	By	App

CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 361
e: cardiff@apextp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apextp.co.uk

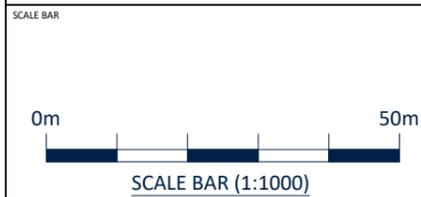
CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND WEST OF ST ATHAN

TITLE GEOMETRY MEASUREMENTS OF B4265 / NORTHERN ACCESS ROAD ROUNDABOUT	
PROJECT NO. C22-133	SCALE @ A3 1:500
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-016	



Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432



KEY

NOTES

- Measurements are based on OS mapping data, supplemented by aerial mapping. Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432. (c) Getmapping plc 2024.

REVISIONS (CONTINUED)

REVISIONS	SD	DC
PO1 29/05/24 First Issue		
Rev Date Description	By	App

Apex
TRANSPORT PLANNING

CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 361
e: cardiff@apextp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apextp.co.uk

CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND WEST OF ST ATHAN

TITLE	
GEOMETRY MEASUREMENTS OF THE COWBRIDGE ROAD / B4265 ROUNDABOUT	
PROJECT NO. C22-133	SCALE @ A3 1:1000
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C22133-ATP-DR-TP-017	

Appendix N Junctions 10 and LinSig Outputs

Junctions 10

ARCADY 10 - Roundabout Module

Version: 10.1.1.1905

© Copyright TRL Software Limited, 2023

For sales and distribution information, program advice and maintenance, contact TRL Software:

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

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 1. Port Road W - Pontypridd Road (dummy arms v2) Rbt.j10

Path: C:\Users\Modelling\Apex Transport Planning Ltd\Apex Transport Planning Ltd - Documents\1.Projects\C22-\C22-133 - Land at St Athan\4.Modelling\1. Port Road W - Pontypridd Road Rbt

Report generation date: 01/07/2025 22:13:47

-
- »2024 Base, AM
 - »2024 Base, PM
 - »2036 Baseline, AM
 - »2036 Baseline, PM
 - »2036 Baseline + Dev, AM
 - »2036 Baseline + Dev, PM
 - »2036 Baseline + Dev + E of SA, AM
 - »2036 Baseline + Dev + E of SA, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2024 Base										
Arm A1-L	D1	0.5	10.21	0.35	B	D2	0.3	8.87	0.24	A
Arm A2-RA		4.6	37.75	0.84	E		7.4	56.53	0.91	F
Arm B		10.0	52.00	0.93	F		16.9	80.73	0.99	F
Arm C		2.2	9.65	0.69	A		1.4	7.88	0.59	A
Arm D1-L		0.6	8.59	0.35	A		0.5	7.70	0.34	A
Arm D2-RA		17.0	91.27	0.99	F		18.1	89.76	1.00	F
2036 Baseline										
Arm A1-L	D3	0.7	11.43	0.41	B	D4	0.4	9.62	0.28	A
Arm A2-RA		12.1	87.60	0.97	F		23.9	148.06	1.05	F
Arm B		38.3	155.84	1.07	F		56.4	246.16	1.13	F
Arm C		3.6	14.13	0.79	B		2.0	9.85	0.67	A
Arm D1-L		0.7	9.86	0.41	A		0.7	8.60	0.39	A
Arm D2-RA		60.7	275.91	1.16	F		62.4	259.74	1.15	F
2036 Baseline + Dev										
Arm A1-L	D5	0.7	11.56	0.41	B	D6	0.4	9.70	0.28	A
Arm A2-RA		15.9	109.78	1.00	F		31.3	186.44	1.08	F
Arm B		78.4	341.14	1.18	F		127.6	578.03	1.27	F
Arm C		4.5	17.52	0.82	C		2.4	11.56	0.71	B
Arm D1-L		0.8	10.04	0.43	B		0.7	8.72	0.41	A
Arm D2-RA		175.4	844.96	1.41	F		146.3	672.28	1.33	F
2036 Baseline + Dev + E of SA										
Arm A1-L	D7	0.7	11.59	0.41	B	D8	0.4	9.72	0.28	A
Arm A2-RA		18.6	124.34	1.01	F		41.2	240.99	1.12	F
Arm B		88.6	399.35	1.20	F		165.6	742.75	1.33	F
Arm C		5.0	19.18	0.84	C		2.9	13.22	0.75	B
Arm D1-L		0.9	10.57	0.46	B		0.8	8.99	0.43	A
Arm D2-RA		247.6	1196.05	1.53	F		195.0	865.86	1.41	F

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	1. Port Road W - Pontypridd Road Rbt
Location	Barry, Vale of Glamorgan
Site number	
Date	03/06/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	C22133
Enumerator	DESKTOP-DDJJ6HGApex Modelling
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	Veh	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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:30	09:00	15
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15
D3	2036 Baseline	AM	ONE HOUR	07:30	09:00	15
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15
D5	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	41.32	E

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	41.32	E

Arms

Arms

Arm	Name	Description	No give-way line
A1-L	Waycock Road (left turn)		
A2-RA	Waycock Road (right - ahead)		
B	Port Road (east)		
C	Pontypridd Road		
D1-L	Port Road (west) (left turn)		
D2-RA	Port Road (West) - Right / Ahead		

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
A1-L	3.40	3.40	0.0	24.4	66.8	51.0		
A2-RA	3.40	3.40	0.0	24.4	66.8	51.0		
B	3.65	3.65	0.0	21.5	68.9	18.0		
C	3.10	6.40	18.0	22.0	65.8	39.0		
D1-L	3.45	3.45	0.0	9.0	66.8	31.0		
D2-RA	3.45	3.45	0.0	9.0	66.8	31.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A1-L	0.386	964
A2-RA	0.386	964
B	0.435	1156
C	0.491	1527
D1-L	0.388	979
D2-RA	0.388	979

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	174	100.000
A2-RA		✓	416	100.000
B		✓	650	100.000
C		✓	751	100.000
D1-L		✓	203	100.000
D2-RA		✓	610	100.000

Origin-Destination Data

Demand (Veh/hr)

		To					
		A1-L	A2-RA	B	C	D1-L	D2-RA
From	A1-L	0	174	0	0	0	0
	A2-RA	0	0	0	245	171	0
	B	210	0	1	260	179	0
	C	106	0	340	9	296	0
	D1-L	0	0	0	0	0	203
	D2-RA	0	0	274	336	0	0

Vehicle Mix

Heavy Vehicle %

		To					
		A1-L	A2-RA	B	C	D1-L	D2-RA
From	A1-L	0	2	0	0	0	0
	A2-RA	0	0	0	0	4	0
	B	3	0	0	2	6	0
	C	0	0	2	0	1	0
	D1-L	0	0	0	0	0	7
	D2-RA	0	0	4	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.35	10.21	0.5	B
A2-RA	0.84	37.75	4.6	E
B	0.93	52.00	10.0	F
C	0.69	9.65	2.2	A
D1-L	0.35	8.59	0.6	A
D2-RA	0.99	91.27	17.0	F

Main Results for each time segment

07:30 - 07:45

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
A1-L	134	729	683	0.196	133	0.2	6.683	A
A2-RA	318	729	683	0.466	315	0.9	9.855	A
B	506	573	907	0.558	501	1.3	9.064	A
C	572	437	1313	0.436	569	0.8	4.875	A
D1-L	164	508	782	0.210	163	0.3	6.233	A
D2-RA	468	508	782	0.599	462	1.5	11.285	B

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
A1-L	160	873	628	0.255	160	0.3	7.864	A
A2-RA	380	873	628	0.606	378	1.5	14.503	B
B	604	687	857	0.705	600	2.3	14.225	B
C	683	523	1271	0.538	682	1.2	6.169	A
D1-L	196	608	743	0.264	196	0.4	7.056	A
D2-RA	559	608	743	0.752	554	2.9	18.820	C

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
A1-L	196	1038	564	0.348	195	0.5	9.967	A
A2-RA	466	1038	564	0.826	456	4.0	31.234	D
B	740	817	800	0.925	717	8.1	37.330	E
C	837	627	1220	0.686	833	2.1	9.322	A
D1-L	240	738	693	0.346	239	0.6	8.512	A
D2-RA	685	738	693	0.989	648	12.2	56.964	F

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
A1-L	196	1057	556	0.352	196	0.5	10.213	B
A2-RA	466	1057	556	0.837	464	4.6	37.750	E
B	740	835	793	0.934	732	10.0	51.998	F
C	837	640	1214	0.690	837	2.2	9.649	A
D1-L	240	745	690	0.348	240	0.6	8.590	A
D2-RA	685	745	690	0.993	665	17.0	91.266	F

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
A1-L	160	935	604	0.265	161	0.4	8.328	A
A2-RA	380	935	604	0.630	391	1.8	18.054	C
B	604	733	837	0.722	633	2.9	20.379	C
C	683	549	1258	0.543	687	1.2	6.425	A
D1-L	196	622	738	0.266	197	0.4	7.157	A
D2-RA	559	622	738	0.758	613	3.6	38.030	E

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
A1-L	134	745	677	0.198	134	0.3	6.795	A
A2-RA	318	745	677	0.470	322	0.9	10.417	B
B	506	588	900	0.562	512	1.4	9.727	A
C	572	446	1308	0.437	574	0.8	4.972	A
D1-L	164	514	780	0.211	165	0.3	6.291	A
D2-RA	468	514	780	0.601	476	1.6	12.394	B

2024 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	54.02	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	54.02	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	117	100.000
A2-RA		✓	451	100.000
B		✓	692	100.000
C		✓	592	100.000
D1-L		✓	218	100.000
D2-RA		✓	664	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	117	0	0	0	0	
A2-RA	0	0	0	172	279	0	
B	134	0	1	218	339	0	
C	116	0	288	10	178	0	
D1-L	0	0	0	0	0	218	
D2-RA	0	0	328	336	0	0	

Vehicle Mix

Heavy Vehicle %

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	4	0	0	0	0	
A2-RA	0	0	0	1	3	0	
B	1	0	0	0	1	0	
C	0	0	2	0	2	0	
D1-L	0	0	0	0	0	5	
D2-RA	0	0	2	1	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.24	8.87	0.3	A
A2-RA	0.91	56.53	7.4	F
B	0.99	80.73	16.9	F
C	0.59	7.88	1.4	A
D1-L	0.34	7.70	0.5	A
D2-RA	1.00	89.76	18.1	F

Main Results for each time segment

15:15 - 15:30

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
A1-L	92	727	684	0.134	91	0.2	6.329	A
A2-RA	346	727	684	0.507	342	1.0	10.632	B
B	525	602	894	0.587	519	1.4	9.537	A
C	452	569	1248	0.362	449	0.6	4.554	A
D1-L	172	415	818	0.211	171	0.3	5.838	A
D2-RA	506	415	818	0.618	500	1.6	11.230	B

15:30 - 15:45

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
A1-L	110	871	628	0.175	109	0.2	7.231	A
A2-RA	414	871	628	0.658	410	1.9	16.571	C
B	627	721	842	0.744	621	2.7	16.013	C
C	539	681	1193	0.452	538	0.8	5.562	A
D1-L	206	497	786	0.262	206	0.4	6.508	A
D2-RA	604	497	786	0.768	598	3.1	18.774	C

15:45 - 16:00

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
A1-L	134	1034	565	0.238	134	0.3	8.691	A
A2-RA	506	1034	565	0.896	490	6.0	41.642	E
B	767	854	784	0.978	731	11.8	49.527	E
C	661	806	1132	0.584	658	1.4	7.667	A
D1-L	252	602	745	0.338	251	0.5	7.649	A
D2-RA	740	602	745	0.993	700	13.0	55.913	F

16:00 - 16:15

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
A1-L	134	1054	558	0.241	134	0.3	8.865	A
A2-RA	506	1054	558	0.908	501	7.4	56.531	F
B	767	875	775	0.990	747	16.9	80.728	F
C	661	824	1123	0.588	660	1.4	7.882	A
D1-L	252	607	744	0.339	252	0.5	7.695	A
D2-RA	740	607	744	0.995	719	18.1	89.760	F

16:15 - 16:30

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
A1-L	110	936	603	0.182	110	0.2	7.617	A
A2-RA	414	936	603	0.685	434	2.4	23.795	C
B	627	776	818	0.766	680	3.6	33.291	D
C	539	736	1166	0.462	542	0.9	5.861	A
D1-L	206	511	781	0.264	206	0.4	6.590	A
D2-RA	604	511	781	0.774	661	3.9	39.530	E

16:30 - 16:45

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
A1-L	92	744	677	0.136	92	0.2	6.420	A
A2-RA	346	744	677	0.511	351	1.1	11.439	B
B	525	619	887	0.592	533	1.5	10.492	B
C	452	584	1241	0.364	453	0.6	4.637	A
D1-L	172	420	816	0.211	173	0.3	5.884	A
D2-RA	506	420	816	0.620	515	1.7	12.412	B

2036 Baseline, 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	114.25	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	114.25	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2036 Baseline	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	195	100.000
A2-RA		✓	467	100.000
B		✓	729	100.000
C		✓	842	100.000
D1-L		✓	228	100.000
D2-RA		✓	684	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	195	0	0	0	0	
A2-RA	0	0	0	275	192	0	
B	235	0	1	292	201	0	
C	119	0	381	10	332	0	
D1-L	0	0	0	0	0	228	
D2-RA	0	0	307	377	0	0	

Vehicle Mix

Heavy Vehicle %

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	2	0	0	0	0	
A2-RA	0	0	0	0	4	0	
B	3	0	0	1	6	0	
C	0	0	2	0	1	0	
D1-L	0	0	0	0	0	7	
D2-RA	0	0	4	1	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.41	11.43	0.7	B
A2-RA	0.97	87.60	12.1	F
B	1.07	155.84	38.3	F
C	0.79	14.13	3.6	B
D1-L	0.41	9.86	0.7	A
D2-RA	1.16	275.91	60.7	F

Main Results for each time segment

07:30 - 07:45

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
A1-L	150	815	650	0.230	149	0.3	7.309	A
A2-RA	358	815	650	0.550	353	1.2	12.133	B
B	567	641	877	0.646	560	1.8	11.469	B
C	641	488	1288	0.498	637	1.0	5.568	A
D1-L	184	568	759	0.243	183	0.3	6.701	A
D2-RA	525	568	759	0.692	516	2.2	14.650	B

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
A1-L	179	970	590	0.303	178	0.4	8.915	A
A2-RA	427	970	590	0.724	422	2.5	21.180	C
B	677	764	823	0.822	667	4.2	22.548	C
C	766	583	1241	0.617	764	1.6	7.581	A
D1-L	220	680	715	0.308	220	0.5	7.798	A
D2-RA	627	680	715	0.876	613	5.6	32.102	D

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
A1-L	219	1090	544	0.403	218	0.7	11.251	B
A2-RA	523	1090	544	0.962	496	9.1	58.091	F
B	829	863	780	1.062	756	22.5	79.358	F
C	938	668	1200	0.782	931	3.4	13.202	B
D1-L	270	810	665	0.406	269	0.7	9.742	A
D2-RA	767	810	665	1.154	654	33.9	125.317	F

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
A1-L	219	1099	540	0.406	219	0.7	11.433	B
A2-RA	523	1099	540	0.968	511	12.1	87.599	F
B	829	881	773	1.073	766	38.3	155.836	F
C	938	680	1194	0.786	937	3.6	14.129	B
D1-L	270	817	662	0.408	270	0.7	9.860	A
D2-RA	767	817	662	1.159	660	60.7	267.522	F

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
A1-L	179	1051	559	0.320	180	0.5	9.710	A
A2-RA	427	1051	559	0.764	461	3.7	44.643	E
B	677	844	789	0.858	768	15.5	131.559	F
C	766	660	1204	0.636	773	1.8	8.591	A
D1-L	220	718	700	0.314	221	0.5	8.086	A
D2-RA	627	718	700	0.895	689	45.1	275.905	F

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
A1-L	150	996	580	0.258	150	0.4	8.557	A
A2-RA	358	996	580	0.616	366	1.7	17.668	C
B	567	751	829	0.684	620	2.4	21.845	C
C	641	530	1267	0.506	644	1.1	5.878	A
D1-L	184	592	749	0.246	185	0.4	6.860	A
D2-RA	525	592	749	0.700	694	2.8	107.202	F

2036 Baseline, 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	152.22	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	152.22	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	131	100.000
A2-RA		✓	505	100.000
B		✓	775	100.000
C		✓	663	100.000
D1-L		✓	244	100.000
D2-RA		✓	743	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	131	0	0	0	0	
A2-RA	0	0	0	193	312	0	
B	150	0	1	244	380	0	
C	130	0	323	11	199	0	
D1-L	0	0	0	0	0	244	
D2-RA	0	0	367	376	0	0	

Vehicle Mix

Heavy Vehicle %

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	5	0	0	0	0	
A2-RA	0	0	0	1	3	0	
B	1	0	0	0	1	0	
C	0	0	2	0	2	0	
D1-L	0	0	0	0	0	5	
D2-RA	0	0	2	1	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.28	9.62	0.4	A
A2-RA	1.05	148.06	23.9	F
B	1.13	246.16	56.4	F
C	0.67	9.85	2.0	A
D1-L	0.39	8.60	0.7	A
D2-RA	1.15	259.74	62.4	F

Main Results for each time segment

15:15 - 15:30

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
A1-L	103	812	651	0.158	102	0.2	6.852	A
A2-RA	388	812	651	0.596	382	1.4	13.378	B
B	587	671	864	0.680	579	2.0	12.385	B
C	506	634	1216	0.416	503	0.7	5.097	A
D1-L	193	465	799	0.241	191	0.3	6.204	A
D2-RA	566	465	799	0.709	557	2.3	14.552	B

15:30 - 15:45

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
A1-L	123	967	591	0.208	123	0.3	8.034	A
A2-RA	463	967	591	0.783	456	3.3	25.789	D
B	701	799	808	0.867	688	5.4	27.445	D
C	604	755	1157	0.522	603	1.1	6.563	A
D1-L	230	556	764	0.301	230	0.4	7.069	A
D2-RA	676	556	764	0.885	661	6.0	31.777	D

15:45 - 16:00

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
A1-L	151	1085	546	0.276	150	0.4	9.512	A
A2-RA	567	1085	546	1.039	520	15.1	82.595	F
B	859	890	769	1.117	755	31.4	103.324	F
C	740	840	1115	0.664	736	1.9	9.554	A
D1-L	282	662	722	0.390	281	0.7	8.545	A
D2-RA	828	662	722	1.147	711	35.1	119.950	F

16:00 - 16:15

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
A1-L	151	1094	542	0.278	151	0.4	9.620	A
A2-RA	567	1094	542	1.046	532	23.9	148.062	F
B	859	907	761	1.128	759	56.4	220.679	F
C	740	851	1110	0.667	740	2.0	9.848	A
D1-L	282	665	721	0.391	282	0.7	8.600	A
D2-RA	828	665	721	1.149	719	62.4	253.719	F

16:15 - 16:30

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
A1-L	123	1054	558	0.221	124	0.3	8.682	A
A2-RA	463	1054	558	0.830	530	7.1	110.813	F
B	701	916	757	0.926	744	45.7	246.163	F
C	604	840	1115	0.542	607	1.2	7.223	A
D1-L	230	570	758	0.304	231	0.5	7.176	A
D2-RA	676	570	758	0.892	746	44.9	259.740	F

16:30 - 16:45

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
A1-L	103	991	582	0.177	103	0.2	7.872	A
A2-RA	388	991	582	0.666	407	2.2	23.052	C
B	587	785	814	0.721	757	3.1	100.746	F
C	506	773	1148	0.441	508	0.8	5.709	A
D1-L	193	503	784	0.246	193	0.3	6.399	A
D2-RA	566	503	784	0.722	733	3.2	105.591	F

2036 Baseline + 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	308.30	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	308.30	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	195	100.000
A2-RA		✓	478	100.000
B		✓	816	100.000
C		✓	865	100.000
D1-L		✓	243	100.000
D2-RA		✓	844	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	195	0	0	0	0	
A2-RA	0	0	0	275	203	0	
B	235	0	1	292	288	0	
C	119	0	381	10	355	0	
D1-L	0	0	0	0	0	243	
D2-RA	0	0	433	411	0	0	

Vehicle Mix

Heavy Vehicle %

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	2	0	0	0	0	
A2-RA	0	0	0	0	4	0	
B	3	0	0	1	4	0	
C	0	0	2	0	1	0	
D1-L	0	0	0	0	0	7	
D2-RA	0	0	3	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.41	11.56	0.7	B
A2-RA	1.00	109.78	15.9	F
B	1.18	341.14	78.4	F
C	0.82	17.52	4.5	C
D1-L	0.43	10.04	0.8	B
D2-RA	1.41	844.96	175.4	F

Main Results for each time segment

07:30 - 07:45

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
A1-L	150	924	608	0.247	148	0.3	7.978	A
A2-RA	366	924	608	0.602	360	1.5	14.459	B
B	632	669	865	0.731	622	2.6	14.686	B
C	659	559	1253	0.526	654	1.1	6.037	A
D1-L	196	567	759	0.258	194	0.4	6.803	A
D2-RA	645	567	759	0.850	626	4.8	24.791	C

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
A1-L	179	1054	558	0.321	178	0.5	9.671	A
A2-RA	437	1054	558	0.784	430	3.2	27.214	D
B	755	775	819	0.922	734	8.0	36.650	E
C	787	662	1203	0.654	784	1.9	8.626	A
D1-L	234	676	717	0.326	233	0.5	7.957	A
D2-RA	770	676	717	1.075	697	23.2	89.302	F

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
A1-L	219	1106	538	0.407	218	0.7	11.470	B
A2-RA	535	1106	538	0.995	502	11.4	70.086	F
B	925	837	792	1.168	784	43.2	132.539	F
C	963	726	1171	0.823	954	4.3	16.063	C
D1-L	286	791	672	0.426	285	0.8	9.931	A
D2-RA	944	791	672	1.404	671	91.3	319.533	F

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
A1-L	219	1108	537	0.408	219	0.7	11.563	B
A2-RA	535	1108	537	0.997	517	15.9	109.785	F
B	925	851	786	1.177	784	78.4	289.197	F
C	963	732	1168	0.825	962	4.5	17.524	C
D1-L	286	797	670	0.427	286	0.8	10.037	B
D2-RA	944	797	670	1.409	670	159.8	667.660	F

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
A1-L	179	1071	551	0.325	180	0.5	9.912	A
A2-RA	437	1071	551	0.793	482	4.6	64.063	F
B	755	832	794	0.951	784	71.3	341.143	F
C	787	717	1176	0.669	796	2.1	9.826	A
D1-L	234	698	708	0.330	235	0.5	8.153	A
D2-RA	770	698	708	1.088	708	175.4	844.965	F

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
A1-L	150	1032	566	0.265	150	0.4	8.848	A
A2-RA	366	1032	566	0.646	377	2.0	20.296	C
B	632	736	836	0.757	824	23.4	211.435	F
C	659	697	1185	0.556	662	1.3	7.003	A
D1-L	196	630	734	0.267	196	0.4	7.164	A
D2-RA	645	630	734	0.879	730	154.2	812.930	F

2036 Baseline + 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	357.33	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	357.33	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	131	100.000
A2-RA		✓	518	100.000
B		✓	887	100.000
C		✓	693	100.000
D1-L		✓	256	100.000
D2-RA		✓	871	100.000

Origin-Destination Data

Demand (Veh/hr)

		To					
		A1-L	A2-RA	B	C	D1-L	D2-RA
From	A1-L	0	131	0	0	0	0
	A2-RA	0	0	0	193	325	0
	B	150	0	1	244	492	0
	C	130	0	323	11	229	0
	D1-L	0	0	0	0	0	256
	D2-RA	0	0	468	403	0	0

Vehicle Mix

Heavy Vehicle %

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	5	0	0	0	0	
A2-RA	0	0	0	1	2	0	
B	1	0	0	0	1	0	
C	0	0	2	0	1	0	
D1-L	0	0	0	0	0	5	
D2-RA	0	0	1	1	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.28	9.70	0.4	A
A2-RA	1.08	186.44	31.3	F
B	1.27	578.03	127.6	F
C	0.71	11.56	2.4	B
D1-L	0.41	8.72	0.7	A
D2-RA	1.33	672.28	146.3	F

Main Results for each time segment

15:15 - 15:30

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
A1-L	103	901	617	0.167	102	0.2	7.305	A
A2-RA	398	901	617	0.644	390	1.8	15.765	C
B	672	697	853	0.787	658	3.4	17.534	C
C	529	724	1172	0.451	525	0.8	5.607	A
D1-L	202	464	799	0.252	200	0.4	6.280	A
D2-RA	663	464	799	0.829	646	4.2	21.755	C

15:30 - 15:45

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
A1-L	123	1041	563	0.219	123	0.3	8.554	A
A2-RA	475	1041	563	0.844	464	4.5	33.925	D
B	802	813	802	1.000	759	14.2	56.009	F
C	631	843	1114	0.567	629	1.3	7.494	A
D1-L	241	551	765	0.315	240	0.5	7.172	A
D2-RA	791	551	765	1.034	736	18.1	70.483	F

15:45 - 16:00

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
A1-L	151	1100	540	0.279	150	0.4	9.651	A
A2-RA	581	1100	540	1.076	522	19.3	101.129	F
B	982	869	778	1.263	775	66.0	199.439	F
C	773	891	1090	0.709	769	2.4	11.196	B
D1-L	295	647	728	0.405	294	0.7	8.666	A
D2-RA	969	647	728	1.331	726	78.7	252.454	F

16:00 - 16:15

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
A1-L	151	1102	539	0.280	151	0.4	9.695	A
A2-RA	581	1102	539	1.078	533	31.3	186.435	F
B	982	881	773	1.271	772	118.5	440.130	F
C	773	896	1087	0.711	773	2.4	11.561	B
D1-L	295	649	727	0.406	295	0.7	8.718	A
D2-RA	969	649	727	1.332	727	139.2	538.800	F

16:15 - 16:30

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
A1-L	123	1071	551	0.224	124	0.3	8.814	A
A2-RA	475	1071	551	0.861	534	16.5	166.353	F
B	802	895	766	1.046	765	127.6	578.034	F
C	631	892	1090	0.579	635	1.4	8.092	A
D1-L	241	556	763	0.316	242	0.5	7.238	A
D2-RA	791	556	763	1.036	763	146.3	672.281	F

16:30 - 16:45

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
A1-L	103	1041	563	0.183	103	0.2	8.204	A
A2-RA	398	1041	563	0.707	453	2.7	45.172	E
B	672	823	798	0.841	792	97.5	512.669	F
C	529	860	1105	0.478	530	0.9	6.364	A
D1-L	202	490	789	0.256	202	0.4	6.428	A
D2-RA	663	490	789	0.840	784	116.1	603.628	F

2036 Baseline + Dev + E of SA, 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	421.90	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	421.90	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	195	100.000
A2-RA		✓	486	100.000
B		✓	832	100.000
C		✓	877	100.000
D1-L		✓	264	100.000
D2-RA		✓	918	100.000

Origin-Destination Data

Demand (Veh/hr)

		To					
		A1-L	A2-RA	B	C	D1-L	D2-RA
From	A1-L	0	195	0	0	0	0
	A2-RA	0	0	0	275	211	0
	B	235	0	1	292	304	0
	C	119	0	381	10	367	0
	D1-L	0	0	0	0	0	264
	D2-RA	0	0	475	443	0	0

Vehicle Mix

Heavy Vehicle %

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	2	0	0	0	0	
A2-RA	0	0	0	0	4	0	
B	3	0	0	1	4	0	
C	0	0	2	0	1	0	
D1-L	0	0	0	0	0	6	
D2-RA	0	0	2	0	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.41	11.59	0.7	B
A2-RA	1.01	124.34	18.6	F
B	1.20	399.35	88.6	F
C	0.84	19.18	5.0	C
D1-L	0.46	10.57	0.9	B
D2-RA	1.53	1196.05	247.6	F

Main Results for each time segment

07:30 - 07:45

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
A1-L	150	969	591	0.254	148	0.3	8.283	A
A2-RA	372	969	591	0.630	365	1.6	15.818	C
B	644	693	854	0.754	633	2.9	15.969	C
C	668	576	1245	0.536	663	1.2	6.212	A
D1-L	212	567	759	0.279	210	0.4	6.959	A
D2-RA	701	567	759	0.923	670	7.7	33.989	D

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
A1-L	179	1066	553	0.324	178	0.5	9.793	A
A2-RA	444	1066	553	0.803	436	3.6	29.559	D
B	770	784	815	0.945	744	9.4	41.682	E
C	797	680	1194	0.668	794	2.0	9.035	A
D1-L	253	675	717	0.352	252	0.6	8.225	A
D2-RA	837	675	717	1.167	709	39.6	136.930	F

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
A1-L	219	1108	537	0.408	218	0.7	11.496	B
A2-RA	544	1108	537	1.013	507	12.9	76.661	F
B	942	839	791	1.192	784	48.9	148.358	F
C	977	738	1165	0.838	966	4.7	17.357	C
D1-L	309	787	674	0.459	308	0.9	10.442	B
D2-RA	1025	787	674	1.521	673	127.5	457.435	F

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
A1-L	219	1110	536	0.409	219	0.7	11.587	B
A2-RA	544	1110	536	1.015	521	18.6	124.343	F
B	942	853	785	1.201	784	88.6	325.664	F
C	977	744	1162	0.840	975	5.0	19.184	C
D1-L	309	792	672	0.461	309	0.9	10.572	B
D2-RA	1025	792	672	1.526	672	215.9	900.960	F

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
A1-L	179	1074	550	0.325	180	0.5	9.941	A
A2-RA	444	1074	550	0.807	497	5.3	79.555	F
B	770	846	788	0.977	779	86.2	399.347	F
C	797	730	1169	0.682	808	2.2	10.380	B
D1-L	253	693	710	0.356	254	0.6	8.422	A
D2-RA	837	693	710	1.179	710	247.6	1171.940	F

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
A1-L	150	1035	565	0.265	150	0.4	8.875	A
A2-RA	372	1035	565	0.658	385	2.1	21.606	C
B	644	743	833	0.774	823	41.6	282.631	F
C	668	709	1180	0.566	671	1.3	7.217	A
D1-L	212	626	736	0.287	212	0.4	7.321	A
D2-RA	701	626	736	0.952	733	239.5	1196.051	F

2036 Baseline + Dev + E of SA, 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	Port Road W - Pontypridd Road Rbt	Standard Roundabout		A1-L, A2-RA, B, C, D1-L, D2-RA	461.74	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	461.74	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A1-L		✓	131	100.000
A2-RA		✓	537	100.000
B		✓	926	100.000
C		✓	722	100.000
D1-L		✓	271	100.000
D2-RA		✓	924	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	131	0	0	0	0	
A2-RA	0	0	0	193	344	0	
B	150	0	1	244	531	0	
C	130	0	323	11	258	0	
D1-L	0	0	0	0	0	271	
D2-RA	0	0	498	426	0	0	

Vehicle Mix

Heavy Vehicle %

From	To						
	A1-L	A2-RA	B	C	D1-L	D2-RA	
A1-L	0	5	0	0	0	0	
A2-RA	0	0	0	1	2	0	
B	1	0	0	0	1	0	
C	0	0	2	0	1	0	
D1-L	0	0	0	0	0	4	
D2-RA	0	0	1	1	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A1-L	0.28	9.72	0.4	A
A2-RA	1.12	240.99	41.2	F
B	1.33	742.75	165.6	F
C	0.75	13.22	2.9	B
D1-L	0.43	8.99	0.8	A
D2-RA	1.41	865.86	195.0	F

Main Results for each time segment

15:15 - 15:30

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
A1-L	103	935	604	0.171	102	0.2	7.496	A
A2-RA	412	935	604	0.682	404	2.1	17.911	C
B	701	724	841	0.834	683	4.4	21.130	C
C	550	763	1153	0.477	547	0.9	5.977	A
D1-L	213	463	799	0.267	212	0.4	6.380	A
D2-RA	702	463	799	0.879	680	5.7	26.669	D

15:30 - 15:45

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
A1-L	123	1056	557	0.221	123	0.3	8.669	A
A2-RA	492	1056	557	0.883	478	5.6	40.489	E
B	837	833	794	1.055	768	21.5	76.105	F
C	657	874	1099	0.598	655	1.5	8.170	A
D1-L	254	547	767	0.332	254	0.5	7.318	A
D2-RA	839	547	767	1.094	751	27.7	96.433	F

15:45 - 16:00

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
A1-L	151	1102	539	0.280	150	0.4	9.678	A
A2-RA	602	1102	539	1.117	527	24.4	122.033	F
B	1025	874	775	1.322	774	84.2	257.737	F
C	805	909	1081	0.744	800	2.8	12.703	B
D1-L	312	640	731	0.427	311	0.8	8.931	A
D2-RA	1027	640	731	1.406	730	102.1	331.203	F

16:00 - 16:15

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
A1-L	151	1104	538	0.280	151	0.4	9.717	A
A2-RA	602	1104	538	1.119	535	41.2	235.862	F
B	1025	883	772	1.328	772	147.6	550.778	F
C	805	913	1079	0.746	805	2.9	13.218	B
D1-L	312	643	729	0.427	312	0.8	8.994	A
D2-RA	1027	643	729	1.408	729	176.6	681.438	F

16:15 - 16:30

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
A1-L	123	1074	550	0.224	124	0.3	8.837	A
A2-RA	492	1074	550	0.894	537	30.0	240.989	F
B	837	898	765	1.094	765	165.6	742.651	F
C	657	909	1081	0.608	662	1.6	8.798	A
D1-L	254	551	765	0.332	255	0.5	7.387	A
D2-RA	839	551	765	1.096	765	195.0	865.863	F

16:30 - 16:45

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
A1-L	103	1047	561	0.184	103	0.2	8.240	A
A2-RA	412	1047	561	0.735	518	3.5	107.288	F
B	701	889	769	0.911	765	149.7	742.750	F
C	550	897	1087	0.506	553	1.1	6.841	A
D1-L	213	480	793	0.269	214	0.4	6.496	A
D2-RA	702	480	793	0.886	789	173.4	841.044	F

Junctions 10
PICADY 10 - Priority Intersection Module
Version: 10.1.1.1905 © Copyright TRL Software Limited, 2023
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 2. Fontgary Road - B4265 Jct (V2).j10
Path: C:\Users\Modelling\Apex Transport Planning Ltd\Apex Transport Planning Ltd - Documents\1.Projects\C22-\C22-133 - Land at St Athan\4.Modelling\2. Fontgary Road - B4265 Jct
Report generation date: 10/12/2024 20:50:10

- »2024 Base, AM
- »2024 Base, PM
- »2036 Baseline, AM
- »2036 Baseline, PM
- »2036 Baseline + Dev, AM
- »2036 Baseline + Dev, PM
- »2036 Baseline + Dev + E of SA, AM
- »2036 Baseline + Dev + E of SA, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2024 Base										
Stream B-C	D1	0.3	7.16	0.25	A	D2	0.3	7.11	0.24	A
Stream B-A		0.1	15.31	0.07	C		0.1	12.64	0.12	B
Stream C-AB		0.3	7.99	0.22	A		0.4	8.15	0.25	A
2036 Baseline										
Stream B-C	D3	0.4	7.71	0.28	A	D4	0.4	7.70	0.27	A
Stream B-A		0.1	16.99	0.08	C		0.2	14.20	0.14	B
Stream C-AB		0.4	8.57	0.25	A		0.4	8.75	0.28	A
2036 Baseline + Dev										
Stream B-C	D5	0.5	8.69	0.32	A	D6	0.5	9.04	0.32	A
Stream B-A		0.2	22.51	0.10	C		0.3	20.03	0.19	C
Stream C-AB		0.5	9.58	0.30	A		0.5	10.10	0.33	B
2036 Baseline + Dev + E of SA										
Stream B-C	D7	0.5	9.24	0.34	A	D8	0.6	10.71	0.39	B
Stream B-A		0.2	27.76	0.13	D		0.4	28.05	0.25	D
Stream C-AB		0.6	10.39	0.34	B		0.7	11.55	0.38	B

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	2. Fontgary Road - B4265 Jct
Location	Barry, Vale of Glamorgan
Site number	
Date	03/06/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	C22133
Enumerator	DESKTOP-DDJJ6HG\Apex Modelling
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	Veh	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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:15	08:45	15
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15
D3	2036 Baseline	AM	ONE HOUR	07:15	08:45	15
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15
D5	2036 Baseline + Dev	AM	ONE HOUR	07:15	08:45	15
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:15	08:45	15
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Base, AM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	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

Arms

Arms

Arm	Name	Description	Arm type
A	B4265 E		Major
B	Fontgary Road		Minor
C	B4265 w		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.55		✓	3.20	200.0	✓	9.00

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	9.60	8.60	8.30	6.20		3.00	100	140

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	613	0.109	0.275	0.173	0.393
B-C	855	0.128	0.323	-	-
C-B	765	0.289	0.289	-	-

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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:15	08:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	368	100.000
B		✓	164	100.000
C		✓	497	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	22	346
	B	15	0	149
	C	381	116	0

Vehicle Mix

Heavy Vehicle %

	To			
	A	B	C	
From	A	0	14	3
	B	47	0	7
	C	4	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.25	7.16	0.3	A
B-A	0.07	15.31	0.1	C
C-AB	0.22	7.99	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	120	758	0.158	119	0.2	6.003	A
B-A	17	447	0.037	16	0.1	12.265	B
C-AB	97	681	0.143	96	0.2	6.834	A
C-A	298			298			
A-B	19			19			
A-C	270			270			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	143	739	0.193	143	0.3	6.444	A
B-A	20	414	0.048	20	0.1	13.390	B
C-AB	116	665	0.174	116	0.2	7.284	A
C-A	356			356			
A-B	22			22			
A-C	322			322			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	712	0.246	175	0.3	7.149	A
B-A	24	369	0.066	24	0.1	15.298	C
C-AB	142	643	0.221	142	0.3	7.983	A
C-A	436			436			
A-B	28			28			
A-C	394			394			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	712	0.246	175	0.3	7.158	A
B-A	24	369	0.066	24	0.1	15.313	C
C-AB	142	643	0.221	142	0.3	7.993	A
C-A	436			436			
A-B	28			28			
A-C	394			394			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	143	739	0.194	143	0.3	6.455	A
B-A	20	414	0.048	20	0.1	13.407	B
C-AB	116	665	0.174	116	0.2	7.298	A
C-A	356			356			
A-B	22			22			
A-C	322			322			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	120	758	0.158	120	0.2	6.023	A
B-A	17	446	0.037	17	0.1	12.292	B
C-AB	97	681	0.143	97	0.2	6.855	A
C-A	298			298			
A-B	19			19			
A-C	270			270			

2024 Base, PM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	T-Junction	Two-way	Two-way	Two-way		2.33	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.33	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	383	100.000
B		✓	178	100.000
C		✓	559	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	14	369
	B	35	0	143
	C	428	131	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	36	2
	B	9	0	5
	C	2	9	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.24	7.11	0.3	A
B-A	0.12	12.64	0.1	B
C-AB	0.25	8.15	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	113	748	0.151	112	0.2	5.930	A
B-A	29	434	0.066	28	0.1	9.618	A
C-AB	108	679	0.159	107	0.2	6.857	A
C-A	330			330			
A-B	14			14			
A-C	282			282			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	727	0.186	135	0.2	6.376	A
B-A	34	399	0.086	34	0.1	10.699	B
C-AB	129	662	0.194	128	0.3	7.354	A
C-A	394			394			
A-B	17			17			
A-C	337			337			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	165	696	0.237	165	0.3	7.101	A
B-A	42	351	0.119	42	0.1	12.627	B
C-AB	157	639	0.246	157	0.4	8.148	A
C-A	482			482			
A-B	21			21			
A-C	413			413			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	165	696	0.237	165	0.3	7.111	A
B-A	42	351	0.119	42	0.1	12.644	B
C-AB	157	639	0.246	157	0.4	8.153	A
C-A	482			482			
A-B	21			21			
A-C	413			413			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	727	0.186	135	0.2	6.388	A
B-A	34	399	0.086	34	0.1	10.721	B
C-AB	129	662	0.194	129	0.3	7.370	A
C-A	394			394			
A-B	17			17			
A-C	337			337			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	113	748	0.151	113	0.2	5.950	A
B-A	29	434	0.066	29	0.1	9.645	A
C-AB	108	679	0.159	108	0.2	6.884	A
C-A	330			330			
A-B	14			14			
A-C	282			282			

2036 Baseline, AM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	T-Junction	Two-way	Two-way	Two-way		2.49	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.49	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2036 Baseline	AM	ONE HOUR	07:15	08:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	413	100.000
B		✓	184	100.000
C		✓	557	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	25	388
	B	17	0	167
	C	427	130	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	12	3
	B	47	0	7
	C	4	12	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.28	7.71	0.4	A
B-A	0.08	16.99	0.1	C
C-AB	0.25	8.57	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	134	746	0.180	133	0.2	6.251	A
B-A	19	426	0.044	19	0.1	12.973	B
C-AB	109	671	0.163	108	0.2	7.120	A
C-A	334			334			
A-B	21			21			
A-C	302			302			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	160	724	0.221	160	0.3	6.794	A
B-A	22	390	0.058	22	0.1	14.406	B
C-AB	130	653	0.200	130	0.3	7.671	A
C-A	399			399			
A-B	25			25			
A-C	360			360			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	196	693	0.283	196	0.4	7.698	A
B-A	28	339	0.081	27	0.1	16.962	C
C-AB	160	628	0.254	159	0.4	8.555	A
C-A	489			489			
A-B	31			31			
A-C	442			442			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	196	693	0.283	196	0.4	7.713	A
B-A	28	339	0.081	28	0.1	16.987	C
C-AB	160	628	0.254	160	0.4	8.568	A
C-A	489			489			
A-B	31			31			
A-C	442			442			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	160	724	0.221	160	0.3	6.815	A
B-A	22	390	0.058	23	0.1	14.437	B
C-AB	130	653	0.200	131	0.3	7.689	A
C-A	399			399			
A-B	25			25			
A-C	360			360			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	134	746	0.180	134	0.2	6.276	A
B-A	19	426	0.044	19	0.1	13.008	B
C-AB	109	671	0.163	109	0.2	7.149	A
C-A	334			334			
A-B	21			21			
A-C	302			302			

2036 Baseline, PM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	T-Junction	Two-way	Two-way	Two-way		2.53	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.53	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	429	100.000
B		✓	199	100.000
C		✓	626	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	413
	B	39	0	160
	C	479	147	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	38	2
	B	8	0	5
	C	2	9	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.27	7.70	0.4	A
B-A	0.14	14.20	0.2	B
C-AB	0.28	8.75	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	735	0.172	126	0.2	6.189	A
B-A	32	413	0.077	31	0.1	10.151	B
C-AB	120	669	0.180	120	0.2	7.125	A
C-A	369			369			
A-B	17			17			
A-C	316			316			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	711	0.212	151	0.3	6.744	A
B-A	38	374	0.101	38	0.1	11.538	B
C-AB	144	650	0.221	144	0.3	7.734	A
C-A	440			440			
A-B	20			20			
A-C	378			378			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	676	0.274	185	0.4	7.686	A
B-A	46	319	0.145	46	0.2	14.164	B
C-AB	176	624	0.282	176	0.4	8.730	A
C-A	539			539			
A-B	24			24			
A-C	462			462			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	185	676	0.274	185	0.4	7.702	A
B-A	46	319	0.145	46	0.2	14.198	B
C-AB	176	624	0.282	176	0.4	8.747	A
C-A	539			539			
A-B	24			24			
A-C	462			462			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	151	711	0.213	151	0.3	6.766	A
B-A	38	373	0.101	38	0.1	11.572	B
C-AB	144	650	0.221	144	0.3	7.757	A
C-A	440			440			
A-B	20			20			
A-C	378			378			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	735	0.172	127	0.2	6.217	A
B-A	32	412	0.077	32	0.1	10.187	B
C-AB	120	669	0.180	121	0.2	7.154	A
C-A	369			369			
A-B	17			17			
A-C	316			316			

2036 Baseline + Dev, AM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	T-Junction	Two-way	Two-way	Two-way		2.41	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.41	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2036 Baseline + Dev	AM	ONE HOUR	07:15	08:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	534	100.000
B		✓	194	100.000
C		✓	746	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	25	509
	B	17	0	177
	C	602	144	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	12	3
	B	47	0	6
	C	3	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.32	8.69	0.5	A
B-A	0.10	22.51	0.2	C
C-AB	0.30	9.58	0.5	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	142	716	0.198	140	0.3	6.633	A
B-A	19	374	0.050	19	0.1	14.867	B
C-AB	120	645	0.186	119	0.2	7.538	A
C-A	466			466			
A-B	21			21			
A-C	393			393			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	169	688	0.246	169	0.3	7.363	A
B-A	22	328	0.069	22	0.1	17.342	C
C-AB	143	622	0.230	143	0.3	8.289	A
C-A	556			556			
A-B	25			25			
A-C	469			469			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	207	647	0.320	206	0.5	8.659	A
B-A	28	263	0.105	27	0.2	22.442	C
C-AB	175	590	0.297	175	0.5	9.560	A
C-A	682			682			
A-B	31			31			
A-C	575			575			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	207	647	0.320	207	0.5	8.687	A
B-A	28	263	0.105	28	0.2	22.507	C
C-AB	175	590	0.297	175	0.5	9.585	A
C-A	682			682			
A-B	31			31			
A-C	575			575			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	169	687	0.246	170	0.3	7.392	A
B-A	22	327	0.069	23	0.1	17.402	C
C-AB	143	622	0.230	143	0.3	8.319	A
C-A	556			556			
A-B	25			25			
A-C	469			469			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	142	716	0.198	142	0.3	6.667	A
B-A	19	374	0.050	19	0.1	14.926	B
C-AB	120	645	0.186	120	0.3	7.576	A
C-A	466			466			
A-B	21			21			
A-C	393			393			

2036 Baseline + Dev, PM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	T-Junction	Two-way	Two-way	Two-way		2.59	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.59	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	584	100.000
B		✓	211	100.000
C		✓	778	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	568
	B	39	0	172
	C	619	159	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	38	1
	B	8	0	5
	C	2	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.32	9.04	0.5	A
B-A	0.19	20.03	0.3	C
C-AB	0.33	10.10	0.5	B
C-A				
A-B				
A-C				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	136	697	0.194	135	0.3	6.686	A
B-A	32	359	0.088	31	0.1	11.829	B
C-AB	129	635	0.204	128	0.3	7.674	A
C-A	474			474			
A-B	17			17			
A-C	433			433			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	162	664	0.244	161	0.3	7.494	A
B-A	38	309	0.122	38	0.1	14.291	B
C-AB	155	610	0.254	154	0.4	8.545	A
C-A	566			566			
A-B	20			20			
A-C	517			517			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	198	615	0.322	198	0.5	9.006	A
B-A	46	240	0.193	46	0.3	19.926	C
C-AB	189	575	0.330	189	0.5	10.070	B
C-A	694			694			
A-B	24			24			
A-C	633			633			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	198	615	0.322	198	0.5	9.039	A
B-A	46	240	0.193	46	0.3	20.033	C
C-AB	189	575	0.330	189	0.5	10.104	B
C-A	694			694			
A-B	24			24			
A-C	633			633			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	162	663	0.244	162	0.3	7.530	A
B-A	38	308	0.122	38	0.2	14.372	B
C-AB	155	610	0.254	155	0.4	8.583	A
C-A	566			566			
A-B	20			20			
A-C	517			517			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	136	697	0.195	136	0.3	6.724	A
B-A	32	358	0.088	32	0.1	11.892	B
C-AB	129	635	0.204	130	0.3	7.717	A
C-A	474			474			
A-B	17			17			
A-C	433			433			

2036 Baseline + Dev + E of SA, AM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	T-Junction	Two-way	Two-way	Two-way		2.53	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.53	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:15	08:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	577	100.000
B		✓	202	100.000
C		✓	883	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	25	552
	B	17	0	185
	C	718	165	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	12	2
	B	47	0	6
	C	2	9	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.34	9.24	0.5	A
B-A	0.13	27.76	0.2	D
C-AB	0.34	10.39	0.6	B
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	148	705	0.209	146	0.3	6.818	A
B-A	19	344	0.055	18	0.1	16.246	C
C-AB	136	636	0.213	134	0.3	7.815	A
C-A	553			553			
A-B	21			21			
A-C	425			425			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	176	674	0.261	176	0.4	7.654	A
B-A	22	291	0.077	22	0.1	19.675	C
C-AB	162	611	0.265	161	0.4	8.735	A
C-A	661			661			
A-B	25			25			
A-C	508			508			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	216	629	0.343	215	0.5	9.202	A
B-A	28	218	0.126	27	0.2	27.625	D
C-AB	198	576	0.344	198	0.6	10.352	B
C-A	809			809			
A-B	31			31			
A-C	622			622			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	216	629	0.343	216	0.5	9.239	A
B-A	28	218	0.126	28	0.2	27.759	D
C-AB	198	576	0.344	198	0.6	10.391	B
C-A	809			809			
A-B	31			31			
A-C	622			622			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	176	674	0.262	177	0.4	7.691	A
B-A	22	291	0.077	23	0.1	19.776	C
C-AB	162	611	0.265	162	0.4	8.775	A
C-A	661			661			
A-B	25			25			
A-C	508			508			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	148	704	0.209	148	0.3	6.857	A
B-A	19	343	0.055	19	0.1	16.327	C
C-AB	136	636	0.213	136	0.3	7.863	A
C-A	553			553			
A-B	21			21			
A-C	425			425			

2036 Baseline + Dev + E of SA, PM

Data Errors and Warnings

No errors or warnings

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	Fontgary Road - B4265 Jct	T-Junction	Two-way	Two-way	Two-way		2.96	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.96	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	691	100.000
B		✓	230	100.000
C		✓	876	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	675
	B	39	0	191
	C	702	174	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	38	1
	B	8	0	4
	C	2	7	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.39	10.71	0.6	B
B-A	0.25	28.05	0.4	D
C-AB	0.38	11.55	0.7	B
C-A				
A-B				
A-C				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	670	0.224	149	0.3	7.183	A
B-A	32	321	0.098	31	0.1	13.331	B
C-AB	141	612	0.230	140	0.3	8.174	A
C-A	537			537			
A-B	17			17			
A-C	513			513			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	179	630	0.284	178	0.4	8.293	A
B-A	38	264	0.143	38	0.2	17.117	C
C-AB	168	582	0.289	168	0.4	9.331	A
C-A	641			641			
A-B	20			20			
A-C	613			613			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	219	570	0.385	218	0.6	10.639	B
B-A	46	185	0.250	46	0.3	27.738	D
C-AB	206	541	0.381	205	0.6	11.492	B
C-A	785			785			
A-B	24			24			
A-C	751			751			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	219	569	0.385	219	0.6	10.714	B
B-A	46	184	0.251	46	0.4	28.052	D
C-AB	206	541	0.381	206	0.7	11.549	B
C-A	785			785			
A-B	24			24			
A-C	751			751			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	179	630	0.284	180	0.4	8.357	A
B-A	38	263	0.143	38	0.2	17.296	C
C-AB	168	582	0.289	169	0.4	9.391	A
C-A	641			641			
A-B	20			20			
A-C	613			613			

16:30 - 16:45

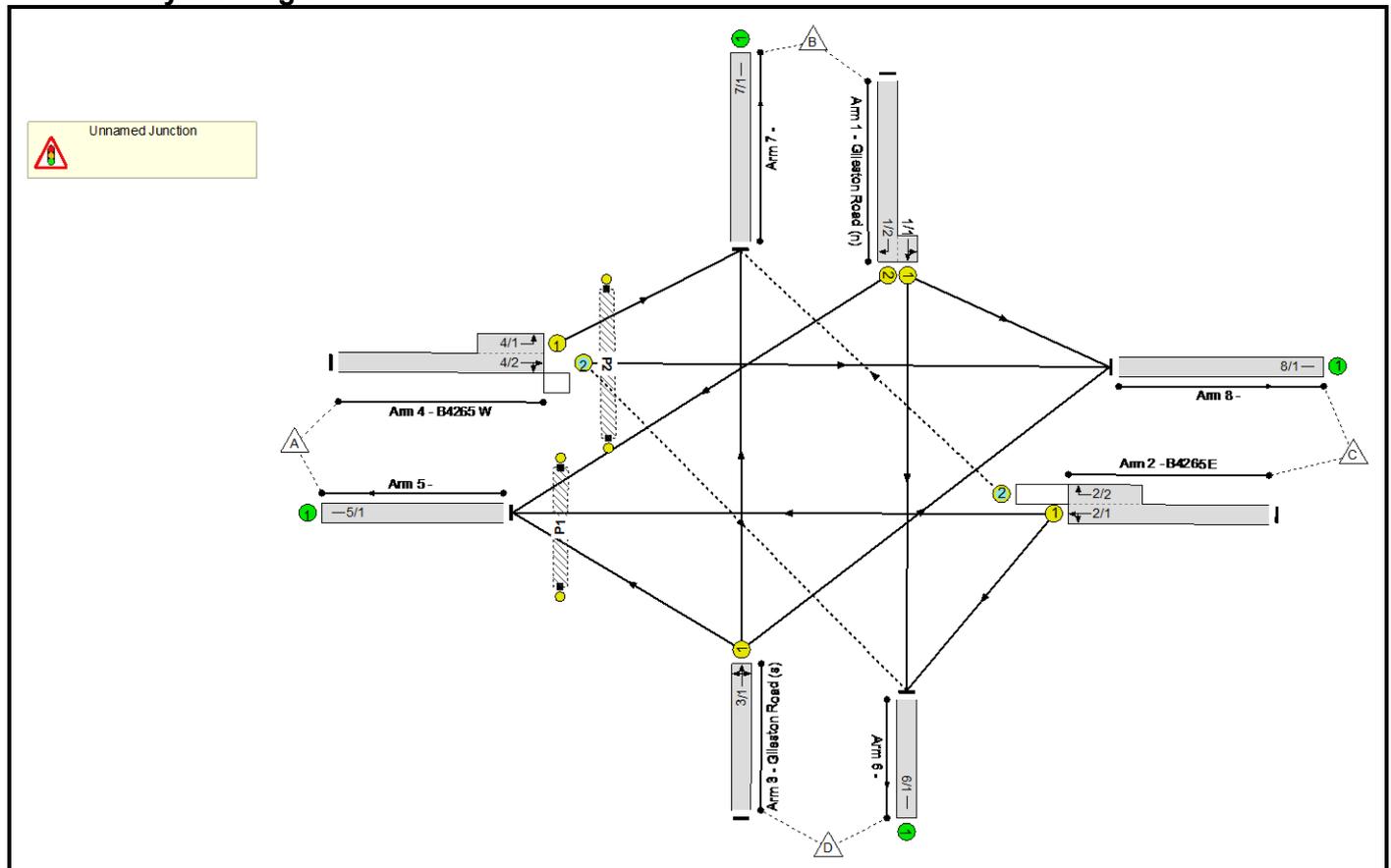
Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	669	0.224	150	0.3	7.235	A
B-A	32	320	0.099	32	0.1	13.452	B
C-AB	141	612	0.230	141	0.3	8.236	A
C-A	537			537			
A-B	17			17			
A-C	513			513			

Full Input Data And Results
Full Input Data And Results

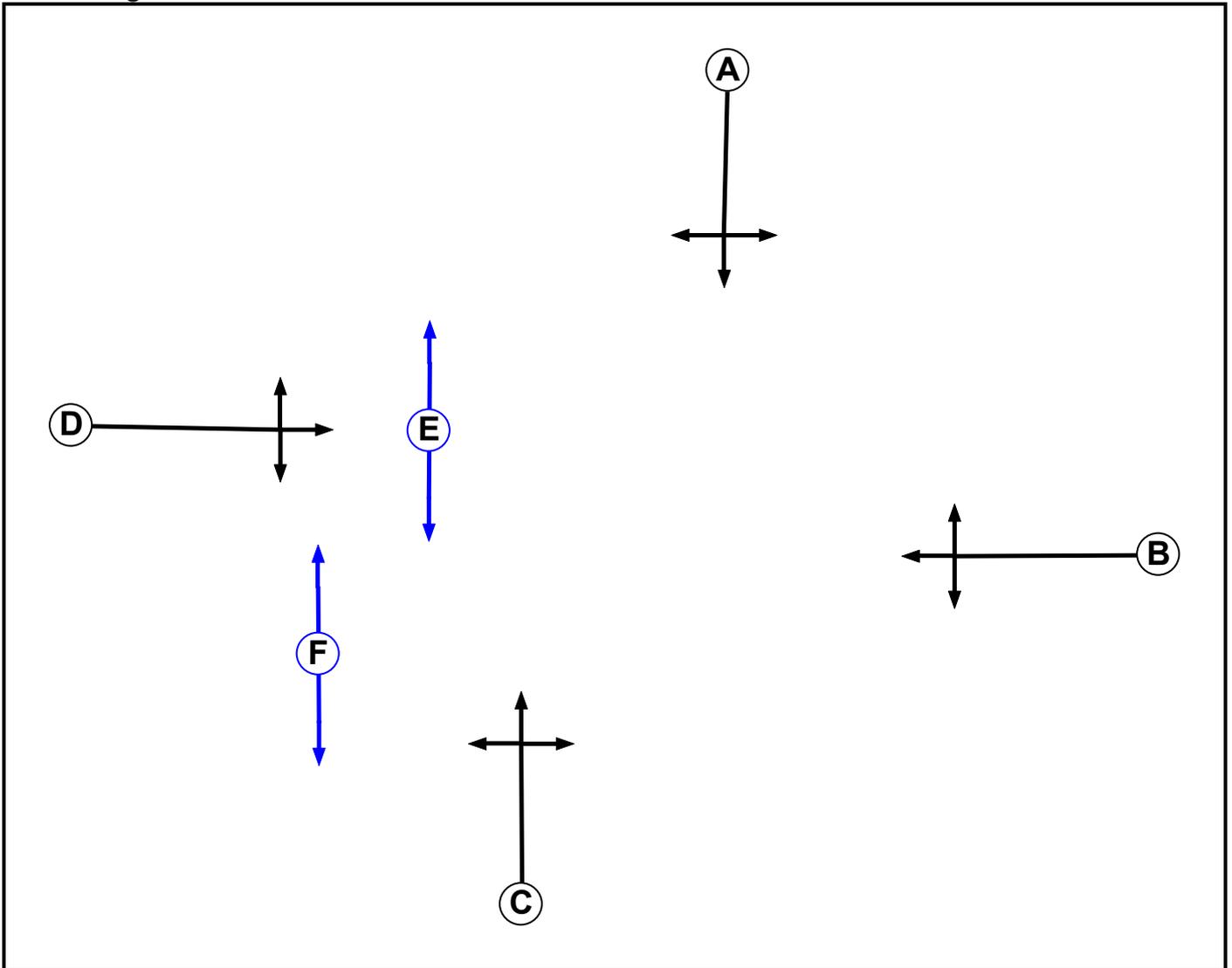
User and Project Details

Project:	Gileston Crossroad
Title:	Potential Signal Junction
Location:	St Athan, Vale of Glamorgan
Client:	Hallam Land
Site Ref(s):	C22134
Additional detail:	Modelling based on Apex Drawing No. C22133-ATP-DR-TP-004_P3
File name:	Gileston Crossroads - Signals.lsg3x
Author:	DRC
Company:	Apex Transport Planning
Address:	Clockwise, Brunel House, Cardiff

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		5	5
F	Pedestrian		5	5

Full Input Data And Results

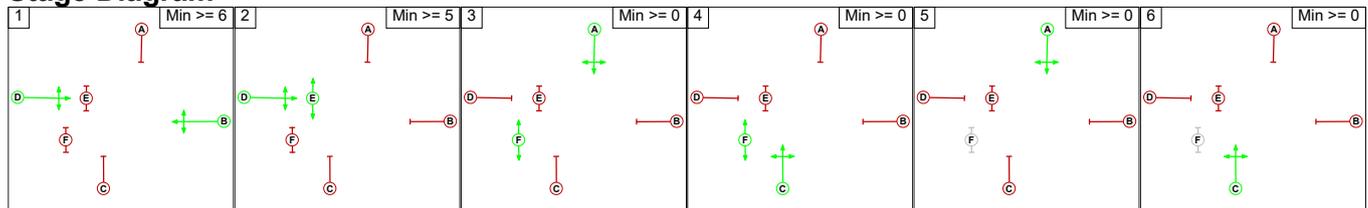
Phase Intergrens Matrix

		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A		6	5	7	7	-
	B	7		6	-	9	-
	C	5	5		6	8	-
	D	7	-	7		-	5
	E	7	7	7	-		-
	F	-	-	-	6	-	

Phases in Stage

Stage No.	Phases in Stage
1	B D
2	D E
3	A F
4	C F
5	A
6	C

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage					
		1	2	3	4	5	6
From Stage	1		9	7	7	7	7
	2	7		7	7	7	7
	3	7	7		5	0	5
	4	6	8	5		5	0
	5	7	7	0	5		5
	6	6	8	5	0	5	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
2/2 (B4265 E)	7/1 (Right)	1439	0	4/1	1.09	All	4.00	-	0.50	4	3.00
				4/2	1.09	All					
4/2 (B4265 W)	6/1 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00
				2/2	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Gileston Road (n))	U	A	2	3	2.0	Geom	-	3.00	0.00	Y	Arm 6 Ahead	Inf
											Arm 8 Left	26.50
1/2 (Gileston Road (n))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Right	17.80
2/1 (B4265 E)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Left	10.36
2/2 (B4265 E)	O	B	2	3	5.6	Geom	-	3.25	0.00	Y	Arm 7 Right	14.20
3/1 (Gileston Road (s))	U	C	2	3	60.0	Geom	-	2.90	0.00	Y	Arm 5 Left	17.00
											Arm 7 Ahead	Inf
4/1 (B4265 W)	U	D	2	3	5.0	Geom	-	3.25	0.00	Y	Arm 8 Right	15.40
4/2 (B4265 W)	O	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 7 Left	12.70
											Arm 6 Right	15.60
4/2 (B4265 W)	O	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2036 Baseline + Dev AM Peak'	07:45	08:45	01:00	
2: '2036 Baseline + Dev PM Peak'	15:30	16:30	01:00	
3: '2036 Baseline + Dev + ESA AM Peak'	07:45	08:45	01:00	
4: '2036 Baseline + Dev + ESA PM Peak'	15:30	16:30	01:00	

Full Input Data And Results

Scenario 1: '2036 Baseline + Dev AM' (FG1: '2036 Baseline + Dev AM Peak', Plan 3: 'No Peds')
Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	97	575	7	679
	B	100	0	235	9	344
	C	512	202	0	10	724
	D	13	9	4	0	26
	Tot.	625	308	814	26	1773

Traffic Lane Flows

Lane	Scenario 1: 2036 Baseline + Dev AM
Junction: Unnamed Junction	
1/1 (short)	244
1/2 (with short)	344(In) 100(Out)
2/1 (with short)	724(In) 522(Out)
2/2 (short)	202
3/1	26
4/1 (short)	97
4/2 (with short)	679(In) 582(Out)
5/1	625
6/1	26
7/1	308
8/1	814

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Gileston Road (n))	3.00	0.00	Y	Arm 6 Ahead	Inf	3.7 %	1816	1816
				Arm 8 Left	26.50	96.3 %		
1/2 (Gileston Road (n))	3.00	0.00	Y	Arm 5 Right	17.80	100.0 %	1766	1766
2/1 (B4265 E)	3.25	0.00	Y	Arm 5 Ahead	Inf	98.1 %	1935	1935
				Arm 6 Left	10.36	1.9 %		
2/2 (B4265 E)	3.25	0.00	Y	Arm 7 Right	14.20	100.0 %	1755	1755
3/1 (Gileston Road (s))	2.90	0.00	Y	Arm 5 Left	17.00	50.0 %	1799	1799
				Arm 7 Ahead	Inf	34.6 %		
				Arm 8 Right	15.40	15.4 %		
4/1 (B4265 W)	3.25	0.00	Y	Arm 7 Left	12.70	100.0 %	1735	1735
4/2 (B4265 W)	3.25	0.00	Y	Arm 6 Right	15.60	1.2 %	1938	1938
				Arm 8 Ahead	Inf	98.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2036 Baseline + Dev PM' (FG2: '2036 Baseline + Dev PM Peak', Plan 3: 'No Peds')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	109	568	9	686
	B	88	0	247	16	351
	C	542	249	0	8	799
	D	12	9	16	0	37
	Tot.	642	367	831	33	1873

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2036 Baseline + Dev PM
Junction: Unnamed Junction	
1/1 (short)	263
1/2 (with short)	351(In) 88(Out)
2/1 (with short)	799(In) 550(Out)
2/2 (short)	249
3/1	37
4/1 (short)	109
4/2 (with short)	686(In) 577(Out)
5/1	642
6/1	33
7/1	367
8/1	831

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Gileston Road (n))	3.00	0.00	Y	Arm 6 Ahead	Inf	6.1 %	1818	1818
				Arm 8 Left	26.50	93.9 %		
1/2 (Gileston Road (n))	3.00	0.00	Y	Arm 5 Right	17.80	100.0 %	1766	1766
				Arm 5 Ahead	Inf	98.5 %	1936	1936
2/1 (B4265 E)	3.25	0.00	Y	Arm 6 Left	10.36	1.5 %		
				Arm 7 Right	14.20	100.0 %	1755	1755
3/1 (Gileston Road (s))	2.90	0.00	Y	Arm 5 Left	17.00	32.4 %	1779	1779
				Arm 7 Ahead	Inf	24.3 %		
				Arm 8 Right	15.40	43.2 %		
4/1 (B4265 W)	3.25	0.00	Y	Arm 7 Left	12.70	100.0 %	1735	1735
4/2 (B4265 W)	3.25	0.00	Y	Arm 6 Right	15.60	1.6 %	1937	1937
				Arm 8 Ahead	Inf	98.4 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '2036 Baseline + Dev + ESA AM' (FG3: '2036 Baseline + Dev + ESA AM Peak', Plan 3: 'No Peds')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	108	583	7	698
	B	116	0	293	9	418
	C	533	247	0	10	790
	D	13	9	4	0	26
	Tot.	662	364	880	26	1932

Traffic Lane Flows

Lane	Scenario 3: 2036 Baseline + Dev + ESA AM
Junction: Unnamed Junction	
1/1 (short)	302
1/2 (with short)	418(In) 116(Out)
2/1 (with short)	790(In) 543(Out)
2/2 (short)	247
3/1	26
4/1 (short)	108
4/2 (with short)	698(In) 590(Out)
5/1	662
6/1	26
7/1	364
8/1	880

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Gileston Road (n))	3.00	0.00	Y	Arm 6 Ahead	Inf	3.0 %	1815	1815
				Arm 8 Left	26.50	97.0 %		
1/2 (Gileston Road (n))	3.00	0.00	Y	Arm 5 Right	17.80	100.0 %	1766	1766
2/1 (B4265 E)	3.25	0.00	Y	Arm 5 Ahead	Inf	98.2 %	1935	1935
				Arm 6 Left	10.36	1.8 %		
2/2 (B4265 E)	3.25	0.00	Y	Arm 7 Right	14.20	100.0 %	1755	1755
3/1 (Gileston Road (s))	2.90	0.00	Y	Arm 5 Left	17.00	50.0 %	1799	1799
				Arm 7 Ahead	Inf	34.6 %		
				Arm 8 Right	15.40	15.4 %		
4/1 (B4265 W)	3.25	0.00	Y	Arm 7 Left	12.70	100.0 %	1735	1735
4/2 (B4265 W)	3.25	0.00	Y	Arm 6 Right	15.60	1.2 %	1938	1938
				Arm 8 Ahead	Inf	98.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2036 Baseline + Dev + ESA PM' (FG4: '2036 Baseline + Dev + ESA PM Peak', Plan 3: 'No Peds')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	132	587	9	728
	B	108	0	306	16	430
	C	557	313	0	8	878
	D	12	9	16	0	37
	Tot.	677	454	909	33	2073

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2036 Baseline + Dev + ESA PM
Junction: Unnamed Junction	
1/1 (short)	322
1/2 (with short)	430(In) 108(Out)
2/1 (with short)	878(In) 565(Out)
2/2 (short)	313
3/1	37
4/1 (short)	132
4/2 (with short)	728(In) 596(Out)
5/1	677
6/1	33
7/1	454
8/1	909

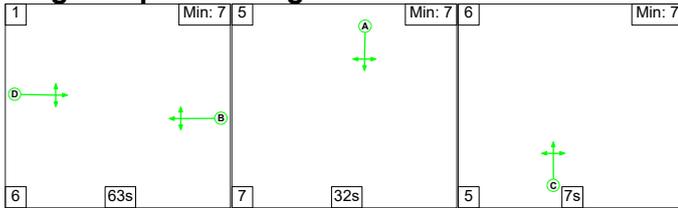
Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Gileston Road (n))	3.00	0.00	Y	Arm 6 Ahead	Inf	5.0 %	1817	1817
				Arm 8 Left	26.50	95.0 %		
1/2 (Gileston Road (n))	3.00	0.00	Y	Arm 5 Right	17.80	100.0 %	1766	1766
2/1 (B4265 E)	3.25	0.00	Y	Arm 5 Ahead	Inf	98.6 %	1936	1936
				Arm 6 Left	10.36	1.4 %		
2/2 (B4265 E)	3.25	0.00	Y	Arm 7 Right	14.20	100.0 %	1755	1755
3/1 (Gileston Road (s))	2.90	0.00	Y	Arm 5 Left	17.00	32.4 %	1779	1779
				Arm 7 Ahead	Inf	24.3 %		
				Arm 8 Right	15.40	43.2 %		
4/1 (B4265 W)	3.25	0.00	Y	Arm 7 Left	12.70	100.0 %	1735	1735
4/2 (B4265 W)	3.25	0.00	Y	Arm 6 Right	15.60	1.5 %	1937	1937
				Arm 8 Ahead	Inf	98.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: '2036 Baseline + Dev AM' (FG1: '2036 Baseline + Dev AM Peak', Plan 3: 'No Peds')

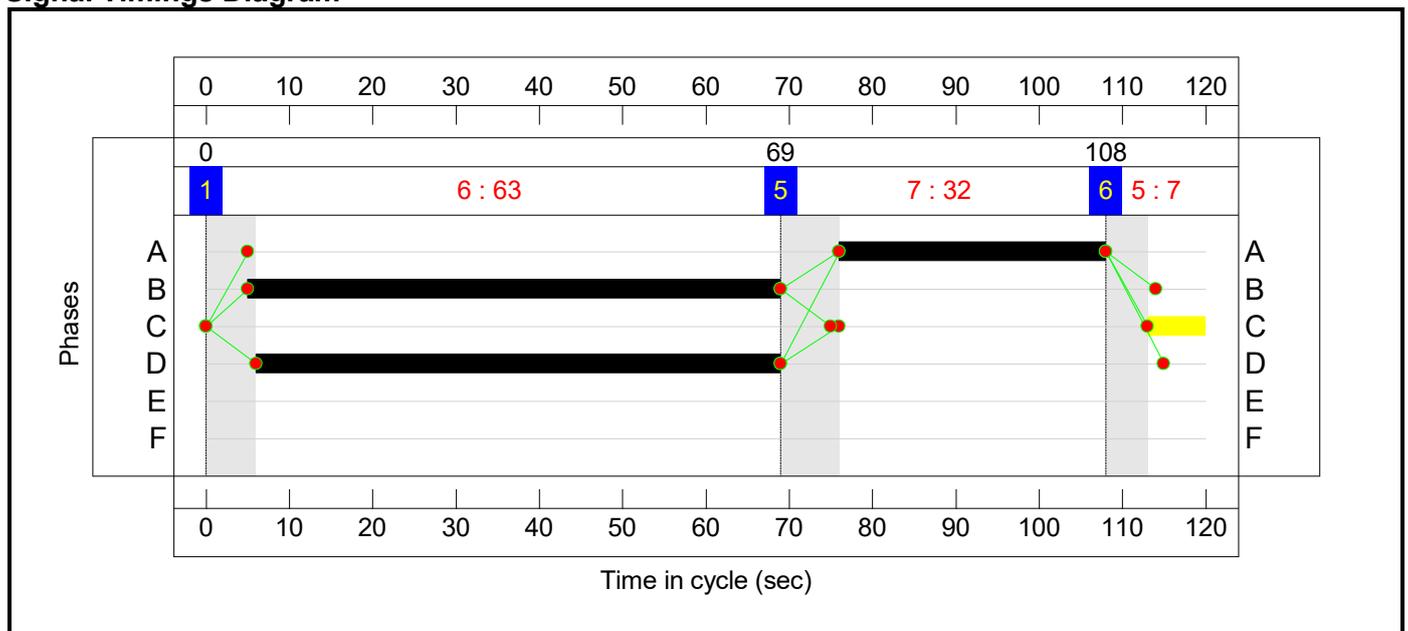
Stage Sequence Diagram



Stage Timings

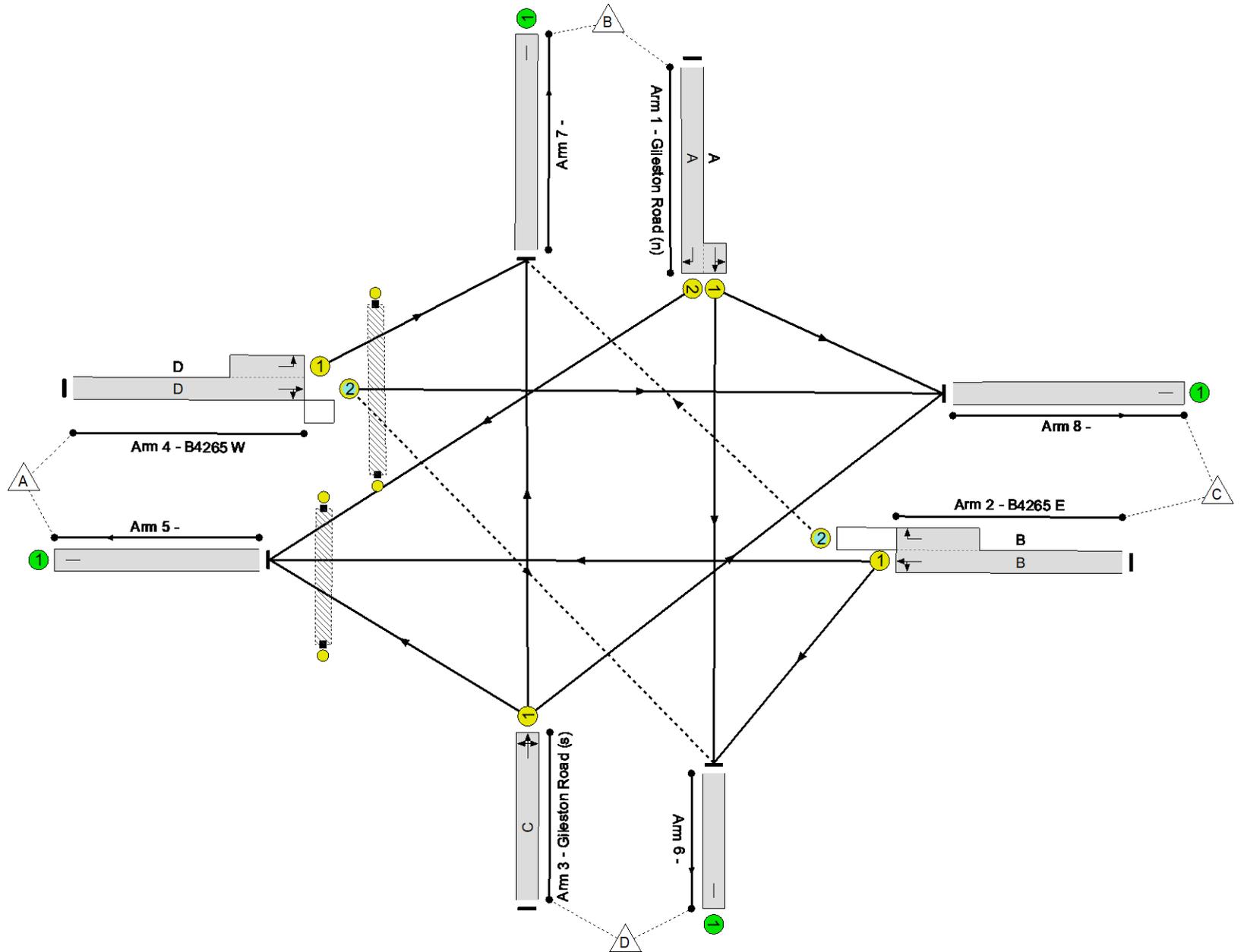
Stage	1	5	6
Duration	63	32	7
Change Point	0	69	108

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram

Unnamed Junction
PRC: 36.0 %
Total Traffic Delay: 15.4 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

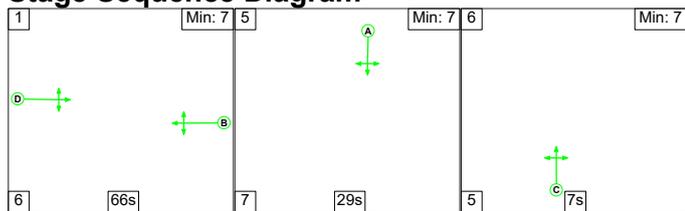
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Potential Signal Junction	-	-	N/A	-	-		-	-	-	-	-	-	66.2%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	66.2%
1/2+1/1	Gileston Road (n) Right Ahead Left	U	N/A	N/A	A		1	32	-	344	1766:1816	151+369	66.2 : 66.2%
2/1+2/2	B4265 E Ahead Left Right	U+O	N/A	N/A	B		1	64	-	724	1935:1755	795+308	65.6 : 65.6%
3/1	Gileston Road (s) Left Ahead Right	U	N/A	N/A	C		1	7	-	26	1799	120	21.7%
4/2+4/1	B4265 W Right Left Ahead	O+U	N/A	N/A	D		1	63	-	679	1938:1735	899+150	64.8 : 64.8%
5/1		U	N/A	N/A	-		-	-	-	625	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	26	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	308	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	814	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

Full Input Data And Results

Scenario 2: '2036 Baseline + Dev PM' (FG2: '2036 Baseline + Dev PM Peak', Plan 3: 'No Peds')

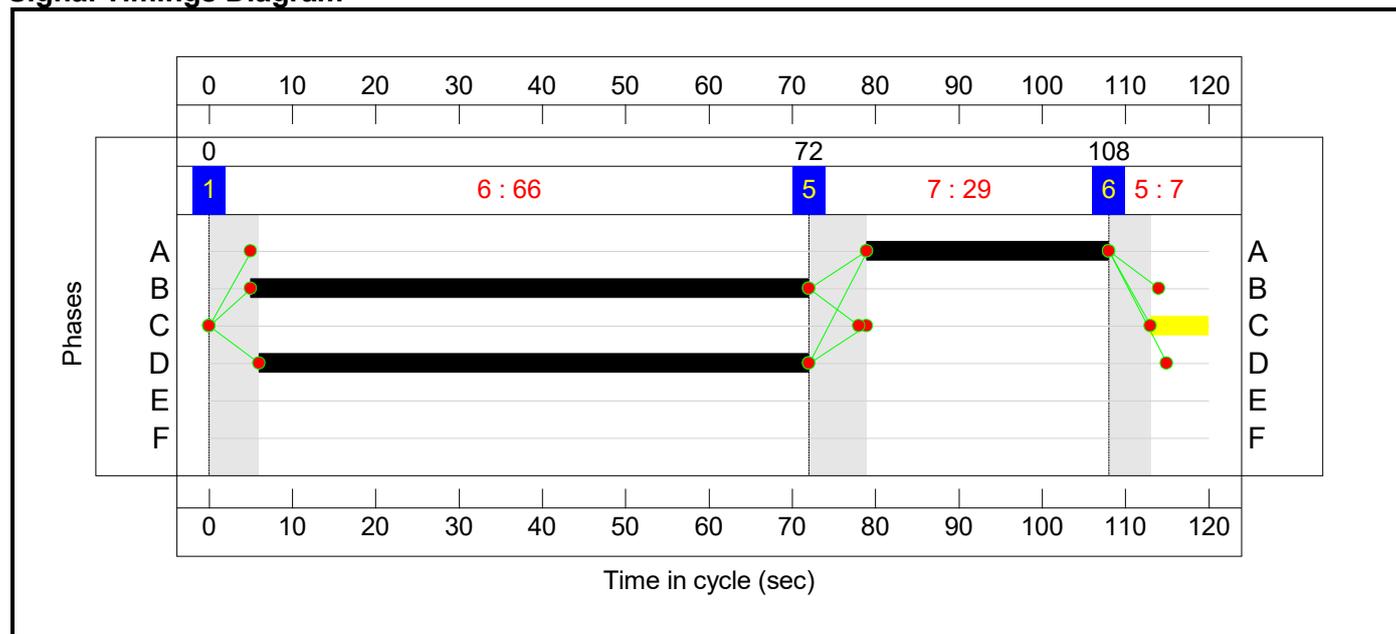
Stage Sequence Diagram



Stage Timings

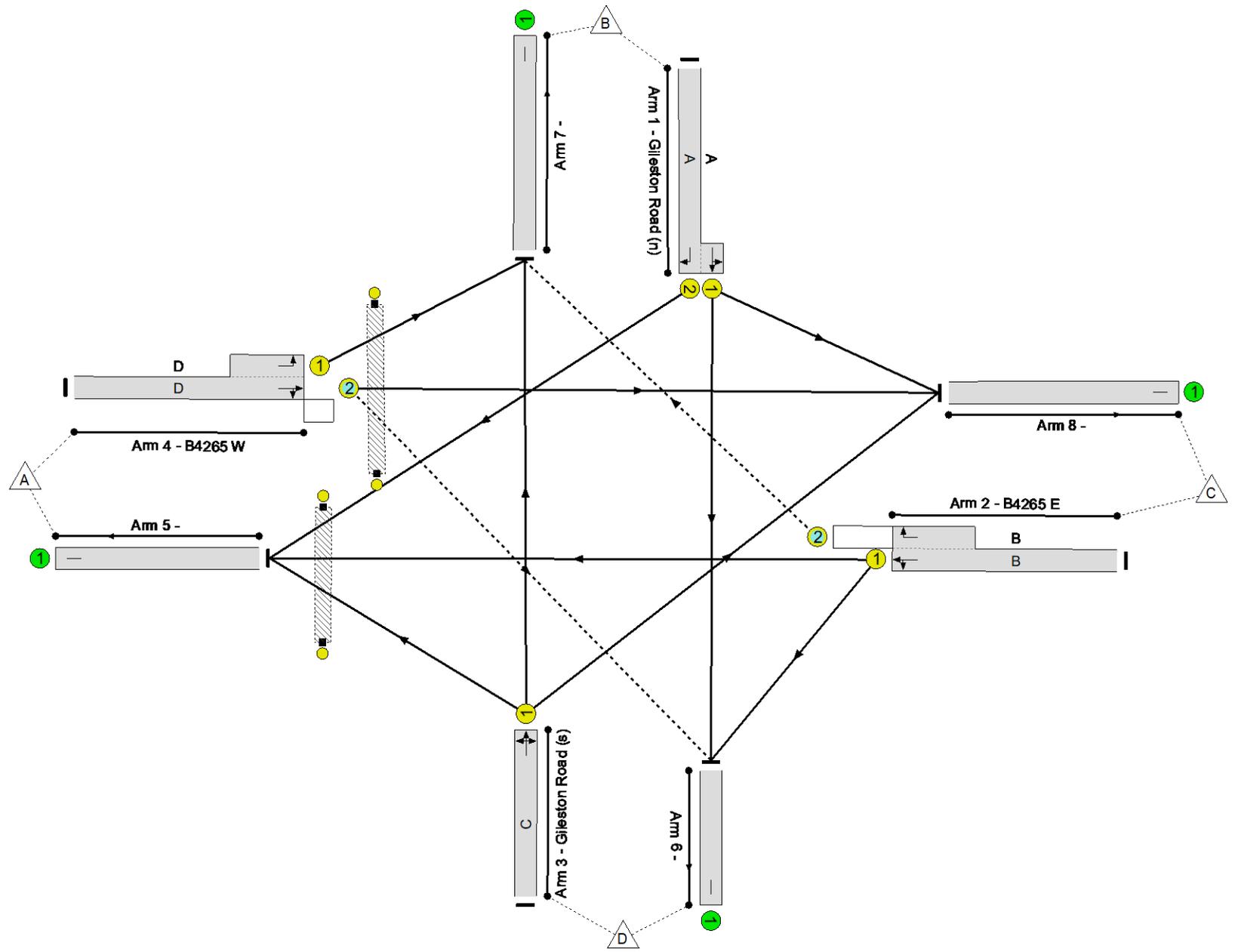
Stage	1	5	6
Duration	66	29	7
Change Point	0	72	108

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram

 **Unnamed Junction**
PRC: 19.1 %
Total Traffic Delay: 16.7 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Potential Signal Junction	-	-	N/A	-	-		-	-	-	-	-	-	75.6%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	75.6%
1/2+1/1	Gileston Road (n) Right Ahead Left	U	N/A	N/A	A		1	29	-	351	1766:1818	118+353	74.5 : 74.5%
2/1+2/2	B4265 E Ahead Left Right	U+O	N/A	N/A	B		1	67	-	799	1936:1755	796+329	69.1 : 75.6%
3/1	Gileston Road (s) Left Ahead Right	U	N/A	N/A	C		1	7	-	37	1779	119	31.2%
4/2+4/1	B4265 W Right Left Ahead	O+U	N/A	N/A	D		1	66	-	686	1937:1735	923+174	62.5 : 62.5%
5/1		U	N/A	N/A	-		-	-	-	642	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	33	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	367	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	831	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

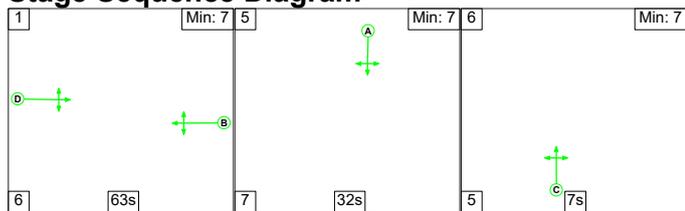
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Potential Signal Junction	-	-	236	0	22	11.5	3.7	1.5	16.7	-	-	-	-
Unnamed Junction	-	-	236	0	22	11.5	3.7	1.5	16.7	-	-	-	-
1/2+1/1	351	351	-	-	-	4.0	1.4	-	5.4 (1.3+4.1)	55.4 (55.2:55.5)	10.1	1.4	11.5
2/1+2/2	799	799	227	0	22	3.8	1.2	1.5	6.5 (3.3+3.1)	29.2 (21.9:45.5)	15.0	1.2	16.2
3/1	37	37	-	-	-	0.5	0.2	-	0.8	75.4	1.2	0.2	1.4
4/2+4/1	686	686	9	0	0	3.2	0.8	0.0	4.1 (3.5+0.6)	21.4 (21.6:20.7)	14.1	0.8	14.9
5/1	642	642	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	33	33	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	367	367	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	831	831	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1			PRC for Signalled Lanes (%):		19.1	Total Delay for Signalled Lanes (pcuHr):		16.75	Cycle Time (s): 120				
			PRC Over All Lanes (%):		19.1	Total Delay Over All Lanes(pcuHr):		16.75					

Full Input Data And Results

Scenario 3: '2036 Baseline + Dev + ESA AM' (FG3: '2036 Baseline + Dev + ESA AM Peak', Plan 3: 'No Peds')

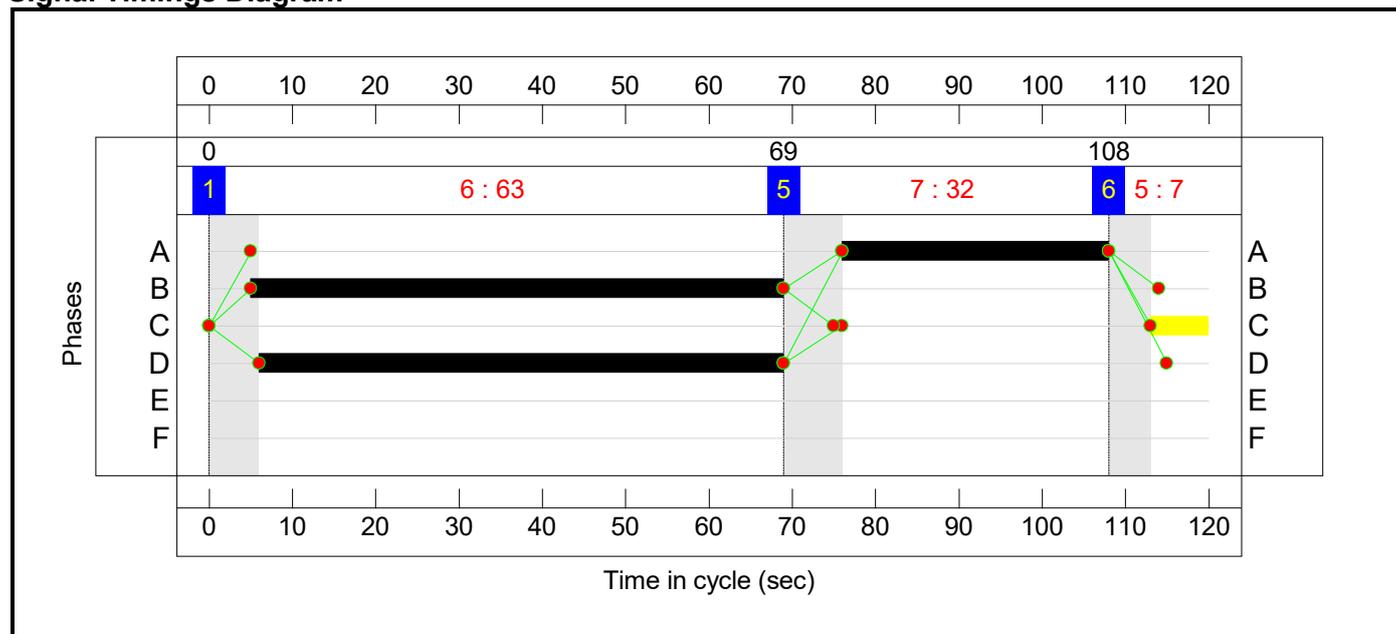
Stage Sequence Diagram



Stage Timings

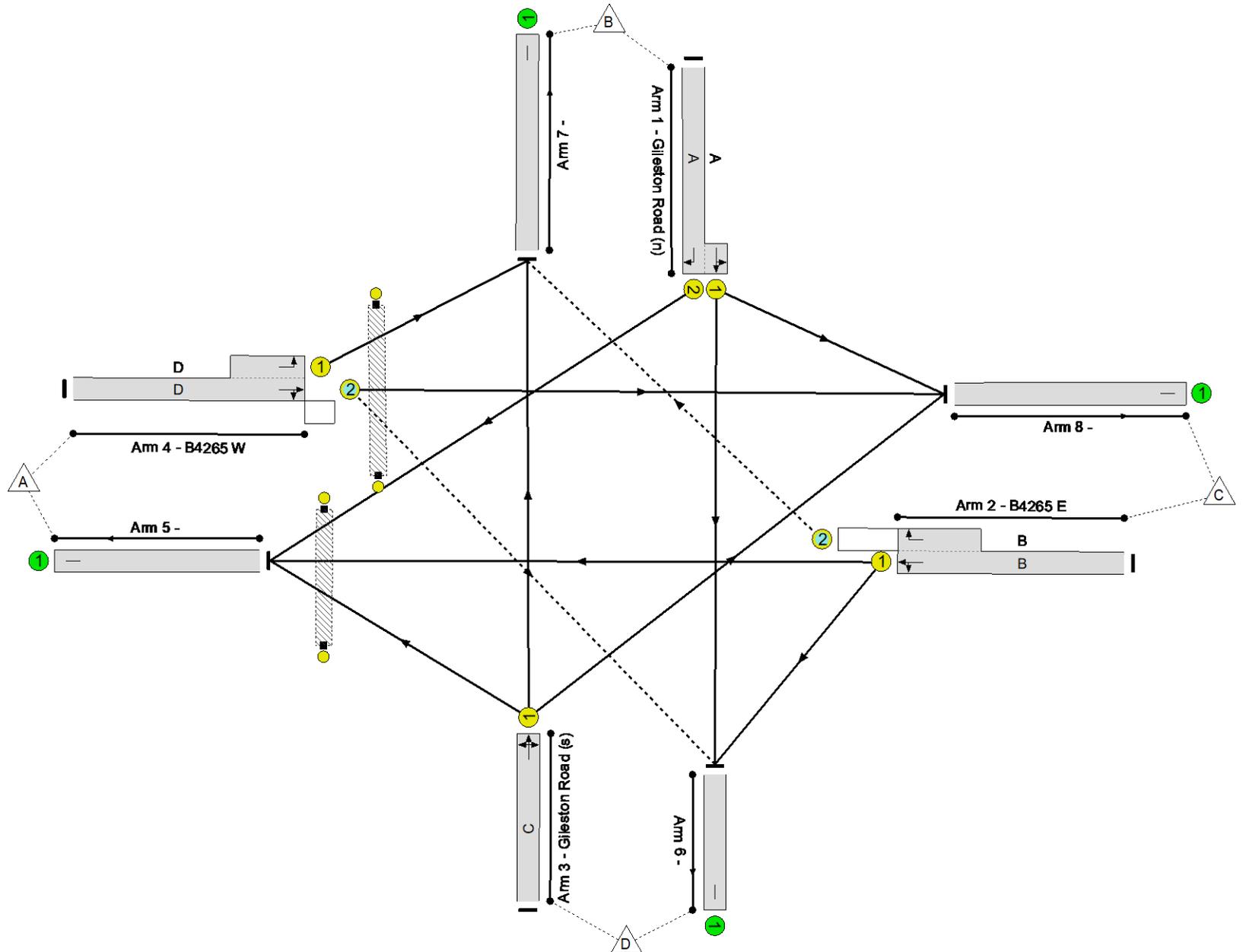
Stage	1	5	6
Duration	63	32	7
Change Point	0	69	108

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram

 **Unnamed Junction**
PRC: 8.4 %
Total Traffic Delay: 20.0 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Potential Signal Junction	-	-	N/A	-	-		-	-	-	-	-	-	83.0%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	83.0%
1/2+1/1	Gileston Road (n) Right Ahead Left	U	N/A	N/A	A		1	32	-	418	1766:1815	144+374	80.6 : 80.6%
2/1+2/2	B4265 E Ahead Left Right	U+O	N/A	N/A	B		1	64	-	790	1935:1755	661+298	82.1 : 83.0%
3/1	Gileston Road (s) Left Ahead Right	U	N/A	N/A	C		1	7	-	26	1799	120	21.7%
4/2+4/1	B4265 W Right Left Ahead	O+U	N/A	N/A	D		1	63	-	698	1938:1735	887+162	66.5 : 66.5%
5/1		U	N/A	N/A	-		-	-	-	662	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	26	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	364	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	880	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

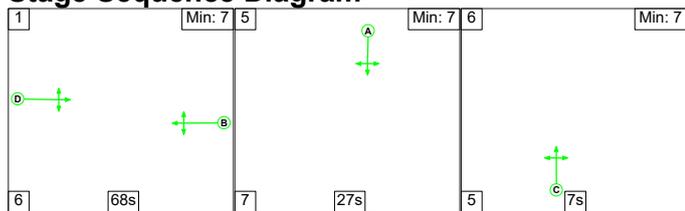
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Potential Signal Junction	-	-	203	0	51	13.0	5.4	1.6	20.0	-	-	-	-
Unnamed Junction	-	-	203	0	51	13.0	5.4	1.6	20.0	-	-	-	-
1/2+1/1	418	418	-	-	-	4.6	2.0	-	6.6 (1.8+4.8)	57.0 (56.8:57.0)	12.1	2.0	14.1
2/1+2/2	790	790	196	0	51	4.2	2.3	1.6	8.1 (4.3+3.8)	37.0 (28.7:55.1)	15.9	2.3	18.2
3/1	26	26	-	-	-	0.4	0.1	-	0.5	72.2	0.8	0.1	1.0
4/2+4/1	698	698	7	0	0	3.7	1.0	0.0	4.7 (4.0+0.7)	24.4 (24.5:23.7)	15.4	1.0	16.4
5/1	662	662	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	26	26	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	364	364	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	880	880	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1			PRC for Signalled Lanes (%):		8.4	Total Delay for Signalled Lanes (pcuHr):		19.98	Cycle Time (s): 120				
			PRC Over All Lanes (%):		8.4	Total Delay Over All Lanes(pcuHr):		19.98					

Full Input Data And Results

Scenario 4: '2036 Baseline + Dev + ESA PM' (FG4: '2036 Baseline + Dev + ESA PM Peak', Plan 3: 'No Peds')

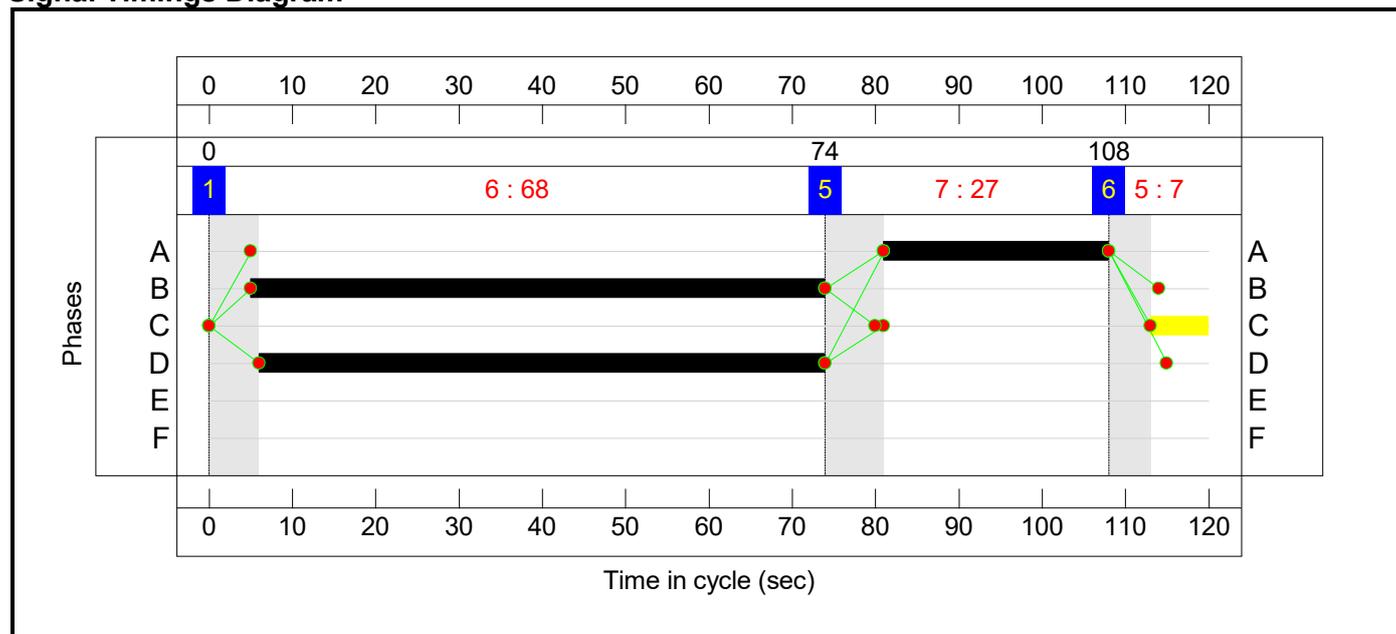
Stage Sequence Diagram



Stage Timings

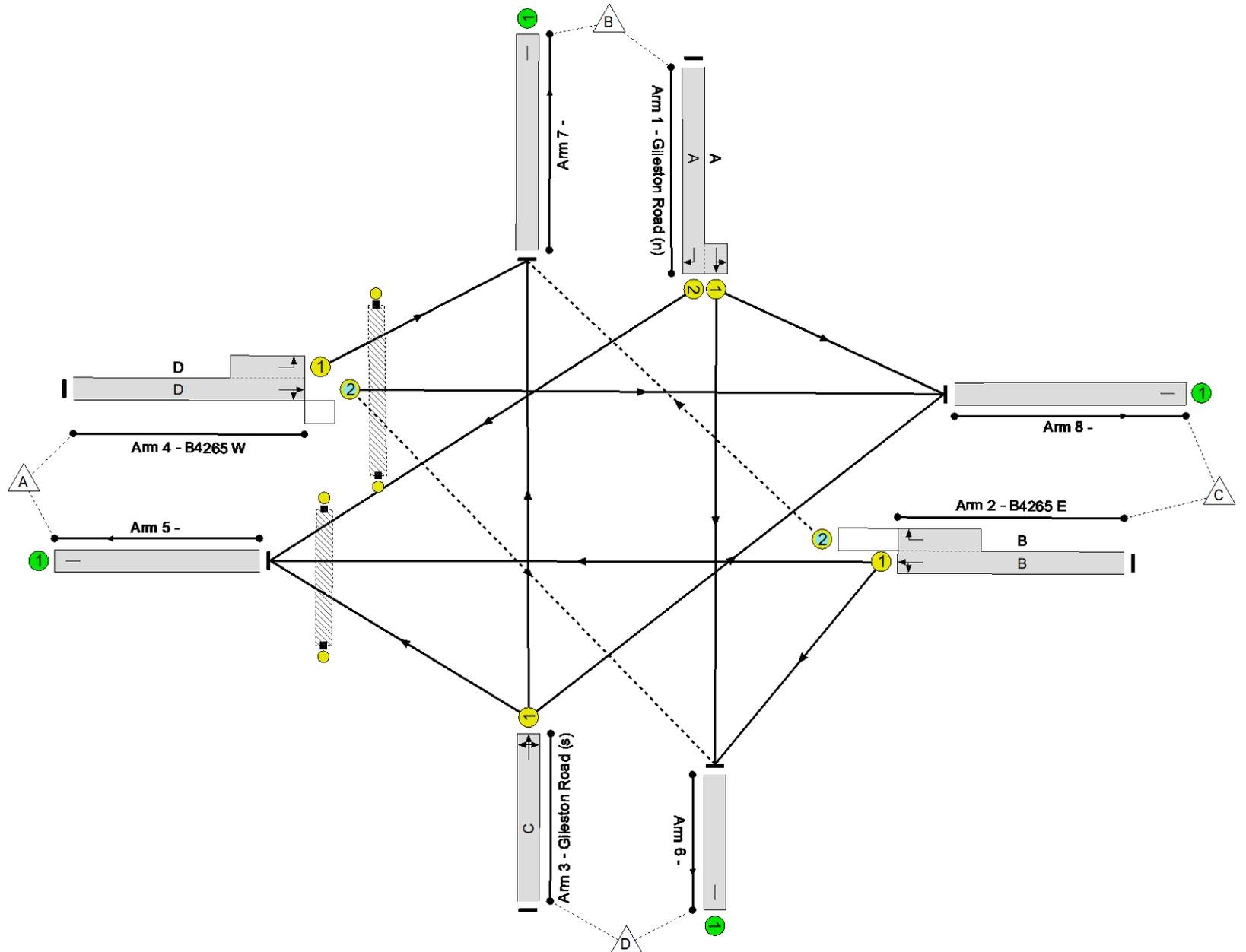
Stage	1	5	6
Duration	68	27	7
Change Point	0	74	108

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


Unnamed Junction
 PRC: -8.4 %
 Total Traffic Delay: 34.8 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Potential Signal Junction	-	-	N/A	-	-		-	-	-	-	-	-	97.5%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	97.5%
1/2+1/1	Gileston Road (n) Right Ahead Left	U	N/A	N/A	A		1	27	-	430	1766:1817	111+330	97.5 : 97.5%
2/1+2/2	B4265 E Ahead Left Right	U+O	N/A	N/A	B		1	69	-	878	1936:1755	580+321	97.4 : 97.4%
3/1	Gileston Road (s) Left Ahead Right	U	N/A	N/A	C		1	7	-	37	1779	119	31.2%
4/2+4/1	B4265 W Right Left Ahead	O+U	N/A	N/A	D		1	68	-	728	1937:1735	927+205	64.3 : 64.3%
5/1		U	N/A	N/A	-		-	-	-	677	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	33	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	454	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	909	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	F		0	0	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	E		0	0	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Potential Signal Junction	-	-	228	4	90	13.6	19.2	2.0	34.8	-	-	-	-
Unnamed Junction	-	-	228	4	90	13.6	19.2	2.0	34.8	-	-	-	-
1/2+1/1	430	430	-	-	-	5.4	8.0	-	13.4 (3.4+10.0)	112.0 (111.8:112.0)	13.5	8.0	21.5
2/1+2/2	878	878	219	4	90	4.4	10.1	2.0	16.5 (9.0+7.6)	67.8 (57.1:86.9)	16.4	10.1	26.5
3/1	37	37	-	-	-	0.5	0.2	-	0.8	75.4	1.2	0.2	1.4
4/2+4/1	728	728	9	0	0	3.3	0.9	0.0	4.2 (3.4+0.7)	20.6 (20.7:20.0)	14.7	0.9	15.6
5/1	677	677	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	33	33	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	454	454	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	909	909	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
Ped Link: P2	0	0	-	-	-	-	-	-	Inf	Inf	-	-	Inf
C1 PRC for Signalled Lanes (%): -8.4 Total Delay for Signalled Lanes (pcuHr): 34.83 Cycle Time (s): 120 PRC Over All Lanes (%): -8.4 Total Delay Over All Lanes(pcuHr): 34.83													

Junctions 10
PICADY 10 - Priority Intersection Module
Version: 10.1.1.1905 © Copyright TRL Software Limited, 2023
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 3. Gileston Road Crossroads (V2).j10

Path: C:\Users\Modelling\Apex Transport Planning Ltd\Apex Transport Planning Ltd - Documents\1.Projects\C22-\C22-133 - Land at St Athan\4.Modelling\3. Gileston Crossroads - Jct

Report generation date: 02/07/2025 00:19:32

- »2024 Base, AM
- »2024 Base, PM
- »2036 Baseline, AM
- »2036 Baseline, PM
- »2036 Baseline + Dev, AM
- »2036 Baseline + Dev, PM
- »2036 Baseline + Dev + E of SA, AM
- »2036 Baseline + Dev + E of SA, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2024 Base										
Stream B-ACD	D1	2.0	24.13	0.67	C	D2	2.0	24.87	0.68	C
Stream A-BCD		0.0	7.46	0.01	A		0.0	7.73	0.02	A
Stream D-ABC		0.1	10.59	0.07	B		0.1	14.07	0.12	B
Stream C-ABD		0.6	10.34	0.36	B		0.9	12.00	0.46	B
2036 Baseline										
Stream B-ACD	D3	3.5	39.24	0.79	E	D4	3.7	41.66	0.80	E
Stream A-BCD		0.0	7.81	0.02	A		0.0	8.13	0.02	A
Stream D-ABC		0.1	11.50	0.08	B		0.2	16.42	0.15	C
Stream C-ABD		0.7	11.31	0.42	B		1.2	13.54	0.53	B
2036 Baseline + Dev										
Stream B-ACD	D5	31.9	293.55	1.16	F	D6	42.2	388.93	1.24	F
Stream A-BCD		0.0	8.51	0.02	A		0.0	9.14	0.02	A
Stream D-ABC		0.1	15.60	0.11	C		0.3	29.24	0.24	D
Stream C-ABD		1.0	13.39	0.48	B		1.8	15.31	0.59	C
2036 Baseline + Dev + E of SA										
Stream B-ACD	D7	84.9	787.46	1.49	F	D8	120.6	1178.15	1.74	F
Stream A-BCD		0.0	9.03	0.02	A		0.0	9.96	0.03	A
Stream D-ABC		0.2	20.28	0.14	C		1.1	107.12	0.58	F
Stream C-ABD		1.8	15.44	0.59	C		4.6	21.84	0.76	C

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	Gileston Road Crossroads
Location	St Athan
Site number	
Date	23/06/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	C22133
Enumerator	DESKTOP-DDJJ6HG\Apex Modelling
Description	All measurements taken from Acstro assessment supporting approved application - Land East of Cowbridge Road for Edenstone (from Appendix 5 of the Transport Assessment - Jan 2018). This proposed junction improvements which have since been implemented - and this model was accepted, therefore is considered appropriate to use this. One adjustment has been made to reduce the northern arm to one lane for robustness and to more appropriately reflect the observed operation and queuing. The major arm width has also been reduced from 9m to 6m.

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	Veh	Veh	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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:30	09:00	15
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15
D3	2036 Baseline	AM	ONE HOUR	07:30	09:00	15
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15
D5	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		7.38	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.38	A

Arms

Arms

Arm	Name	Description	Arm type
A	B4265 (west)		Major
B	Gileston Road (North)		Minor
C	B4265 (east)		Major
D	Gileston Road (South)		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.30		✓	3.00	50.0	✓	2.00
C	6.30		✓	3.00	50.0	✓	3.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	50	50
D	One lane	2.50	30	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	655	-	-	-	-	-	-	0.251	0.358	0.251	-	-	-
B-A	519	0.093	0.236	0.236	-	-	-	0.148	0.337	-	0.236	0.236	0.118
B-C	655	0.099	0.251	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	519	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
B-D, offside lane	519	0.093	0.236	0.236	-	-	-	0.148	0.337	0.148	-	-	-
C-B	655	0.251	0.251	0.358	-	-	-	-	-	-	-	-	-
D-A	623	-	-	-	-	-	-	0.238	-	0.094	-	-	-
D-B, nearside lane	486	0.139	0.139	0.316	-	-	-	0.221	0.221	0.087	-	-	-
D-B, offside lane	486	0.139	0.139	0.316	-	-	-	0.221	0.221	0.087	-	-	-
D-C	486	-	0.139	0.316	0.110	0.221	0.221	0.221	0.221	0.087	-	-	-

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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	361	100.000
B		✓	277	100.000
C		✓	501	100.000
D		✓	24	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	46	309	6	
	B	62	0	207	8	
	C	319	173	0	9	
	D	12	8	4	0	

Vehicle Mix

Heavy Vehicle %

		To				
		A	B	C	D	
From	A	0	2	8	0	
	B	0	0	1	0	
	C	4	4	0	0	
	D	0	0	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.67	24.13	2.0	C
A-BCD	0.01	7.46	0.0	A
A-B				
A-C				
D-ABC	0.07	10.59	0.1	B
C-ABD	0.36	10.34	0.6	B
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	209	507	0.412	206	0.7	11.863	B
A-BCD	5	542	0.008	4	0.0	6.692	A
A-B	35			35			
A-C	233			233			
D-ABC	18	428	0.042	18	0.0	8.768	A
C-ABD	131	563	0.233	130	0.3	8.297	A
C-D	7			7			
C-A	239			239			

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	249	485	0.514	248	1.0	15.091	C
A-BCD	5	520	0.010	5	0.0	6.994	A
A-B	41			41			
A-C	278			278			
D-ABC	22	403	0.054	22	0.1	9.436	A
C-ABD	158	553	0.285	157	0.4	9.086	A
C-D	8			8			
C-A	285			285			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	305	453	0.673	301	1.9	23.157	C
A-BCD	7	490	0.014	7	0.0	7.453	A
A-B	51			51			
A-C	340			340			
D-ABC	26	367	0.072	26	0.1	10.574	B
C-ABD	197	546	0.362	197	0.6	10.301	B
C-D	10			10			
C-A	344			344			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	305	453	0.673	305	2.0	24.134	C
A-BCD	7	489	0.014	7	0.0	7.457	A
A-B	51			51			
A-C	340			340			
D-ABC	26	366	0.072	26	0.1	10.591	B
C-ABD	197	546	0.362	197	0.6	10.342	B
C-D	10			10			
C-A	344			344			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	249	485	0.514	253	1.1	15.743	C
A-BCD	5	520	0.010	5	0.0	7.003	A
A-B	41			41			
A-C	278			278			
D-ABC	22	402	0.054	22	0.1	9.457	A
C-ABD	158	553	0.285	158	0.4	9.135	A
C-D	8			8			
C-A	285			285			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	209	506	0.412	210	0.7	12.213	B
A-BCD	5	542	0.008	5	0.0	6.702	A
A-B	35			35			
A-C	233			233			
D-ABC	18	428	0.042	18	0.0	8.790	A
C-ABD	131	563	0.233	132	0.3	8.357	A
C-D	7			7			
C-A	239			239			

2024 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		7.83	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.83	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	414	100.000
B		✓	272	100.000
C		✓	538	100.000
D		✓	32	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	64	342	8	
	B	44	0	214	14	
	C	316	215	0	7	
	D	10	8	14	0	

Vehicle Mix

Heavy Vehicle %

		To				
		A	B	C	D	
From	A	0	3	6	0	
	B	0	0	3	0	
	C	3	3	0	0	
	D	10	0	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.68	24.87	2.0	C
A-BCD	0.02	7.73	0.0	A
A-B				
A-C				
D-ABC	0.12	14.07	0.1	B
C-ABD	0.46	12.00	0.9	B
C-D				
C-A				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	205	501	0.409	202	0.7	11.942	B
A-BCD	6	533	0.011	6	0.0	6.835	A
A-B	48			48			
A-C	257			257			
D-ABC	24	366	0.066	24	0.1	10.507	B
C-ABD	164	561	0.292	162	0.4	8.990	A
C-D	5			5			
C-A	236			236			

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	245	478	0.512	243	1.0	15.263	C
A-BCD	7	508	0.014	7	0.0	7.185	A
A-B	58			58			
A-C	307			307			
D-ABC	29	335	0.086	29	0.1	11.730	B
C-ABD	199	553	0.359	198	0.6	10.113	B
C-D	6			6			
C-A	279			279			

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	299	443	0.675	296	1.9	23.798	C
A-BCD	9	475	0.019	9	0.0	7.720	A
A-B	70			70			
A-C	377			377			
D-ABC	35	292	0.121	35	0.1	14.009	B
C-ABD	254	554	0.458	252	0.9	11.905	B
C-D	7			7			
C-A	331			331			

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	299	443	0.676	299	2.0	24.871	C
A-BCD	9	475	0.019	9	0.0	7.728	A
A-B	70			70			
A-C	377			377			
D-ABC	35	291	0.121	35	0.1	14.071	B
C-ABD	254	554	0.458	253	0.9	12.002	B
C-D	7			7			
C-A	331			331			

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	245	477	0.512	248	1.1	15.954	C
A-BCD	7	507	0.014	7	0.0	7.195	A
A-B	58			58			
A-C	307			307			
D-ABC	29	334	0.086	29	0.1	11.793	B
C-ABD	199	553	0.359	200	0.6	10.221	B
C-D	6			6			
C-A	279			279			

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	205	501	0.409	206	0.7	12.294	B
A-BCD	6	532	0.011	6	0.0	6.847	A
A-B	48			48			
A-C	257			257			
D-ABC	24	365	0.066	24	0.1	10.564	B
C-ABD	164	561	0.292	164	0.4	9.093	A
C-D	5			5			
C-A	236			236			

2036 Baseline, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		11.05	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.05	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2036 Baseline	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	406	100.000
B		✓	311	100.000
C		✓	562	100.000
D		✓	26	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	52	347	7	
	B	70	0	232	9	
	C	358	194	0	10	
	D	13	9	4	0	

Vehicle Mix

Heavy Vehicle %

		To				
		A	B	C	D	
From	A	0	2	8	0	
	B	0	0	1	0	
	C	4	4	0	0	
	D	0	0	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.79	39.24	3.5	E
A-BCD	0.02	7.81	0.0	A
A-B				
A-C				
D-ABC	0.08	11.50	0.1	B
C-ABD	0.42	11.31	0.7	B
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	234	493	0.475	231	0.9	13.536	B
A-BCD	5	529	0.010	5	0.0	6.878	A
A-B	39			39			
A-C	261			261			
D-ABC	20	413	0.047	19	0.0	9.129	A
C-ABD	148	556	0.266	146	0.4	8.756	A
C-D	7			7			
C-A	268			268			

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	280	468	0.597	277	1.4	18.675	C
A-BCD	6	503	0.013	6	0.0	7.241	A
A-B	47			47			
A-C	312			312			
D-ABC	23	385	0.061	23	0.1	9.965	A
C-ABD	179	548	0.326	178	0.5	9.733	A
C-D	9			9			
C-A	318			318			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	342	431	0.794	335	3.3	35.021	E
A-BCD	8	469	0.016	8	0.0	7.800	A
A-B	57			57			
A-C	382			382			
D-ABC	29	343	0.084	29	0.1	11.461	B
C-ABD	227	546	0.416	226	0.7	11.245	B
C-D	11			11			
C-A	381			381			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	342	431	0.795	341	3.5	39.243	E
A-BCD	8	469	0.016	8	0.0	7.806	A
A-B	57			57			
A-C	382			382			
D-ABC	29	342	0.084	29	0.1	11.497	B
C-ABD	227	546	0.416	227	0.7	11.311	B
C-D	11			11			
C-A	381			381			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	280	468	0.598	287	1.6	20.756	C
A-BCD	6	503	0.013	6	0.0	7.252	A
A-B	47			47			
A-C	312			312			
D-ABC	23	384	0.061	23	0.1	10.002	B
C-ABD	179	548	0.326	180	0.5	9.814	A
C-D	9			9			
C-A	318			318			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	234	493	0.475	237	0.9	14.187	B
A-BCD	5	528	0.010	5	0.0	6.891	A
A-B	39			39			
A-C	261			261			
D-ABC	20	413	0.047	20	0.1	9.160	A
C-ABD	148	556	0.266	148	0.4	8.842	A
C-D	7			7			
C-A	268			268			

2036 Baseline, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		11.82	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	11.82	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	464	100.000
B		✓	305	100.000
C		✓	603	100.000
D		✓	36	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	72	383	9	
	B	49	0	240	16	
	C	354	241	0	8	
	D	11	9	16	0	

Vehicle Mix

Heavy Vehicle %

		To				
		A	B	C	D	
From	A	0	3	6	0	
	B	0	0	3	0	
	C	3	3	0	0	
	D	9	0	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	0.80	41.66	3.7	E
A-BCD	0.02	8.13	0.0	A
A-B				
A-C				
D-ABC	0.15	16.42	0.2	C
C-ABD	0.53	13.54	1.2	B
C-D				
C-A				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	230	486	0.472	226	0.9	13.661	B
A-BCD	7	518	0.013	7	0.0	7.044	A
A-B	54			54			
A-C	288			288			
D-ABC	27	347	0.078	27	0.1	11.232	B
C-ABD	185	555	0.333	183	0.5	9.622	A
C-D	6			6			
C-A	263			263			

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	274	459	0.597	272	1.4	18.997	C
A-BCD	8	490	0.017	8	0.0	7.463	A
A-B	65			65			
A-C	344			344			
D-ABC	32	311	0.104	32	0.1	12.888	B
C-ABD	227	551	0.411	226	0.7	11.043	B
C-D	7			7			
C-A	308			308			

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	336	419	0.802	328	3.4	36.741	E
A-BCD	10	453	0.022	10	0.0	8.120	A
A-B	79			79			
A-C	422			422			
D-ABC	40	261	0.152	39	0.2	16.259	C
C-ABD	298	565	0.528	296	1.2	13.354	B
C-D	8			8			
C-A	358			358			

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	336	418	0.802	335	3.7	41.656	E
A-BCD	10	453	0.022	10	0.0	8.132	A
A-B	79			79			
A-C	422			422			
D-ABC	40	259	0.153	40	0.2	16.422	C
C-ABD	298	565	0.528	298	1.2	13.540	B
C-D	8			8			
C-A	358			358			

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	274	459	0.598	283	1.6	21.300	C
A-BCD	8	489	0.017	8	0.0	7.480	A
A-B	65			65			
A-C	344			344			
D-ABC	32	309	0.105	33	0.1	13.028	B
C-ABD	227	551	0.411	229	0.7	11.236	B
C-D	7			7			
C-A	308			308			

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	230	486	0.473	232	0.9	14.328	B
A-BCD	7	517	0.013	7	0.0	7.059	A
A-B	54			54			
A-C	288			288			
D-ABC	27	345	0.078	27	0.1	11.316	B
C-ABD	185	555	0.333	186	0.5	9.777	A
C-D	6			6			
C-A	263			263			

2036 Baseline + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		58.87	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	58.87	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	649	100.000
B		✓	341	100.000
C		✓	700	100.000
D		✓	26	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		A	B	C	D	
From	A	0	96	546	7	
	B	100	0	232	9	
	C	496	194	0	10	
	D	13	9	4	0	

Vehicle Mix

Heavy Vehicle %

		To				
		A	B	C	D	
From	A	0	1	5	0	
	B	0	0	1	0	
	C	3	4	0	0	
	D	0	0	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	1.16	293.55	31.9	F
A-BCD	0.02	8.51	0.0	A
A-B				
A-C				
D-ABC	0.11	15.60	0.1	C
C-ABD	0.48	13.39	1.0	B
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	257	424	0.605	251	1.4	20.148	C
A-BCD	5	503	0.010	5	0.0	7.238	A
A-B	72			72			
A-C	411			411			
D-ABC	20	368	0.053	19	0.1	10.321	B
C-ABD	149	516	0.289	147	0.4	9.716	A
C-D	7			7			
C-A	370			370			

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	307	385	0.797	299	3.3	39.096	E
A-BCD	6	472	0.013	6	0.0	7.725	A
A-B	86			86			
A-C	491			491			
D-ABC	23	327	0.071	23	0.1	11.835	B
C-ABD	183	506	0.362	183	0.6	11.103	B
C-D	9			9			
C-A	437			437			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	375	325	1.156	314	18.5	150.470	F
A-BCD	8	431	0.018	8	0.0	8.502	A
A-B	106			106			
A-C	601			601			
D-ABC	29	266	0.108	28	0.1	15.134	C
C-ABD	245	514	0.476	243	1.0	13.237	B
C-D	10			10			
C-A	515			515			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	375	324	1.158	322	31.9	293.555	F
A-BCD	8	431	0.018	8	0.0	8.513	A
A-B	106			106			
A-C	601			601			
D-ABC	29	259	0.110	29	0.1	15.595	C
C-ABD	245	514	0.476	245	1.0	13.391	B
C-D	10			10			
C-A	515			515			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	307	384	0.798	372	15.4	233.980	F
A-BCD	6	471	0.013	6	0.0	7.741	A
A-B	86			86			
A-C	491			491			
D-ABC	23	317	0.074	24	0.1	12.259	B
C-ABD	183	506	0.362	185	0.6	11.266	B
C-D	9			9			
C-A	437			437			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	257	424	0.606	312	1.7	45.753	E
A-BCD	5	502	0.011	5	0.0	7.255	A
A-B	72			72			
A-C	411			411			
D-ABC	20	364	0.054	20	0.1	10.470	B
C-ABD	149	516	0.289	150	0.4	9.841	A
C-D	7			7			
C-A	370			370			

2036 Baseline + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		75.86	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	75.86	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	660	100.000
B		✓	344	100.000
C		✓	779	100.000
D		✓	36	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	107	544	9
	B	88	0	240	16
	C	530	241	0	8
	D	11	9	16	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	2	4	0
	B	0	0	3	0
	C	2	3	0	0
	D	9	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	1.24	388.93	42.2	F
A-BCD	0.02	9.14	0.0	A
A-B				
A-C				
D-ABC	0.24	29.24	0.3	D
C-ABD	0.59	15.31	1.8	C
C-D				
C-A				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	259	415	0.623	253	1.6	21.407	C
A-BCD	7	485	0.014	7	0.0	7.532	A
A-B	81			81			
A-C	410			410			
D-ABC	27	297	0.091	27	0.1	13.289	B
C-ABD	189	529	0.357	186	0.6	10.457	B
C-D	6			6			
C-A	392			392			

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	309	373	0.829	300	3.8	44.836	E
A-BCD	8	451	0.018	8	0.0	8.133	A
A-B	96			96			
A-C	489			489			
D-ABC	32	249	0.130	32	0.1	16.552	C
C-ABD	238	531	0.448	236	0.9	12.203	B
C-D	7			7			
C-A	456			456			

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	379	306	1.236	300	23.6	190.405	F
A-BCD	10	405	0.025	10	0.0	9.119	A
A-B	118			118			
A-C	599			599			
D-ABC	40	178	0.222	39	0.3	25.784	D
C-ABD	341	578	0.589	337	1.7	14.911	B
C-D	8			8			
C-A	509			509			

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	379	305	1.240	304	42.2	388.926	F
A-BCD	10	404	0.025	10	0.0	9.144	A
A-B	118			118			
A-C	599			599			
D-ABC	40	162	0.244	39	0.3	29.237	D
C-ABD	341	578	0.590	340	1.8	15.309	C
C-D	8			8			
C-A	509			509			

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	309	372	0.832	363	28.7	349.449	F
A-BCD	8	449	0.018	8	0.0	8.165	A
A-B	96			96			
A-C	489			489			
D-ABC	32	222	0.145	33	0.2	19.048	C
C-ABD	238	530	0.448	241	0.9	12.593	B
C-D	7			7			
C-A	456			456			

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	259	414	0.625	366	2.0	121.527	F
A-BCD	7	483	0.014	7	0.0	7.554	A
A-B	81			81			
A-C	410			410			
D-ABC	27	280	0.097	27	0.1	14.240	B
C-ABD	189	529	0.357	190	0.6	10.676	B
C-D	6			6			
C-A	392			392			

2036 Baseline + Dev + E of SA, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		172.95	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	172.95	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	668	100.000
B		✓	415	100.000
C		✓	766	100.000
D		✓	26	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	107	554	7
	B	116	0	290	9
	C	517	239	0	10
	D	13	9	4	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	1	5	0
	B	0	0	1	0
	C	3	3	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	1.49	787.46	84.9	F
A-BCD	0.02	9.03	0.0	A
A-B				
A-C				
D-ABC	0.14	20.28	0.2	C
C-ABD	0.59	15.44	1.8	C
C-D				
C-A				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	312	419	0.746	302	2.6	28.808	D
A-BCD	5	486	0.011	5	0.0	7.480	A
A-B	81			81			
A-C	417			417			
D-ABC	20	352	0.056	19	0.1	10.799	B
C-ABD	187	526	0.355	185	0.6	10.489	B
C-D	7			7			
C-A	382			382			

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	373	375	0.994	346	9.4	84.659	F
A-BCD	6	453	0.014	6	0.0	8.061	A
A-B	96			96			
A-C	498			498			
D-ABC	23	306	0.076	23	0.1	12.711	B
C-ABD	235	527	0.446	234	0.9	12.262	B
C-D	9			9			
C-A	445			445			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	457	308	1.484	306	47.0	354.067	F
A-BCD	8	407	0.019	8	0.0	9.010	A
A-B	118			118			
A-C	610			610			
D-ABC	29	232	0.123	28	0.1	17.674	C
C-ABD	337	572	0.589	333	1.7	15.038	C
C-D	10			10			
C-A	497			497			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	457	307	1.489	307	84.5	721.342	F
A-BCD	8	406	0.019	8	0.0	9.035	A
A-B	118			118			
A-C	610			610			
D-ABC	29	206	0.139	29	0.2	20.279	C
C-ABD	337	572	0.589	336	1.8	15.437	C
C-D	10			10			
C-A	497			497			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	373	374	0.997	372	84.9	787.458	F
A-BCD	6	451	0.014	6	0.0	8.090	A
A-B	96			96			
A-C	498			498			
D-ABC	23	268	0.087	24	0.1	14.740	B
C-ABD	235	527	0.446	239	0.9	12.656	B
C-D	9			9			
C-A	445			445			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	312	418	0.748	413	59.8	632.859	F
A-BCD	5	485	0.011	5	0.0	7.501	A
A-B	81			81			
A-C	417			417			
D-ABC	20	322	0.061	20	0.1	11.896	B
C-ABD	187	526	0.356	188	0.6	10.708	B
C-D	7			7			
C-A	382			382			

2036 Baseline + Dev + E of SA, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Gileston Crossroads	Crossroads	Two-way	Two-way	Two-way	Two-way		250.74	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	250.74	F

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	702	100.000
B		✓	423	100.000
C		✓	858	100.000
D		✓	36	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	130	563	9
	B	108	0	299	16
	C	545	305	0	8
	D	11	9	16	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	2	4	0
	B	0	0	2	0
	C	2	3	0	0
	D	9	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-ACD	1.74	1178.15	120.6	F
A-BCD	0.03	9.96	0.0	A
A-B				
A-C				
D-ABC	0.58	107.12	1.1	F
C-ABD	0.76	21.84	4.6	C
C-D				
C-A				

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	318	401	0.793	306	3.2	34.150	D
A-BCD	7	465	0.015	7	0.0	7.862	A
A-B	98			98			
A-C	424			424			
D-ABC	27	274	0.099	27	0.1	14.553	B
C-ABD	249	546	0.456	245	0.9	11.857	B
C-D	6			6			
C-A	392			392			

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	380	352	1.080	336	14.3	121.892	F
A-BCD	8	426	0.019	8	0.0	8.607	A
A-B	117			117			
A-C	506			506			
D-ABC	32	217	0.149	32	0.2	19.389	C
C-ABD	330	576	0.574	328	1.5	14.458	B
C-D	6			6			
C-A	435			435			

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	466	271	1.717	271	63.0	539.461	F
A-BCD	10	375	0.027	10	0.0	9.873	A
A-B	143			143			
A-C	620			620			
D-ABC	40	124	0.319	39	0.4	41.575	E
C-ABD	543	715	0.760	533	4.2	19.708	C
C-D	6			6			
C-A	396			396			

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	466	268	1.738	268	112.5	1021.851	F
A-BCD	10	371	0.027	10	0.0	9.963	A
A-B	143			143			
A-C	620			620			
D-ABC	40	68	0.579	37	1.1	107.121	F
C-ABD	543	715	0.760	542	4.6	21.841	C
C-D	6			6			
C-A	396			396			

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	380	348	1.092	348	120.6	1178.149	F
A-BCD	8	422	0.019	8	0.0	8.707	A
A-B	117			117			
A-C	506			506			
D-ABC	32	122	0.265	35	0.4	42.623	E
C-ABD	330	576	0.574	342	1.7	16.242	C
C-D	6			6			
C-A	435			435			

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-ACD	318	400	0.797	396	101.1	1007.992	F
A-BCD	7	462	0.015	7	0.0	7.906	A
A-B	98			98			
A-C	424			424			
D-ABC	27	187	0.145	28	0.2	22.708	C
C-ABD	249	546	0.456	252	0.9	12.396	B
C-D	6			6			
C-A	392			392			

Junctions 10
ARCADY 10 - Roundabout Module
Version: 10.1.1.1905 © Copyright TRL Software Limited, 2023
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 4. Site Access - B4265 rbt V3 (Nov24).j10
Path: C:\Users\Modelling\Apex Transport Planning Ltd\Apex Transport Planning Ltd - Documents\1.Projects\C22-\C22-133 - Land at St Athan\4.Modelling\4. Site Access - B4265 Rbt
Report generation date: 10/12/2024 21:09:22

- »2036 Baseline + Dev, AM
- »2036 Baseline + Dev, PM
- »2036 Baseline + Dev + E of SA, AM
- »2036 Baseline + Dev + E of SA, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2036 Baseline + Dev										
Arm A	D1	0.3	4.43	0.25	A	D2	0.1	4.01	0.12	A
Arm B		1.0	5.30	0.50	A		1.0	5.20	0.50	A
Arm C		0.1	3.84	0.07	A		0.2	4.31	0.16	A
Arm D		0.6	3.83	0.35	A		0.8	4.56	0.43	A
2036 Baseline + Dev + E of SA										
Arm A	D3	0.3	4.50	0.26	A	D4	0.1	4.13	0.12	A
Arm B		1.1	5.62	0.53	A		1.1	5.49	0.53	A
Arm C		0.1	3.94	0.07	A		0.2	4.43	0.16	A
Arm D		0.6	3.91	0.36	A		0.9	4.81	0.46	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	Site Access - B4265
Location	St Athan
Site number	
Date	01/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	C22133
Enumerator	DESKTOP-DDJJ6HG\Apex Modelling
Description	Potential site access junction

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	Veh	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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15
D2	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15
D3	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15
D4	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2036 Baseline + 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	Site Access / B4265	Standard Roundabout		A, B, C, D	4.58	A

Junction Network

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

Arms

Arms

Arm	Name	Description	No give-way line
A	Site Access North		
B	B4265 E		
C	Site Access South		
D	B4265 W		

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
A	3.00	6.00	9.4	20.0	45.1	17.0		
B	3.30	7.00	8.9	15.0	45.1	33.0		
C	3.00	6.00	9.0	20.0	45.1	23.0		
D	3.30	7.00	14.9	20.0	45.1	30.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.586	1421
B	0.569	1440
C	0.573	1382
D	0.613	1624

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	251	100.000
B		✓	609	100.000
C		✓	65	100.000
D		✓	459	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To				
	A	B	C	D	
A	0	193	0	58	
B	77	0	91	441	
C	0	50	0	15	
D	24	405	30	0	

Vehicle Mix

Heavy Vehicle %

From	To				
	A	B	C	D	
A	0	0	0	0	
B	0	0	0	4	
C	0	0	0	0	
D	0	7	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.25	4.43	0.3	A
B	0.50	5.30	1.0	A
C	0.07	3.84	0.1	A
D	0.35	3.83	0.6	A

Main Results for each time segment

07:30 - 07:45

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	189	386	1194	0.158	188	0.2	3.577	A
B	471	66	1403	0.335	468	0.5	3.946	A
C	49	444	1128	0.043	49	0.0	3.336	A
D	368	95	1566	0.235	367	0.3	3.195	A

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	226	463	1149	0.196	225	0.2	3.894	A
B	562	79	1395	0.403	561	0.7	4.425	A
C	58	532	1077	0.054	58	0.1	3.532	A
D	440	114	1554	0.283	439	0.4	3.439	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	276	566	1089	0.254	276	0.3	4.428	A
B	688	97	1385	0.497	687	1.0	5.281	A
C	72	651	1009	0.071	71	0.1	3.838	A
D	538	140	1539	0.350	538	0.6	3.829	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	276	567	1088	0.254	276	0.3	4.433	A
B	688	97	1385	0.497	688	1.0	5.300	A
C	72	652	1008	0.071	72	0.1	3.842	A
D	538	140	1539	0.350	538	0.6	3.833	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	226	464	1149	0.196	226	0.2	3.903	A
B	562	79	1395	0.403	563	0.7	4.448	A
C	58	533	1076	0.054	59	0.1	3.539	A
D	440	114	1554	0.283	440	0.4	3.446	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	189	388	1193	0.158	189	0.2	3.588	A
B	471	66	1402	0.336	471	0.5	3.970	A
C	49	446	1126	0.043	49	0.0	3.341	A
D	368	96	1566	0.235	369	0.3	3.203	A

2036 Baseline + 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	Site Access / B4265	Standard Roundabout		A, B, C, D	4.77	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.77	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	113	100.000
B		✓	629	100.000
C		✓	143	100.000
D		✓	530	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	87	0	26
	B	164	0	51	414
	C	0	109	0	34
	D	49	464	17	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	3
	C	0	0	0	0
	D	0	6	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.12	4.01	0.1	A
B	0.50	5.20	1.0	A
C	0.16	4.31	0.2	A
D	0.43	4.56	0.8	A

Main Results for each time segment

15:15 - 15:30

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	85	462	1150	0.074	85	0.1	3.380	A
B	483	32	1422	0.340	481	0.5	3.897	A
C	108	463	1117	0.096	107	0.1	3.563	A
D	419	205	1499	0.279	417	0.4	3.486	A

15:30 - 15:45

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	102	553	1096	0.093	101	0.1	3.617	A
B	577	39	1418	0.407	576	0.7	4.361	A
C	129	554	1064	0.121	128	0.1	3.846	A
D	500	245	1474	0.339	499	0.5	3.872	A

15:45 - 16:00

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	124	677	1024	0.122	124	0.1	4.003	A
B	707	47	1413	0.500	706	1.0	5.182	A
C	157	678	993	0.159	157	0.2	4.304	A
D	612	300	1440	0.425	611	0.8	4.550	A

16:00 - 16:15

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	124	678	1023	0.122	124	0.1	4.005	A
B	707	47	1413	0.500	707	1.0	5.200	A
C	157	679	993	0.159	157	0.2	4.309	A
D	612	301	1440	0.425	612	0.8	4.560	A

16:15 - 16:30

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	102	555	1095	0.093	102	0.1	3.622	A
B	577	39	1418	0.407	578	0.7	4.381	A
C	129	556	1063	0.121	129	0.1	3.852	A
D	500	246	1474	0.339	501	0.5	3.886	A

16:30 - 16:45

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	85	464	1148	0.074	85	0.1	3.385	A
B	483	32	1422	0.340	484	0.5	3.921	A
C	108	465	1115	0.097	108	0.1	3.575	A
D	419	206	1498	0.279	419	0.4	3.500	A

2036 Baseline + Dev + E of SA, 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	Site Access / B4265	Standard Roundabout		A, B, C, D	4.77	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.77	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	251	100.000
B		✓	646	100.000
C		✓	65	100.000
D		✓	478	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	193	0	58
	B	77	0	91	478
	C	0	50	0	15
	D	24	424	30	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	3
	C	0	0	0	0
	D	0	7	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.26	4.50	0.3	A
B	0.53	5.62	1.1	A
C	0.07	3.94	0.1	A
D	0.36	3.91	0.6	A

Main Results for each time segment

07:30 - 07:45

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	189	401	1186	0.159	188	0.2	3.607	A
B	498	66	1403	0.355	496	0.6	4.060	A
C	49	471	1112	0.044	49	0.0	3.386	A
D	382	95	1566	0.244	381	0.3	3.226	A

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	226	480	1139	0.198	225	0.2	3.937	A
B	595	79	1395	0.427	594	0.8	4.601	A
C	58	565	1058	0.055	58	0.1	3.599	A
D	457	114	1554	0.294	456	0.4	3.484	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	276	587	1076	0.257	276	0.3	4.495	A
B	729	97	1385	0.526	727	1.1	5.596	A
C	72	691	986	0.073	71	0.1	3.937	A
D	559	140	1539	0.363	559	0.6	3.901	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	276	588	1076	0.257	276	0.3	4.501	A
B	729	97	1385	0.526	729	1.1	5.621	A
C	72	693	985	0.073	72	0.1	3.940	A
D	559	140	1539	0.364	559	0.6	3.906	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	226	481	1139	0.198	226	0.2	3.945	A
B	595	79	1395	0.427	597	0.8	4.629	A
C	58	567	1057	0.055	59	0.1	3.607	A
D	457	114	1554	0.294	457	0.4	3.491	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	189	402	1185	0.160	189	0.2	3.615	A
B	498	66	1402	0.355	499	0.6	4.087	A
C	49	474	1110	0.044	49	0.0	3.394	A
D	382	96	1566	0.244	383	0.3	3.237	A

2036 Baseline + Dev + E of SA, 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	Site Access / B4265	Standard Roundabout		A, B, C, D	5.03	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.03	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	113	100.000
B		✓	664	100.000
C		✓	143	100.000
D		✓	572	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	87	0	26
	B	164	0	51	449
	C	0	109	0	34
	D	49	506	17	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	3
	C	0	0	0	0
	D	0	5	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.12	4.13	0.1	A
B	0.53	5.49	1.1	A
C	0.16	4.43	0.2	A
D	0.46	4.81	0.9	A

Main Results for each time segment

15:15 - 15:30

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	85	493	1131	0.075	85	0.1	3.439	A
B	510	32	1422	0.358	507	0.6	4.004	A
C	108	489	1102	0.098	107	0.1	3.617	A
D	450	205	1499	0.300	448	0.4	3.576	A

15:30 - 15:45

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	102	591	1074	0.095	101	0.1	3.700	A
B	609	39	1418	0.429	608	0.8	4.525	A
C	129	585	1046	0.123	128	0.1	3.921	A
D	538	245	1474	0.365	537	0.6	4.013	A

15:45 - 16:00

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	124	723	997	0.125	124	0.1	4.127	A
B	745	47	1413	0.527	744	1.1	5.471	A
C	157	716	971	0.162	157	0.2	4.420	A
D	658	300	1441	0.457	657	0.9	4.798	A

16:00 - 16:15

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	124	724	996	0.125	124	0.1	4.130	A
B	745	47	1413	0.527	745	1.1	5.494	A
C	157	718	971	0.162	157	0.2	4.426	A
D	658	301	1440	0.457	658	0.9	4.813	A

16:15 - 16:30

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	102	593	1073	0.095	102	0.1	3.705	A
B	609	39	1418	0.429	610	0.8	4.549	A
C	129	587	1045	0.123	129	0.1	3.928	A
D	538	246	1474	0.365	539	0.6	4.029	A

16:30 - 16:45

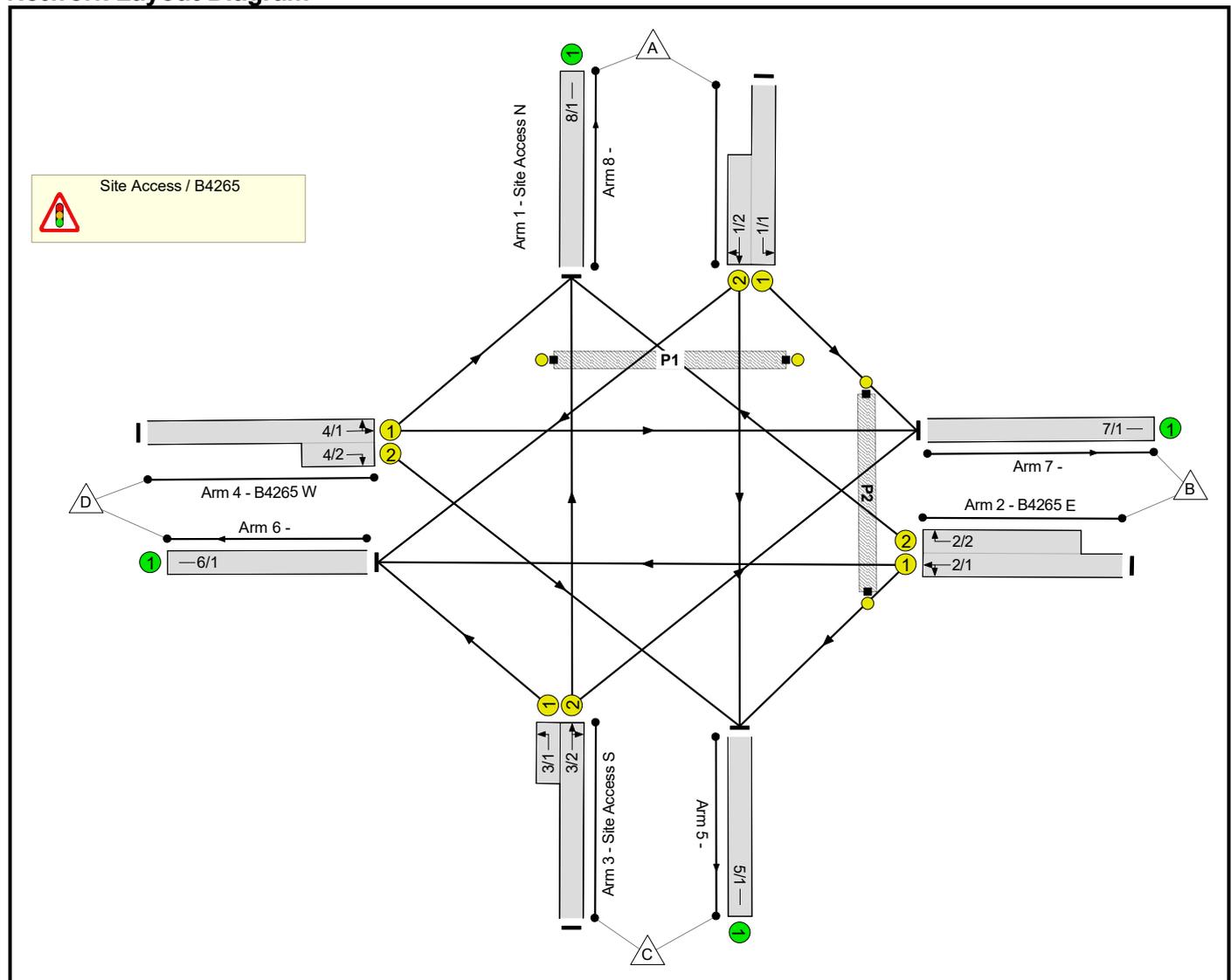
Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	85	496	1130	0.075	85	0.1	3.445	A
B	510	32	1422	0.358	510	0.6	4.032	A
C	108	492	1100	0.098	108	0.1	3.627	A
D	450	206	1498	0.300	451	0.5	3.597	A

Full Input Data And Results
Full Input Data And Results

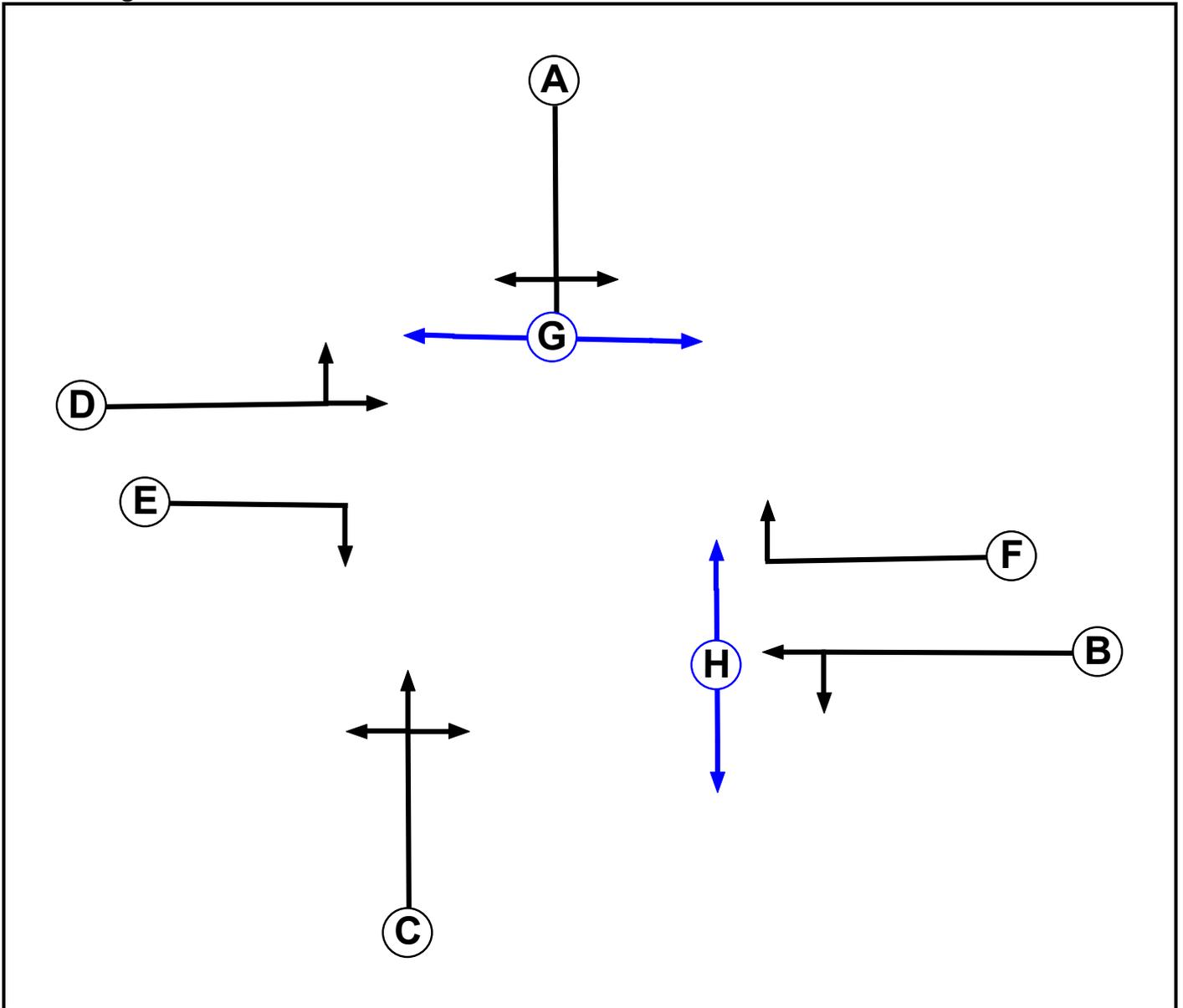
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Site Access - B4265.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		5	5
F	Traffic		5	5
G	Pedestrian		10	10
H	Pedestrian		10	10

Full Input Data And Results

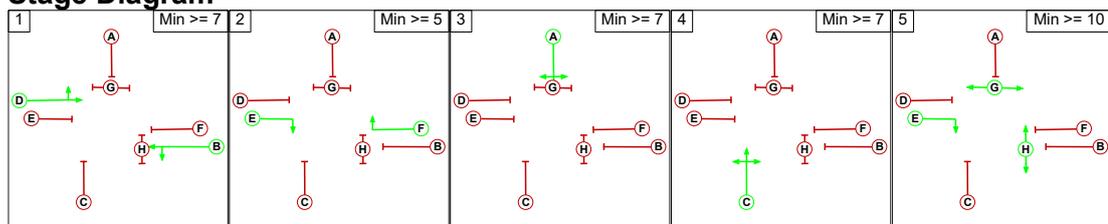
Phase Intergrens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A		6	6	6	6	6	5	7
	B	6		6	-	6	-	7	5
	C	6	6		6	6	6	7	7
	D	6	-	6		-	6	6	7
	E	6	6	6	-		-	-	-
	F	6	-	6	6	-		7	5
	G	10	10	10	10	-	10		-
	H	10	10	10	10	-	10	-	

Phases in Stage

Stage No.	Phases in Stage
1	B D
2	E F
3	A
4	C
5	E G H

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1		6	6	6	7
	2	6		6	6	7
	3	6	6		6	7
	4	6	6	6		7
	5	10	10	10	10	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Site Access / B4265

There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Site Access / B4265												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Site Access N)	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 7 Left	12.90
1/2 (Site Access N)	U	A	2	3	7.0	Geom	-	3.25	3.25	Y	Arm 5 Ahead	Inf
											Arm 6 Right	23.40
2/1 (B4265 E)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Left	15.00
											Arm 6 Ahead	Inf
2/2 (B4265 E)	U	F	2	3	10.0	Geom	-	3.25	0.00	Y	Arm 8 Right	17.80
3/1 (Site Access S)	U	C	2	3	3.9	Geom	-	3.25	0.00	Y	Arm 6 Left	15.00
3/2 (Site Access S)	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 7 Right	21.30
											Arm 8 Ahead	Inf
4/1 (B4265 W)	U	D	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 7 Ahead	Inf
											Arm 8 Left	16.20
4/2 (B4265 W)	U	E	2	3	4.6	Geom	-	3.25	0.00	Y	Arm 5 Right	17.80
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2036 with dev and E of SA'	07:45	08:45	01:00	
2: '2036 with dev and E of SA'	15:30	16:30	01:00	

Full Input Data And Results

Scenario 1: '2036 with dev and E of SA AM ' (FG1: '2036 with dev and E of SA', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	193	0	58	251
	B	77	0	91	516	684
	C	0	50	0	15	65
	D	24	470	30	0	524
	Tot.	101	713	121	589	1524

Traffic Lane Flows

Lane	Scenario 1: 2036 with dev and E of SA AM
Junction: Site Access / B4265	
1/1 (with short)	251(In) 193(Out)
1/2 (short)	58
2/1 (with short)	684(In) 607(Out)
2/2 (short)	77
3/1 (short)	15
3/2 (with short)	65(In) 50(Out)
4/1 (with short)	524(In) 494(Out)
4/2 (short)	30
5/1	121
6/1	589
7/1	713
8/1	101

Full Input Data And Results

Lane Saturation Flows

Junction: Site Access / B4265								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Site Access N)	3.25	0.00	Y	Arm 7 Left	12.90	100.0 %	1738	1738
1/2 (Site Access N)	3.25	3.25	Y	Arm 5 Ahead	Inf	0.0 %	1695	1695
				Arm 6 Right	23.40	100.0 %		
2/1 (B4265 E)	3.25	0.00	Y	Arm 5 Left	15.00	15.0 %	1911	1911
				Arm 6 Ahead	Inf	85.0 %		
2/2 (B4265 E)	3.25	0.00	Y	Arm 8 Right	17.80	100.0 %	1789	1789
3/1 (Site Access S)	3.25	0.00	Y	Arm 6 Left	15.00	100.0 %	1764	1764
3/2 (Site Access S)	3.25	0.00	Y	Arm 7 Right	21.30	100.0 %	1812	1812
				Arm 8 Ahead	Inf	0.0 %		
4/1 (B4265 W)	3.25	0.00	Y	Arm 7 Ahead	Inf	95.1 %	1931	1931
				Arm 8 Left	16.20	4.9 %		
4/2 (B4265 W)	3.25	0.00	Y	Arm 5 Right	17.80	100.0 %	1789	1789
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2036 with dev and E of SA PM' (FG2: '2036 with dev and E of SA', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
	A	B	C	D	Tot.	
A	0	87	0	26	113	
B	164	0	51	475	690	
C	0	109	0	34	143	
D	49	556	17	0	622	
Tot.	213	752	68	535	1568	

Full Input Data And Results

Traffic Lane Flows

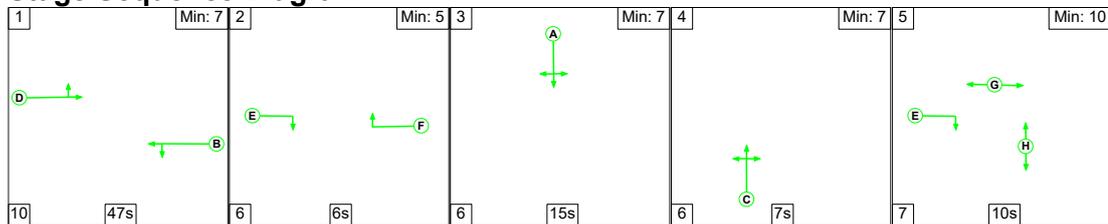
Lane	Scenario 2: 2036 with dev and E of SA PM
Junction: Site Access / B4265	
1/1 (with short)	113(In) 87(Out)
1/2 (short)	26
2/1 (with short)	690(In) 526(Out)
2/2 (short)	164
3/1 (short)	34
3/2 (with short)	143(In) 109(Out)
4/1 (with short)	622(In) 605(Out)
4/2 (short)	17
5/1	68
6/1	535
7/1	752
8/1	213

Lane Saturation Flows

Junction: Site Access / B4265								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Site Access N)	3.25	0.00	Y	Arm 7 Left	12.90	100.0 %	1738	1738
1/2 (Site Access N)	3.25	3.25	Y	Arm 5 Ahead	Inf	0.0 %	1695	1695
				Arm 6 Right	23.40	100.0 %		
2/1 (B4265 E)	3.25	0.00	Y	Arm 5 Left	15.00	9.7 %	1921	1921
				Arm 6 Ahead	Inf	90.3 %		
2/2 (B4265 E)	3.25	0.00	Y	Arm 8 Right	17.80	100.0 %	1789	1789
3/1 (Site Access S)	3.25	0.00	Y	Arm 6 Left	15.00	100.0 %	1764	1764
3/2 (Site Access S)	3.25	0.00	Y	Arm 7 Right	21.30	100.0 %	1812	1812
				Arm 8 Ahead	Inf	0.0 %		
4/1 (B4265 W)	3.25	0.00	Y	Arm 7 Ahead	Inf	91.9 %	1926	1926
				Arm 8 Left	16.20	8.1 %		
4/2 (B4265 W)	3.25	0.00	Y	Arm 5 Right	17.80	100.0 %	1789	1789
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2036 with dev and E of SA AM ' (FG1: '2036 with dev and E of SA', Plan 1: 'Network Control Plan 1')

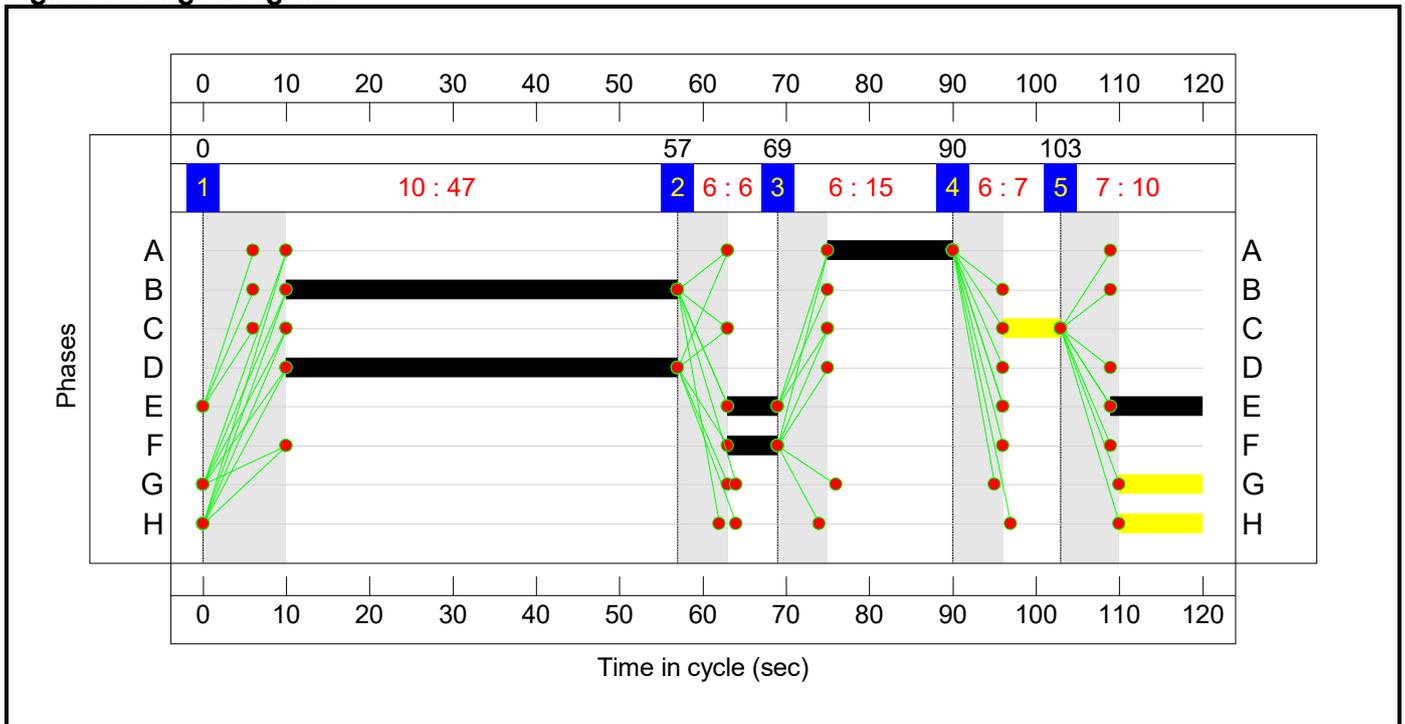
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	47	6	15	7	10
Change Point	0	57	69	90	103

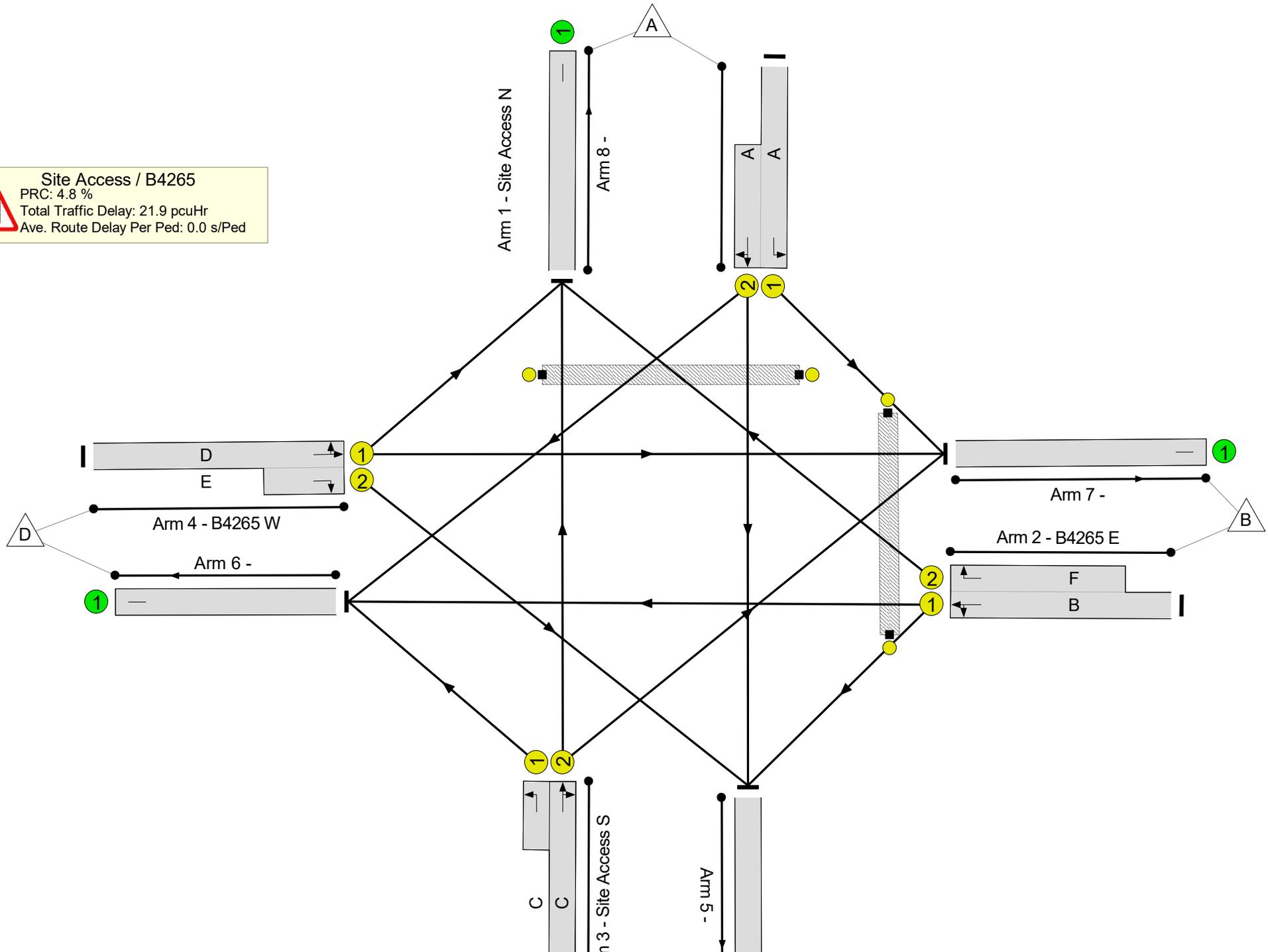
Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram

Full Input Data And Results

Site Access / B4265
 PRC: 4.8 %
 Total Traffic Delay: 21.9 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	85.9%
Site Access / B4265	-	-	N/A	-	-		-	-	-	-	-	-	85.9%
1/1+1/2	Site Access N Ahead Right Left	U	N/A	N/A	A		1	15	-	251	1738:1695	232+70	83.3 : 83.3%
2/1+2/2	B4265 E Left Ahead Right	U	N/A	N/A	B F		1	47:6	-	684	1911:1789	707+90	85.9 : 85.9%
3/2+3/1	Site Access S Left Right Ahead	U	N/A	N/A	C		1	7	-	65	1812:1764	121+36	41.4 : 41.4%
4/1+4/2	B4265 W Right Ahead Left	U	N/A	N/A	D E		1:2	47:17	-	524	1931:1789	748+45	66.0 : 66.0%
5/1		U	N/A	N/A	-		-	-	-	121	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	589	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	713	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	101	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	G		1	10	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	H		1	10	-	0	-	0	0.0%

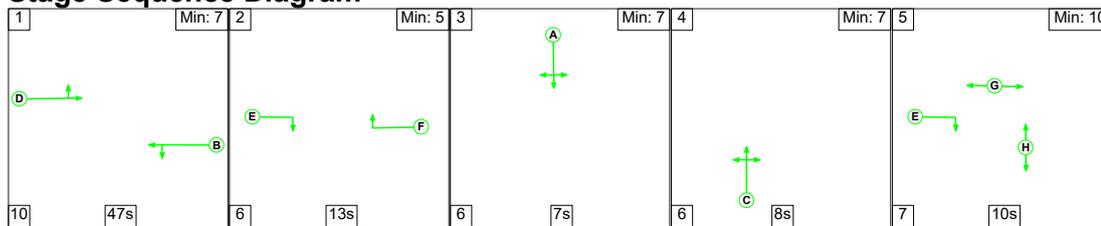
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	15.4	6.5	0.0	21.9	-	-	-	-
Site Access / B4265	-	-	0	0	0	15.4	6.5	0.0	21.9	-	-	-	-
1/1+1/2	251	251	-	-	-	3.5	2.3	-	5.8	82.5	6.2	2.3	8.5
2/1+2/2	684	684	-	-	-	6.6	2.9	-	9.5	50.0	19.3	2.9	22.1
3/2+3/1	65	65	-	-	-	1.0	0.4	-	1.3	72.9	1.6	0.4	1.9
4/1+4/2	524	524	-	-	-	4.3	1.0	-	5.3	36.3	13.7	1.0	14.7
5/1	121	121	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	589	589	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	713	713	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	101	101	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
<p>C1 PRC for Signalled Lanes (%): 4.8 Total Delay for Signalled Lanes (pcuHr): 21.85 Cycle Time (s): 120</p> <p> PRC Over All Lanes (%): 4.8 Total Delay Over All Lanes(pcuHr): 21.85</p>													

Full Input Data And Results

Scenario 2: '2036 with dev and E of SA PM' (FG2: '2036 with dev and E of SA', Plan 1: 'Network Control Plan 1')

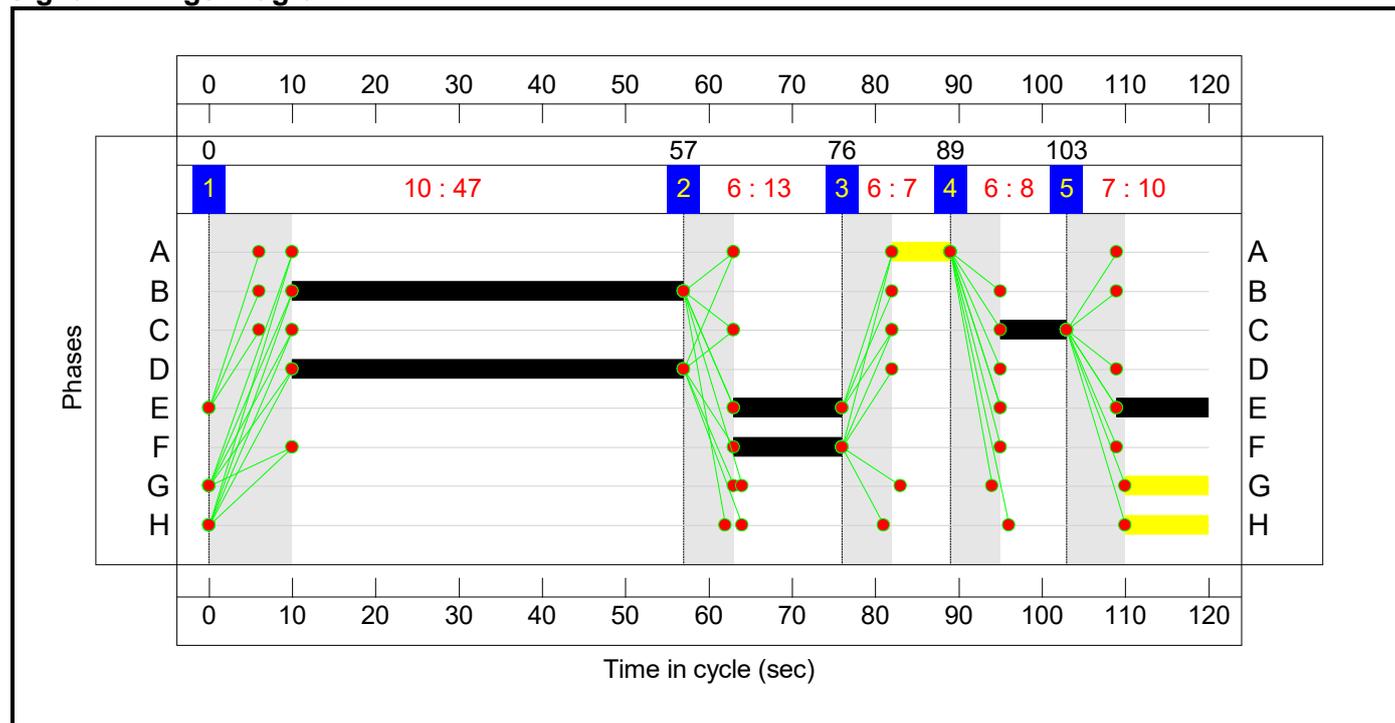
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	5
Duration	47	13	7	8	10
Change Point	0	57	76	89	103

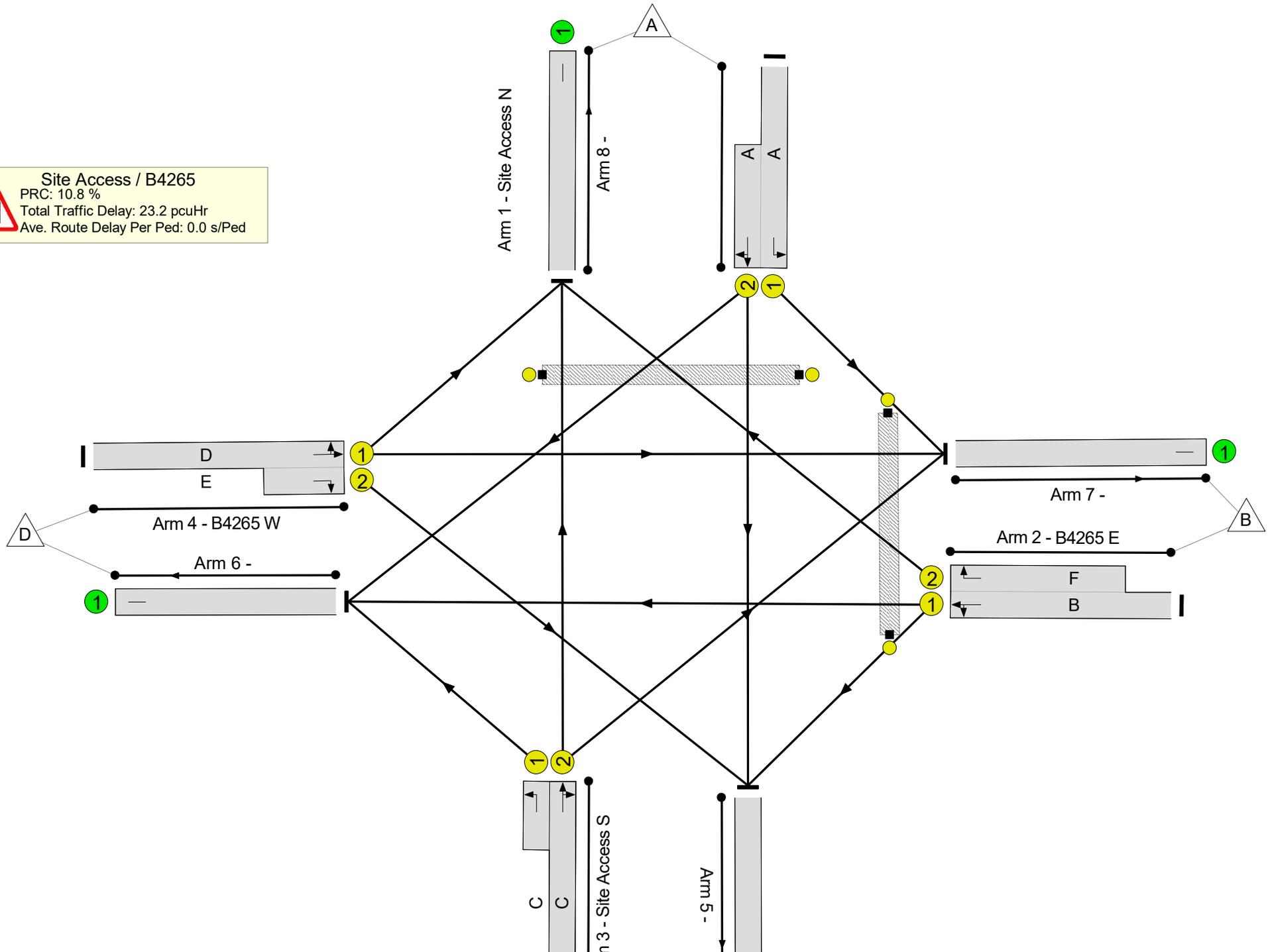
Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram

Full Input Data And Results

Site Access / B4265
 PRC: 10.8 %
 Total Traffic Delay: 23.2 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	81.2%
Site Access / B4265	-	-	N/A	-	-		-	-	-	-	-	-	81.2%
1/1+1/2	Site Access N Ahead Right Left	U	N/A	N/A	A		1	7	-	113	1738:1695	116+35	75.1 : 75.1%
2/1+2/2	B4265 E Left Ahead Right	U	N/A	N/A	B F		1	47:13	-	690	1921:1789	648+209	81.2 : 78.6%
3/2+3/1	Site Access S Left Right Ahead	U	N/A	N/A	C		1	8	-	143	1812:1764	136+42	80.2 : 80.2%
4/1+4/2	B4265 W Right Ahead Left	U	N/A	N/A	D E		1:2	47:24	-	622	1926:1789	767+22	78.8 : 78.8%
5/1		U	N/A	N/A	-		-	-	-	68	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	535	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	752	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	213	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	G		1	10	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	H		1	10	-	0	-	0	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	16.1	7.1	0.0	23.2	-	-	-	-
Site Access / B4265	-	-	0	0	0	16.1	7.1	0.0	23.2	-	-	-	-
1/1+1/2	113	113	-	-	-	1.7	1.4	-	3.1	99.3	2.8	1.4	4.2
2/1+2/2	690	690	-	-	-	6.8	2.0	-	8.8	45.9	16.6	2.0	18.6
3/2+3/1	143	143	-	-	-	2.1	1.8	-	4.0	100.3	3.6	1.8	5.4
4/1+4/2	622	622	-	-	-	5.5	1.8	-	7.3	42.3	17.8	1.8	19.7
5/1	68	68	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	535	535	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	752	752	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	213	213	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1			PRC for Signalled Lanes (%):		10.8	Total Delay for Signalled Lanes (pcuHr):		23.20	Cycle Time (s): 120				
			PRC Over All Lanes (%):		10.8	Total Delay Over All Lanes(pcuHr):		23.20					

Junctions 10
ARCADY 10 - Roundabout Module
Version: 10.1.1.1905 © Copyright TRL Software Limited, 2023
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 5. N Acc Rd-B4265 Rbt (V2).j10

Path: C:\Users\Modelling\Apex Transport Planning Ltd\Apex Transport Planning Ltd - Documents\1.Projects\C22-\C22-133 - Land at St Athan\4.Modelling\5. N Acc Rd-B4265 Rbt

Report generation date: 10/12/2024 21:12:25

- »2024 Base, AM
- »2024 Base, PM
- »2036 Baseline, AM
- »2036 Baseline, PM
- »2036 Baseline + Dev, AM
- »2036 Baseline + Dev, PM
- »2036 Baseline + Dev + E of SA, AM
- »2036 Baseline + Dev + E of SA, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2024 Base										
Arm A	D1	0.1	2.65	0.12	A	D2	0.2	2.73	0.18	A
Arm B		0.3	2.99	0.20	A		0.2	2.98	0.19	A
Arm C		0.3	2.78	0.21	A		0.3	2.66	0.20	A
2036 Baseline										
Arm A	D3	0.2	2.73	0.13	A	D4	0.3	2.84	0.21	A
Arm B		0.3	3.10	0.23	A		0.3	3.10	0.22	A
Arm C		0.3	2.87	0.23	A		0.3	2.75	0.23	A
2036 Baseline + Dev										
Arm A	D5	0.2	2.80	0.15	A	D6	0.3	2.96	0.23	A
Arm B		0.4	3.28	0.28	A		0.4	3.27	0.26	A
Arm C		0.4	2.98	0.25	A		0.3	2.87	0.25	A
2036 Baseline + Dev + E of SA										
Arm A	D7	0.2	2.81	0.15	A	D8	0.3	3.00	0.23	A
Arm B		0.4	3.35	0.29	A		0.4	3.33	0.28	A
Arm C		0.4	3.00	0.26	A		0.4	2.93	0.27	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	5. Northern Access Road / B4265
Location	Llantwit Major
Site number	
Date	13/03/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	C22133
Enumerator	DESKTOP-DDJJ6HG\Apex Modelling
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	Veh	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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:30	09:00	15
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15
D3	2036 Baseline	AM	ONE HOUR	07:30	09:00	15
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15
D5	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	2.83	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.83	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Northern Access Road		
B	B4265 Southeast		
C	B4265 Northwest		

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
A	3.65	7.30	28.3	19.5	50.7	46.0		
B	3.65	7.30	14.5	16.4	50.7	34.0		
C	3.65	7.30	16.7	18.3	50.7	27.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.605	1782
B	0.594	1676
C	0.620	1767

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	160	100.000
B		✓	274	100.000
C		✓	306	100.000

Origin-Destination Data

Demand (Veh/hr)

From	To		
	A	B	C
A	0	47	113
B	34	0	240
C	106	200	0

Vehicle Mix

Heavy Vehicle %

From	To		
	A	B	C
A	0	15	4
B	9	0	6
C	4	9	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.12	2.65	0.1	A
B	0.20	2.99	0.3	A
C	0.21	2.78	0.3	A

Main Results for each time segment

07:30 - 07:45

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	129	163	1683	0.076	128	0.1	2.474	A
B	219	88	1624	0.135	218	0.2	2.718	A
C	246	28	1750	0.141	245	0.2	2.555	A

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	154	195	1664	0.092	154	0.1	2.547	A
B	262	105	1614	0.162	261	0.2	2.827	A
C	294	33	1746	0.168	294	0.2	2.648	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	188	239	1637	0.115	188	0.1	2.654	A
B	320	129	1600	0.200	320	0.3	2.987	A
C	360	41	1742	0.207	360	0.3	2.783	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	188	239	1637	0.115	188	0.1	2.655	A
B	320	129	1600	0.200	320	0.3	2.988	A
C	360	41	1742	0.207	360	0.3	2.783	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	154	195	1664	0.092	154	0.1	2.550	A
B	262	105	1614	0.162	262	0.2	2.830	A
C	294	33	1746	0.168	294	0.2	2.651	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	129	163	1683	0.077	129	0.1	2.477	A
B	219	88	1624	0.135	219	0.2	2.723	A
C	246	28	1750	0.141	246	0.2	2.560	A

2024 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	2.78	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.78	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Base	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	266	100.000
B		✓	265	100.000
C		✓	309	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	52	214
	B	36	0	229
	C	104	205	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	4	1
	B	8	0	1
	C	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.18	2.73	0.2	A
B	0.19	2.98	0.2	A
C	0.20	2.66	0.3	A

Main Results for each time segment

15:15 - 15:30

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	204	159	1685	0.121	203	0.1	2.475	A
B	204	163	1579	0.129	203	0.2	2.674	A
C	239	29	1749	0.137	239	0.2	2.451	A

15:30 - 15:45

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	244	190	1666	0.146	243	0.2	2.577	A
B	244	195	1560	0.156	243	0.2	2.795	A
C	286	35	1745	0.164	286	0.2	2.538	A

15:45 - 16:00

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	298	233	1641	0.182	298	0.2	2.732	A
B	298	239	1534	0.194	298	0.2	2.977	A
C	350	43	1740	0.201	350	0.3	2.664	A

16:00 - 16:15

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	298	233	1640	0.182	298	0.2	2.732	A
B	298	239	1534	0.194	298	0.2	2.978	A
C	350	43	1740	0.201	350	0.3	2.664	A

16:15 - 16:30

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	244	191	1666	0.146	244	0.2	2.580	A
B	244	195	1560	0.156	244	0.2	2.796	A
C	286	35	1745	0.164	286	0.2	2.540	A

16:30 - 16:45

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	204	160	1685	0.121	204	0.1	2.476	A
B	204	163	1579	0.129	204	0.2	2.679	A
C	239	29	1749	0.137	240	0.2	2.456	A

2036 Baseline, 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	2.93	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.93	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2036 Baseline	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	180	100.000
B		✓	307	100.000
C		✓	343	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	53	127
	B	38	0	269
	C	119	224	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	15	3
	B	8	0	6
	C	3	8	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.13	2.73	0.2	A
B	0.23	3.10	0.3	A
C	0.23	2.87	0.3	A

Main Results for each time segment

07:30 - 07:45

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	145	182	1671	0.086	144	0.1	2.514	A
B	245	98	1618	0.152	245	0.2	2.782	A
C	276	31	1748	0.158	275	0.2	2.606	A

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	173	218	1650	0.105	173	0.1	2.599	A
B	293	118	1606	0.182	293	0.2	2.910	A
C	329	37	1744	0.189	329	0.2	2.713	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	211	267	1620	0.131	211	0.2	2.725	A
B	359	144	1591	0.226	359	0.3	3.103	A
C	403	45	1739	0.232	403	0.3	2.874	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	211	268	1620	0.131	211	0.2	2.725	A
B	359	144	1591	0.226	359	0.3	3.103	A
C	403	45	1739	0.232	403	0.3	2.874	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	173	219	1649	0.105	173	0.1	2.600	A
B	293	118	1606	0.182	293	0.2	2.914	A
C	329	37	1744	0.189	329	0.2	2.715	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	145	183	1671	0.087	145	0.1	2.517	A
B	245	99	1618	0.152	246	0.2	2.788	A
C	276	31	1748	0.158	276	0.2	2.609	A

2036 Baseline, 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	2.89	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.89	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2036 Baseline	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	298	100.000
B		✓	296	100.000
C		✓	346	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	58	240
	B	40	0	256
	C	116	230	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	3	1
	B	8	0	1
	C	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.21	2.84	0.3	A
B	0.22	3.10	0.3	A
C	0.23	2.75	0.3	A

Main Results for each time segment

15:15 - 15:30

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	228	179	1674	0.136	227	0.2	2.529	A
B	227	182	1568	0.145	227	0.2	2.737	A
C	268	32	1747	0.153	267	0.2	2.501	A

15:30 - 15:45

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	272	214	1652	0.165	272	0.2	2.652	A
B	271	218	1547	0.176	271	0.2	2.880	A
C	320	39	1743	0.184	320	0.2	2.602	A

15:45 - 16:00

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	334	262	1623	0.206	333	0.3	2.837	A
B	333	267	1517	0.219	332	0.3	3.099	A
C	392	47	1738	0.226	392	0.3	2.751	A

16:00 - 16:15

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	334	262	1623	0.206	334	0.3	2.837	A
B	333	268	1517	0.219	333	0.3	3.099	A
C	392	47	1738	0.226	392	0.3	2.751	A

16:15 - 16:30

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	272	214	1652	0.165	273	0.2	2.653	A
B	271	219	1546	0.176	272	0.2	2.883	A
C	320	39	1743	0.184	320	0.2	2.603	A

16:30 - 16:45

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	228	179	1673	0.136	228	0.2	2.535	A
B	227	183	1567	0.145	228	0.2	2.743	A
C	268	32	1747	0.153	268	0.2	2.506	A

2036 Baseline + 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	3.06	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.06	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2036 Baseline + Dev	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	202	100.000
B		✓	380	100.000
C		✓	375	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	75	127
	B	68	0	312
	C	119	256	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	11	3
	B	4	0	5
	C	3	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.15	2.80	0.2	A
B	0.28	3.28	0.4	A
C	0.25	2.98	0.4	A

Main Results for each time segment

07:30 - 07:45

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	161	206	1657	0.097	161	0.1	2.549	A
B	300	98	1618	0.186	299	0.2	2.866	A
C	300	53	1734	0.173	299	0.2	2.661	A

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	192	247	1632	0.118	192	0.1	2.648	A
B	359	118	1606	0.223	358	0.3	3.029	A
C	358	64	1728	0.207	358	0.3	2.788	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	236	303	1599	0.147	235	0.2	2.797	A
B	439	144	1591	0.276	439	0.4	3.282	A
C	438	78	1719	0.255	438	0.4	2.983	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	236	303	1599	0.147	236	0.2	2.797	A
B	439	144	1591	0.276	439	0.4	3.282	A
C	438	78	1719	0.255	438	0.4	2.983	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	192	247	1632	0.118	193	0.1	2.651	A
B	359	118	1606	0.223	359	0.3	3.031	A
C	358	64	1727	0.207	358	0.3	2.790	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	161	207	1656	0.097	161	0.1	2.552	A
B	300	99	1618	0.186	301	0.2	2.870	A
C	300	53	1734	0.173	300	0.2	2.666	A

2036 Baseline + 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	3.03	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.03	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2036 Baseline + Dev	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	325	100.000
B		✓	356	100.000
C		✓	385	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	85	240
	B	65	0	291
	C	116	269	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	2	1
	B	5	0	1
	C	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.23	2.96	0.3	A
B	0.26	3.27	0.4	A
C	0.25	2.87	0.3	A

Main Results for each time segment

15:15 - 15:30

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	248	208	1656	0.150	248	0.2	2.594	A
B	273	182	1568	0.174	272	0.2	2.823	A
C	297	51	1735	0.171	297	0.2	2.565	A

15:30 - 15:45

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	297	249	1631	0.182	296	0.2	2.738	A
B	325	218	1547	0.210	325	0.3	2.997	A
C	355	61	1729	0.205	355	0.3	2.687	A

15:45 - 16:00

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	363	305	1597	0.227	363	0.3	2.961	A
B	399	267	1517	0.263	398	0.4	3.271	A
C	435	75	1721	0.253	435	0.3	2.871	A

16:00 - 16:15

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	363	305	1597	0.227	363	0.3	2.961	A
B	399	268	1517	0.263	399	0.4	3.271	A
C	435	75	1721	0.253	435	0.3	2.872	A

16:15 - 16:30

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	297	249	1631	0.182	297	0.2	2.742	A
B	325	219	1546	0.210	326	0.3	2.999	A
C	355	61	1729	0.205	355	0.3	2.688	A

16:30 - 16:45

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	248	209	1655	0.150	249	0.2	2.600	A
B	273	183	1567	0.174	273	0.2	2.827	A
C	297	51	1735	0.171	298	0.2	2.570	A

2036 Baseline + Dev + E of SA, 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	3.10	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.10	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:30	09:00	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	202	100.000
B		✓	403	100.000
C		✓	385	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	75	127
	B	68	0	335
	C	119	266	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	11	3
	B	4	0	5
	C	3	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.15	2.81	0.2	A
B	0.29	3.35	0.4	A
C	0.26	3.00	0.4	A

Main Results for each time segment

07:30 - 07:45

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	161	214	1652	0.098	161	0.1	2.557	A
B	318	98	1618	0.196	317	0.3	2.897	A
C	307	53	1734	0.177	306	0.2	2.671	A

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	192	256	1627	0.118	192	0.1	2.658	A
B	379	118	1606	0.236	379	0.3	3.071	A
C	367	64	1728	0.212	367	0.3	2.803	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	236	314	1592	0.148	235	0.2	2.811	A
B	465	144	1591	0.292	464	0.4	3.347	A
C	449	78	1719	0.261	449	0.4	3.004	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	236	314	1592	0.148	236	0.2	2.811	A
B	465	144	1591	0.292	465	0.4	3.347	A
C	449	78	1719	0.261	449	0.4	3.004	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	192	256	1627	0.118	193	0.1	2.661	A
B	379	118	1606	0.236	380	0.3	3.076	A
C	367	64	1727	0.212	367	0.3	2.806	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	161	215	1652	0.098	161	0.1	2.560	A
B	318	99	1618	0.196	318	0.3	2.900	A
C	307	53	1734	0.177	307	0.2	2.674	A

2036 Baseline + Dev + E of SA, 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	Northern Access Road / B4265	Standard Roundabout		A, B, C	3.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.09	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:15	16:45	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	325	100.000
B		✓	376	100.000
C		✓	409	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	85	240
	B	65	0	311
	C	116	293	0

Vehicle Mix

Heavy Vehicle %

		To		
		A	B	C
From	A	0	2	1
	B	5	0	1
	C	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.23	3.00	0.3	A
B	0.28	3.33	0.4	A
C	0.27	2.93	0.4	A

Main Results for each time segment

15:15 - 15:30

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	248	226	1645	0.151	248	0.2	2.614	A
B	288	182	1568	0.183	287	0.2	2.853	A
C	315	51	1735	0.182	315	0.2	2.594	A

15:30 - 15:45

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	297	270	1618	0.183	296	0.2	2.765	A
B	343	218	1547	0.222	343	0.3	3.039	A
C	377	61	1729	0.218	376	0.3	2.726	A

15:45 - 16:00

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	363	331	1581	0.230	363	0.3	3.000	A
B	421	267	1517	0.277	420	0.4	3.333	A
C	461	75	1721	0.268	461	0.4	2.927	A

16:00 - 16:15

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	363	331	1581	0.230	363	0.3	3.000	A
B	421	268	1517	0.277	421	0.4	3.334	A
C	461	75	1721	0.268	461	0.4	2.927	A

16:15 - 16:30

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	297	271	1618	0.183	297	0.2	2.767	A
B	343	219	1546	0.222	344	0.3	3.041	A
C	377	61	1729	0.218	377	0.3	2.727	A

16:30 - 16:45

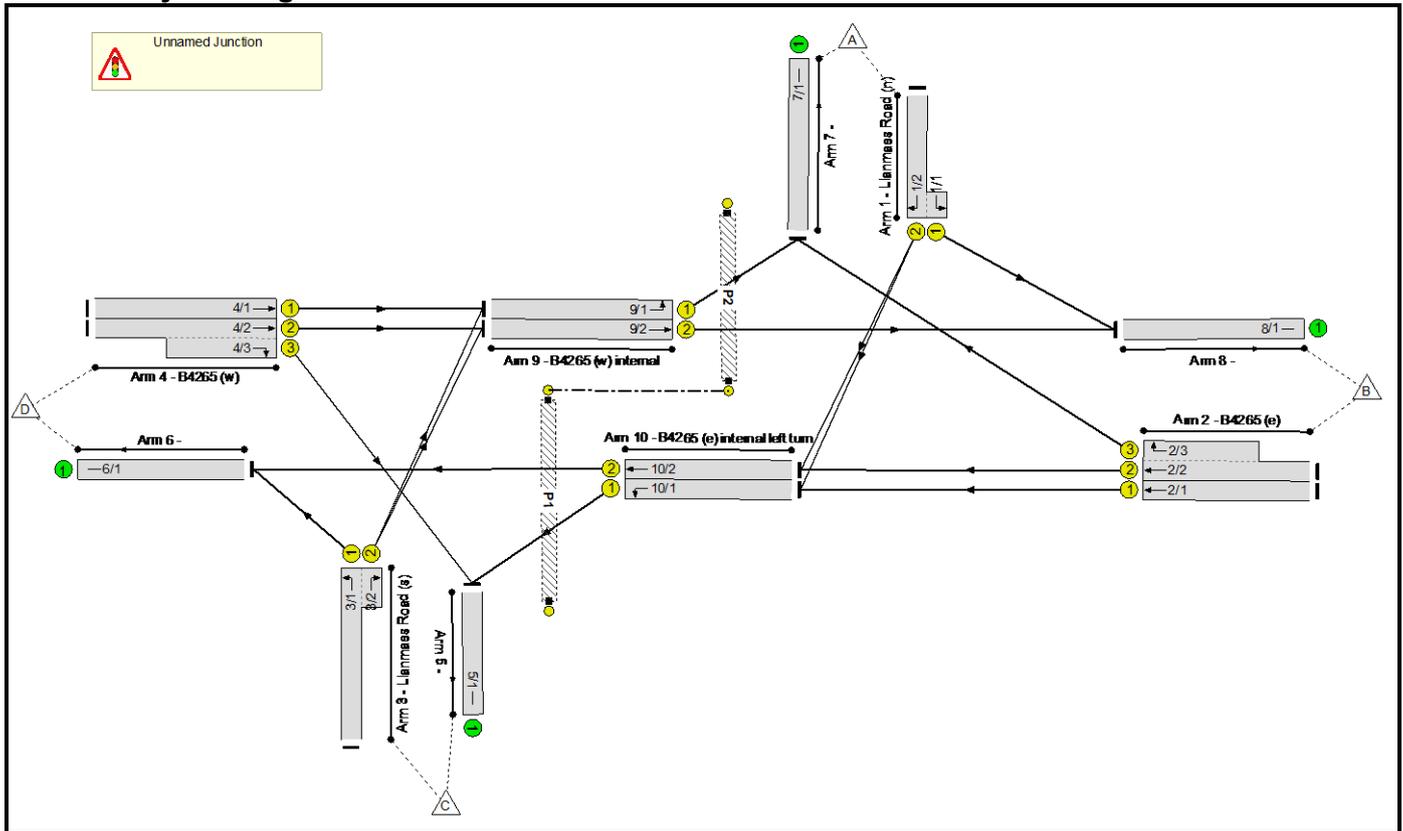
Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	248	227	1644	0.151	249	0.2	2.620	A
B	288	183	1567	0.183	288	0.2	2.858	A
C	315	51	1735	0.182	316	0.2	2.599	A

Full Input Data And Results
Full Input Data And Results

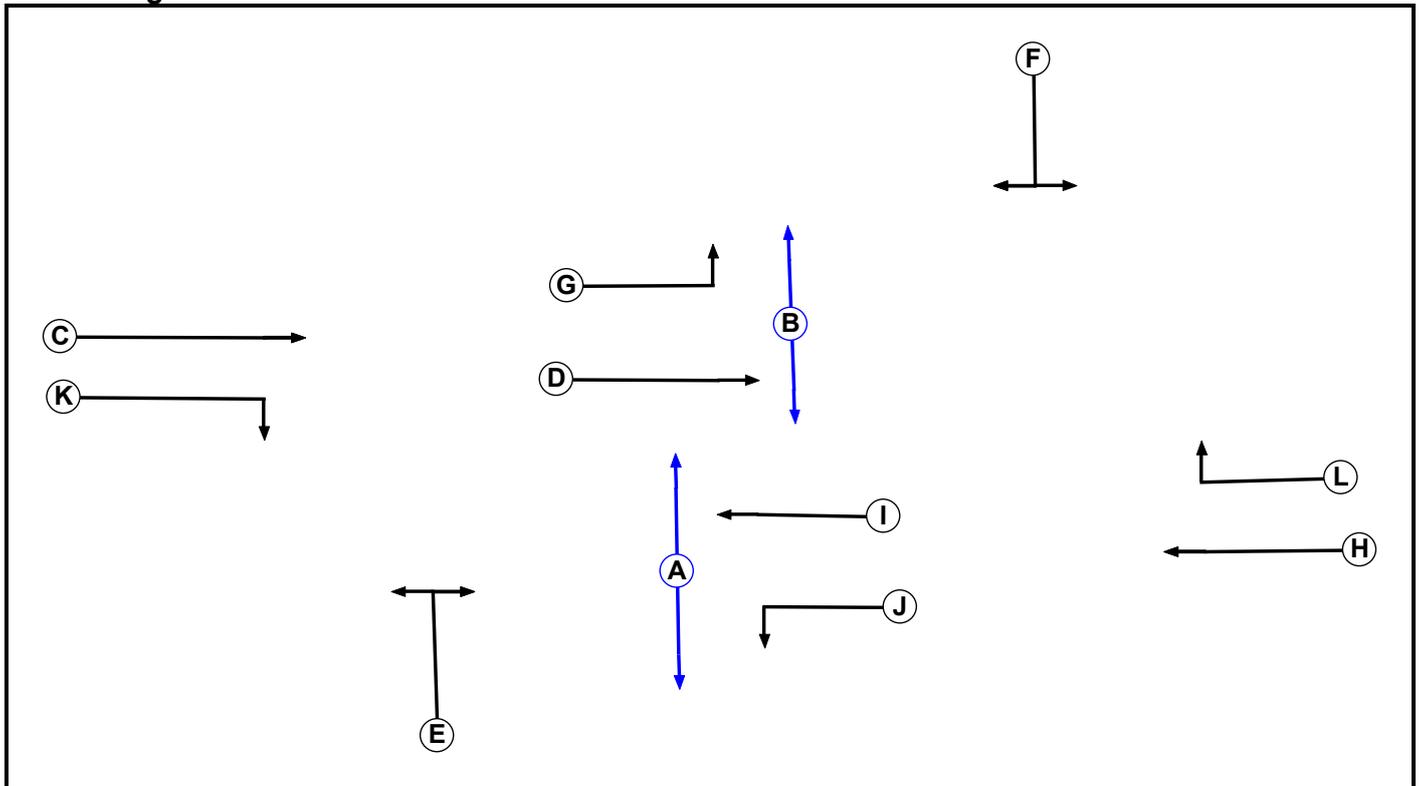
User and Project Details

Project:	C22133 Land at St Athan
Title:	Llanmaes Road / B4265 Signals
Location:	
Client:	Hallam Land
Additional detail:	
File name:	Llanmaes Rd-B4265 Sig.lsg3x
Author:	DRC
Company:	Apex Transport Planning
Address:	Clockwise, Brunel House, Cardiff

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Pedestrian		8	8
B	Pedestrian		8	8
C	Traffic		7	7
D	Traffic		7	2
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	2
H	Traffic		7	7
I	Traffic		7	2
J	Traffic		7	2
K	Traffic		7	7
L	Traffic		7	7

Full Input Data And Results

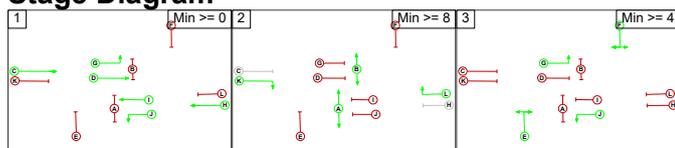
Phase Intergreens Matrix

		Starting Phase											
		A	B	C	D	E	F	G	H	I	J	K	L
Terminating Phase	A	-	-	-	-	-	-	-	-	7	7	-	-
	B	-	-	-	7	-	-	7	-	-	-	-	-
	C	-	-	-	-	9	-	-	-	-	-	-	-
	D	-	9	-	-	-	9	-	-	-	-	-	7
	E	-	-	7	-	-	-	-	-	7	-	7	-
	F	-	-	-	7	-	-	-	7	-	-	-	7
	G	-	7	-	-	-	-	-	-	-	-	-	6
	H	-	-	-	-	-	9	-	-	-	-	-	-
	I	9	-	-	-	9	-	-	-	-	-	7	-
	J	7	-	-	-	-	-	-	-	-	-	7	-
	K	-	-	-	-	7	-	-	-	7	10	-	-
	L	-	-	-	7	-	7	10	-	-	-	-	-

Phases in Stage

Stage No.	Phases in Stage
1	C D G H I J
2	A B K L
3	E F G J

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	D	Losing	5	5
1	2	G	Losing	5	5
1	2	I	Losing	5	5
1	2	J	Losing	5	5
1	3	D	Losing	5	5
1	3	I	Losing	5	5
3	2	G	Losing	5	5
3	2	J	Losing	5	5

Full Input Data And Results

Prohibited Stage Change

From Stage	To Stage		
	1	2	3
1	■	14	14
2	10	■	10
3	7	12	■

Full Input Data And Results

Give-Way Lane Input Data

Junction: Unnamed Junction

There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Llanmaes Road (n))	U	F	2	3	2.0	Geom	-	3.60	0.00	Y	Arm 8 Left	15.60
1/2 (Llanmaes Road (n))	U	F	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 10 Right	20.70
2/1 (B4265 (e))	U	H	2	3	8.7	Geom	-	3.60	0.00	Y	Arm 10 Ahead	Inf
2/2 (B4265 (e))	U	H	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 10 Ahead	Inf
2/3 (B4265 (e))	U	L	2	3	8.7	Geom	-	3.30	0.00	Y	Arm 7 Right	15.30
3/1 (Llanmaes Road (s))	U	E	2	3	60.0	Geom	-	4.60	0.00	Y	Arm 6 Left	12.25
3/2 (Llanmaes Road (s))	U	E	2	3	3.0	Geom	-	4.30	0.00	Y	Arm 9 Right	Inf
4/1 (B4265 (w))	U	C	2	3	8.7	Geom	-	4.04	0.00	Y	Arm 9 Ahead	Inf
4/2 (B4265 (w))	U	C	2	3	60.0	Geom	-	4.06	0.00	Y	Arm 9 Ahead	Inf
4/3 (B4265 (w))	U	K	2	3	8.3	Geom	-	3.00	0.00	Y	Arm 5 Right	14.72
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (B4265 (w) internal)	U	G	2	3	7.3	Geom	-	4.20	0.00	Y	Arm 7 Left	34.10
9/2 (B4265 (w) internal)	U	D	2	3	7.3	Geom	-	3.90	0.00	Y	Arm 8 Ahead	Inf
10/1 (B4265 (e) internal left turn)	U	J	2	3	7.1	Geom	-	4.40	0.00	Y	Arm 5 Left	23.40
10/2 (B4265 (e) internal left turn)	U	I	2	3	7.1	Geom	-	4.00	0.00	Y	Arm 6 Ahead	Inf

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Base AM'	07:45	08:45	01:00	
2: '2024 Base PM'	15:30	16:30	01:00	
3: '2036 Baseline AM'	07:45	08:45	01:00	
4: '2036 Baseline PM'	15:30	16:30	01:00	
5: '2036 Baseline + Dev AM'	07:45	08:45	01:00	
6: '2036 Baseline + Dev PM'	15:30	16:30	01:00	
7: '2036 Baseline + Dev + E St Athan AM'	07:45	08:45	01:00	
8: '2036 Baseline + Dev + E St Athan PM'	15:30	16:30	01:00	

Scenario 1: '2024 Base AM' (FG1: '2024 Base AM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	5	25	11	41
	B	7	0	93	265	365
	C	35	85	0	244	364
	D	8	233	123	0	364
	Tot.	50	323	241	520	1134

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2024 Base AM
Junction: Unnamed Junction	
1/1 (short)	5
1/2 (with short)	41(In) 36(Out)
2/1	93
2/2 (with short)	272(In) 265(Out)
2/3 (short)	7
3/1 (with short)	364(In) 244(Out)
3/2 (short)	120
4/1	8
4/2 (with short)	356(In) 233(Out)
4/3 (short)	123
5/1	241
6/1	520
7/1	50
8/1	323
9/1	43
9/2	318
10/1	118
10/2	276

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 2: '2024 Base PM' (FG2: '2024 Base PM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	3	45	10	58
	B	8	0	102	330	440
	C	39	90	0	174	303
	D	15	219	191	0	425
	Tot.	62	312	338	514	1226

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2024 Base PM
Junction: Unnamed Junction	
1/1 (short)	3
1/2 (with short)	58(In) 55(Out)
2/1	102
2/2 (with short)	338(In) 330(Out)
2/3 (short)	8
3/1 (with short)	303(In) 174(Out)
3/2 (short)	129
4/1	15
4/2 (with short)	410(In) 219(Out)
4/3 (short)	191
5/1	338
6/1	514
7/1	62
8/1	312
9/1	54
9/2	309
10/1	147
10/2	340

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 3: '2036 Baseline AM' (FG3: '2036 Baseline AM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	6	28	12	46
	B	8	0	104	297	409
	C	39	95	0	274	408
	D	9	261	138	0	408
	Tot.	56	362	270	583	1271

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: 2036 Baseline AM
Junction: Unnamed Junction	
1/1 (short)	6
1/2 (with short)	46(In) 40(Out)
2/1	104
2/2 (with short)	305(In) 297(Out)
2/3 (short)	8
3/1 (with short)	408(In) 274(Out)
3/2 (short)	134
4/1	9
4/2 (with short)	399(In) 261(Out)
4/3 (short)	138
5/1	270
6/1	583
7/1	56
8/1	362
9/1	48
9/2	356
10/1	132
10/2	309

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 4: '2036 Baseline PM' (FG4: '2036 Baseline PM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	3	50	11	64
	B	9	0	114	369	492
	C	44	101	0	195	340
	D	17	245	214	0	476
	Tot.	70	349	378	575	1372

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2036 Baseline PM
Junction: Unnamed Junction	
1/1 (short)	3
1/2 (with short)	64(In) 61(Out)
2/1	114
2/2 (with short)	378(In) 369(Out)
2/3 (short)	9
3/1 (with short)	340(In) 195(Out)
3/2 (short)	145
4/1	17
4/2 (with short)	459(In) 245(Out)
4/3 (short)	214
5/1	378
6/1	575
7/1	70
8/1	349
9/1	61
9/2	346
10/1	164
10/2	380

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 5: '2036 Baseline + Dev AM' (FG5: '2036 Baseline + Dev AM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	9	28	12	49
	B	12	0	118	322	452
	C	39	106	0	274	419
	D	9	279	138	0	426
	Tot.	60	394	284	608	1346

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 2036 Baseline + Dev AM
Junction: Unnamed Junction	
1/1 (short)	9
1/2 (with short)	49(In) 40(Out)
2/1	118
2/2 (with short)	334(In) 322(Out)
2/3 (short)	12
3/1 (with short)	419(In) 274(Out)
3/2 (short)	145
4/1	9
4/2 (with short)	417(In) 279(Out)
4/3 (short)	138
5/1	284
6/1	608
7/1	60
8/1	394
9/1	48
9/2	385
10/1	146
10/2	334

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 6: '2036 Baseline + Dev PM' (FG6: '2036 Baseline + Dev PM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	6	50	11	67
	B	12	0	126	389	527
	C	44	114	0	195	353
	D	17	268	214	0	499
	Tot.	73	388	390	595	1446

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2036 Baseline + Dev PM
Junction: Unnamed Junction	
1/1 (short)	6
1/2 (with short)	67(In) 61(Out)
2/1	126
2/2 (with short)	401(In) 389(Out)
2/3 (short)	12
3/1 (with short)	353(In) 195(Out)
3/2 (short)	158
4/1	17
4/2 (with short)	482(In) 268(Out)
4/3 (short)	214
5/1	390
6/1	595
7/1	73
8/1	388
9/1	61
9/2	382
10/1	176
10/2	400

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 7: '2036 Baseline + Dev + E St Athan Site AM' (FG7: '2036 Baseline + Dev + E St Athan AM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	9	28	12	49
	B	12	0	118	345	475
	C	39	106	0	274	419
	D	9	289	138	0	436
	Tot.	60	404	284	631	1379

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: 2036 Baseline + Dev + E St Athan Site AM
Junction: Unnamed Junction	
1/1 (short)	9
1/2 (with short)	49(In) 40(Out)
2/1	118
2/2 (with short)	357(In) 345(Out)
2/3 (short)	12
3/1 (with short)	419(In) 274(Out)
3/2 (short)	145
4/1	9
4/2 (with short)	427(In) 289(Out)
4/3 (short)	138
5/1	284
6/1	631
7/1	60
8/1	404
9/1	48
9/2	395
10/1	146
10/2	357

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 8: '2036 Baseline + Dev + E St Athan Site PM' (FG8: '2036 Baseline + Dev + E St Athan PM', Plan 1: 'Single Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	6	50	11	67
	B	12	0	126	409	547
	C	44	114	0	195	353
	D	17	292	214	0	523
	Tot.	73	412	390	615	1490

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: 2036 Baseline + Dev + E St Athar Site PM
Junction: Unnamed Junction	
1/1 (short)	6
1/2 (with short)	67(In) 61(Out)
2/1	126
2/2 (with short)	421(In) 409(Out)
2/3 (short)	12
3/1 (with short)	353(In) 195(Out)
3/2 (short)	158
4/1	17
4/2 (with short)	506(In) 292(Out)
4/3 (short)	214
5/1	390
6/1	615
7/1	73
8/1	412
9/1	61
9/2	406
10/1	176
10/2	420

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 9: '2024 Base AM (ped every other cycle)' (FG1: '2024 Base AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	5	25	11	41
	B	7	0	93	265	365
	C	35	85	0	244	364
	D	8	233	123	0	364
	Tot.	50	323	241	520	1134

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 9: 2024 Base AM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	5
1/2 (with short)	41(In) 36(Out)
2/1	93
2/2 (with short)	272(In) 265(Out)
2/3 (short)	7
3/1 (with short)	364(In) 244(Out)
3/2 (short)	120
4/1	8
4/2 (with short)	356(In) 233(Out)
4/3 (short)	123
5/1	241
6/1	520
7/1	50
8/1	323
9/1	43
9/2	318
10/1	118
10/2	276

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 10: '2024 Base PM (ped every other cycle)' (FG2: '2024 Base PM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	3	45	10	58
	B	8	0	102	330	440
	C	39	90	0	174	303
	D	15	219	191	0	425
	Tot.	62	312	338	514	1226

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 10: 2024 Base PM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	3
1/2 (with short)	58(In) 55(Out)
2/1	102
2/2 (with short)	338(In) 330(Out)
2/3 (short)	8
3/1 (with short)	303(In) 174(Out)
3/2 (short)	129
4/1	15
4/2 (with short)	410(In) 219(Out)
4/3 (short)	191
5/1	338
6/1	514
7/1	62
8/1	312
9/1	54
9/2	309
10/1	147
10/2	340

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 11: '2036 Baseline AM (ped every other cycle)' (FG3: '2036 Baseline AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	6	28	12	46
	B	8	0	104	297	409
	C	39	95	0	274	408
	D	9	261	138	0	408
	Tot.	56	362	270	583	1271

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 11: 2036 Baseline AM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	6
1/2 (with short)	46(In) 40(Out)
2/1	104
2/2 (with short)	305(In) 297(Out)
2/3 (short)	8
3/1 (with short)	408(In) 274(Out)
3/2 (short)	134
4/1	9
4/2 (with short)	399(In) 261(Out)
4/3 (short)	138
5/1	270
6/1	583
7/1	56
8/1	362
9/1	48
9/2	356
10/1	132
10/2	309

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 12: '2036 Baseline PM (ped every other cycle)' (FG4: '2036 Baseline PM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	3	50	11	64
	B	9	0	114	369	492
	C	44	101	0	195	340
	D	17	245	214	0	476
	Tot.	70	349	378	575	1372

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 12: 2036 Baseline PM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	3
1/2 (with short)	64(In) 61(Out)
2/1	114
2/2 (with short)	378(In) 369(Out)
2/3 (short)	9
3/1 (with short)	340(In) 195(Out)
3/2 (short)	145
4/1	17
4/2 (with short)	459(In) 245(Out)
4/3 (short)	214
5/1	378
6/1	575
7/1	70
8/1	349
9/1	61
9/2	346
10/1	164
10/2	380

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 13: '2036 Baseline + Dev AM (ped every other cycle)' (FG5: '2036 Baseline + Dev AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	9	28	12	49
	B	12	0	118	322	452
	C	39	106	0	274	419
	D	9	279	138	0	426
	Tot.	60	394	284	608	1346

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 13: 2036 Baseline + Dev AM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	9
1/2 (with short)	49(In) 40(Out)
2/1	118
2/2 (with short)	334(In) 322(Out)
2/3 (short)	12
3/1 (with short)	419(In) 274(Out)
3/2 (short)	145
4/1	9
4/2 (with short)	417(In) 279(Out)
4/3 (short)	138
5/1	284
6/1	608
7/1	60
8/1	394
9/1	48
9/2	385
10/1	146
10/2	334

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 14: '2036 Baseline + Dev PM (ped every other cycle)' (FG6: '2036 Baseline + Dev PM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	6	50	11	67
	B	12	0	126	389	527
	C	44	114	0	195	353
	D	17	268	214	0	499
	Tot.	73	388	390	595	1446

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 14: 2036 Baseline + Dev PM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	6
1/2 (with short)	67(In) 61(Out)
2/1	126
2/2 (with short)	401(In) 389(Out)
2/3 (short)	12
3/1 (with short)	353(In) 195(Out)
3/2 (short)	158
4/1	17
4/2 (with short)	482(In) 268(Out)
4/3 (short)	214
5/1	390
6/1	595
7/1	73
8/1	388
9/1	61
9/2	382
10/1	176
10/2	400

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 15: '2036 Baseline + Dev + E St Athan Site AM (ped every other cycle)' (FG7: '2036 Baseline + Dev + E St Athan AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	9	28	12	49
	B	12	0	118	345	475
	C	39	106	0	274	419
	D	9	289	138	0	436
	Tot.	60	404	284	631	1379

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 15: 2036 Baseline + Dev + E St Athar Site AM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	9
1/2 (with short)	49(In) 40(Out)
2/1	118
2/2 (with short)	357(In) 345(Out)
2/3 (short)	12
3/1 (with short)	419(In) 274(Out)
3/2 (short)	145
4/1	9
4/2 (with short)	427(In) 289(Out)
4/3 (short)	138
5/1	284
6/1	631
7/1	60
8/1	404
9/1	48
9/2	395
10/1	146
10/2	357

Full Input Data And Results

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 16: '2036 Baseline + Dev + E St Athan Site PM (ped every other cycle)' (FG8: '2036 Baseline + Dev + E St Athan PM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	6	50	11	67
	B	12	0	126	409	547
	C	44	114	0	195	353
	D	17	292	214	0	523
	Tot.	73	412	390	615	1490

Full Input Data And Results

Traffic Lane Flows

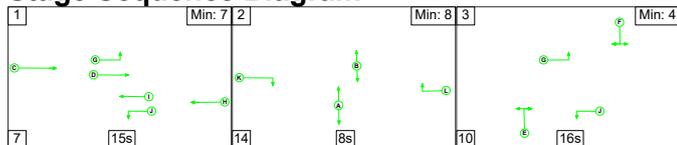
Lane	Scenario 16: 2036 Baseline + Dev + E St Athar Site PM (ped every other cycle)
Junction: Unnamed Junction	
1/1 (short)	6
1/2 (with short)	67(In) 61(Out)
2/1	126
2/2 (with short)	421(In) 409(Out)
2/3 (short)	12
3/1 (with short)	353(In) 195(Out)
3/2 (short)	158
4/1	17
4/2 (with short)	506(In) 292(Out)
4/3 (short)	214
5/1	390
6/1	615
7/1	73
8/1	412
9/1	61
9/2	406
10/1	176
10/2	420

Lane Saturation Flows

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Llanmaes Road (n))	3.60	0.00	Y	Arm 8 Left	15.60	100.0 %	1802	1802
1/2 (Llanmaes Road (n))	3.60	0.00	Y	Arm 10 Right	20.70	100.0 %	1842	1842
2/1 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/2 (B4265 (e))	3.60	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1975	1975
2/3 (B4265 (e))	3.30	0.00	Y	Arm 7 Right	15.30	100.0 %	1771	1771
3/1 (Llanmaes Road (s))	4.60	0.00	Y	Arm 6 Left	12.25	100.0 %	1849	1849
3/2 (Llanmaes Road (s))	4.30	0.00	Y	Arm 9 Right	Inf	100.0 %	2045	2045
4/1 (B4265 (w))	4.04	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2019	2019
4/2 (B4265 (w))	4.06	0.00	Y	Arm 9 Ahead	Inf	100.0 %	2021	2021
4/3 (B4265 (w))	3.00	0.00	Y	Arm 5 Right	14.72	100.0 %	1738	1738
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
9/1 (B4265 (w) internal)	4.20	0.00	Y	Arm 7 Left	34.10	100.0 %	1949	1949
9/2 (B4265 (w) internal)	3.90	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2005	2005
10/1 (B4265 (e) internal left turn)	4.40	0.00	Y	Arm 5 Left	23.40	100.0 %	1931	1931
10/2 (B4265 (e) internal left turn)	4.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2015	2015

Scenario 1: '2024 Base AM' (FG1: '2024 Base AM', Plan 1: 'Single Cycle')

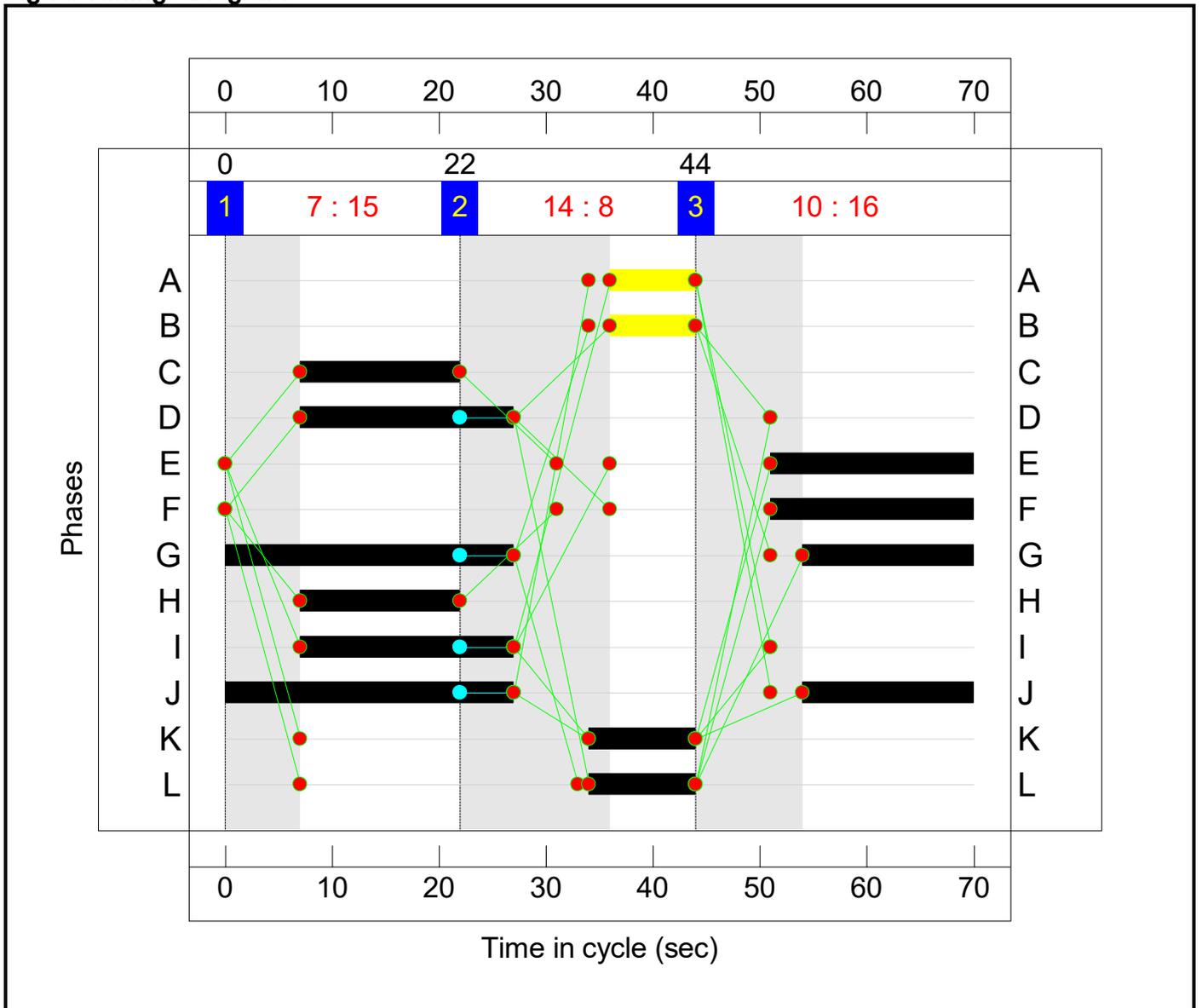
Stage Sequence Diagram



Stage Timings

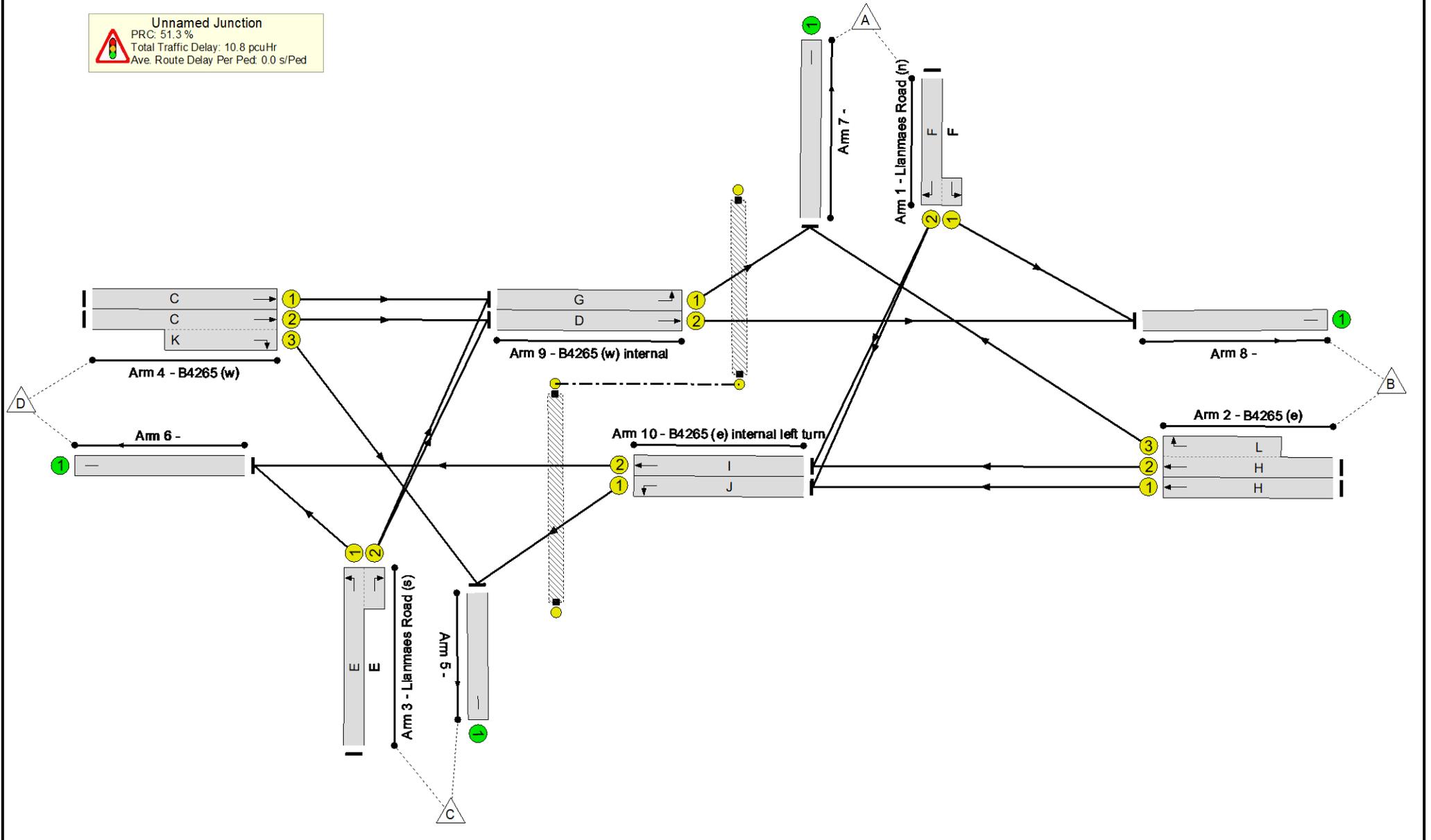
Stage	1	2	3
Duration	15	8	16
Change Point	0	22	44

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 51.3 %
 Total Traffic Delay: 10.8 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	59.5%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	59.5%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	19	-	41	1842:1802	472+65	7.6 : 7.6%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	15	-	93	1975	451	20.6%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	15:10	-	272	1975:1771	451+12	58.7 : 58.7%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	19	-	364	1849:2045	410+202	59.5 : 59.5%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	15	-	8	2019	461	1.7%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	15:10	-	356	2021:1738	459+273	50.8 : 45.0%
5/1		U	N/A	N/A	-		-	-	-	241	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	520	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	323	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	43	-	43	1949	1225	3.5%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	20	-	318	2005	601	52.9%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	43	-	118	1931	1214	9.7%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	20	-	276	2015	605	45.7%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	8	-	0	-	0	0.0%

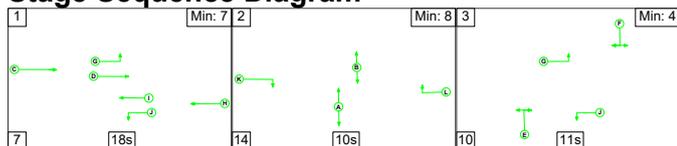
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	8	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	7.6	3.1	0.0	10.8	-	-	-	-
Unnamed Junction	-	-	0	0	0	7.6	3.1	0.0	10.8	-	-	-	-
1/2+1/1	41	41	-	-	-	0.2	0.0	-	0.2 (0.2+0.0)	21.8 (21.8:21.8)	0.5	0.0	0.5
2/1	93	93	-	-	-	0.6	0.1	-	0.7	26.9	1.4	0.1	1.6
2/2+2/3	272	272	-	-	-	1.8	0.7	-	2.5 (2.5+0.1)	33.4 (33.4:34.6)	4.6	0.7	5.3
3/1+3/2	364	364	-	-	-	2.1	0.7	-	2.8 (1.9+0.9)	27.5 (27.9:26.8)	4.4	0.7	5.1
4/1	8	8	-	-	-	0.0	0.0	-	0.1	25.2	0.1	0.0	0.1
4/2+4/3	356	356	-	-	-	2.4	0.5	-	2.9 (1.8+1.1)	29.4 (28.3:31.6)	3.9	0.5	4.4
5/1	241	241	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	520	520	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	323	323	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	43	43	-	-	-	0.0	0.0	-	0.0	1.5	0.0	0.0	0.0
9/2	318	318	-	-	-	0.4	0.6	-	1.0	11.2	1.7	0.6	2.2
10/1	118	118	-	-	-	0.0	0.1	-	0.1	1.7	0.0	0.1	0.1
10/2	276	276	-	-	-	0.1	0.4	-	0.5	6.4	0.2	0.4	0.7
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		51.3		Total Delay for Signalled Lanes (pcuHr):		10.77		Cycle Time (s):		70	
		PRC Over All Lanes (%):		51.3		Total Delay Over All Lanes(pcuHr):		10.77					

Full Input Data And Results

Scenario 2: '2024 Base PM' (FG2: '2024 Base PM', Plan 1: 'Single Cycle')

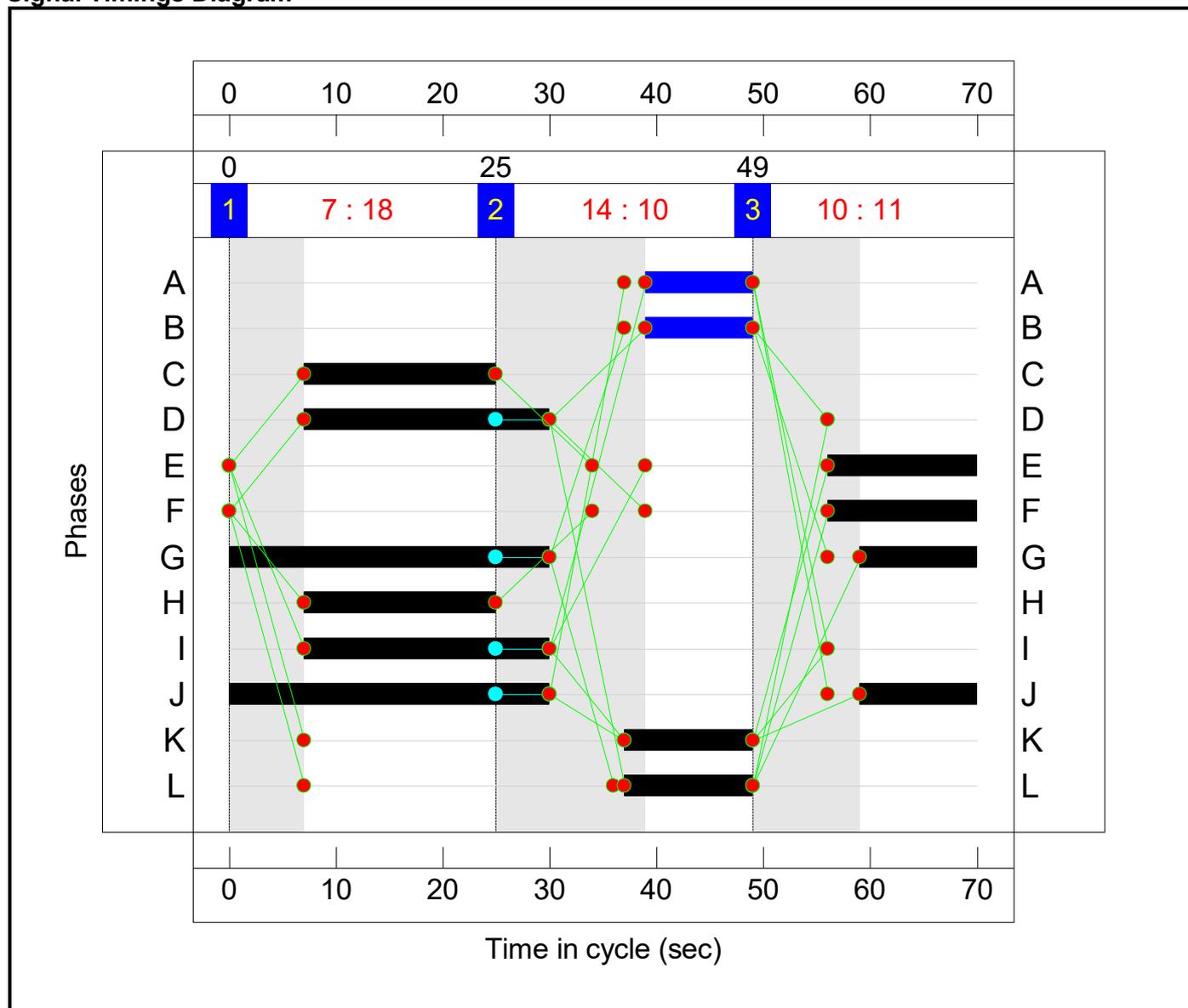
Stage Sequence Diagram



Stage Timings

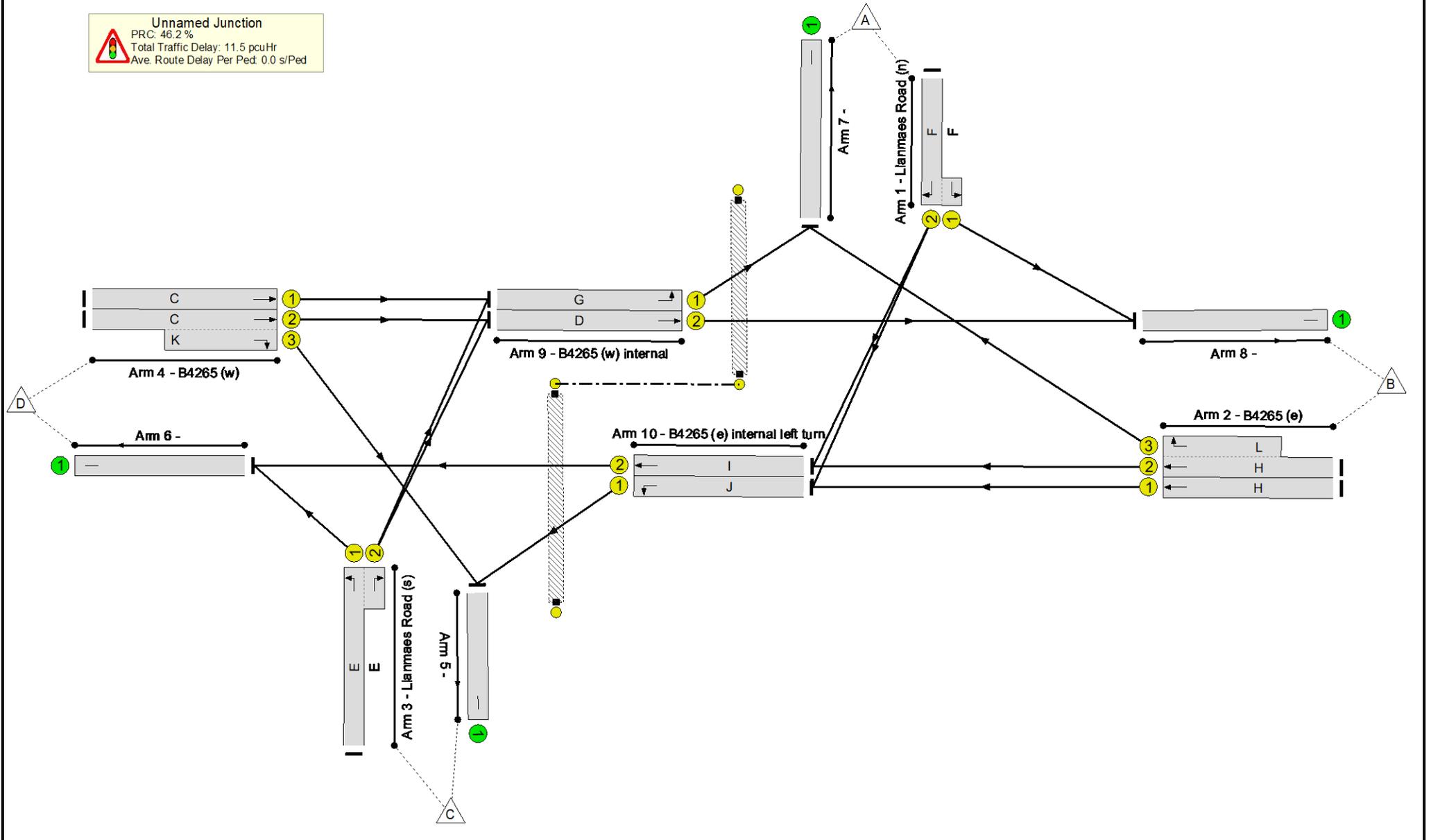
Stage	1	2	3
Duration	18	10	11
Change Point	0	25	49

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 46.2 %
 Total Traffic Delay: 11.5 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	61.6%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	61.6%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	14	-	58	1842:1802	377+21	14.6 : 14.6%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	18	-	102	1975	536	19.0%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	18:12	-	338	1975:1771	536+13	61.6 : 61.6%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	14	-	303	1849:2045	297+220	58.7 : 58.7%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	18	-	15	2019	548	2.7%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	18:12	-	410	2021:1738	418+323	52.4 : 59.2%
5/1		U	N/A	N/A	-		-	-	-	338	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	514	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	62	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	312	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	41	-	54	1949	1169	4.6%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	23	-	309	2005	687	45.0%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	41	-	147	1931	1159	12.7%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	23	-	340	2015	691	49.2%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	10	-	0	-	0	0.0%

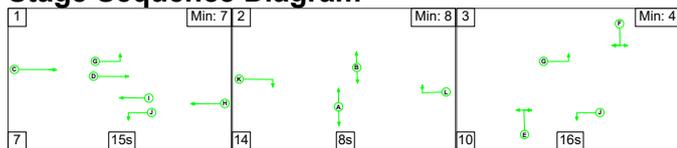
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	10	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	8.1	3.3	0.0	11.5	-	-	-	-
Unnamed Junction	-	-	0	0	0	8.1	3.3	0.0	11.5	-	-	-	-
1/2+1/1	58	58	-	-	-	0.4	0.1	-	0.4 (0.4+0.0)	27.6 (27.6:27.3)	0.9	0.1	0.9
2/1	102	102	-	-	-	0.6	0.1	-	0.7	23.8	1.5	0.1	1.6
2/2+2/3	338	338	-	-	-	2.1	0.8	-	2.9 (2.8+0.1)	30.8 (30.8:32.1)	5.6	0.8	6.4
3/1+3/2	303	303	-	-	-	2.0	0.7	-	2.7 (1.6+1.1)	31.9 (32.2:31.5)	2.9	0.7	3.6
4/1	15	15	-	-	-	0.1	0.0	-	0.1	22.3	0.2	0.0	0.2
4/2+4/3	410	410	-	-	-	2.7	0.6	-	3.3 (1.6+1.7)	28.7 (26.3:31.5)	3.5	0.6	4.1
5/1	338	338	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	514	514	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	62	62	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	312	312	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	54	54	-	-	-	0.0	0.0	-	0.0	1.6	0.0	0.0	0.0
9/2	309	309	-	-	-	0.4	0.4	-	0.8	9.0	1.8	0.4	2.2
10/1	147	147	-	-	-	0.0	0.1	-	0.1	1.9	0.0	0.1	0.1
10/2	340	340	-	-	-	0.1	0.5	-	0.5	5.7	0.2	0.5	0.7
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		46.2		Total Delay for Signalled Lanes (pcuHr):		11.47		Cycle Time (s):		70	
		PRC Over All Lanes (%):		46.2		Total Delay Over All Lanes(pcuHr):		11.47					

Full Input Data And Results

Scenario 3: '2036 Baseline AM' (FG3: '2036 Baseline AM', Plan 1: 'Single Cycle')

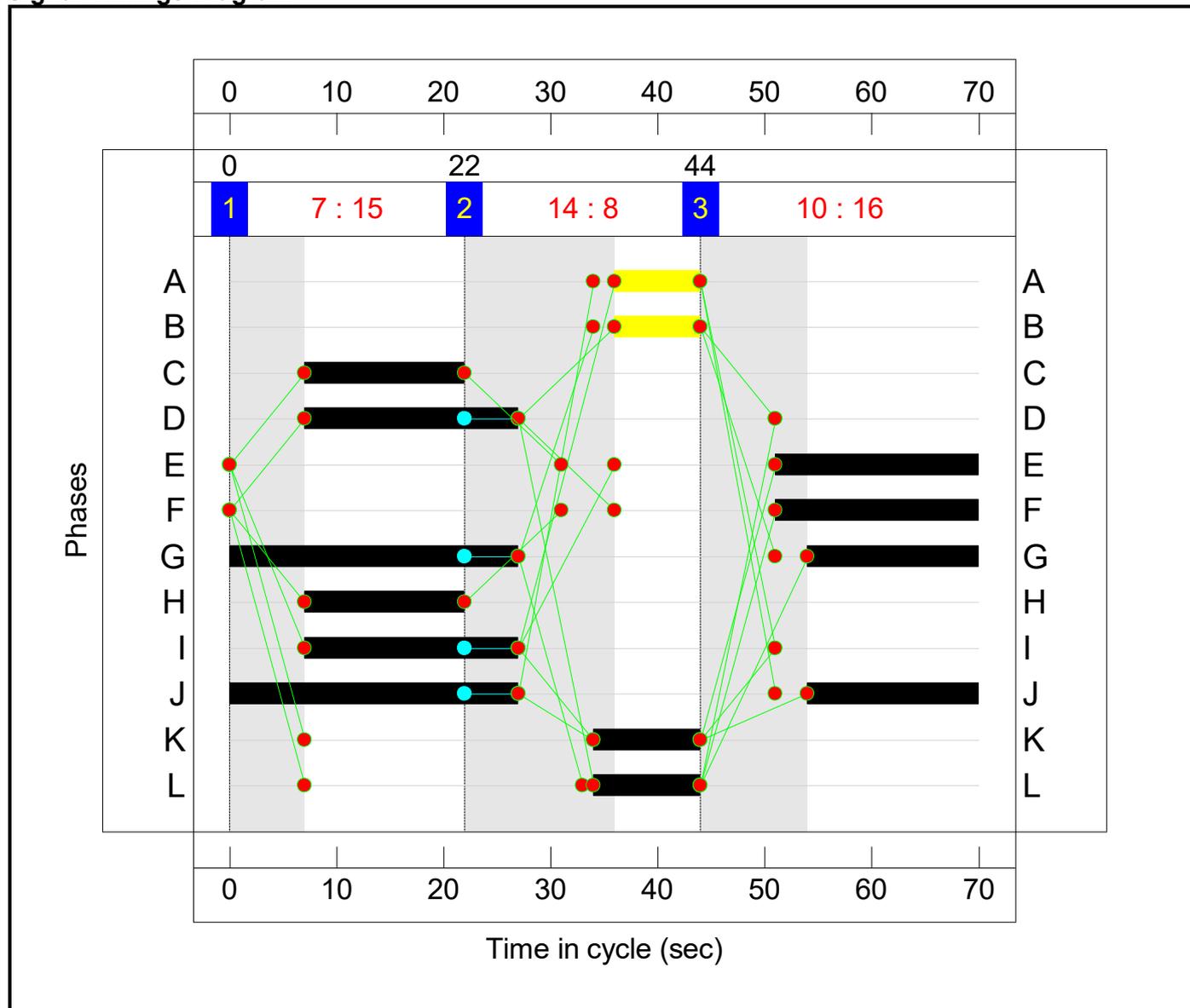
Stage Sequence Diagram



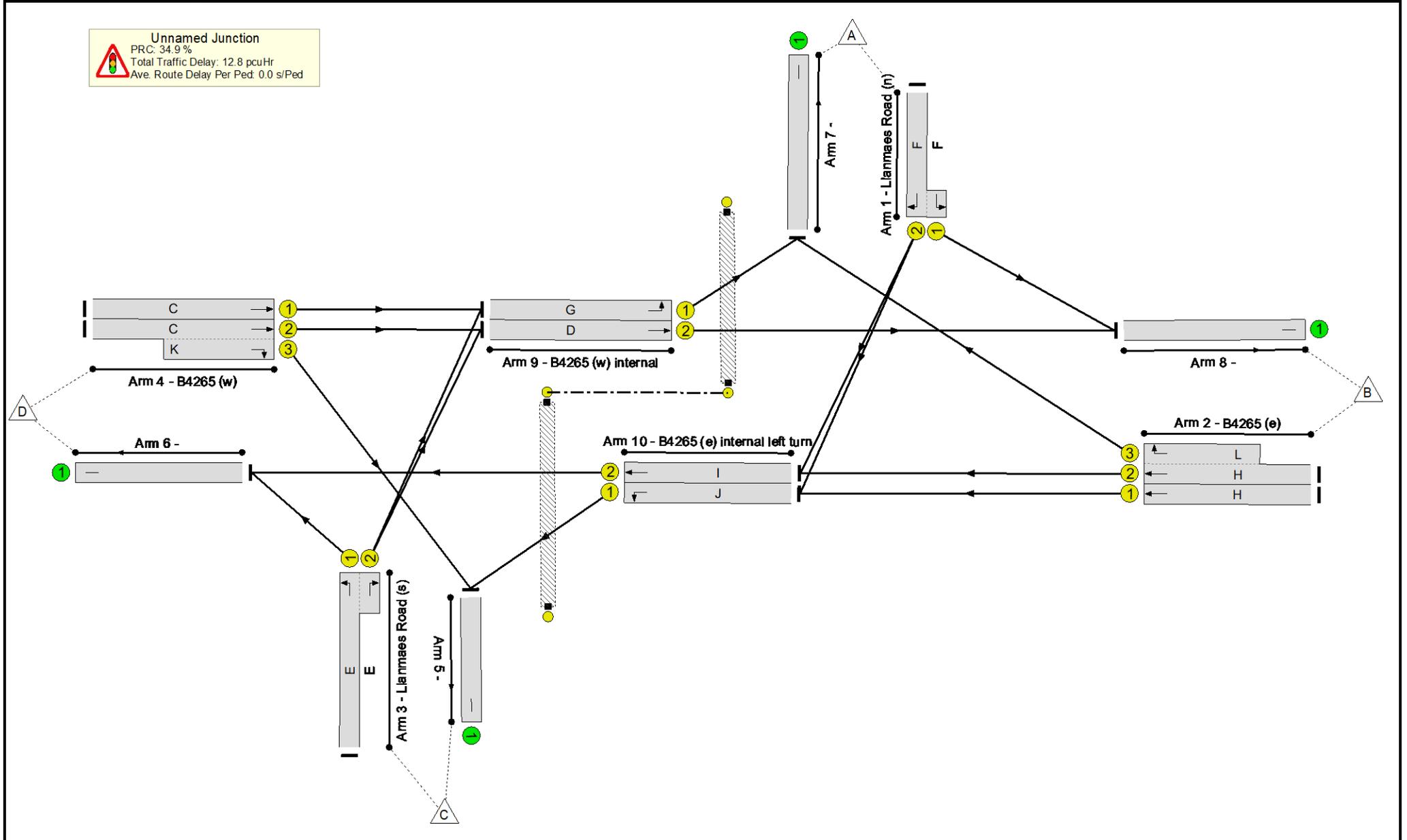
Stage Timings

Stage	1	2	3
Duration	15	8	16
Change Point	0	22	44

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	66.7%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	66.7%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	19	-	46	1842:1802	468+70	8.5 : 8.5%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	15	-	104	1975	451	23.0%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	15:10	-	305	1975:1771	451+12	65.8 : 65.8%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	19	-	408	1849:2045	411+201	66.7 : 66.7%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	15	-	9	2019	461	2.0%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	15:10	-	399	2021:1738	459+273	56.9 : 50.5%
5/1		U	N/A	N/A	-		-	-	-	270	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	583	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	56	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	43	-	48	1949	1225	3.9%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	20	-	356	2005	601	59.2%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	43	-	132	1931	1214	10.9%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	20	-	309	2015	605	51.1%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	8	-	0	-	0	0.0%

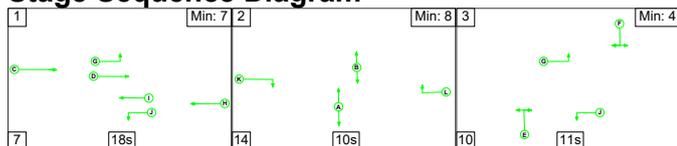
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	8	-	0	-	0	0.0%	
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	8.7	4.1	0.0	12.8	-	-	-	-
Unnamed Junction	-	-	0	0	0	8.7	4.1	0.0	12.8	-	-	-	-
1/2+1/1	46	46	-	-	-	0.2	0.0	-	0.3 (0.2+0.0)	21.9 (21.9:21.9)	0.6	0.0	0.6
2/1	104	104	-	-	-	0.6	0.1	-	0.8	27.2	1.6	0.1	1.8
2/2+2/3	305	305	-	-	-	2.1	1.0	-	3.0 (2.9+0.1)	35.8 (35.7:36.5)	5.2	1.0	6.1
3/1+3/2	408	408	-	-	-	2.4	1.0	-	3.4 (2.3+1.1)	29.6 (30.0:28.9)	5.3	1.0	6.3
4/1	9	9	-	-	-	0.1	0.0	-	0.1	25.2	0.1	0.0	0.1
4/2+4/3	399	399	-	-	-	2.8	0.6	-	3.4 (2.1+1.2)	30.4 (29.3:32.4)	4.5	0.6	5.1
5/1	270	270	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	583	583	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	56	56	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	362	362	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	48	48	-	-	-	0.0	0.0	-	0.0	1.5	0.0	0.0	0.0
9/2	356	356	-	-	-	0.5	0.7	-	1.2	12.0	1.9	0.7	2.6
10/1	132	132	-	-	-	0.0	0.1	-	0.1	1.7	0.0	0.1	0.1
10/2	309	309	-	-	-	0.1	0.5	-	0.6	7.0	0.3	0.5	0.8
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1			PRC for Signalled Lanes (%):		34.9	Total Delay for Signalled Lanes (pcuHr):			12.75	Cycle Time (s):		70	
			PRC Over All Lanes (%):		34.9	Total Delay Over All Lanes(pcuHr):			12.75				

Full Input Data And Results

Scenario 4: '2036 Baseline PM' (FG4: '2036 Baseline PM', Plan 1: 'Single Cycle')

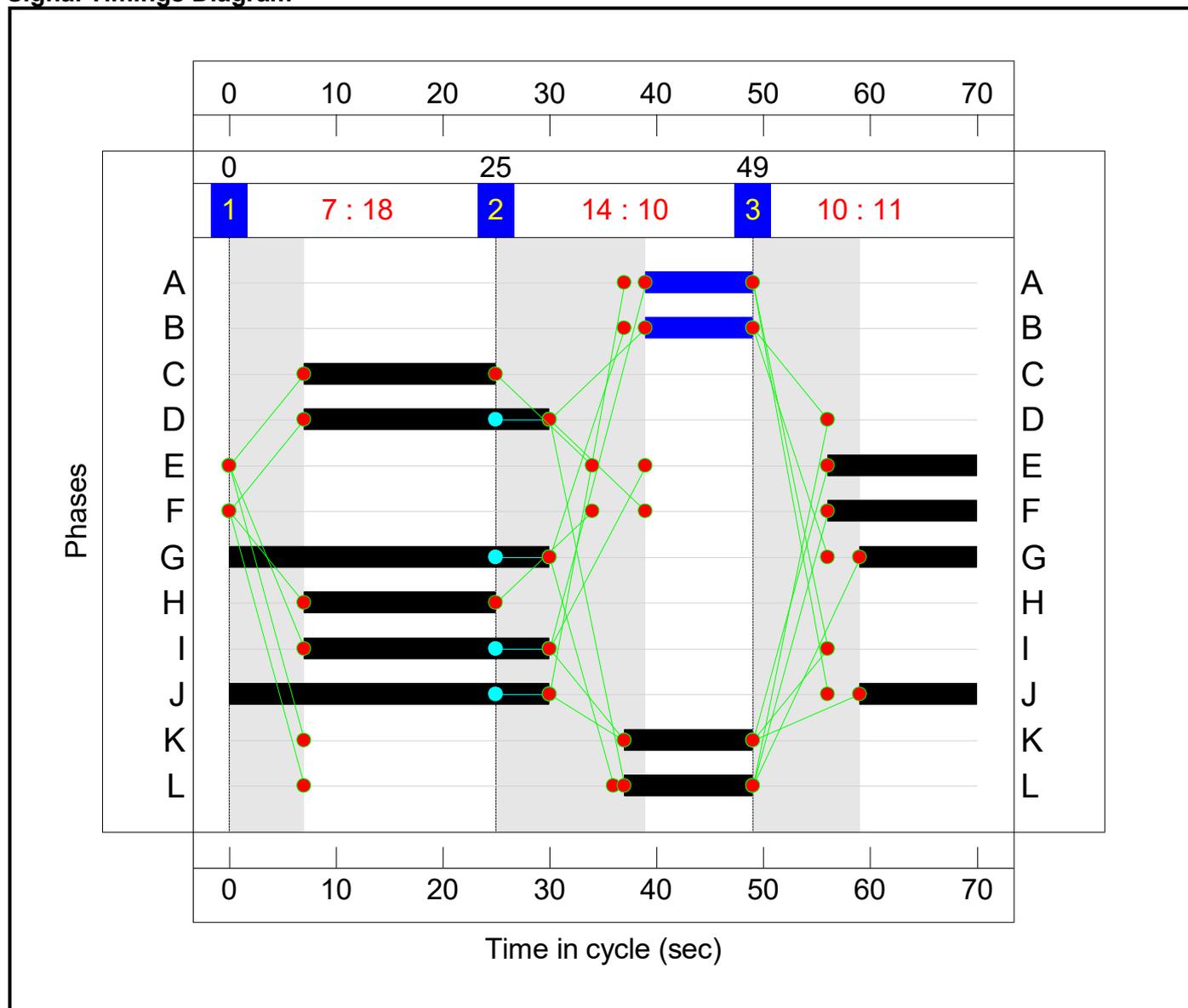
Stage Sequence Diagram



Stage Timings

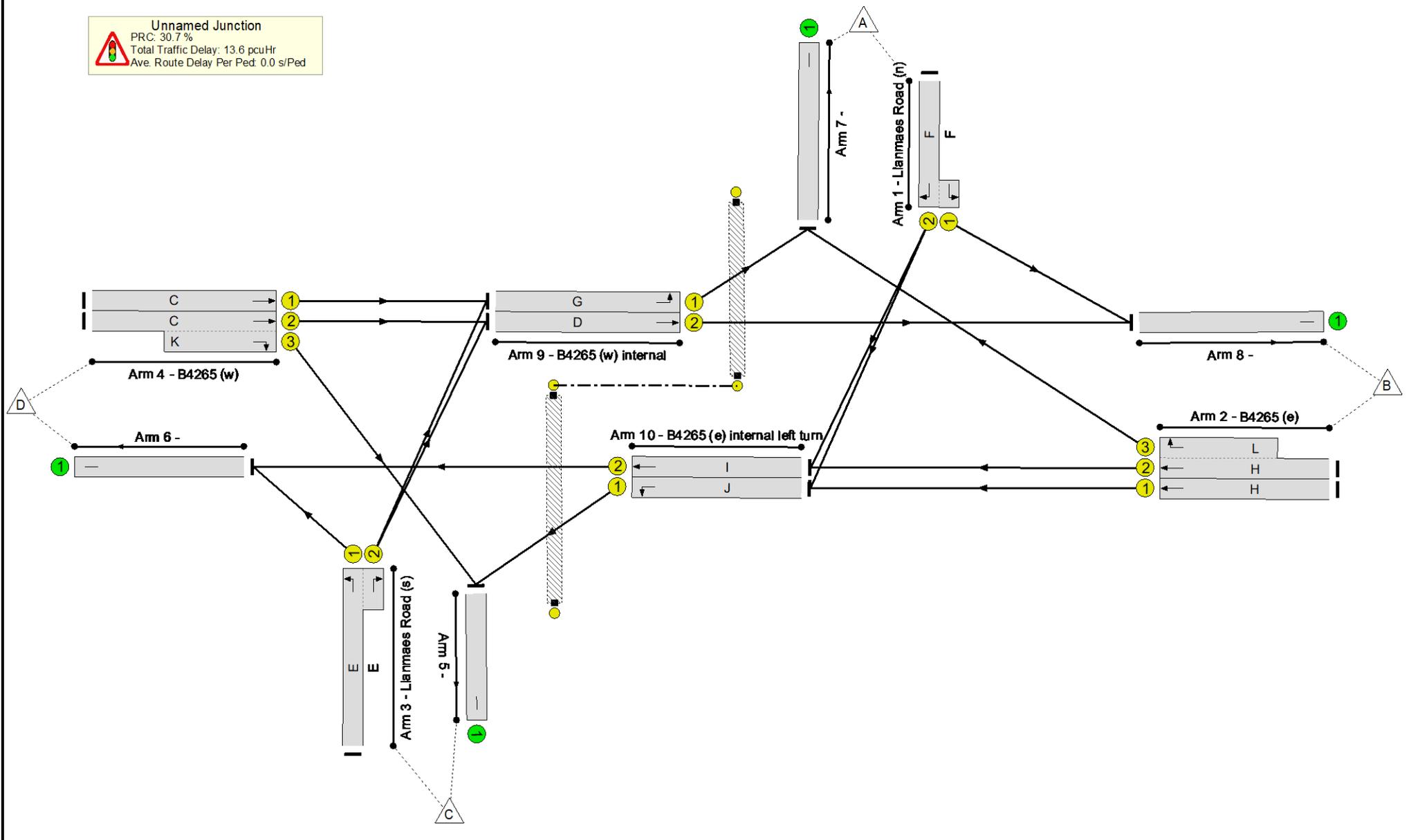
Stage	1	2	3
Duration	18	10	11
Change Point	0	25	49

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 30.7 %
 Total Traffic Delay: 13.6 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	68.8%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	68.8%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	14	-	64	1842:1802	378+19	16.1 : 16.1%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	18	-	114	1975	536	21.3%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	18:12	-	378	1975:1771	536+13	68.8 : 68.8%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	14	-	340	1849:2045	296+220	65.8 : 65.8%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	18	-	17	2019	548	3.1%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	18:12	-	459	2021:1738	417+323	58.8 : 66.3%
5/1		U	N/A	N/A	-		-	-	-	378	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	575	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	70	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	41	-	61	1949	1169	5.2%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	23	-	346	2005	687	50.3%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	41	-	164	1931	1159	14.2%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	23	-	380	2015	691	55.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	10	-	0	-	0	0.0%

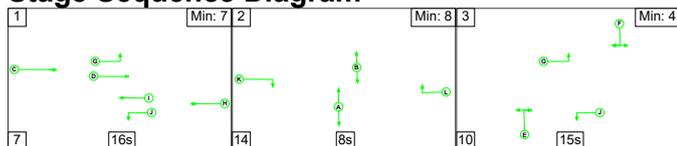
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	10	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	9.2	4.3	0.0	13.6	-	-	-	-
Unnamed Junction	-	-	0	0	0	9.2	4.3	0.0	13.6	-	-	-	-
1/2+1/1	64	64	-	-	-	0.4	0.1	-	0.5 (0.5+0.0)	27.8 (27.8:27.4)	0.9	0.1	1.0
2/1	114	114	-	-	-	0.6	0.1	-	0.8	24.0	1.7	0.1	1.8
2/2+2/3	378	378	-	-	-	2.4	1.1	-	3.5 (3.4+0.1)	33.3 (33.2:34.0)	6.4	1.1	7.4
3/1+3/2	340	340	-	-	-	2.3	1.0	-	3.2 (1.9+1.3)	33.9 (34.3:33.5)	3.6	1.0	4.6
4/1	17	17	-	-	-	0.1	0.0	-	0.1	22.3	0.2	0.0	0.3
4/2+4/3	459	459	-	-	-	3.0	0.8	-	3.8 (1.9+2.0)	30.0 (27.5:32.8)	3.9	0.8	4.8
5/1	378	378	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	575	575	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	70	70	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	349	349	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	61	61	-	-	-	0.0	0.0	-	0.0	1.7	0.0	0.0	0.0
9/2	346	346	-	-	-	0.4	0.5	-	0.9	9.5	2.3	0.5	2.8
10/1	164	164	-	-	-	0.0	0.1	-	0.1	1.9	0.0	0.1	0.1
10/2	380	380	-	-	-	0.1	0.6	-	0.7	6.3	0.2	0.6	0.9
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		30.7		Total Delay for Signalled Lanes (pcuHr):		13.58		Cycle Time (s):		70	
		PRC Over All Lanes (%):		30.7		Total Delay Over All Lanes(pcuHr):		13.58					

Full Input Data And Results

Scenario 5: '2036 Baseline + Dev AM' (FG5: '2036 Baseline + Dev AM', Plan 1: 'Single Cycle')

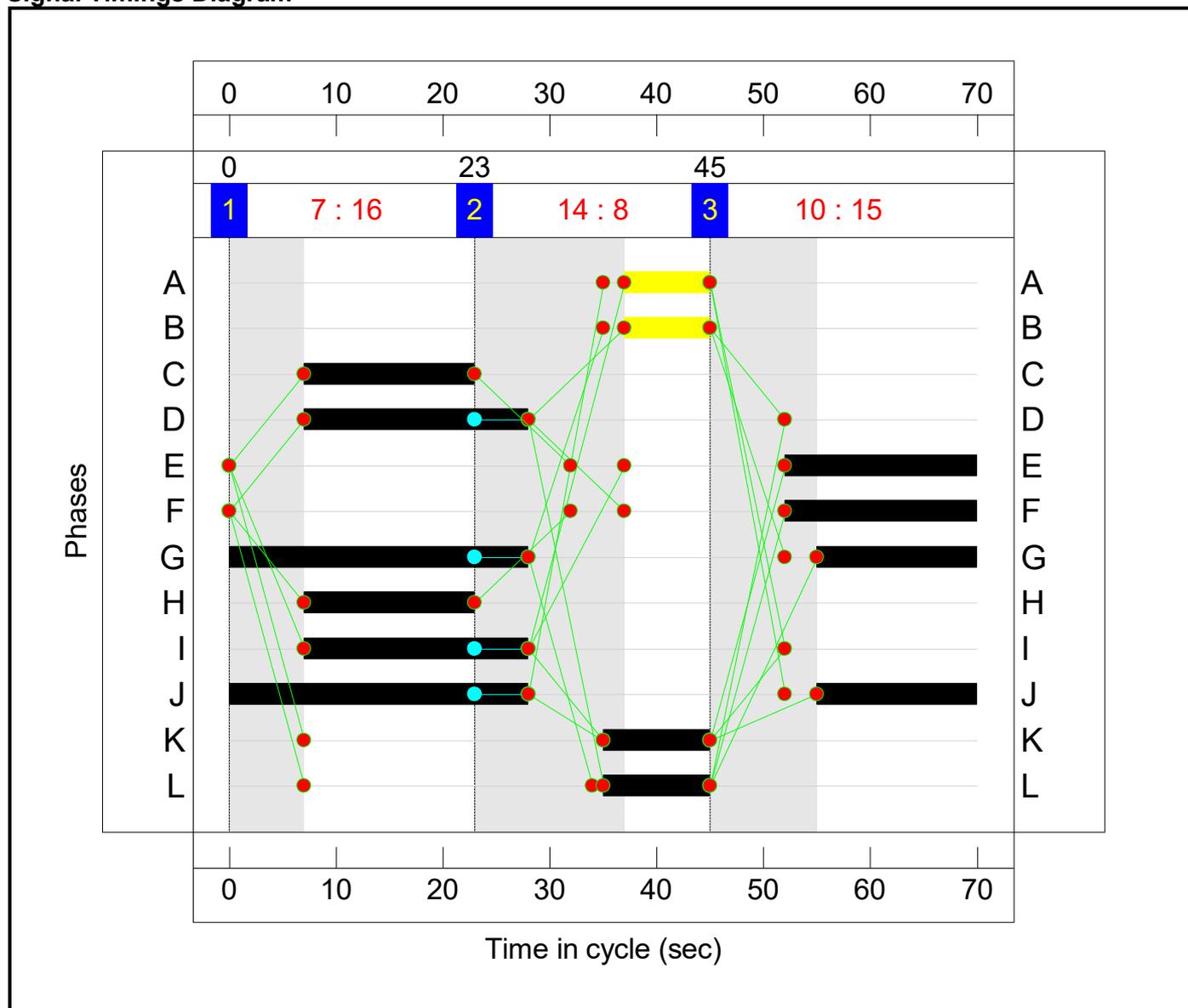
Stage Sequence Diagram



Stage Timings

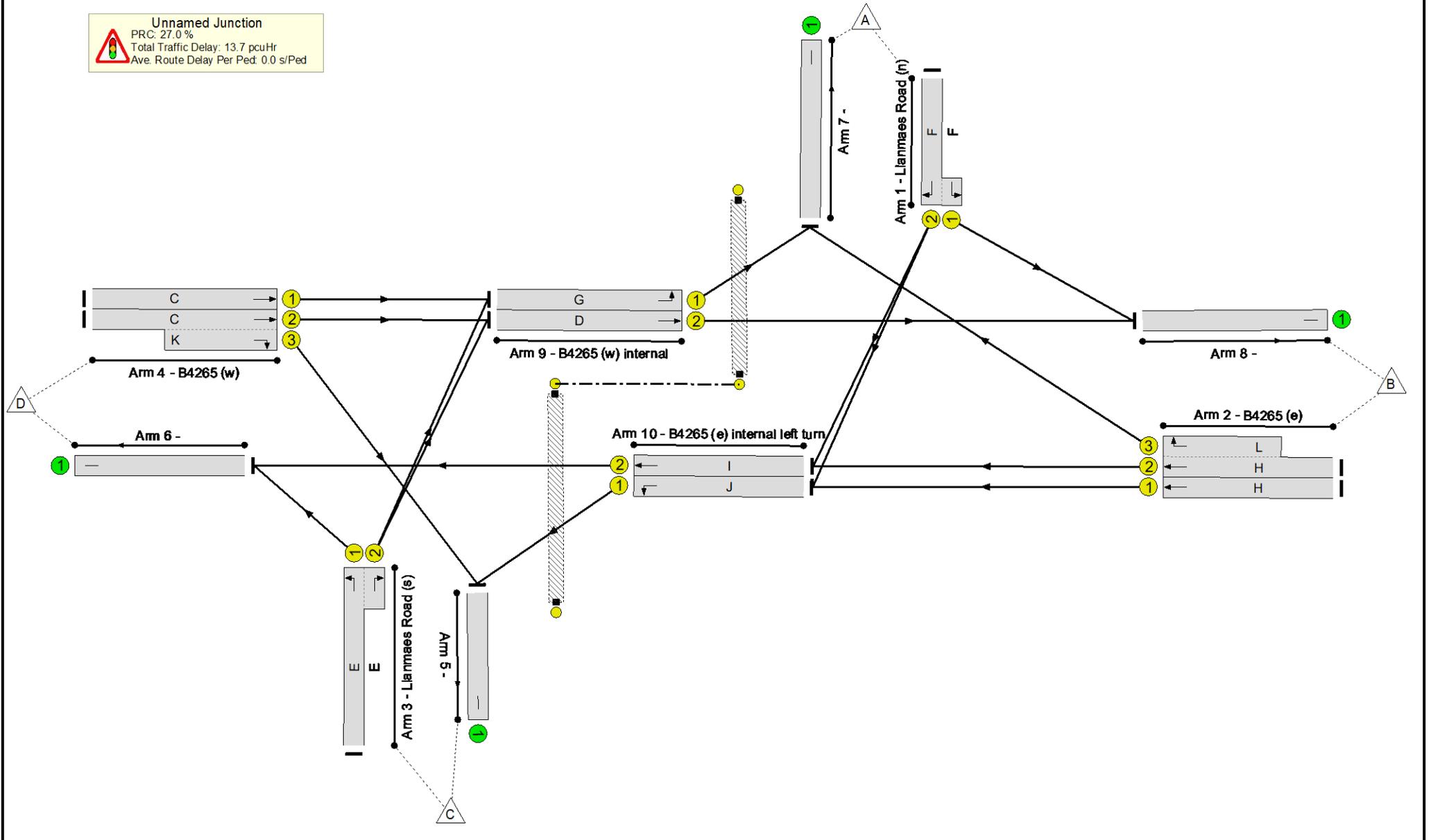
Stage	1	2	3
Duration	16	8	15
Change Point	0	23	45

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 27.0 %
 Total Traffic Delay: 13.7 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	70.9%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	70.9%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	18	-	49	1842:1802	424+95	9.4 : 9.4%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	16	-	118	1975	480	24.6%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	16:10	-	334	1975:1771	480+18	67.1 : 67.1%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	18	-	419	1849:2045	387+205	70.9 : 70.9%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	16	-	9	2019	490	1.8%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	16:10	-	417	2021:1738	478+273	58.4 : 50.5%
5/1		U	N/A	N/A	-		-	-	-	284	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	608	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	394	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	43	-	48	1949	1225	3.9%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	21	-	385	2005	630	61.1%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	43	-	146	1931	1214	12.0%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	21	-	334	2015	633	52.7%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	8	-	0	-	0	0.0%

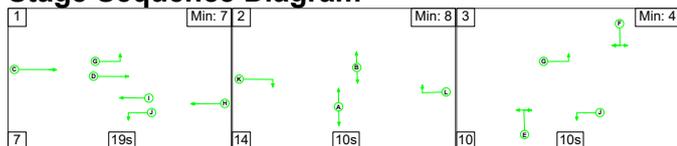
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	8	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	9.2	4.5	0.0	13.7	-	-	-	-
Unnamed Junction	-	-	0	0	0	9.2	4.5	0.0	13.7	-	-	-	-
1/2+1/1	49	49	-	-	-	0.3	0.1	-	0.3 (0.3+0.1)	22.8 (22.9:22.8)	0.6	0.1	0.6
2/1	118	118	-	-	-	0.7	0.2	-	0.9	26.3	1.8	0.2	2.0
2/2+2/3	334	334	-	-	-	2.2	1.0	-	3.2 (3.1+0.1)	34.9 (34.9:36.2)	5.6	1.0	6.6
3/1+3/2	419	419	-	-	-	2.5	1.2	-	3.7 (2.5+1.3)	32.1 (32.4:31.4)	5.5	1.2	6.7
4/1	9	9	-	-	-	0.1	0.0	-	0.1	24.2	0.1	0.0	0.1
4/2+4/3	417	417	-	-	-	2.8	0.6	-	3.5 (2.2+1.2)	29.9 (28.7:32.4)	4.7	0.6	5.3
5/1	284	284	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	608	608	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	60	60	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	394	394	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	48	48	-	-	-	0.0	0.0	-	0.0	1.5	0.0	0.0	0.0
9/2	385	385	-	-	-	0.5	0.8	-	1.3	12.0	2.4	0.8	3.1
10/1	146	146	-	-	-	0.0	0.1	-	0.1	1.8	0.0	0.1	0.1
10/2	334	334	-	-	-	0.1	0.6	-	0.6	6.8	0.3	0.6	0.8
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		27.0		Total Delay for Signalled Lanes (pcuHr):		13.67		Cycle Time (s):		70	
		PRC Over All Lanes (%):		27.0		Total Delay Over All Lanes(pcuHr):		13.67					

Full Input Data And Results

Scenario 6: '2036 Baseline + Dev PM' (FG6: '2036 Baseline + Dev PM', Plan 1: 'Single Cycle')

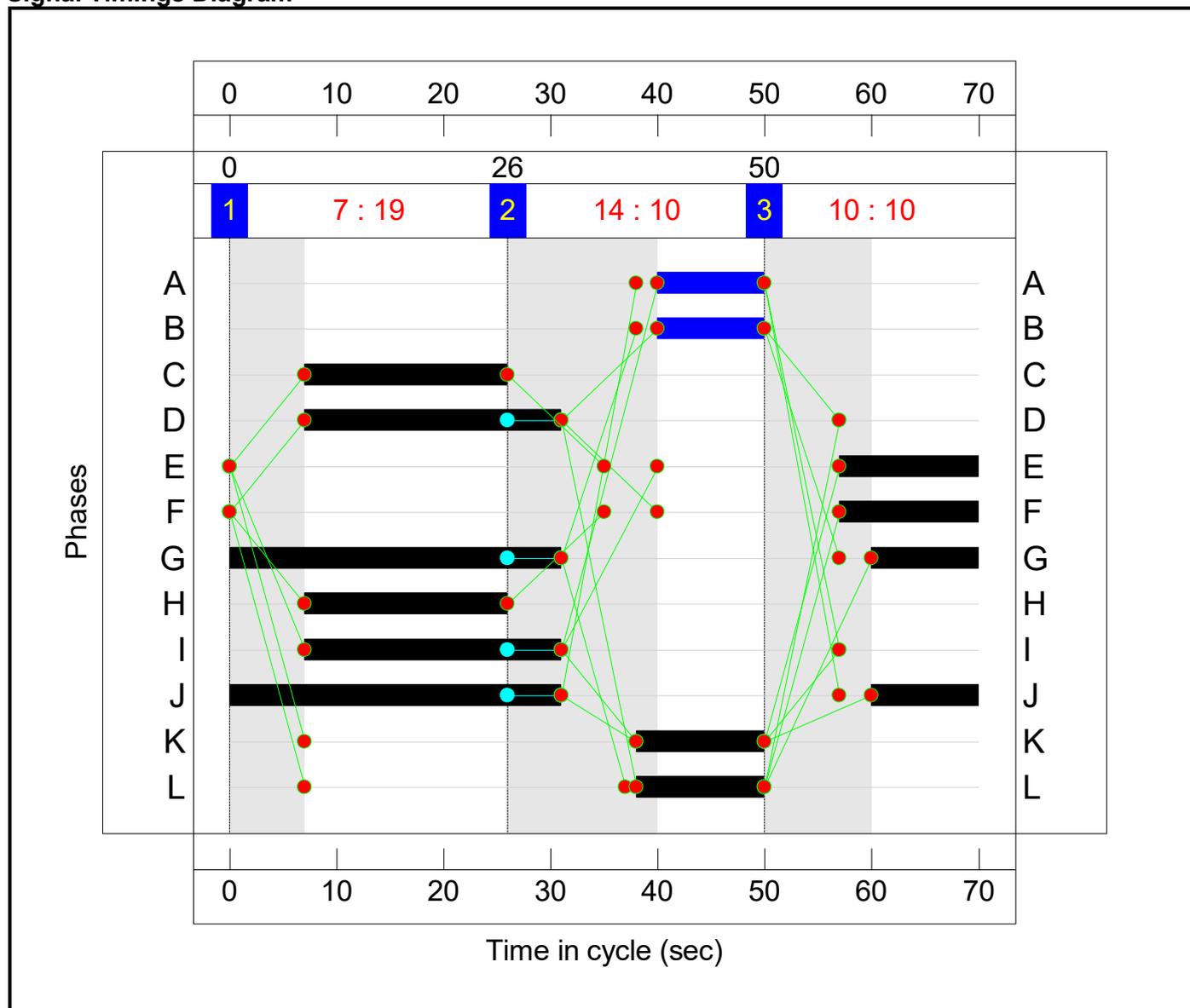
Stage Sequence Diagram



Stage Timings

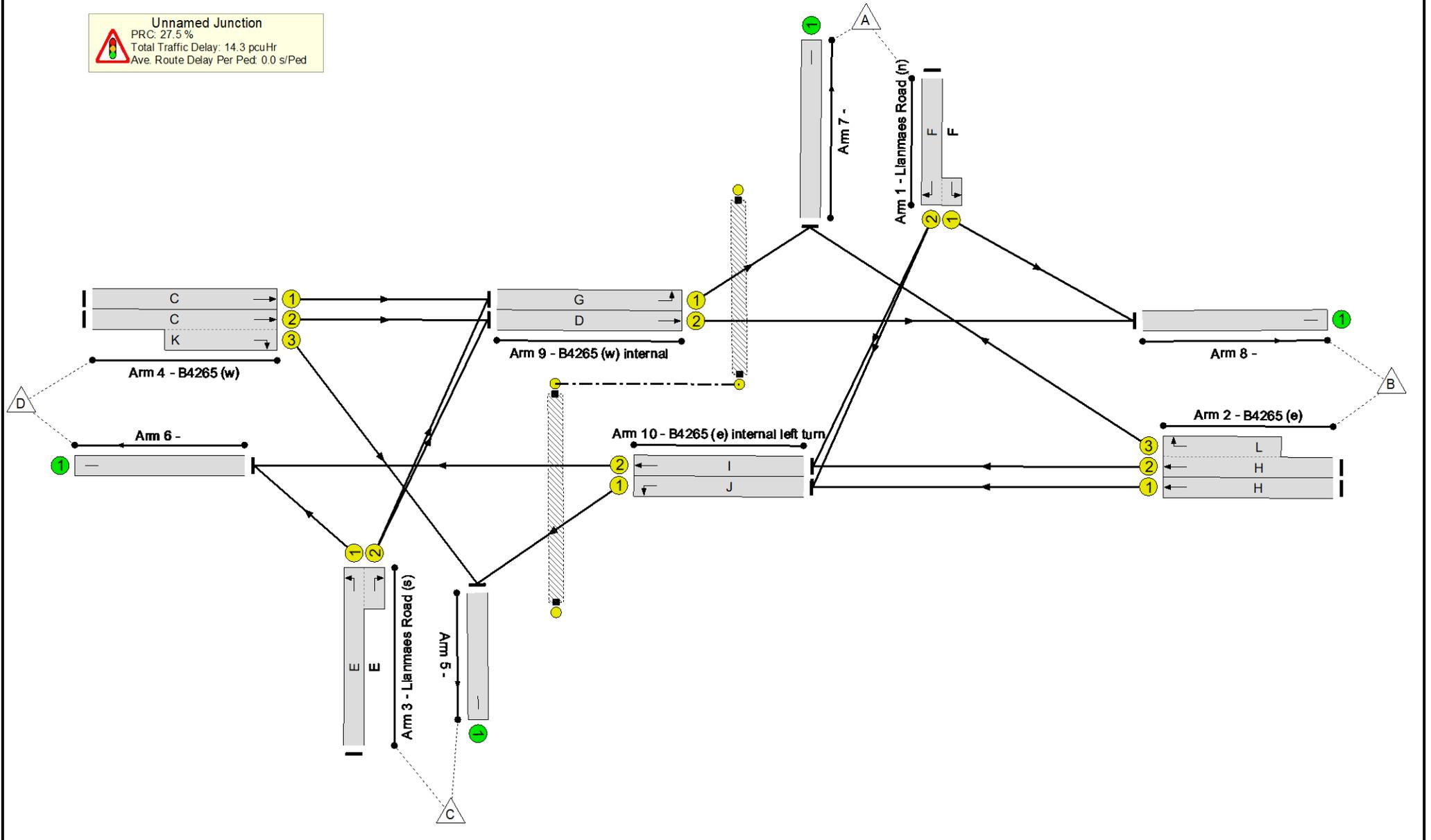
Stage	1	2	3
Duration	19	10	10
Change Point	0	26	50

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 27.5 %
 Total Traffic Delay: 14.3 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	70.6%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	70.6%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	13	-	67	1842:1802	342+34	17.8 : 17.8%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	19	-	126	1975	564	22.3%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	19:12	-	401	1975:1771	564+17	68.9 : 68.9%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	13	-	353	1849:2045	276+224	70.6 : 70.6%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	19	-	17	2019	577	2.9%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	19:12	-	482	2021:1738	485+323	55.3 : 66.3%
5/1		U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	595	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	73	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	388	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	41	-	61	1949	1169	5.2%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	24	-	382	2005	716	53.3%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	41	-	176	1931	1159	15.2%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	24	-	400	2015	720	55.6%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	10	-	0	-	0	0.0%

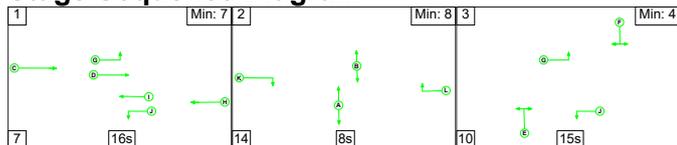
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	10	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	9.7	4.6	0.0	14.3	-	-	-	-
Unnamed Junction	-	-	0	0	0	9.7	4.6	0.0	14.3	-	-	-	-
1/2+1/1	67	67	-	-	-	0.4	0.1	-	0.5 (0.5+0.0)	29.0 (29.0:28.6)	1.0	0.1	1.1
2/1	126	126	-	-	-	0.7	0.1	-	0.8	23.2	1.9	0.1	2.0
2/2+2/3	401	401	-	-	-	2.5	1.1	-	3.6 (3.5+0.1)	32.1 (32.1:33.5)	6.7	1.1	7.8
3/1+3/2	353	353	-	-	-	2.4	1.2	-	3.6 (2.0+1.6)	36.8 (37.2:36.5)	3.7	1.2	4.9
4/1	17	17	-	-	-	0.1	0.0	-	0.1	21.4	0.2	0.0	0.3
4/2+4/3	482	482	-	-	-	3.1	0.7	-	3.8 (1.9+1.9)	28.7 (26.1:32.0)	4.2	0.7	5.0
5/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	595	595	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	388	388	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	61	61	-	-	-	0.0	0.0	-	0.0	1.7	0.0	0.0	0.0
9/2	382	382	-	-	-	0.4	0.6	-	1.0	9.5	5.6	0.6	6.2
10/1	176	176	-	-	-	0.0	0.1	-	0.1	1.9	0.0	0.1	0.1
10/2	400	400	-	-	-	0.1	0.6	-	0.7	6.1	0.2	0.6	0.9
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		27.5		Total Delay for Signalled Lanes (pcuHr):		14.30		Cycle Time (s):		70	
		PRC Over All Lanes (%):		27.5		Total Delay Over All Lanes(pcuHr):		14.30					

Full Input Data And Results

Scenario 7: '2036 Baseline + Dev + E St Athan Site AM' (FG7: '2036 Baseline + Dev + E St Athan AM', Plan 1: 'Single Cycle')

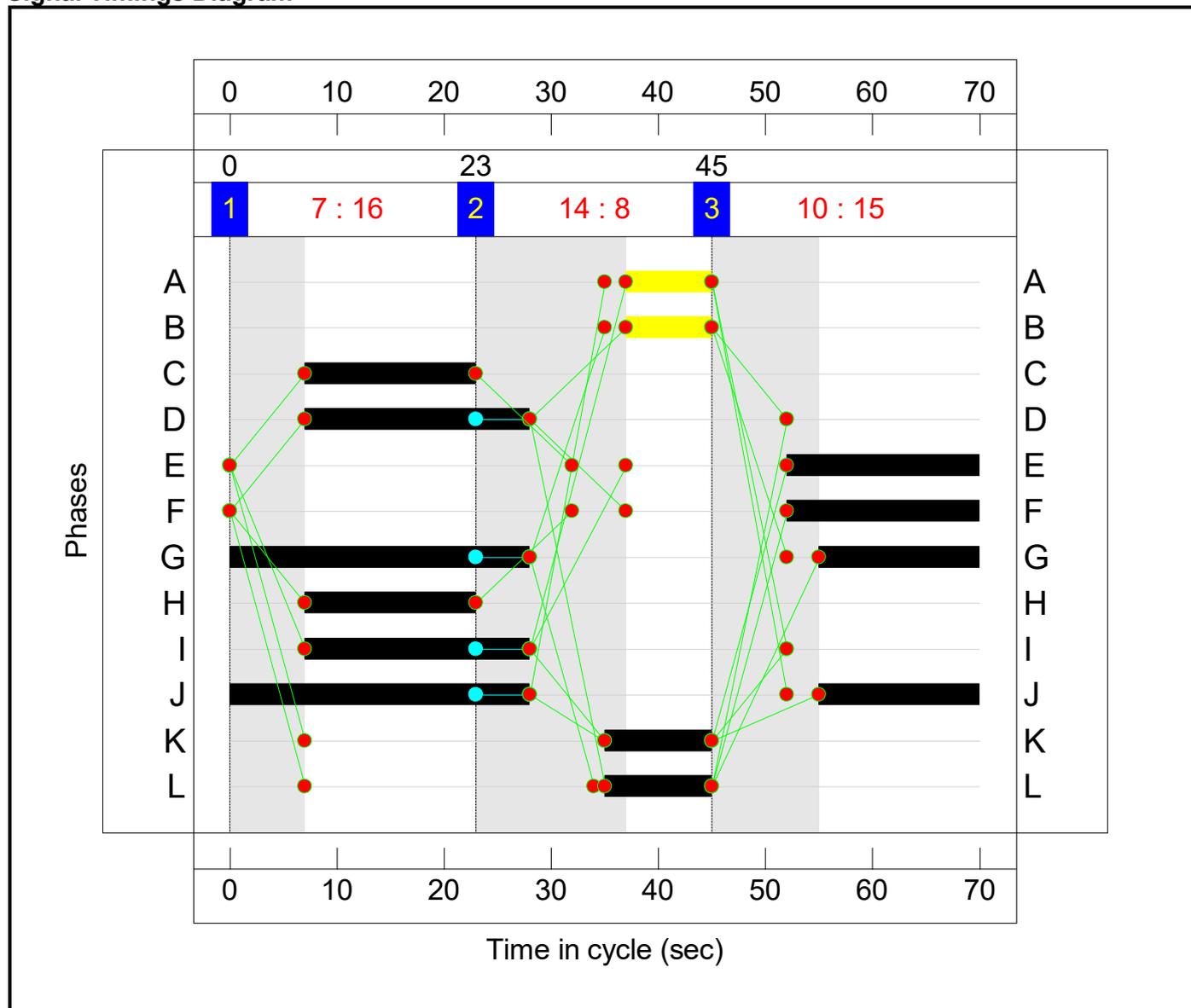
Stage Sequence Diagram



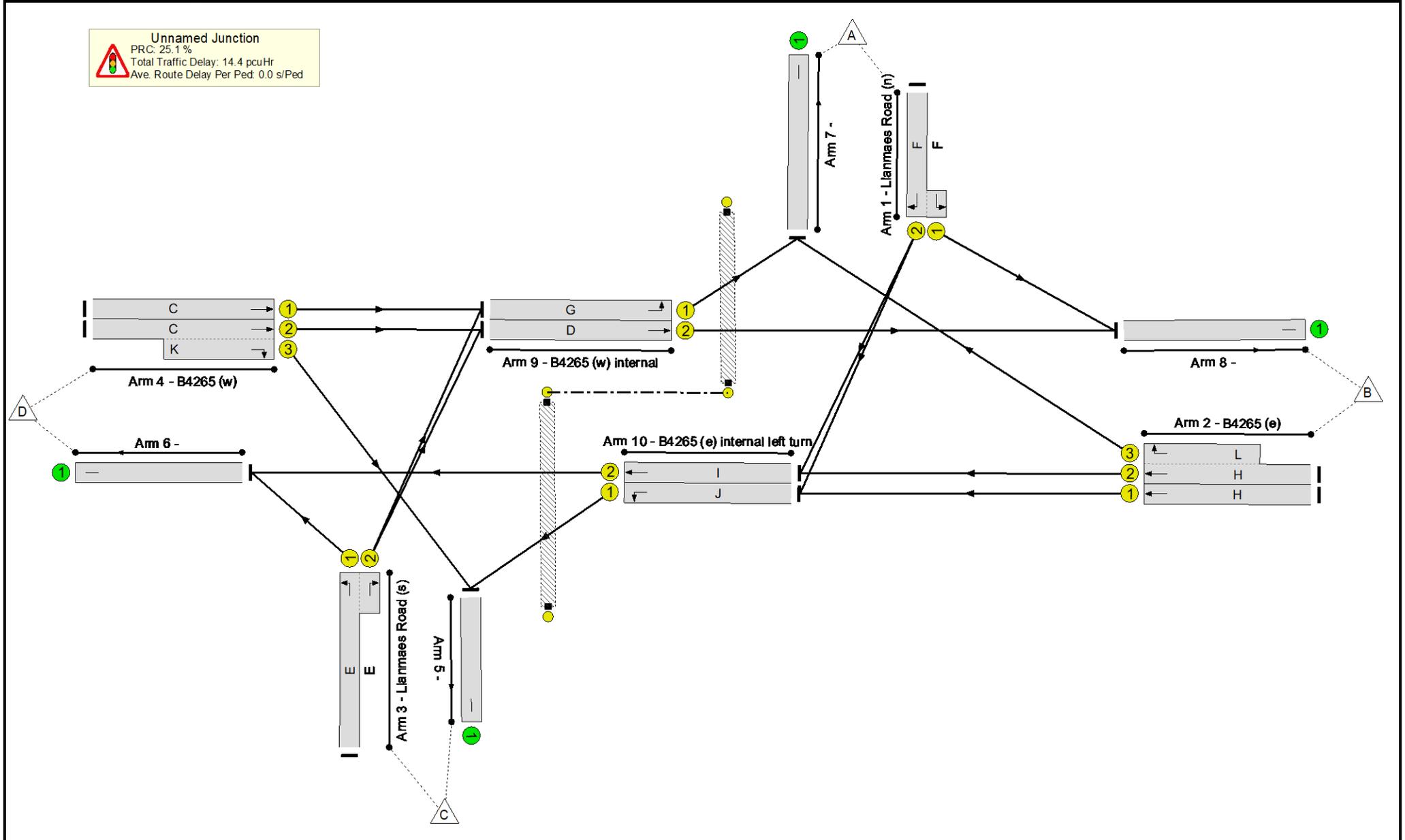
Stage Timings

Stage	1	2	3
Duration	16	8	15
Change Point	0	23	45

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	71.9%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	71.9%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	18	-	49	1842:1802	424+95	9.4 : 9.4%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	16	-	118	1975	480	24.6%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	16:10	-	357	1975:1771	480+17	71.9 : 71.9%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	18	-	419	1849:2045	387+205	70.9 : 70.9%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	16	-	9	2019	490	1.8%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	16:10	-	427	2021:1738	479+256	60.4 : 53.8%
5/1		U	N/A	N/A	-		-	-	-	284	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	631	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	404	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	43	-	48	1949	1225	3.9%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	21	-	395	2005	630	62.7%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	43	-	146	1931	1214	12.0%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	21	-	357	2015	633	56.4%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	8	-	0	-	0	0.0%

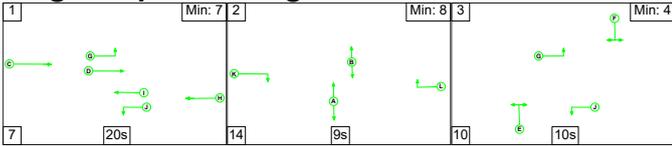
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	8	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	9.5	4.9	0.0	14.4	-	-	-	-
Unnamed Junction	-	-	0	0	0	9.5	4.9	0.0	14.4	-	-	-	-
1/2+1/1	49	49	-	-	-	0.3	0.1	-	0.3 (0.3+0.1)	22.8 (22.9:22.8)	0.6	0.1	0.6
2/1	118	118	-	-	-	0.7	0.2	-	0.9	26.3	1.8	0.2	2.0
2/2+2/3	357	357	-	-	-	2.4	1.3	-	3.7 (3.5+0.1)	37.0 (37.0:38.0)	6.1	1.3	7.4
3/1+3/2	419	419	-	-	-	2.5	1.2	-	3.7 (2.5+1.3)	32.1 (32.4:31.4)	5.5	1.2	6.7
4/1	9	9	-	-	-	0.1	0.0	-	0.1	24.2	0.1	0.0	0.1
4/2+4/3	427	427	-	-	-	2.9	0.7	-	3.6 (2.3+1.3)	30.4 (29.2:32.8)	4.9	0.7	5.6
5/1	284	284	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	631	631	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	60	60	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	404	404	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	48	48	-	-	-	0.0	0.0	-	0.0	1.5	0.0	0.0	0.0
9/2	395	395	-	-	-	0.5	0.8	-	1.3	12.2	2.4	0.8	3.2
10/1	146	146	-	-	-	0.0	0.1	-	0.1	1.8	0.0	0.1	0.1
10/2	357	357	-	-	-	0.1	0.6	-	0.7	7.3	0.3	0.6	0.9
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		25.1		Total Delay for Signalled Lanes (pcuHr):		14.39		Cycle Time (s):		70	
		PRC Over All Lanes (%):		25.1		Total Delay Over All Lanes(pcuHr):		14.39					

Full Input Data And Results

Scenario 8: '2036 Baseline + Dev + E St Athan Site PM' (FG8: '2036 Baseline + Dev + E St Athan PM', Plan 1: 'Single Cycle')

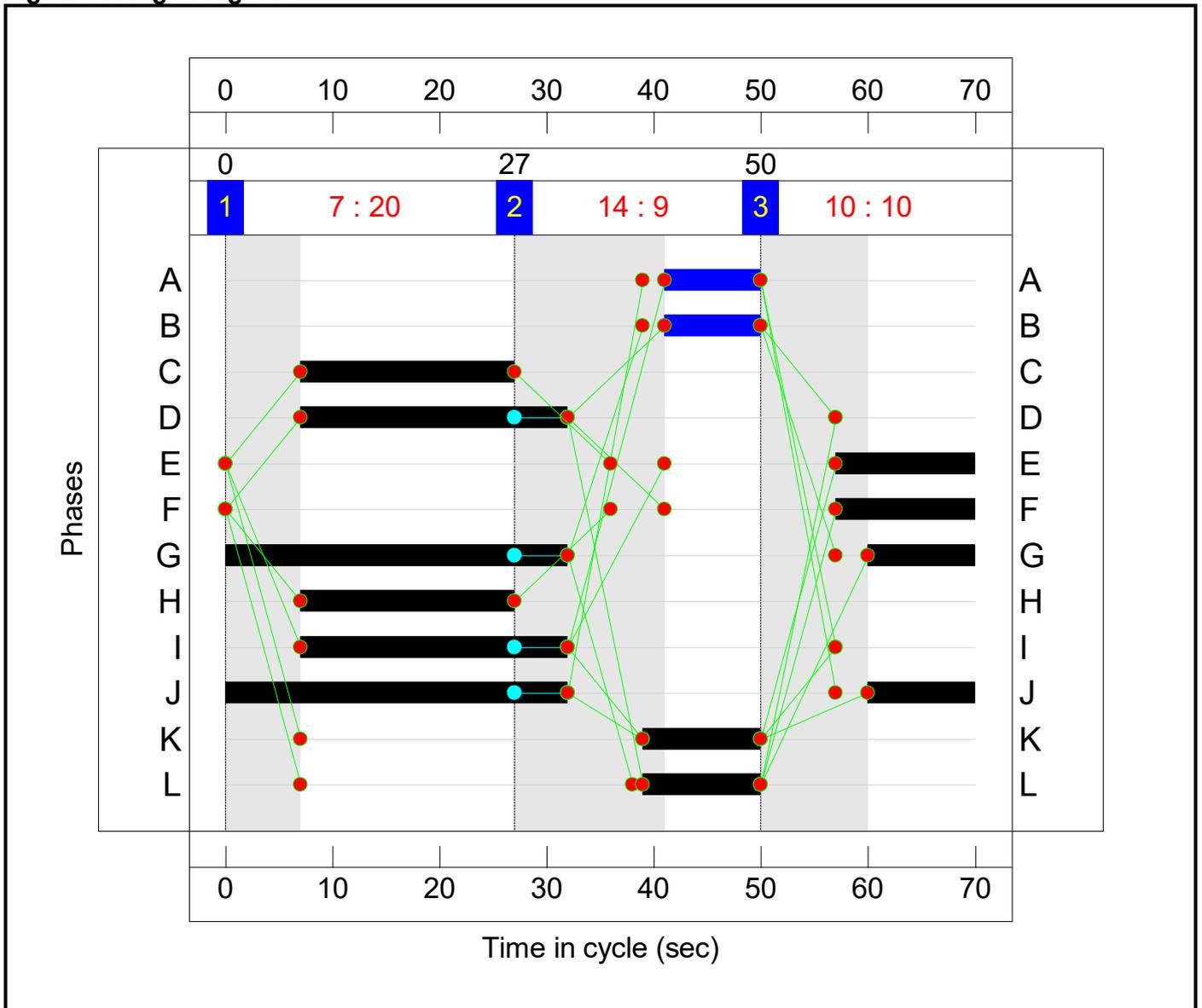
Stage Sequence Diagram



Stage Timings

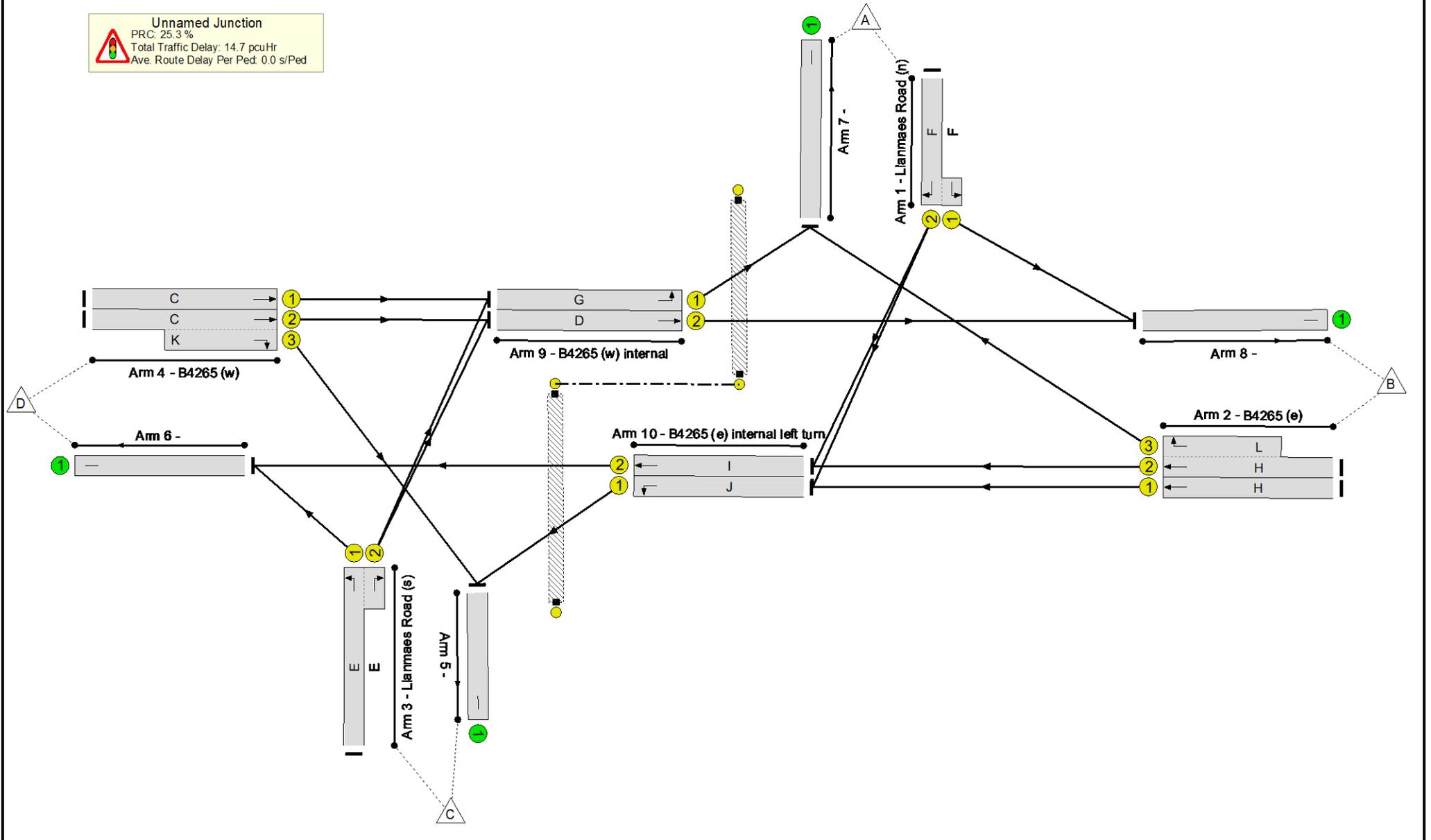
Stage	1	2	3
Duration	20	9	10
Change Point	0	27	50

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 25.3 %
 Total Traffic Delay: 14.7 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	71.8%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	71.8%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		1	13	-	67	1842:1802	342+34	17.8 : 17.8%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		1	20	-	126	1975	592	21.3%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		1	20:11	-	421	1975:1771	592+17	69.0 : 69.0%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		1	13	-	353	1849:2045	276+224	70.6 : 70.6%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		1	20	-	17	2019	606	2.8%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		1	20:11	-	506	2021:1738	488+298	59.8 : 71.8%
5/1		U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	615	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	73	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	412	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	42	-	61	1949	1197	5.1%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		1	25	-	406	2005	745	54.5%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	42	-	176	1931	1186	14.8%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		1	25	-	420	2015	748	56.1%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	9	-	0	-	0	0.0%

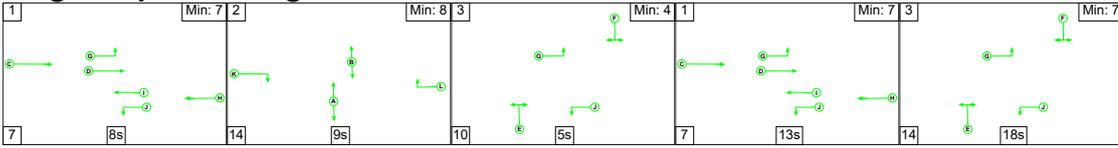
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	9	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	9.9	4.8	0.0	14.7	-	-	-	-
Unnamed Junction	-	-	0	0	0	9.9	4.8	0.0	14.7	-	-	-	-
1/2+1/1	67	67	-	-	-	0.4	0.1	-	0.5 (0.5+0.0)	29.0 (29.0:28.6)	1.0	0.1	1.1
2/1	126	126	-	-	-	0.6	0.1	-	0.8	22.2	1.8	0.1	2.0
2/2+2/3	421	421	-	-	-	2.5	1.1	-	3.6 (3.5+0.1)	31.1 (31.1:33.9)	6.9	1.1	8.0
3/1+3/2	353	353	-	-	-	2.4	1.2	-	3.6 (2.0+1.6)	36.8 (37.2:36.5)	3.7	1.2	4.9
4/1	17	17	-	-	-	0.1	0.0	-	0.1	20.6	0.2	0.0	0.2
4/2+4/3	506	506	-	-	-	3.3	0.9	-	4.2 (2.1+2.0)	29.5 (26.4:33.8)	4.6	0.9	5.5
5/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	615	615	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	412	412	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	61	61	-	-	-	0.0	0.0	-	0.0	1.6	0.0	0.0	0.0
9/2	406	406	-	-	-	0.4	0.6	-	1.0	9.2	6.1	0.6	6.7
10/1	176	176	-	-	-	0.0	0.1	-	0.1	1.9	0.0	0.1	0.1
10/2	420	420	-	-	-	0.1	0.6	-	0.7	6.0	0.2	0.6	0.9
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		25.3		Total Delay for Signalled Lanes (pcuHr):		14.67		Cycle Time (s):		70	
		PRC Over All Lanes (%):		25.3		Total Delay Over All Lanes(pcuHr):		14.67					

Full Input Data And Results

Scenario 9: '2024 Base AM (ped every other cycle)' (FG1: '2024 Base AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

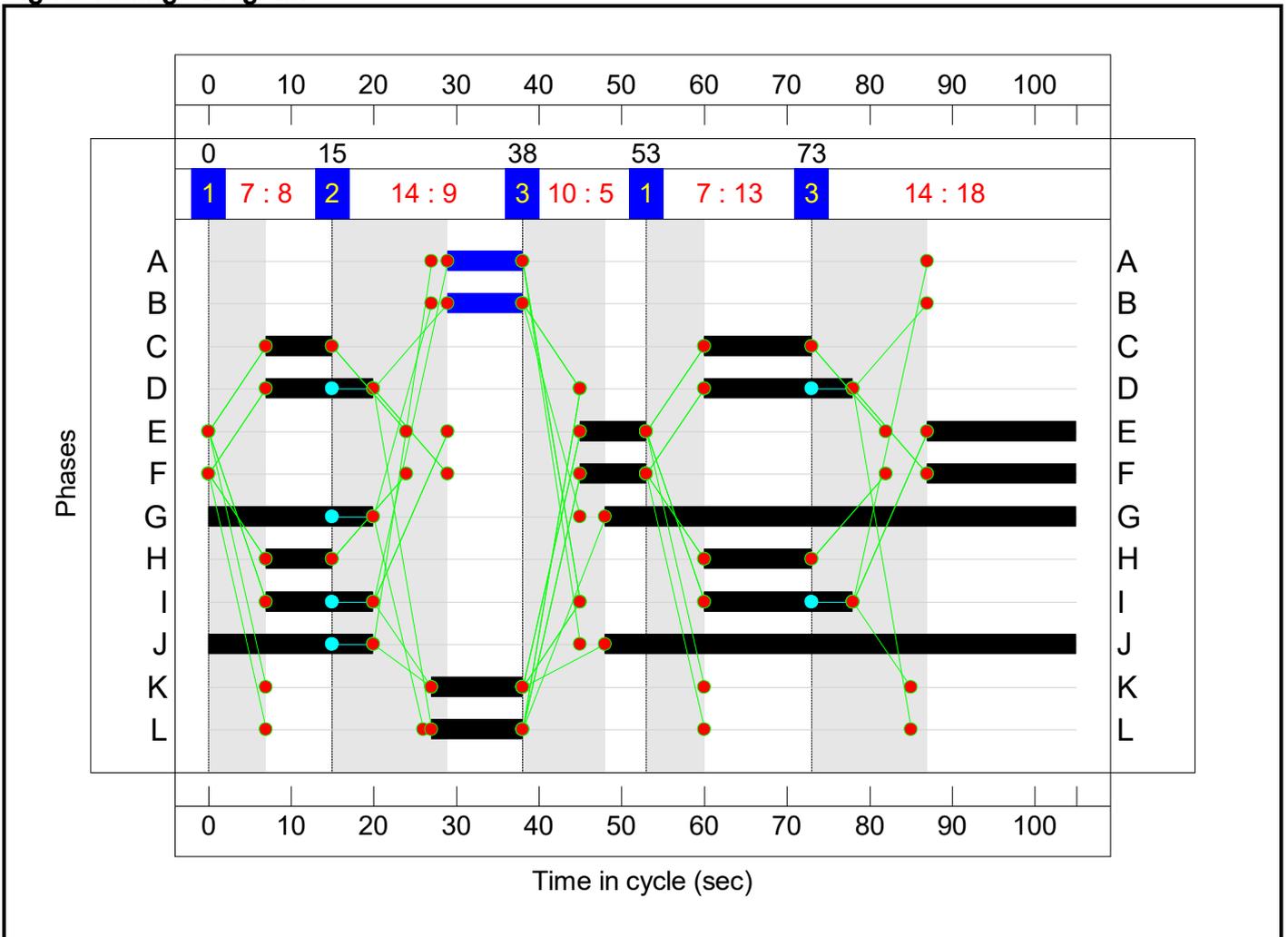
Stage Sequence Diagram



Stage Timings

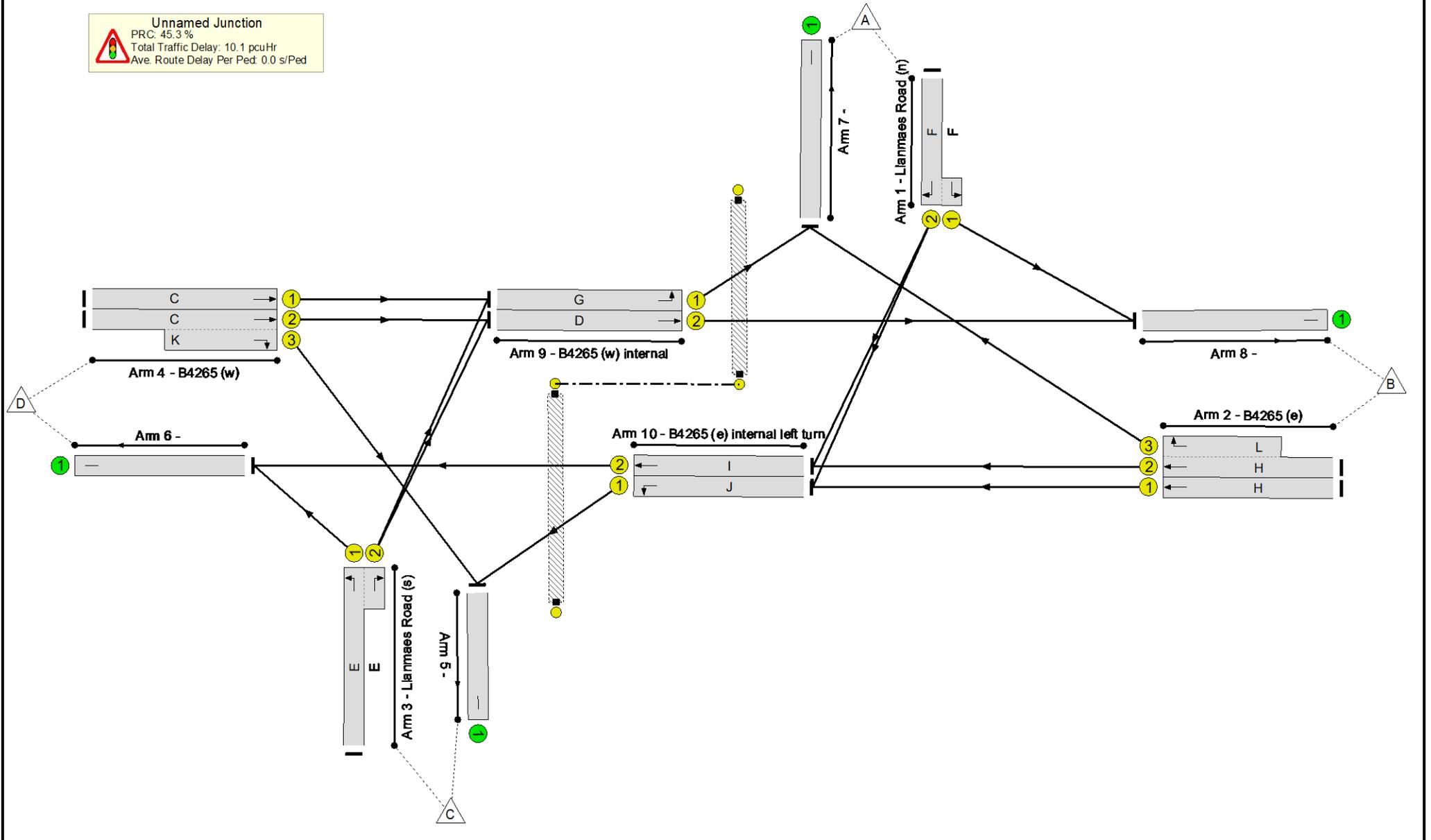
Stage	1	2	3	1	3
Duration	8	9	5	13	18
Change Point	0	15	38	53	73

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 45.3 %
 Total Traffic Delay: 10.1 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	61.9%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	61.9%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	26	-	41	1842:1802	444+62	8.1 : 8.1%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	21	-	93	1975	433	21.5%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	21:11	-	272	1975:1771	433+11	61.3 : 61.3%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	26	-	364	1849:2045	401+197	60.9 : 60.9%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	21	-	8	2019	442	1.8%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	21:11	-	356	2021:1738	443+199	52.6 : 61.9%
5/1		U	N/A	N/A	-		-	-	-	241	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	520	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	323	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	77	-	43	1949	1448	3.0%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	31	-	318	2005	630	50.5%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	77	-	118	1931	1434	8.2%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	31	-	276	2015	633	43.6%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	9	-	0	-	0	0.0%

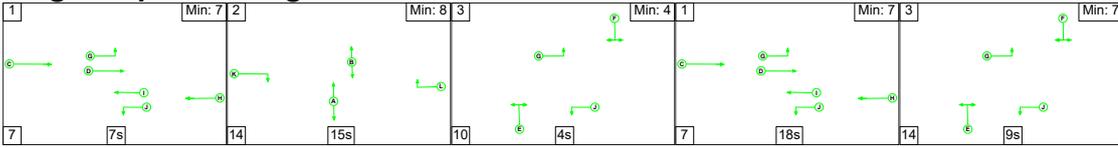
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	9	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	6.8	3.3	0.0	10.1	-	-	-	-
Unnamed Junction	-	-	0	0	0	6.8	3.3	0.0	10.1	-	-	-	-
1/2+1/1	41	41	-	-	-	0.2	0.0	-	0.2 (0.2+0.0)	18.6 (18.6:18.6)	0.4	0.0	0.5
2/1	93	93	-	-	-	0.4	0.1	-	0.6	22.2	1.2	0.1	1.3
2/2+2/3	272	272	-	-	-	1.4	0.8	-	2.2 (2.1+0.1)	29.6 (29.0:52.0)	3.7	0.8	4.5
3/1+3/2	364	364	-	-	-	1.6	0.8	-	2.4 (1.6+0.8)	23.9 (24.3:23.1)	3.7	0.8	4.5
4/1	8	8	-	-	-	0.0	0.0	-	0.0	20.6	0.1	0.0	0.1
4/2+4/3	356	356	-	-	-	2.7	0.6	-	3.3 (1.6+1.7)	33.5 (24.5:50.6)	3.4	0.6	4.0
5/1	241	241	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	520	520	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	323	323	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	43	43	-	-	-	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
9/2	318	318	-	-	-	0.3	0.5	-	0.8	9.3	1.3	0.5	1.8
10/1	118	118	-	-	-	0.0	0.0	-	0.0	1.4	0.0	0.0	0.1
10/2	276	276	-	-	-	0.1	0.4	-	0.4	5.8	0.2	0.4	0.6
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		45.3		Total Delay for Signalled Lanes (pcuHr):		10.12		Cycle Time (s): 105			
		PRC Over All Lanes (%):		45.3		Total Delay Over All Lanes(pcuHr):		10.12					

Full Input Data And Results

Scenario 10: '2024 Base PM (ped every other cycle)' (FG2: '2024 Base PM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

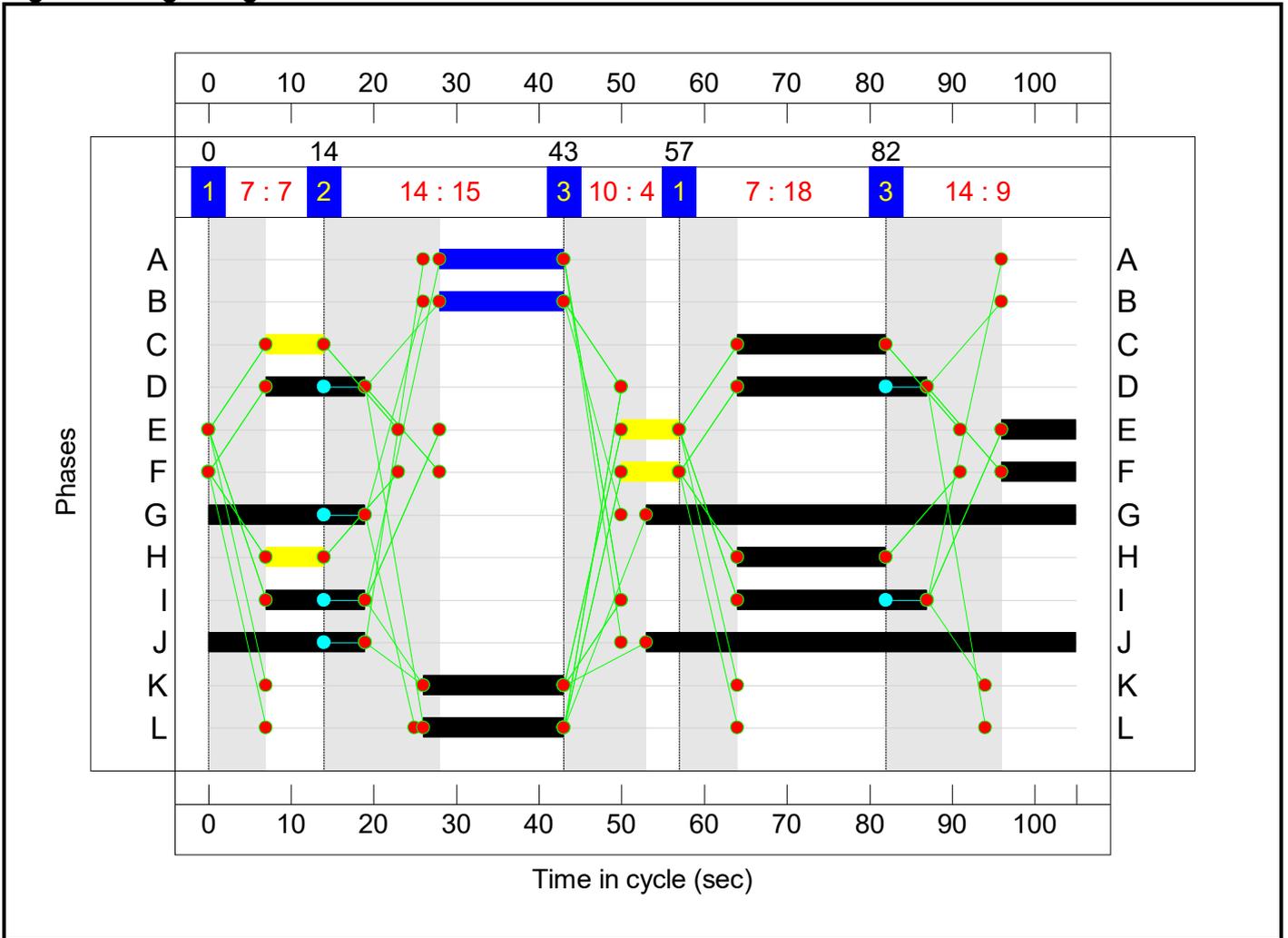
Stage Sequence Diagram



Stage Timings

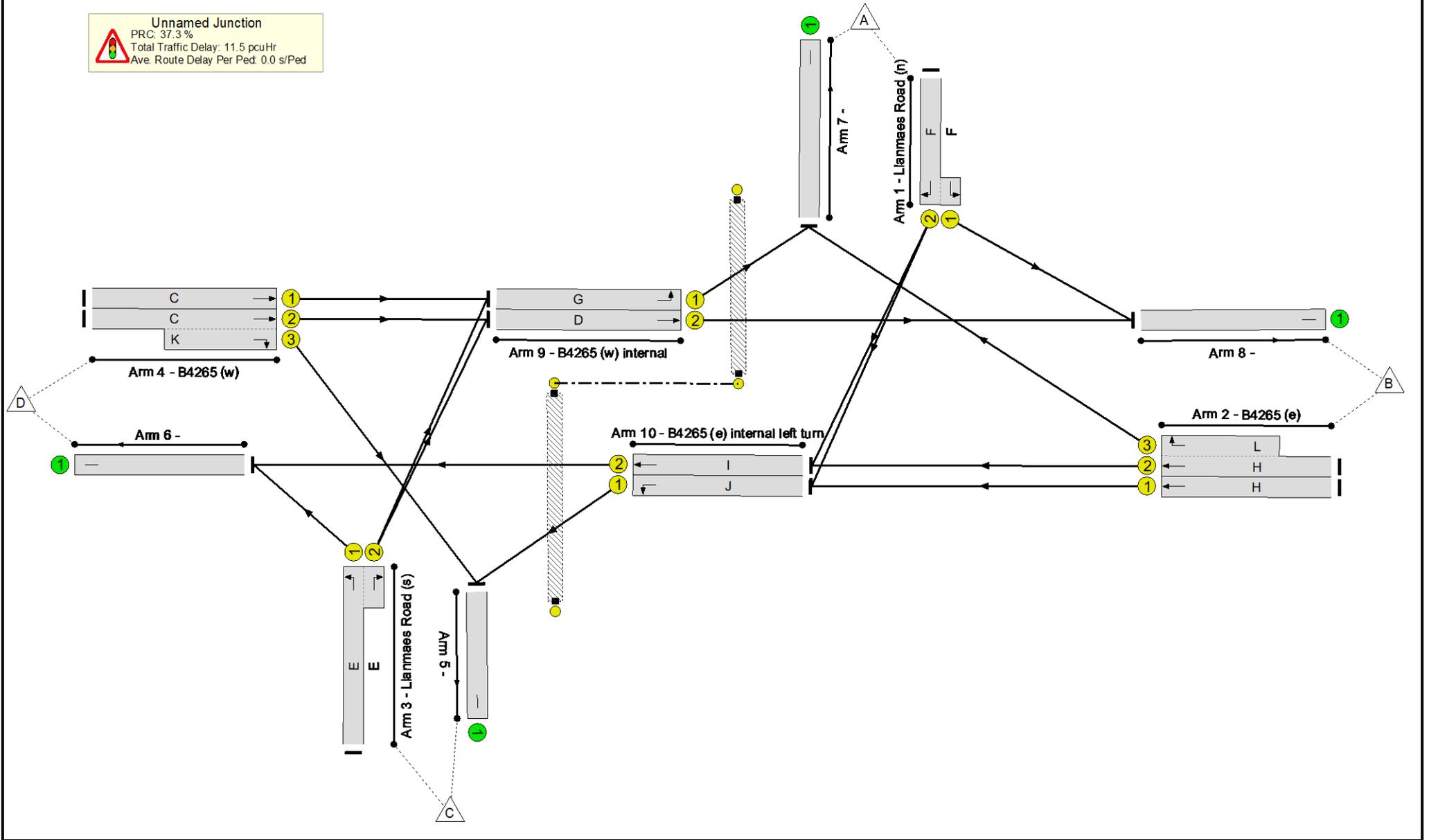
Stage	1	2	3	1	3
Duration	7	15	4	18	9
Change Point	0	14	43	57	82

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 37.3 %
 Total Traffic Delay: 11.5 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	65.5%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	65.5%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	16	-	58	1842:1802	303+17	18.1 : 18.1%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	25	-	102	1975	508	20.1%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	25:17	-	338	1975:1771	508+12	65.0 : 65.0%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	16	-	303	1849:2045	269+199	64.7 : 64.7%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	25	-	15	2019	519	2.9%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	25:17	-	410	2021:1738	403+291	54.3 : 65.5%
5/1		U	N/A	N/A	-		-	-	-	338	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	514	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	62	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	312	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	71	-	54	1949	1336	4.0%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	35	-	309	2005	707	43.7%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	71	-	147	1931	1324	11.1%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	35	-	340	2015	710	47.9%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	15	-	0	-	0	0.0%

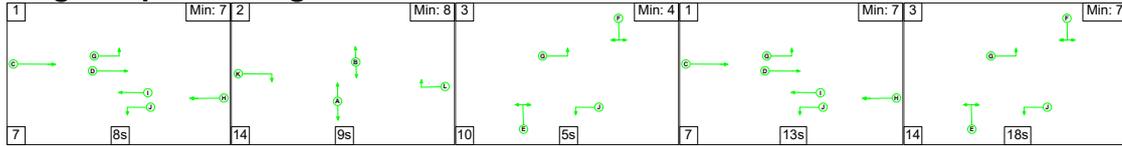
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B		1	15	-	0	-	0	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	7.8	3.7	0.0	11.5	-	-	-	-
Unnamed Junction	-	-	0	0	0	7.8	3.7	0.0	11.5	-	-	-	-
1/2+1/1	58	58	-	-	-	0.3	0.1	-	0.4 (0.4+0.0)	25.8 (25.8:25.6)	0.8	0.1	0.9
2/1	102	102	-	-	-	0.5	0.1	-	0.6	20.8	1.4	0.1	1.6
2/2+2/3	338	338	-	-	-	1.8	0.9	-	2.7 (2.6+0.1)	28.7 (28.3:46.2)	5.3	0.9	6.2
3/1+3/2	303	303	-	-	-	1.7	0.9	-	2.6 (1.5+1.1)	30.7 (31.0:30.3)	2.6	0.9	3.5
4/1	15	15	-	-	-	0.1	0.0	-	0.1	19.4	0.2	0.0	0.2
4/2+4/3	410	410	-	-	-	3.2	0.7	-	3.9 (1.4+2.5)	34.4 (23.6:46.8)	5.1	0.7	5.9
5/1	338	338	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	514	514	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	62	62	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	312	312	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	54	54	-	-	-	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
9/2	309	309	-	-	-	0.2	0.4	-	0.6	7.2	1.4	0.4	1.8
10/1	147	147	-	-	-	0.0	0.1	-	0.1	1.6	0.0	0.1	0.1
10/2	340	340	-	-	-	0.1	0.5	-	0.5	5.4	0.2	0.5	0.7
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		37.3		Total Delay for Signalled Lanes (pcuHr):		11.50		Cycle Time (s): 105			
		PRC Over All Lanes (%):		37.3		Total Delay Over All Lanes(pcuHr):		11.50					

Full Input Data And Results

Scenario 11: '2036 Baseline AM (ped every other cycle)' (FG3: '2036 Baseline AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

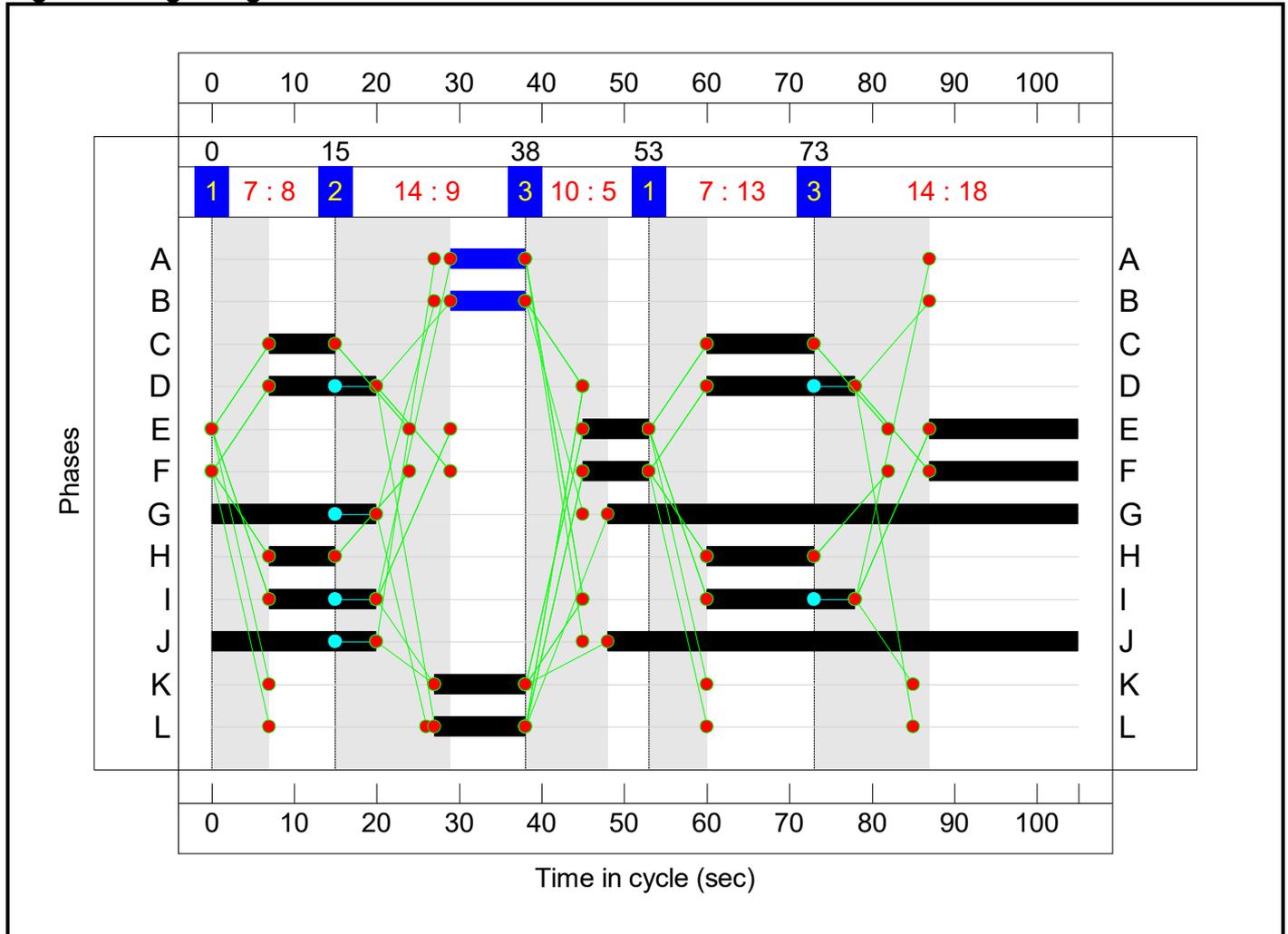
Stage Sequence Diagram



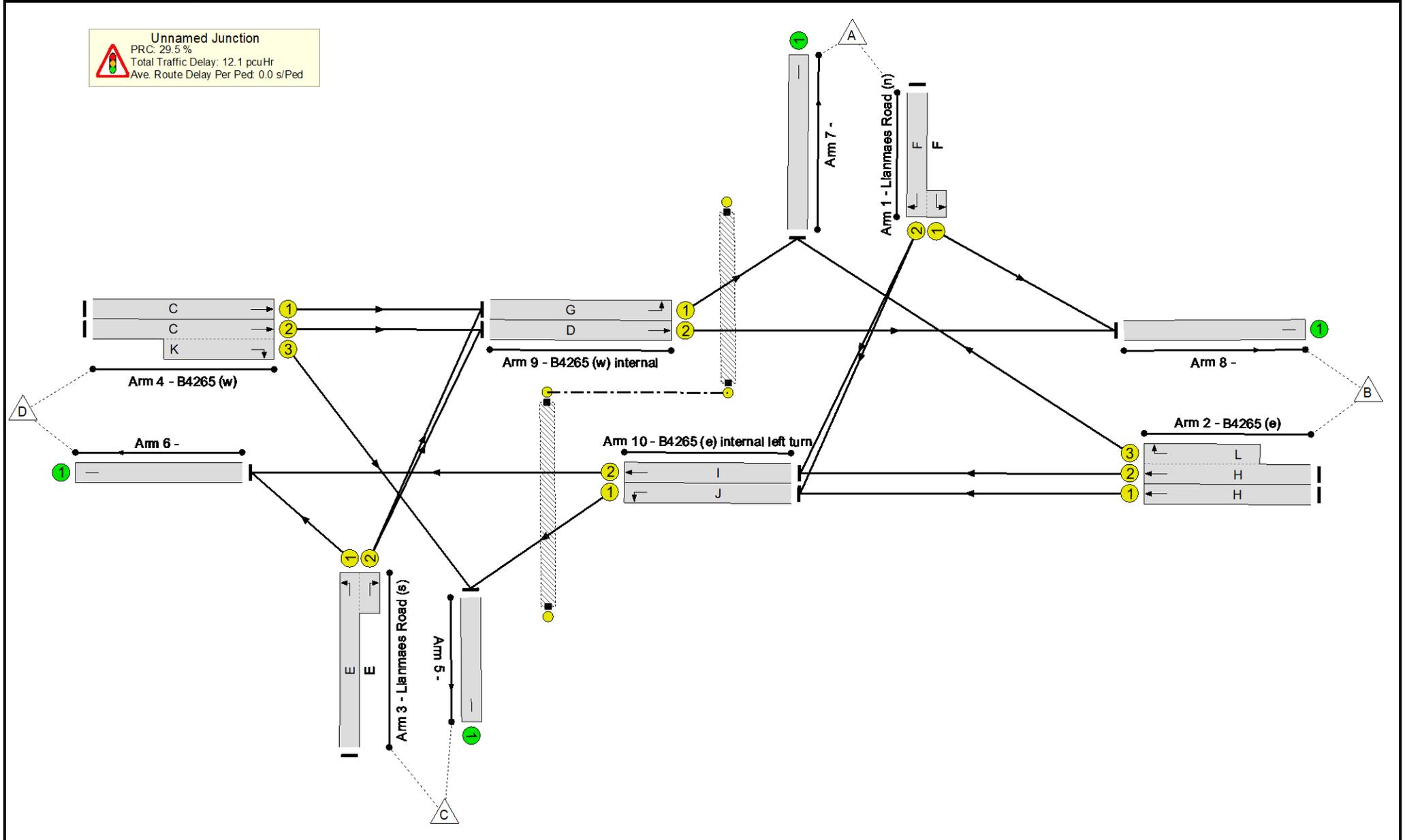
Stage Timings

Stage	1	2	3	1	3
Duration	8	9	5	13	18
Change Point	0	15	38	53	73

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram



Full Input Data And Results

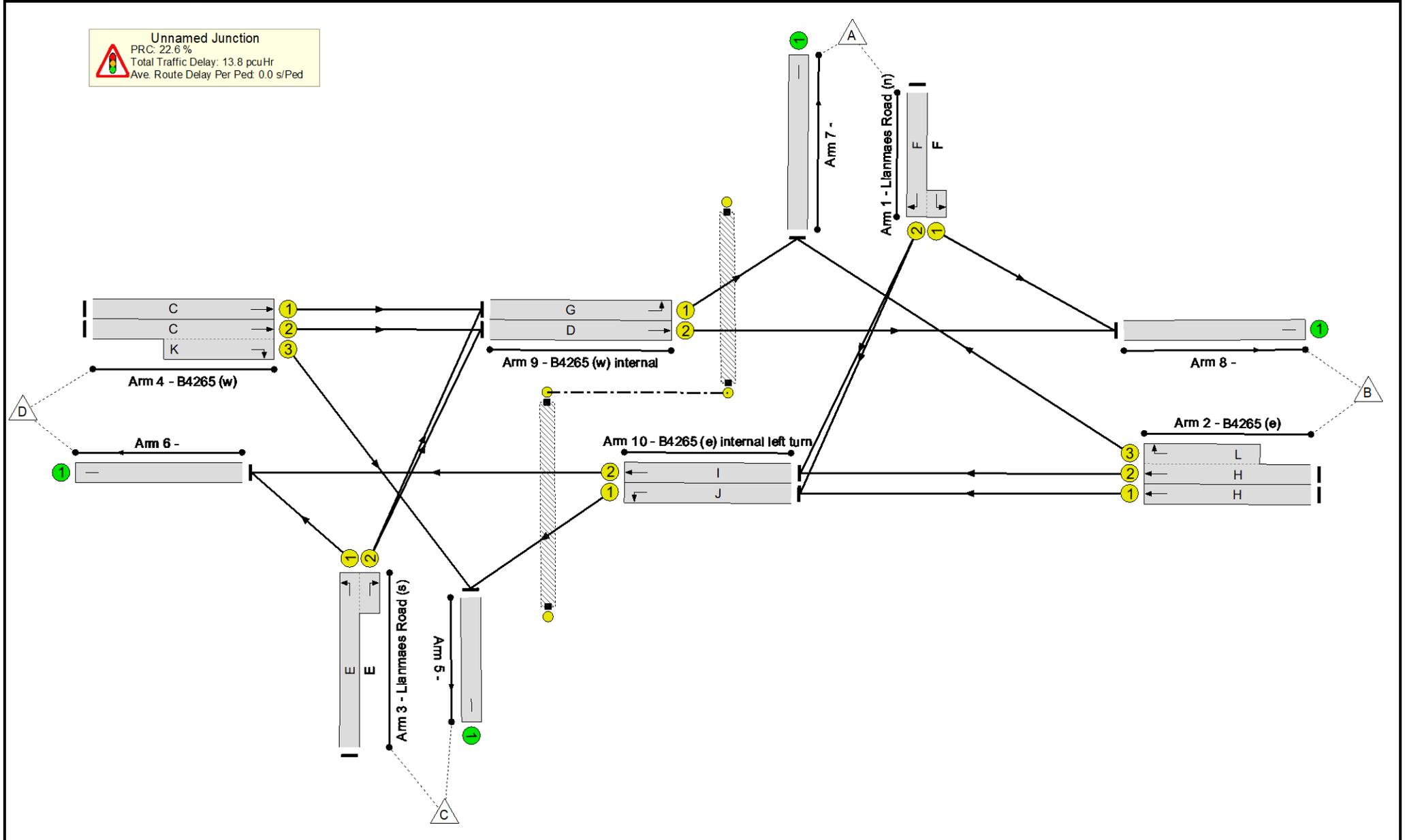
Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	69.5%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	69.5%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	26	-	46	1842:1802	441+66	9.1 : 9.1%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	21	-	104	1975	433	24.0%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	21:11	-	305	1975:1771	433+12	68.7 : 68.7%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	26	-	408	1849:2045	401+196	68.3 : 68.3%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	21	-	9	2019	442	2.0%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	21:11	-	399	2021:1738	443+199	59.0 : 69.5%
5/1		U	N/A	N/A	-		-	-	-	270	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	583	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	56	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	77	-	48	1949	1448	3.3%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	31	-	356	2005	630	56.5%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	77	-	132	1931	1434	9.2%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	31	-	309	2015	633	48.8%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	9	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	9	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	7.7	4.4	0.0	12.1	-	-	-	-
Unnamed Junction	-	-	0	0	0	7.7	4.4	0.0	12.1	-	-	-	-
1/2+1/1	46	46	-	-	-	0.2	0.0	-	0.2 (0.2+0.0)	18.7 (18.7:18.7)	0.5	0.0	0.5
2/1	104	104	-	-	-	0.5	0.2	-	0.6	22.5	1.3	0.2	1.5
2/2+2/3	305	305	-	-	-	1.7	1.1	-	2.7 (2.6+0.1)	32.3 (31.7:54.4)	4.2	1.1	5.3
3/1+3/2	408	408	-	-	-	1.9	1.1	-	2.9 (2.0+0.9)	26.0 (26.4:25.2)	4.4	1.1	5.5
4/1	9	9	-	-	-	0.0	0.0	-	0.1	20.6	0.1	0.0	0.1
4/2+4/3	399	399	-	-	-	3.1	0.8	-	3.9 (1.9+2.0)	35.0 (25.9:52.1)	3.9	0.8	4.7
5/1	270	270	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	583	583	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	56	56	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	362	362	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	48	48	-	-	-	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
9/2	356	356	-	-	-	0.3	0.6	-	1.0	10.0	1.4	0.6	2.1
10/1	132	132	-	-	-	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
10/2	309	309	-	-	-	0.1	0.5	-	0.5	6.3	0.2	0.5	0.7
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		29.5		Total Delay for Signalled Lanes (pcuHr):		12.10		Cycle Time (s): 105			
		PRC Over All Lanes (%):		29.5		Total Delay Over All Lanes(pcuHr):		12.10					

Full Input Data And Results
Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	73.4%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	73.4%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	16	-	64	1842:1802	304+15	20.1 : 20.1%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	25	-	114	1975	508	22.4%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	25:17	-	378	1975:1771	508+12	72.7 : 72.7%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	16	-	340	1849:2045	269+200	72.5 : 72.5%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	25	-	17	2019	519	3.3%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	25:17	-	459	2021:1738	401+291	61.0 : 73.4%
5/1		U	N/A	N/A	-		-	-	-	378	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	575	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	70	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	71	-	61	1949	1336	4.6%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	35	-	346	2005	707	49.0%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	71	-	164	1931	1324	12.4%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	35	-	380	2015	710	53.5%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	15	-	0	-	0	0.0%

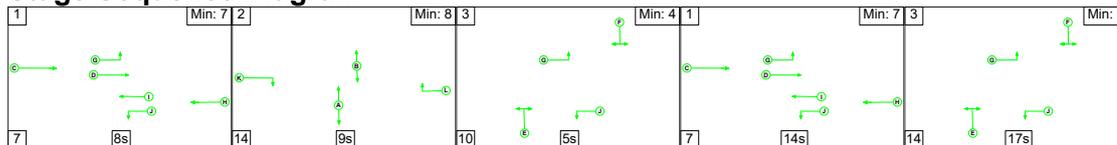
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	15	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	8.8	5.0	0.0	13.8	-	-	-	-
Unnamed Junction	-	-	0	0	0	8.8	5.0	0.0	13.8	-	-	-	-
1/2+1/1	64	64	-	-	-	0.3	0.1	-	0.5 (0.4+0.0)	26.0 (26.0:25.8)	0.8	0.1	1.0
2/1	114	114	-	-	-	0.5	0.1	-	0.7	21.0	1.6	0.1	1.8
2/2+2/3	378	378	-	-	-	2.0	1.3	-	3.3 (3.2+0.1)	31.8 (31.4:48.9)	6.2	1.3	7.5
3/1+3/2	340	340	-	-	-	1.9	1.3	-	3.2 (1.9+1.3)	33.9 (34.2:33.4)	2.9	1.3	4.2
4/1	17	17	-	-	-	0.1	0.0	-	0.1	19.4	0.2	0.0	0.2
4/2+4/3	459	459	-	-	-	3.6	1.0	-	4.6 (1.7+2.9)	36.2 (25.2:48.7)	5.9	1.0	6.9
5/1	378	378	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	575	575	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	70	70	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	349	349	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	61	61	-	-	-	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
9/2	346	346	-	-	-	0.3	0.5	-	0.7	7.7	1.6	0.5	2.1
10/1	164	164	-	-	-	0.0	0.1	-	0.1	1.6	0.0	0.1	0.1
10/2	380	380	-	-	-	0.1	0.6	-	0.6	6.1	0.3	0.6	0.8
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		22.6		Total Delay for Signalled Lanes (pcuHr):		13.85		Cycle Time (s): 105			
		PRC Over All Lanes (%):		22.6		Total Delay Over All Lanes(pcuHr):		13.85					

Full Input Data And Results

Scenario 13: '2036 Baseline + Dev AM (ped every other cycle)' (FG5: '2036 Baseline + Dev AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

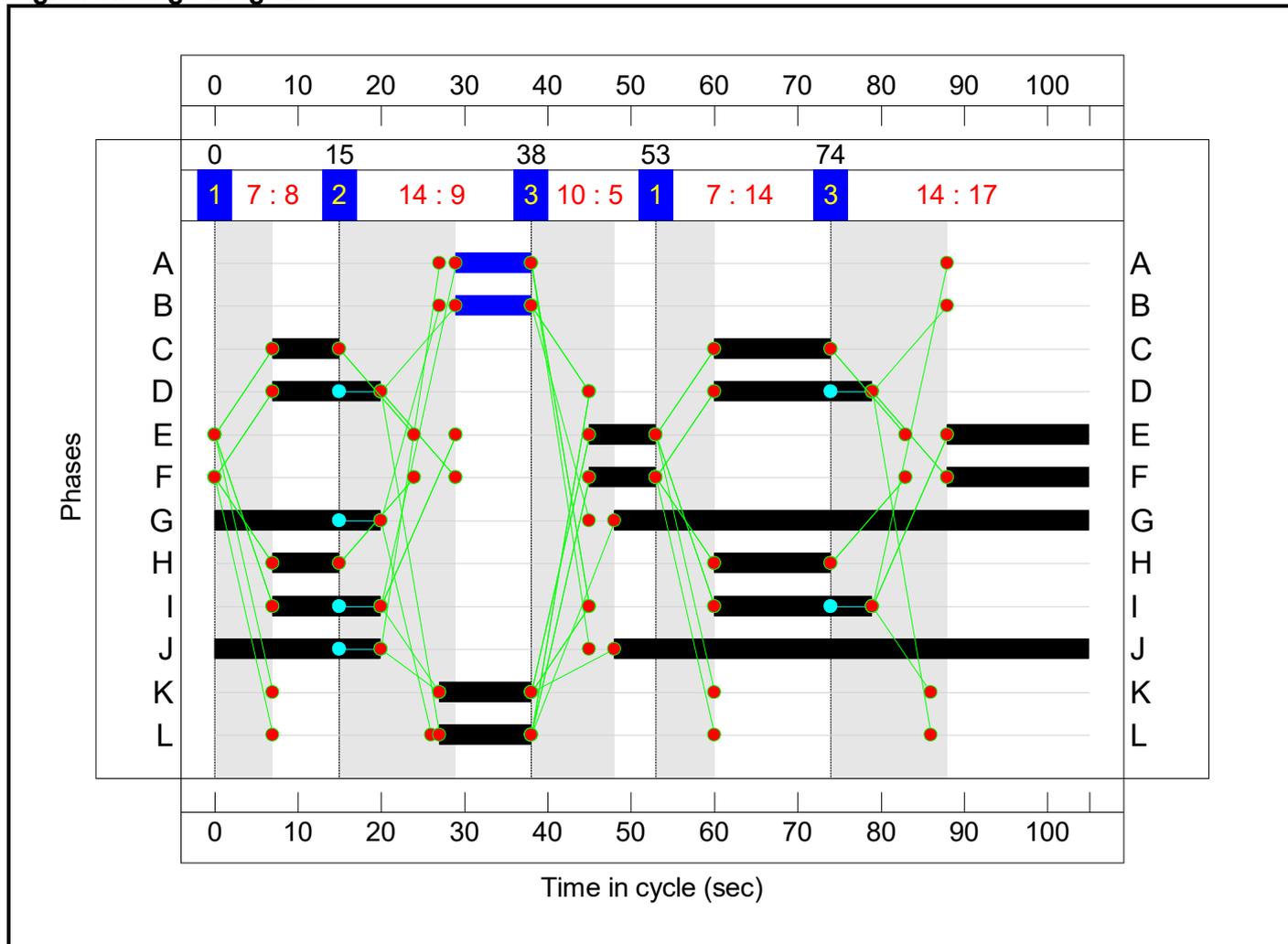
Stage Sequence Diagram



Stage Timings

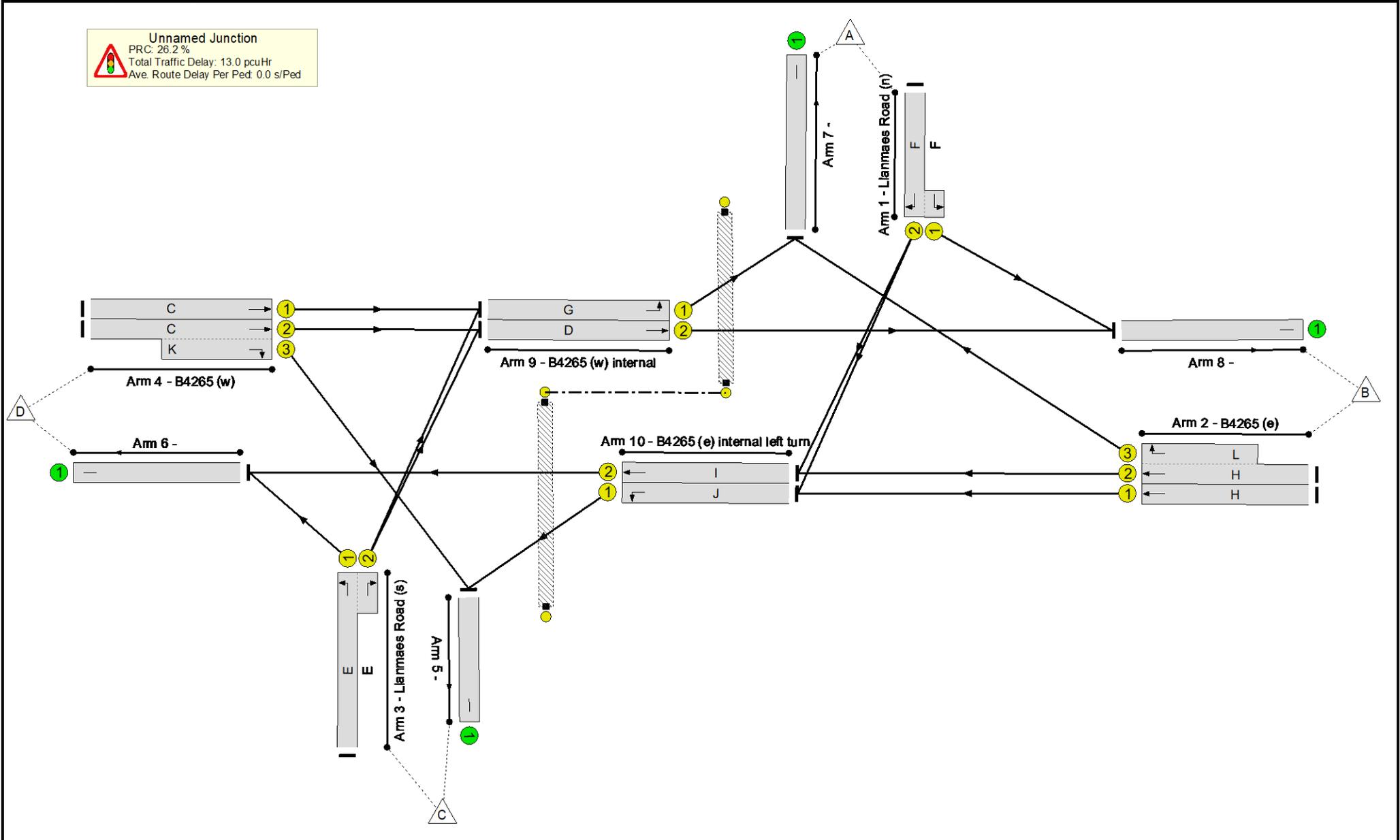
Stage	1	2	3	1	3
Duration	8	9	5	14	17
Change Point	0	15	38	53	74

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 26.2 %
 Total Traffic Delay: 13.0 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	71.3%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	71.3%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	25	-	49	1842:1802	408+92	9.8 : 9.8%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	22	-	118	1975	451	26.1%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	22:11	-	334	1975:1771	451+17	71.3 : 71.3%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	25	-	419	1849:2045	384+203	71.3 : 71.3%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	22	-	9	2019	461	2.0%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	22:11	-	417	2021:1738	462+199	60.4 : 69.5%
5/1		U	N/A	N/A	-		-	-	-	284	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	608	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	394	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	77	-	48	1949	1448	3.3%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	32	-	385	2005	649	59.3%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	77	-	146	1931	1434	10.2%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	32	-	334	2015	652	51.2%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	9	-	0	-	0	0.0%

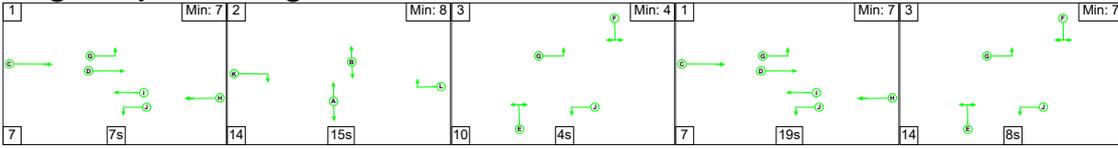
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	9	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	8.2	4.9	0.0	13.0	-	-	-	-
Unnamed Junction	-	-	0	0	0	8.2	4.9	0.0	13.0	-	-	-	-
1/2+1/1	49	49	-	-	-	0.2	0.1	-	0.3 (0.2+0.0)	19.1 (19.1:19.1)	0.5	0.1	0.5
2/1	118	118	-	-	-	0.5	0.2	-	0.7	22.2	1.5	0.2	1.7
2/2+2/3	334	334	-	-	-	1.8	1.2	-	3.0 (2.9+0.2)	32.8 (32.0:54.8)	4.7	1.2	5.9
3/1+3/2	419	419	-	-	-	2.0	1.2	-	3.2 (2.1+1.1)	27.5 (27.9:26.7)	4.5	1.2	5.7
4/1	9	9	-	-	-	0.0	0.0	-	0.1	20.1	0.1	0.0	0.1
4/2+4/3	417	417	-	-	-	3.1	0.9	-	4.0 (2.0+2.0)	34.4 (25.6:52.1)	4.0	0.9	4.8
5/1	284	284	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	608	608	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	60	60	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	394	394	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	48	48	-	-	-	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
9/2	385	385	-	-	-	0.4	0.7	-	1.1	10.3	1.6	0.7	2.3
10/1	146	146	-	-	-	0.0	0.1	-	0.1	1.5	0.0	0.1	0.1
10/2	334	334	-	-	-	0.1	0.5	-	0.6	6.4	0.2	0.5	0.8
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		26.2		Total Delay for Signalled Lanes (pcuHr):		13.03		Cycle Time (s): 105			
		PRC Over All Lanes (%):		26.2		Total Delay Over All Lanes(pcuHr):		13.03					

Full Input Data And Results

Scenario 14: '2036 Baseline + Dev PM (ped every other cycle)' (FG6: '2036 Baseline + Dev PM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

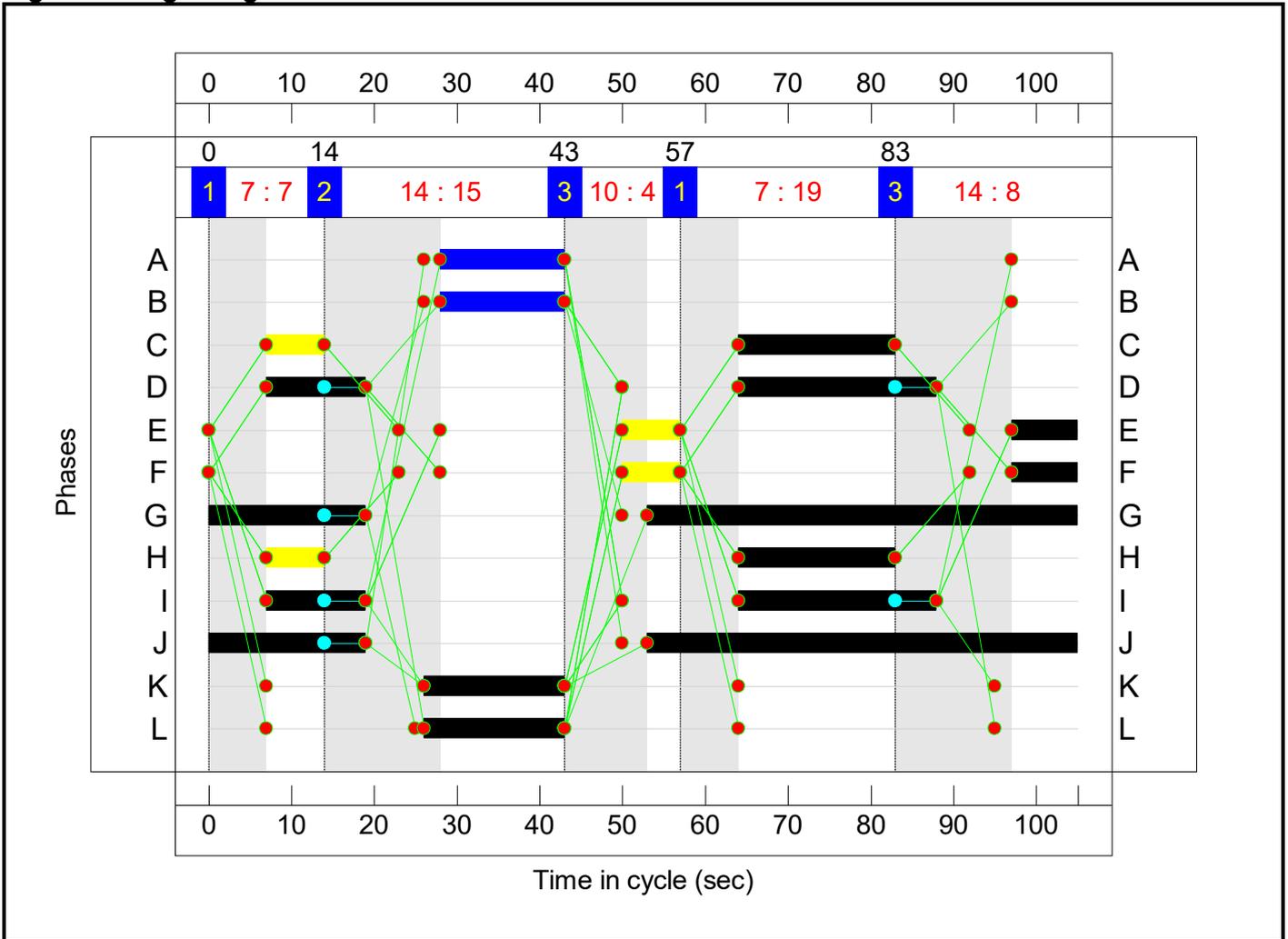
Stage Sequence Diagram



Stage Timings

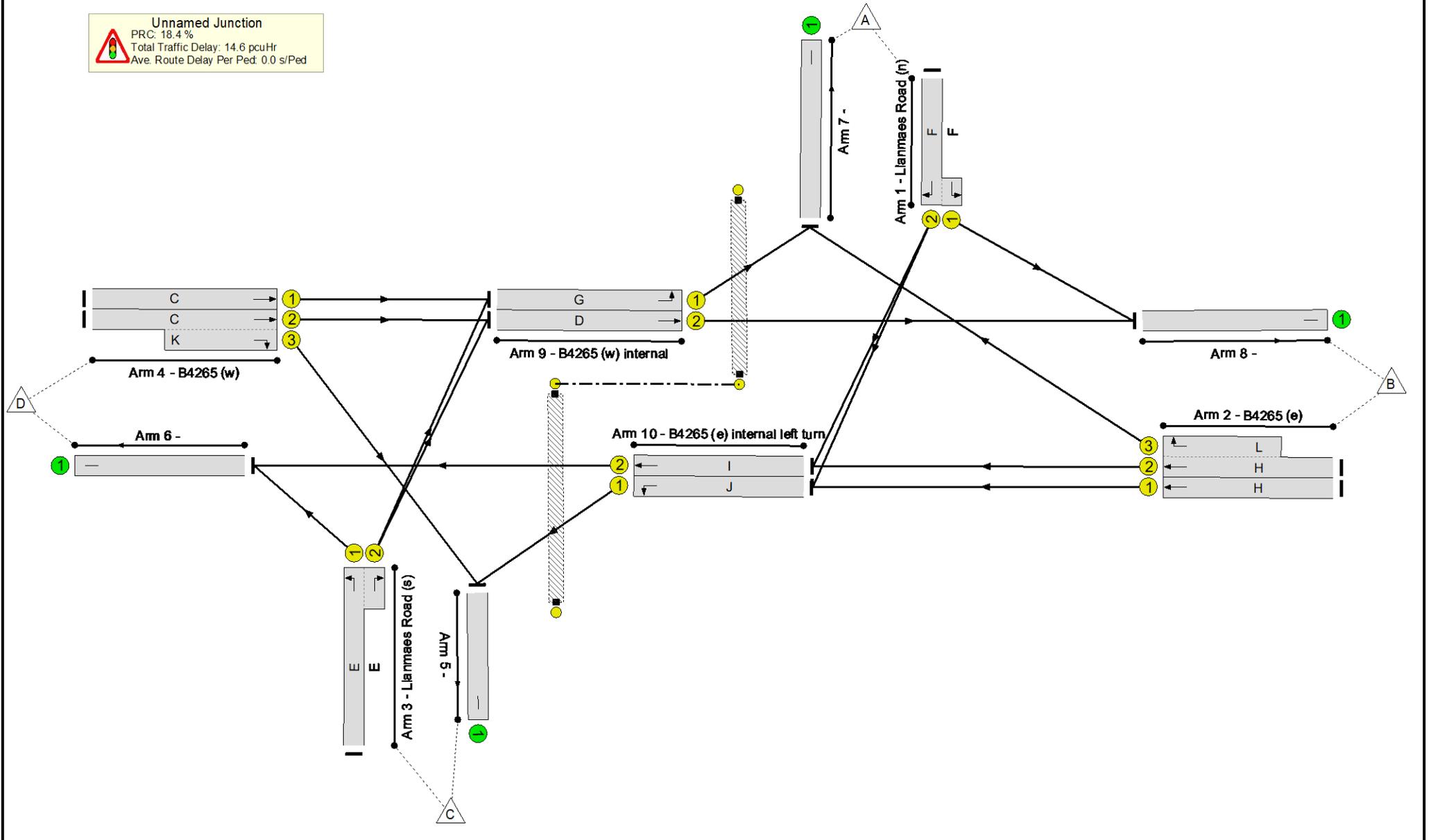
Stage	1	2	3	1	3
Duration	7	15	4	19	8
Change Point	0	14	43	57	83

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 18.4 %
 Total Traffic Delay: 14.6 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	76.0%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	76.0%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	15	-	67	1842:1802	281+28	21.7 : 21.7%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	26	-	126	1975	527	23.9%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	26:17	-	401	1975:1771	527+16	73.9 : 73.9%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	15	-	353	1849:2045	257+208	76.0 : 76.0%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	26	-	17	2019	538	3.2%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	26:17	-	482	2021:1738	478+291	56.1 : 73.5%
5/1		U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	595	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	73	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	388	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	71	-	61	1949	1336	4.6%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	36	-	382	2005	726	52.6%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	71	-	176	1931	1324	13.3%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	36	-	400	2015	729	54.9%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	15	-	0	-	0	0.0%

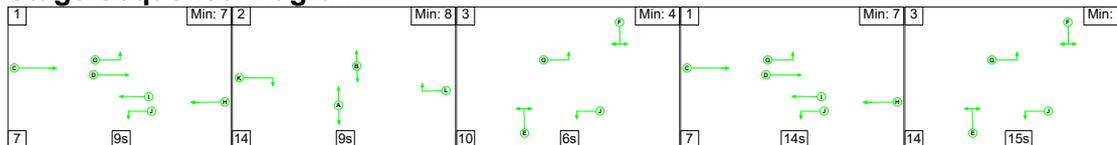
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	15	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	9.3	5.3	0.0	14.6	-	-	-	-
Unnamed Junction	-	-	0	0	0	9.3	5.3	0.0	14.6	-	-	-	-
1/2+1/1	67	67	-	-	-	0.4	0.1	-	0.5 (0.5+0.0)	26.8 (26.8:26.6)	0.8	0.1	1.0
2/1	126	126	-	-	-	0.6	0.2	-	0.7	20.7	1.8	0.2	2.0
2/2+2/3	401	401	-	-	-	2.2	1.4	-	3.5 (3.4+0.2)	31.9 (31.3:48.9)	6.6	1.4	8.0
3/1+3/2	353	353	-	-	-	2.0	1.5	-	3.6 (2.0+1.6)	36.3 (36.6:36.0)	2.9	1.5	4.5
4/1	17	17	-	-	-	0.1	0.0	-	0.1	19.0	0.2	0.0	0.2
4/2+4/3	482	482	-	-	-	3.7	0.8	-	4.6 (1.8+2.8)	34.2 (23.7:47.3)	5.9	0.8	6.7
5/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	595	595	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	388	388	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	61	61	-	-	-	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
9/2	382	382	-	-	-	0.3	0.6	-	0.8	7.9	1.8	0.6	2.4
10/1	176	176	-	-	-	0.0	0.1	-	0.1	1.6	0.0	0.1	0.1
10/2	400	400	-	-	-	0.1	0.6	-	0.7	6.1	0.3	0.6	0.9
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		18.4		Total Delay for Signalled Lanes (pcuHr):		14.62		Cycle Time (s): 105			
		PRC Over All Lanes (%):		18.4		Total Delay Over All Lanes(pcuHr):		14.62					

Full Input Data And Results

Scenario 15: '2036 Baseline + Dev + E St Athan Site AM (ped every other cycle)' (FG7: '2036 Baseline + Dev + E St Athan AM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

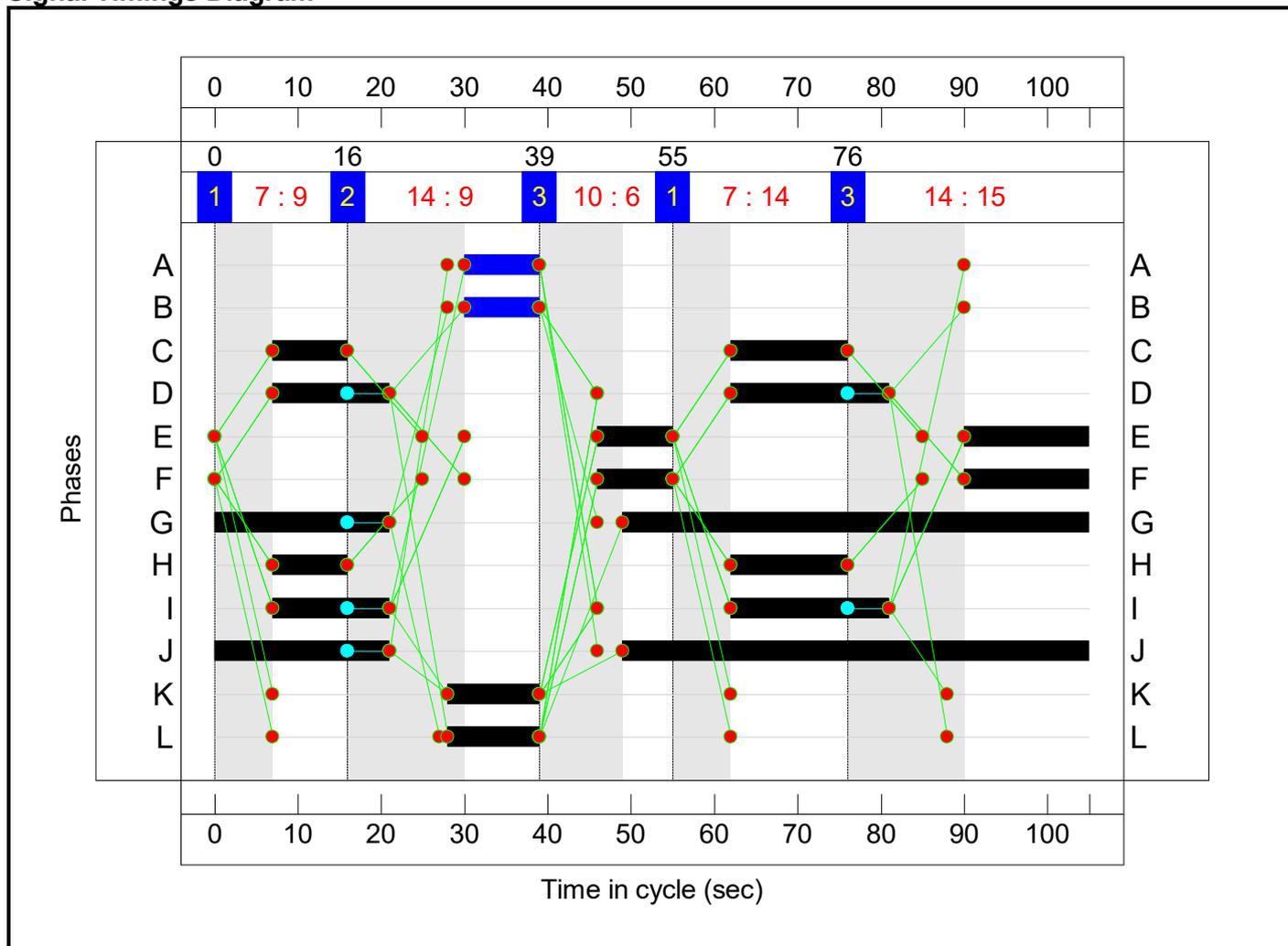
Stage Sequence Diagram



Stage Timings

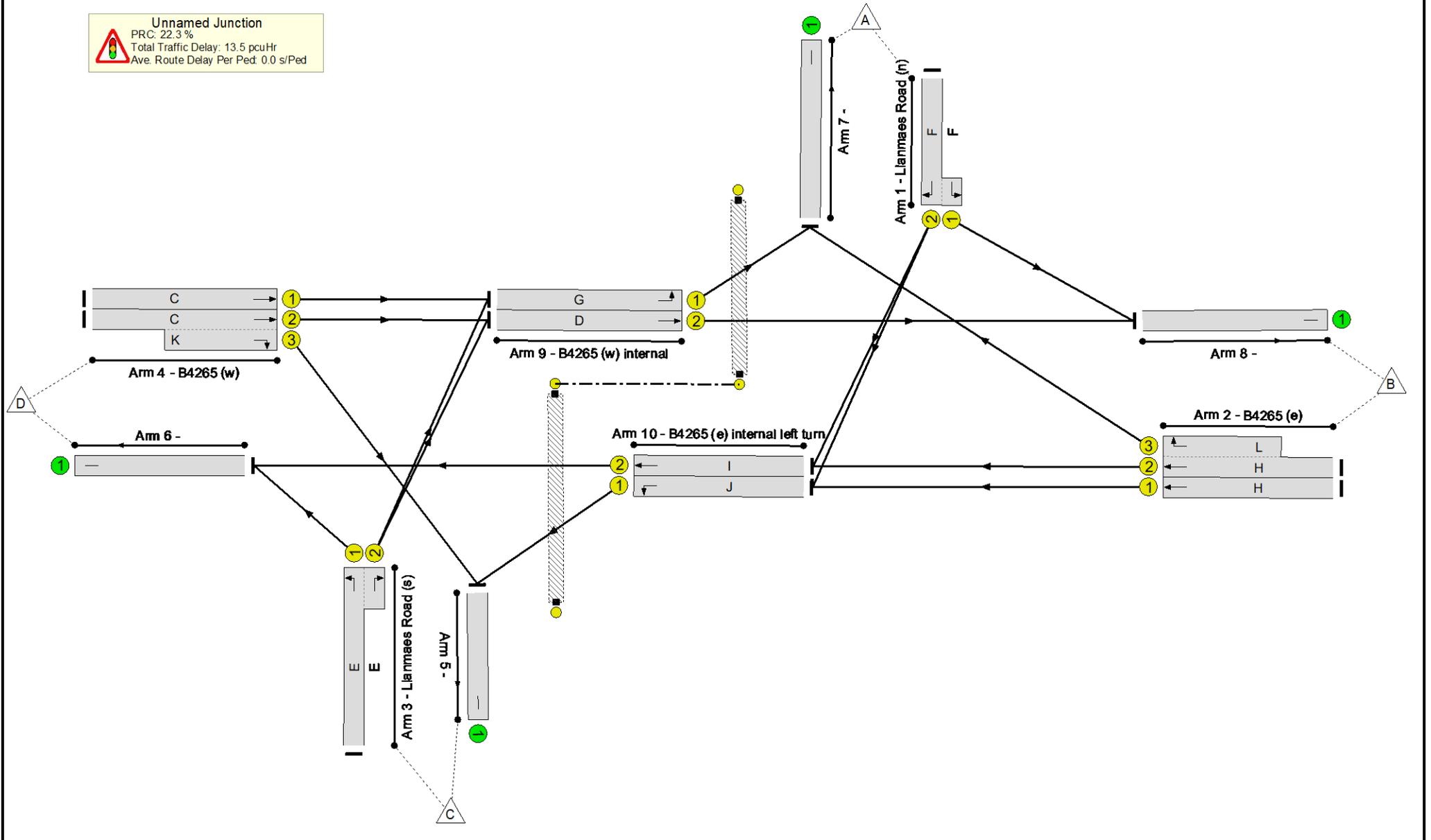
Stage	1	2	3	1	3
Duration	9	9	6	14	15
Change Point	0	16	39	55	76

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 22.3 %
 Total Traffic Delay: 13.5 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	73.6%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	73.6%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	24	-	49	1842:1802	394+89	10.2 : 10.2%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	23	-	118	1975	470	25.1%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	23:11	-	357	1975:1771	470+16	73.4 : 73.4%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	24	-	419	1849:2045	372+197	73.6 : 73.6%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	23	-	9	2019	481	1.9%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	23:11	-	427	2021:1738	481+199	60.1 : 69.5%
5/1		U	N/A	N/A	-		-	-	-	284	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	631	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	404	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	77	-	48	1949	1448	3.3%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	33	-	395	2005	668	59.1%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	77	-	146	1931	1434	10.2%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	33	-	357	2015	672	53.2%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	9	-	0	-	0	0.0%

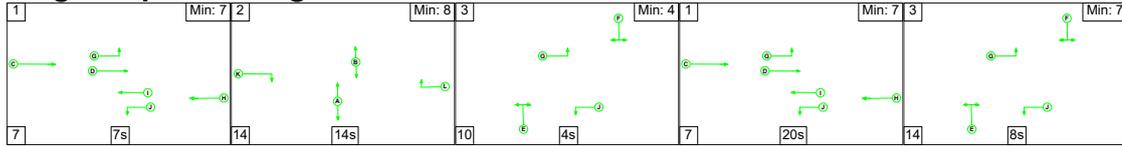
Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	9	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	8.4	5.1	0.0	13.5	-	-	-	-
Unnamed Junction	-	-	0	0	0	8.4	5.1	0.0	13.5	-	-	-	-
1/2+1/1	49	49	-	-	-	0.2	0.1	-	0.3 (0.2+0.0)	19.7 (19.7:19.7)	0.5	0.1	0.6
2/1	118	118	-	-	-	0.5	0.2	-	0.7	21.6	1.5	0.2	1.7
2/2+2/3	357	357	-	-	-	1.9	1.3	-	3.3 (3.1+0.2)	33.1 (32.4:55.2)	5.2	1.3	6.5
3/1+3/2	419	419	-	-	-	2.0	1.4	-	3.4 (2.3+1.1)	29.2 (29.6:28.5)	4.7	1.4	6.1
4/1	9	9	-	-	-	0.0	0.0	-	0.0	19.7	0.1	0.0	0.1
4/2+4/3	427	427	-	-	-	3.2	0.8	-	4.0 (2.0+2.0)	33.8 (25.1:51.8)	4.2	0.8	5.0
5/1	284	284	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	631	631	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	60	60	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	404	404	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	48	48	-	-	-	0.0	0.0	-	0.0	1.3	0.0	0.0	0.0
9/2	395	395	-	-	-	0.4	0.7	-	1.1	9.8	1.6	0.7	2.4
10/1	146	146	-	-	-	0.0	0.1	-	0.1	1.5	0.0	0.1	0.1
10/2	357	357	-	-	-	0.1	0.6	-	0.6	6.4	0.2	0.6	0.8
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		22.3		Total Delay for Signalled Lanes (pcuHr):		13.50		Cycle Time (s): 105			
		PRC Over All Lanes (%):		22.3		Total Delay Over All Lanes(pcuHr):		13.50					

Full Input Data And Results

Scenario 16: '2036 Baseline + Dev + E St Athan Site PM (ped every other cycle)' (FG8: '2036 Baseline + Dev + E St Athan PM', Plan 2: 'Double Cycle - Ped Every Other Cycle')

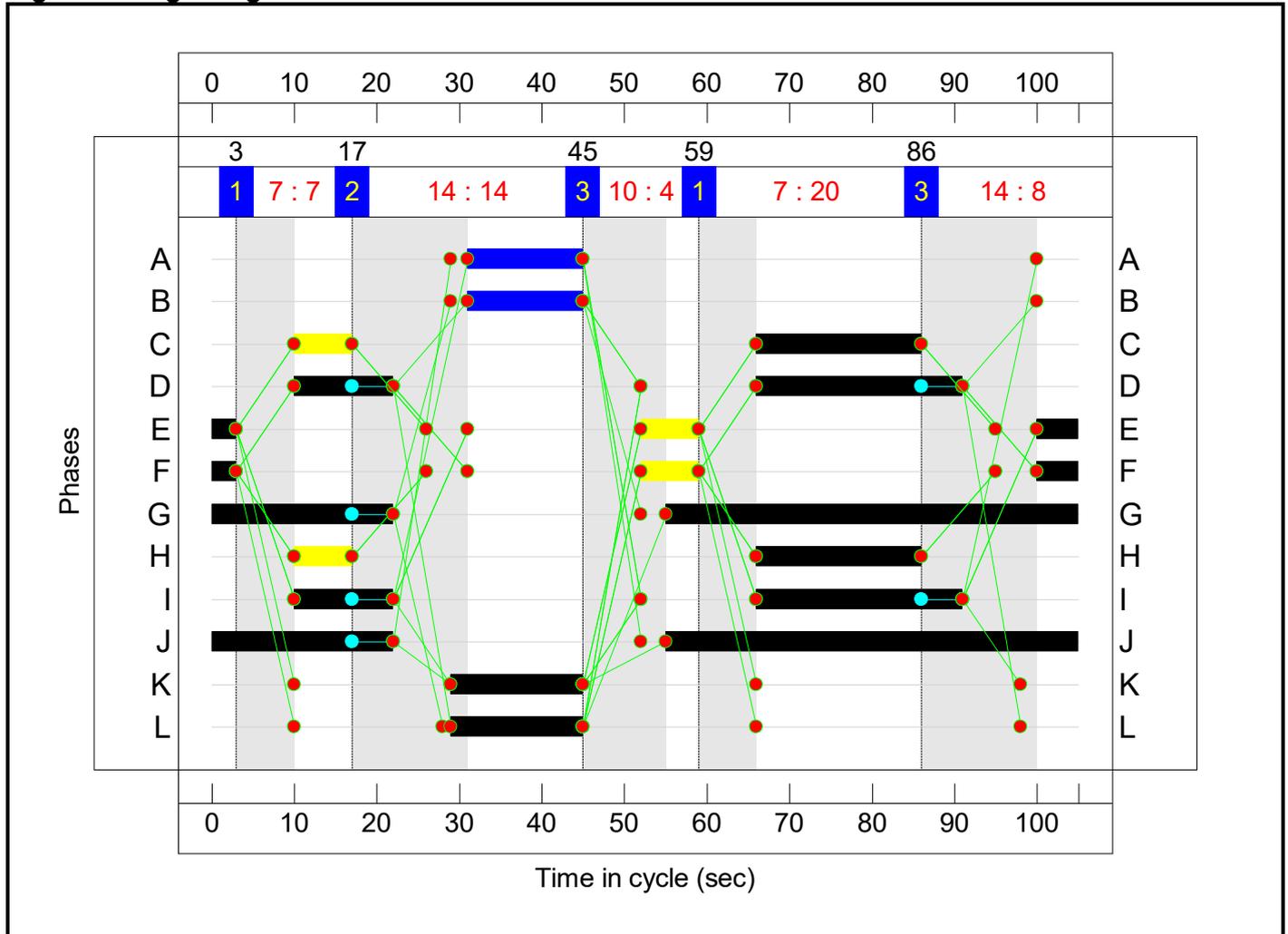
Stage Sequence Diagram



Stage Timings

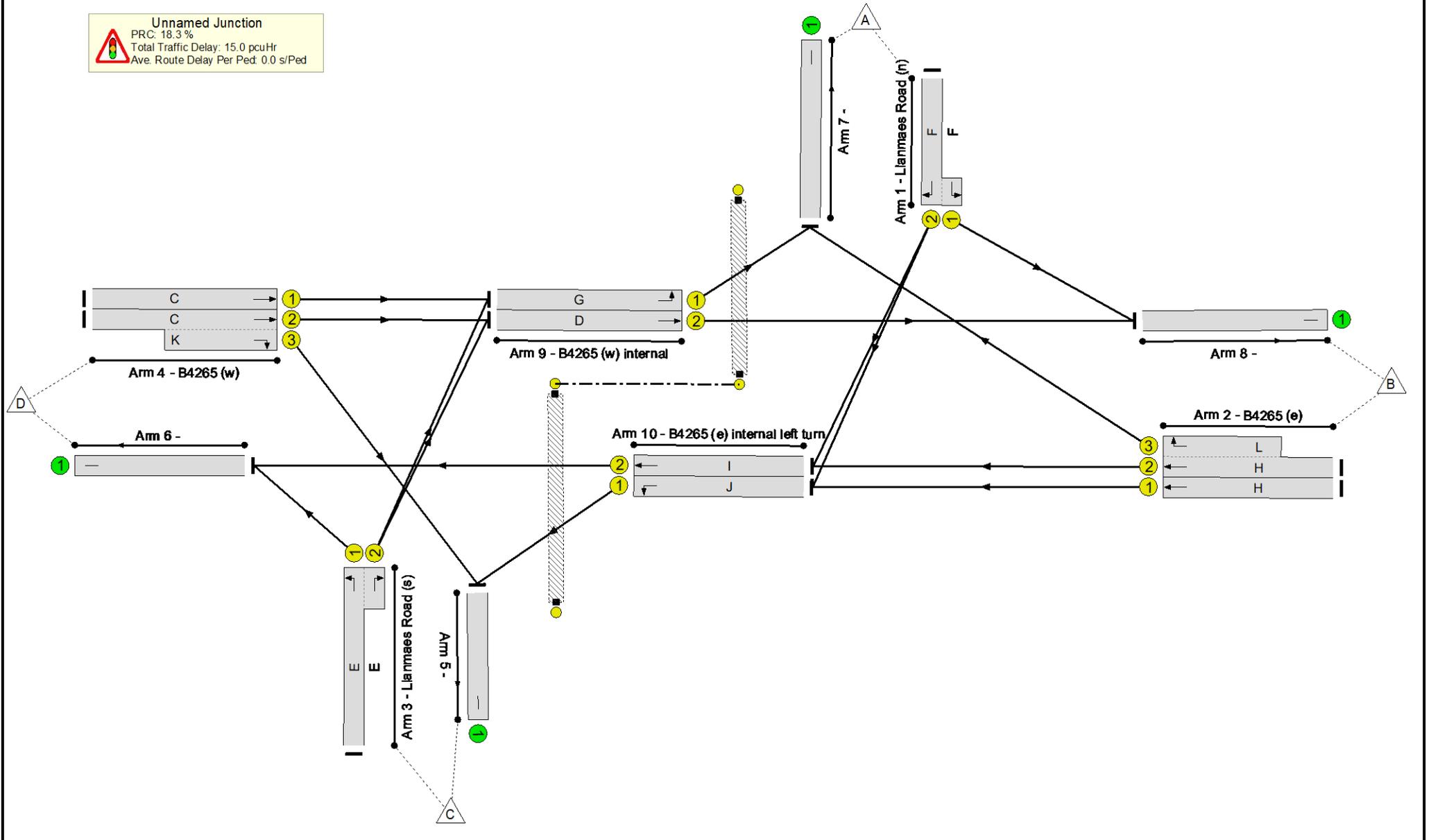
Stage	1	2	3	1	3
Duration	7	14	4	20	8
Change Point	3	17	45	59	86

Signal Timings Diagram



Full Input Data And Results
Network Layout Diagram


 Unnamed Junction
 PRC: 18.3 %
 Total Traffic Delay: 15.0 pcuHr
 Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Llanmaes Road / B4265 Signals	-	-	N/A	-	-		-	-	-	-	-	-	76.1%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	76.1%
1/2+1/1	Llanmaes Road (n) Left Right	U	N/A	N/A	F		2	15	-	67	1842:1802	281+28	21.7 : 21.7%
2/1	B4265 (e) Ahead	U	N/A	N/A	H		2	27	-	126	1975	545	23.1%
2/2+2/3	B4265 (e) Right Ahead	U	N/A	N/A	H L		2:1	27:16	-	421	1975:1771	545+16	75.0 : 75.0%
3/1+3/2	Llanmaes Road (s) Left Right	U	N/A	N/A	E		2	15	-	353	1849:2045	257+208	76.0 : 76.0%
4/1	B4265 (w) Ahead	U	N/A	N/A	C		2	27	-	17	2019	558	3.0%
4/2+4/3	B4265 (w) Right Ahead	U	N/A	N/A	C K		2:1	27:16	-	506	2021:1738	501+281	58.2 : 76.1%
5/1		U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	615	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	73	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	412	Inf	Inf	0.0%
9/1	B4265 (w) internal Left	U	N/A	N/A	G		1	72	-	61	1949	1355	4.5%
9/2	B4265 (w) internal Ahead	U	N/A	N/A	D		2	37	-	406	2005	745	54.5%
10/1	B4265 (e) internal left turn Left	U	N/A	N/A	J		1	72	-	176	1931	1343	13.1%
10/2	B4265 (e) internal left turn Ahead	U	N/A	N/A	I		2	37	-	420	2015	748	56.1%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	A		1	14	-	0	-	0	0.0%

Full Input Data And Results

Ped Link: P2	Unnamed Ped Link	-	N/A	-	B	1	14	-	0	-	0	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Llanmaes Road / B4265 Signals	-	-	0	0	0	9.5	5.6	0.0	15.0	-	-	-	-
Unnamed Junction	-	-	0	0	0	9.5	5.6	0.0	15.0	-	-	-	-
1/2+1/1	67	67	-	-	-	0.4	0.1	-	0.5 (0.5+0.0)	26.7 (26.7:26.5)	0.8	0.1	1.0
2/1	126	126	-	-	-	0.6	0.2	-	0.7	20.0	1.8	0.2	1.9
2/2+2/3	421	421	-	-	-	2.2	1.5	-	3.7 (3.5+0.2)	31.6 (31.1:49.9)	6.8	1.5	8.3
3/1+3/2	353	353	-	-	-	2.0	1.5	-	3.6 (2.0+1.6)	36.2 (36.5:35.9)	2.9	1.5	4.4
4/1	17	17	-	-	-	0.1	0.0	-	0.1	18.4	0.2	0.0	0.2
4/2+4/3	506	506	-	-	-	3.9	0.9	-	4.8 (1.9+2.9)	34.2 (23.7:48.5)	5.9	0.9	6.9
5/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	615	615	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	73	73	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	412	412	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	61	61	-	-	-	0.0	0.0	-	0.0	1.4	0.0	0.0	0.0
9/2	406	406	-	-	-	0.3	0.6	-	0.9	7.8	1.8	0.6	2.4
10/1	176	176	-	-	-	0.0	0.1	-	0.1	1.6	0.0	0.1	0.1
10/2	420	420	-	-	-	0.1	0.6	-	0.7	6.1	0.3	0.6	0.9
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		18.3		Total Delay for Signalled Lanes (pcuHr):		15.04		Cycle Time (s): 105			
		PRC Over All Lanes (%):		18.3		Total Delay Over All Lanes(pcuHr):		15.04					

Junctions 10
ARCADY 10 - Roundabout Module
Version: 10.1.1.1905 © Copyright TRL Software Limited, 2023
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: 7. Cowbridge Road - B4265 (V2).j10
Path: C:\Users\Modelling\Apex Transport Planning Ltd\Apex Transport Planning Ltd - Documents\1.Projects\C22-\C22-133 - Land at St Athan\4.Modelling\7. Cowbridge Road - B4265
Report generation date: 10/12/2024 21:18:28

- »2024 Base, AM
- »2024 Base, PM
- »2036 Baseline, AM
- »2036 Baseline, PM
- »2036 Baseline + Dev, AM
- »2036 Baseline + Dev, PM
- »2036 Baseline + Dev + E of SA, AM
- »2036 Baseline + Dev + E of SA, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2024 Base										
Arm A	D1	0.3	2.82	0.22	A	D2	0.5	3.15	0.32	A
Arm B		0.5	2.81	0.32	A		0.4	2.65	0.28	A
Arm C		0.2	2.85	0.16	A		0.1	2.61	0.11	A
Arm D		0.1	2.59	0.10	A		0.1	2.37	0.11	A
2036 Baseline										
Arm A	D3	0.3	2.95	0.25	A	D4	0.6	3.38	0.36	A
Arm B		0.6	3.00	0.36	A		0.5	2.81	0.31	A
Arm C		0.2	3.01	0.19	A		0.1	2.72	0.13	A
Arm D		0.1	2.71	0.12	A		0.1	2.45	0.12	A
2036 Baseline + Dev										
Arm A	D5	0.4	2.98	0.26	A	D6	0.6	3.45	0.38	A
Arm B		0.6	3.07	0.37	A		0.5	2.86	0.32	A
Arm C		0.2	3.05	0.19	A		0.1	2.75	0.13	A
Arm D		0.1	2.74	0.12	A		0.1	2.47	0.12	A
2036 Baseline + Dev + E of SA										
Arm A	D7	0.4	3.00	0.26	A	D8	0.6	3.50	0.38	A
Arm B		0.7	3.13	0.38	A		0.5	2.91	0.34	A
Arm C		0.2	3.08	0.19	A		0.2	2.79	0.13	A
Arm D		0.1	2.76	0.12	A		0.2	2.51	0.13	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	7. Cowbridge Road / B4265
Location	Llantwit Major
Site number	
Date	03/06/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	C22133
Enumerator	DESKTOP-DDJJ6HG\Apex Modelling
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	Veh	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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:00	08:30	15
D2	2024 Base	PM	ONE HOUR	15:00	16:30	15
D3	2036 Baseline	AM	ONE HOUR	07:00	08:30	15
D4	2036 Baseline	PM	ONE HOUR	15:00	16:30	15
D5	2036 Baseline + Dev	AM	ONE HOUR	07:00	08:30	15
D6	2036 Baseline + Dev	PM	ONE HOUR	15:00	16:30	15
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:00	08:30	15
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:00	16:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	2.79	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.79	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Cowbridge Road N		
B	B4262 E		
C	Cowbridge Road S		
D	B4265 W		

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
A	2.70	7.30	24.7	31.1	75.8	10.5		
B	3.65	7.60	24.3	35.6	75.8	8.0		
C	3.15	7.10	19.5	38.2	75.8	6.5		
D	3.65	7.20	22.0	45.0	75.8	7.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.523	1835
B	0.563	2078
C	0.531	1857
D	0.555	2010

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Base	AM	ONE HOUR	07:00	08:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	322	100.000
B		✓	541	100.000
C		✓	224	100.000
D		✓	143	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	A	B	C	D	
From	A	0	191	82	49
	B	446	0	26	69
	C	152	50	2	20
	D	42	57	44	0

Vehicle Mix

Heavy Vehicle %

	To				
	A	B	C	D	
From	A	0	11	1	2
	B	5	0	0	6
	C	0	0	0	0
	D	2	7	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.22	2.82	0.3	A
B	0.32	2.81	0.5	A
C	0.16	2.85	0.2	A
D	0.10	2.59	0.1	A

Main Results for each time segment

07:00 - 07:15

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	260	118	1774	0.146	259	0.2	2.545	A
B	427	134	2003	0.213	426	0.3	2.391	A
C	169	444	1621	0.104	168	0.1	2.478	A
D	111	505	1730	0.064	111	0.1	2.302	A

07:15 - 07:30

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	310	141	1762	0.176	310	0.2	2.656	A
B	510	161	1988	0.256	509	0.4	2.552	A
C	201	531	1575	0.128	201	0.1	2.620	A
D	133	604	1675	0.079	133	0.1	2.416	A

07:30 - 07:45

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	380	173	1745	0.218	380	0.3	2.824	A
B	624	197	1968	0.317	624	0.5	2.808	A
C	247	650	1511	0.163	246	0.2	2.845	A
D	163	739	1599	0.102	163	0.1	2.593	A

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	380	173	1745	0.218	380	0.3	2.825	A
B	624	197	1967	0.317	624	0.5	2.808	A
C	247	651	1511	0.163	247	0.2	2.846	A
D	163	740	1599	0.102	163	0.1	2.593	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	310	141	1761	0.176	310	0.2	2.658	A
B	510	161	1988	0.256	510	0.4	2.556	A
C	201	532	1574	0.128	202	0.1	2.624	A
D	133	605	1674	0.079	133	0.1	2.417	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	260	118	1773	0.146	260	0.2	2.548	A
B	427	135	2002	0.213	427	0.3	2.397	A
C	169	445	1620	0.104	169	0.1	2.479	A
D	111	506	1729	0.064	111	0.1	2.303	A

2024 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	2.80	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.80	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Base	PM	ONE HOUR	15:00	16:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	487	100.000
B		✓	470	100.000
C		✓	155	100.000
D		✓	164	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	296	113	78
	B	296	1	35	138
	C	78	56	3	18
	D	41	72	51	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	5	0	0
	B	3	0	0	2
	C	0	0	0	0
	D	2	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.32	3.15	0.5	A
B	0.28	2.65	0.4	A
C	0.11	2.61	0.1	A
D	0.11	2.37	0.1	A

Main Results for each time segment

15:00 - 15:15

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	377	140	1762	0.214	376	0.3	2.669	A
B	364	184	1975	0.184	363	0.2	2.293	A
C	117	395	1647	0.071	116	0.1	2.352	A
D	126	333	1825	0.069	126	0.1	2.171	A

15:15 - 15:30

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	450	167	1748	0.258	450	0.4	2.853	A
B	434	220	1954	0.222	434	0.3	2.433	A
C	139	473	1606	0.087	139	0.1	2.454	A
D	151	399	1788	0.084	151	0.1	2.252	A

15:30 - 15:45

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	552	205	1728	0.319	551	0.5	3.144	A
B	532	270	1927	0.276	531	0.4	2.651	A
C	171	579	1549	0.110	171	0.1	2.610	A
D	185	489	1739	0.106	185	0.1	2.373	A

15:45 - 16:00

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	552	205	1728	0.319	552	0.5	3.146	A
B	532	270	1927	0.276	532	0.4	2.652	A
C	171	579	1549	0.110	171	0.1	2.610	A
D	185	489	1738	0.106	185	0.1	2.373	A

16:00 - 16:15

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	450	167	1748	0.258	451	0.4	2.858	A
B	434	220	1954	0.222	435	0.3	2.436	A
C	139	473	1605	0.087	139	0.1	2.455	A
D	151	399	1788	0.084	151	0.1	2.252	A

16:15 - 16:30

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	377	140	1762	0.214	377	0.3	2.674	A
B	364	185	1974	0.184	364	0.2	2.298	A
C	117	396	1646	0.071	117	0.1	2.355	A
D	126	334	1824	0.069	127	0.1	2.174	A

2036 Baseline, 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	2.96	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.96	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2036 Baseline	AM	ONE HOUR	07:00	08:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	361	100.000
B		✓	606	100.000
C		✓	250	100.000
D		✓	160	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	214	92	55
	B	500	0	29	77
	C	170	56	2	22
	D	47	64	49	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	11	1	2
	B	5	0	0	5
	C	0	0	0	0
	D	2	6	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.25	2.95	0.3	A
B	0.36	3.00	0.6	A
C	0.19	3.01	0.2	A
D	0.12	2.71	0.1	A

Main Results for each time segment

07:00 - 07:15

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	291	131	1767	0.165	291	0.2	2.613	A
B	478	150	1994	0.240	477	0.3	2.484	A
C	188	497	1593	0.118	188	0.1	2.562	A
D	124	565	1696	0.073	124	0.1	2.361	A

07:15 - 07:30

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	348	157	1753	0.198	348	0.3	2.745	A
B	571	180	1977	0.289	570	0.4	2.681	A
C	225	595	1541	0.146	225	0.2	2.734	A
D	148	676	1634	0.091	148	0.1	2.497	A

07:30 - 07:45

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	426	193	1735	0.246	426	0.3	2.948	A
B	699	220	1955	0.358	699	0.6	3.001	A
C	275	728	1470	0.187	275	0.2	3.012	A
D	182	828	1550	0.117	182	0.1	2.712	A

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	426	193	1735	0.246	426	0.3	2.948	A
B	699	220	1954	0.358	699	0.6	3.004	A
C	275	729	1470	0.187	275	0.2	3.013	A
D	182	829	1550	0.117	182	0.1	2.713	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	348	157	1753	0.198	348	0.3	2.747	A
B	571	180	1977	0.289	571	0.4	2.686	A
C	225	596	1540	0.146	225	0.2	2.738	A
D	148	678	1634	0.091	148	0.1	2.501	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	291	132	1766	0.165	292	0.2	2.616	A
B	478	151	1994	0.240	478	0.3	2.489	A
C	188	499	1592	0.118	188	0.1	2.566	A
D	124	567	1695	0.073	124	0.1	2.363	A

2036 Baseline, 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	2.97	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.97	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2036 Baseline	PM	ONE HOUR	15:00	16:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	546	100.000
B		✓	527	100.000
C		✓	173	100.000
D		✓	184	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	332	127	87
	B	332	1	39	155
	C	87	63	3	20
	D	46	81	57	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	5	0	0
	B	3	0	0	2
	C	0	0	0	0
	D	2	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.36	3.38	0.6	A
B	0.31	2.81	0.5	A
C	0.13	2.72	0.1	A
D	0.12	2.45	0.1	A

Main Results for each time segment

15:00 - 15:15

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	423	156	1754	0.241	422	0.3	2.780	A
B	407	206	1963	0.208	406	0.3	2.373	A
C	130	442	1622	0.080	130	0.1	2.412	A
D	142	373	1803	0.079	141	0.1	2.214	A

15:15 - 15:30

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	505	187	1738	0.291	505	0.4	3.006	A
B	486	246	1940	0.251	486	0.3	2.542	A
C	156	529	1576	0.099	155	0.1	2.534	A
D	169	447	1762	0.096	169	0.1	2.308	A

15:30 - 15:45

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	619	229	1716	0.361	618	0.6	3.374	A
B	596	301	1909	0.312	595	0.5	2.813	A
C	190	648	1513	0.126	190	0.1	2.722	A
D	207	547	1706	0.121	207	0.1	2.452	A

15:45 - 16:00

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	619	229	1716	0.361	619	0.6	3.377	A
B	596	302	1909	0.312	596	0.5	2.814	A
C	190	648	1512	0.126	190	0.1	2.722	A
D	207	547	1706	0.121	207	0.1	2.453	A

16:00 - 16:15

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	505	187	1737	0.291	506	0.4	3.011	A
B	486	247	1940	0.251	487	0.3	2.546	A
C	156	530	1575	0.099	156	0.1	2.537	A
D	169	447	1761	0.096	169	0.1	2.309	A

16:15 - 16:30

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	423	157	1753	0.241	423	0.3	2.788	A
B	407	206	1962	0.208	408	0.3	2.379	A
C	130	444	1621	0.080	130	0.1	2.416	A
D	142	374	1802	0.079	142	0.1	2.217	A

2036 Baseline + 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	3.00	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.00	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2036 Baseline + Dev	AM	ONE HOUR	07:00	08:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	379	100.000
B		✓	631	100.000
C		✓	250	100.000
D		✓	160	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	232	92	55
	B	525	0	29	77
	C	170	56	2	22
	D	47	64	49	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	10	1	2
	B	5	0	0	5
	C	0	0	0	0
	D	2	6	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.26	2.98	0.4	A
B	0.37	3.07	0.6	A
C	0.19	3.05	0.2	A
D	0.12	2.74	0.1	A

Main Results for each time segment

07:00 - 07:15

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	305	131	1767	0.173	304	0.2	2.629	A
B	497	150	1994	0.249	495	0.3	2.510	A
C	188	516	1583	0.119	188	0.1	2.580	A
D	124	584	1686	0.074	124	0.1	2.377	A

07:15 - 07:30

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	364	157	1753	0.208	364	0.3	2.768	A
B	593	180	1977	0.300	593	0.4	2.720	A
C	225	617	1529	0.147	225	0.2	2.759	A
D	148	699	1622	0.091	148	0.1	2.519	A

07:30 - 07:45

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	446	193	1735	0.257	446	0.4	2.984	A
B	727	220	1955	0.372	726	0.6	3.063	A
C	275	756	1455	0.189	275	0.2	3.049	A
D	182	856	1535	0.118	182	0.1	2.743	A

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	446	193	1735	0.257	446	0.4	2.984	A
B	727	220	1954	0.372	727	0.6	3.066	A
C	275	756	1455	0.189	275	0.2	3.050	A
D	182	857	1534	0.118	182	0.1	2.743	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	364	157	1753	0.208	364	0.3	2.772	A
B	593	180	1977	0.300	594	0.5	2.723	A
C	225	618	1528	0.147	225	0.2	2.761	A
D	148	700	1621	0.092	148	0.1	2.520	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	305	132	1766	0.173	305	0.2	2.634	A
B	497	151	1994	0.249	497	0.3	2.516	A
C	188	518	1582	0.119	188	0.1	2.585	A
D	124	586	1684	0.074	124	0.1	2.379	A

2036 Baseline + 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	3.03	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.03	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2036 Baseline + Dev	PM	ONE HOUR	15:00	16:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	569	100.000
B		✓	547	100.000
C		✓	173	100.000
D		✓	184	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	355	127	87
	B	352	1	39	155
	C	87	63	3	20
	D	46	81	57	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	5	0	0
	B	3	0	0	2
	C	0	0	0	0
	D	2	4	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.38	3.45	0.6	A
B	0.32	2.86	0.5	A
C	0.13	2.75	0.1	A
D	0.12	2.47	0.1	A

Main Results for each time segment

15:00 - 15:15

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	440	156	1754	0.251	439	0.3	2.813	A
B	422	206	1963	0.215	421	0.3	2.394	A
C	130	457	1614	0.081	130	0.1	2.425	A
D	142	388	1794	0.079	141	0.1	2.225	A

15:15 - 15:30

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	526	187	1738	0.303	526	0.4	3.053	A
B	504	246	1940	0.260	504	0.4	2.571	A
C	156	547	1566	0.099	155	0.1	2.551	A
D	169	464	1752	0.096	169	0.1	2.323	A

15:30 - 15:45

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	644	229	1716	0.375	643	0.6	3.450	A
B	618	301	1909	0.324	617	0.5	2.856	A
C	190	670	1501	0.127	190	0.1	2.746	A
D	207	569	1694	0.122	207	0.1	2.473	A

15:45 - 16:00

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	644	229	1716	0.375	644	0.6	3.453	A
B	618	302	1909	0.324	618	0.5	2.859	A
C	190	671	1501	0.127	190	0.1	2.747	A
D	207	569	1694	0.122	207	0.1	2.473	A

16:00 - 16:15

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	526	187	1737	0.303	527	0.4	3.057	A
B	504	247	1940	0.260	505	0.4	2.575	A
C	156	548	1566	0.099	156	0.1	2.552	A
D	169	465	1751	0.097	169	0.1	2.324	A

16:15 - 16:30

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	440	157	1753	0.251	441	0.3	2.820	A
B	422	206	1962	0.215	423	0.3	2.400	A
C	130	459	1613	0.081	130	0.1	2.429	A
D	142	390	1793	0.079	142	0.1	2.228	A

2036 Baseline + Dev + E of SA, 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	3.04	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.04	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2036 Baseline + Dev + E of SA	AM	ONE HOUR	07:00	08:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	379	100.000
B		✓	654	100.000
C		✓	254	100.000
D		✓	166	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	232	92	55
	B	525	0	40	89
	C	170	60	2	22
	D	47	70	49	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	10	1	2
	B	5	0	0	4
	C	0	0	0	0
	D	2	6	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.26	3.00	0.4	A
B	0.38	3.13	0.7	A
C	0.19	3.08	0.2	A
D	0.12	2.76	0.1	A

Main Results for each time segment

07:00 - 07:15

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	305	139	1763	0.173	304	0.2	2.636	A
B	514	150	1994	0.258	513	0.4	2.536	A
C	191	525	1578	0.121	191	0.1	2.593	A
D	129	587	1684	0.076	128	0.1	2.384	A

07:15 - 07:30

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	364	166	1748	0.208	364	0.3	2.778	A
B	614	180	1977	0.311	614	0.5	2.757	A
C	228	628	1523	0.150	228	0.2	2.779	A
D	154	703	1620	0.095	154	0.1	2.528	A

07:30 - 07:45

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	446	204	1729	0.258	446	0.4	2.997	A
B	752	220	1955	0.385	751	0.6	3.123	A
C	280	769	1448	0.193	279	0.2	3.079	A
D	188	860	1532	0.123	188	0.1	2.758	A

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	446	204	1729	0.258	446	0.4	2.998	A
B	752	220	1954	0.385	752	0.7	3.126	A
C	280	770	1448	0.193	280	0.2	3.080	A
D	188	861	1532	0.123	188	0.1	2.759	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	364	166	1748	0.208	364	0.3	2.782	A
B	614	180	1977	0.311	615	0.5	2.760	A
C	228	629	1523	0.150	229	0.2	2.781	A
D	154	704	1619	0.095	154	0.1	2.532	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	305	139	1762	0.173	305	0.2	2.641	A
B	514	151	1994	0.258	515	0.4	2.544	A
C	191	527	1577	0.121	191	0.1	2.597	A
D	129	589	1683	0.077	129	0.1	2.388	A

2036 Baseline + Dev + E of SA, 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	Cowbridge Road / B4265	Standard Roundabout		A, B, C, D	3.06	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.06	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2036 Baseline + Dev + E of SA	PM	ONE HOUR	15:00	16:30	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	569	100.000
B		✓	567	100.000
C		✓	183	100.000
D		✓	199	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	355	127	87
	B	352	1	47	167
	C	87	73	3	20
	D	46	96	57	0

Vehicle Mix

Heavy Vehicle %

		To			
		A	B	C	D
From	A	0	5	0	0
	B	3	0	0	2
	C	0	0	0	0
	D	2	3	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
A	0.38	3.50	0.6	A
B	0.34	2.91	0.5	A
C	0.13	2.79	0.2	A
D	0.13	2.51	0.2	A

Main Results for each time segment

15:00 - 15:15

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	440	175	1744	0.253	439	0.3	2.834	A
B	437	206	1963	0.223	436	0.3	2.416	A
C	138	466	1609	0.086	137	0.1	2.446	A
D	153	396	1790	0.085	152	0.1	2.242	A

15:15 - 15:30

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	526	209	1726	0.305	525	0.4	3.083	A
B	522	246	1940	0.269	522	0.4	2.601	A
C	165	558	1560	0.105	164	0.1	2.578	A
D	182	473	1747	0.104	182	0.1	2.347	A

15:30 - 15:45

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	644	256	1701	0.379	643	0.6	3.497	A
B	640	301	1909	0.335	639	0.5	2.903	A
C	201	683	1494	0.135	201	0.2	2.784	A
D	224	580	1688	0.132	223	0.2	2.507	A

15:45 - 16:00

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	644	257	1701	0.379	644	0.6	3.500	A
B	640	302	1909	0.335	640	0.5	2.906	A
C	201	684	1494	0.135	201	0.2	2.785	A
D	224	580	1688	0.132	224	0.2	2.507	A

16:00 - 16:15

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	526	210	1726	0.305	527	0.5	3.090	A
B	522	247	1940	0.269	523	0.4	2.606	A
C	165	559	1560	0.105	165	0.1	2.579	A
D	182	474	1746	0.104	183	0.1	2.349	A

16:15 - 16:30

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	440	176	1744	0.253	441	0.3	2.843	A
B	437	206	1962	0.223	438	0.3	2.421	A
C	138	468	1608	0.086	138	0.1	2.449	A
D	153	397	1789	0.085	153	0.1	2.245	A

Appendix O Indicative Signal Controlled Junction Improvement at Gileston Crossroads



KEY

--	--

NOTES

1. Indicative drawing suitable for information only.
2. This drawing is not suitable for construction.
3. The content of this drawing is subject to detailed design considerations such as ground conditions, utilities, drainage and signage.
4. Drawing is based on aerial mapping data. @Getmapping 2024.
5. Extent of adopted highway has been assumed based on VoGC online mapping.
7. All land ownership and rights of way to be confirmed.
8. Assumes all landscaping can be altered and no trees are subject to TPO.
9. Please do not scale from this drawing.

REVISIONS (CONTINUED)

--	--	--	--	--	--

REVISIONS

Rev	Date	Description	By	App
PO3	11/12/24	Third Issue	DC	DC
PO2	12/12/22	Second Issue	DC	DC
PO1	22/11/22	First Issue	DC	DC

Apex
TRANSPORT PLANNING

11-13 PENHILL ROAD
CARDIFF
CF11 9PQ
t: 02920 619 361
e: info@apexp.co.uk

CLIENT
HALLAM LAND MANAGEMENT LTD

PROJECT
LAND AT ST ATHAN

TITLE
**INDICATIVE GILESTON ROAD / B4265
SIGNAL JUNCTION IMPROVEMENT**

PROJECT NO. C22-133	SCALE @ A3 1:500
STATUS DESCRIPTION INFORMATION	
DRAWING NO. C22133-ATP-DR-TP-004	

STATUS
S2