Traffic and Transport Assessment

Proposed Large-scale Residential Development at Rathmullan, Drogheda, Co. Meath

September 2025

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Client Name: Earlsfort Developments Drogheda Limited
Document Reference: 18-014r.406
Project Number: 18-014

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015 and BS EN ISO 14001: 2015)

Issue	Date	Prepared by	Checked by	Approved by
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Comments

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Contents

Figures

Tables

Appendices

1. Introduction

1.1 Context

Waterman Moylan Consulting Engineers have been appointed by Earlsfort Developments Drogheda Limited to prepare this Traffic and Transport Assessment for a residential development located in Rathmullan, Drogheda, Co. Meath.

The proposed scheme consists of (i) demolition/removal of all existing farm buildings/structures and associated hard standing on site; (ii) construction of a large-scale residential development (LRD) of 249 no. units comprising 170 no. two-storey houses (including 37 no. two-bedroom houses, 111 no. three-bedroom houses and 22 no. four-bedroom houses), 16 no. three-storey duplex buildings (accommodating 16 no. one-bedroom and 16 no. two-bedroom units) and a mix of 8 no. three-storey and 3 no. four-storey apartments blocks accommodating a total of 22 no. one-bedroom and 25 no. two-bedroom apartments); (iii) construction of a new vehicular entrance and access road off Rathmullan Road with associated junction works and associated internal access road network with pedestrian and cyclist infrastructure; (iv) provision of a three-storey creche facility (411sq.m) with external play areas at ground and second floor levels and vehicular/bicycle parking area; and, (v) all ancillary site and infrastructural works, inclusive of removal of existing vehicular entrances, general landscaping and public open space provision, vehicular parking provision (396 no. spaces in total), bicycle parking, boundary treatments, foul/surface water drainage, attenuation areas, provision of a pumping station and provision of an ESB substation, as necessary to facilitate the proposed development. Each house will be served by vehicular parking to the front and private amenity space in the form of a rear garden. Each duplex building will be served by vehicular parking to the front and private amenity space in the form of balcony/terrace spaces to the rear. Each apartment block will have shared access to adjoining car parking bays with communal amenity space and bicycle/bin stores provided to the rear and each apartment will be provided with private amenity space in the form of a balcony or terrace. The development includes provision of a landscaped area of public open space to the north of the site, with 2 no. pedestrian/cyclist connections (via the northern/eastern site boundaries) to Rathmullan Road which will be subsequently ceded to Meath County Council. The application is accompanied by a Natura Impact Statement (NIS) and an Environmental Impact Assessment Report (EIAR).

The detailed breakdown of the proposed residential scheme is as follows:

Unit Type	1-Bed	2-Bed	3-Bed	4-Bed	Sqm	Total
Houses		37	111	22		**170**
Apartments	22	25				**47**
Duplexes	16	16				**32**
Crèche					411	
TOTAL	**38**	**78**	**111**	**22**	**411**	**249 units**

Table 1 | *Schedule of Accommodation*

1.2 Scope

This Traffic and Transport Assessment is a comprehensive review of all the potential transport impacts of the overall development, including a detailed assessment of the transportation systems provided and the impact of the proposed development on the surrounding road network.

1.3 Background

In 2019, a planning application was submitted directly to An Bord Pleanála (Reg. Ref. No. SH305552), which received a grant of planning permission in March 2020. The following, extracted from Meath County Council's website, summarises the permitted development.

> *"(...) construction of 661 no. residential dwellings and a neighbourhood centre adjacent to the site's eastern boundary (…) a 4-arm signalised junction and works to Rathmullan Road, including the widening of the existing carriageway to 6 metres and the provision of a 2 metre wide footpath linking the proposed development to the Boyne River Boardwalk; (...) The 661 no. residential dwellings consist of the following: • 509 no. double storey semi-detached and terraced houses comprising 158 no. 2-bed houses, 269 no. 3-bed houses and 82 no. 4-bed houses; and • 152 no. apartments (...), comprising 13 no. 1-bed apartments and 139 no. 2-bed apartments. A total of 1,366 no. car parking spaces are proposed (…). A total of 188 no. bicycle parking spaces are proposed (…)".*

This permission was later quashed by the High Court in the judgment of McDonald J. in *Highland Residents v. An Bord Pleanála* [2020] IEHC 622 on 2nd December 2020.

On 11th May 2023 a new planning application was submitted under Reg. Ref. No. 23500 the following the proposed works:

> *"(…) construction of a residential development comprising 85 no. houses (6 no. two-bedroom houses, 53 no. three-bedroom houses and 26 no. four-bedroom houses) and 2 no. three-storey apartment blocks (Blocks G & H) comprising 6 no. apartments (2 no. one-bedroom apartments and 4 no. two-bedroom apartments) (…) construction of a new vehicular access road off Rathmullan Road with associated junction works and associated internal access road network with pedestrian and cyclist infrastructure(...)"*

On 23rd May 2023 a further planning application was submitted under Reg. Ref. No. 23542 for the following proposed works:

> *"(…) demolition/removal of all existing farm buildings/structures (315sq.m) on site (ii) construction of a residential development comprising 80 no. houses (12 no. two-bedroom houses, 55 no. three-bedroom houses and 13 no. four-bedroom houses) and 2 no. three -storey apartment blocks comprising 8 no. apartments (4 no. one-bedroom apartments and 4 no. two-bedroom apartments); (iii) construction of a new vehicular access road off Rathmullan Road, with associated junction works, and associated internal access road network with pedestrian and cyclist infrastructure(…)".*

Both planning applications Reg. Ref. nos. 23500 and 23542 were subsequently withdrawn on 26th January 2024.

1.4 Standards

This Traffic and Transport Assessment has been prepared in accordance with best practice and in accordance with the MOV OBJ 13 of the *Consolidated Meath County Development Plan 2021-2027 (incl.*

Variations 1, 2 & 3), Section 11.2.1 (Pre-Application Discussion), which defines the threshold for major developments.

Furthermore, this document is in accordance with the Traffic and Transport Assessment Guidelines published by Transport for Ireland (TII) / National Roads Authority (NRA) in May 2014.

1.5 Threshold for Transport Assessment

Section 2.1 of the TII *Traffic and Transport Assessment Guidelines (May 2014)* requires submission of a Transport Assessment where a proposed development meets one or more of the following criteria:

1- Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.

2- Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive.

3- Residential development in excess of 200 dwellings.

4- Retail and leisure development in excess of 1,000sqm.

5- Office, education and hospital development in excess of 2,500sqm.

6- Industrial development in excess of 5,000sqm.

7- Distribution and warehousing in excess of 10,000sqm.

Considering the number of units of the subject development, threshold no. 3 is met.

In addition, the site is assessed following Section 11.2.1 of the *Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3).* The thresholds set out in Section 11.2.1 are the following:

1- Traffic to and from the proposed development exceeds 10% of the traffic flow on the adjoining road.

2- Traffic to and from the proposed development exceeds 5% of the traffic flow on the adjoining road where congestion exists.

3- Residential development in excess of 100 dwellings (Applications for 100 or more dwellings are decided by An Bord Pleanála as an SHD).

4- Retail and leisure development in excess of 1,000 sq.m.

5- Industrial development in excess of 5,000 sq.m,

6- Distribution and warehousing in excess of 10,000 sq.m..

Considering the number of units of the subject development, threshold no. 3 is met.

1.6 Site Location

The site is located on Rathmullan Road in Drogheda, Co. Meath. It is situated approximately 2.5km west of Drogheda town centre - as illustrated in Figure 1 below. The overall site is bound to the south and west by agricultural land. Further to the west is located the M1 Motorway. To the north-east the site is bounded by existing residential development, consisting of two-storey terraced houses and three-storey duplexes. The site is bound to the north by Rathmullan Road and the Boyne River.

The total area is divided into two sections, in accordance with the Land Use Zoning Objectives of the *Consolidated Meath County Development Plan 2021-2027 (including Variations 1, 2 & 3),* the northern area

is designated **F1 – Open Spaces**, while the southern area is designated **A2 - New Residential**. Further information can be found in **Section 3.1** below.

The figure below shows the overall development including open spaces in yellow and the residential area in red.

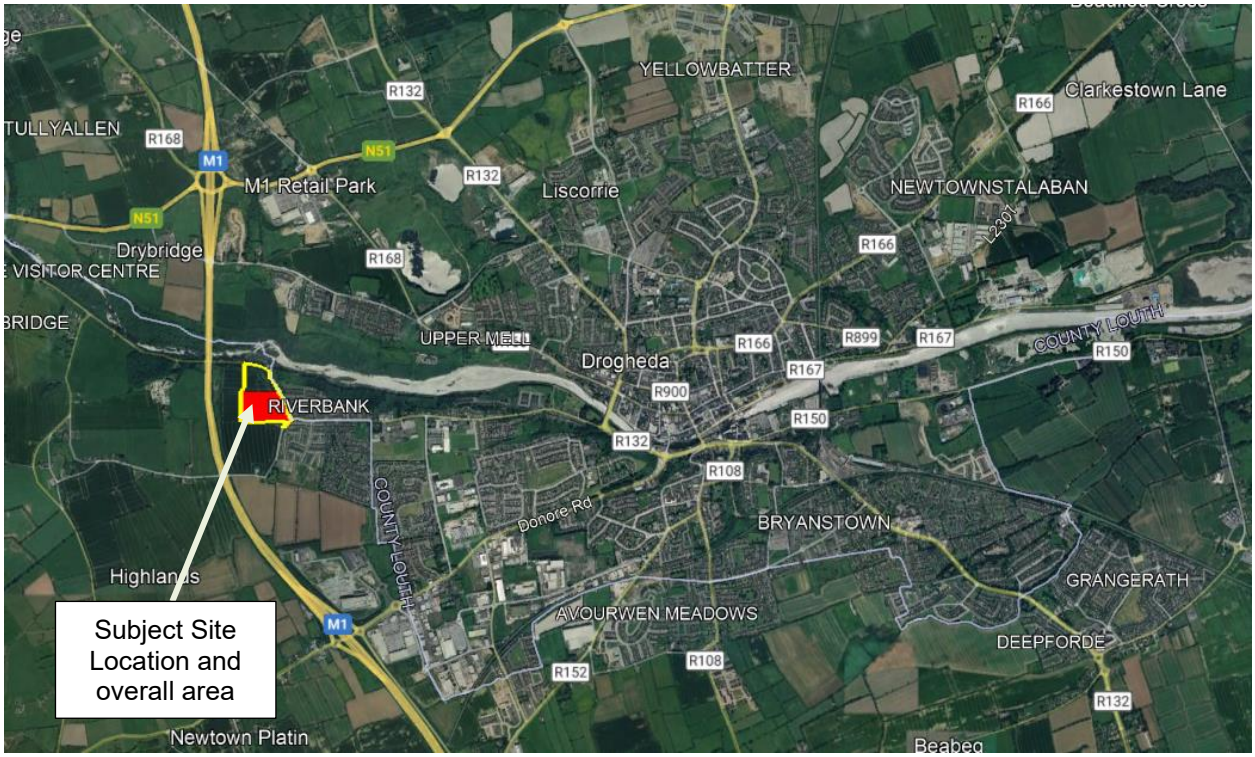


Figure 1 | *Site Location*
(Source: Google Earth)

1.7 Programme

Based on the existing programme, construction will be completed in one phase, provisionally planned to commence in 2026, with a 24-month construction programme.

Note: The assessment years may lag pending approval of the planning application and may differ from the programme.

1.8 Assessment Years

The years that have been assessed as part of this Traffic and Transport Assessment are the following:

- Baseline Year 2025
- Opening Year (With / Without Development) 2028
- Opening Year + 5 Years Forecast (With / Without Development) 2033
- Opening Year + 15 Years Forecast (With / Without Development) 2043

These assessment years are in line with the 'Transport Assessment Guidelines (May 2014)'. Details of each assessment year is presented later in this report.

1.9 Documents Consulted

The following documents were consulted during the preparation of this Traffic and Transport Assessment:

- Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3) https://consult.meath.ie/en/consultation/consolidated-meath-county-development-plan-2021-2027-incl-variations-1-2
- Consolidated Louth County Development Plan 2021-2027 (incl. Variations 1 & 2) https://www.louthcoco.ie/en/publications/development-plans/
- Construction of a Shared Cycleway/Footway on the Rathmullan Road, Co Meath https://consult.meath.ie/en/consultation/construction-shared-cyclewayfootway-rathmullan-road-co-meath
- Cycle Design Manual https://www.nationaltransport.ie/wp-content/uploads/2023/08/Cycle-Design-Manual_Sept.-2023_Low-Res.pdf
- Eastern and Midland Regional Spatial and Economic Strategy 2019-2031 https://emra.ie/dubh/wp-content/uploads/2020/05/EMRA_RSES_1.4.5web.pdf
- Implementation Roadmap for the National Planning Framework https://npf-cdn-prod.s3.eu-west-1.amazonaws.com/wp-content/uploads/20240502101327/NPF-Implementation-Roadmap.pdf
- National Planning Framework – Project Ireland 2040 www.gov.ie/pdf/?file=https://assets.gov.ie/246231/39baaa8c-48dc-4f24-83bd-84bbcf8ff328.pdf#page=null
- Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections. PE-PAG-02017 https://www.tiipublications.ie/library/PE-PAG-02017-03.pdf
- Smarter Travel: A Sustainable Transport Future www.gov.ie/pdf/?file=https://assets.gov.ie/19854/37d829c9748446349ff586045bfbcaba.pdf#page=null
- Spatial Planning and National Roads: Guidelines for Planning Authorities https://www.gov.ie/pdf/?file=https://assets.gov.ie/111220/ef2d43a4-d3a0-418a-b0ba-03340e6d083a.pdf#page=null
- Sustainable Residential Development and Compact Settlements: Guidelines for Planning Authorities. www.gov.ie/pdf/?file=https://assets.gov.ie/280882/af1b1694-6ff4-4a14-b2c6-f104347ffb53.pdf#page=null
- Sustainable Urban Housing: Design Standards for New Apartments. www.gov.ie/pdf/?file=https://assets.gov.ie/243715/d60aaacd-0b2b-4422-ab91-d511a4720132.pdf#page=null
- Planning Application Reg. Ref. No. 211669. Traffic Assessment Report. Phased Residential Development at Rathmullan, Drogheda. Co. Meath. NRB Consulting Engineer. May 2021. https://www.eplanning.ie/MeathCC/AppFileRefDetails/211669/0
- Planning Application Reg. Ref. No. 211757. Traffic Assessment Report. Phased Residential Development at Rathmullan, Drogheda. Co. Meath. NRB Consulting Engineer. May 2021 https://www.eplanning.ie/MeathCC/AppFileRefDetails/211757/0

1.10 Study Methodology

The study area for this report is the transport network and junctions immediately surrounding the site which will be affected as part of the proposed development. The junctions chosen for assessment are outlined in **Section 3.4** below and were chosen based on professional judgement and observed vehicle behaviour within the local road network.

- In line with best practice, the following methodology has been adopted for this assessment:

- A review of relevant available information was undertaken, as detailed in **Section 1.9** above. This includes the Meath County Development Plan 2021–2027 and Louth Country Development Plan 2021-2027, existing traffic information, traffic and transport assessments submitted with planning applications for committed and potential future developments, as well as other pertinent studies.
- An initial desktop study was conducted of the area surrounding the development site, identifying the existing transport links and road junctions with the potential to be affected by the proposed development"
- A site visit was subsequently made to confirm the existing characteristics and conditions of the key junctions / roads detailed in **Section 3.3** below.
- Consultations with Meath County Council through the pre-application meetings, to agree on the site access arrangements and to determine the scope of the traffic analysis required to accompany the planning application.
- The Traffic section of this "Traffic Transport Assessment" is prepared with the following detail:
  - Obtain data on existing traffic flow conditions.
  - Determine trips to be generated by the Proposed Development and the committed and potential future developments in the surrounding area.
  - Determinate trip distribution for each development.
  - Assess the percentage impact of traffic generated by the site in relation to existing traffic flows at local junctions. Determine if this exceeds 5% at congested junctions or 10% at non-congested junctions.
  - Model the junctions with a high impact, based on the thresholds indicated above.
  - Identify, if necessary, mitigation measures.

1.11 Contents of the Transport Assessment

In accordance with Section 3.3 of the *Traffic and Transport Assessment Guidelines (May 2014)*, the contents of this Traffic and Transport Assessment include:

- **Policy Framework:** Latest Development Plans to guide the delivery and management of a package of integrated initiatives which ultimately seek to encourage sustainable travel practices of all residents and visitors travelling to/from the proposed development.
- **Site Assessment:** A description of the proposed development, description of the existing and proposed traffic/transportation conditions including information on the current traffic, critical junctions, pedestrians, cycle, and public transport facilities.
- **Transport Improvements:** Description of proposed transportation improvements to local roads, junctions, public transport, cycle, and pedestrian facilities.
- **Transportation Infrastructure:** Assessment of all potential impacts on transport infrastructure (road, cycling, walking, public transport), based on construction proposals and demand forecasts. The development impact upon any committed transport schemes should also be appraised. Design details should be incorporated where a proposal may have a direct impact upon transport infrastructure.

- **Trip Assignments and Distribution:** The traffic and transportation implications of the development including consideration of trip generation/attraction, mode choice and trip distribution; as well as an analysis of under construction, permitted and future developments in the area.
- **Cumulative Impact:** The impact of the development on the surrounding road network including analysis of junction's capacity.
- **Parking Strategy:** Description of car and cycle parking requirements and provisions.

2. Policy Framework

2.1 National Policies and Strategies

2.1.1 National Planning Framework

The National Planning Framework (NPF) was published in 2018. It is the Government's strategic plan for shaping future growth and development in the country. To deliver the NPF vision and the ten National Strategic Outcomes, it is critical to integrate land use and transport planning and promote sustainable transport.

Over a period of 20 years, the National Planning Framework (NPF) provides a central planning policy strategy that guides future development and investment decisions and informs regional strategies and county development plans. The NPF adopts a strategic approach that promotes sustainable land use and transport strategies in both urban and rural areas. The aim of this approach is to reduce emissions, address the necessity of adapting to climate change, and protect the environment and its amenities.

The NPF aims to alleviate the environmental pressure caused by urban sprawl and its negative impact on key infrastructures and facilities. It encourages the development of compact, higher density infill and brownfield sites that are well-served by existing facilities, amenities, and public transport services.

Facilitating smart and sustainable growth within existing settlements can improve the liveability of urban areas. The physical format of urban development affects the public realm, traffic and parking, access to amenities, and public transport.

2.1.2 Spatial Planning and National Roads: Guidelines for Planning Authorities

Spatial Planning and National Roads: Guidelines for Planning Authorities set out planning policy considerations relating to development affecting national primary and secondary roads, including motorways and associated junctions, outside the 50-60 km/h speed limit zones for cities, towns, and villages.

The guidelines aim to facilitate a well-informed, integrated, and consistent approach that affords maximum support within the goal of achieving and maintaining a safe network of national roads in the broader context of sustainable development strategies, thereby facilitating continued economic growth and development throughout the country.

The following Key Principles have informed these guidelines:

- Land-use and transportation policies are highly interdependent.
- Proper planning is central to ensuring road safety.
- Development should be plan-led.
- Development Management is the key to Plan Implementation.
- Planning Authorities and National Roads Authority and other public transport bodies must work closely together.

2.1.3 Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)

The Guidelines set out policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements. They are accompanied by a companion non-statutory Design Manual that illustrates best practice examples of how the policies and objectives of the Guidelines can be applied.

These Guidelines replaced the Sustainable Residential Development in Urban Areas Guidelines for Planning Authorities under Section 28 of the Planning and Development Act 2000, in 2024, which in turn had previously replaced the Residential Density Guidelines in 2009.

The 2024 Guidelines build on and update previous guidance to take account of current Government policy and economic, social, and environmental considerations. There is a renewed focus in the Guidelines on the renewal of existing settlements and on the interaction between residential density, housing standards and quality urban design and placemaking to support sustainable and compact growth.

The policies and objectives set out in the Guidelines are intended as a tool to guide the appropriate scale of development at different locations, rather than as a prescriptive methodology. Flexibility is offered so that planning authorities can operate a plan led approach and take the circumstances of a plan area or a site into account as part of the decision-making process.

2.1.4 Smarter Travel

The Smarter Travel Policy, published in February 2009, outlined the Governments vision for achieving a sustainable transport system for Ireland by 2020. Smarter Travel is currently outside its target period; however, it is a good reference for developments seeking to improve transport options. The document outlines a number of key policies to encourage a modal shift away from private car use and promote alternative travel modes such as public transport, walking and cycling.

Smarter Travel is a government policy which seeks to reduce the share of travel demand which is car dependant thus reducing reliance on fossils fuels and maximising the efficiency of the transport network. Its main objective is to promote a significant modal shift from private transport to public transport and sustainable transport modes. The policy sets out a target of 55% mode share for walking, cycling and public transport which it aims to achieve through several actions themed around the following:

- Encouraging Smarter Travel.
- Delivering Alternative Ways of Travelling.
- Improving the Efficiency of Motorised Transport.
- Ensuring Integrated Delivery of the Policy.

Aligning spatial planning and transport to address urban sprawl and urban-generated one-off housing in peri-urban areas is identified as a key area to encourage smarter travel. Specifically, the policy advocates for strong public transport connections, alongside safe walking and cycle routes. It also supports the use of local area plans and Strategic Development Zones (SDZs) within major urban areas as a way of improving the land use-transport integration.

2.1.5 Cycle Design Manual (2023)

The Cycle Design Manual (CDM) has been prepared by the National Transport Authority (NTA) and overseen by the Department of Transport. It replaces the previous National Cycle Manual, published by the NTA in 2011, which is now withdrawn.

The CDM draws on the experience of delivering cycling infrastructure across Ireland over the last decade, as well as learning from international best practice, and has been guided by the need to deliver safe cycle facilities for people of all ages and abilities.

The new manual places more emphasis on the range of cyclists that cycle infrastructure will have to accommodate and the recommendations focus on segregating cyclists from traffic where speeds and volumes make roads unsuitable for sharing. There is also a general presumption towards segregating pedestrians and cyclists where possible.

The CDM includes a number of new types of infrastructure such as protected junctions, Dutch style cycle-friendly roundabouts, and parallel crossings which are commonly used in other countries and will now become an option for cycle infrastructure in Ireland. It should be noted that some newer features will require amendments to supporting Regulations and the Traffic Sign Manual so designers should consult with the relevant approving authority prior to installing any of the newer features to ensure applicability of designs/solutions.

It is intended that this manual will be a live document which will be updated and expanded as required to reflect emerging best practice and feedback from user experience of the manual. For this reason, the latest version of the guidance should always be accessed through the NTA website.

2.1.6 Design Manual for Urban Roads & Streets (DMURS)

The Design Manual for Urban Roads and Streets (DMURS) is Ireland's national guidance document for designing urban roads and streets. Developed by a multidisciplinary team and launched in 2013, DMURS aims to shift the focus from car-centric infrastructure to streets that prioritize people, place-making, and sustainable transport. It is mandatory for all road authorities in Ireland when designing or upgrading urban roads.

DMURS promotes streets as vibrant public spaces that support walking, cycling, and public transport, contributing to healthier lifestyles and reduced emissions. It encourages collaborative design among planners, engineers, architects, and other professionals to create safe, attractive, and inclusive environments for all users.

DMURS is structured into five main chapters, each addressing a key aspect of urban street design. According to the official publication

Introduction: Sets the context for DMURS, emphasizing a shift in design philosophy. It outlines the policy background and the manual's application across urban areas.

Re-examining the Street: Discusses the need for change in street design, highlighting the negative impacts of car dominance and advocating for a balanced approach that considers both movement and place. It introduces user priorities and the concept of streets as social spaces 2.

Street Networks: Focuses on creating integrated, permeable, and legible street networks. It covers movement functions, place contexts, block sizes, retrofitting, and traffic management strategies including congestion, bus services, and pollution control.

Street Design: Provides detailed guidance on designing individual streets. Topics include speed management, streetscape elements (trees, signage, furniture), pedestrian and cyclist infrastructure, and carriageway conditions. It also addresses historic contexts and materials selection 2.

Design Process provides a structured approach for implementing the principles and standards outlined in the previous chapters. This chapter is essential for ensuring that street design is not only technically sound but also context-sensitive and inclusive.

2.2 Regional Policies and Strategies

2.2.1 Eastern and Midland Regional Spatial and Economic Strategy (RSES) 2019-2031

The elected members of the Eastern and Midland Regional Assembly (EMRA) agreed to make the Regional Spatial and Economic Strategy (RSES) 2019-2031, on June 28th, 2019.

The RSES is a strategic plan which identifies regional assets, opportunities and pressures and provides appropriate policy responses in the form of Regional Policy Objectives. At this strategic level it provides a framework for investment to better manage spatial planning and economic development to sustainably grow the Region to 2031 and beyond. The RSES provides a:

- **Spatial Strategy**: to manage future growth and ensure the creation of healthy and attractive places to live, work, study, visit and invest in.
- **Economic Strategy**: that builds on our strengths to sustain a strong economy and support the creation of quality jobs that ensure a good living standard for all.
- **Metropolitan Plan**: to ensure a supply of strategic development areas for the sustainable growth and continued success and competitiveness of the Dublin Metropolitan Area.
- **Investment Framework**: to prioritise the delivery of key enabling infrastructure and services by government and state agencies.
- **Climate Action Strategy**: to accelerate climate action, ensure a clean and healthy environment and to promote sustainable transport and strategic green infrastructure.

The principal statutory purpose of the RSES is to support the implementation of Project Ireland 2040 – National Planning Framework and National Development Plan 2019-2027 and the economic policies of the Government by providing a long-term strategic planning and economic framework for the development of the Regions.

The RSES will be implemented by way of a review by local authorities of all development plans and Local Economic and Community Plans (LECPs). Key state agencies and sectoral bodies will also consider their strategies and investment plans, post adoption of RSES to support the achievement of National and Regional Strategic Outcomes set out in the NPF and RSES.

2.2.2 Louth Country Development Plan 2021-2027

Given the close proximity of the proposed site to County Louth, a review of the Louth County Development Plan 2021–2027 (incl. Variations 1 & 2) has been undertaken

The Louth County Development Plan 2021-2027 (incl. Variations 1 & 2) sets out the Council's overall strategy for the proper planning and sustainable development of County Louth in accordance with the

Planning and Development Act 2000 (as amended). It is a blueprint for development in County Louth and is the over-arching strategic framework for sustainable development in spatial, economic, social, and environmental terms.

The Development Plan offers clear guidance on sustainable development policies and objectives over a range of issues including, but not limited to; settlement, sustainable communities, movement and transport, heritage and climate action.

In relation to the subject development site and the proposed residential scheme some pertinent policies include:

(1) Strategic Objectives

Strategic Objective SO1, set out in Section 1.6.1 of the Plan, is to "*Realise the potential and promote the development and growth of County Louth through harnessing the economic and employment potential of the competitive advantages of the County. This includes its strategic location, connectivity and accessibility to external markets and having regard in particular to the role of Drogheda and Dundalk as Regional Growth Centres located on the Dublin-Belfast Economic Corridor.*"

Strategic Objective S15 is to "*Ensure the proper integration of transportation and land use planning through the increased use of sustainable transport modes and the minimisation of travel demand to achieve a sustainable, integrated and low carbon transport system with excellent connectivity both within and beyond the County.*"

(2) Movement Policy Objectives

Policy Objective MOV4, set out in Section 7.5.1 of the Plan, is "*To promote sustainable higher density development along public transport corridors.*"

Policy Objective MOV7 is "*to support a modal shift away from the private car to more sustainable forms of transport, such as public transport, cycling and walking and the attainment of any national targets relating to modal change published during the life of this Plan*".

Policy Objective MOV8 is "*to set modal share targets in each new Local Area Plan in cooperation with the NTA, CARO, EMRA and other relevant stakeholders in accordance with any relevant Guidelines or targets published during the life of this Plan*".

Policy Objective MOV9 is "*to support investment in sustainable transport infrastructure that will make walking, cycling or public transport more attractive and appealing, and facilitates accessibility for all, regardless of age, physical mobility, or social disadvantage*".

Policy Objective MOV14 is "*to encourage a modal shift from use of the private car towards more sustainable modes of transport including walking, cycling, and public transport*".

Policy Objective MOV25 is "*to support the retrospective provision of walking and cycling infrastructure in existing settlements, where feasible, to achieve growth in sustainable mobility and strengthen and improve the walking and cycling network*".

Policy Objective MOV26 is "*to improve pedestrian and cycle connectivity to schools, third level colleges, major employment areas, bus and rail stations, and other public transport hubs*".

Policy Objective MOV27 is "*to review the feasibility and implementation (where deemed necessary) of the 30km/h zones in Drogheda and Dundalk in creating attractive, low speed environments*".

Policy Objective MOV28 is "*to promote walking and cycling as a safe, convenient, healthy, efficient, and environmentally friendly mode of transport for all age groups*".

Policy Objective MOV30 is "*to provide, where possible traffic free pedestrian and cyclist routes particularly where such routes would provide a more direct, safer, and more attractive alternative to the car*".

Policy Objective MOV47 is "*to require the preparation of Transport and Traffic Assessments for new developments in accordance with the requirements set out in the TII Traffic and Transport Assessment Guidelines*".

2.2.3 Meath County Development Plan 2021-2027

The Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3) outlines the policies, objectives, and overall strategy for the County's development during the plan period.

It includes a settlement hierarchy, distribution of future growth, population and household projections, and the amount of land to be zoned for residential and mixed-use purposes. Additionally, it provides an overview of the land zoned for employment use.

The council aims to promote sustainable modes of transport, such as walking, cycling, and public transport, to improve mobility within the County. Additionally, the council plans to free up road space to support economic growth and new development.

(1) Integration of Land Use and Transportation Planning

MOV POL 1: *To support and facilitate the integration of land use with transportation infrastructure, through the development of sustainable compact settlements which are well served by public transport, in line with the guiding principles outlined in RPO 8.1 of the EMRA RSES 2019-2031*

(2) Sustainable Transport

MOV OBJ 3: *To ensure that design for cycle infrastructure for all relevant developments shall be carried out in accordance with the Greater Dublin Area Cycle Network Plan, other relevant design standards or any successors to these documents.*

MOV POL 9: *To ensure that the design and planning of transport infrastructure and services accords with the principles of sustainable safety, in order that the widest spectrum of needs, including pedestrians, cyclists, the ageing population and those with mobility impairments are taken into account*.

MOV OBJ 12: *To identify deficits in bus infrastructure and develop a priority list as a basis to secure funding for improvement works, including the provision of bus shelters, bus stops and travel information at stops*.

MOV OBJ 13: *To require Mobility Management Plans and Traffic and Transport Assessments for proposed trip intensive developments, as appropriate*.

MOV POL 13: *To promote and support the provision of Park-and-Ride facilities which improve public transport accessibility without exacerbating road congestion at appropriate locations within the County. NTA funded Park & Ride Schemes will be carried in accordance with the recommendations of the Park & Ride Development Office of the NTA*.

MOV POL 14: *To support the NTA to extend bus routes to the M3 Parkway Train Station in order to deliver a strategic multi modal park and ride facility at this location*.

MOV OBJ 22: *To implement suitable charging structures for Park and Ride facilities to make it more likely that those who need the service (i.e. those outside walking distance and where alternative public transport options are not available), will obtain parking. In addition, implement where appropriate, suitable measures on local roads adjacent to Park and Ride facilities to discourage commuters from parking on such roads*.

MOV POL 16: *To support the provision of infrastructure for electrical vehicles and alternative fuel vehicles both on street and in new developments as such technologies advance to become viable transport options*.

MOV OBJ 25: *To facilitate the provision of electricity charging infrastructure for electric vehicles both on street and in new developments in accordance with car parking standards and best practice*.

MOV POL 17: *To identify and seek to implement a strategic, coherent, and high-quality cycle and walking network across the County that is integrated with public transport and interconnected with cultural, recreational, retail, educational and employment destinations, and attractions*.

MOV POL 19: *To support the NTA in the development of a strategic pedestrian network plan for the main urban centres of the County*.

MOV POL 20: *To encourage, where appropriate, the incorporation of safe and efficient cycleways, accessible footpaths, and pedestrian routes into the design schemes for town centres/neighbourhood centres, residential, educational, employment, recreational developments, and other uses*.

MOV POL 22: *To prioritise the safe movement of pedestrians and cyclists in proximity to public transport nodes*.

(3) Road Infrastructure

MOV OBJ 51: *To support the delivery of two new signalised junctions to facilitate access to Dunboyne North for all modes of transport from a high-quality regional road*.

MOV OBJ 52: *To continue to support the delivery of key strategic roads within Dunboyne to include an eastern distributor road to facilitate rail-focused development, new bus routes and reduce traffic levels in the town.*

Under Volume 2 of the Plan, a Dunboyne specific strategy has been put forward. Specific relevant objectives for the town outlined within this strategy include:

(4) Settlement and Housing

DCE OBJ 5: To prioritise the delivery of residential development on the residentially zoned lands adjacent to Dunboyne Rail Station and Dunboyne North.

(5) Movement

DCE OBJ 14: *To encourage and facilitate the provision of east – west connections across the railway on the lands zoned for new residential development.*

DCE OBJ 18: *To support the delivery, in conjunction with all relevant stakeholders, of a link road on the lands zoned for new residential development to the east and northeast of Dunboyne.*

DCE OBJ 22: *To support and facilitate the delivery of the transport infrastructure and measures set out in the Dunboyne and Environs Transportation Study.*

3. Receiving Environment

3.1 Land use

The Land Use Zoning Objectives website indicate that the subject site is located in two zones, designated as A2 - New Residential and F1 - Open Space.

Section 14 – Land Use Zoning Objectives of the *Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3)* sets out the objectives for both land uses:

- A2 zones. These zones are intended to provide for new residential communities with ancillary community facilities, neighbourhood facilities and employment uses as considered appropriate for the status of the centre in the Settlement Hierarchy. The permitted uses are: Residential / Sheltered Housing, B & B / Guest House, Bring Banks, Community Facility / Centre, Childcare Facility, Convenience Outlet, Children Play / Adventure Centre, Education (Primary or Second Level), Halting Site / Group Housing, Home Based Economic Activities, Leisure / Recreation / Sports Facilities, Retirement Home / Residential Institution / Retirement Village, Utilities.
- F1 Zones. These zones are intended to provide for and improve open spaces for active and passive recreational amenities. The permitted uses are: Car Park for Recreational Purposes, Craft Centre / Craft Shop, Community Facility / Centre, Cultural Facility, Cycleways / Greenways / Trail Development, Leisure / Recreation / Sports Facilities, Playing Pitches, Playgrounds, Utilities.

It is important to highlight that the lands to the East and South of the Subject Site are categorized as White Lands under the *Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3)*. The objective of this designation is:

> *To protect strategic lands from inappropriate forms of development which would impede the orderly expansion of a strategic urban centre.*

In addition, the Development Plan further outlines:

> *White Lands are located in Navan, South Drogheda, East Meath, Kilmessan, Enfield and Ratoath. These are strategic lands, and their designation is to allow for a long term, integrated approach to be the taken to the expansion of an urban area. It is not generally envisaged that development proposals will be brought forward during the life of this Development Plan for such lands. No indication is therefore generally offered regarding the suitability or otherwise of individual uses on said lands within this Development Plan. Should the Planning Authority be satisfied that a project proposed for lands with a white land designation would assist with the implementation of the Economic Strategy and education provision, these lands can be released for employment creating development during the plan period in accordance with the Economic Strategy. White Lands should only be released where it would lead to significant employment creation, education provision or which cannot reasonably be accommodated on other employment zoned land.*

The figure below shows the land use indicated in the Land Use Zoning Objectives website and the location of the Subject Development.

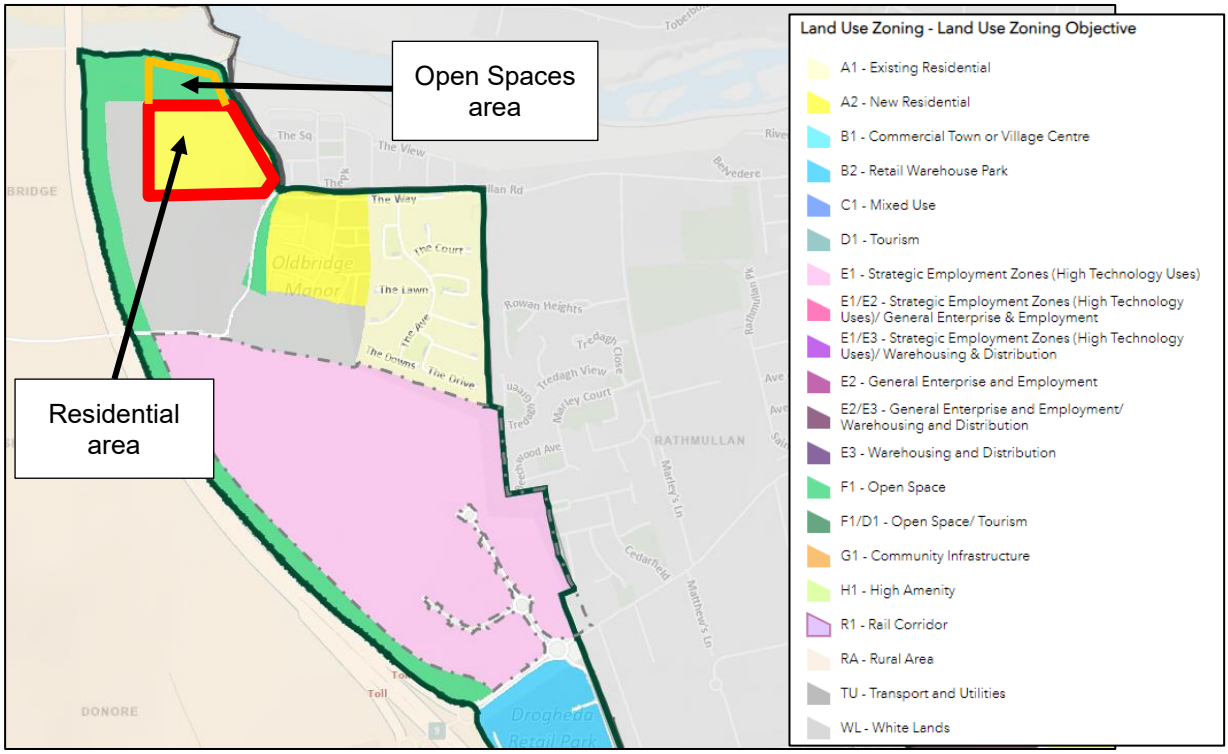


Figure 2 | *Land use*
(Source: Land Use Zoning Objectives website)

3.2 Site Location and Description

The site is located on Rathmullan Road in Drogheda, Co. Meath. It is situated approximately 2.5km west of Drogheda town centre.

The overall site is bounded to the south and west by agricultural land, as can be seen in **Figure 3** below. To the north-east the site is bounded by existing residential development, consisting of two-storey terraced houses and three-storey duplexes. The site is bounded to the north by Rathmullan Road and the Boyne River.

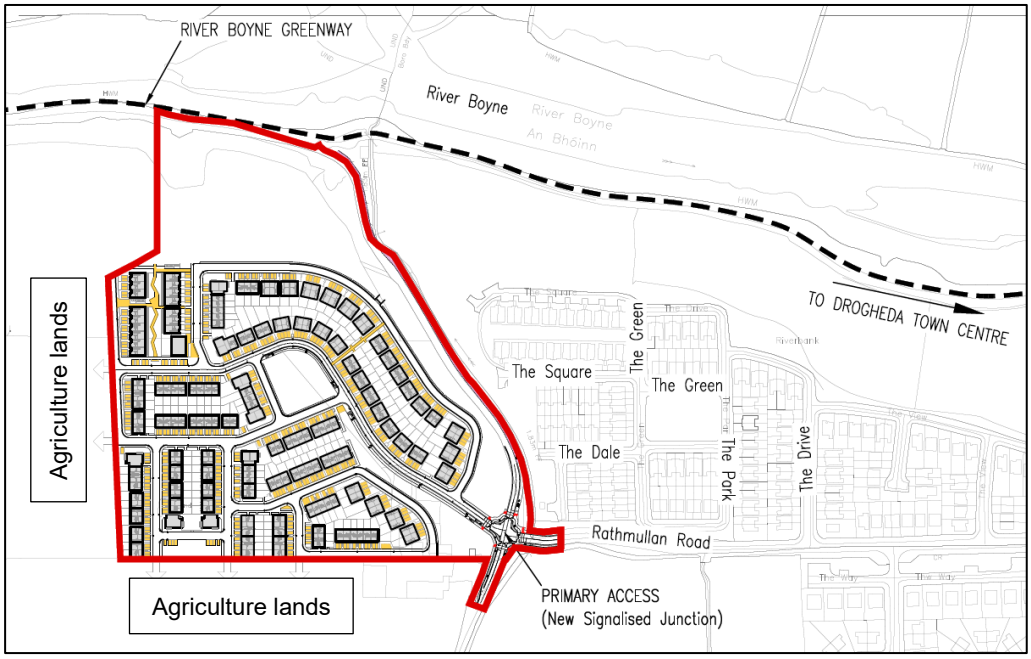


Figure 3 | *Site Location – Red Line and residential development*

The location of the site and its principal surroundings are shown in **Figure 4** below.

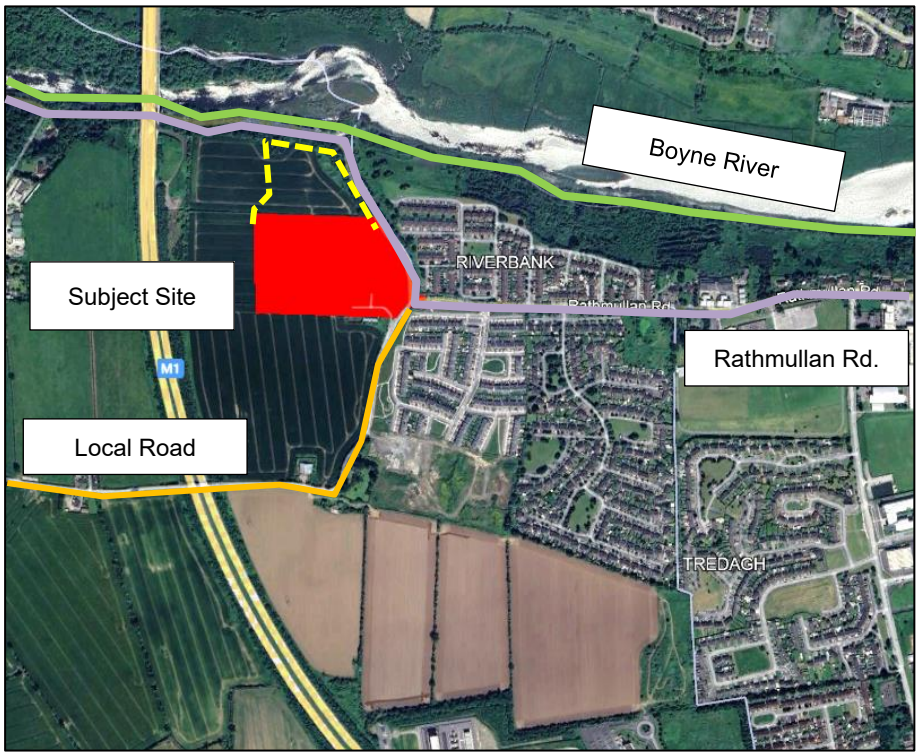


Figure 4 | *Site Location – Main roads and proposed residential area (shaded red)*

3.3 Existing Roads

The key roads in the surrounding area are shown in **Figure 5** and described below.

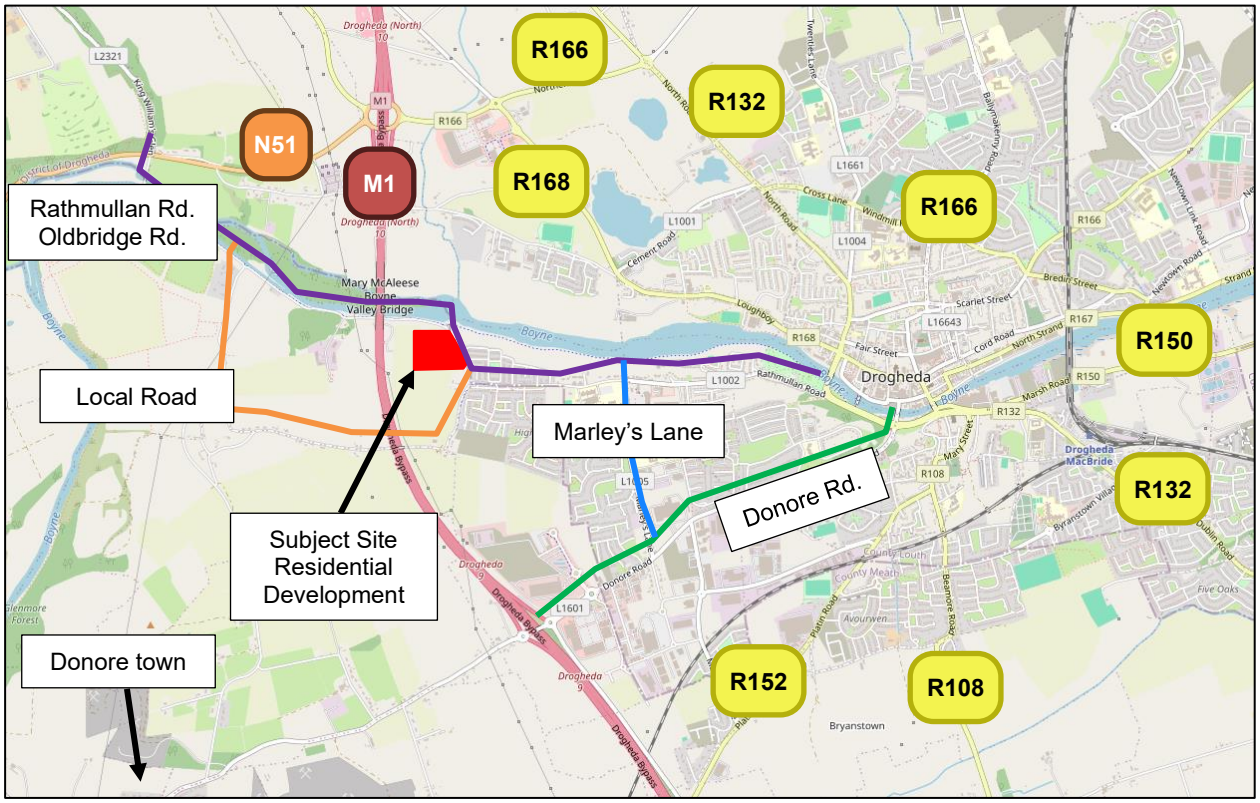


Figure 5 | *Existing Roads*
(Source: Open Street Map)

The main access to the site is via a proposed signalised crossroad located at the junction of Rathmullan Road and the Local Road. Both roads are subject to a speed limit of 50km/h.

From the site access road, travelling eastwards, Rathmullan Road runs for 2km, ending at a controlled priority T-junction with the R132. This junction provides access to the Bridge of Peace in Drogheda via the R132.

From the site access road in a northerly direction, the Rathmullan Road / Oldbridge Road forms the eastern boundary of the site. This road turns west and runs parallel to the Boyne River to the Obelisk Bridge.

From the junction between Rathmullan Road and the Local Road, in a southerly direction, the local road crosses the M1 motorway over a bridge and continues west, providing access to various rural properties, agricultural land and the town of Donore via local roads.

The Rathmullan Road, along the section between the site and the R132, generally has a width of 7.3m, with footways running along both sides for the majority of its length. The Rathmullan Road bounding the site to the north of the site access road is a rural road with a carriageway width of approximately 4m..

The Local Road is a rural road with a width of c.4m.

To the east of the site is located a signalised crossroad between Rathmullan Road and Marley's Lane. This junction is c.800m away from the site.

Marley's Lane runs north-south between Rathmullan Road and Donore Road. The junction between Marley's Lane and Donore Road is a signalised junction. Marley's Lane is subject to a speed limit of 50km/h. It has a width of 7.3m with a number of traffic islands acting as traffic calming and with footways on both sides.

The speed limit on Donore Road is 50 km/h. From Marley's Lane, Donore Road extends eastwards to the R132, which is a signalised crossroads. To the west, the road connects to the M1 motorway at Junction 9.

The Boyne River Boardwalk runs along the southern bank of the Boyne River. This is a shared pedestrian / cyclist route that provides access to Drogheda Town Centre and Oldbridge. The distance between both bridges along the Boyne River is c.4.3km.

The M1 Motorway runs from Dublin to Belfast serving towns including Dundalk, Balbriggan, and Skerries.

The R132 Regional Road runs north from Drogheda, continuing through Dunleer and Castlebellingham to Dundalk, where it joins the N52. The R132 is the former N1 route (now by-passed by the M1 motorway).

The R168 runs to the east of the site between the N51 and Drogheda Town Centre.

The R152 Regional Road runs south from Drogheda Town Centre, by Duleek, before joining the national road N2 towards Ashbourne.

The R108 Regional Road also runs south from Drogheda Town Centre, leading directly through Ballymun before intersecting with the M50 in Dublin.

3.4 Surveyed Traffic Flows

To quantify the volumes of traffic movements at the key junctions, a traffic survey was commissioned by the applicant and carried out by Traffinomics on Tuesday 14th January 2025 for a period of six hours during both peak hours. The results of the traffic survey are presented in **Appendix A**.

The traffic survey results indicate that the local network experiences its highest traffic volumes during the morning between 08:00 and 09:00 and during the afternoon between 17:00 and 18:00.

The surveyed junctions are the following:

- Junction 1: existing priority-controlled T-Junction located at the intersection of Rathmullan Road and Local Road.
- Junction 2: existing signalised T-junction located at the intersection of Rathmullan Road and Marley's Lane.
- Junction 3: existing priority-controlled T-junction located at the intersection of Rathmullan Road and R132 Dublin Road.
- Junction 4: existing signalised T-junction located at the intersection of Donore Road and Marley's Lane.

The location of the surveyed junctions is shown in **Figure 6** below.

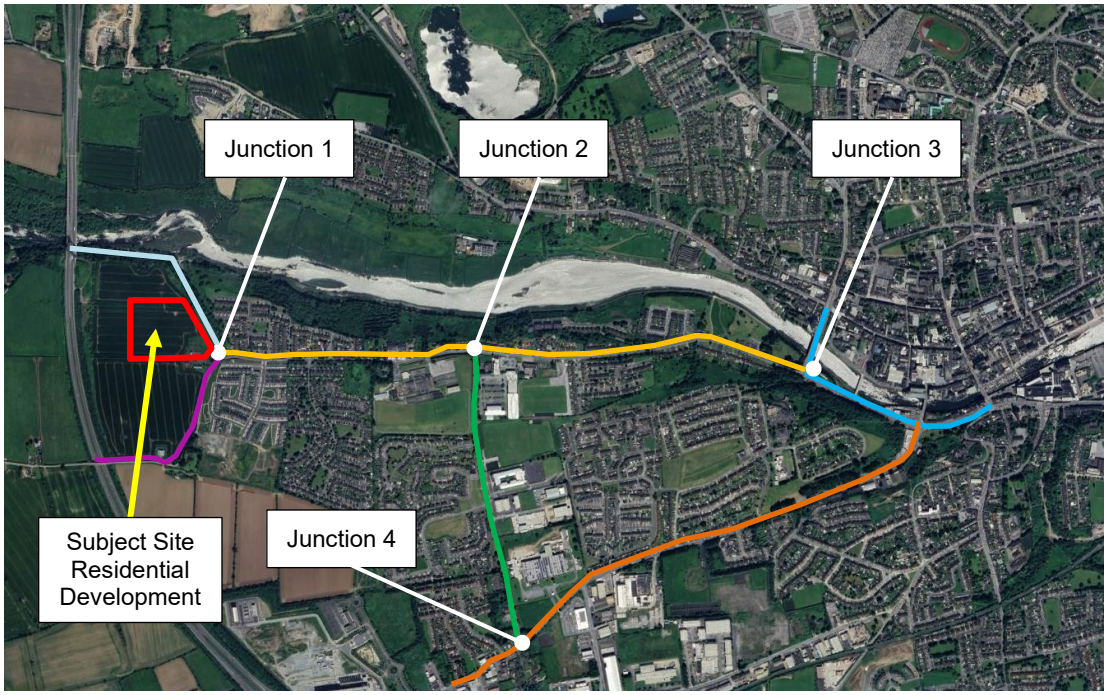


Figure 6 | *Location of Surveyed Junctions*

The results of the survey indicate that the peak traffic levels through the junctions occurred between 08:00 and 09:00 in the morning and between 17:00 and 18:00 in the evening. These peak hour traffic volumes can be seen in **Figure 7** below. The full surveyed traffic flows are provided in **Appendix A**.

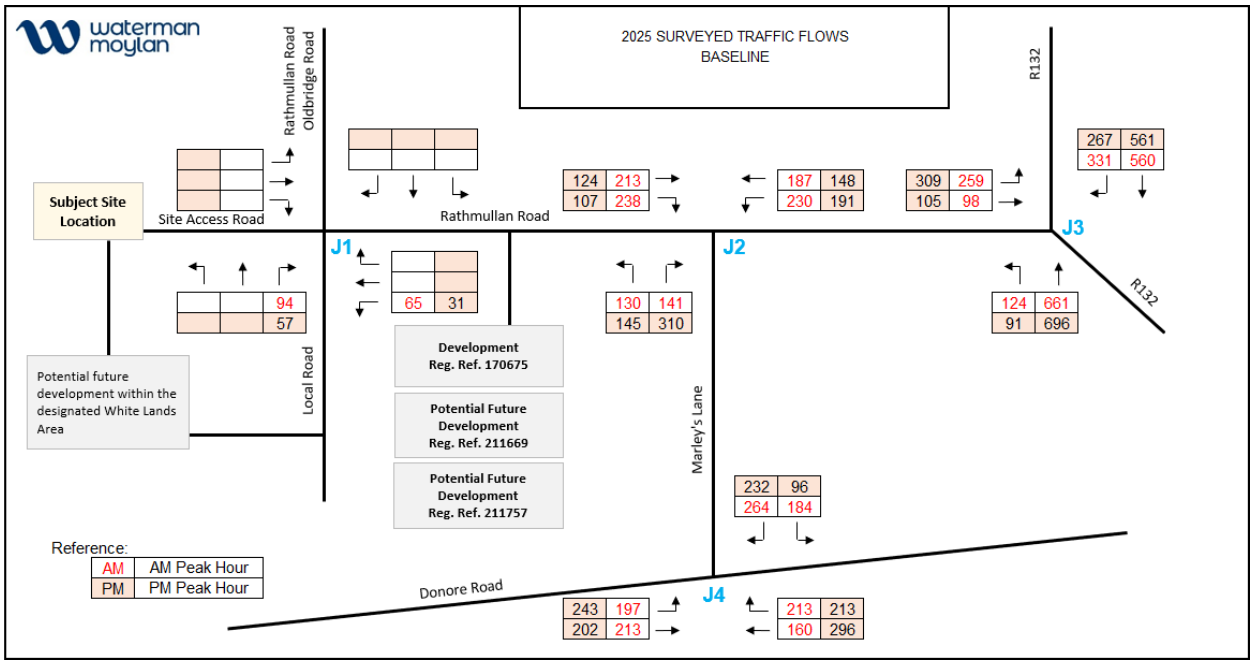


Figure 7 | *2025 Surveyed Traffic Flows – AM and PM Peak Hour Flows.*

The number of vehicles depicted in the figure below is expressed in PCU, where PCU represents the acronym for "Passenger Car Unit." One PCU is equivalent to one passenger car or light goods vehicle (LGV), 1.5 PCUs to one medium heavy goods vehicle (Medium HGV), two PCUs to one bus, and two PCUs to one large heavy goods vehicle (Large HGV). One PCU is equivalent to 5.75m.

3.5 Multi-modal access to the site

3.5.1 Pedestrian Infrastructure and Walking Accessibility

The key to pedestrian accessibility is the provision of short, convenient, and safe routes. Walking is the most common mode of transport. Almost all journeys involve some walking, so improvements to pedestrian facilities can have a wide impact.

The "*Guidelines for Providing for Journeys on Foot*" published by the *Institution of Highways & Transportation* in 2000, indicates that the acceptable walking distances vary between individuals and circumstances. These include an individual's fitness, physical ability, and personal motivation; the size of thetown relevant settlement and the quality of the surrounding footpath network. Furthermore, the document proposes walking distances and times based on an average walking speed of 1.4m/second (approximately 400m in five minutes) **Table 2** below provides a summary of these suggestions.

	Town Centre	Commuting / School / Site Seeing	Elsewhere
Desirable	200m (2.5-mintues)	500m (6-minutes)	400m (5-minutes)
Acceptable	400m (5-minutes)	1,000m (12-minutes)	800m (12-minutes)
Preferred Maximum	800m (10-minutes)	2,000m (24-minutes)	1,200 (15-minutes)

Table 2 | *Ideal Walking Distances*

(Source: Guidelines for Providing for Journeys on Foot - Institute of Highways and Transportation)

The existing pedestrian infrastructure in the surrounding urban area is comprised of a well-connected network of footpaths along Rathmullan Road, to the east of the site access road. This network provides access to Drogheda Centre via the Bridge of Peace Drogheda. Rathmullan Road is characterized by footpaths on both sides and pedestrian crossings at all intersections, linking with the internal roads and streets of neighbourhood developments, schools and grocery stores. The extensive interconnection of the network allows for greater flexibility in pedestrian transportation.

On Rathmullan Road / Oldbridge Road to the north of the site access road, there is a lack pedestrian and cycling infrastructure. On the rural road to the south of the site access road there is cycle and pedestrian infrastructure on the east side of the road along the recently finished development to the east of the subject site (Planning Application Reg. Ref. No. 170675).

Figure 8 below illustrates the considerable extent of the pedestrian catchment areas accessible from the subject development, for different walking times, namely 10 minutes, 15 minutes, and 24 minutes.

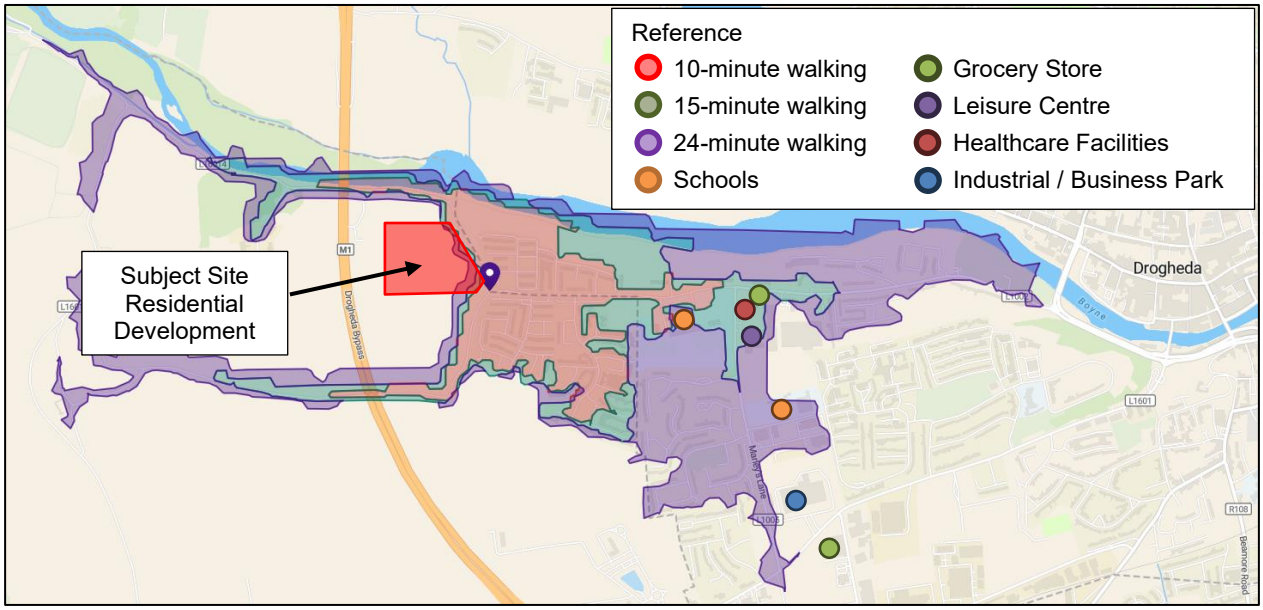


Figure 8 | *Isochrone map indicating Walking Accessibility*
(Source: Smappen app and google maps)

The subject site is in close proximity to various amenities, including a grocery store, a healthcare facility, an industrial park and multiple educational institutions.

3.5.2 Cycle Infrastructure and Cycling Accessibility

The vicinity of the subject development is equipped with cycle infrastructure, as shown in **Figure 9** below.

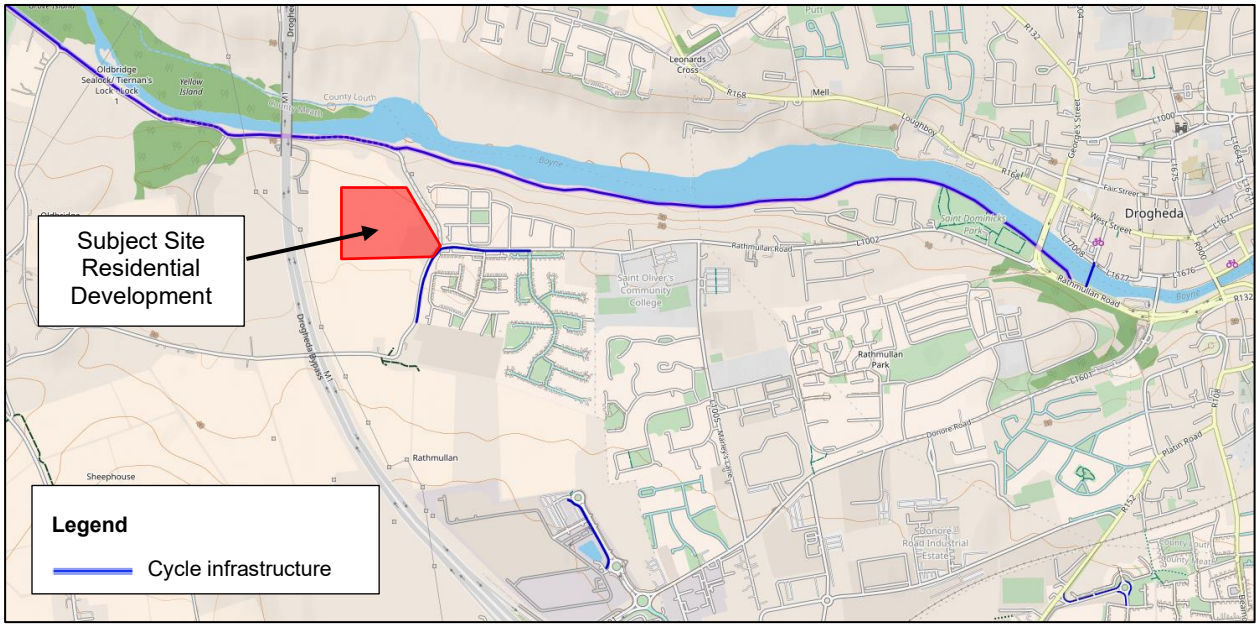


Figure 9 | *Existing Cycle facilities*
(Source: Open Street Map)

As can be seen in the image above, there is a greenway along the Boyne River with cycle infrastructure. In addition, there is a new cycle path along the rural road and Rathmullan Road made by the recently completed development to the east of the subject site (Planning Application Reg. Ref. No. 170675).

A similar catchment exercise has been conducted for the cycling mode of transport, in accordance with the methodology previously employed for walking. The average cycling speed was calculated to be 3.3 metres per second (equivalent to 15 kilometres per hour). **Figure 10** below presents the catchment area for cycling times of 10-, 15- and 24-minutes.

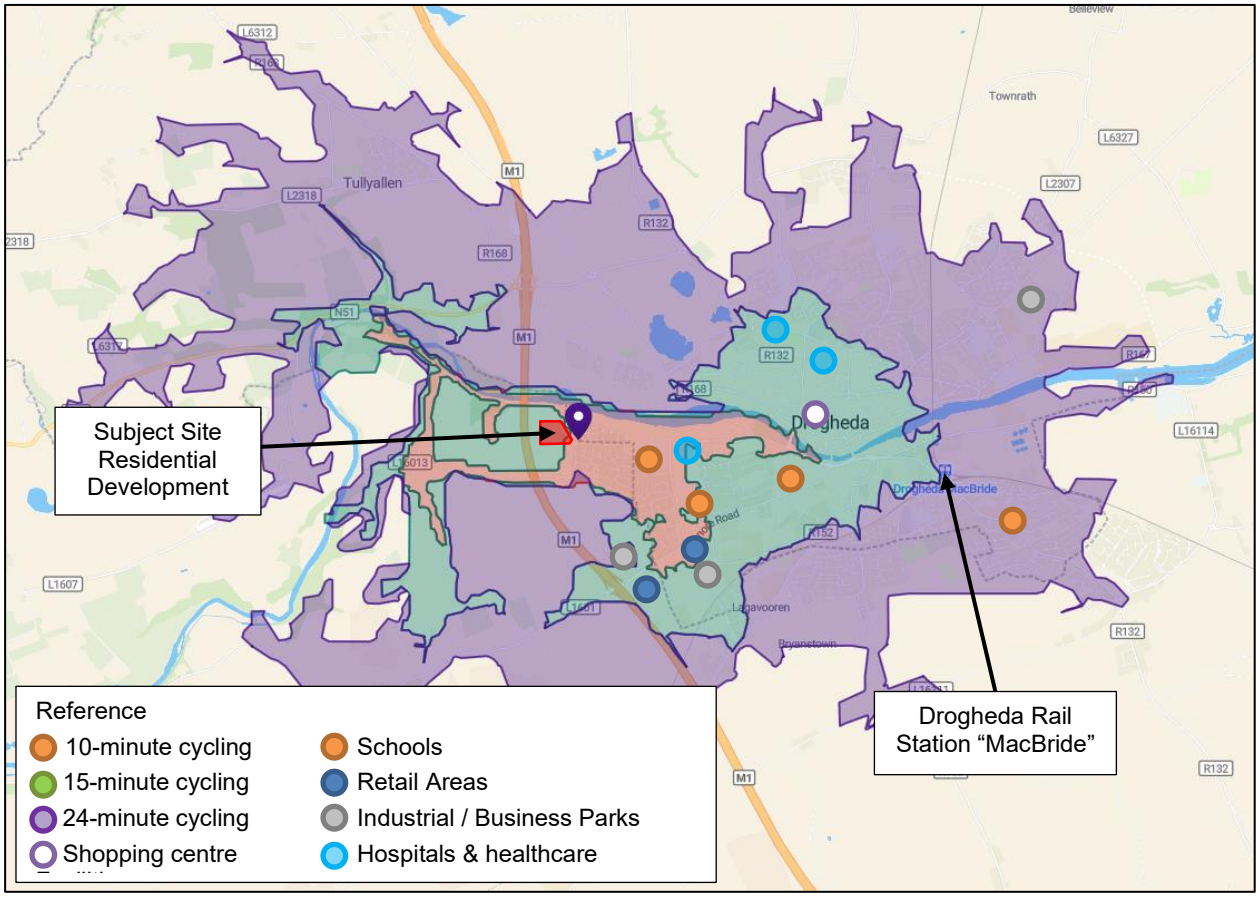


Figure 10 | *Isochrone map indicating Cycling Accessibility*
(Source: *Smappen app and google maps*)

The figure above shows the main facilities in the surrounding area that are situated within 10-, 15- and 24-minute cycling catchment areas.

A number of schools, retail areas and industrial/business parks are located within a 10-minute cycling distance. Drogheda town centre, which includes Drogheda Main Hospital and Drogheda "MacBride" railway station, is situated within a 15-minute cycle distance.

3.5.3 Bus Network

There are several existing public transport services in the vicinity of the proposed development site. **Figure 11** below shows the bus stops located in the vicinity of the subject site, followed by the bus routes served

by each bus stop and their distance from the site and **Table 3** below indicates the weekday frequency of the bus route.

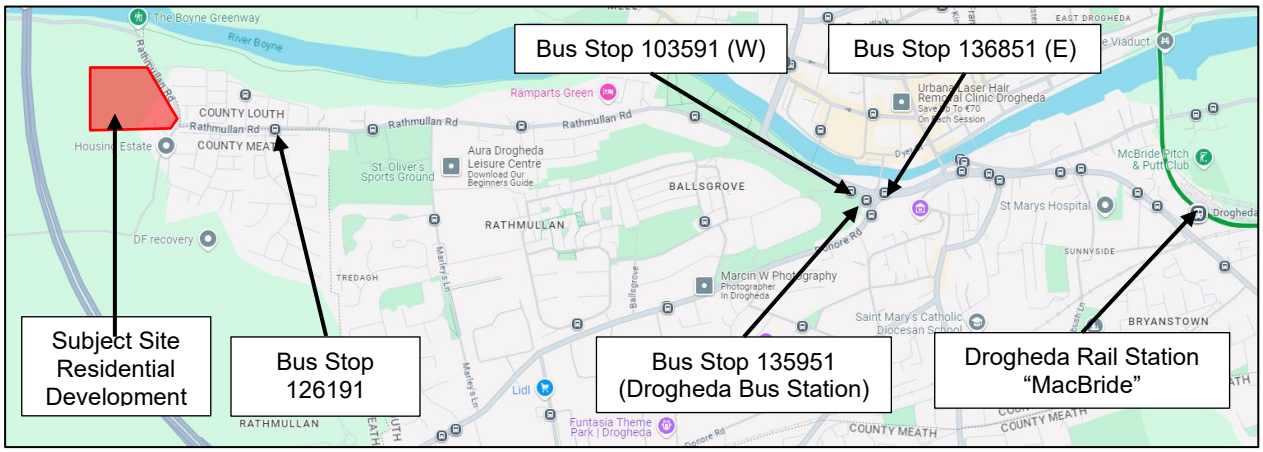


Figure 11 | *Location of Closest Bus Stops*
(Source: Transport for Ireland)

- Bus Stop 126191: Located at Rathmullan Road is a 350m or 4-minute walking journey. This bus stop is served by Bus Eireann Route 173.
- The Drogheda Bus Station and the nearest bus stops are located at the intersection of Donore Rd. and George's St. It is 2.4km from the subject site. This distance can be reached in 33-minute walking, or 11-minute cycling or 5-minutes on bus (bus route 173). This bus stop is served by various Bus Eireann routes, including 100, 100x, 101, 10x, 105, 168, 182, 182a, 190, D1, D2, D4, and D5, as well as Local Link LMF routes 163 and 188.

Route No.	Route Name	Frequency
Bus Stop 126191		
173	Drogheda West St - Dominick St.	11 service every hour between 9:00 and 19:00
Bus Stop 135951		
188	Drogheda, Hospital - Kildalkey Road, Athboy Church Car Park	8 services 6:30, 8:00, 11:00, 13:00, 15:00, 19:00 and 21:00
100	Drogheda - Dundalk - Newry	Every hour between 06:45 and 18:00
100X	Wilton Tce - Airport - Dundalk	Every hour between 06:40 and 0:55
100X	Dundalk - Airport - Wilton Tce	Every hour between 6:00 and 22:10
101	Drogheda - Dublin - Airport	Every 20-30 Minutes between 05:20 and 23:00 and every hour between 23:00 and 5:00.
101X	Termon Abbey - Drogheda - Wilton Tce	5 services 5:54, 6:22, 6:42, 6:57 and 7:12

101X	Wilton Tce - Drogheda - Termon Abbey	4 services 17:44, 18:24, 18:54 and 19:14
105	Drogheda - Ashbourne - Blanchardstown	Every hour between 5:30 and 20:30
168	Annagassan - Dundalk	10 services between 7:00 and 23:30
182	Drogheda - Collon - Ardee - Monaghan	Every two hours between 8:10 and 20:10
182a	Drogheda - Hosptial - Ardee	Every two hours between 7:10 and 17:10
190	Drogheda - Navan - Trim	Every hour between 5:30 and 23:30
D1	Drogheda - Laytown	Every 30 minutes between 5:30 and 0:00
D2	Drogheda - Laytown via coast Road	Every 30 minutes between 5:30 and 23:30
Bus Stop 136851		
163	Drogheda - Donore	5 services 9:07, 11:27, 13:27, 16:37 and 17:52
D4	Ballymakenny - Southgate SC	Every 20-30 minutes between 6:10 and 23:14
D5	Termonabbey - Colpe Road	Every 30 minutes between 6:30 and 22:40
Bus Stop 103591		
168	Kildalkey Road, Athboy Church Car Park - Drogheda, Hospital	8 services 7:35, 9:00, 12:00, 14:00, 16:00, 18:00, 20:00 and 22:00
D4	Southgate SC - Ballymakenny	Every 20-30 minutes between 6:10 and 23:14
D5	Colpe Road - Termonabbey	Every 30 minutes between 6:30 and 22:40

Table 3 | *Bus Routes – Frequency Table*
(Source: Transport for Ireland)

For bus stop 135941 (Drogheda bus station), only buses that start at or pass through this bus station have been considered, buses ending its route at the bus station have not been included. However, it is important to note that public transport users, including residents of the subject site, have access to additional bus routes beyond those listed in **Table 3** above.

As can be seen from the table above, the town of Drogheda and the subject site as well, is well served by a bus system with strong connectivity and accessibility to surrounding area, including the coast, Northern Ireland, Dublin City, and Ireland's international airport. Some examples of possible routes are given below:

Dublin Airports:

- Route 101: 70 minutes.
- Route 100x: 30 minutes.

Dublin City:

- Route 101: 120-minute.
- Route 100x: 75 minutes.

Navan:

- Route 188: 40-50 minutes.
- Route 190: 40-50 minutes.

Dundalk:

- Route 100x: 35 minutes.
- Route 100: 45 minutes.
- Route 168: 110 minutes.

Laytown:

- Route D2: 16 minutes.
- Route D1: 20 minutes.

3.5.4 Rail Network

The nearest rail station to the subject site is Drogheda MacBride Station. This railway station is located c.3.7km to the east of the site. This distance can be reached in 50-minute walking, or 16-minute cycling or 13-minutes driving (see **Figure 11** above). This rail station is served by Commuter Rail services with connections to the Dart, as indicated in **Figure 12** below.

Among the facilities at Drogheda MacBride Station are some 400 no. car parking spaces. Additionally, there is a significant area dedicated to cycle parking, which can accommodate about 200 no. sheltered cycles.

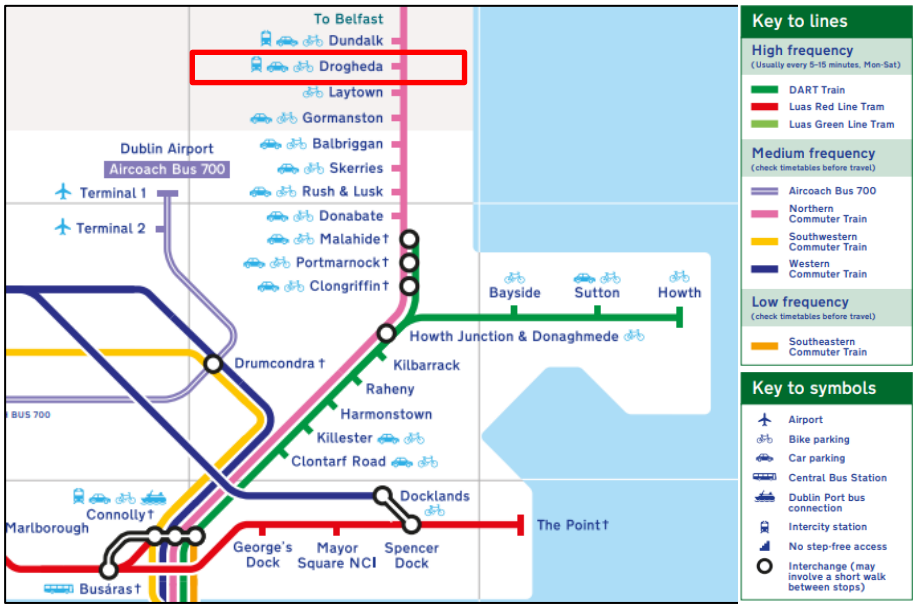


Figure 12 | *Location of Bus Station*
(Source: google maps)

The trains from this station facilitate services that allow for good connection to other onward destinations both north and south. Services generally operate with 30-minute frequencies during the peak hour morning and evening commuter periods.

The train routes serving Drogheda are outlined below:

- Belfast – Dublin Connolly
- Dublin Connolly - Belfast
- Drogheda/Dundalk – Dublin Commuter (S)
- Dublin - Drogheda/Dundalk Commuter (N)
- Rosslare Europort – Gorey – Dublin Connolly (NW)

The table below indicates the main routes to and from Drogheda Train Station.

Route	Frequency
Belfast - Dublin Connolly	8 services 7:21, 8:22, 12:07, 14:07, 15:40, 17:41, 19:41 and 21:41
Dublin Connolly - Belfast	8 services 8:12, 10:06, 11:55, 13:56, 15:55, 18:21, 19:34 and 21:29
Drogheda/Dundalk – Dublin Commuter (S)	Every 30 minutes between 8:50 and 22:05
Dublin - Drogheda/Dundalk Commuter (N)	Every 30 minutes between 5:50 and 00:50
Rosslare Europort – Gorey – Dublin Connolly (NW)	2 services 5:03 and 9:52

Table 4 | *Train through Drogheda Train Station*
(Source: Transport for Ireland and Irish Rail)

From Drogheda MacBride Station there are good connections to both Dublin to the south and Belfast to the north.

The travel time from Drogheda MacBride Station to Connolly Railway Station (Dublin) is approximately 30 minutes on the intercity Belfast-Connolly service and approximately 1 hour on the commuter service.

The travel time from Drogheda Railway Station to Belfast Lanyon Place is approximately 70 minutes on the intercity Connolly – Belfast service.

3.6 Proximity to Amenities and Employment Areas

Dublin Airport

The site is approximately 40km from the Dublin Airport, with an average travel time of 30-minutes by vehicle.

In terms of public transport, there are two options to get to Dublin airport: Route 100X every hour and Route 101 every 20-30 minutes. The former takes 30 minutes and the latter 70 minutes to reach Dublin Airport.

Industrial / Business Parks

The Proposed Development is located close to some three industrial and business parks as shown in **Figure 10** above. These fall within a 24-minute cycling catchment area. Additionally, one of them can be reached within a 30-minute walk, **Figure 8** above

Town Centre & Shopping District

Drogheda town centre is situated approximately 2.5km to the east of the site , which offers a number of small and medium sized businesses including discount stores, banks, food outlets, clothing stores, convenience stores and shopping centres.

”Drogheda Town Centre” shopping mall on West Street is located approximately 2.6km to the east of the development. This distance can be reached in 36-minute walking, or 11-minute cycling or 7-minutes on bus route 173.

4. Transportation improvements

4.1 Road and Junctions

4.1.1 Local Road

As part of the planning application Reg. Ref. No. SH305552, the realignment and upgrading of the Local Road was proposed. This upgraded road extends from the site access road (Junction 1 – **Figure 6** above) to the south, adjacent to the eastern and southern boundaries of the site.

This road will form part of the proposed development's arterial link with a carriageway with a width of 7m and new kerb lines, road gullies and drainage. The proposed speed limit on this road is 50 km/h.

In addition, a separated cycle track (2.0m wide) and footpath (2.0m wide) are also proposed along the extents of the Local Road bounding the site.

4.1.2 Rathmullan Road – Shared Footway / Cycleway

In July 2022 Meath County Council submitted a Planning Application to An Bord Pleanála for the construction of a proposed shared footway/cycleway located on the Rathmullan Road. On 22nd May 2024, An Bord Pleanála decided to approve the application with conditions.

It was proposed to construct a 3m wide shared footpath/cycleway on the eastern side of the Rathmullan Road. The proposed footpath/cycleway measures c.380m in length, stretching from a junction on the Rathmullan Road to the south adjacent to Riverbank Housing Estate to the River Boyne Greenway located to the north. The footway/cycleway will provide a direct linkage to the Boyne Greenway from communities on the west side of Rathmullan. **Figure 13** below shows the proposed roadway.

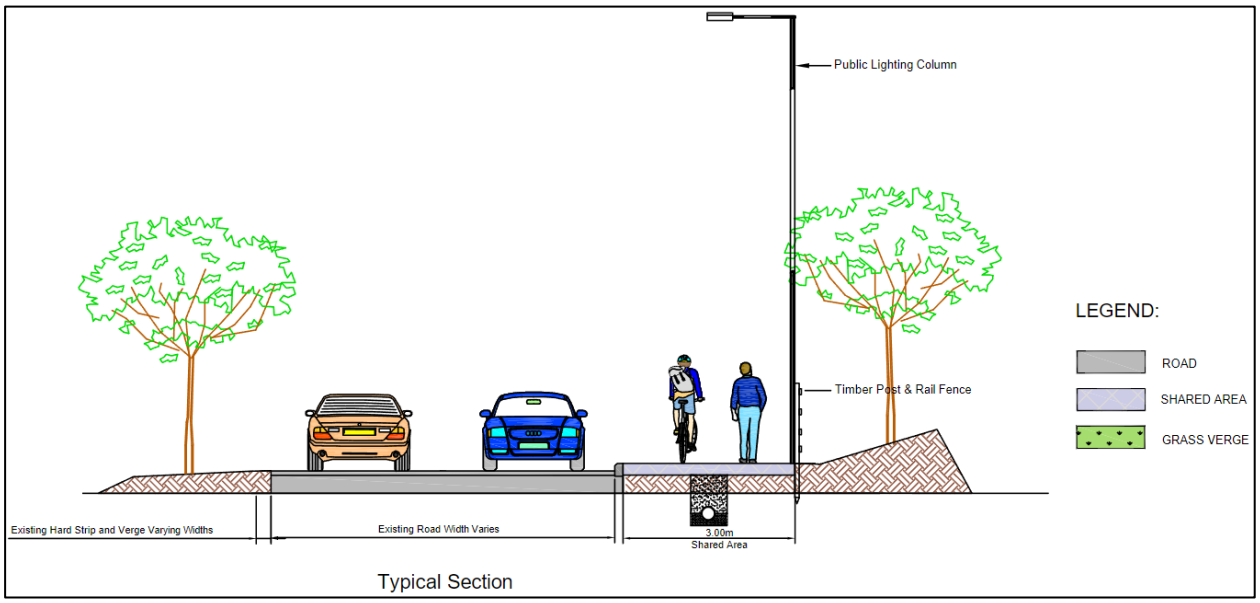


Figure 13 | *Rathmullan Road – Proposed Shared Footway / Cycleway – Typical Section*
(Source: Construction of a Shared Cycleway/Footway on the Rathmullan Road)

In January 2025, Waterman Moylan conducted a comprehensive visual survey of Rathmullan Road. The survey included the documentation of the current conditions through a series of photographs, which are presented below.

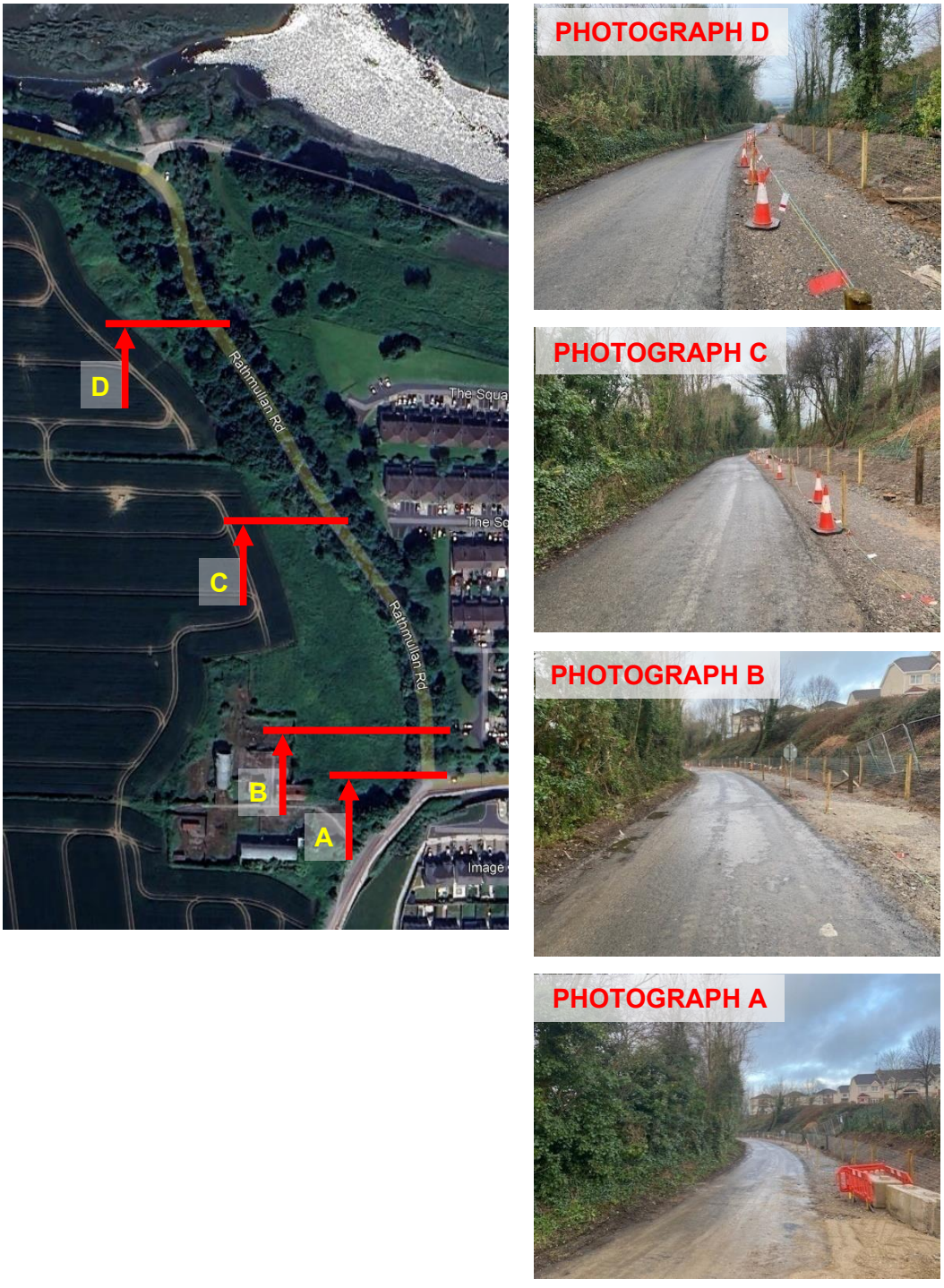


Figure 14 | *Rathmullan – Road Shared Footway / Cycleway*

As can be seen in the **Figure 14** above, construction has commenced on Rathmullan Road to provide a shared footway/cycleway. For the purpose of this report it is anticipated that this work will be completed prior to the opening year of the subject site. In addition, considering the progress of the ongoing works, it is expected that by the time construction of the subject site begins, the road improvements will be well advanced and will not pose any issue to the development of the subject site.

4.1.3 Rathmullan Road / Local Road Junction upgrade

As part of the current planning application, the upgrade of the junctions 1 (Rathmullan Road / Local Road) is proposed, including the access road to the site.

As part of the subject site, the Junction 1 (Rathmullan Road / Local Road) is also proposed to be upgraded.

The improvement works proposed include the addition of the western approach to provide the main vehicular access to the site and the signalisation of the junction. **Figure 15** below shows the proposed Junction 1 upgraded.

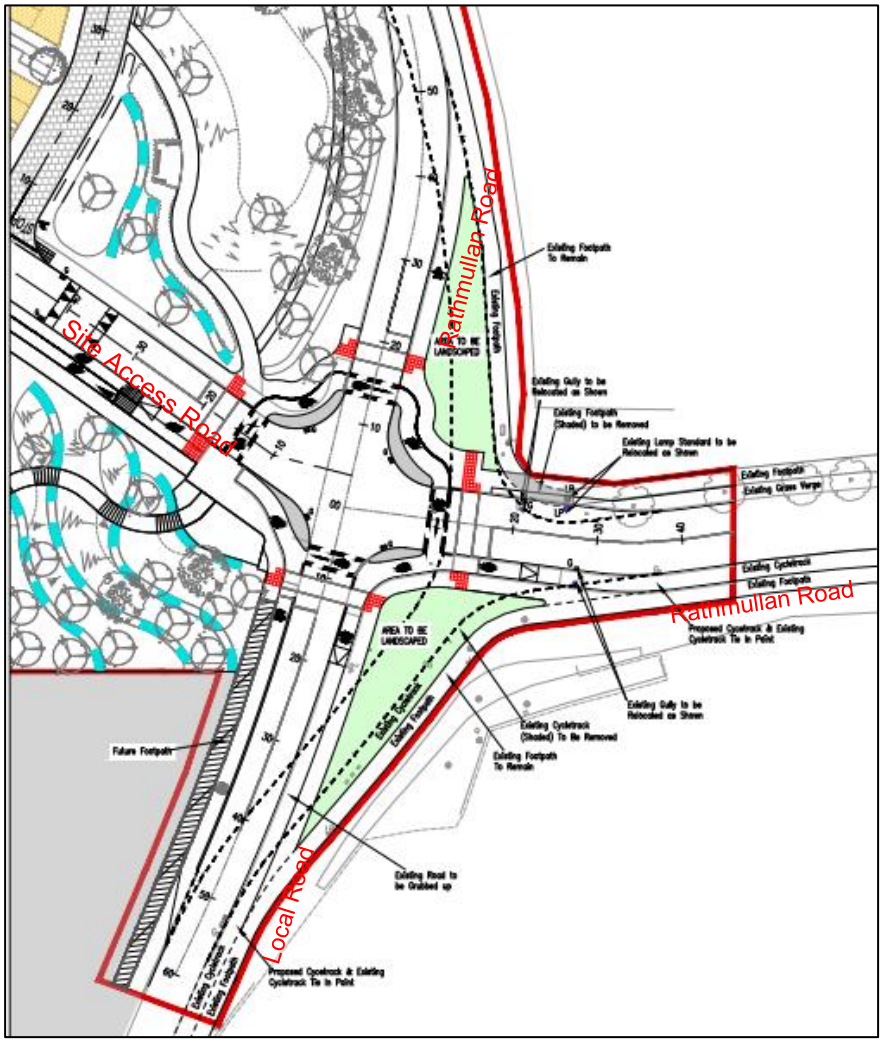


Figure 15 | *Proposed Junction 1 (Rathmullan Road / Local Road/Site access road) upgrade*

The upgraded junction as a signalised crossroad, has been modelled and the results of the modelling are set out in **Section 8.5** below.

4.1.4 Rathmullan Road / R132 Junction Upgrade

The junction between Rathmullan Road & the R132 provides access to the Drogheda Bridge of Peace. Louth County Development Plan 2021-2027 (incl. Variations 1 & 2) identifies the need to upgrade this junction, and it has been included in Section 7.8.4 of the Louth County Development Plan 2021-2027 (incl. Variations 1 & 2) as a Local Road, Sustainable Transport and Environmental Improvement Project.

A detailed Transportation Study was undertaken in December 2006 by WSP on behalf of Drogheda Borough Council. This Study sets out improvement works that are required to be carried out on the Rathmullan Road / R132 junction (Junction 3 – Refer to **Figure 6** in Section 3.4 above) in order to increase its operational capacity and to accommodate the potential future traffic demand. These improvements include the installation of traffic signals amending the current island configuration to assist movements through the junction. Details of these proposals, extracted from the Transportation Study (December 2006) can be seen in **Figure 16** below.

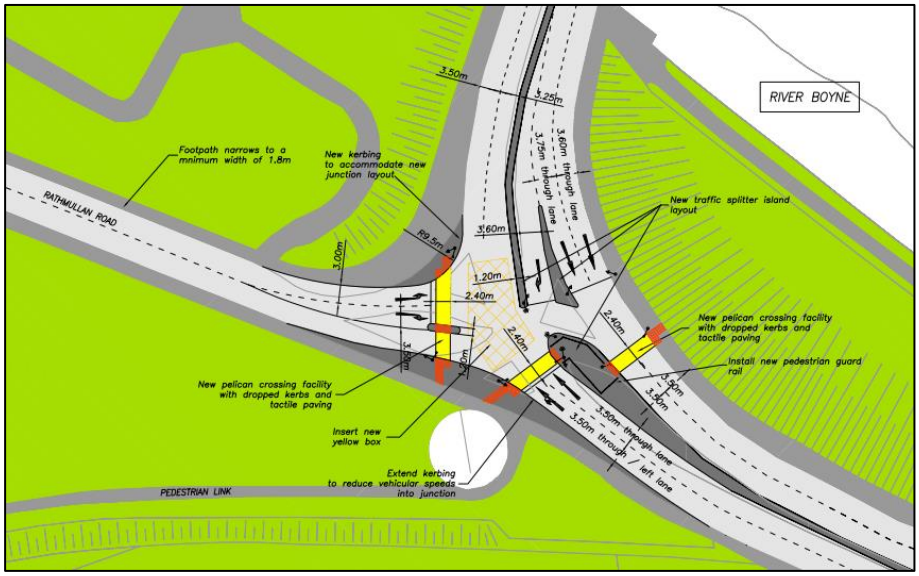


Figure 16 | *Proposed Junction 3 (Rathmullan Road / R132) Upgrade*
(Source: Transportation Study (December 2006))

4.2 Rail Network: DART+

Drogheda Rail Station is located approximately 3.7km to the east of the subject site (see **Figure 11** above) and forms part of the northern route of the future DART Expansion Programme. DART+ aims to extend current DART services to locations along the east coast of Ireland such as Donabate, Rush and Lusk, Skerries, Balbriggan and finally on to Drogheda (see **Figure 17** below).

In addition, the DART+ Programme aims to modernise and provide an electrified, more frequent, and reliable rail service, enhancing capacity on the rail corridor across Dublin City and Greater Dublin. DART+ offers several benefits, including:

- Increase peak passenger capacity and increase train frequency between Dublin City Centre and Drogheda MacBride Station - inclusive of the Howth Branch - facilitating frequent and reliable transport to the surrounding communities.
- Facilitate the development and future growth of existing and new communities that will greatly benefit from the connectivity that the DART+ Coastal North project will deliver.
- Build a sustainable and connected city region, supporting the transition to a low carbon and climate resilient society.
- Facilitate people to make sustainable travel choices by encouraging a move away from private cars to a reliable, efficient and safer public transport network.
- Improve multi-modal transport connectivity through the development of the wider DART+ Programme.

The DART train currently stops at Malahide station. It is expected that the new service will be in operation at Drogheda MacBride Station within the next few years. According to the website, the latest update is:

- DART+ Coastal North Railway Order application lodged with An Bord Pleanála to bring DART to Drogheda Third DART+ Line has now reached Statutory Planning Phase.

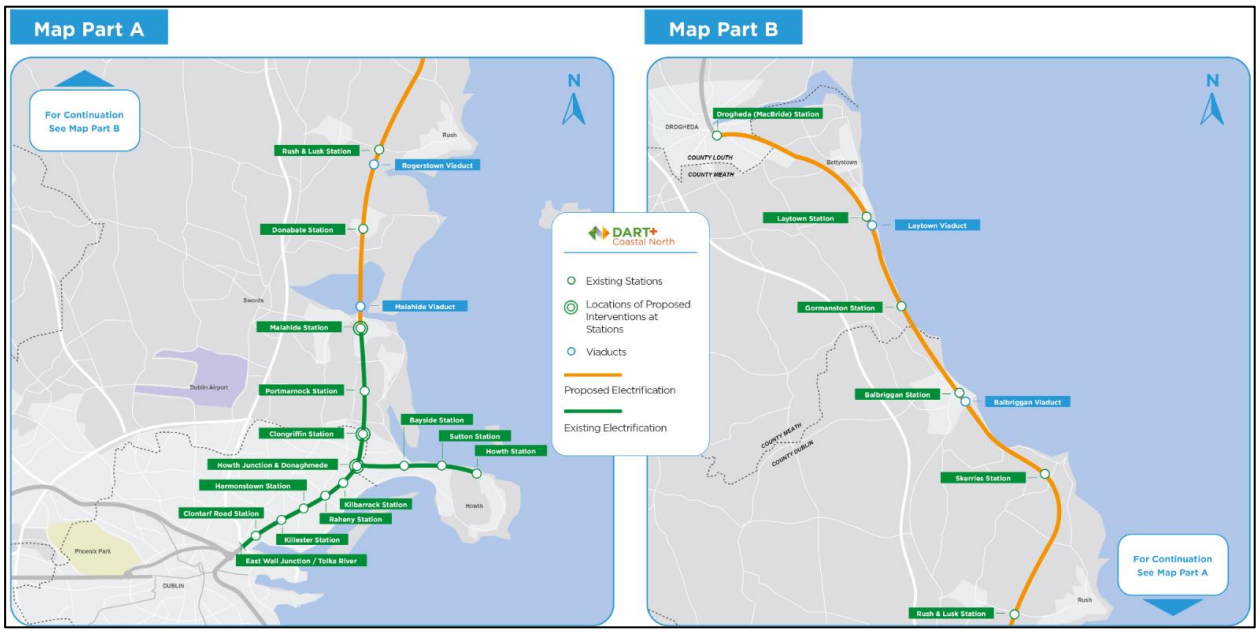


Figure 17 | *Dart Expansion Programme (source DART+ website).*

5. Proposed Development

5.1 Development Description

The Proposed Development consists of a residential development with 249 no. residential units, comprising 170 no. two-storey houses, 16 no. three-storey duplex buildings (accommodating 16 no. one-bedroom and 16 no. two-bedroom units) and a mix of 8 no. three-storey and 3 no. four-storey apartments blocks accommodating a total of 22 no. one-bedroom and 25 no. two-bedroom apartments*)*. A childcare facility of c.411 sqm is included within the subject site.

The detailed breakdown of the proposed residential scheme is as follows:

Unit Type	1-Bed	2-Bed	3-Bed	4-Bed	Sqm	Total
Houses		37	111	22		**170**
Apartments	22	25				**47**
Duplexes	16	16				**32**
Crèche					411	
TOTAL	**38**	**78**	**111**	**22**	**411**	**249 units**

Table 5 | *Schedule of Accommodation*

5.2 Vehicular Access and Internal Layout

Access to the Proposed Development is provided via a new signalised crossroad located to the east of the site, as indicated in **Figure 15** above.

The internal layout of the Proposed Development provides pedestrian pathways to link internal units to the surrounding pedestrian network and to internal public spaces.

In addition, given that the agricultural lands located to the west and south of the Proposed Site -identified as areas designated for future development to support the expansion of the urban area (Refer to **Section 3.1** above)-, these lands are anticipated to be developed for residential use. Accordingly, several pedestrian and vehicular connections are proposed to integrate the subject site with future developments to the east and south. **Figure 18** below illustrates the proposed linkages.

The internal roads have been designed to comply with DMURS as required by the County Development Plan and national Circulars RW 6/2013) and PL 17/2013, and the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024). The internal roads generally vary between 4.8m and 5.5m in width. All footpaths are 2.0m wide and connect the internal spaces.

All internal roads within the proposed development are designed for a speed limit of 30km/h. The low design speeds and traffic calming measures will ensure the safe operation of these junctions and a safe/secure environment for pedestrians and cyclists.

The design and layout of the proposal has been prepared to fully comply with the current relevant design standards and specifications applicable to this form of development.

The development includes off-street and on-street car parking spaces distributed along the internal roads.

Figure 18 | *Proposed Development – Access site and internal road layout*

5.3 Internal Pedestrian & Cycle Facilities

The proposed pedestrian infrastructure has been designed as a well-connected footpath network ensuing accessibility to each residential unit and to the surrounding area. This includes links to the northern Rathmullan Road shared footway/cycleway, the eastern access junction and existing road network, as well as to the east and south, where future residential developments are anticipated as part of the urban expansion outlined in the Development Plan (Refer to **Section 3.1** above).

All footpaths within the proposed development have been designed as a minimum of 2.0m wide. This is in accordance with Section 4.3.1 of the DMURS which suggests that a minimum 1.8m footpath should be provided.

The subject development will provide good pedestrian and cycle links from Rathmullan Road to the east, with pedestrian and cycle links proposed through the development.

The main pedestrian and cycle path is shown in the figure below.

Figure 19 | *Proposed Development – Internal Pedestrian and cycle paths*

5.4 DMURS

As detailed above, the internal roads have been designed to comply with DMURS as required by the County Development Plan and national Circulars RW 6/2013) and PL 17/2013, and the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024). The internal roads generally vary between 4.8m and 5.5m in width. All footpaths are 2.0m wide and connect the internal spaces.

All internal roads within the proposed development are designed for a speed limit of 30km/h. The low design speeds and traffic calming measures will ensure the safe operation of these junctions and a safe/secure environment for pedestrians and cyclists.

Therefore, Waterman Moylan Consulting Engineers considers that the proposed development is consistent with the principles and guidance outlined in the Design Manual for Urban Roads and Streets (DMURS), details of the specific design features are set out in the Waterman Moylan Report No. *18-014r.402 DMURS Report,* which is included in the documentation package.

6. Existing Travel Patterns

6.1 Small Area - Census 2022

To understand the vehicle ownership and mode of travel selection of the residents in the area, public information from the Census 2022 was used. The Census was conducted by the Central Statistics Office on 3rd April 2022, and distributed information in small areas that divide the territory.

For this report, 7 representative areas have been selected to reflect the Subject Site. It is important to choose a range of areas to obtain an average value that will allow us to approximate the future behaviour of the inhabitants in the residential development. The consulted Small Areas are illustrated in ***Figure 20*** below. The number of houses and respective population in each consulted Small Area is provided in **Appendix B**.

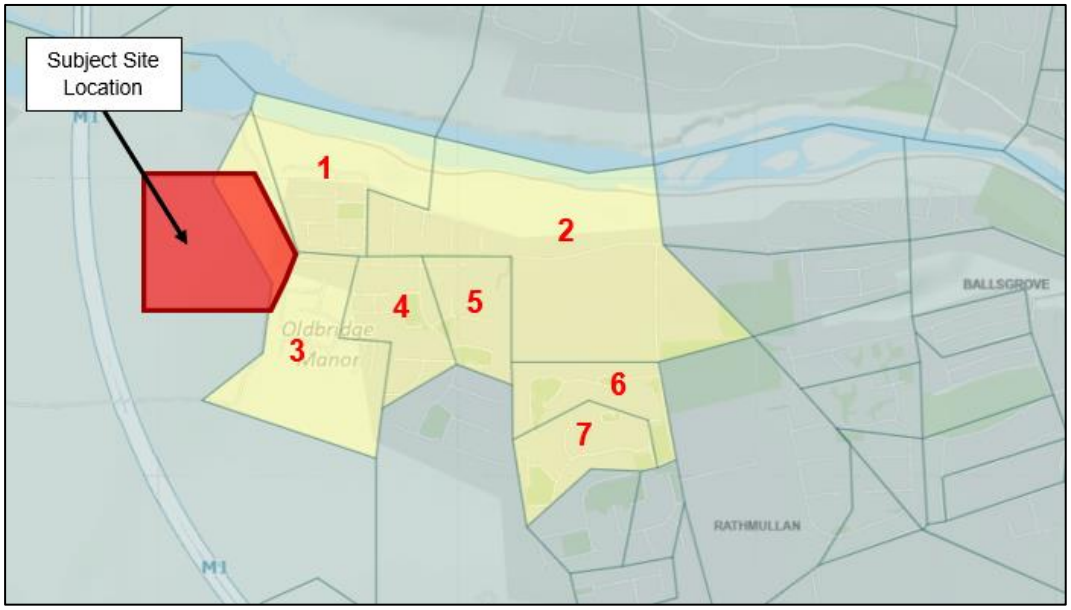


Figure 20 | *Consulted Small Areas - Census 2022*

The results of the consultation carried out in Census 2022 indicate that the modal split in the selected small areas is as follows: 61.4% travel by car, 13.8% use public transport, 22.9% travel on foot, and 1.9% cycle.

In addition, the results show that the total of 2.488 people living in 808 hoses, there are 957 vehicles, which equates to 2.6 people per car and 1.18 cars per dwelling unit.

The results of the survey on car ownership in the small areas surveyed are presented in **Appendix B**.

7. Trip Generation and Distribution

7.1 TRICS Vehicle Trip Rates

The potential traffic generation of the proposed development has been estimated using the TRICS software modelling database. TRICS is the national standard for trip generation and analysis in Ireland. The database system is based on surveyed traffic counts at various developments in both the UK and Ireland, which provides a reasonable indication of the potential traffic to/from the assessed developments.

Given that the *TRICS software providing a large amount of survey data across a wide range of development types* (from the TRICS website), a wide range of surveyed developments with similar characteristics were considered to ensure representative trip rates for the Subject Development. Filter criteria selected in the TRICS software are detailed below:

- Mixed Private Houses (Flats & Houses) to determine the trips rates were selected. This approach was adopted as fewer than 70% of the overall development consists of houses.
- Residential developments with range from 200 to 300 dwelling were considered.
- Only sites categorised as Edge of Town and Suburban Areas with similar road network, facilities and public transport services were selected.
- Developments near big cities were excluded.

The morning and evening peak hour trip rates are displayed in the following table, full trip rates are provided in **Appendix C**. The present report was carried out using TRICS Database Version 7.11.4.

Land Use Category	AM Peak Hour		PM Peak Hour	
	Trip Rate IN	Trip Rate OUT	Trip Rate IN	Trip Rate OUT
Mix Private Houses	**0.203** per unit	**0.400** per unit	**0.320** per unit	**0.190** per unit

Table 6 | *Car Trip Rates – AM & PM Peak Hours*

To provide a robust junction assessment, it has been assumed that the peak hours of the different land use categories occur during the same AM and PM peak hours.

Trip rates presented in the table above represent the trip to/from the Subject Development considering all modal splits. To ascertain the proportion of these trip rates attributable to car travel, the modal split of the surrounding area could be used (refer to **Section 6**). However, in order to ensure a robust assessment, it is assumed that the Trip Rates presented in **Table 6** above represent trips to/from the Subject Development by car only.

Given the size and location of the proposed Crèche, it is assumed that this facility will serve to residents of the Subject Sites and the surrounding residential areas. Therefore, in general will attract active trips and non-primary drop-off/pick-up car trips. Consequently, no additional drop-off or pick-up trips have been considered for the Crèche. Regarding the staff trips, it is assumed that the facility will be made by people living on the sites and/or in the nearest neighbourhoods and they will be made by public transport or by sustainable modes (cycling or walking). Considering this, no additional trips to/from the Crèche have been considered.

7.2 Subject Development

The proposed developments consist of 249 No. residential units, comprising 170 No. houses, 47 No. apartments and 32 No. Duplexes. In addition, there is a Crèche with a GFA of 411 sqm.

The AM and PM peak hour trip generation to/from the proposed developments are shown in Table below

Development	Number of Units	AM Peak Hour (08h00 – 09h00)		PM Peak Hour (17h00 – 18h00)	
		Arrival	Departure	Arrival	Departure
Proposed Residential	249	0.145 per unit	0.391 per unit	0.346 per unit	0.203 per unit
		50	98	79	47

Table 7 | *Car Trip Generation – AM & PM Peak Hours*

It is estimated that the area within the subject development will generate a total of 148 vehicle movements during the AM peak hour (50 arrivals and 98 departures) and 126 vehicle movements during the PM peak hour (79 arrivals and 47 departures).

The following trip distribution assumptions have been applied:

- 85% of trips to and from the site are expected to travel westbound along Rathmullan Road. At Junction 2, it is assumed the following trip distribution:
  - 45% of the overall traffic flow will continue straight towards Junction 3, where it will further split. Based on existing traffic patterns (refer to Section 3.4 above), some turning left towards Drogheda Town Centre, and others turning right towards the rail station and onward to the east.
  - 40% of the overall traffic flow will turn right at Junction 2 onto Marley's Lane. At Junction 4, based on existing traffic patterns (refer to Section 3.4 above), it is assumed that 25% will turn right onto Donore Road towards the M1 Motorway (Junction 9) and the access road to Drogheda Retail Park, while the remainder will turn left towards the retail park access road.
- 10% of trips are expected to travel northbound along the new Rathmullan Road / Oldbridge Road towards the Old Bridge and further west.
- 5% of trips will travel south along the local road towards the western agricultural lands.

The traffic distribution for the AM and PM peak hour are detailed in **Figure 21** below. The corresponding AM & PM peak hour traffic flows, based on the assumed distribution, are shown in **Figure 22** below.

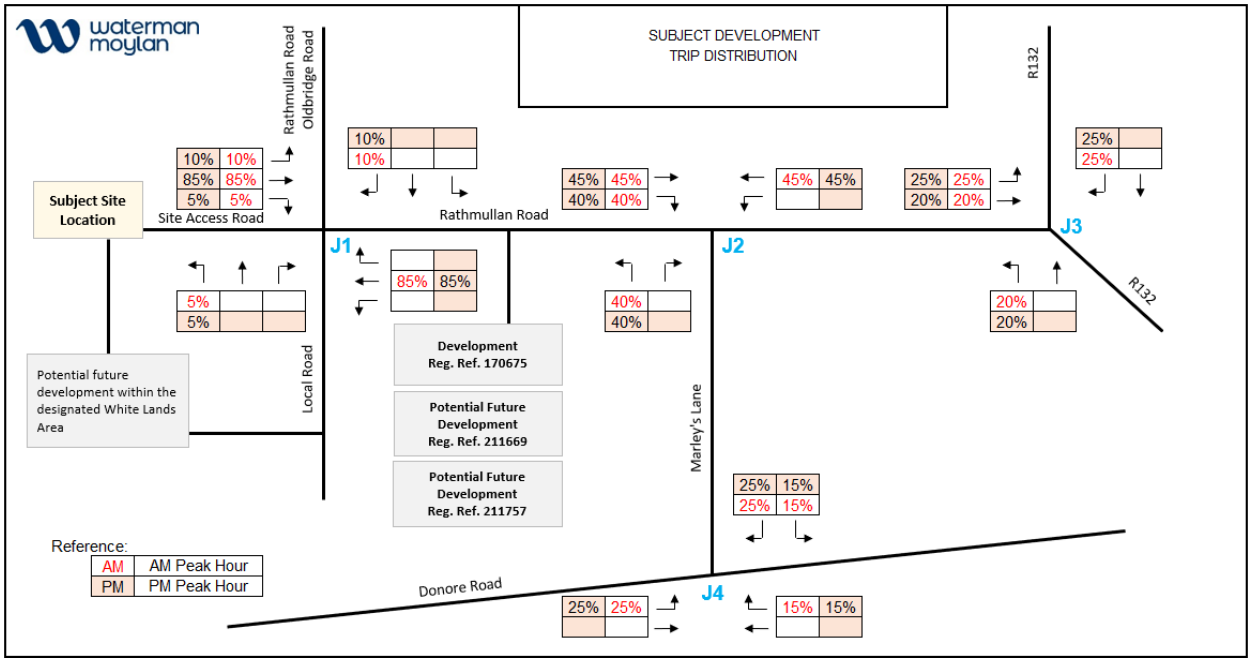


Figure 21 | *Subject Site - Trip Distribution*

Considering the trips to/from the subject site indicated in **Table 7** above, the figure below shows the trip generation given the trip distribution described above.

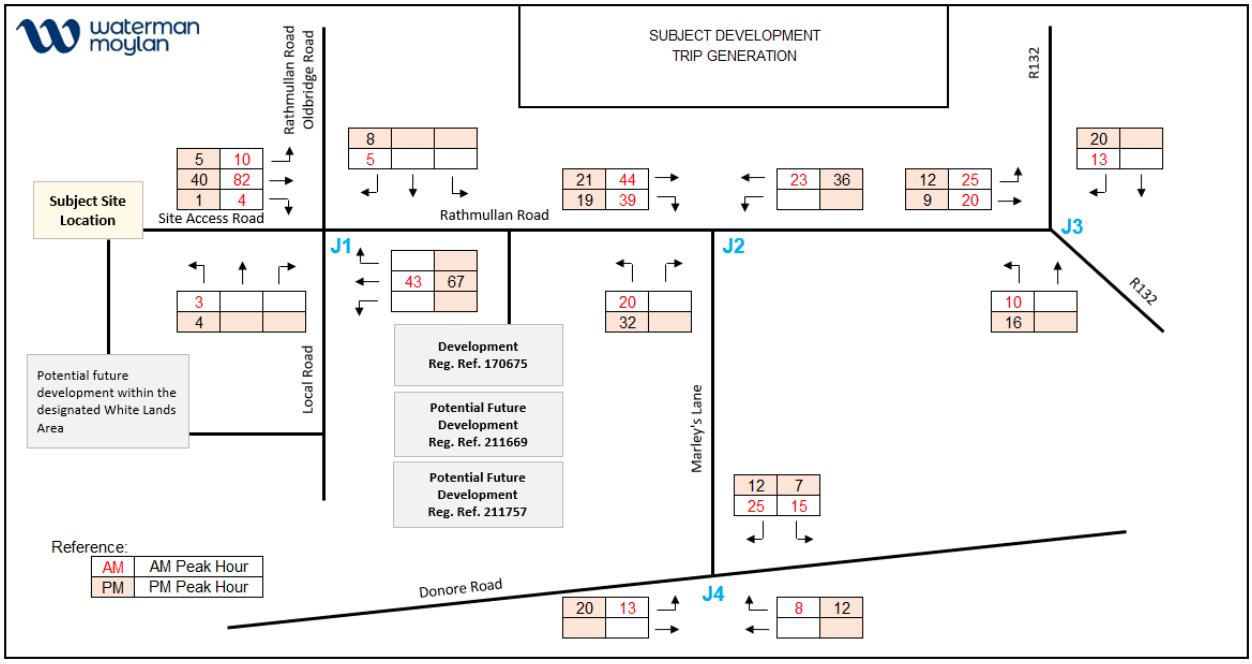


Figure 22 | *Subject Site - Trip Generation*

7.3 Committed & Potential Future Developments

In order to provide a comprehensive assessment of the junctions, this section presents the committed and potential future developments in the surrounding area identified in the National Planning Application Database.

A 1.5km radius centred on the Proposed Development was consulted in the National Planning Application Database and the documentation that was submitted for each Planning Application was reviewed to identify those developments that could have a significant impact on traffic behaviour at the junctions shown in **Figure 6** above.

The surrounding committed and Potential Future Developments are shown in the figure below.

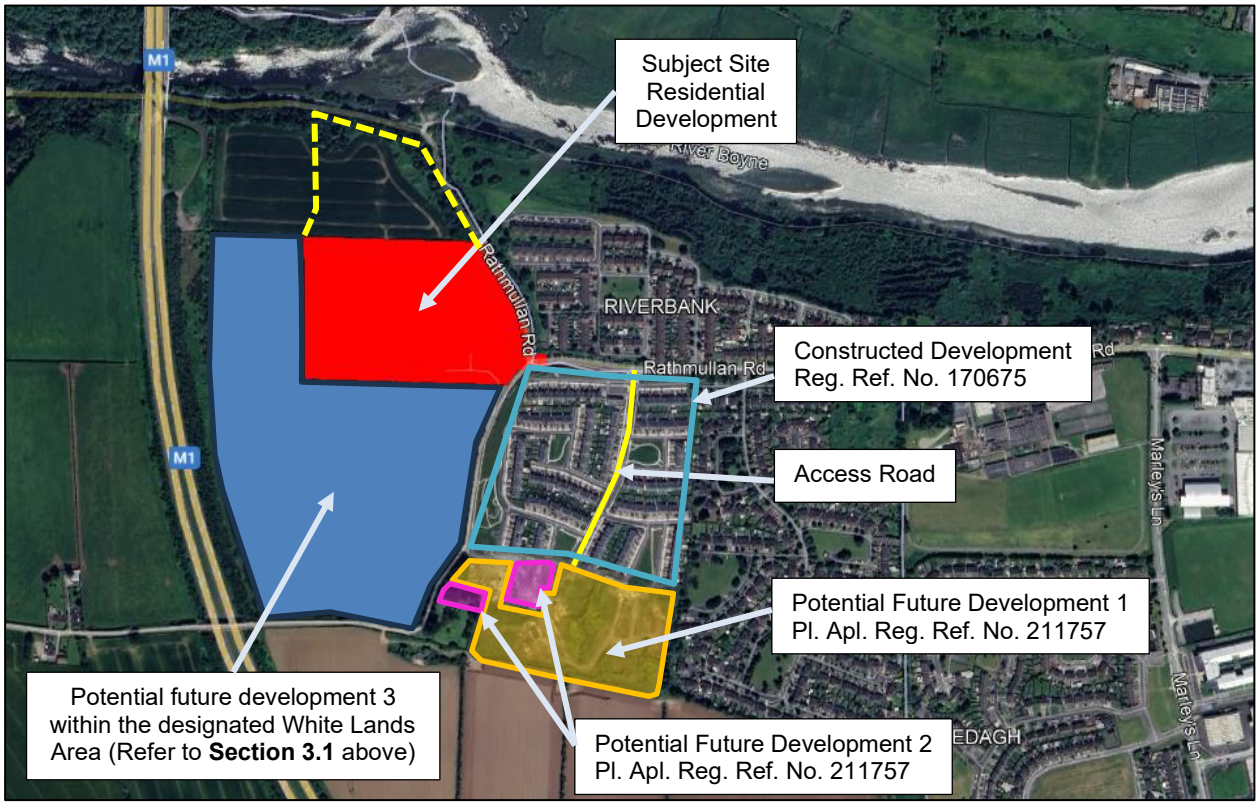


Figure 23 | *Committed & Potential Future Developments*
(Source: National Planning Application Database & Google Earth)

As results of the assessment, the Potential Future Developments which have a significant traffic impact at the assessed junction are:

- **Potential Future Development 1**: Reg. Ref. No. 211669: Residential Scheme comprising of 96 no. units located to the east of the proposed development site. Access to the site is proposed off Rathmullan Road via the internal roads of the Constructed Development.
- **Potential Future Development 2:** Reg. Ref. No. 211757: Residential Scheme comprising of 26 no. units located to the east of the proposed development site. Access to the site is proposed off Rathmullan Road via the internal roads of the Constructed Development.

- **Potential Future Development 3:** Potential Future Development within the designated White Lands Area (Refer to **Section 3.1** above): The designated White Lands Area encompasses approximately 13.4 hectares. As residential use is allowed in this strategic zone, and assuming an average residential density of 35 units per hectare, the area has the potential to accommodate approximately 470 residential units. Following a previous quashed planning application by the High Court, the overall potential future development may benefit from two possible access routes, one via the internal road network of the Subject Site (refer to **Figure 18** in **Section 5.2**) and a second one via the southern Local Road (refer to **Figure 5** in **Section 3.3**).

Regarding the **Potential Future Developments 1 & 2**, trip generation and distribution from the Transport Assessment Report prepared by NRB Consulting Engineers attached to the Pl. Apl. Reg. Ref. No. 211669 has been consulted. The document was made for both residential developments. The TTA indicates that both developments will generate a total of 63 vehicular trips in the AM peak hour (18 arrivals and 45 departures) and a total of 64 vehicular trips in the PM peak hour (42 inbound and 22 outbound). Traffic flows distribution has been taken from Appendix C of the Transport Assessment Report prepared by NRB Consulting Engineers, and is shown in **Figure 24** below.

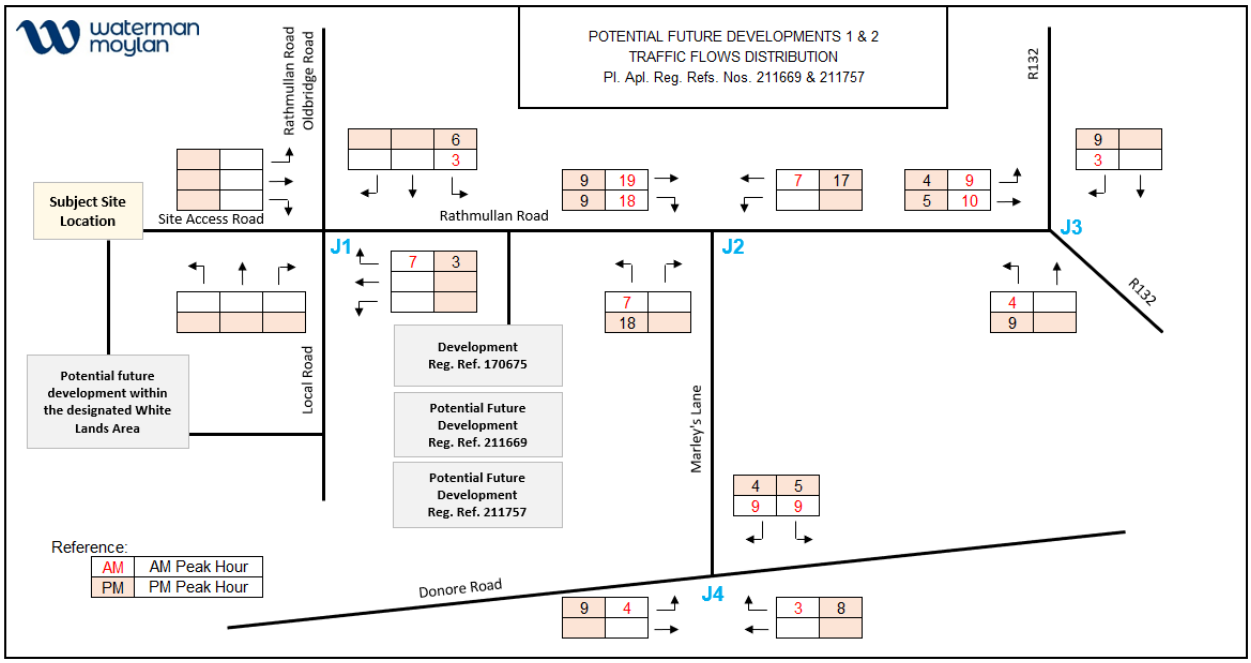


Figure 24 | *Potential Future Developments - Traffic Flows – Pl. Apl. Reg. Refs. Nos. 211669 & 211757*

With regard to the **Potential Future Development 3**, it is estimated that the site could accommodate approximately 470 residential units. Based on the trip rates presented in **Table 6** above, it is anticipated that this development would generate a total of 148 two-way trips during the AM peak hour (96 inbound and 52 outbound trips) and 241 two-way trips during the PM peak hour (151 inbound and 90 outbound trips).

It is further assumed that the trip distribution will follow the same pattern as that identified for the Subject Site (refer to **Section 7.2** above).

Furthermore, as previously noted, it is likely that the potential development would benefit from two possible access routes: one via the internal road network of the Subject Site, and another via the southern Local

Road. For the purposes of this Transport Technical Assessment (TTA), it is assumed that 60% of all trips to and from the development would utilise the internal road network of the Subject Site, appearing on the western arm of Junction 1. The remaining 40% would access the site via the southern local road, appearing on the southern arm of Junction 1.

Moreover, given that this area is reserved for future development and the timing of its delivery remains uncertain, it has been assumed that the development would be completed and fully occupied between five and fifteen years after the opening year of the Subject Site. Accordingly, the traffic impact of this potential development is assumed to be reflected in the opening year + 15 scenario.

Based on the above assumptions, the projected traffic flows associated with the Potential Future Development within the designated White Lands Area are illustrated in **Figure 25** below.

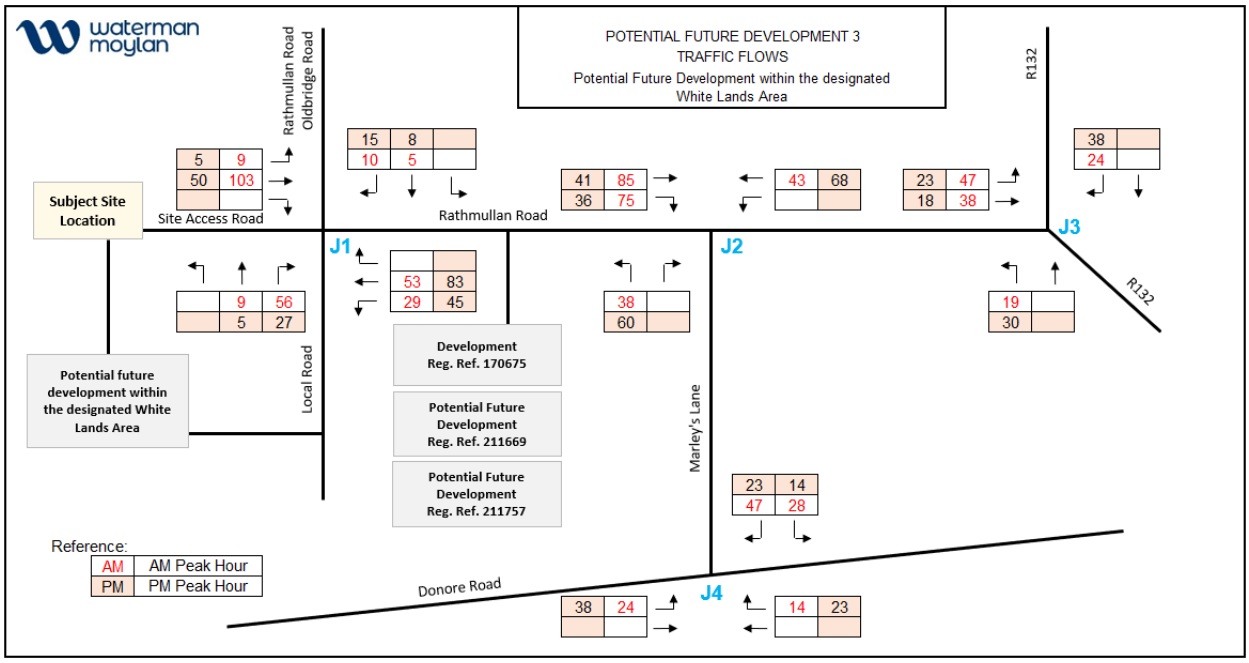


Figure 25 | *Potential Future Developments - Traffic Flows – Potential Future Development within the designated White Lands Area*

7.4 Traffic Growth rates

It has been assumed within this Traffic and Transport Assessment that the proposed development will be constructed to allow 2028 be the assumed year of opening. As per methodology adopted in the 'Transport Assessment Guidelines (May 2014)', which the subject TTA is based on, the surveyed junctions were also assessed for the future design years of 2033 (Opening year + 5 years) and 2043 (opening year +15 years).

The traffic growth rate used to factor up the 2025 base year traffic movements (refer to **Section 3.4** of this report) is in accordance with "*Table 6.2: Link-Based Growth Rates: County Annual Growth Rates (excluding Metropolitan Area)"* within the *TII Publications – Project Appraisal Guidelines for National Roads, Unit 5.3 – Travel Demand Projections (October 2021)*.

Based on the Traffic Survey, the urban growth area has been identified as the central area, where Light Vehicles are the predominant vehicle type.

The factors considered in the current assessment are shown below:

- Base line: 2025
- Opening year: 2028 = 1.053 (growth factor from 2025 to 2028)
- Opening year + 5: 2033 = 1.113 (growth factor from 2025 to 2033)
- Opening year + 15: 2043 = 1.189 (growth factor from 2025 to 2043)

8. Junction Assessment

8.1 Junctions Assessed

The junctions considered as part of this Traffic and Transport Assessment are the following:

- **Junction 1:** Proposed Signalised Crossroad: Rathmullan Road (E) / Local Road (S) / Site Access Road (W) / Rathmullan Road (N).
- **Junction 2:** Existing signalised T-junction: Rathmullan Road (E) / Marley's Lane (S) / Rathmullan Road (W).
- **Junction 3:** Existing priority-controlled T-junction: R132 Dublin Road (E) / Rathmullan Road (W) / R132 Dublin Road (N).
- **Junction 4:** Existing signalised T-junction: Donore Road (E) / Donore Road (W) / Marley's Lane (N).

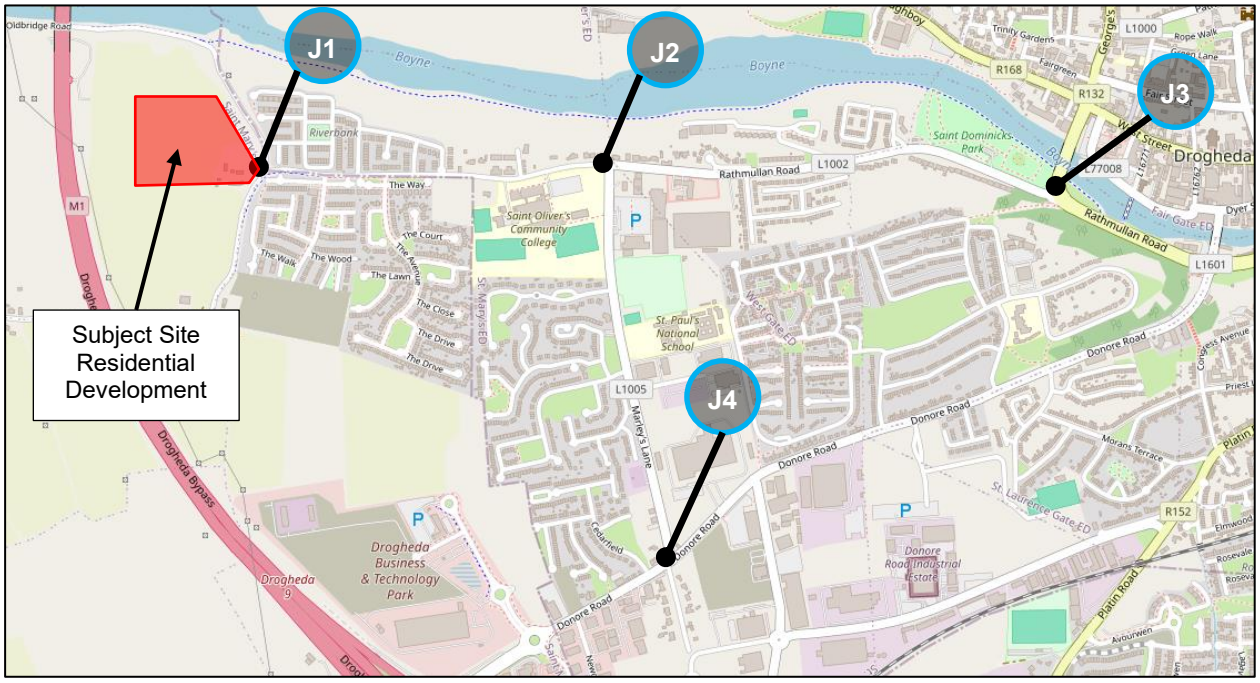


Figure 26 | *Assessed Junctions*
(Source: Open Street Map)

8.2 Traffic impact of the Subject Development

The TII document *Traffic and Transport Assessment Guidelines (2014)* provides thresholds in relation to the impact of a proposed development on the local road network. These thresholds are introduced in **Section 1.5** of this TTA.

The TII document indicates that the impact of new developments is considered to be significant if the level of traffic generated by them exceeds the thresholds of 10% for normal operating networks and 5% for

congested networks. When such levels of impact are generated, a more detailed assessment should be carried out to determine the specific impact on the operational performance of the network.

A summary of the existing two-way traffic and the expected traffic increase at each studied junction is presented below. The results help to determine the impact of the proposed development on traffic surrounding.

Junction	Junction Existing Flow - AM Peak Hour	Junction Existing Flow - PM Peak Hour	Additional Traffic Two-way Flow (AM)	Additional Traffic Two-way Flow (PM)	% Expected Increase (AM)	% Expected Increase (PM)
Junction 1	159	88	147	125	92.5%	142.0%
Junction 2	1594	1025	158	108	9.9%	10.5%
Junction 3	2033	2029	68	57	3.3%	2.8%
Junction 4	1231	1282	61	51	4.9%	4.0%

Table 8 | *Existing and Expected Two-way Flows*

As can be seen from the table above, junctions 1 and 2 exceed the 10% threshold, thus need to be modelled. In contrast, Junctions 3 and 4 are below the 5% threshold and therefore no further assessment is required.

8.3 Modelling Background

There are various modelling software packages available to assess every type of junction. Waterman Moylan uses ARCADY, TRANSYT and PICADY to analyse roundabouts, signalised and priority junctions, respectively.

ARCADY is a software for modelling roundabouts. This programme utilises roundabouts geometry and traffic flows input by the user to determine Ratio of Flow to Capacity (RFC) and queue length for each link on the roundabout.

TRANSYT (Traffic Network Study Tool) software is a widely accepted software for modelling signalled controlled junctions. This programme utilises the phases input by the user and optimises their timings over a cycle time. The outputs of a TRANSYT assessment include a Degree of Saturation percentage (DOS%) figure and queue length for each link on the road network.

PICADY is a software for modelling priority-controlled junctions. This programme utilises junction's geometry and traffic flows input by the user to determine Ratio of Flow to Capacity (RFC) and queue length for each link on the junction.

The results of the model include the following:

- DOS% / RFC ratio represents the ratio of demand flow to capacity. The practical capacity threshold is typically set at 0.85. A value below 0.85 indicates that the junction is operating in an efficient and stable state. A value between 0.85 and 1 represents variable operation and can be considered to be operating adequately if queuing and delay are deemed to be within an acceptable range. However, a junction is typically considered to be operating satisfactorily when the DOS%/RFC of each link does not exceed 0.9. A value exceeding 1 indicates a congested condition.

- Max Queue Length: This represents the maximum queue length of vehicles waiting to enter the junction on each arm.
- Average Delay: This shows the average amount of traffic delay at the junction per vehicle over the peak hour period.
- The number of vehicles depicted in the figure below is expressed in PCU, where PCU represents the acronym for "Passenger Car Unit." One PCU is equivalent to one passenger car or light goods vehicle (LGV), 1.5 PCUs are equivalent to one medium heavy goods vehicle (Medium HGV), 2 PCUs are equivalent to one bus, and 2 PCUs are equivalent to one large heavy goods vehicle (Large HGV). One PCU is equivalent to 5.75 meters.

8.4 Assessment Scenarios

The performance of the junctions has been analysed for the critical AM Peak Hour and PM Peak Hour (08:00 – 09:00 and 17:00 – 18:00) for the following scenarios:

- **2028 DO NOTHING** –Opening year, without development– (DN-2028): with 2025 base year factored up (refer to **Section 7.4** above) + traffic to/from the committed developments 1 & 2 (refer to **Section 7.3** above). Traffic flows are shown in **Figure 27**.
- **2033 DO NOTHING** –Opening year + 5 years, without development– (DN-2033): with 2025 base year factored up (refer to **Section 7.4** above) + traffic to/from the committed developments 1 & 2 (refer to **Section 7.3** above). Traffic flows are shown in **Figure 28**.
- **2043 DO NOTHING** –Opening year + 15 years, without development– (DN-2043): with 2025 base year factored up (refer to **Section 7.4** above) + traffic to/from the committed developments 1, 2 & 3 (refer to **Section 7.3** above). Traffic flows are shown in **Figure 29**.
- **2028 DO SOMETHING** –Opening year, with development– (DS-2028): (DN-2028) + Traffic to/from the Subject Development (refer to **Section 7.2** above). Traffic flows are shown in **Figure 30**.
- **2033 DO SOMETHING** –Opening year + 5 years, with development– (DS-2033): (DN-2033) + Traffic to/from the Subject Development (refer to **Section 7.2** above). Traffic flows are shown in **Figure 31**.
- **2043 DO SOMETHING** –Opening year + 15 years, with development– (DS-2043): (DN-2043) + Traffic to/from the Subject Development (refer to **Section 7.2** above). Traffic flows are shown in **Figure 32**.

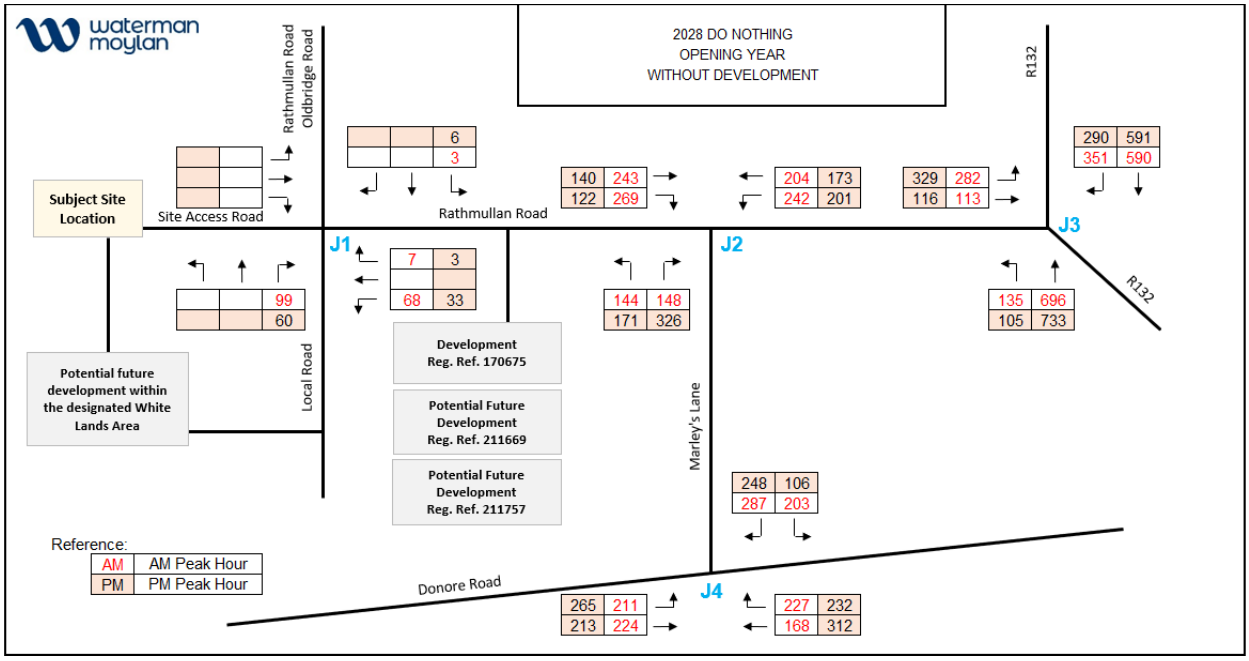


Figure 27 | *Traffic Flows - 2028 DO NOTHING - Opening year, Without Development*

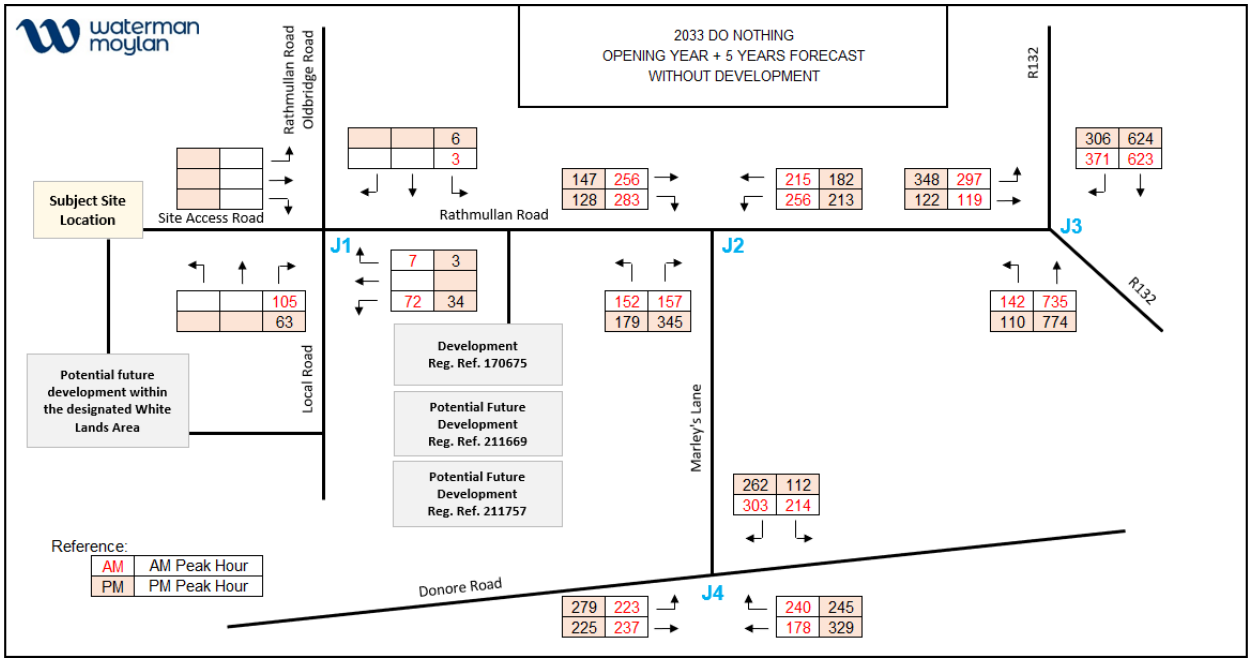


Figure 28 | *Traffic Flows - 2033 DO NOTHING - Opening year + 5 years, Without Development*

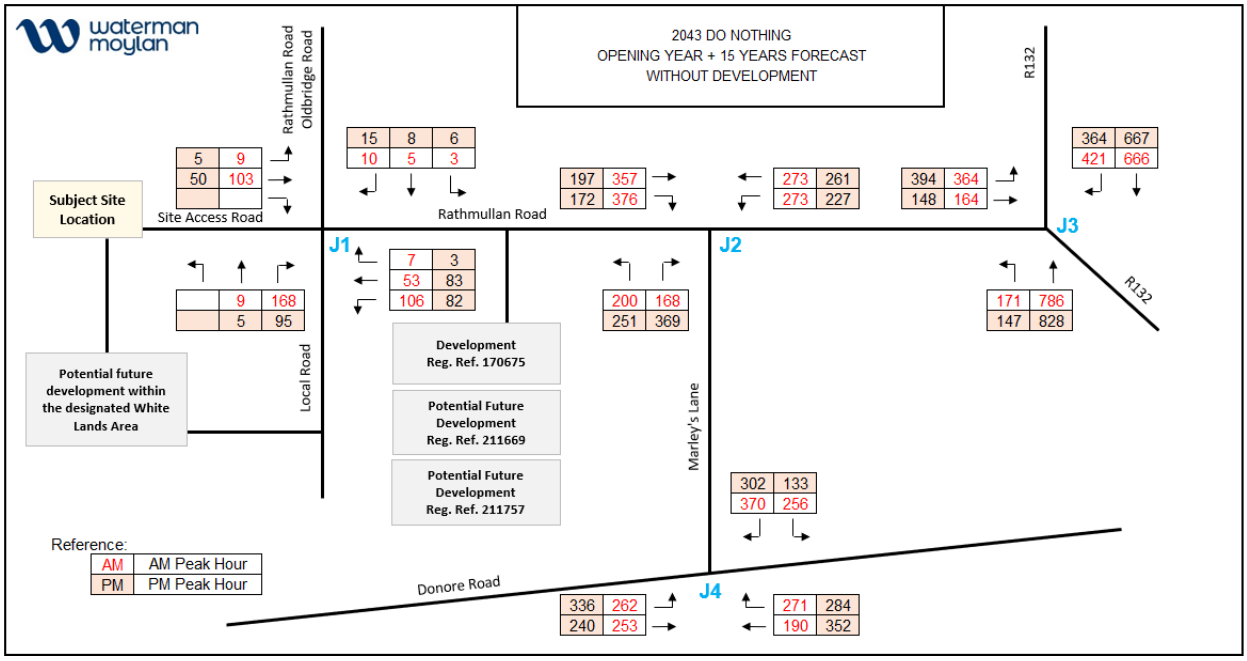


Figure 29 | *Traffic Flows - 2043 DO NOTHING - Opening year + 15 years, Without Development*

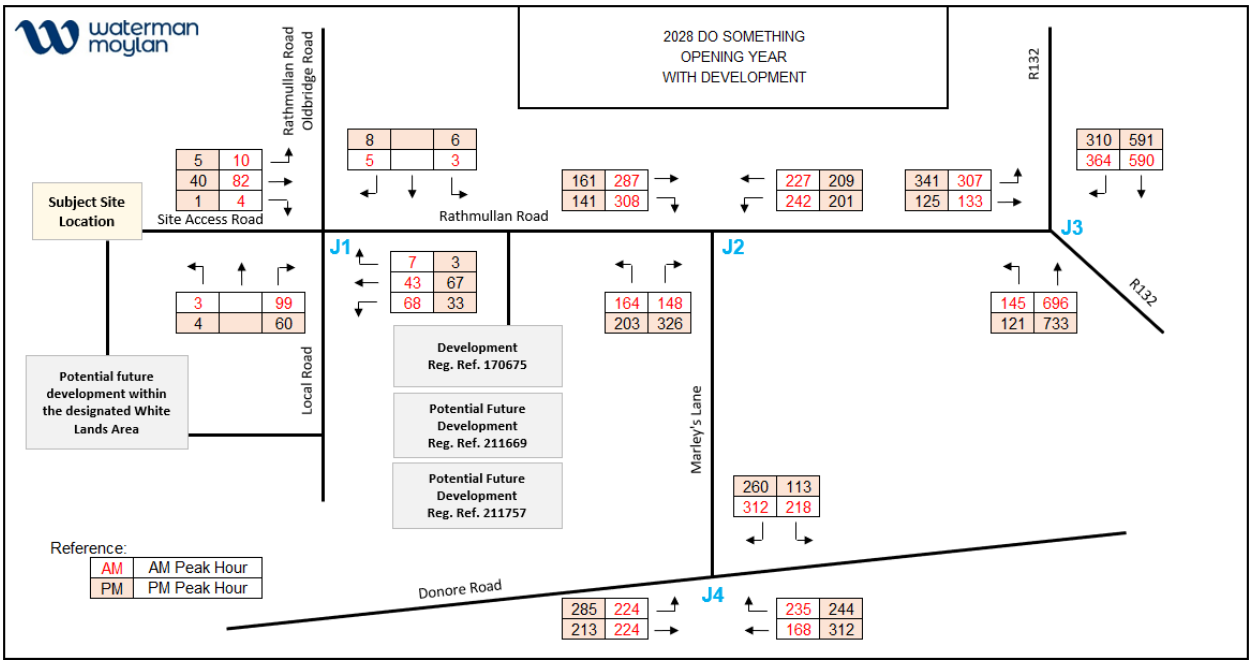


Figure 30 | *Traffic Flows - 2028 DO SOMETHING - Opening year, With Development*

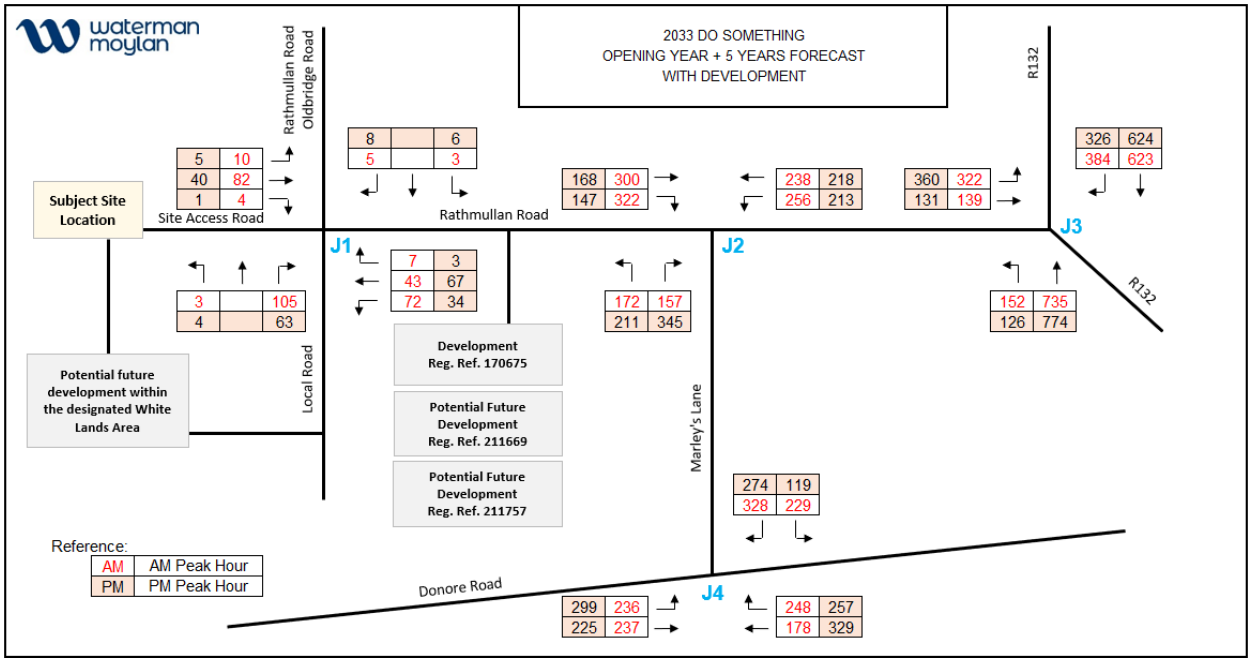


Figure 31 | *Traffic Flows - 2033 DO SOMETHING - Opening year + 5 years, With Development*

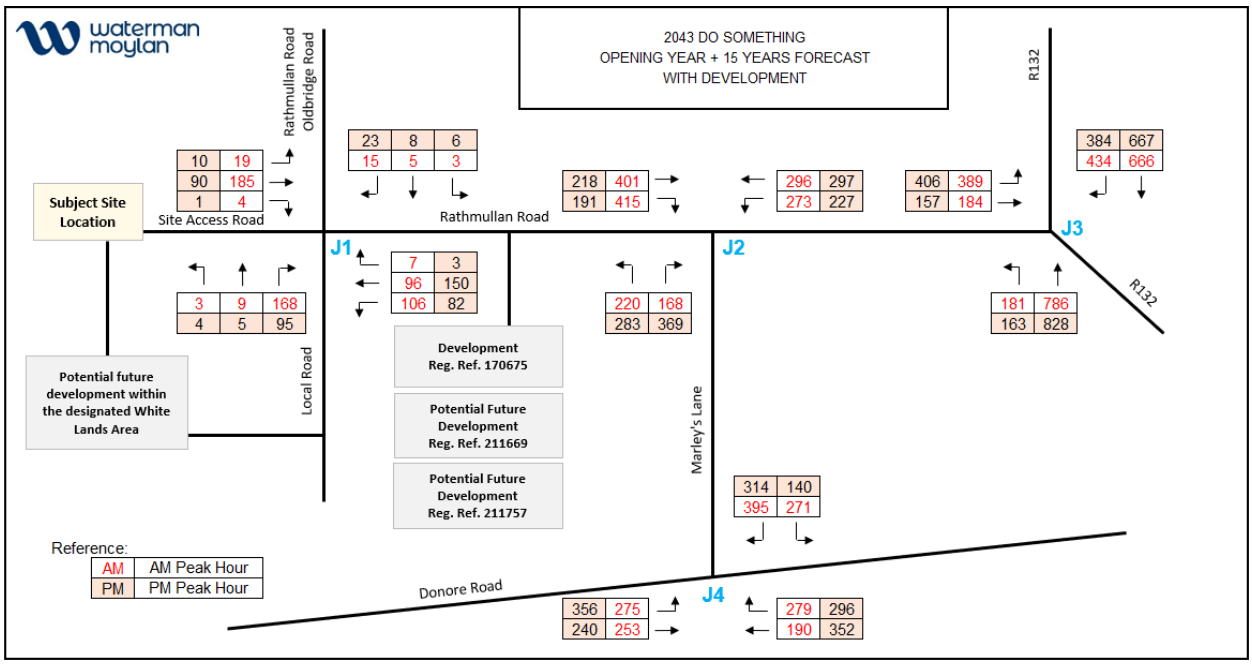


Figure 32 | *Traffic Flows - 2043 DO SOMETHING - Opening year + 15 years, With Development*

8.5 Junction Modelling Results

The main results of the traffic assessment for each section are presented below. Further details can be found in **Appendix D**.

8.5.1 Junction 1: Rathmullan Road, Local Road & Site Access Road

Junction 1 is an existing Priority-Controlled T-Junction situated at the intersection of Rathmullan Road and Local Road (see **Figure 6** above).

For the opening year of the subject site, this junction will be upgraded to a signalised crossroad including the site access road as can be seen in **Figure 15** above.

The arms of the junction were labelled as follows within Transyt 16 model:

- Arm A: Rathmullan Road (E)
- Arm B: Local Road (S)
- Arm C: Site Access Road (W)
- Arm D: Rathmullan Road (N)

The junction was modelled with a cycle time of 90 seconds, a pedestrian flow of 100 people per hour and the following sequence of movements.

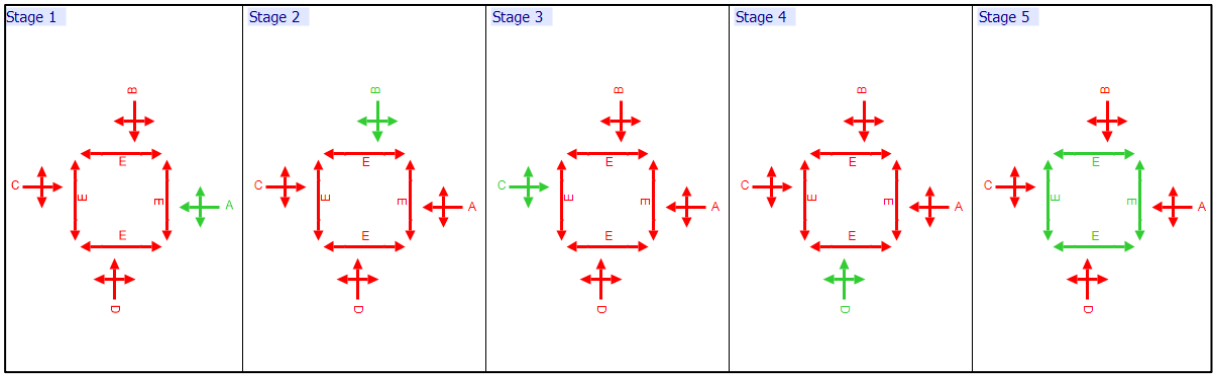


Figure 33 | *Junction 1 – Stage Sequence*

The results of the Transyt 16 analysis are presented below.

Arm (Mov.)	AM Peak Hour			PM Peak Hour		
	DOS	Delay (s)	Queue (PCU)	DOS	Delay (s)	Queue (PCU)
2028 DO NOTHING (DN-2028)						
A (S/L/R)	12	19.91	1.26	6	19.28	0.59
B (S/L/R)	31	34.72	2.21	18	31.8	1.27
C (S/L/R)	0	0	0	0	0	0
D (S/L/R)	2	38.03	0	4	38.25	0.14
2028 DO SOMETHING (DS-2028)						
A (S/L/R)	18	20.64	2.05	16	20.39	1.76
B (S/L/R)	32	34.89	2.28	19	31.95	1.36
C (S/L/R)	27	32.24	2.08	14	31.23	0.96
D (S/L/R)	5	38.4	0.18	9	38.89	0.32

2033 DO NOTHING (DN-2033)						
A (S/L/R)	12	19.97	1.33	6	19.3	0.61
B (S/L/R)	33	35.07	2.35	19	31.92	1.33
C (S/L/R)	0	0	0	0	0	0
D (S/L/R)	2	38.03	0	4	38.25	0.14
2033 DO SOMETHING (DS-2033)						
A (S/L/R)	19	20.72	2.12	16	20.4	1.78
B (S/L/R)	34	35.24	2.43	20	32.07	1.42
C (S/L/R)	27	32.24	2.08	14	31.23	0.96
D (S/L/R)	5	38.4	0.18	9	38.89	0.32
2043 DO NOTHING (DN-2043)						
A (S/L/R)	26	21.58	2.95	26	21.61	2.99
B (S/L/R)	55	40.62	4.37	29	33.57	2.2
C (S/L/R)	31	32.98	2.43	16	31.6	1.16
D (S/L/R)	11	39.23	0.42	18	40.53	0.69
2043 DO SOMETHING (DS-2043)						
A (S/L/R)	33	22.52	3.85	37	23.13	4.41
B (S/L/R)	56	40.95	4.46	31	33.77	2.29
C (S/L/R)	58	39.33	5.07	30	33.62	2.22
D (S/L/R)	14	39.75	0.54	23	41.56	0.89

Table 9 | *Junction 1 – Assessment Result*

The results indicate that the junction would operate within its capacity for the 2043 DO SOMETHING scenario during both peak periods.

During the AM peak hour, the highest DOS is 58%, with a corresponding queue of 5.07 vehicles. This is achieved on the Site Access Road (W). During the PM peak hour, the highest DOS is 37% with a corresponding queue of 4.41 vehicles. This is reached Rathmullan Road (E).

8.5.2 Junction 2 Rathmullan Road, Marley's Lane & Rathmullan Road

Junction 2 is an existing signalised T-junction situated at the intersection of Rathmullan Road, Marley's Lane & Rathmullan Road (see **Figure 6** above).

The arms of the junction were labelled as follows within Transyt 16 model:

- Arm A: Rathmullan Road (W)
- Arm B: Marley's Lane (S)
- Arm C: Rathmullan Road (E)

The junction was modelled with a cycle time of 90 seconds, a pedestrian flow of 100 people per hour and the following sequence of movements.

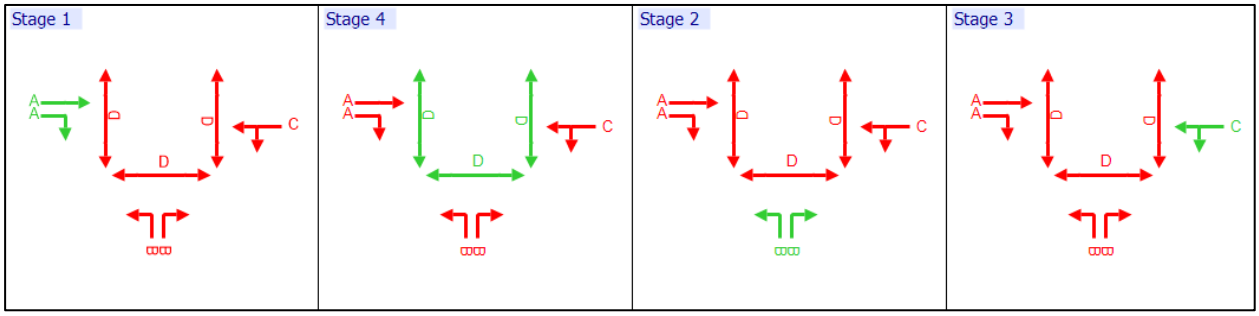


Figure 34 | *Junction 2 – Stage Sequence*

The results of the Transyt 16 analysis are presented below.

Arm (Mov.)	AM Peak Hour			PM Peak Hour		
	DOS	Delay (s)	Queue (PCU)	DOS	Delay (s)	Queue (PCU)
2028 DO NOTHING (DN-2028)						
A (S/L/R)	66	28.16	9.79	57	26.33	7.74
B (L)	48	39.47	3.46	33	26.85	3.41
B (R)	49	39.85	3.57	63	33.54	7.58 +
C (S)	43	27.15	4.96 +	39	34.4	3.16
C (L)	48	28.07	5.60 +	34	33.46	2.7
2028 DO SOMETHING (DS-2028)						
A (S/L/R)	69	29.37	10.53	62	27.81	8.82
B (L)	55	41.54	4.06	39	27.86	4.18
B (R)	49	39.85	3.57	63	33.54	7.58 +
C (S)	51	28.77	6.09 +	45	35.65	3.71 +
C (L)	55	29.67	6.66 +	39	34.46	3.18
2033 DO NOTHING (DN-2033)						
A (S/L/R)	69	29.48	10.58	60	27.16	8.45
B (L)	51	40.24	3.68	34	27.08	3.62
B (R)	52	40.76	3.86	66	34.88	8.22 +
C (S)	46	27.6	5.31 +	41	34.81	3.33
C (L)	51	28.61	6.00 +	36	33.77	2.84
2023 DO SOMETHING (DS-2023)						
A (S/L/R)	73	30.92	11.51	65	28.81	9.47
B (L)	57	42.5	4.3	41	28.14	4.36
B (R)	52	40.76	3.86	66	34.88	8.22 +
C (S)	54	29.32	6.47 +	47	36.12	3.89 +
C (L)	58	30.33	7.09 +	41	34.81	3.33
2043 DO NOTHING (DN-2043)						
A (S/L/R)	80	35.43	13.71	74	32.35	11.6
B (L)	67	46.86	5.32	48	29.66	5.38
B (R)	56	42.01	4.18	71	36.92	9.05 +
C (S)	64	32.23	8.19 +	55	38.32	4.70 +
C (L)	67	33.47	8.82 +	48	36.4	3.99 +
2043 DO SOMETHING (DS-2043)						
A (S/L/R)	84	38.38	14.84	79	35.63	13.12
B (L)	73	51.44	6.16 +	54	31.11	6.22 +
B (R)	56	42.01	4.18	71	36.92	9.05 +

C (S)	72	35.43	9.68 +	61	40.33	5.36 +
C (L)	74	36.74	10.26 +	53	37.83	4.54 +

Table 10 | *Junction 2 – Assessment Result*

The results indicate that the junction would operate within its capacity for the 2043 DO SOMETHING scenario during both peak periods.

During the AM peak hour, the highest DOS is 84%, with a corresponding queue of 14.84 vehicles. This is achieved on the eastbound Rathmullan Road (W). During the PM peak hour, the highest DOS is 79% with a corresponding queue of 13.12 vehicles. This is reached also on eastbound Rathmullan Road (W).

8.6 Summary of the Junction Assessment

The results of the assessment of the junctions demonstrate that each of the junctions would operate within their respective capacities for all assessment years and scenarios assessed. In summary, the following conclusion can be drawn:

- Junction 1 is a proposed signalised crossroad situated at the intersection of Rathmullan Road, Local Road & Site Access Road. The results indicate that the junction would operate within its capacity for the 2043 DO SOMETHING scenario during both peak periods.
- Junction 2 is an existing signalised T-junction situated at the intersection of Rathmullan Road, Marley's Lane & Rathmullan Road. The results indicate that the junction would operate within its capacity for the 2043 DO SOMETHING scenario during both peak periods.
- Junctions 3 and 4 are below the 5% threshold, as indicated in **Section 8.2** above, and therefore no further assessment has been carried out.

9. Parking Strategy

9.1 Car Parking

To determine the appropriate amount of car and cycle parking for the Subject Development, reference will be made to the following guidelines/policies:

- Sustainable Urban Housing: Design Standards for New Apartments (2025)
- Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)
- Meath County Development Plan 2021-2027 (Consolidated version, incl. Variations 1, 2 & 3)

9.1.1 Sustainable Urban Housing: Design Standards for New Apartments (2025)

The following extract from the *Sustainable Urban Housing: Design Standards for New Apartments (2025)*, summarises the car parking guidelines for new apartments:

Having regard to the types of location in cities and towns that may be suitable for apartment development, car parking ratios should be minimised, substantially reduced or wholly eliminated at locations that have good access to urban services and to public transport. Maximum car parking rates are set out in Section 5.25 (SPPR 3) of the SRDCSGs.

9.1.2 Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)

The *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities* set national planning policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements.

Chapter 5.3.4 Car Parking – Quantum, Form and Location divided the car parking spaces in three areas:

(i) In city centres and urban neighbourhoods of the five cities, defined in Chapter 3 of that document (Table 3.1 and Table 3.2) car-parking provision should be minimised, substantially reduced or wholly eliminated. The maximum rate of car parking provision for residential development at these locations, where such provision is justified to the satisfaction of the planning authority, shall be 1 no. space per dwelling.

(ii) In accessible locations, defined in Chapter 3 of that document (Table 3.8) car- parking provision should be substantially reduced. The maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 1.5 no. spaces per dwelling.

(iii) In intermediate and peripheral locations, defined in Chapter 3 of that document (Table 3.8) the maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 2 no. spaces per dwelling.

Table 3.1 of *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities* indicates the following:

City – Centre: The city centres of Dublin and Cork, comprising the city core and immediately surrounding neighbourhoods, are the most central and accessible urban locations nationally with the greatest intensity of land uses, including higher order employment, recreation, cultural, education, commercial and retail uses. It is a policy and objective of these Guidelines that residential densities in the range 100 dph to 300 dph (net) shall generally be applied in the centres of Dublin and Cork.

City - Urban Neighbourhoods: The city urban neighbourhoods category includes: (i) the compact medium density residential neighbourhoods around the city centre that have evolved overtime to include a greater range of land uses, (ii) strategic and sustainable development locations, (iii) town centres designated in a statutory development plan, and (iv) lands around existing or planned high-capacity public transport nodes or interchanges (defined in Table 3.8) – all within the city and suburbs area. These are highly accessible urban locations with good access to employment, education and institutional uses and public transport. It is a policy and objective of these Guidelines that residential densities in the range 50 dph to 250 dph (net) shall generally be applied in urban neighbourhoods of Dublin and Cork.

City - Suburban/Urban Extension: Suburban areas are the lower density car-orientated residential suburbs constructed at the edge of cities in the latter half of the 20th and early 21st century, while urban extension refers to the greenfield lands at the edge of the existing built-up footprint that are zoned for residential or mixed-use (including residential) development. It is a policy and objective of these Guidelines that residential densities in the range 40 dph to 80 dph (net) shall generally be applied at suburban and urban extension locations in Dublin and Cork, and that densities of up to 150 dph (net) shall be open for consideration at 'accessible' suburban / urban extension locations (as defined in Table 3.8).

Table 3.8 of *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities* indicates:

High-Capacity Public Transport Node or Interchange: Lands within 1,000m walking distance of an existing or planned high-capacity urban public transport node or interchange, namely an interchange or node that includes DART, high frequency Commuter Rail, light rail or MetroLink services; or locations within 500m walking distance of an existing or planned BusConnects 'Core Bus Corridor' stop.

Accessible Location: Lands within 500m (i.e. up to 5-6-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services.

Intermediate Location: Lands within 500-1,000m (i.e. 10-12-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services; and Lands within 500m (i.e. 6-minute walk) of a reasonably frequent (minimum 15-minute peak hour frequency) urban bus service.

Peripheral: Lands that do not meet the proximity or accessibility criteria detailed above. This includes all lands in Small and Medium Sized Towns and in Rural Towns and Villages.

Applicants should be required to provide a rationale and justification for the number of car parking spaces proposed and to satisfy the planning authority that the parking levels are necessary and appropriate, particularly when they are close to the maximum provision. The maximum car parking standards do not include bays assigned for use by a car club, designated short stay on–street Electric Vehicle (EV) charging stations or accessible parking spaces. The maximum car parking standards do include provision for visitor parking.

Based on the information descripted in **Section 3** and **4** above, it can be concluded that the current development is situated in a *Peripheral Location*.

The nearest bus stop is located c.350m (or 4-minute walking) from the Proposed Development. This bus stop is served by route 173 operated by Bus Eireann. The route 173 has a frequency of 60 minutes between 9:00 and 19:00.

Furthermore, the site is situated at c. .7km from the rail station Drogheda MacBride Station. This distance can be reached in 50-minute walking, or 16-minute cycling or 13-minutes driving. Drogheda MacBride Station has some 400 no. car parking spaces available. In addition, there is an important area dedicated to cycle parking which can receive some 200 no. bikes sheltered. This rail station is served by several rail routes as has been described in **Section 3.5.4** above.

From what was indicated above, it is considered that the present development is in a *Peripheral Location.* Therefore, according with the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024), the following number of car parking spaces should be provided.

Maximum number of car parking spaces					
Unit Type	No. units	Residential Ratio	Visitor Ratio	Residential Total	Visitor Total
2-bed houses	37	2	-	74	-
3-bed houses	111	2	-	222	-
4-bed houses	22	2	-	44	-
1-bed apartments	22	2	-	44	-
2-bed apartments	25	2	-	50	-
1-bed duplexes	16	2	-	32	-
2-bed duplexes	16	2	-	32	-
TOTAL	249 units	**-**	**-**	**498**	**-**

***Table 11** | Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024) – Maximum number of car parking spaces.*

As indicated in Table 3.8 of the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities: *the maximum car parking standards do include provision for visitor parking.*

9.1.3 Meath County Development Plan 2021-2027 (Consolidated version, incl. Variations 1, 2 & 3)

The Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3) sets out the car parking standards. Table 11.2 of that document, which is reproduced below, indicates the number of car parking spaces for each land use.

Land Use	Car Spaces
Dwellings / Apartments	Accessible locations: Maximum of 1.5 spaces per dwelling / unit Intermediate and peripheral locations: Maximum should be 2 per dwelling/unit
Crèche	1 per employee. 1 per 4 children plus dedicated set down area

Table 12 | *Meath County Council Development Plan (2021 – 2027) – Car Parking Standards.*

In accordance with the County Development Plan: "*Accessible, intermediate and peripheral locations are defined in the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities 2024"* (Refer to footnote 3 in Table 11.2: Car Parking of the Consolidated Meath County Development Plan 2021–2027, including Variations 1, 2 and 3).

In addition, as indicated in Table 3.8 of the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities: *the maximum car parking standards do include provision for visitor parking.*

The Development Plan also states the following with regards to car parking:

> "*Accessible car parking spaces shall be provided at a minimum rate of 5% of the total numberofspaces,fordevelopmentsrequiringmorethan10carparkingspaces,with the minimum provision being one space (unless the nature of the development requires otherwise). Such spaces shall be proximate to the entry points of buildings and comply with the requirements of the Building Regulations."*
>
> *"Residential car parking can be reduced at the discretion of the Council, where development is proposed in areas with good access to services and strong public transport links"*
>
> *"Non-residential car parking standards are set down as "maxima" standards"*
>
> *"**DM OBJ 94**: All car parks shall include the provision of necessary wiring and ducting to be capable of accommodating future Electric Vehicle charging points, at a rate of 20% of total space numbers."*

Given the assessment carried out in Section 9.1.2 above, the Subject Site fall within a *Peripheral Location.* The table below shows the number of car parking spaces for the subject site based on the value given in **Table 12** above.

Standard number of car parking spaces					
Unit Type	No. units	Residential Ratio	Visitor Ratio	Residential Total	Visitor Total
2-bed houses	37	2	-	74	-
3-bed houses	111	2	-	222	-
4-bed houses	22	2	-	44	-
1-bed apartments	22	2	-	44	-
2-bed apartments	25	2	-	50	-
1-bed duplexes	16	2	-	32	-

2-bed duplexes	16	2	-	32	-
Crèche	10no. Staff + 47 no. pupils	1 Staff	0.25 Pupils	10	-
TOTAL	249 units	**-**	**-**	**508**	**-**

***Table 13** | Meath County Council Development Plan (2021 – 2027) – Standard number of Car Parking Spaces.*

9.1.4 Car Parking Proposed

the proposed car parking spaces are presented in the table below.

Proposed number of car parking spaces					
Unit Type	No. units	Residential Ratio	Visitor Ratio	Residential Total	Visitor Total
2-bed houses	37	1	-	37	-
3-bed houses	111	2	-	222	-
4-bed houses	22	2	-	44	-
1-bed apartments	22	1	-	22	-
2-bed apartments	25	1	-	25	-
1-bed duplexes	16	1	-	16	-
2-bed duplexes	16	1	-	16	-
Crèche	10no. Staff	0.25 Staff		4	4
Additional Site Car parking spaces				-	6
TOTAL	249 units	**-**	**-**	**386**	**10**

Table 14 | *Proposed Car Parking Spaces*

A total of 396 no. car parking spaces is proposed for the Proposed Development including 386 no. car parking spaces destinated for residents, 8 no. parking spaces for creche and 6 no. car parking spaces for visitors distributed throughout the development.

The subject site proposes a total number of car parking spaces in accordance with both the Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3) and Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024), with a minor deviation for 1-bed and 2-bed units.

The Guidelines indicates that "*Applicants should be required to provide a rationale and justification for the number of car parking spaces proposed and to satisfy the planning authority that the parking levels are necessary and appropriate, particularly when they are close to the maximum provision*".

Accordingly, it is anticipated that the proposed number of car parking spaces will be below the maximum indicated. In line with this, a reduced car parking ratio has been proposed for the one-bedroom units, which are designed to accommodate two occupants, and the two-bedroom units, which are intended for three occupants.

This reduction aligns with Section 5.7 of the MCDP, which emphasises the importance of contributing to Ireland's carbon emission reduction targets—30% by 2030 and 80% by 2050. In addition, as indicated in Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024), *in order to meet the targets, set out in the National Sustainable Mobility Policy 2022 and in the Climate Action Plan 2023 for reduced private car travel, it is necessary to apply a graduated approach to the management of car parking within new residential development*.

9.2 Cycle Parking

9.2.1 Sustainable Urban Housing: Design Standards for New Apartments (2025)

The following extract from the Sustainable Urban Housing: Design Standards for New Apartments (2025), summarises the bicycle parking guidelines for new apartments:

> *Requirements for the quantity and design of bicycle parking are set out in Section 5.25 (including SPPR 4) of the SRDCSGs*

9.2.2 Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)

The *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities* set national planning policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements.

The chapter 5.3.5 Bicycle Parking and Storage indicate that in areas of high and medium accessibility, planning authorities must ensure that new residential developments have high quality cycle parking and cycle storage facilities for both residents and visitors. Access to secure storage of bicycles is a key concern for residents in more compact housing developments.

It is a specific planning policy requirement of these Guidelines that all new housing schemes (including mixed-use schemes that include housing) include safe and secure cycle storage facilities to meet the needs of residents and visitors. The following requirements for cycle parking and storage are recommended:

(i) **Quantity** – in the case of residential units that do not have ground level open space or have smaller terraces, a general minimum standard of one cycle storage space per bedroom should be applied. Visitor cycle parking should also be provided. Any deviation from these standards shall be at the discretion of the planning authority and shall be justified with respect to factors such as location, quality of facilities proposed, flexibility for future enhancement/ enlargement, etc. It will be important to make provision for a mix of bicycle parking types including larger/heavier cargo and electric bikes and for individual lockers.

(ii) **Design** – cycle storage facilities should be provided in a dedicated facility of permanent construction, within the building footprint or, where not feasible, within an adjacent or adjoining purpose-built structure of permanent construction. Cycle parking areas shall be designed so that cyclists feel safe. It is best practice that either secure cycle cage/compound or preferably locker facilities are provided.

Table 15 below shows the Bicycle Parking Spaces *required by Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024).*

Minimum number of cycle parking spaces					
Unit Type	No. units	Residential Ratio	Visitor Ratio	Residential Total	Visitor Total
2-bed mid-terrace houses	23	2	0.5	46	12
2-bed mid-detached houses	14	-	-	-	-
3-bed mid-terrace houses	38	3	0.5	114	19
3-bed mid-detached houses	73	-	-	-	-
4-bed houses	22	-	-	-	-
1-bed apartments	22	1	0.5	22	11
2-bed apartments	25	2	0.5	15	12
1-bed duplexes	16	1	0.5	16	8
2-bed duplexes	16	2	0.5	32	8
TOTAL	249	**-**	**-**	**245**	**70**

Table 15 | *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)– Minimum number of cycle parking spaces*

9.2.3 Meath County Development Plan 2021-2027 (Consolidated version, incl. Variations 1, 2 & 3)

The *Consolidated Meath County Council Development Plan 2021-2027 (incl. Variation 1, 2 & 3)* sets out the standard for cycle parking in Table 11.4 of that document, which is reproduced below.

Land Use	Standard
Houses	Not applicable
Apartments	Minimum of 1 private secure bicycle space per bedroom (note – design should not require bicycle access via living area) 1 visitor bicycle space per 2 housing units
Schools (Crèche)	25% of pupil registration numbers, minimum of 10 spaces

Table 16 | *MCCDP (2021 – 2027) – Bicycle Parking Standard*

The Development Plan also states the following with regards to cycle parking:

> ***"DM OBJ 99:*** *In residential developments without private gardens or wholly dependent on balconies for private open space, covered secure bicycle stands should be provided in private communal areas."*
>
> ***"DM OBJ 96****: To require the provision of cycle parking facilities in accordance with the Design Standards for New Apartments (March 2018) and Table 11.4 Cycle Parking Standards."*

The standard presented in **Table 16** is employed to delineate the requisite bicycle parking provisions for the proposed development in accordance with the *Consolidated Meath County Council Development Plan 2021-2027 (incl. Variation 1, 2 & 3)*.

Minimum number of cycle parking spaces					
Unit Type	No. units	Residential Ratio	Visitor Ratio	Residential Total	Visitor Total
2-bed mid-terrace houses	23	-	-	-	-
2-bed mid-detached houses	14	-	-	-	-
3-bed mid-terrace houses	38	-	-	-	-
3-bed mid-detached houses	73	-	-	-	-
4-bed houses	22	-	-	-	-
1-bed apartments	22	1	0.5	22	11
2-bed apartments	25	2	0.5	50	12
1-bed duplexes	16	1	0.5	16	8
2-bed duplexes	16	2	0.5	32	8
Crèche	10no. Staff + 47 no. pupils	-	25% Pupils	-	11
TOTAL	**249 units**	**-**	**-**	**120**	**50**

Table 17 | *Meath County Council Development Plan (2021 – 2027) – Minimum number of Cycle Parking Spaces*

9.2.4 Bicycle Parking Proposed

It is proposed for the subject development a total of 170 no. cycle parking spaces are provided which follows the minimum number of cycle parking spaces required.

It is well established that the availability of car parking significantly influences travel choices, including for short, local journeys. As outlined in the planning authority guidelines, *studies indicate that in areas where car parking provision is reduced, individuals are more likely to opt for walking, cycling, or public transport for their daily travel*. Accordingly, the proposed development includes a considered reduction in the number of car parking spaces, aimed at decreasing car dependency. In support of this approach, a Travel Plan has been developed to encourage residents to adopt more sustainable modes of transport, such as cycling and car-sharing schemes. Further details are provided in Waterman Moylan Consulting Engineers report No. 18-014r.403 MMP, included in the planning application package under separate cover.

10. Non-technical Summary

10.1 Summary

This Traffic and Transport Assessment has been prepared by Waterman Moylan as part of the planning application for the proposed development located in Rathmullan, Drogheda, Co. Meath.

The proposed scheme consists of a residential development with 249 residential units (170 houses and 79 apartments/duplexes units) and a Crèche (411 sqm).

Based on the existing programme, construction will be completed in one phase, provisionally planned to commence in 2026, with a 24-month construction programme. Therefore, for the purpose of this Traffic and Transport Assessment, the estimated opening year of the Subject Site is 2028.

Access to the Proposed Development is provided via a new signalised crossroad located to the east of the site at the intersection of Rathmullan Road and Local Road. The internal layout of the Proposed Development provides pedestrian pathways to link internal units to the surrounding pedestrian network and to internal public spaces.

In addition, given that the agricultural lands located to the west and south of the Proposed Site -identified as areas designated for future development to support the expansion of the urban area-, these lands are anticipated to be developed for residential use. Accordingly, several pedestrian and vehicular connections are proposed to integrate the subject site with future developments to the east and south.

10.2 Conclusion

The main conclusions obtained in this TTA report are:

It is estimated that the area within the subject development will generate a total of 148 vehicle movements during the AM peak hour (50 arrivals and 98 departures) and 126 vehicle movements during the PM peak hour (79 arrivals and 47 departures).

The performance of the assessed junction has been analysed for the critical AM Peak Hour and PM Peak Hour (08:00 – 09:00 and 17:00 – 18:00) for the following scenarios:

- **2028 DO NOTHING** –Opening year, without development– (DN-2028): with 2025 base year factored up + traffic to/from the committed developments 1 & 2.
- **2033 DO NOTHING** –Opening year + 5 years, without development– (DN-2033): with 2025 base year factored up + traffic to/from the committed developments 1 & 2.
- **2043 DO NOTHING** –Opening year + 15 years, without development– (DN-2043): with 2025 base year factored up + traffic to/from the committed developments 1, 2 & 3.
- **2028 DO SOMETHING** –Opening year, with development– (DS-2028): (DN-2028) + Traffic to/from the Subject Development.
- **2033 DO SOMETHING** –Opening year + 5 years, with development– (DS-2033): (DN-2033) + Traffic to/from the Subject Development.
- **2043 DO SOMETHING** –Opening year + 15 years, with development– (DS-2043): (DN-2043) + Traffic to/from the Subject Development.

The junctions assessed as part of this TTA are the following:

- **Junction 1:** Proposed Signalised Crossroad: Rathmullan Road (E) / Local Road (S) / Site Access Road (W) / Rathmullan Road (N).
- **Junction 2:** Existing signalised T-junction: Rathmullan Road (E) / Marley's Lane (S) / Rathmullan Road (W).
- **Junction 3:** Existing priority-controlled T-junction: R132 Dublin Road (E) / Rathmullan Road (W) / R132 Dublin Road (N).
- **Junction 4:** Existing signalised T-junction: Donore Road (E) / Donore Road (W) / Marley's Lane (N).

The TII document *Traffic and Transport Assessment Guidelines (2014)* provides thresholds in relation to the impact of a proposed development on the local road network. Based on those thresholds, Junctions 1 and 2 exceed the 10% threshold mentioned above, thus need to be modelled. In contrast, Junctions 3 and 4 are below the 5% threshold and therefore no further assessment is required.

The results of the assessment of the junctions demonstrate that each of the junctions would operate within their respective capacities for all assessment years and scenarios assessed.

Parking Assessment

To determine the appropriate amount of car and cycle parking for the Proposed Development, reference has been made to the following guidelines/policies:

- Sustainable Urban Housing: Design Standards for New Apartments (2025)
- Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024).
- Meath County Development Plan 2021-2027 (Consolidated version, incl. Variations 1, 2 & 3).

For the car parking spaces, the Subject Site proposes a total number of car parking spaces in accordance with both the Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3) and Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024), with a minor deviation for 1-bed and 2-bed units.

The Guidelines indicates that "Applicants should be required to provide a rationale and justification for the number of car parking spaces proposed and to satisfy the planning authority that the parking levels are necessary and appropriate, particularly when they are close to the maximum provision".

Accordingly, it is anticipated that the proposed number of car parking spaces will be below the maximum indicated. In line with this, a reduced car parking ratio has been proposed for the one-bedroom units, which are designed to accommodate two occupants, and the two-bedroom units, which are intended for three occupants.

This reduction aligns with Section 5.7 of the MCDP, which emphasises the importance of contributing to Ireland's carbon emission reduction targets—30% by 2030 and 80% by 2050.

In addition, as indicated in Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024), *in order to meet the targets, set out in the National Sustainable Mobility Policy 2022 and in the Climate Action Plan 2023 for reduced private car travel, it is necessary to apply a graduated approach to the management of car parking within new residential development*.

Therefore, it is proposed a total of 396 no. car parking spaces is proposed for the Proposed Development including 386 no. car parking spaces destinated for residents, 8 no. parking spaces for creche and 6 no. car parking spaces for visitors distributed throughout the development.

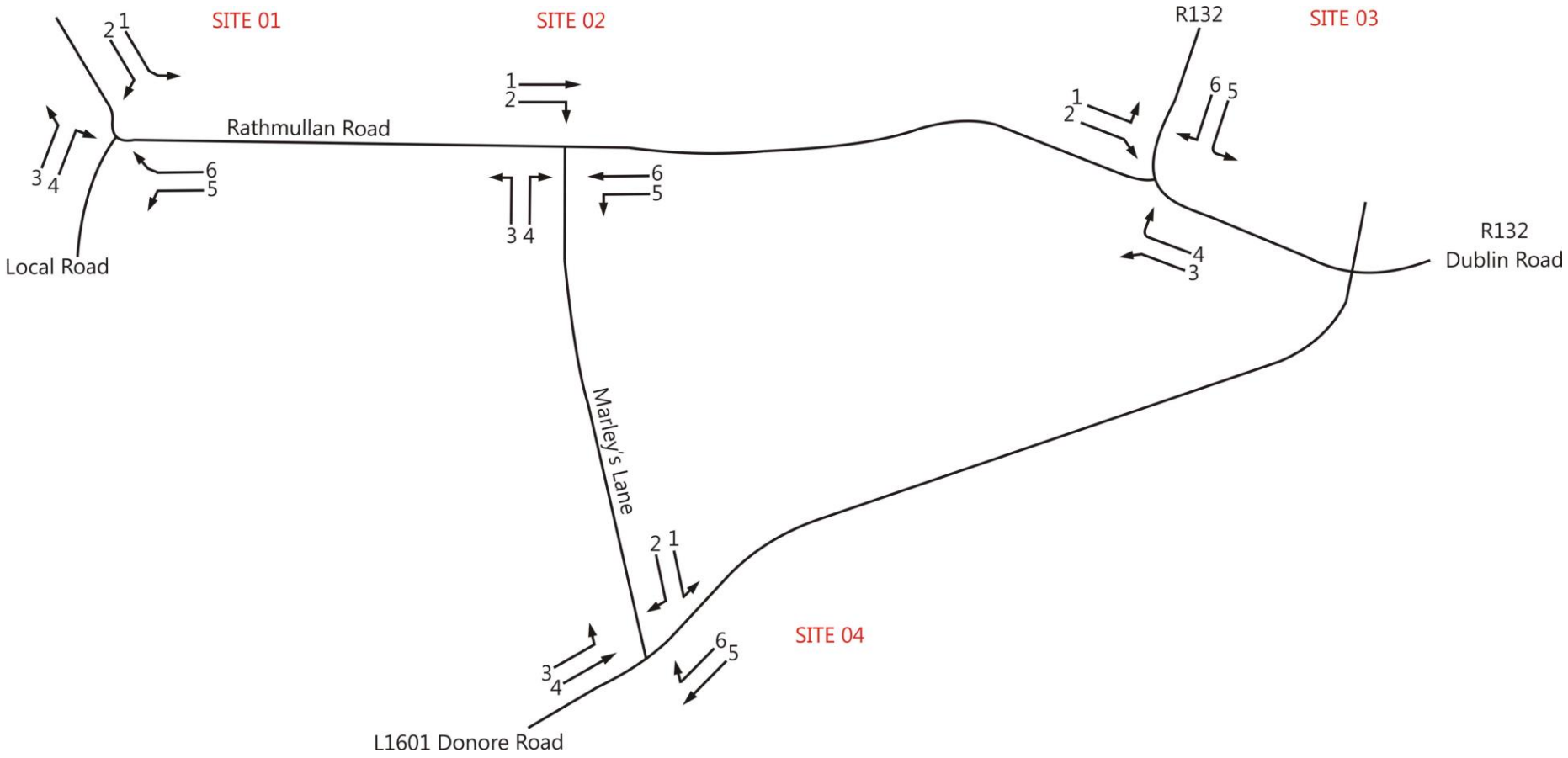
Furthermore, the site includes several cycling facilities, such as dedicated cycle infrastructure and bicycle storage areas to support a resilient and sustainable transport infrastructure. The proposed site includes a total number of 170 cycle parking spaces in accordance with the Consolidated Meath County Development Plan 2021-2027 (incl. Variations 1, 2 & 3).

It is well established that the availability of car parking significantly influences travel choices, including for short, local journeys. As outlined in the planning authority guidelines, *studies indicate that in areas where car parking provision is reduced, individuals are more likely to opt for walking, cycling, or public transport for their daily travel*. Accordingly, the proposed development includes a considered reduction in the number of car parking spaces, aimed at decreasing car dependency. In support of this approach, a Travel Plan has been developed to encourage residents to adopt more sustainable modes of transport, such as cycling and car-sharing schemes. Further details are provided in Waterman Moylan Consulting Engineers report No. 18-014r.403 MMP, included in the planning application package under separate cover.

Appendices

A. Surveyed Traffic Flows

Site/Movement Numbering



Job number: TRA/22/023	Job date: 25th January 2022	Drawing No: TRA/22/023-02	traffinomics.ie
Client: Waterman-Moylan	Job day Tuesday	Author: SPW	

TRAFFINOMICS LIMITED

DROGHEDA TRAFFIC COUNTS JANUARY 2022
MANUAL CLASSIFIED JUNCTION TURNING COUNTS TRA/22/023

SITE: 01 DATE: 25th January 2022

LOCATION: Rathmullan Road/Local Road DAY: Tuesday

TIME	MOVEMENT 1 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 2 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 3 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 4 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 5 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 6 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	PCU's Through Junction
07:00	7	2	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:00	0	0	0	0	0	0	0	1	0	0	0	0	1	1	5	0	0	0	0	5	5	15
07:15	7	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:15	3	0	0	0	0	3	3	1	0	0	0	0	1	1	3	3	0	0	0	6	6	17
07:30	9	2	0	0	1	12	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:30	0	0	0	0	0	0	0	3	0	1	0	0	4	5	4	0	0	0	0	4	4	22
07:45	12	1	1	0	2	16	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	07:45	1	0	1	0	3	5	9	2	1	0	0	0	3	3	11	3	0	0	0	14	14	44
H/TOT	35	5	1	0	3	44	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**H/TOT**	4	0	1	0	3	8	12	7	1	1	0	0	9	10	23	6	0	0	0	29	29	98
08:00	13	1	0	0	1	15	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	08:00	2	2	0	0	0	4	4	3	0	0	0	0	3	3	11	1	0	0	1	13	14	37
08:15	33	3	0	0	1	37	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	08:15	3	1	0	0	0	4	4	3	0	0	0	0	3	3	9	0	0	0	2	11	13	58
08:30	52	1	0	0	0	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	08:30	4	2	0	0	0	6	6	5	0	1	0	0	6	7	18	2	0	0	0	20	20	86
08:45	40	1	0	0	0	41	41	0	1	0	0	0	1	1	0	0	0	0	0	0	0	08:45	6	3	1	0	0	10	11	7	2	0	0	0	9	9	22	2	0	0	0	24	24	86
H/TOT	138	6	0	0	2	146	148	0	1	0	0	0	1	1	0	0	0	0	0	0	0	**H/TOT**	15	8	1	0	0	24	25	18	2	1	0	0	21	22	60	5	0	0	3	68	71	266
09:00	12	1	0	0	1	14	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:00	4	0	0	0	0	4	4	9	1	1	0	0	11	12	27	1	0	0	2	30	32	63
09:15	14	2	0	0	1	17	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:15	5	0	0	0	0	5	5	5	0	0	0	0	5	5	7	0	0	1	0	8	9	37
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09:45	9	1	0	0	0	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	09:45	2	0	0	0	0	2	2	1	0	0	0	0	1	1	6	1	0	0	0	7	7	20
H/TOT	44	5	0	1	2	52	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**H/TOT**	14	0	0	0	0	14	14	16	1	1	0	0	18	19	44	2	0	1	2	49	52	140
P/TOT	217	16	1	1	7	242	251	0	1	0	0	0	1	1	0	0	0	0	0	0	0	**P/TOT**	33	8	2	0	3	46	50	41	4	3	0	0	48	50	127	13	0	1	5	146	152	504

TIME	MOVEMENT 1 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 2 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 3 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 4 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 5 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	MOVEMENT 6 CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	PCU's Through Junction
16:00	15	3	0	0	0	18	18	0	0	0	0	0	0	0	0	1	0	0	0	1	1	16:00	1	1	0	0	0	2	2	2	3	0	0	0	5	5	13	1	1	0	2	17	20	46
16:15	19	3	0	0	0	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:15	3	0	0	0	0	3	3	1	0	0	0	1	2	3	19	1	0	0	0	20	20	48
16:30	11	3	0	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:30	1	1	0	0	0	2	2	2	0	0	0	0	2	2	12	2	0	0	0	14	14	32
16:45	20	2	0	0	0	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:45	9	1	1	0	0	11	12	3	0	0	0	0	3	3	19	2	0	0	0	21	21	58
H/TOT	65	11	0	0	0	76	76	0	0	0	0	0	0	0	0	1	0	0	0	1	1	**H/TOT**	14	3	1	0	0	18	19	8	3	0	0	1	12	13	63	6	1	0	2	72	75	183
17:00	16	6	0	0	0	22	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17:00	3	3	0	0	0	6	6	4	0	0	0	0	4	4	14	4	0	0	0	18	18	50
17:15	20	0	0	0	0	20	20	0	0	0	0	0	0	0	1	0	0	0	0	1	1	17:15	3	0	0	0	0	3	3	6	1	0	0	0	7	7	17	0	0	0	0	17	17	48
17:30	12	3	0	0	0	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17:30	5	0	0	0	0	5	5	2	1	0	0	0	3	3	17	2	0	0	0	19	19	42
17:45	19	1	0	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17:45	5	2	0	0	0	7	7	2	1	0	0	0	3	3	9	1	0	0	0	10	10	40
H/TOT	67	10	0	0	0	77	77	0	0	0	0	0	0	0	1	0	0	0	0	1	1	**H/TOT**	16	5	0	0	0	21	21	14	3	0	0	0	17	17	57	7	0	0	0	64	64	180
18:00	8	1	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18:00	1	0	0	0	0	1	1	3	1	0	0	0	4	4	13	0	0	0	0	13	13	27
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H/TOT	46	4	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**H/TOT**	10	0	1	0	0	11	12	12	1	0	0	0	13	13	38	3	0	0	0	41	41	116
P/TOT	178	25	0	0	0	203	203	0	0	0	0	0	0	0	1	1	0	0	0	2	2	**P/TOT**	40	8	2	0	0	50	51	34	7	0	0	1	42	43	158	16	1	0	2	177	180	479

SITE: 02 DATE: 25th January 2022

LOCATION: Rathmullan Road/Martley's Lane DAY: Tuesday

	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3							MOVEMENT 4							MOVEMENT 5							MOVEMENT 6							PCU's Through Junction
TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	
07:00	18	2	0	0	0	20	20	16	2	1	0	0	19	20	11	0	0	1	0	12	13	07:00	16	1	0	0	4	21	25	19	3	0	2	1	25	29	9	1	0	0	0	10	10	116
07:15	17	0	0	0	0	17	17	28	1	0	0	0	29	29	9	3	1	0	0	13	14	07:15	30	5	1	0	1	37	39	22	6	1	1	1	31	34	12	1	0	0	0	13	13	145
07:30	23	2	1	0	1	27	29	28	1	0	0	1	30	31	6	1	0	0	1	8	9	07:30	23	3	1	1	0	28	30	38	6	1	1	1	47	50	9	1	0	0	1	11	12	160
07:45	25	1	2	0	3	31	35	27	3	1	0	5	36	42	9	1	0	0	1	11	12	07:45	30	2	1	0	1	34	36	33	6	0	0	1	40	41	14	1	1	0	2	18	21	186
H/TOT	83	5	3	0	4	95	101	99	7	2	0	6	114	121	35	5	1	1	2	44	48	**H/TOT**	99	11	3	1	6	120	129	112	21	2	4	4	143	153	44	4	1	0	3	52	56	607
08:00	22	2	1	0	3	28	32	35	4	0	0	6	45	51	15	2	0	0	9	26	35	08:00	29	5	0	2	1	37	41	30	8	3	1	2	44	49	19	0	0	0	2	21	23	230
08:15	47	3	0	0	5	55	60	37	2	0	0	4	43	47	15	0	0	0	2	17	19	08:15	21	2	0	0	0	23	23	43	6	1	0	3	53	57	33	0	0	0	4	37	41	247
08:30	46	3	0	0	0	49	49	76	4	1	0	1	82	84	28	6	1	0	1	36	38	08:30	28	2	1	0	0	31	32	43	6	1	0	0	50	51	54	2	1	0	0	57	58	310
08:45	43	2	3	0	0	48	50	73	4	0	0	1	78	79	32	1	0	0	1	34	35	08:45	24	6	0	0	2	32	34	45	2	2	0	2	51	54	54	2	0	0	1	57	58	310
H/TOT	158	10	4	0	8	180	190	221	14	1	0	12	248	261	90	9	1	0	13	113	127	**H/TOT**	102	15	1	2	3	123	129	161	22	7	1	7	198	210	160	4	1	0	7	172	180	1095
09:00	37	1	0	0	0	38	38	48	4	0	0	2	54	56	51	0	1	0	1	53	55	09:00	47	8	0	1	1	57	59	42	3	2	0	8	55	64	48	3	0	1	1	53	55	327
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09:30	23	0	0	1	1	25	27	13	3	0	0	0	16	16	15	1	0	0	2	18	20	09:30	27	10	0	0	1	38	39	33	4	1	0	1	39	41	16	0	0	0	0	16	16	159
09:45	17	4	0	0	1	22	23	17	2	1	0	0	20	21	19	1	0	0	0	20	20	09:45	37	3	4	0	2	46	50	32	4	1	0	0	37	38	13	3	0	0	0	16	16	167
H/TOT	94	5	0	1	2	102	105	108	12	1	0	3	124	128	110	3	1	0	3	117	121	**H/TOT**	153	27	5	1	5	191	200	140	12	5	1	12	170	186	94	7	0	1	1	103	105	844
P/TOT	335	20	7	1	14	377	396	428	33	4	0	21	486	509	235	17	3	1	18	274	295	**P/TOT**	354	53	9	4	14	434	458	413	55	14	6	23	511	549	298	15	2	1	11	327	340	2546

TRAFFINOMICS LIMITED

DROGHEDA TRAFFIC COUNTS **JANUARY 2022**
MANUAL CLASSIFIED JUNCTION TURNING COUNTS **TRA/22/023**

SITE: 02 DATE: 25th January 2022

LOCATION: Rathmullan Road/Martley's Lane DAY: Tuesday

	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3							MOVEMENT 4							MOVEMENT 5							MOVEMENT 6							PCU's Through Junction
TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	
16:00	21	2	0	0	1	24	25	25	3	0	0	1	29	30	30	2	0	0	2	34	36	16:00	44	8	0	0	1	53	54	32	1	0	0	2	35	37	39	2	0	0	2	43	45	227
16:15	22	2	0	0	0	24	24	22	6	1	0	1	30	32	29	2	1	0	1	33	35	16:15	48	11	0	0	2	61	63	38	2	0	0	0	40	40	22	2	0	0	1	25	26	219
16:30	28	2	0	0	1	31	32	16	2	0	0	0	18	18	31	4	0	0	2	37	39	16:30	54	11	2	0	1	68	70	43	5	0	0	2	50	52	22	2	0	0	0	24	24	235
16:45	28	1	1	0	0	30	31	31	1	0	0	1	33	34	35	3	1	0	0	39	40	16:45	53	9	2	2	0	66	70	60	3	0	0	0	63	63	22	2	0	0	0	24	24	261
H/TOT	99	7	1	0	2	109	112	94	12	1	0	3	110	114	125	11	2	0	5	143	149	**H/TOT**	199	39	4	2	4	248	257	173	11	0	0	4	188	192	105	8	0	0	3	116	119	942
17:00	28	5	0	0	0	33	33	27	5	0	0	0	32	32	37	4	0	0	0	41	41	17:00	51	6	2	0	0	59	60	44	3	0	2	0	49	52	25	1	0	0	0	26	26	244
17:15	27	0	0	0	0	27	27	19	1	0	0	0	20	20	32	4	0	0	0	36	36	17:15	57	8	1	0	1	67	69	70	7	2	0	0	79	80	39	2	0	0	0	41	41	273
17:30	29	2	0	0	1	32	33	18	2	0	0	0	20	20	44	3	0	0	1	48	49	17:30	62	8	2	0	0	72	73	54	7	0	1	0	62	63	30	3	0	0	0	33	33	271
17:45	31	1	0	0	0	32	32	26	1	0	0	0	27	27	35	2	0	0	0	37	37	17:45	56	9	0	0	0	65	65	50	4	0	0	0	54	54	35	1	0	0	0	36	36	251
H/TOT	115	8	0	0	1	124	125	90	9	0	0	0	99	99	148	13	0	0	1	162	163	**H/TOT**	226	31	5	0	1	263	267	218	21	2	3	0	244	249	129	7	0	0	0	136	136	1038
18:00	24	0	0	0	0	24	24	21	0	0	0	0	21	21	58	4	0	0	0	62	62	18:00	74	2	1	0	0	77	78	44	1	0	0	0	45	45	27	2	0	0	0	29	29	259
18:15	19	1	0	0	0	20	20	19	0	0	0	0	19	19	38	1	0	0	0	39	39	18:15	50	4	0	0	0	54	54	40	2	0	0	0	42	42	38	4	0	0	0	42	42	216
18:30	25	1	0	1	1	28	30	37	0	0	0	0	37	37	24	3	0	0	1	28	29	18:30	52	6	1	0	0	59	60	44	5	0	0	0	49	49	35	0	0	0	0	35	35	240
18:45	45	1	0	0	0	46	46	20	1	0	0	0	21	21	27	1	0	0	0	28	28	18:45	50	2	0	0	0	52	52	46	1	0	0	0	47	47	20	1	0	0	0	21	21	215
H/TOT	113	3	0	1	1	118	120	97	1	0	0	0	98	98	147	9	0	0	1	157	158	**H/TOT**	226	14	2	0	0	242	243	174	9	0	0	0	183	183	120	7	0	0	0	127	127	929
P/TOT	327	18	1	1	4	351	357	281	22	1	0	3	307	311	420	33	2	0	7	462	470	**P/TOT**	651	84	11	2	5	753	766	565	41	2	3	4	615	624	354	22	0	0	3	379	382	2909

TRAFFINOMICS LIMITED

DROGHEDA TRAFFIC COUNTS **JANUARY 2022**
MANUAL CLASSIFIED JUNCTION TURNING COUNTS **TRA/22/023**

SITE: 03 DATE: 25th January 2022

LOCATION: Rathmullan Road/R132 Dublin Road DAY: Tuesday

	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3							MOVEMENT 4							MOVEMENT 5							MOVEMENT 6							PCU's Through Junction
TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	
07:00	18	2	0	0	4	24	28	13	3	0	0	0	16	16	7	1	0	0	0	8	8	07:00	54	9	1	2	3	69	75	44	13	4	2	7	70	82	21	4	0	2	1	28	32	240
07:15	30	7	0	0	1	38	39	15	0	0	0	0	15	15	13	0	0	0	0	13	13	07:15	66	10	3	3	3	85	93	55	20	3	5	2	85	95	27	8	2	1	2	40	44	300
07:30	37	5	1	1	1	45	48	12	2	0	0	0	14	14	10	0	0	0	0	10	10	07:30	83	25	3	4	3	118	128	78	16	4	8	7	113	132	24	9	0	1	1	35	37	369
07:45	47	3	1	0	3	54	58	20	2	2	0	1	25	27	13	2	0	0	3	18	21	07:45	101	19	2	3	4	129	138	76	29	0	1	7	113	121	28	7	1	0	2	38	41	405
H/TOT	132	17	2	1	9	161	172	60	7	2	0	1	70	72	43	3	0	0	3	49	52	**H/TOT**	304	63	9	12	13	401	434	253	78	11	16	23	381	430	100	28	3	4	6	141	154	1314
08:00	47	5	3	1	3	59	65	11	2	0	0	2	15	17	13	1	1	0	3	18	22	08:00	124	18	4	5	8	159	176	90	19	5	3	5	122	133	39	5	1	0	3	48	52	464
08:15	49	2	0	0	3	54	57	31	0	0	0	3	34	37	22	1	0	0	3	26	29	08:15	124	19	5	3	6	157	169	104	20	3	1	4	132	139	60	0	1	0	2	63	66	497
08:30	54	1	2	0	0	57	58	21	3	0	0	0	24	24	29	3	1	0	0	33	34	08:30	123	14	1	3	9	150	163	120	20	4	4	3	151	161	67	5	2	0	0	74	75	515
08:45	21	2	1	0	1	25	27	15	0	0	0	0	15	15	33	1	1	0	3	38	42	08:45	134	9	1	3	2	149	155	104	10	2	1	5	122	129	62	4	2	0	0	68	69	437
H/TOT	171	10	6	1	7	195	206	78	5	0	0	5	88	93	97	6	3	0	9	115	126	**H/TOT**	505	60	11	14	25	615	664	418	69	14	9	17	527	563	228	14	6	0	5	253	261	1912
09:00	50	5	1	1	2	59	63	31	4	1	0	0	36	37	24	1	0	0	3	28	31	09:00	140	15	7	2	10	174	190	91	20	0	7	3	121	133	39	1	1	1	6	48	56	509
09:15	47	7	1	0	1	56	58	19	2	0	0	0	21	21	15	0	0	0	2	17	19	09:15	97	19	5	3	8	132	146	110	20	6	4	3	143	154	46	4	1	1	0	52	54	452
09:30	34	7	0	2	2	45	50	18	1	0	0	0	19	19	18	0	0	0	0	18	18	09:30	96	14	2	4	3	119	128	89	23	3	2	3	120	127	30	3	2	1	1	37	40	382
09:45	46	5	4	0	3	58	63	14	2	0	0	0	16	16	20	2	0	0	0	22	22	09:45	91	15	3	0	1	110	113	72	15	4	3	4	98	108	26	4	0	0	0	30	30	351
H/TOT	177	24	6	3	8	218	233	82	9	1	0	0	92	93	77	3	0	0	5	85	90	**H/TOT**	424	63	17	9	22	535	577	362	78	13	16	13	482	522	141	12	4	3	7	167	180	1695
P/TOT	480	51	14	5	24	574	612	220	21	3	0	6	250	258	217	12	3	0	17	249	268	**P/TOT**	1233	186	37	35	60	1551	1675	1033	225	38	41	53	1390	1515	469	54	13	7	18	561	595	4921

	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3							MOVEMENT 4							MOVEMENT 5							MOVEMENT 6							PCU's Through Junction
TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	
16:00	44	9	0	0	2	55	57	20	0	0	0	0	20	20	32	0	0	0	1	33	34	16:00	141	31	1	7	10	190	210	120	26	1	4	3	154	163	42	4	0	0	1	47	48	531
16:15	41	8	0	0	1	50	51	23	3	1	0	0	27	28	23	3	0	0	0	26	26	16:15	128	22	3	4	2	159	168	101	15	0	3	2	121	127	50	2	0	0	1	53	54	453
16:30	39	6	2	0	0	47	48	20	1	0	0	0	21	21	27	3	0	0	0	30	30	16:30	155	26	7	4	5	197	211	90	18	5	1	2	116	122	38	2	0	0	1	41	42	474
16:45	44	8	0	2	2	56	61	22	3	0	0	0	25	25	29	2	0	0	0	31	31	16:45	140	37	2	1	0	180	182	106	10	1	1	3	121	126	55	3	0	2	0	60	63	487
H/TOT	168	31	2	2	5	208	217	85	7	1	0	0	93	94	111	8	0	0	1	120	121	**H/TOT**	564	116	13	16	17	726	770	417	69	7	9	10	512	537	185	11	0	2	3	201	207	1945
17:00	62	8	2	2	0	74	78	20	0	0	0	0	20	20	24	2	0	0	0	26	26	17:00	169	40	1	2	4	216	223	137	16	0	1	2	156	159	51	5	0	0	0	56	56	562
17:15	66	5	1	0	1	73	75	23	3	0	0	0	26	26	26	2	0	0	0	28	28	17:15	125	28	4	2	4	163	172	138	7	1	1	2	149	153	66	5	0	0	0	71	71	524
17:30	71	8	0	0	0	79	79	22	0	0	0	0	22	22	33	3	0	0	0	36	36	17:30	120	20	0	1	2	143	146	136	9	2	1	0	148	150	57	5	0	1	0	63	64	498
17:45	55	6	0	0	1	62	63	18	1	0	0	0	19	19	20	1	0	0	0	21	21	17:45	155	19	0	1	2	177	180	138	9	1	0	4	152	157	44	2	0	0	0	46	46	486
H/TOT	254	27	3	2	2	288	294	83	4	0	0	0	87	87	103	8	0	0	0	111	111	**H/TOT**	569	107	5	6	12	699	721	549	41	4	3	8	605	619	218	17	0	1	0	236	237	2070
18:00	58	4	1	0	0	63	64	22	1	1	0	0	24	25	30	0	1	0	0	31	32	18:00	133	15	0	0	4	152	156	120	10	0	0	3	133	136	49	3	0	0	0	52	52	464
18:15	44	4	0	0	0	48	48	17	2	0	0	0	19	19	38	2	0	0	0	40	40	18:15	119	15	0	0	4	138	142	115	6	0	1	3	125	129	43	6	0	0	0	49	49	427
18:30	45	5	2	0	1	53	55	23	2	0	0	0	25	25	36	4	0	0	0	40	40	18:30	104	8	2	0	4	118	123	113	4	2	0	2	121	124	30	5	0	0	0	35	35	402
18:45	55	4	0	0	0	59	59	27	1	0	0	0	28	28	20	2	0	0	0	22	22	18:45	123	15	0	2	1	141	145	107	6	0	0	1	114	115	34	1	0	0	0	35	35	404
H/TOT	202	17	3	0	1	223	226	89	6	1	0	0	96	97	124	8	1	0	0	133	134	**H/TOT**	479	53	2	2	13	549	566	455	26	2	1	9	493	504	156	15	0	0	0	171	171	1696
P/TOT	624	75	8	4	8	719	736	257	17	2	0	0	276	277	338	24	1	0	1	364	366	**P/TOT**	1612	276	20	24	42	1974	2057	1421	136	13	13	27	1610	1660	559	43	0	3	3	608	615	5711

TRAFFINOMICS LIMITED

DROGHEDA TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION TURNING COUNTS

JANUARY 2022
TRA/22/023

SITE: 04 DATE: 25th January 2022

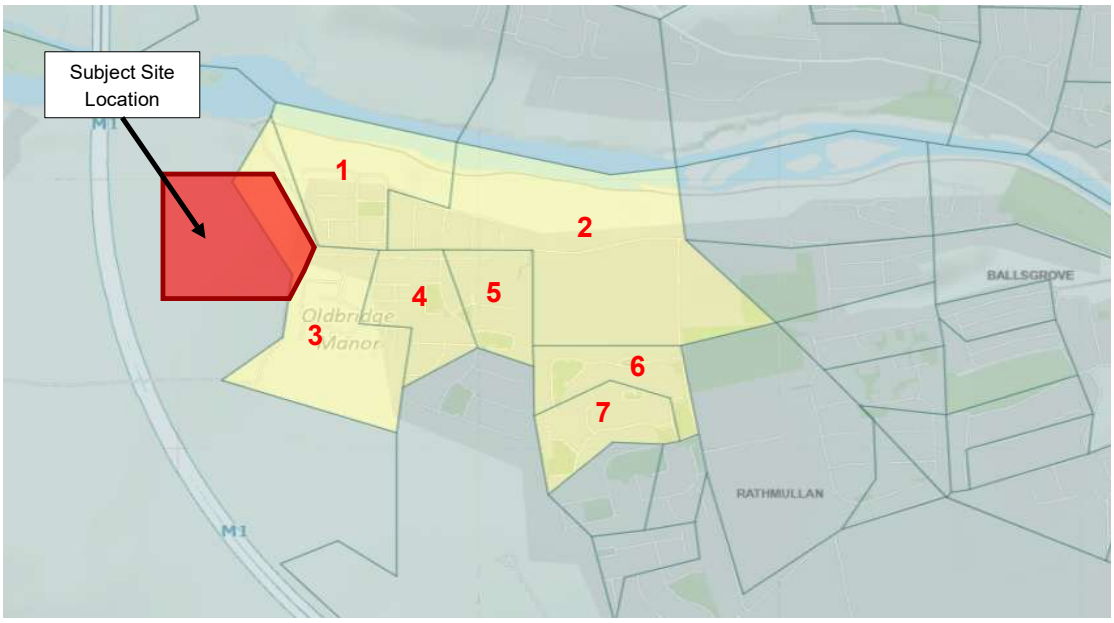
LOCATION: Martley's Lane/L1601 Donore Road DAY: Tuesday

	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3							MOVEMENT 4							MOVEMENT 5							MOVEMENT 6							PCU's Through Junction
TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	
07:00	6	2	0	1	2	11	14	26	6	0	2	2	36	41	13	0	1	0	1	15	17	07:00	16	2	1	0	6	25	32	39	11	2	1	1	54	57	12	1	0	0	0	13	13	173
07:15	14	4	0	0	5	23	28	33	9	1	0	3	46	50	26	3	1	0	0	30	31	07:15	26	6	1	1	2	36	40	26	7	2	4	4	43	53	6	2	0	0	0	8	8	209
07:30	16	2	0	0	4	22	26	45	7	1	1	1	55	58	18	1	1	1	0	21	23	07:30	21	9	1	0	0	31	32	38	12	1	2	4	57	64	6	4	1	0	1	12	14	216
07:45	18	3	0	0	6	27	33	41	5	0	1	0	47	48	25	4	1	0	3	33	37	07:45	39	6	0	4	2	51	58	42	13	2	2	2	61	67	9	2	0	0	1	12	13	256
H/TOT	54	11	0	1	17	83	101	145	27	2	4	6	184	196	82	8	4	1	4	99	106	**H/TOT**	102	23	3	5	10	143	161	145	43	7	9	11	215	241	33	9	1	0	2	45	48	854
08:00	17	8	0	0	0	25	25	39	7	2	1	4	53	59	29	2	1	1	3	36	41	08:00	38	8	1	0	3	50	54	29	6	1	0	3	39	43	12	2	0	1	6	21	28	249
08:15	23	1	0	0	3	27	30	45	10	2	0	4	61	66	29	2	0	0	1	32	33	08:15	43	10	0	2	1	56	60	31	10	3	0	2	46	50	15	1	0	0	1	17	18	256
08:30	55	3	0	0	4	62	66	41	5	2	1	1	50	53	48	4	2	0	2	56	59	08:30	74	9	0	2	0	85	88	39	5	5	2	2	53	60	33	1	0	0	1	35	36	362
08:45	60	5	0	0	1	66	67	43	4	1	0	1	49	51	35	1	0	0	0	36	36	08:45	50	9	2	1	2	64	68	51	11	5	4	2	73	83	43	2	1	0	1	47	49	353
H/TOT	155	17	0	0	8	180	188	168	26	7	2	10	213	229	141	9	3	1	6	160	169	**H/TOT**	205	36	3	5	6	255	269	150	32	14	6	9	211	235	103	6	1	1	9	120	131	1221
09:00	57	7	1	0	0	65	66	51	7	2	0	1	61	63	24	0	0	1	4	29	34	09:00	42	6	2	3	3	56	64	68	7	3	2	4	84	92	38	2	0	0	1	41	42	361
09:15	37	4	2	0	0	43	44	64	3	0	0	0	67	67	42	4	1	0	0	47	48	09:15	46	8	4	3	2	63	71	63	6	2	3	8	82	95	21	3	1	0	2	27	30	354
09:30	17	4	0	0	0	21	21	23	3	2	1	1	30	33	20	8	0	0	2	30	32	09:30	34	3	1	3	2	43	49	53	9	5	3	2	72	80	22	3	1	0	3	29	33	249
09:45	18	6	1	0	0	25	26	32	4	1	0	0	37	38	29	1	3	0	0	33	35	09:45	31	3	5	1	1	41	46	37	7	3	3	2	52	59	16	2	0	0	1	19	20	223
H/TOT	129	21	4	0	0	154	156	170	17	5	1	2	195	201	115	13	4	1	6	139	148	**H/TOT**	153	20	12	10	8	203	230	221	29	13	11	16	290	327	97	10	2	0	7	116	124	1186
P/TOT	338	49	4	1	25	417	445	483	70	14	7	18	592	626	338	30	11	3	16	398	423	**P/TOT**	460	79	18	20	24	601	660	516	104	34	26	36	716	803	233	25	4	1	18	281	302	3260

	MOVEMENT 1							MOVEMENT 2							MOVEMENT 3							MOVEMENT 4							MOVEMENT 5							MOVEMENT 6							PCU's Through Junction
TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	CAR	LGV	OGV1	OGV2	BUS	TOT	PCU	
16:00	34	3	0	0	3	40	43	34	0	0	0	1	35	36	64	8	0	0	0	72	72	16:00	59	8	2	1	3	73	78	63	11	0	1	1	76	78	33	1	0	0	4	38	42	350
16:15	35	3	0	0	1	39	40	46	7	1	0	0	54	55	42	7	1	0	0	50	51	16:15	47	12	3	1	1	64	68	58	14	1	3	2	78	84	29	4	1	0	5	39	45	342
16:30	15	0	2	0	0	17	18	34	7	0	0	1	42	43	65	11	3	0	2	81	85	16:30	45	6	2	5	0	58	66	77	12	2	1	1	93	96	38	6	0	0	3	47	50	357
16:45	25	3	0	0	0	28	28	47	1	0	0	0	48	48	57	9	2	2	5	75	84	16:45	44	8	1	3	2	58	64	72	10	2	1	1	86	89	39	7	0	1	1	48	50	364
H/TOT	109	9	2	0	4	124	129	161	15	1	0	2	179	182	228	35	6	2	7	278	291	**H/TOT**	195	34	8	10	6	253	276	270	47	5	6	5	333	348	139	18	1	1	13	172	187	1412
17:00	38	3	0	0	1	42	43	56	3	0	2	0	61	64	48	10	2	0	0	60	61	17:00	62	16	0	0	3	81	84	83	10	0	0	1	94	95	55	5	0	0	2	62	64	411
17:15	29	4	0	0	0	33	33	63	2	1	0	0	66	67	53	9	2	0	1	65	67	17:15	51	9	1	0	2	63	66	89	17	0	2	1	109	113	43	3	0	0	0	46	46	391
17:30	22	4	0	0	0	26	26	47	9	1	1	0	58	60	73	10	1	0	0	84	85	17:30	37	4	0	0	0	41	41	66	8	1	1	1	77	80	43	4	0	0	1	48	49	340
17:45	26	1	0	0	0	27	27	51	4	0	0	0	55	55	55	9	0	0	1	65	66	17:45	58	9	3	0	2	72	76	72	3	0	0	2	77	79	37	0	0	0	0	37	37	340
H/TOT	115	12	0	0	1	128	129	217	18	2	3	0	240	245	229	38	5	0	2	274	279	**H/TOT**	208	38	4	0	7	257	266	310	38	1	3	5	357	366	178	12	0	0	3	193	196	1481
18:00	32	1	0	0	0	33	33	43	1	0	0	0	44	44	63	9	1	0	0	73	74	18:00	65	5	0	1	1	72	74	45	3	1	0	0	49	50	51	1	0	0	0	52	52	326
18:15	34	0	0	0	0	34	34	32	3	0	0	0	35	35	61	5	1	0	0	67	68	18:15	56	7	0	0	3	66	69	57	6	0	0	1	64	65	58	1	0	0	0	59	59	330
18:30	45	0	0	0	0	45	45	43	2	1	0	0	46	47	48	6	0	0	0	54	54	18:30	56	3	2	0	0	61	62	29	4	0	2	2	37	42	35	2	2	0	1	40	42	291
18:45	32	1	0	0	0	33	33	44	3	1	0	2	50	53	46	2	0	0	0	48	48	18:45	52	7	1	1	0	61	63	51	2	0	0	2	55	57	32	1	1	0	0	34	35	288
H/TOT	143	2	0	0	0	145	145	162	9	2	0	2	175	178	218	22	2	0	0	242	243	**H/TOT**	229	22	3	2	4	260	268	182	15	1	2	5	205	213	176	5	3	0	1	185	188	1235
P/TOT	367	23	2	0	5	397	403	540	42	5	3	4	594	604	675	95	13	2	9	794	812	**P/TOT**	632	94	15	12	17	770	810	762	100	7	11	15	895	928	493	35	4	1	17	550	570	4128

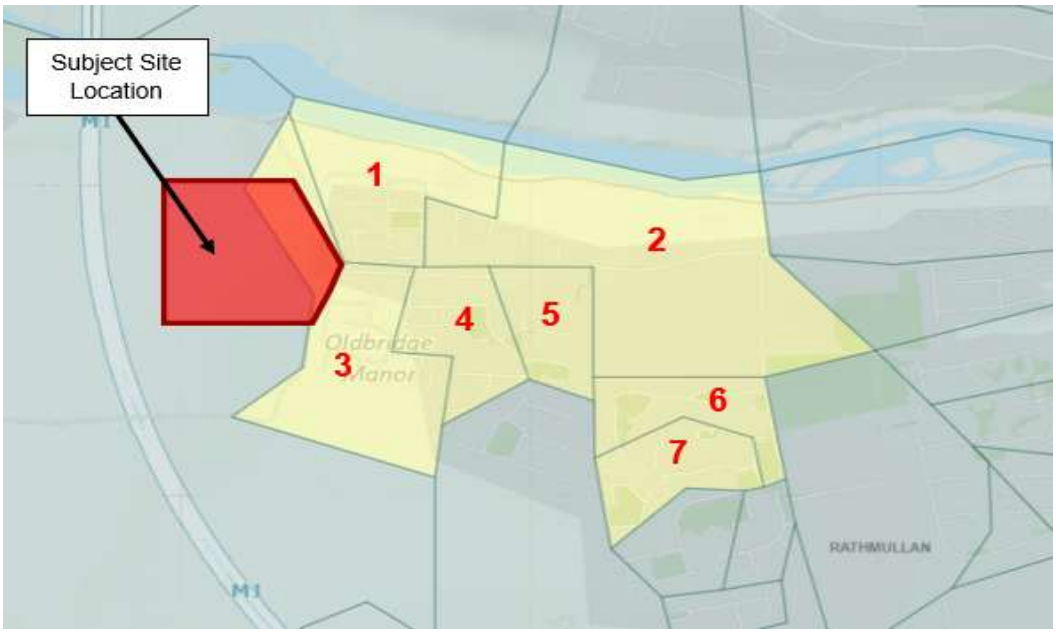
B. Census 2022 Results

Car Ownership									
Zone	House	Persons	0	1	2	3	4	Total	Total car/house
1	130	386	11	64	34	4	0	144	1.108
2	142	463	5	57	41	17	3	202	1.423
3	109	337	7	55	40	0	2	143	1.312
4	97	331	0	44	47	4	0	150	1.546
5	82	290	2	29	41	4	2	131	1.598
6	125	358	43	54	16	4	1	102	0.816
7	123	323	41	51	12	2	1	85	0.691
Total	**808**	**2488**	**109**	**354**	**231**	**35**	**9**	**957**	**1.18**



Modal Split									
Zone	House	Persons	On foot	Bike	Bus, minibus or coach	Train, DART or LUAS	Motors (*)	Other or not stated	Total travels
1	130	386	51	7	35	6	172	47	271
2	142	463	54	7	26	5	203	65	295
3	109	337	31	4	27	6	161	50	229
4	97	331	34	2	32	0	174	29	242
5	82	290	38	5	35	5	143	25	226
6	125	358	90	2	22	0	91	14	205
7	123	323	81	4	29	2	74	29	190
Total	**808**	**2488**	**379**	**31**	**206**	**24**	**1018**	**259**	**1658**
			22.9%	**1.9%**	**12.4%**	**1.4%**	**61.4%**		**100%**

(*) Includes Motorcylce or Scooter, Car Drivers, Car Passengers, and Vans



C. Trip Rates

Calculation Reference: AUDIT-561501-250825-0840

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : K - MIXED PRIV HOUS (FLATS AND HOUSES)
TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	BE	BEXLEY	1 days
	BN	BARNET	1 days
02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	HF	HERTFORDSHIRE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 203 to 288 (units:)
Range Selected by User: 162 to 288 (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 21/11/23

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	2 days
Wednesday	1 days
Thursday	1 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	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:

Residential Zone	3
Village	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	1 days - Selected
Servicing vehicles Excluded	4 days - Selected

Secondary Filtering selection:

Use Class:

C3	4 days

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

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

50,001 to 75,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	2 days

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

Travel Plan:

Yes	4 days

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	2 days
0 None	1 days
2 Poor	1 days

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

LIST OF SITES relevant to selection parameters

1 BE-03-K-01 MIXED HOUSES & FLATS BEXLEY
SLADE GREEN ROAD
ERITH
SLADE GREEN
Edge of Town
Residential Zone
Total No of Dwellings: 276
Survey date: THURSDAY *20/09/18* *Survey Type: MANUAL*

2 BN-03-K-03 MIXED HOUSES & FLATS BARNET
SWEETS WAY
WHETSTONE

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 288
Survey date: TUESDAY *21/11/23* *Survey Type: MANUAL*

3 HC-03-K-02 MIXED HOUSES & FLATS HAMPSHIRE
DAIRY ROAD
ANDOVER

Edge of Town
Residential Zone
Total No of Dwellings: 270
Survey date: TUESDAY *11/10/22* *Survey Type: MANUAL*

4 HF-03-K-05 MIXED HOUSES & FLATS HERTFORDSHIRE
FRYTHE AVENUE
WELWYN

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 203
Survey date: WEDNESDAY *02/11/22* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	4	259	0.094	4	259	0.290	4	259	0.384
08:00 - 09:00	4	259	0.203	4	259	0.400	4	259	0.603
09:00 - 10:00	4	259	0.149	4	259	0.195	4	259	0.344
10:00 - 11:00	4	259	0.130	4	259	0.126	4	259	0.256
11:00 - 12:00	4	259	0.127	4	259	0.149	4	259	0.276
12:00 - 13:00	4	259	0.156	4	259	0.157	4	259	0.313
13:00 - 14:00	4	259	0.147	4	259	0.133	4	259	0.280
14:00 - 15:00	4	259	0.167	4	259	0.189	4	259	0.356
15:00 - 16:00	4	259	0.311	4	259	0.229	4	259	0.540
16:00 - 17:00	4	259	0.264	4	259	0.172	4	259	0.436
17:00 - 18:00	4	259	0.313	4	259	0.178	4	259	0.491
18:00 - 19:00	4	259	0.320	4	259	0.190	4	259	0.510
19:00 - 20:00	2	282	0.236	2	282	0.167	2	282	0.403
20:00 - 21:00	2	282	0.142	2	282	0.092	2	282	0.234
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.759			2.667			5.426

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.*

Parameter summary

Trip rate parameter range selected:	203 - 288 (units:)
Survey date date range:	01/01/10 - 21/11/23
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

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

D. Junction Modelling Results

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Junction 1 - AM_PM.t16
Path: M:\Projects\18\18-014 - Rathmullan Drogheda SHD Planning Application\Design\Civil\Traffic\2025-05 - Updated SoA\Junction modelling\Junction 1
Report generation date: 26/08/2025 12:46:36

Summary of network performance

	AM		
	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	AM Peak Hour - 2028 DO NOTHING		
Network	8.44	31% (TS B/1)	0 (0%)
	AM Peak Hour - 2028 DO SOMETHING		
Network	9.65	32% (TS B/1)	0 (0%)
	AM Peak Hour - 2033 DO NOTHING		
Network	8.53	33% (TS B/1)	0 (0%)
	AM Peak Hour - 2033 DO SOMETHING		
Network	9.74	34% (TS B/1)	0 (0%)
	AM Peak Hour - 2043 DO NOTHING		
Network	11.25	55% (TS B/1)	0 (0%)
	AM Peak Hour - 2043 DO SOMETHING		
Network	12.92	58% (TS C/1)	0 (0%)

	PM		
	Total delay (Veh-hr/hr)	Highest DOS	Number oversaturated
	PM Peak Hour - 2028 DO NOTHING		
Network	7.82	18% (TS B/1)	0 (0%)
	PM Peak Hour - 2028 DO SOMETHING		
Network	8.74	19% (TS B/1)	0 (0%)
	PM Peak Hour - 2033 DO NOTHING		
Network	7.86	19% (TS B/1)	0 (0%)
	PM Peak Hour - 2033 DO SOMETHING		
Network	8.77	20% (TS B/1)	0 (0%)
	PM Peak Hour - 2043 DO NOTHING		
Network	9.79	29% (TS B/1)	0 (0%)
	PM Peak Hour - 2043 DO SOMETHING		
Network	10.89	37% (TS A/1)	0 (0%)

File summary

File description

File title	Junction 1 AM_PM
Location	Rathmullan Road & Local Road,
Site number	1
UTCRegion	
Driving side	Left
Date	26/08/2025
Version	3
Status	(new file)
Identifier	
Client	
Jobnumber	18-014
Enumerator	DOMAIN\f.demaio
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	c m
			✓			✓		✓	✓						

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	Veh	Veh	perHour	s	-Hour	perHour

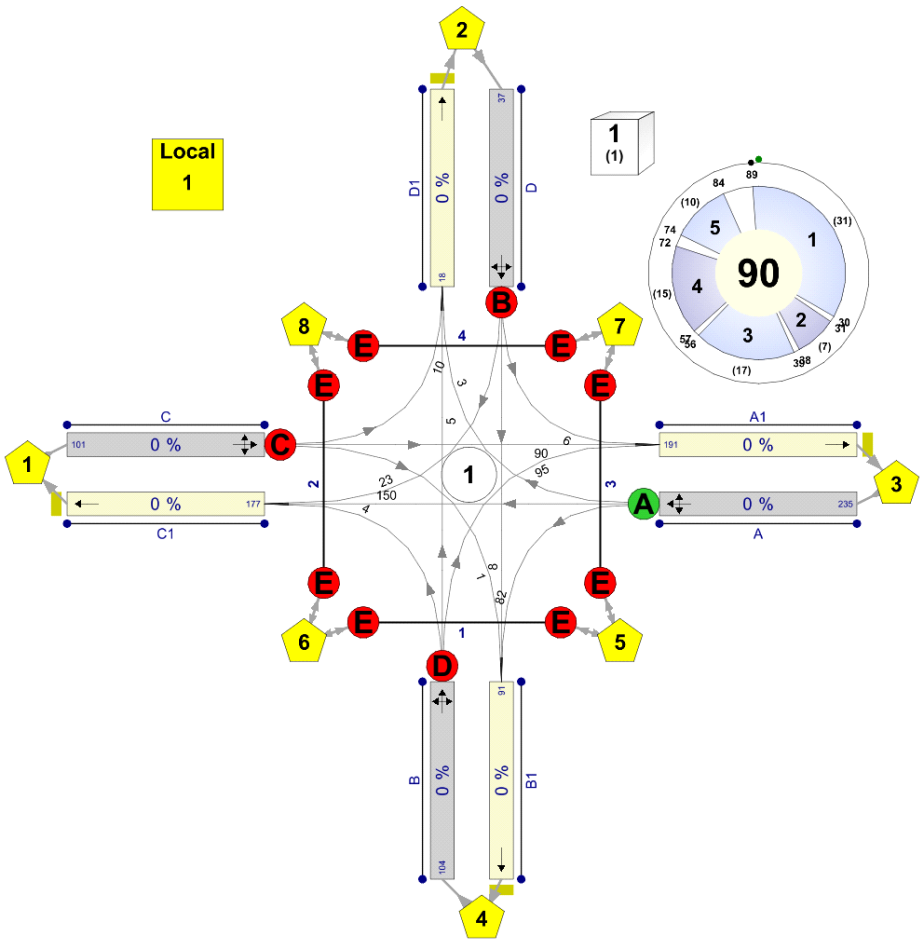
Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	3.00	999	200	-1	3	60	✓			0	0	0.00

Network Diagrams



Junction 1 AM_PM
Diagram produced using TRANSYT 16.0.1.8473

A1 - AM Peak Hour
D1 - 2028 DO NOTHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.14	08:00	90	121.57	8.44	30.94	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO NOTHING	AM				08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	75	75
B	1	99	99
C	1	0	0
D	1	3	3
A1	1	102	102
B1	1	68	68
C1	1	0	0
D1	1	7	7

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	3	0	0	0	0	0
	3	0	7	0	68	0	0	0	0
	4	0	0	99	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	0
	2		1	3	C/1, A1/1	Normal	0
	3		1	4	C/1, B1/1	Normal	0
	5		2	3	D/1, A1/1	Normal	3
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	0
	8		3	2	A/1, D1/1	Normal	7
	9		3	4	A/1, B1/1	Normal	68
	10		3	1	A/1, C1/1	Normal	0
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	99
	13		4	1	B/1, C1/1	Normal	0

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 56, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

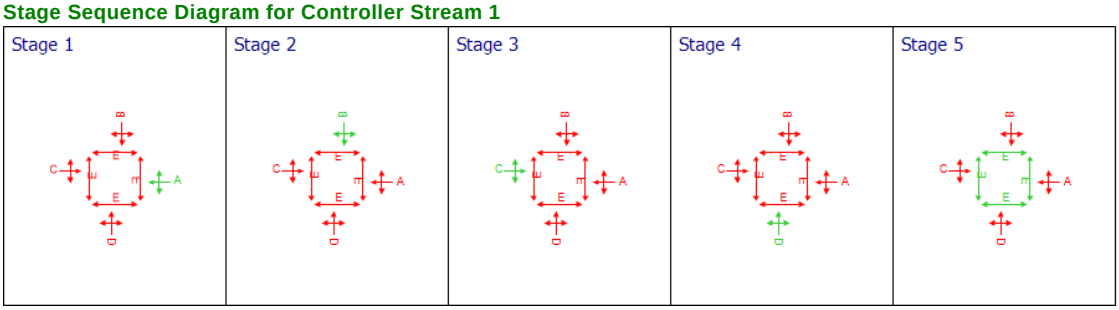
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	56	17	1	7
	4	✓	4	D	57	72	15	1	7
	5	✓	5	E	74	84	10	1	7

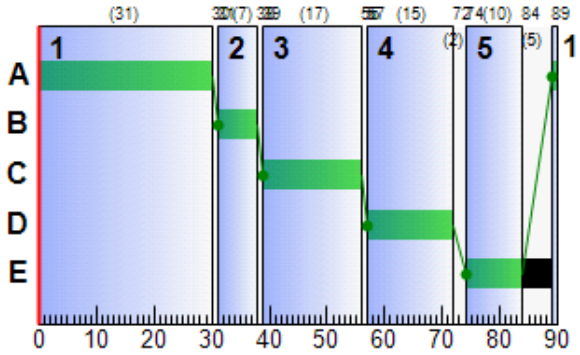
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	57	72	15
C	1	1	1	C	39	56	17
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.14	08:00	90	121.57	8.44	30.94	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	31	223	354	430	14.25	19.90	1.75	21.64

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	75	1800	31	0.00	12	753	31.91	19.91	65.77	1.26
B	1	Southbound - All movements	1	1	D	99	1800	15	0.00	31	223	46.72	34.72	88.05	2.21
C	1	Westbound - All movements	1	1	C	0	1800	17	18.00	0	Unrestricted	0.00	0.00	0.00	0.00
D	1	Northbound - All movements	1	1	B	3	1800	7	7.00	2	5233	50.03	38.03	89.80	0.00
A1	1	Westbound - Exit Lane				102	Unrestricted	90	71.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				68	Unrestricted	90	58.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				0	Unrestricted	90	90.00	0	Unrestricted	0.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				7	Unrestricted	90	88.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	35.40	2.58	13.71	1.32	0.08	19.90	1.75	0.00	21.64
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	42.20	10.95	3.85	8.36	0.08	119.82	1.75	0.00	121.57

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A1 - AM Peak Hour
D3 - 2028 DO SOMETHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.46	08:00	90	140.23	9.65	31.88	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO SOMETHING	AM				08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	118	118
B	1	102	102
C	1	96	96
D	1	8	8
A1	1	184	184
B1	1	72	72
C1	1	51	51
D1	1	17	17

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	10	82	4	0	0	0	0
	2	5	0	3	0	0	0	0	0
	3	43	7	0	68	0	0	0	0
	4	3	0	99	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	10
	2		1	3	C/1, A1/1	Normal	82
	3		1	4	C/1, B1/1	Normal	4
	5		2	3	D/1, A1/1	Normal	3
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	5
	8		3	2	A/1, D1/1	Normal	7
	9		3	4	A/1, B1/1	Normal	68
	10		3	1	A/1, C1/1	Normal	43
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	99
	13		4	1	B/1, C1/1	Normal	3

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 56, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

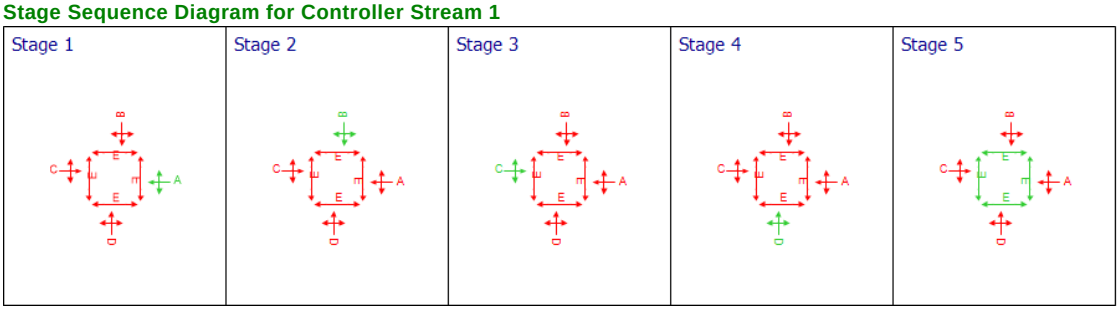
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	56	17	1	7
	4	✓	4	D	57	72	15	1	7
	5	✓	5	E	74	84	10	1	7

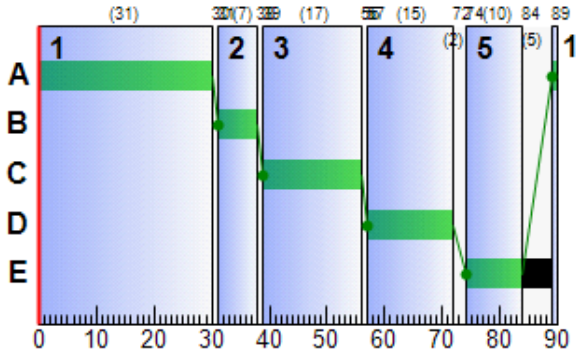
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	57	72	15
C	1	1	1	C	39	56	17
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.46	08:00	90	140.23	9.65	31.88	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	32	214	648	430	14.50	37.07	3.24	40.31

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	118	1800	31	0.00	18	442	32.64	20.64	67.77	2.05
B	1	Southbound - All movements	1	1	D	102	1800	15	0.00	32	214	46.89	34.89	88.23	2.28
C	1	Westbound - All movements	1	1	C	96	1800	17	0.00	27	275	44.24	32.24	84.63	2.08
D	1	Northbound - All movements	1	1	B	8	1800	7	7.00	5	1900	50.40	38.40	90.45	0.18
A1	1	Westbound - Exit Lane				184	Unrestricted	90	53.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				72	Unrestricted	90	58.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				51	Unrestricted	90	70.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				17	Unrestricted	90	83.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	64.80	4.77	13.58	2.47	0.14	37.07	3.24	0.00	40.31
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	71.60	13.14	5.45	9.50	0.14	136.99	3.24	0.00	140.23

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A1 - AM Peak Hour
D5 - 2033 DO NOTHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.66	08:00	90	122.97	8.53	32.81	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO NOTHING	AM				08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	79	79
B	1	105	105
C	1	0	0
D	1	3	3
A1	1	108	108
B1	1	72	72
C1	1	0	0
D1	1	7	7

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	3	0	0	0	0	0
	3	0	7	0	72	0	0	0	0
	4	0	0	105	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	0
	2		1	3	C/1, A1/1	Normal	0
	3		1	4	C/1, B1/1	Normal	0
	5		2	3	D/1, A1/1	Normal	3
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	0
	8		3	2	A/1, D1/1	Normal	7
	9		3	4	A/1, B1/1	Normal	72
	10		3	1	A/1, C1/1	Normal	0
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	105
	13		4	1	B/1, C1/1	Normal	0

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 56, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

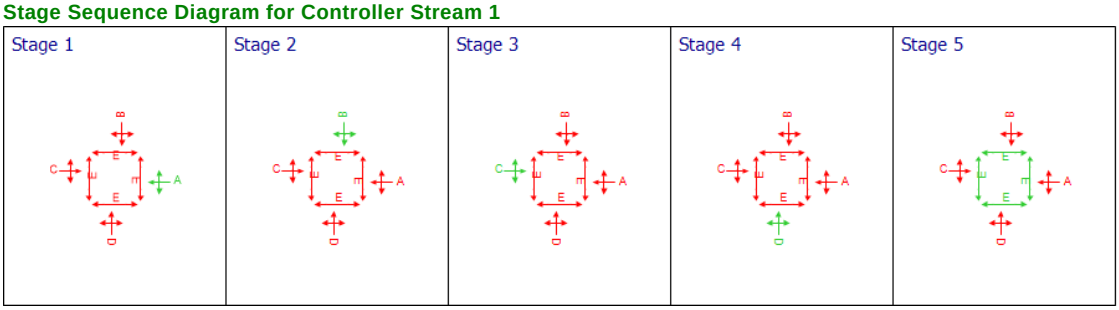
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	56	17	1	7
	4	✓	4	D	57	72	15	1	7
	5	✓	5	E	74	84	10	1	7

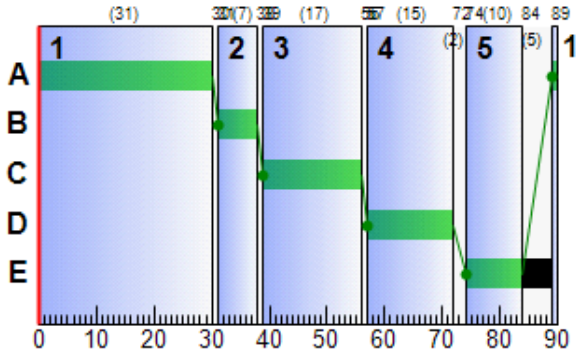
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	57	72	15
C	1	1	1	C	39	56	17
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.66	08:00	90	122.97	8.53	32.81	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	33	205	374	430	14.37	21.20	1.85	23.04

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	79	1800	31	0.00	12	710	31.97	19.97	65.79	1.33
B	1	Southbound - All movements	1	1	D	105	1800	15	0.00	33	205	47.07	35.07	88.37	2.35
C	1	Westbound - All movements	1	1	C	0	1800	17	18.00	0	Unrestricted	0.00	0.00	0.00	0.00
D	1	Northbound - All movements	1	1	B	3	1800	7	7.00	2	5233	50.03	38.03	89.80	0.00
A1	1	Westbound - Exit Lane				108	Unrestricted	90	71.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				72	Unrestricted	90	58.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				0	Unrestricted	90	90.00	0	Unrestricted	0.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				7	Unrestricted	90	88.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	37.40	2.74	13.65	1.40	0.09	21.20	1.85	0.00	23.04
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	44.20	11.11	3.98	8.44	0.09	121.12	1.85	0.00	122.97

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A1 - AM Peak Hour
D7 - 2033 DO SOMETHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.91	08:00	90	141.68	9.74	33.75	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO SOMETHING	AM				08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	122	122
B	1	108	108
C	1	96	96
D	1	8	8
A1	1	190	190
B1	1	76	76
C1	1	51	51
D1	1	17	17

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	10	82	4	0	0	0	0
	2	5	0	3	0	0	0	0	0
	3	43	7	0	72	0	0	0	0
	4	3	0	105	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	10
	2		1	3	C/1, A1/1	Normal	82
	3		1	4	C/1, B1/1	Normal	4
	5		2	3	D/1, A1/1	Normal	3
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	5
	8		3	2	A/1, D1/1	Normal	7
	9		3	4	A/1, B1/1	Normal	72
	10		3	1	A/1, C1/1	Normal	43
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	105
	13		4	1	B/1, C1/1	Normal	3

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 56, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

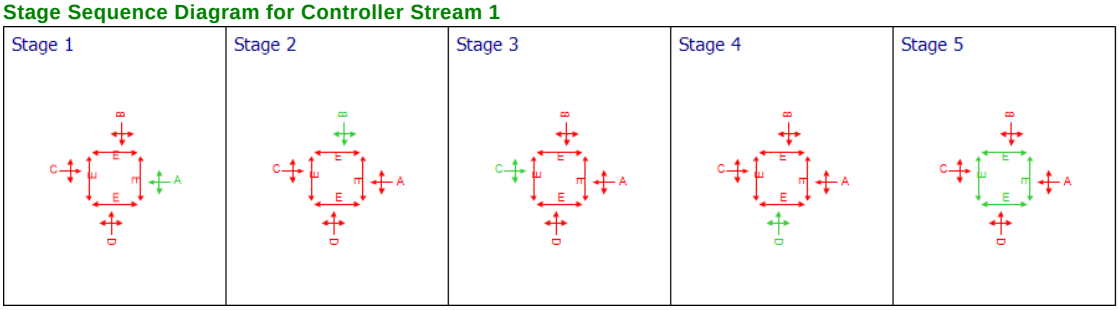
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	56	17	1	7
	4	✓	4	D	57	72	15	1	7
	5	✓	5	E	74	84	10	1	7

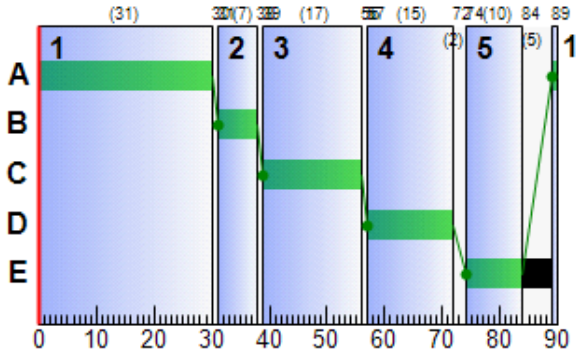
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	57	72	15
C	1	1	1	C	39	56	17
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:18	26/08/2025 12:46:18	0.91	08:00	90	141.68	9.74	33.75	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	34	196	668	430	14.57	38.40	3.35	41.75

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	122	1800	31	0.00	19	425	32.72	20.72	68.10	2.12
B	1	Southbound - All movements	1	1	D	108	1800	15	0.00	34	196	47.24	35.24	88.50	2.43
C	1	Westbound - All movements	1	1	C	96	1800	17	0.00	27	275	44.24	32.24	84.63	2.08
D	1	Northbound - All movements	1	1	B	8	1800	7	7.00	5	1900	50.40	38.40	90.45	0.18
A1	1	Westbound - Exit Lane				190	Unrestricted	90	53.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				76	Unrestricted	90	58.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				51	Unrestricted	90	70.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				17	Unrestricted	90	83.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	66.80	4.93	13.55	2.55	0.16	38.40	3.35	0.00	41.75
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	73.60	13.30	5.53	9.58	0.16	138.33	3.35	0.00	141.68

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A1 - AM Peak Hour
D9 - 2043 DO NOTHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:19	26/08/2025 12:46:19	0.14	08:00	90	164.77	11.25	55.31	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO NOTHING	AM				08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	166	166
B	1	177	177
C	1	112	112
D	1	18	18
A1	1	274	274
B1	1	111	111
C1	1	63	63
D1	1	25	25

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	9	103	0	0	0	0	0
	2	10	0	3	5	0	0	0	0
	3	53	7	0	106	0	0	0	0
	4	0	9	168	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	9
	2		1	3	C/1, A1/1	Normal	103
	3		1	4	C/1, B1/1	Normal	0
	5		2	3	D/1, A1/1	Normal	3
	6		2	4	D/1, B1/1	Normal	5
	7		2	1	D/1, C1/1	Normal	10
	8		3	2	A/1, D1/1	Normal	7
	9		3	4	A/1, B1/1	Normal	106
	10		3	1	A/1, C1/1	Normal	53
	11		4	2	B/1, D1/1	Normal	9
	12		4	3	B/1, A1/1	Normal	168
	13		4	1	B/1, C1/1	Normal	0

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 56, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

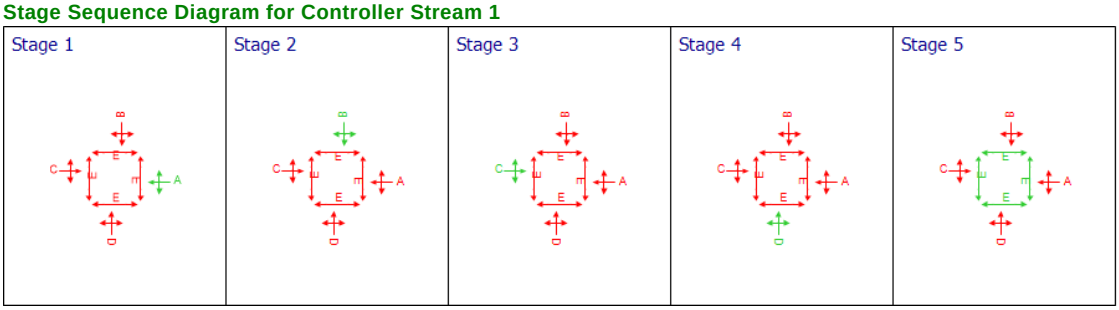
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	56	17	1	7
	4	✓	4	D	57	72	15	1	7
	5	✓	5	E	74	84	10	1	7

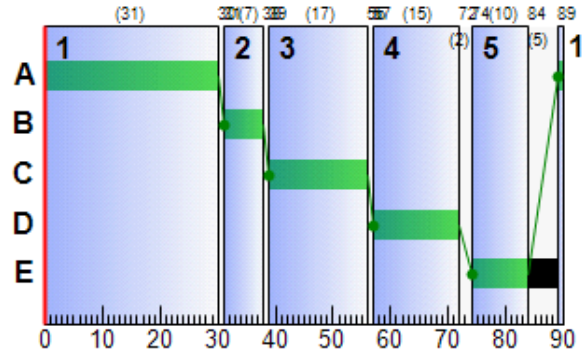
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	57	72	15
C	1	1	1	C	39	56	17
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Network delay (Veh-hr/hr)	Highest DOS (%)	with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	worst signalised PRC	wors unsignal PRC
1	26/08/2025 12:46:19	26/08/2025 12:46:19	0.14	08:00	90	164.77	11.25	55.31	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	55	81	946	430	16.04	59.84	5.00	64.85

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	166	1800	31	0.00	26	286	33.58	21.58	69.77	2.95
B	1	Southbound - All movements	1	1	D	177	1800	15	0.00	55	81	52.62	40.62	96.57	4.37
C	1	Westbound - All movements	1	1	C	112	1800	17	0.00	31	221	44.98	32.98	85.62	2.43
D	1	Northbound - All movements	1	1	B	18	1800	7	7.00	11	789	51.23	39.23	91.37	0.42
A1	1	Westbound - Exit Lane				274	Unrestricted	90	50.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				111	Unrestricted	90	53.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				63	Unrestricted	90	63.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				25	Unrestricted	90	79.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	94.60	7.37	12.84	3.75	0.46	59.84	5.00	0.00	64.85
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	101.40	15.74	6.44	10.79	0.46	159.77	5.00	0.00	164.77

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A1 - AM Peak Hour
D11 - 2043 DO SOMETHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:17	26/08/2025 12:46:17	0.94	08:00	90	190.29	12.92	57.78	C/1	0	0	C/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO SOMETHING	AM				08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	209	209
B	1	180	180
C	1	208	208
D	1	23	23
A1	1	356	356
B1	1	115	115
C1	1	114	114
D1	1	35	35

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	19	185	4	0	0	0	0
	2	15	0	3	5	0	0	0	0
	3	96	7	0	106	0	0	0	0
	4	3	9	168	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	19
	2		1	3	C/1, A1/1	Normal	185
	3		1	4	C/1, B1/1	Normal	4
	5		2	3	D/1, A1/1	Normal	3
	6		2	4	D/1, B1/1	Normal	5
	7		2	1	D/1, C1/1	Normal	15
	8		3	2	A/1, D1/1	Normal	7
	9		3	4	A/1, B1/1	Normal	106
	10		3	1	A/1, C1/1	Normal	96
	11		4	2	B/1, D1/1	Normal	9
	12		4	3	B/1, A1/1	Normal	168
	13		4	1	B/1, C1/1	Normal	3

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 56, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

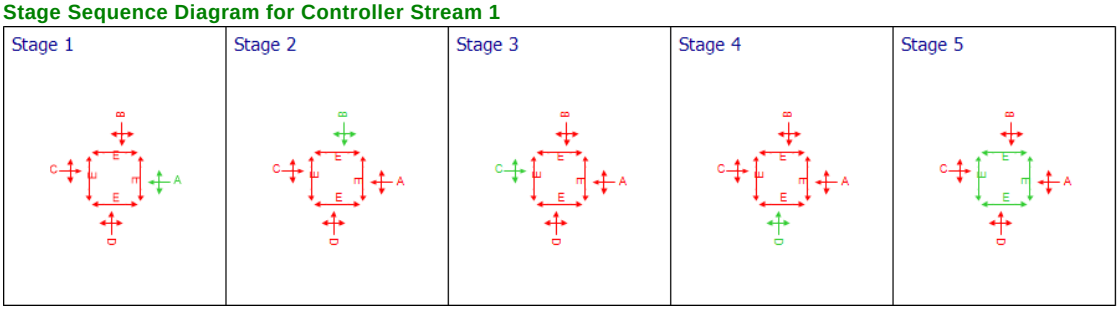
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	56	17	1	7
	4	✓	4	D	57	72	15	1	7
	5	✓	5	E	74	84	10	1	7

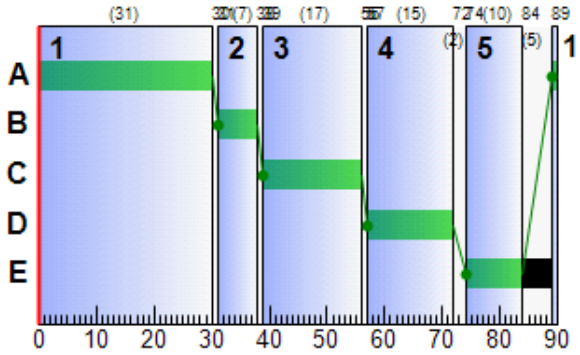
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	57	72	15
C	1	1	1	C	39	56	17
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:46:17	26/08/2025 12:46:17	0.94	08:00	90	190.29	12.92	57.78	C/1	0	0	C/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	58	73	1240	430	17.07	83.51	6.86	90.37

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	209	1800	31	0.00	33	206	34.52	22.52	72.32	3.85
B	1	Southbound - All movements	1	1	D	180	1800	15	0.00	56	78	52.95	40.95	97.25	4.46
C	1	Westbound - All movements	1	1	C	208	1800	17	0.00	58	73	51.33	39.33	95.85	5.07
D	1	Northbound - All movements	1	1	B	23	1800	7	6.00	14	596	51.75	39.75	92.90	0.54
A1	1	Westbound - Exit Lane				356	Unrestricted	90	50.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				115	Unrestricted	90	53.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				114	Unrestricted	90	50.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				35	Unrestricted	90	71.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	124.00	10.01	12.38	5.04	0.84	83.51	6.86	0.00	90.37
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	130.80	18.38	7.11	12.08	0.84	183.43	6.86	0.00	190.29

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM Peak Hour
D2 - 2028 DO NOTHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:20	26/08/2025 12:46:20	0.72	17:00	90	112.08	7.82	17.65	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO NOTHING	PM				17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	36	36
B	1	60	60
C	1	0	0
D	1	6	6
A1	1	66	66
B1	1	33	33
C1	1	0	0
D1	1	3	3

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	6	0	0	0	0	0
	3	0	3	0	33	0	0	0	0
	4	0	0	60	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	0
	2		1	3	C/1, A1/1	Normal	0
	3		1	4	C/1, B1/1	Normal	0
	5		2	3	D/1, A1/1	Normal	6
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	0
	8		3	2	A/1, D1/1	Normal	3
	9		3	4	A/1, B1/1	Normal	33
	10		3	1	A/1, C1/1	Normal	0
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	60
	13		4	1	B/1, C1/1	Normal	0

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 55, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

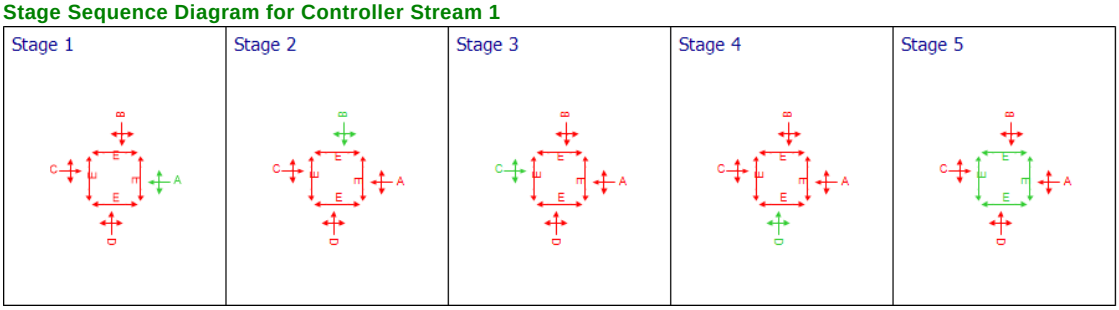
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	55	16	1	7
	4	✓	4	D	56	72	16	1	7
	5	✓	5	E	74	84	10	1	7

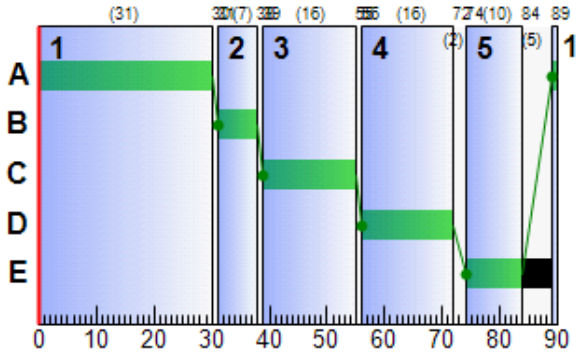
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	56	72	16
C	1	1	1	C	39	55	16
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:20	26/08/2025 12:46:20	0.72	17:00	90	112.08	7.82	17.65	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	18	467	204	430	13.88	11.17	0.99	12.15

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	36	1800	31	30.00	6	1678	31.28	19.28	64.43	0.59
B	1	Southbound - All movements	1	1	D	60	1800	16	0.00	18	467	43.80	31.80	83.27	1.27
C	1	Westbound - All movements	1	1	C	0	1800	16	17.00	0	Unrestricted	0.00	0.00	0.00	0.00
D	1	Northbound - All movements	1	1	B	6	1800	7	7.00	4	2567	50.25	38.25	90.28	0.14
A1	1	Westbound - Exit Lane				66	Unrestricted	90	69.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				33	Unrestricted	90	79.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				0	Unrestricted	90	90.00	0	Unrestricted	0.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				3	Unrestricted	90	90.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	20.40	1.47	13.91	0.77	0.02	11.17	0.99	0.00	12.15
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	27.20	9.84	2.77	7.80	0.02	111.09	0.99	0.00	112.08

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A2 - PM Peak Hour
D4 - 2028 DO SOMETHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:20	26/08/2025 12:46:21	1.25	17:00	90	126.25	8.74	18.82	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO SOMETHING	PM				17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	103	103
B	1	64	64
C	1	46	46
D	1	14	14
A1	1	106	106
B1	1	34	34
C1	1	79	79
D1	1	8	8

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	5	40	1	0	0	0	0
	2	8	0	6	0	0	0	0	0
	3	67	3	0	33	0	0	0	0
	4	4	0	60	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	5
	2		1	3	C/1, A1/1	Normal	40
	3		1	4	C/1, B1/1	Normal	1
	5		2	3	D/1, A1/1	Normal	6
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	8
	8		3	2	A/1, D1/1	Normal	3
	9		3	4	A/1, B1/1	Normal	33
	10		3	1	A/1, C1/1	Normal	67
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	60
	13		4	1	B/1, C1/1	Normal	4

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 55, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

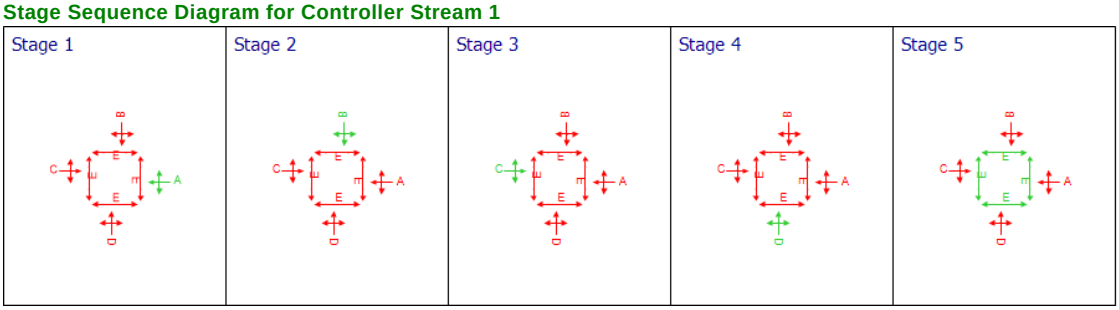
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	55	16	1	7
	4	✓	4	D	56	72	16	1	7
	5	✓	5	E	74	84	10	1	7

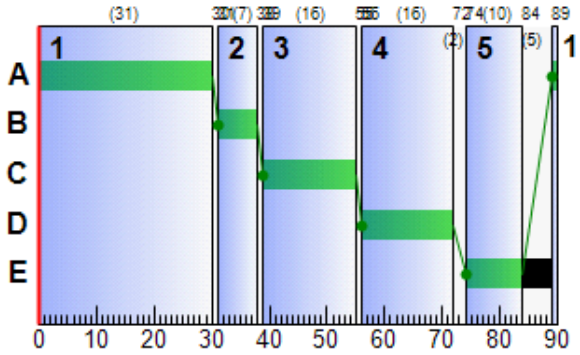
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	56	72	16
C	1	1	1	C	39	55	16
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:20	26/08/2025 12:46:21	1.25	17:00	90	126.25	8.74	18.82	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	19	431	454	430	13.49	24.16	2.17	26.33

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	103	1800	31	0.00	16	521	32.39	20.39	67.06	1.76
B	1	Southbound - All movements	1	1	D	64	1800	16	0.00	19	431	43.95	31.95	83.38	1.36
C	1	Westbound - All movements	1	1	C	46	1800	16	15.00	14	639	43.23	31.23	81.83	0.96
D	1	Northbound - All movements	1	1	B	14	1800	7	7.00	9	1043	50.89	38.89	90.99	0.32
A1	1	Westbound - Exit Lane				106	Unrestricted	90	55.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				34	Unrestricted	90	78.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				79	Unrestricted	90	52.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				8	Unrestricted	90	89.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	45.40	3.21	14.12	1.65	0.05	24.16	2.17	0.00	26.33
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	52.20	11.59	4.51	8.69	0.05	124.09	2.17	0.00	126.25

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A2 - PM Peak Hour
D6 - 2033 DO NOTHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:21	26/08/2025 12:46:21	0.44	17:00	90	112.60	7.86	18.53	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO NOTHING	PM				17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	37	37
B	1	63	63
C	1	0	0
D	1	6	6
A1	1	69	69
B1	1	34	34
C1	1	0	0
D1	1	3	3

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	6	0	0	0	0	0
	3	0	3	0	34	0	0	0	0
	4	0	0	63	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	0
	2		1	3	C/1, A1/1	Normal	0
	3		1	4	C/1, B1/1	Normal	0
	5		2	3	D/1, A1/1	Normal	6
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	0
	8		3	2	A/1, D1/1	Normal	3
	9		3	4	A/1, B1/1	Normal	34
	10		3	1	A/1, C1/1	Normal	0
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	63
	13		4	1	B/1, C1/1	Normal	0

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 55, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

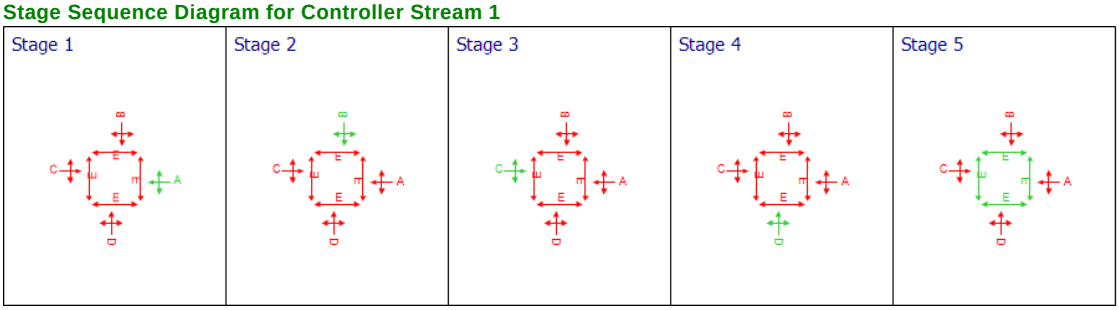
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	55	16	1	7
	4	✓	4	D	56	72	16	1	7
	5	✓	5	E	74	84	10	1	7

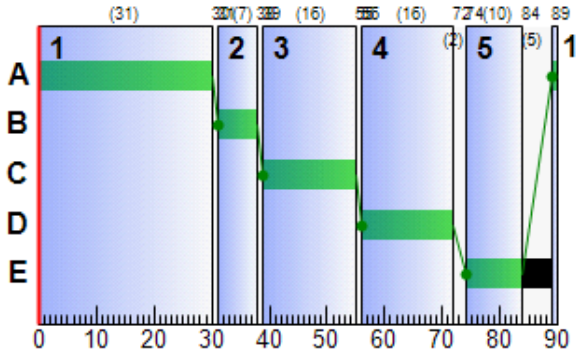
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	56	72	16
C	1	1	1	C	39	55	16
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:21	26/08/2025 12:46:21	0.44	17:00	90	112.60	7.86	18.53	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	19	440	212	430	13.94	11.65	1.03	12.68

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	37	1800	31	30.00	6	1630	31.30	19.30	64.43	0.61
B	1	Southbound - All movements	1	1	D	63	1800	16	0.00	19	440	43.92	31.92	83.35	1.33
C	1	Westbound - All movements	1	1	C	0	1800	16	17.00	0	Unrestricted	0.00	0.00	0.00	0.00
D	1	Northbound - All movements	1	1	B	6	1800	7	7.00	4	2567	50.25	38.25	90.28	0.14
A1	1	Westbound - Exit Lane				69	Unrestricted	90	69.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				34	Unrestricted	90	79.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				0	Unrestricted	90	90.00	0	Unrestricted	0.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				3	Unrestricted	90	90.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	21.20	1.53	13.88	0.80	0.02	11.65	1.03	0.00	12.68
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	28.00	9.90	2.83	7.83	0.02	111.58	1.03	0.00	112.60

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A2 - PM Peak Hour
D8 - 2033 DO SOMETHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:21	26/08/2025 12:46:21	0.73	17:00	90	126.79	8.77	19.71	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO SOMETHING	PM				17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	104	104
B	1	67	67
C	1	46	46
D	1	14	14
A1	1	109	109
B1	1	35	35
C1	1	79	79
D1	1	8	8

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	5	40	1	0	0	0	0
	2	8	0	6	0	0	0	0	0
	3	67	3	0	34	0	0	0	0
	4	4	0	63	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	5
	2		1	3	C/1, A1/1	Normal	40
	3		1	4	C/1, B1/1	Normal	1
	5		2	3	D/1, A1/1	Normal	6
	6		2	4	D/1, B1/1	Normal	0
	7		2	1	D/1, C1/1	Normal	8
	8		3	2	A/1, D1/1	Normal	3
	9		3	4	A/1, B1/1	Normal	34
	10		3	1	A/1, C1/1	Normal	67
	11		4	2	B/1, D1/1	Normal	0
	12		4	3	B/1, A1/1	Normal	63
	13		4	1	B/1, C1/1	Normal	4

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 55, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

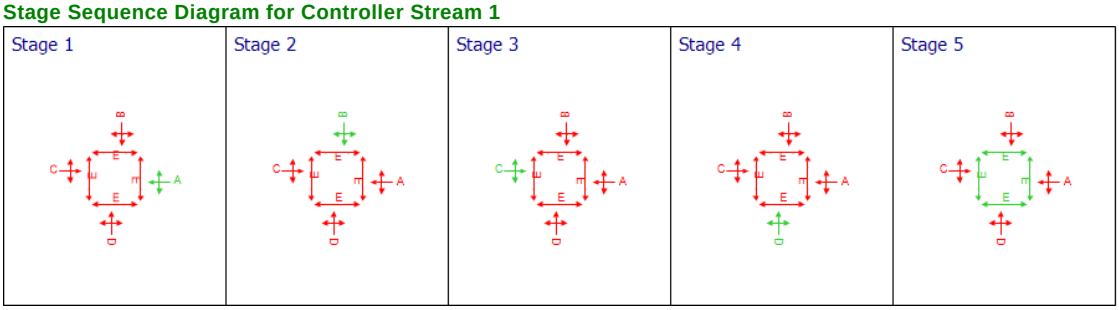
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	55	16	1	7
	4	✓	4	D	56	72	16	1	7
	5	✓	5	E	74	84	10	1	7

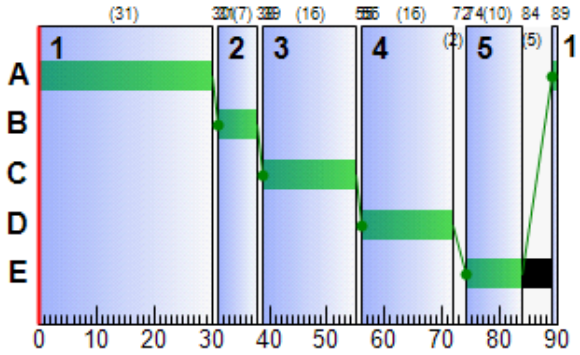
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	56	72	16
C	1	1	1	C	39	55	16
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:21	26/08/2025 12:46:21	0.73	17:00	90	126.79	8.77	19.71	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	20	407	462	430	13.53	24.66	2.21	26.87

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	104	1800	31	0.00	16	515	32.40	20.40	67.07	1.78
B	1	Southbound - All movements	1	1	D	67	1800	16	0.00	20	407	44.07	32.07	83.46	1.42
C	1	Westbound - All movements	1	1	C	46	1800	16	15.00	14	639	43.23	31.23	81.83	0.96
D	1	Northbound - All movements	1	1	B	14	1800	7	7.00	9	1043	50.89	38.89	90.99	0.32
A1	1	Westbound - Exit Lane				109	Unrestricted	90	55.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				35	Unrestricted	90	77.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				79	Unrestricted	90	52.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				8	Unrestricted	90	89.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	46.20	3.28	14.10	1.68	0.05	24.66	2.21	0.00	26.87
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	53.00	11.65	4.55	8.72	0.05	124.58	2.21	0.00	126.79

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A2 - PM Peak Hour
D10 - 2043 DO NOTHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:21	26/08/2025 12:46:21	0.99	17:00	90	142.45	9.79	29.41	B/1	0	0	B/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO NOTHING	PM				17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	168	168
B	1	100	100
C	1	55	55
D	1	29	29
A1	1	151	151
B1	1	90	90
C1	1	98	98
D1	1	13	13

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	5	50	0	0	0	0	0
	2	15	0	6	8	0	0	0	0
	3	83	3	0	82	0	0	0	0
	4	0	5	95	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	5
	2		1	3	C/1, A1/1	Normal	50
	3		1	4	C/1, B1/1	Normal	0
	5		2	3	D/1, A1/1	Normal	6
	6		2	4	D/1, B1/1	Normal	8
	7		2	1	D/1, C1/1	Normal	15
	8		3	2	A/1, D1/1	Normal	3
	9		3	4	A/1, B1/1	Normal	82
	10		3	1	A/1, C1/1	Normal	83
	11		4	2	B/1, D1/1	Normal	5
	12		4	3	B/1, A1/1	Normal	95
	13		4	1	B/1, C1/1	Normal	0

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 55, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

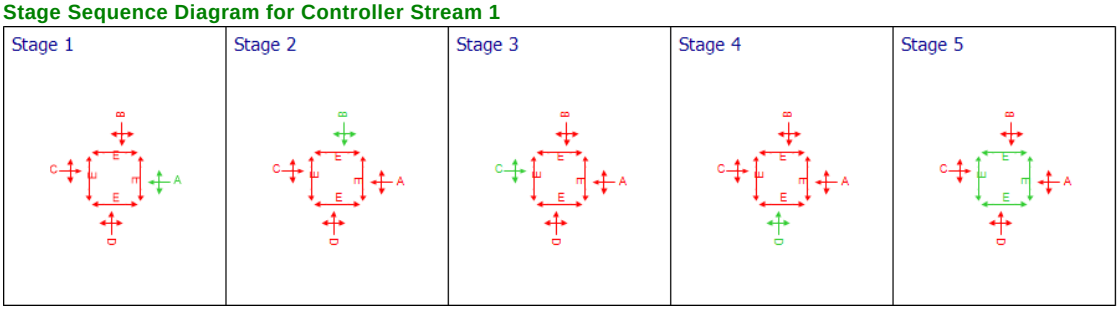
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	55	16	1	7
	4	✓	4	D	56	72	16	1	7
	5	✓	5	E	74	84	10	1	7

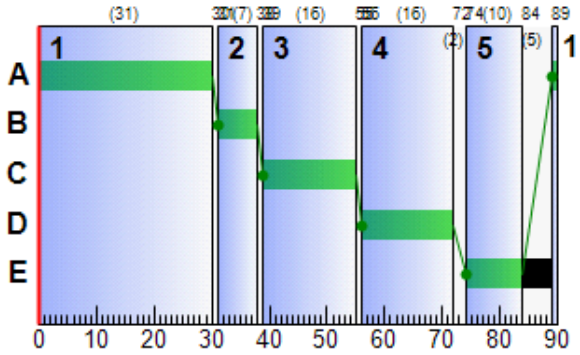
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	56	72	16
C	1	1	1	C	39	55	16
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:21	26/08/2025 12:46:21	0.99	17:00	90	142.45	9.79	29.41	B/1	0	0	B/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	29	240	704	430	14.06	39.05	3.47	42.52

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	168	1800	31	0.00	26	281	33.61	21.61	69.79	2.99
B	1	Southbound - All movements	1	1	D	100	1800	16	0.00	29	240	45.57	33.57	86.59	2.20
C	1	Westbound - All movements	1	1	C	55	1800	16	14.00	16	518	43.60	31.60	83.15	1.16
D	1	Northbound - All movements	1	1	B	29	1800	7	6.00	18	452	52.53	40.53	93.65	0.69
A1	1	Westbound - Exit Lane				151	Unrestricted	90	50.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				90	Unrestricted	90	52.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				98	Unrestricted	90	50.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				13	Unrestricted	90	87.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	70.40	5.10	13.81	2.61	0.14	39.05	3.47	0.00	42.52
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	77.20	13.47	5.73	9.64	0.14	138.98	3.47	0.00	142.45

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

A2 - PM Peak Hour
D12 - 2043 DO SOMETHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:19	26/08/2025 12:46:20	1.52	17:00	90	159.52	10.89	36.72	A/1	0	0	A/1	D1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO SOMETHING	PM				17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Site Access Road (W) - Eastbound		1
B	Rathmullan Road (N) - Southbound		1
C	Rathmullan Road (E) - Westbound		1
D	Local Road (S) - Northbound		1
A1	Site Access Road (W) - Westbound		
B1	Rathmullan Road (N) - Northbound		
C1	Rathmullan Road (E) - Eastbound		
D1	Local Road (S) - Southbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Southbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Westbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
D	1	Northbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
A1	1	Westbound - Exit Lane			100.00						Normal	
B1	1	Northbound - Exit Lane			100.00						Normal	
C1	1	Eastbound - Exit Lane			100.00						Normal	
D1	1	Southbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Southbound - All movements			1800
C	1	1	Westbound - All movements			1800
D	1	1	Northbound - All movements			1800
A1	1	1	Westbound - Exit Lane			
B1	1	1	Northbound - Exit Lane			
C1	1	1	Eastbound - Exit Lane			
D1	1	1	Southbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	1	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	1	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	1	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	1	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (Veh/hr)	Normal Flow (Veh/hr)
A	1	235	235
B	1	104	104
C	1	101	101
D	1	37	37
A1	1	191	191
B1	1	91	91
C1	1	177	177
D1	1	18	18

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	A	
B	1	1	D	
C	1	1	C	
D	1	1	B	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40
4	(untitled)		1		Farside	7.00	4.67	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	E	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	10	90	1	0	0	0	0
	2	23	0	6	8	0	0	0	0
	3	150	3	0	82	0	0	0	0
	4	4	5	95	0	0	0	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (Veh/hr)

		To							
		1	2	3	4	5	6	7	8
From	1	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	100	100	0
	6	0	0	0	0	100	0	0	100
	7	0	0	0	0	100	0	0	100
	8	0	0	0	0	0	100	100	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C/1	C1/1	#0000FF
	2	(untitled)	D/1	D1/1	#FF0000
	3	(untitled)	A/1	A1/1	#00FF00
	4	(untitled)	B/1	B1/1	#FFFF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	4:2E, 3:1E	4:2X, 3:1X	#FFA500
	8	(untitled)	4:1E, 2:2E	4:1X, 2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (Veh/hr)
1	1		1	2	C/1, D1/1	Normal	10
	2		1	3	C/1, A1/1	Normal	90
	3		1	4	C/1, B1/1	Normal	1
	5		2	3	D/1, A1/1	Normal	6
	6		2	4	D/1, B1/1	Normal	8
	7		2	1	D/1, C1/1	Normal	23
	8		3	2	A/1, D1/1	Normal	3
	9		3	4	A/1, B1/1	Normal	82
	10		3	1	A/1, C1/1	Normal	150
	11		4	2	B/1, D1/1	Normal	5
	12		4	3	B/1, A1/1	Normal	95
	13		4	1	B/1, C1/1	Normal	4

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	17		8	7	4:1E, 4:2X	Normal	100
	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	41		7	8	4:2E, 4:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	7	300	0	0	Traffic	
	B	(untitled)	7	300	0	0	Traffic	
	C	(untitled)	7	300	0	0	Traffic	
	D	(untitled)	7	300	0	0	Traffic	
	E	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4, 5	30, 38, 55, 72, 84	45	
	2	(untitled)	Single	1, 2, 3, 5, 4	15, 31, 47, 64, 89	45	
	3	(untitled)	Single	1, 2, 4, 3, 5	15, 31, 52, 68, 85	45	
	4	(untitled)	Single	1, 2, 4, 5, 3	15, 31, 52, 69, 89	45	
	5	(untitled)	Single	1, 2, 5, 3, 4	15, 31, 50, 69, 89	48	
	6	(untitled)	Single	1, 2, 5, 4, 3	15, 31, 50, 74, 89	48	
	7	(untitled)	Single	1, 3, 2, 4, 5	15, 31, 47, 68, 85	45	
	8	(untitled)	Single	1, 3, 2, 5, 4	15, 31, 46, 65, 89	48	
	9	(untitled)	Single	1, 3, 4, 2, 5	15, 31, 51, 66, 85	48	
	10	(untitled)	Single	1, 3, 4, 5, 2	15, 31, 52, 69, 89	45	

Intergreen Matrix for Controller Stream 1

		To				
		A	B	C	D	E
From	A		1	1	1	2
	B	1		1	1	5
	C	1	1		1	2
	D	1	1	1		2
	E	5	5	5	5	

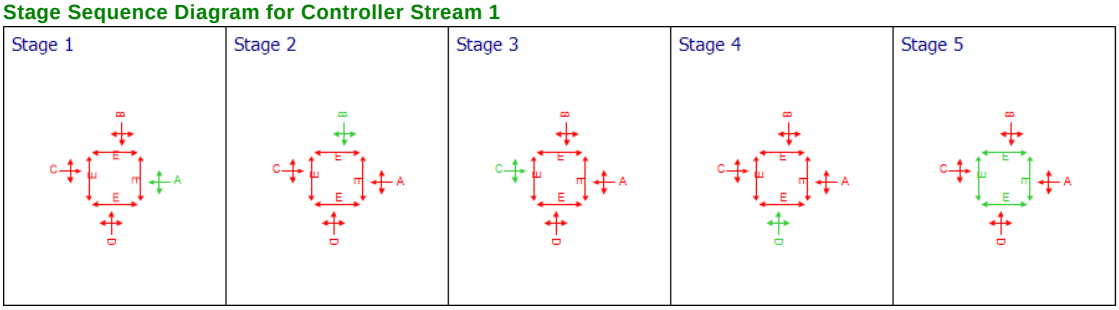
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	89	30	31	1	7
	2	✓	2	B	31	38	7	1	7
	3	✓	3	C	39	55	16	1	7
	4	✓	4	D	56	72	16	1	7
	5	✓	5	E	74	84	10	1	7

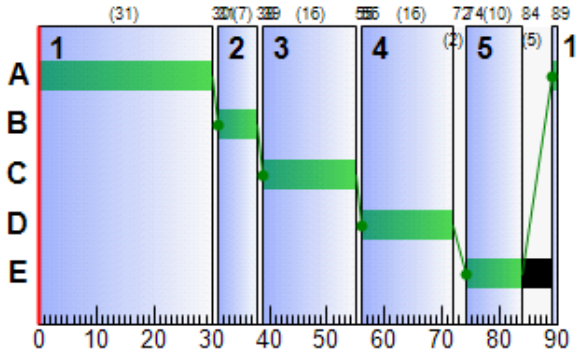
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	A	89	30	31
B	1	1	1	D	56	72	16
C	1	1	1	C	39	55	16
D	1	1	1	B	31	38	7

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (Veh-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:46:19	26/08/2025 12:46:20	1.52	17:00	90	159.52	10.89	36.72	A/1	0	0	A/1	D1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (Veh/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	37	172	954	430	14.55	54.75	4.84	59.59

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	5	800	80	31.67	99.93	99.93

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUES
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (Veh/hr)	Calculated sat flow (Veh/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (Veh)
A	1	Eastbound - All movements	1	1	A	235	1800	31	0.00	37	172	35.13	23.13	73.73	4.41
B	1	Southbound - All movements	1	1	D	104	1800	16	0.00	31	227	45.77	33.77	86.80	2.29
C	1	Westbound - All movements	1	1	C	101	1800	16	0.00	30	237	45.62	33.62	86.65	2.22
D	1	Northbound - All movements	1	1	B	37	1800	7	6.00	23	332	53.56	41.56	94.62	0.89
A1	1	Westbound - Exit Lane				191	Unrestricted	90	49.00	0	Unrestricted	12.00	0.00	0.00	0.00
B1	1	Northbound - Exit Lane				91	Unrestricted	90	52.00	0	Unrestricted	12.00	0.00	0.00	0.00
C1	1	Eastbound - Exit Lane				177	Unrestricted	90	48.00	0	Unrestricted	12.00	0.00	0.00	0.00
D1	1	Southbound - Exit Lane				18	Unrestricted	90	83.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
2	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
3	1	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	38.00	31.67	2.08	100	0
4	1	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0
	2	(untitled)	1	1	E	100	11000	10	5	1733	37.33	31.67	2.08	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (Veh-hr/hr)	Random plus oversat delay (Veh-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	95.40	7.04	13.56	3.59	0.27	54.75	4.84	0.00	59.59
Bus									
Tram									
Pedestrians	6.80	8.37	0.81	7.04	0.00	99.93	0.00	0.00	99.93
TOTAL	102.20	15.41	6.63	10.62	0.27	154.68	4.84	0.00	159.52

< = adjusted flow warning (upstream links/traffic streams are over-saturated)

** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*

^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%

+ = average link/traffic stream excess queue is greater than 0

P.I. = PERFORMANCE INDEX

TRANSYT 16

Version: 16.0.1.8473

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Junction 2 - AM_PM.t16
Path: M:\Projects\18\18-014 - Rathmullan Drogheda SHD Planning Application\Design\Civil\Traffic\2025-05 - Updated SoA\Junction modelling\Junction 2
Report generation date: 26/08/2025 12:56:27

Summary of network performance

	AM		
	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	AM Peak Hour - 2028 DO NOTHING		
Network	16.41	66% (TS A/1)	0 (0%)
	AM Peak Hour - 2028 DO SOMETHING		
Network	17.99	69% (TS A/1)	0 (0%)
	AM Peak Hour - 2033 DO NOTHING		
Network	17.33	69% (TS A/1)	0 (0%)
	AM Peak Hour - 2033 DO SOMETHING		
Network	19.02	73% (TS A/1)	0 (0%)
	AM Peak Hour - 2043 DO NOTHING		
Network	22.50	80% (TS A/1)	0 (0%)
	AM Peak Hour - 2043 DO SOMETHING		
Network	25.27	84% (TS A/1)	0 (0%)

	PM		
	Total delay (PCU-hr/hr)	Highest DOS	Number oversaturated
	PM Peak Hour - 2028 DO NOTHING		
Network	15.29	63% (TS B/2)	0 (0%)
	PM Peak Hour - 2028 DO SOMETHING		
Network	16.50	63% (TS B/2)	0 (0%)
	PM Peak Hour - 2033 DO NOTHING		
Network	16.07	66% (TS B/2)	0 (0%)
	PM Peak Hour - 2033 DO SOMETHING		
Network	17.34	66% (TS B/2)	0 (0%)
	PM Peak Hour - 2043 DO NOTHING		
Network	19.90	74% (TS A/1)	0 (0%)
	PM Peak Hour - 2043 DO SOMETHING		
Network	21.71	79% (TS A/1)	0 (0%)

File summary

File description

File title	Junction 2 AM_PM
Location	Tahtmullan Road & Marley's Lane
Site number	2
UTCRegion	
Driving side	Left
Date	26/08/2025
Version	4
Status	(new file)
Identifier	
Client	
Jobnumber	18-014
Enumerator	DOMAIN\f.demaio
Description	

Model and Results

Enable controller offsets	Enable fuel consumption	Enable quick flares	Display journey time results	Display OD matrix distances	Display level of service results	Display blocking and starvation results	Display end of red and green queue results	Display excess queue results	Display separate uniform and random results	Display unweighted results	Display TRANSYT 12 style timings	Display effective greens in results	Display Red-With-Amber	Display End-Of-Green Amber	c m
			✓			✓		✓	✓						

Units

Cost units	Speed units	Distance units	Fuel economy units	Fuel rate units	Mass units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
£	kph	m	mpg	l/h	kg	PCU	PCU	perHour	s	-Hour	perHour

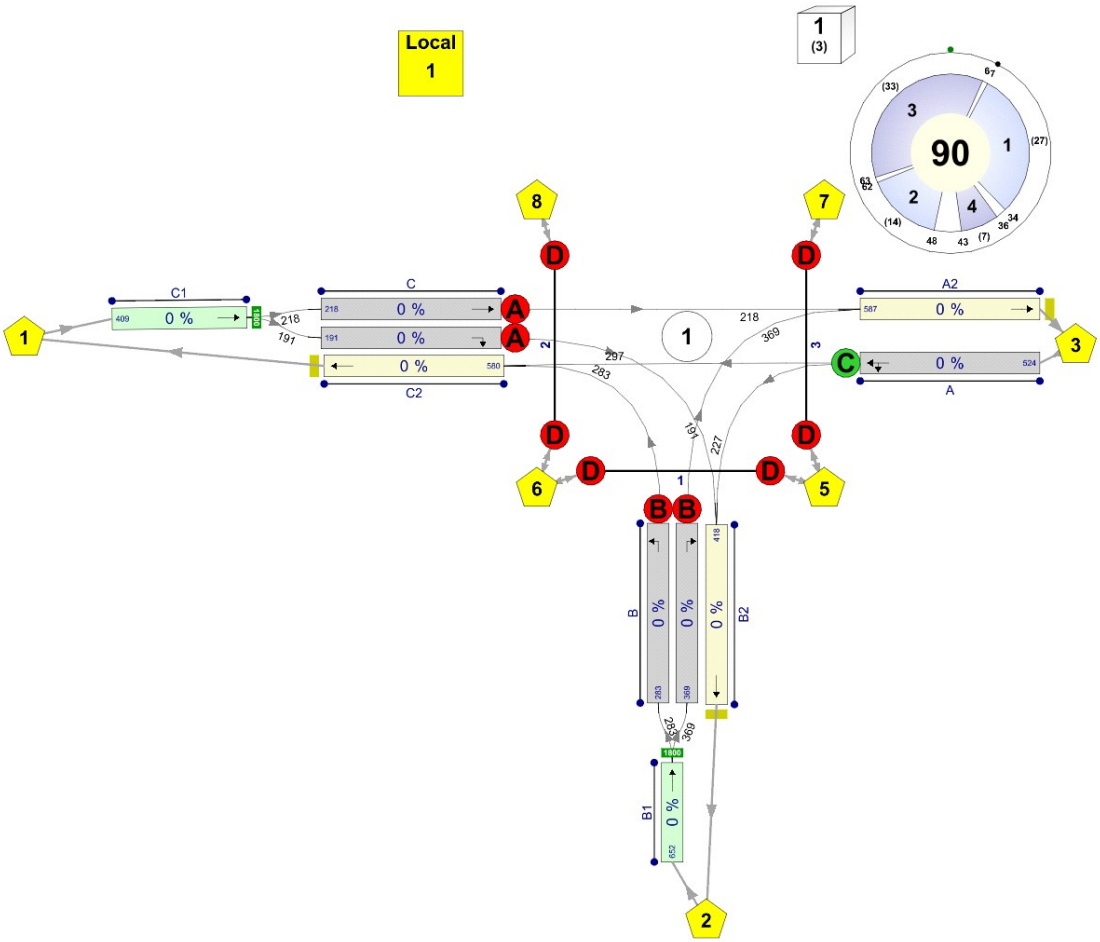
Sorting

Show names instead of IDs	Sorting direction	Sorting type	Ignore prefixes when sorting	Analysis/demand set sorting	Link grouping	Source grouping	Colour Analysis/Demand Sets
	Ascending	Numerical		ID	Normal	Normal	✓

Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Average animation capture interval (s)	Use quick response	Do flow sampling	Uniform vehicle generation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	10000	10000	-1	3	60	✓			0	0	0.00

Network Diagrams



Junction 2 AM_PM
Diagram produced using TRANSYT 16.0.1.8473

A1 - AM Peak Hour
D1 - 2028 DO NOTHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.23	08:00	90	246.54	16.41	65.59	A/1	0	0	A/1	C1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO NOTHING	AM	(untitled)			08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	446	446
B	1	144	144
	2	148	148
C	1	243	243
	2	269	269
B1	1	292	292
C1	1	512	512
A2	1	391	391
B2	1	511	511
C2	1	348	348

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	269	243	0	0	0	0
	2	144	0	148	0	0	0	0
	3	204	242	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	242
	10		3	1	A/1, C2/1	Normal	204
	11		1	3	C1/1, C/1, A2/1	Normal	243
	12		1	2	C1/1, C/2, B2/1	Normal	269
	43		2	1	B1/1, B/1, C2/1	Normal	144
	44		2	3	B1/1, B/2, A2/1	Normal	148

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	21, 34, 64, 76	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 62, 6	31	
	6	(untitled)	Single	1, 4, 3, 2	19, 45, 69, 89	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

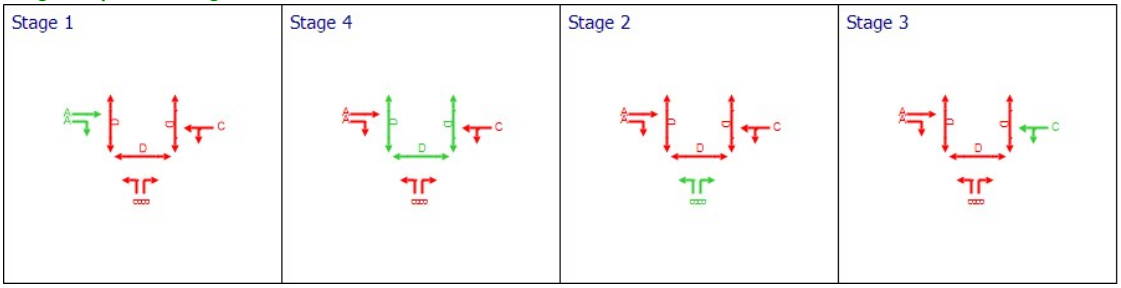
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	7	34	27	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	62	14	1	5
	4	✓	3	C	63	6	33	1	5

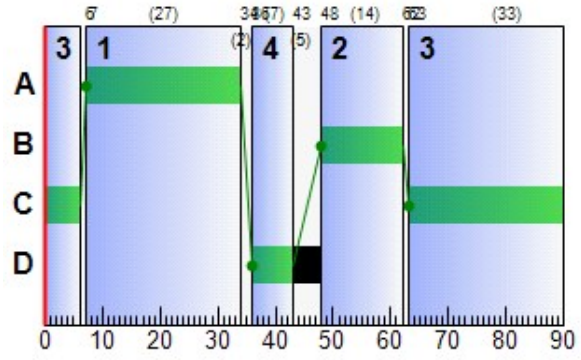
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	63	6	33
B	1	1	1	B	48	62	14
B	2	1	1	B	48	62	14
C	1	1	1	A	7	34	27
C	2	1	1	A	7	34	27

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.23	08:00	90	246.54	16.41	65.59	A/1	0	0	A/1	C1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	66	52	3304	565	11.67	152.05	13.47	165.52

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	446	1800	33	0.00	66	52	40.16	28.16	85.81	9.79
B	1	Northbound - Left-Turn Lane	1	1	B	144	1800	14	0.00	48	108	43.67	39.47	94.65	3.46
	2	Northbound - Right-Turn Lane	1	1	B	148	1800	14	0.00	49	103	44.05	39.85	95.01	3.57
C	1	Northbound - Straight-through lane	1	1	A	243 <	1800	27	0.00	43	130	29.55	27.15	80.17	4.96 +
	2	Northbound - Right-Turn Lane	1	1	A	269 <	1800	27	0.00	48	108	30.47	28.07	81.87	5.60 +
B1	1	Northbound - Feeder	1			292	1800	90	0.00	16	516	7.99	0.19	0.00	0.02
C1	1	Eastbound - Feeder	1			512	1800	90	29.00	28	252	8.20	0.40	0.00	0.06
A2	1	Eastbound - Exit Lane				391	Unrestricted	90	36.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				511	Unrestricted	90	23.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				348	Unrestricted	90	37.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	242.32	18.78	12.90	9.17	1.53	152.05	13.47	0.00	165.52
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	247.52	25.51	9.70	14.88	1.53	233.07	13.47	0.00	246.54

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A1 - AM Peak Hour
D3 - 2028 DO SOMETHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.39	08:00	90	270.74	17.99	68.97	A/1	0	0	A/1	C1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO SOMETHING	AM	(untitled)			08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	469	469
B	1	164	164
	2	148	148
C	1	287	287
	2	308	308
B1	1	312	312
C1	1	595	595
A2	1	435	435
B2	1	550	550
C2	1	391	391

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	308	287	0	0	0	0
	2	164	0	148	0	0	0	0
	3	227	242	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	242
	10		3	1	A/1, C2/1	Normal	227
	11		1	3	C1/1, C/1, A2/1	Normal	287
	12		1	2	C1/1, C/2, B2/1	Normal	308
	43		2	1	B1/1, B/1, C2/1	Normal	164
	44		2	3	B1/1, B/2, A2/1	Normal	148

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	21, 34, 64, 76	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 62, 6	31	
	6	(untitled)	Single	1, 4, 3, 2	19, 45, 69, 89	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

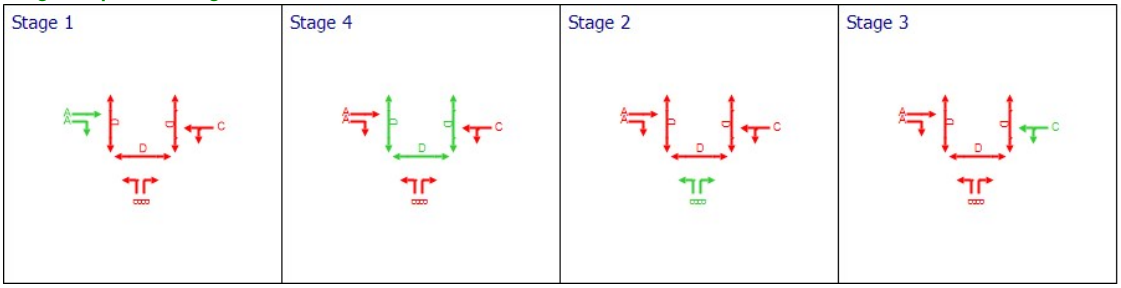
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	7	34	27	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	62	14	1	5
	4	✓	3	C	63	6	33	1	5

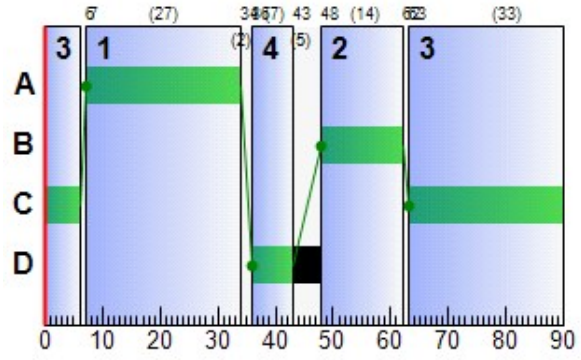
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	63	6	33
B	1	1	1	B	48	62	14
B	2	1	1	B	48	62	14
C	1	1	1	A	7	34	27
C	2	1	1	A	7	34	27

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.39	08:00	90	270.74	17.99	68.97	A/1	0	0	A/1	C1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	69	45	3659	565	12.09	174.50	15.23	189.72

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	469	1800	33	0.00	69	45	41.37	29.37	87.96	10.53
B	1	Northbound - Left-Turn Lane	1	1	B	164	1800	14	0.00	55	83	45.74	41.54	97.51	4.06
	2	Northbound - Right-Turn Lane	1	1	B	148	1800	14	0.00	49	103	44.05	39.85	95.01	3.57
C	1	Northbound - Straight-through lane	1	1	A	287 <	1800	27	0.00	51	95	31.17	28.77	83.36	6.09 +
	2	Northbound - Right-Turn Lane	1	1	A	308 <	1800	27	0.00	55	82	32.07	29.67	85.05	6.66 +
B1	1	Northbound - Feeder	1			312	1800	90	0.00	17	477	8.01	0.21	0.00	0.02
C1	1	Eastbound - Feeder	1			595	1800	90	38.00	33	203	8.29	0.49	0.00	0.08
A2	1	Eastbound - Exit Lane				435	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				550	Unrestricted	90	22.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				391	Unrestricted	90	36.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	266.28	21.16	12.58	10.27	2.02	174.50	15.23	0.00	189.72
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	271.48	27.89	9.73	15.97	2.02	255.52	15.23	0.00	270.74

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A1 - AM Peak Hour
D5 - 2033 DO NOTHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.59	08:00	90	260.61	17.33	69.26	A/1	0	0	A/1	C1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO NOTHING	AM	(untitled)			08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	471	471
B	1	152	152
	2	157	157
C	1	256	256
	2	283	283
B1	1	309	309
C1	1	539	539
A2	1	413	413
B2	1	539	539
C2	1	367	367

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	283	256	0	0	0	0
	2	152	0	157	0	0	0	0
	3	215	256	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	256
	10		3	1	A/1, C2/1	Normal	215
	11		1	3	C1/1, C/1, A2/1	Normal	256
	12		1	2	C1/1, C/2, B2/1	Normal	283
	43		2	1	B1/1, B/1, C2/1	Normal	152
	44		2	3	B1/1, B/2, A2/1	Normal	157

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	21, 34, 64, 76	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 62, 6	31	
	6	(untitled)	Single	1, 4, 3, 2	19, 45, 69, 89	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

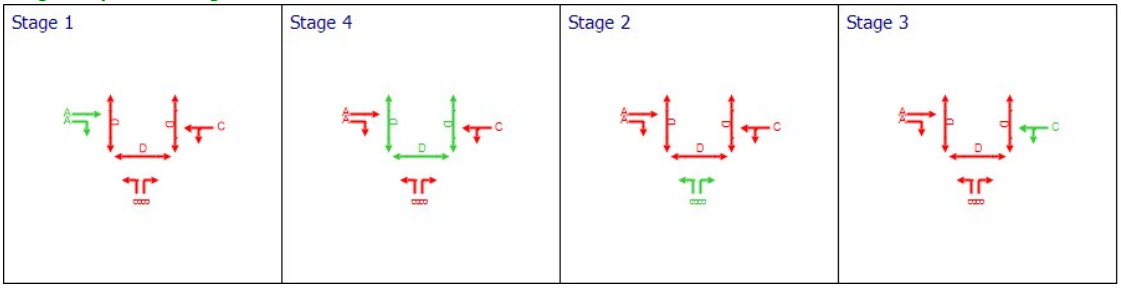
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	7	34	27	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	62	14	1	5
	4	✓	3	C	63	6	33	1	5

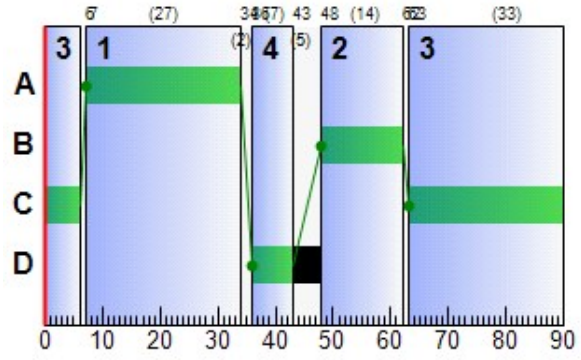
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	63	6	33
B	1	1	1	B	48	62	14
B	2	1	1	B	48	62	14
C	1	1	1	A	7	34	27
C	2	1	1	A	7	34	27

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.59	08:00	90	260.61	17.33	69.26	A/1	0	0	A/1	C1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	69	44	3486	565	12.01	165.11	14.48	179.59

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	471	1800	33	0.00	69	44	41.48	29.48	88.10	10.58
B	1	Northbound - Left-Turn Lane	1	1	B	152	1800	14	0.00	51	97	44.44	40.24	95.35	3.68
	2	Northbound - Right-Turn Lane	1	1	B	157	1800	14	0.00	52	91	44.96	40.76	96.54	3.86
C	1	Northbound - Straight-through lane	1	1	A	256 <	1800	27	0.00	46	119	30.00	27.60	81.27	5.31 +
	2	Northbound - Right-Turn Lane	1	1	A	283 <	1800	27	0.00	51	98	31.01	28.61	83.18	6.00 +
B1	1	Northbound - Feeder	1			309	1800	90	0.00	17	483	8.01	0.21	0.00	0.02
C1	1	Eastbound - Feeder	1			539	1800	90	33.00	30	234	8.23	0.43	0.00	0.06
A2	1	Eastbound - Exit Lane				413	Unrestricted	90	36.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				539	Unrestricted	90	22.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				367	Unrestricted	90	36.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	255.72	20.15	12.69	9.79	1.84	165.11	14.48	0.00	179.59
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	260.92	26.88	9.71	15.49	1.84	246.12	14.48	0.00	260.61

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A1 - AM Peak Hour
D7 - 2033 DO SOMETHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.75	08:00	90	286.46	19.02	72.65	A/1	0	0	A/1	C1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO SOMETHING	AM	(untitled)			08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	494	494
B	1	172	172
	2	157	157
C	1	300	300
	2	322	322
B1	1	329	329
C1	1	622	622
A2	1	457	457
B2	1	578	578
C2	1	410	410

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	322	300	0	0	0	0
	2	172	0	157	0	0	0	0
	3	238	256	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	256
	10		3	1	A/1, C2/1	Normal	238
	11		1	3	C1/1, C/1, A2/1	Normal	300
	12		1	2	C1/1, C/2, B2/1	Normal	322
	43		2	1	B1/1, B/1, C2/1	Normal	172
	44		2	3	B1/1, B/2, A2/1	Normal	157

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	21, 34, 64, 76	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 62, 6	31	
	6	(untitled)	Single	1, 4, 3, 2	19, 45, 69, 89	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

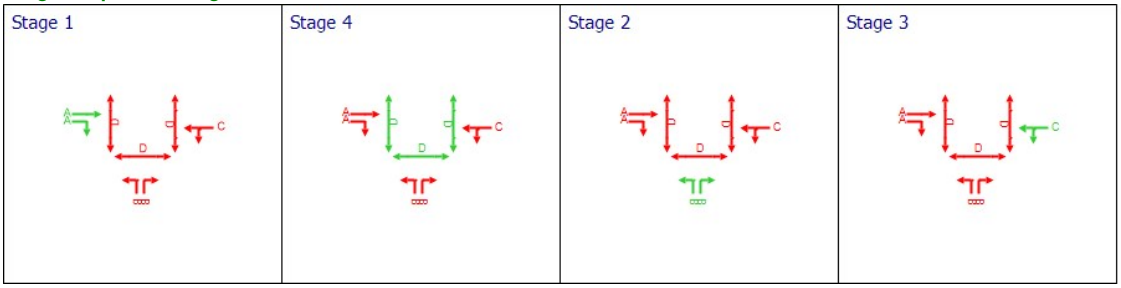
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	7	34	27	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	62	14	1	5
	4	✓	3	C	63	6	33	1	5

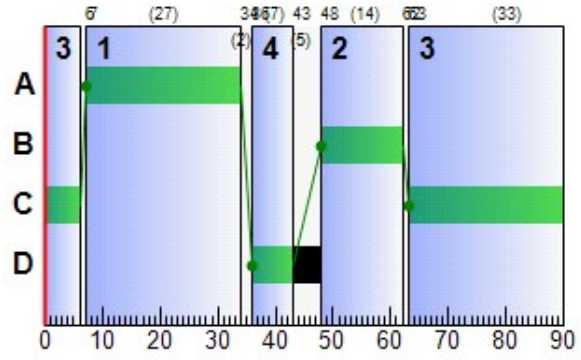
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	63	6	33
B	1	1	1	B	48	62	14
B	2	1	1	B	48	62	14
C	1	1	1	A	7	34	27
C	2	1	1	A	7	34	27

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.75	08:00	90	286.46	19.02	72.65	A/1	0	0	A/1	C1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	73	38	3841	565	12.48	189.12	16.31	205.44

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	494	1800	33	0.00	73	38	42.92	30.92	90.70	11.51
B	1	Northbound - Left-Turn Lane	1	1	B	172	1800	14	0.00	57	74	46.70	42.50	98.43	4.30
	2	Northbound - Right-Turn Lane	1	1	B	157	1800	14	0.00	52	91	44.96	40.76	96.54	3.86
C	1	Northbound - Straight-through lane	1	1	A	300 <	1800	27	0.00	54	87	31.72	29.32	84.62	6.47 +
	2	Northbound - Right-Turn Lane	1	1	A	322 <	1800	27	0.00	58	74	32.73	30.33	86.45	7.09 +
B1	1	Northbound - Feeder	1			329	1800	90	0.00	18	447	8.02	0.22	0.00	0.02
C1	1	Eastbound - Feeder	1			622	1800	90	41.00	35	189	8.33	0.53	0.00	0.09
A2	1	Eastbound - Exit Lane				457	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				578	Unrestricted	90	22.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				410	Unrestricted	90	36.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	279.67	22.64	12.35	10.90	2.42	189.12	16.31	0.00	205.44
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	284.87	29.36	9.70	16.61	2.42	270.14	16.31	0.00	286.46

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A1 - AM Peak Hour
D9 - 2043 DO NOTHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.94	08:00	90	339.25	22.50	80.29	A/1	0	0	A/1	C1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO NOTHING	AM	(untitled)			08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	546	546
B	1	200	200
	2	168	168
C	1	357	357
	2	376	376
B1	1	368	368
C1	1	733	733
A2	1	525	525
B2	1	649	649
C2	1	473	473

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	376	357	0	0	0	0
	2	200	0	168	0	0	0	0
	3	273	273	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	273
	10		3	1	A/1, C2/1	Normal	273
	11		1	3	C1/1, C/1, A2/1	Normal	357
	12		1	2	C1/1, C/2, B2/1	Normal	376
	43		2	1	B1/1, B/1, C2/1	Normal	200
	44		2	3	B1/1, B/2, A2/1	Normal	168

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	21, 34, 64, 76	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 62, 6	31	
	6	(untitled)	Single	1, 4, 3, 2	19, 45, 69, 89	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

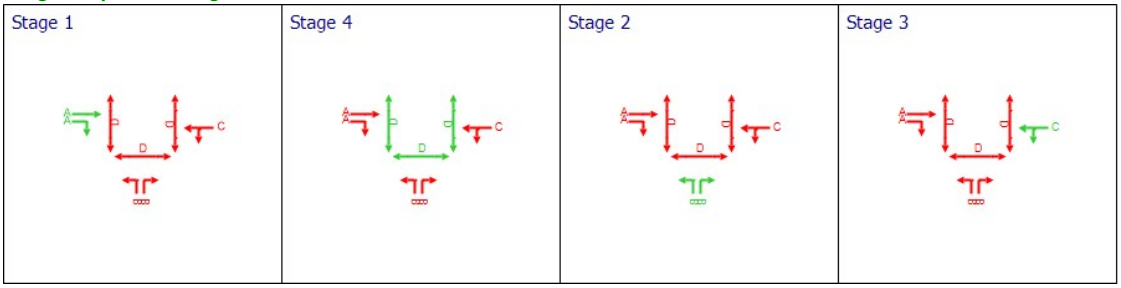
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	7	34	27	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	62	14	1	5
	4	✓	3	C	63	6	33	1	5

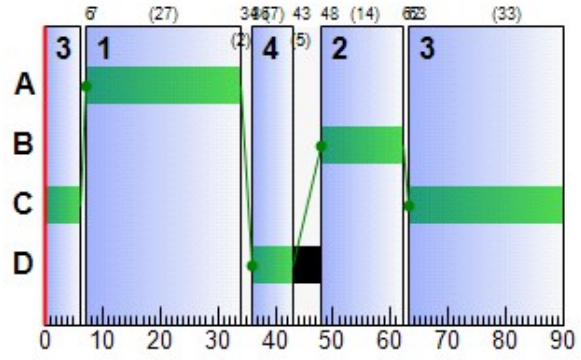
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	63	6	33
B	1	1	1	B	48	62	14
B	2	1	1	B	48	62	14
C	1	1	1	A	7	34	27
C	2	1	1	A	7	34	27

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:06	26/08/2025 12:56:06	0.94	08:00	90	339.25	22.50	80.29	A/1	0	0	A/1	C1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	80	25	4395	565	13.76	238.49	19.74	258.24

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	546	1800	33	0.00	80	25	47.43	35.43	97.98	13.71
B	1	Northbound - Left-Turn Lane	1	1	B	200	1800	14	0.00	67	50	51.06	46.86	104.39	5.32
	2	Northbound - Right-Turn Lane	1	1	B	168	1800	14	0.00	56	79	46.21	42.01	97.97	4.18
C	1	Northbound - Straight-through lane	1	1	A	357 <	1800	27	0.00	64	57	34.63	32.23	89.85	8.19 +
	2	Northbound - Right-Turn Lane	1	1	A	376 <	1800	27	0.00	67	49	35.87	33.47	91.92	8.82 +
B1	1	Northbound	1			368	1800	90	0.00	20	389	8.06	0.26	0.00	0.03
C1	1	Eastbound - Feeder	1			733	1800	90	52.00	41	146	8.49	0.69	0.00	0.14
A2	1	Eastbound - Exit Lane				525	Unrestricted	90	33.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				649	Unrestricted	90	21.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				473	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	318.41	27.41	11.62	12.82	3.98	238.49	19.74	0.00	258.24
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	323.61	34.13	9.48	18.52	3.98	319.51	19.74	0.00	339.25

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A1 - AM Peak Hour
D11 - 2043 DO SOMETHING, AM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:05	26/08/2025 12:56:06	1.04	08:00	90	381.07	25.27	83.68	A/1	0	0	A/1	C1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
AM Peak Hour			✓	D1,D3,D5,D7,D9,D11	✓	D11	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO SOMETHING	AM	(untitled)			08:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	569	569
B	1	220	220
	2	168	168
C	1	401	401
	2	415	415
B1	1	388	388
C1	1	816	816
A2	1	569	569
B2	1	688	688
C2	1	516	516

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	415	401	0	0	0	0
	2	220	0	168	0	0	0	0
	3	296	273	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	273
	10		3	1	A/1, C2/1	Normal	296
	11		1	3	C1/1, C/1, A2/1	Normal	401
	12		1	2	C1/1, C/2, B2/1	Normal	415
	43		2	1	B1/1, B/1, C2/1	Normal	220
	44		2	3	B1/1, B/2, A2/1	Normal	168

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	21, 34, 64, 76	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 62, 6	31	
	6	(untitled)	Single	1, 4, 3, 2	19, 45, 69, 89	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

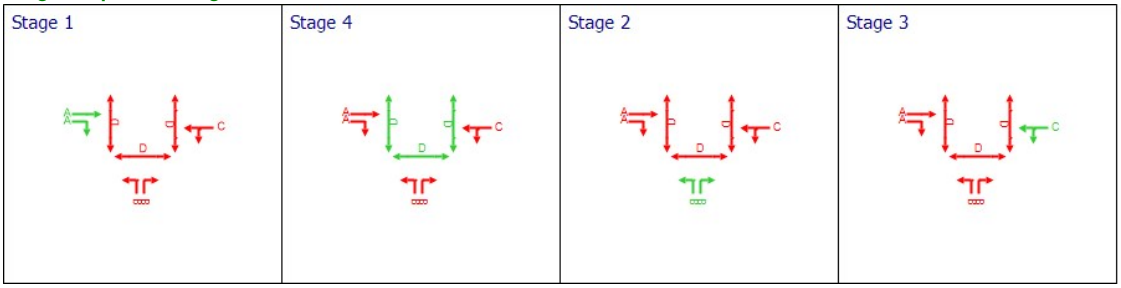
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	7	34	27	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	62	14	1	5
	4	✓	3	C	63	6	33	1	5

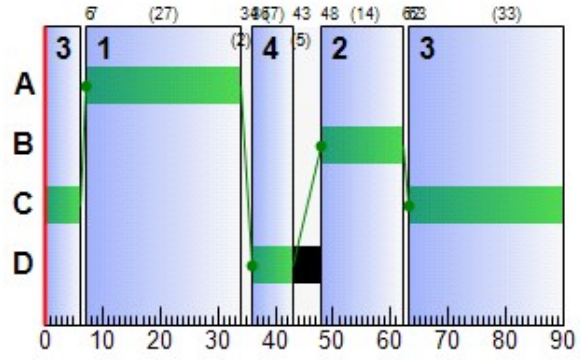
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	63	6	33
B	1	1	1	B	48	62	14
B	2	1	1	B	48	62	14
C	1	1	1	A	7	34	27
C	2	1	1	A	7	34	27

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
1	26/08/2025 12:56:05	26/08/2025 12:56:06	1.04	08:00	90	381.07	25.27	83.68	A/1	0	0	A/1	C1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
08:00-09:00	84	20	4750	565	14.83	277.87	22.18	300.05

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
08:00-09:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	569	1800	33	0.00	84	20	50.38	38.38	102.01	14.84
B	1	Northbound - Left-Turn Lane	1	1	B	220 <	1800	14	0.00	73	36	55.64	51.44	109.77	6.16 +
	2	Northbound - Right-Turn Lane	1	1	B	168	1800	14	0.00	56	79	46.21	42.01	97.97	4.18
C	1	Northbound - Straight-through lane	1	1	A	401 <	1800	27	0.00	72	40	37.83	35.43	94.82	9.68 +
	2	Northbound - Right-Turn Lane	1	1	A	415 <	1800	27	0.00	74	35	39.14	36.74	96.90	10.26 +
B1	1	Northbound - Feeder	1			388	1800	90	2.00	22	364	8.07	0.27	0.00	0.03
C1	1	Eastbound - Feeder	1			816	1800	90	59.00	45	121	8.63	0.83	0.00	0.19
A2	1	Eastbound - Exit Lane				569	Unrestricted	90	32.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				688	Unrestricted	90	20.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				516	Unrestricted	90	34.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	342.36	30.98	11.05	14.07	5.50	277.87	22.18	0.00	300.05
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	347.56	37.70	9.22	19.78	5.50	358.89	22.18	0.00	381.07

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM Peak Hour
D2 - 2028 DO NOTHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:08	26/08/2025 12:56:08	0.33	17:00	90	229.20	15.29	62.69	B/2	0	0	B/2	B1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO NOTHING	PM	(untitled)			17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	374	374
B	1	171	171
	2	326	326
C	1	140	140
	2	122	122
B1	1	497	497
C1	1	262	262
A2	1	466	466
B2	1	323	323
C2	1	344	344

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	122	140	0	0	0	0
	2	171	0	326	0	0	0	0
	3	173	201	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	201
	10		3	1	A/1, C2/1	Normal	173
	11		1	3	C1/1, C/1, A2/1	Normal	140
	12		1	2	C1/1, C/2, B2/1	Normal	122
	43		2	1	B1/1, B/1, C2/1	Normal	171
	44		2	3	B1/1, B/2, A2/1	Normal	326

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	15, 41, 77, 89	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 73, 16	31	
	6	(untitled)	Single	1, 4, 3, 2	25, 37, 76, 10	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

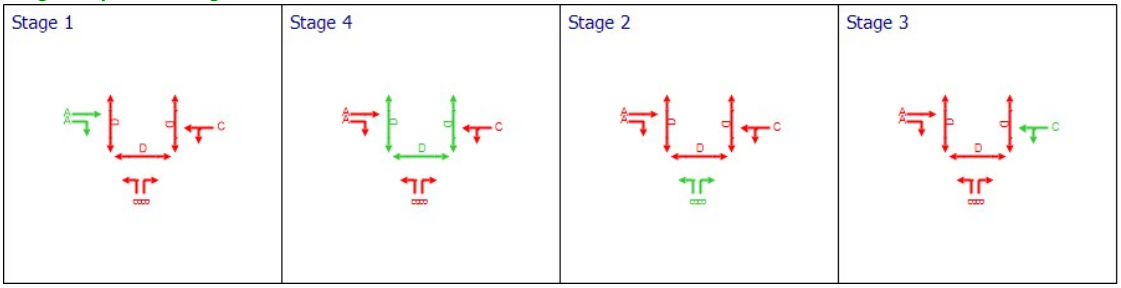
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	17	34	17	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	73	25	1	5
	4	✓	3	C	74	16	32	1	5

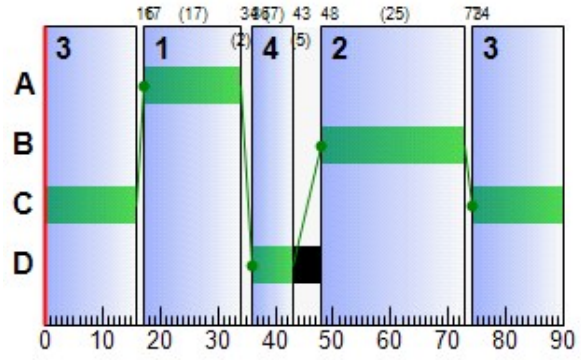
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	74	16	32
B	1	1	1	B	48	73	25
B	2	1	1	B	48	73	25
C	1	1	1	A	17	34	17
C	2	1	1	A	17	34	17

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:08	26/08/2025 12:56:08	0.33	17:00	90	229.20	15.29	62.69	B/2	0	0	B/2	B1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	63	60	3025	566	11.41	136.10	12.08	148.18

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	374	1800	32	0.00	57	76	38.33	26.33	81.30	7.74
B	1	Northbound - Left-Turn Lane	1	1	B	171	1800	25	0.00	33	204	31.05	26.85	78.31	3.41
	2	Northbound - Right-Turn Lane	1	1	B	326 <	1800	25	0.00	63	60	37.74	33.54	90.88	7.58 +
C	1	Northbound - Straight-through lane	1	1	A	140	1800	17	0.00	39	157	36.80	34.40	88.25	3.16
	2	Northbound - Right-Turn Lane	1	1	A	122	1800	17	0.00	34	195	35.86	33.46	86.87	2.70
B1	1	Northbound - Feeder	1			497	1800	90	17.00	28	262	8.18	0.38	0.00	0.05
C1	1	Eastbound - Feeder	1			262	1800	90	0.00	15	587	7.97	0.17	0.00	0.01
A2	1	Eastbound - Exit Lane				466	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				323	Unrestricted	90	36.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				344	Unrestricted	90	27.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	222.67	17.01	13.09	8.34	1.24	136.10	12.08	0.00	148.18
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	227.87	23.73	9.60	14.05	1.24	217.12	12.08	0.00	229.20

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM Peak Hour
D4 - 2028 DO SOMETHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:08	26/08/2025 12:56:08	0.73	17:00	90	247.84	16.50	62.69	B/2	0	0	B/2	B1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2028 DO SOMETHING	PM	(untitled)			17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	410	410
B	1	203	203
	2	326	326
C	1	161	161
	2	141	141
B1	1	529	529
C1	1	302	302
A2	1	487	487
B2	1	342	342
C2	1	412	412

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	141	161	0	0	0	0
	2	203	0	326	0	0	0	0
	3	209	201	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	201
	10		3	1	A/1, C2/1	Normal	209
	11		1	3	C1/1, C/1, A2/1	Normal	161
	12		1	2	C1/1, C/2, B2/1	Normal	141
	43		2	1	B1/1, B/1, C2/1	Normal	203
	44		2	3	B1/1, B/2, A2/1	Normal	326

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	15, 41, 77, 89	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 73, 16	31	
	6	(untitled)	Single	1, 4, 3, 2	25, 37, 76, 10	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

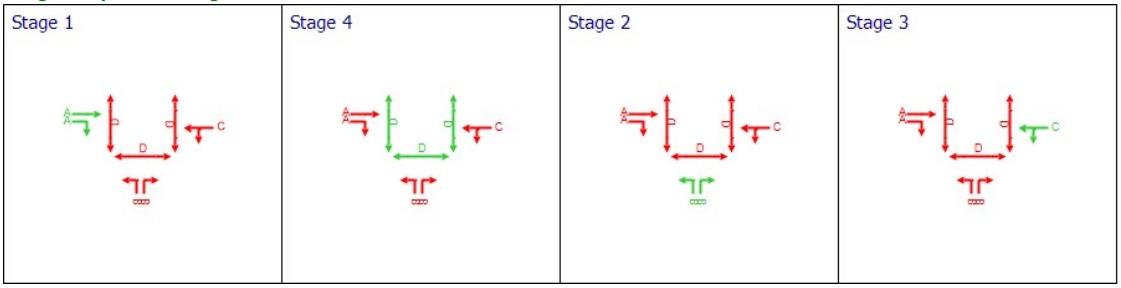
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	17	34	17	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	73	25	1	5
	4	✓	3	C	74	16	32	1	5

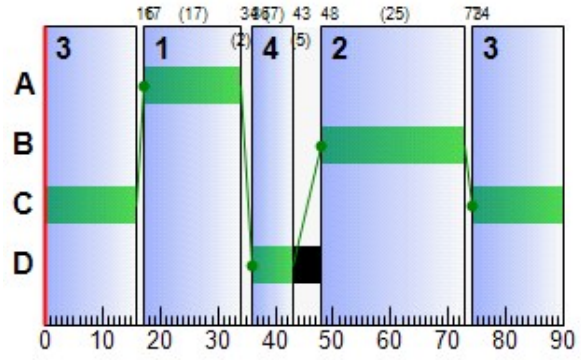
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	74	16	32
B	1	1	1	B	48	73	25
B	2	1	1	B	48	73	25
C	1	1	1	A	17	34	17
C	2	1	1	A	17	34	17

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:08	26/08/2025 12:56:08	0.73	17:00	90	247.84	16.50	62.69	B/2	0	0	B/2	B1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	63	60	3313	566	11.73	153.33	13.49	166.82

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	410	1800	32	0.00	62	61	39.81	27.81	84.39	8.82
B	1	Northbound - Left-Turn Lane	1	1	B	203	1800	25	0.00	39	156	32.06	27.86	80.63	4.18
	2	Northbound - Right-Turn Lane	1	1	B	326 <	1800	25	0.00	63	60	37.74	33.54	90.88	7.58 +
C	1	Northbound - Straight-through lane	1	1	A	161 <	1800	17	0.00	45	124	38.05	35.65	90.22	3.71 +
	2	Northbound - Right-Turn Lane	1	1	A	141	1800	17	0.00	39	155	36.86	34.46	88.45	3.18
B1	1	Northbound - Feeder	1			529	1800	90	17.00	29	240	8.22	0.42	0.00	0.06
C1	1	Eastbound - Feeder	1			302	1800	90	6.00	17	496	8.00	0.20	0.00	0.02
A2	1	Eastbound - Exit Lane				487	Unrestricted	90	34.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				342	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				412	Unrestricted	90	27.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	243.67	18.92	12.88	9.26	1.53	153.33	13.49	0.00	166.82
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	248.87	25.64	9.70	14.97	1.53	234.35	13.49	0.00	247.84

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM Peak Hour
D6 - 2033 DO NOTHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:08	26/08/2025 12:56:08	0.92	17:00	90	241.14	16.07	66.35	B/2	0	0	B/2	B1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO NOTHING	PM	(untitled)			17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	395	395
B	1	179	179
	2	345	345
C	1	147	147
	2	128	128
B1	1	524	524
C1	1	275	275
A2	1	492	492
B2	1	341	341
C2	1	361	361

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	128	147	0	0	0	0
	2	179	0	345	0	0	0	0
	3	182	213	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	213
	10		3	1	A/1, C2/1	Normal	182
	11		1	3	C1/1, C/1, A2/1	Normal	147
	12		1	2	C1/1, C/2, B2/1	Normal	128
	43		2	1	B1/1, B/1, C2/1	Normal	179
	44		2	3	B1/1, B/2, A2/1	Normal	345

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	15, 41, 77, 89	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 73, 16	31	
	6	(untitled)	Single	1, 4, 3, 2	25, 37, 76, 10	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

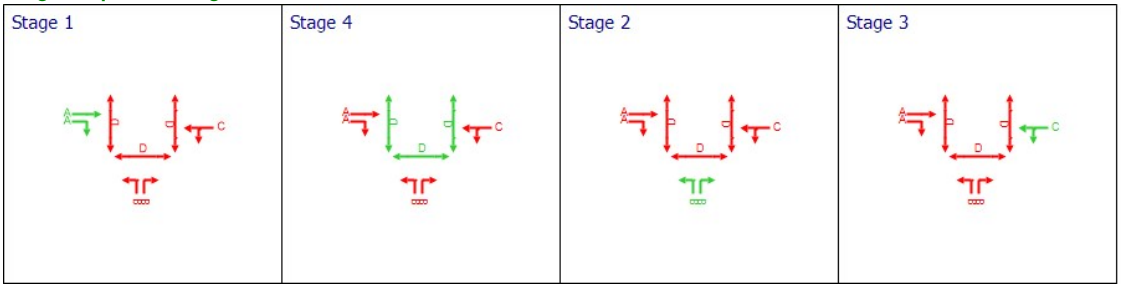
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	17	34	17	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	73	25	1	5
	4	✓	3	C	74	16	32	1	5

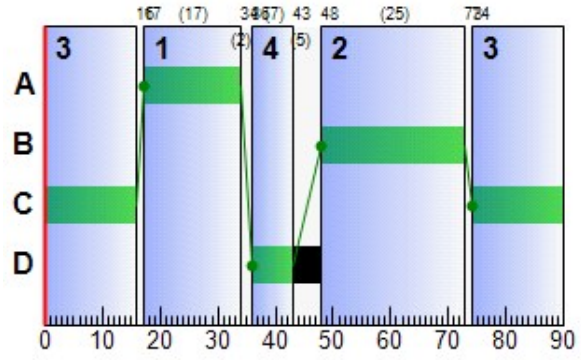
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	74	16	32
B	1	1	1	B	48	73	25
B	2	1	1	B	48	73	25
C	1	1	1	A	17	34	17
C	2	1	1	A	17	34	17

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:08	26/08/2025 12:56:08	0.92	17:00	90	241.14	16.07	66.35	B/2	0	0	B/2	B1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	66	51	3187	566	11.71	147.18	12.95	160.13

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	395	1800	32	0.00	60	67	39.16	27.16	83.00	8.45
B	1	Northbound - Left-Turn Lane	1	1	B	179	1800	25	0.00	34	191	31.28	27.08	78.84	3.62
	2	Northbound - Right-Turn Lane	1	1	B	345 <	1800	25	0.00	66	51	39.08	34.88	93.05	8.22 +
C	1	Northbound - Straight-through lane	1	1	A	147	1800	17	0.00	41	145	37.21	34.81	89.03	3.33
	2	Northbound - Right-Turn Lane	1	1	A	128	1800	17	0.00	36	181	36.17	33.77	87.24	2.84
B1	1	Northbound - Feeder	1			524	1800	90	23.00	29	244	8.21	0.41	0.00	0.06
C1	1	Eastbound - Feeder	1			275	1800	90	0.00	15	555	7.98	0.18	0.00	0.01
A2	1	Eastbound - Exit Lane				492	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				341	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				361	Unrestricted	90	27.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	234.68	18.19	12.90	8.88	1.49	147.18	12.95	0.00	160.13
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	239.88	24.91	9.63	14.58	1.49	228.20	12.95	0.00	241.14

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM Peak Hour
D8 - 2033 DO SOMETHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:09	26/08/2025 12:56:09	0.09	17:00	90	260.64	17.34	66.35	B/2	0	0	B/2	B1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2033 DO SOMETHING	PM	(untitled)			17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	431	431
B	1	211	211
	2	345	345
C	1	168	168
	2	147	147
B1	1	556	556
C1	1	315	315
A2	1	513	513
B2	1	360	360
C2	1	429	429

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	147	168	0	0	0	0
	2	211	0	345	0	0	0	0
	3	218	213	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	213
	10		3	1	A/1, C2/1	Normal	218
	11		1	3	C1/1, C/1, A2/1	Normal	168
	12		1	2	C1/1, C/2, B2/1	Normal	147
	43		2	1	B1/1, B/1, C2/1	Normal	211
	44		2	3	B1/1, B/2, A2/1	Normal	345

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	15, 41, 77, 89	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 73, 16	31	
	6	(untitled)	Single	1, 4, 3, 2	25, 37, 76, 10	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

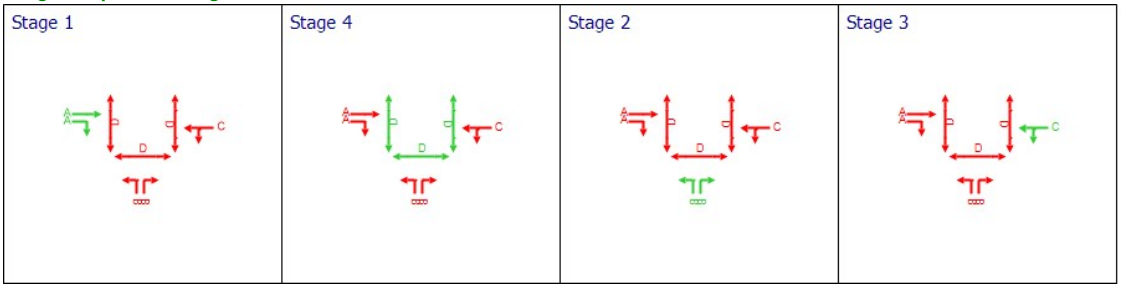
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	17	34	17	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	73	25	1	5
	4	✓	3	C	74	16	32	1	5

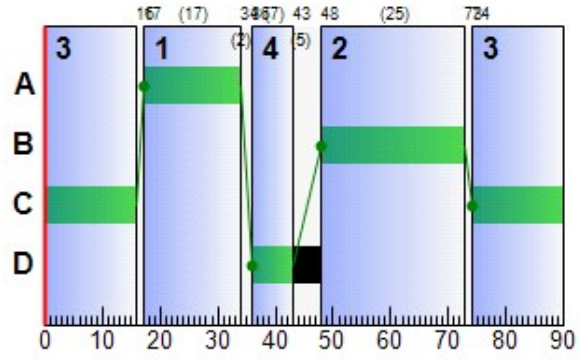
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	74	16	32
B	1	1	1	B	48	73	25
B	2	1	1	B	48	73	25
C	1	1	1	A	17	34	17
C	2	1	1	A	17	34	17

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:09	26/08/2025 12:56:09	0.09	17:00	90	260.64	17.34	66.35	B/2	0	0	B/2	B1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	66	51	3475	566	12.05	165.23	14.39	179.62

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	431	1800	32	0.00	65	53	40.81	28.81	86.22	9.47
B	1	Northbound - Left-Turn Lane	1	1	B	211	1800	25	0.00	41	146	32.34	28.14	81.13	4.36
	2	Northbound - Right-Turn Lane	1	1	B	345 <	1800	25	0.00	66	51	39.08	34.88	93.05	8.22 +
C	1	Northbound - Straight-through lane	1	1	A	168 <	1800	17	0.00	47	114	38.52	36.12	91.10	3.89 +
	2	Northbound - Right-Turn Lane	1	1	A	147	1800	17	0.00	41	145	37.21	34.81	89.03	3.33
B1	1	Northbound - Feeder	1			556	1800	90	23.00	31	224	8.25	0.45	0.00	0.07
C1	1	Eastbound - Feeder	1			315	1800	90	9.00	18	471	8.01	0.21	0.00	0.02
A2	1	Eastbound - Exit Lane				513	Unrestricted	90	34.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				360	Unrestricted	90	35.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				429	Unrestricted	90	26.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	255.68	20.16	12.68	9.82	1.82	165.23	14.39	0.00	179.62
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	260.88	26.88	9.70	15.52	1.82	246.25	14.39	0.00	260.64

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM Peak Hour
D10 - 2043 DO NOTHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:09	26/08/2025 12:56:09	0.32	17:00	90	299.58	19.90	73.94	A/1	0	0	A/1	B1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO NOTHING	PM	(untitled)			17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	488	488
B	1	251	251
	2	369	369
C	1	197	197
	2	172	172
B1	1	620	620
C1	1	369	369
A2	1	566	566
B2	1	399	399
C2	1	512	512

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	172	197	0	0	0	0
	2	251	0	369	0	0	0	0
	3	261	227	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	227
	10		3	1	A/1, C2/1	Normal	261
	11		1	3	C1/1, C/1, A2/1	Normal	197
	12		1	2	C1/1, C/2, B2/1	Normal	172
	43		2	1	B1/1, B/1, C2/1	Normal	251
	44		2	3	B1/1, B/2, A2/1	Normal	369

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	15, 41, 77, 89	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 73, 16	31	
	6	(untitled)	Single	1, 4, 3, 2	25, 37, 76, 10	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

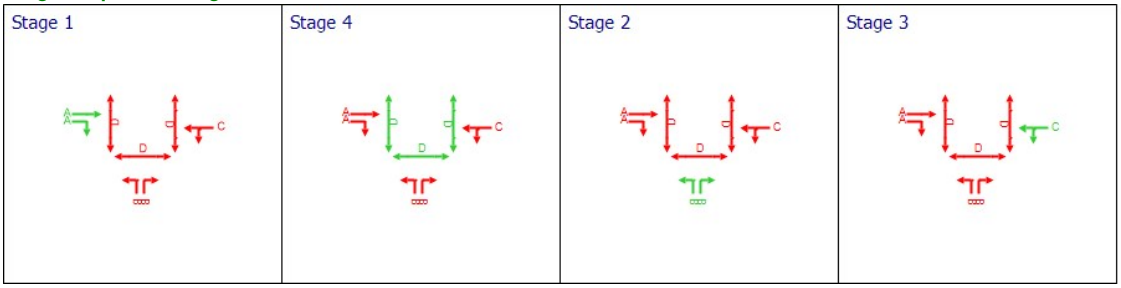
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	17	34	17	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	73	25	1	5
	4	✓	3	C	74	16	32	1	5

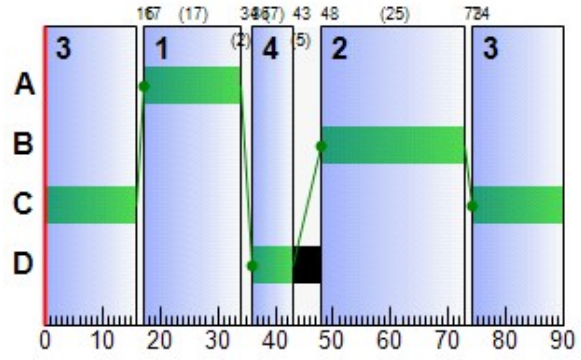
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	74	16	32
B	1	1	1	B	48	73	25
B	2	1	1	B	48	73	25
C	1	1	1	A	17	34	17
C	2	1	1	A	17	34	17

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:09	26/08/2025 12:56:09	0.32	17:00	90	299.58	19.90	73.94	A/1	0	0	A/1	B1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	74	35	3943	566	12.96	201.50	17.06	218.56

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	488	1800	32	0.00	74	35	44.35	32.35	92.58	11.60
B	1	Northbound - Left-Turn Lane	1	1	B	251	1800	25	0.00	48	107	33.86	29.66	84.15	5.38
	2	Northbound - Right-Turn Lane	1	1	B	369 <	1800	25	0.00	71	41	41.12	36.92	96.20	9.05 +
C	1	Northbound - Straight-through lane	1	1	A	197 <	1800	17	0.00	55	83	40.72	38.32	94.09	4.70 +
	2	Northbound - Right-Turn Lane	1	1	A	172 <	1800	17	0.00	48	109	38.80	36.40	91.39	3.99 +
B1	1	Northbound - Feeder	1			620	1800	90	29.00	34	190	8.33	0.53	0.00	0.09
C1	1	Eastbound - Feeder	1			369	1800	90	23.00	21	388	8.06	0.26	0.00	0.03
A2	1	Eastbound - Exit Lane				566	Unrestricted	90	32.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				399	Unrestricted	90	34.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				512	Unrestricted	90	25.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	289.87	23.85	12.15	11.43	2.76	201.50	17.06	0.00	218.56
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	295.07	30.58	9.65	17.13	2.76	282.52	17.06	0.00	299.58

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

A2 - PM Peak Hour
D12 - 2043 DO SOMETHING, PM

Summary

Data Errors and Warnings

No errors or warnings

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:07	26/08/2025 12:56:08	1.13	17:00	90	327.08	21.71	79.39	A/1	0	0	A/1	B1/1

Analysis Set Details

Name	Use Simulation	Description	Use specific Demand Set(s)	Specific Demand Set (s)	Optimise specific Demand Set(s)	Demand Set(s) to optimise	Include in report	Locked
PM Peak Hour			✓	D2,D4,D6,D8,D10,D12	✓	D12	✓	

Demand Set Details

Scenario name	Time Period name	Description	Composite	Demand sets	Start time (HH:mm)	Locked	Run automatically
2043 DO SOMETHING	PM	(untitled)			17:00		✓

Arms and Traffic Streams

Arms

Arm	Name	Description	Traffic node
A	Rathmullan Road (E) - Westbound		1
B	Marley's Lane (S) - Northbound		1
C	Rathmullan Road (W) - Eastbound		1
B1	Marley's Lane (S) - Feeder		1
C1	Rathmullan Road (W) - Feeder		1
A2	Rathmullan Road (E) - Eastbound		
B2	Marley's Lane (S) - Southbound		
C2	Rathmullan Road (W) - Weastbound		

Traffic Streams

Arm	Traffic Stream	Name	Description	Auto length	Length (m)	Has Saturation Flow	Saturation flow source	Saturation flow (PCU/hr)	Is signal controlled	Is give way	Traffic type	Allow Nearside Turn On Red
A	1	Eastbound - All movements			100.00	✓	Sum of lanes	1800	✓		Normal	
B	1	Northbound - Left-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			35.00	✓	Sum of lanes	1800	✓		Normal	
C	1	Northbound - Straight-through lane			20.00	✓	Sum of lanes	1800	✓		Normal	
	2	Northbound - Right-Turn Lane			20.00	✓	Sum of lanes	1800	✓		Normal	
B1	1	Northbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
C1	1	Eastbound - Feeder			65.00	✓	Sum of lanes	1800			Normal	
A2	1	Eastbound - Exit Lane			100.00						Normal	
B2	1	Southbound - Exit Lane			100.00						Normal	
C2	1	Weastbound - Exit Lane			100.00						Normal	

Lanes

Arm	Traffic Stream	Lane	Name	Description	Use RR67	Saturation flow (PCU/hr)
A	1	1	Eastbound - All movements			1800
B	1	1	Northbound - Left-Turn Lane			1800
	2	1	Northbound - Right-Turn Lane			1800
C	1	1	Northbound - Straight-through lane			1800
	2	1	Northbound - Right-Turn Lane			1800
B1	1	1	Northbound - Feeder			1800
C1	1	1	Eastbound - Feeder			1800
A2	1	1	Eastbound - Exit Lane			
B2	1	1	Southbound - Exit Lane			
C2	1	1	Weastbound - Exit Lane			

Modelling

Arm	Traffic Stream	Traffic model	Stop weighting multiplier (%)	Delay weighting multiplier (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (PCU)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	NetworkDefault	100	100	100		0.00		

Modelling - Advanced

Arm	Traffic Stream	Initial queue (PCU)	Type of Vehicle-in-Service	Vehicle-in-Service	Type of random parameter	Random parameter	Auto cycle time	Cycle time
(ALL)	(ALL)	0.00	NetworkDefault	Not-Included	NetworkDefault	0.50	✓	90

Normal traffic - Modelling

Arm	Traffic Stream	Stop weighting (%)	Delay weighting (%)
(ALL)	(ALL)	100	100

Normal traffic - Advanced

Arm	Traffic Stream	Dispersion type for Normal Traffic
(ALL)	(ALL)	NetworkDefault

Flows

Arm	Traffic Stream	Total Flow (PCU/hr)	Normal Flow (PCU/hr)
A	1	524	524
B	1	283	283
	2	369	369
C	1	218	218
	2	191	191
B1	1	652	652
C1	1	409	409
A2	1	587	587
B2	1	418	418
C2	1	580	580

Signals

Arm	Traffic Stream	Controller stream	Phase	Second phase enabled
A	1	1	C	
B	1	1	B	
	2	1	B	
C	1	1	A	
	2	1	A	

Pedestrian Crossings

Pedestrian Crossings

Crossing	Name	Description	Traffic node	Allow walk on red	Crossing type	Length (m)	Cruise time (seconds)	Cruise speed (kph)
1	(untitled)		1		Farside	7.00	4.67	5.40
2	(untitled)		1		Farside	8.00	5.33	5.40
3	(untitled)		1		Farside	8.00	5.33	5.40

Pedestrian Crossings - Signals

Crossing	Controller stream	Phase	Second phase enabled
(ALL)	1	D	

Pedestrian Crossings - Sides

Crossing	Side	Saturation flow (Ped/hr)
(ALL)	(ALL)	11000

Pedestrian Crossings - Modelling

Crossing	Side	Delay weighting (%)	Assignment Cost Weighting (%)	Exclude from results calculation	Max queue storage (Ped)	Has queue limit	Has degree of saturation limit
(ALL)	(ALL)	100	100		0.00		

Local OD Matrix - Local Matrix: 1

Local Matrix Options

OD Matrix	Name	Use for point to point table	Auto calculate	Allocation mode	Allow paths past exit locations	Allow looped paths on arms	Allow looped paths on traffic nodes	Copy flows	Matrix to copy flows from	Limit paths by length	Path length limit multiplier	Limit paths by number	Path number limit	Limit paths by flow	Low path flow threshold
1	(untitled)	✓	✓	Path Equalisation	✓		✓			✓	1.25				

Normal Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	191	218	0	0	0	0
	2	283	0	369	0	0	0	0
	3	297	227	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows (PCU/hr)

		To						
		1	2	3	5	6	7	8
From	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	5	0	0	0	0	100	100	0
	6	0	0	0	100	0	0	100
	7	0	0	0	100	0	0	0
	8	0	0	0	0	100	0	0

Locations

OD Matrix	Location	Name	Entries	Exits	Colour
1	1	(untitled)	C1/1	C2/1	#0000FF
	2	(untitled)	B1/1	B2/1	#FF0000
	3	(untitled)	A/1	A2/1	#00FF00
	5	(untitled)	3:2E, 1:1E	3:2X, 1:1X	#FF00FF
	6	(untitled)	2:1E, 1:2E	2:1X, 1:2X	#008000
	7	(untitled)	3:1E	3:1X	#FFA500
	8	(untitled)	2:2E	2:2X	#00FFFF

Normal Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Normal Calculated Flow (PCU/hr)
1	9		3	2	A/1, B2/1	Normal	227
	10		3	1	A/1, C2/1	Normal	297
	11		1	3	C1/1, C/1, A2/1	Normal	218
	12		1	2	C1/1, C/2, B2/1	Normal	191
	43		2	1	B1/1, B/1, C2/1	Normal	283
	44		2	3	B1/1, B/2, A2/1	Normal	369

Pedestrian Paths and Flows

OD Matrix	Path	Description	From location	To location	Path items	Allocation type	Pedestrian calculated flow (Ped/hr)
1	18		8	6	2:2E, 2:1X	Normal	100
	22		5	7	3:2E, 3:1X	Normal	100
	23		5	6	1:1E, 1:2X	Normal	100
	34		6	8	2:1E, 2:2X	Normal	100
	35		6	5	1:2E, 1:1X	Normal	100
	42		7	5	3:1E, 3:2X	Normal	100

Signal Timings

Network Default: 90s cycle time; 90 steps

Phases

Controller stream	Phase	Name	Street minimum green (s)	Maximum green (s)	Relative start displacement (s)	Relative end displacement (s)	Type	Blackout Time (s)
1	A	(untitled)	5	300	0	0	Unknown	
	B	(untitled)	5	300	0	0	Unknown	
	C	(untitled)	5	300	0	0	Unknown	
	D	(untitled)	7	10	0	0	Pedestrian	5

Stage Sequences

Controller stream	Sequence	Name	Multiple cycling	Stage IDs	Stage ends	Minimum possible cycle time (s)	Exclude from analysis
1	1	(untitled)	Single	1, 2, 3, 4	15, 41, 77, 89	31	
	2	(untitled)	Single	1, 2, 4, 3	19, 39, 65, 89	31	
	3	(untitled)	Single	1, 3, 2, 4	19, 39, 59, 85	31	
	4	(untitled)	Single	1, 3, 4, 2	19, 39, 65, 89	31	
	5	(untitled)	Single	1, 4, 2, 3	34, 43, 73, 16	31	
	6	(untitled)	Single	1, 4, 3, 2	25, 37, 76, 10	31	

Intergreen Matrix for Controller Stream 1

		To			
		A	B	C	D
From	A		1	1	2
	B	1		1	2
	C	1	1		2
	D	5	5	5	

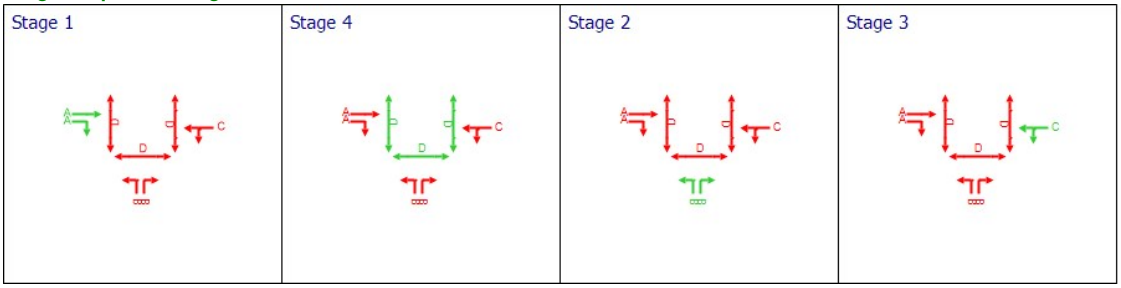
Resultant Stages

Controller stream	Resultant Stage	Is base stage	Library Stage ID	Phases in this stage	Stage start (s)	Stage end (s)	Stage duration (s)	User stage minimum (s)	Stage minimum (s)
1	1	✓	1	A	17	34	17	1	5
	2	✓	4	D	36	43	7	1	7
	3	✓	2	B	48	73	25	1	5
	4	✓	3	C	74	16	32	1	5

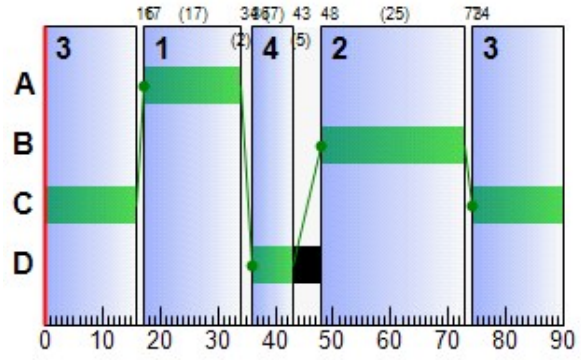
Traffic Stream Green Times

Arm	Traffic Stream	Traffic Node	Controller Stream	Phase	Green Period 1		
					Start	End	Duration
A	1	1	1	C	74	16	32
B	1	1	1	B	48	73	25
B	2	1	1	B	48	73	25
C	1	1	1	A	17	34	17
C	2	1	1	A	17	34	17

Stage Sequence Diagram for Controller Stream 1



Phase Timings Diagram for Controller Stream 1



Network Results

Run Summary

Analysis set used	Run start time	Run finish time	Run duration (s)	Modelling start time (HH:mm)	Network Cycle Time (s)	Performance Index (£ per hr)	Total network delay (PCU-hr/hr)	Highest DOS (%)	Item with highest DOS	Number of oversaturated items	Percentage of oversaturated items (%)	Item with worst signalised PRC	Item wi wors unsignal PRC
2	26/08/2025 12:56:07	26/08/2025 12:56:08	1.13	17:00	90	327.08	21.71	79.39	A/1	0	0	A/1	B1/1

Network Results: Vehicle summary

Time Segment	Degree of saturation (%)	Practical reserve capacity (%)	Calculated flow entering (PCU/hr)	Actual green (s (per cycle))	Mean Delay per Veh (s)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Performance Index (£ per hr)
17:00-18:00	79	26	4231	566	13.62	227.22	18.84	246.06

Network Results: Pedestrian summary

Time Segment	Degree of saturation (%)	Calculated Flow Entering (Ped/hr)	Actual green (s (per cycle))	Mean Delay Per Ped (s)	Weighted cost of delay (£ per hr)	Performance Index (£ per hr)
17:00-18:00	7	600	42	34.23	81.02	81.02

Final Prediction Table

Traffic Stream Results

				SIGNALS		FLOWS		PERFORMANCE				PER PCU			QUEUE
Arm	Traffic Stream	Name	Traffic node	Controller stream	Phase	Calculated flow entering (PCU/hr)	Calculated sat flow (PCU/hr)	Actual green (s (per cycle))	Wasted time total (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Veh (s)	Mean stops per Veh (%)	Mean max queue (PCU)
A	1	Eastbound - All movements	1	1	C	524	1800	32	0.00	79	26	47.63	35.63	97.82	13.12
B	1	Northbound - Left-Turn Lane	1	1	B	283 <	1800	25	0.00	54	84	35.31	31.11	86.45	6.22 +
	2	Northbound - Right-Turn Lane	1	1	B	369 <	1800	25	0.00	71	41	41.12	36.92	96.20	9.05 +
C	1	Northbound - Straight-through lane	1	1	A	218 <	1800	17	0.00	61	65	42.73	40.33	96.89	5.36 +
	2	Northbound - Right-Turn Lane	1	1	A	191 <	1800	17	0.00	53	88	40.23	37.83	93.60	4.54 +
B1	1	Northbound - Feeder	1			652	1800	90	29.00	36	176	8.37	0.57	0.00	0.10
C1	1	Eastbound - Feeder	1			409	1800	90	32.00	23	340	8.09	0.29	0.00	0.03
A2	1	Eastbound - Exit Lane				587	Unrestricted	90	31.00	0	Unrestricted	12.00	0.00	0.00	0.00
B2	1	Southbound - Exit Lane				418	Unrestricted	90	33.00	0	Unrestricted	12.00	0.00	0.00	0.00
C2	1	Weastbound - Exit Lane				580	Unrestricted	90	25.00	0	Unrestricted	12.00	0.00	0.00	0.00

Pedestrian Crossing Results

				SIGNALS		FLOWS		PERFORMANCE			PER PED		QUEUES	WEIGHTS	PEN
Pedestrian	Side	Name	Traffic node	Controller stream	Phase	Calculated Flow Entering (Ped/hr)	Calculated sat flow (Ped/hr)	Actual green (s (per cycle))	Degree of saturation (%)	Practical reserve capacity (%)	JourneyTime (s)	Mean Delay per Ped (s)	Mean max queue (Ped)	Delay weighting (%)	Co tra pen (£ p
1	1	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	39.90	34.23	2.17	100	0
2	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
3	1	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0
	2	(untitled)	1	1	D	100	11000	7	7	1367	40.57	34.23	2.17	100	0

Network Results

	Distance travelled (PCU-km/hr)	Time spent (PCU-hr/hr)	Mean journey speed (kph)	Uniform delay (PCU-hr/hr)	Random plus oversat delay (PCU-hr/hr)	Weighted cost of delay (£ per hr)	Weighted cost of stops (£ per hr)	Excess queue penalty (£ per hr)	Performance Index (£ per hr)
Normal traffic	310.87	26.36	11.79	12.46	3.54	227.22	18.84	0.00	246.06
Bus									
Tram									
Pedestrians	5.20	6.72	0.77	5.71	0.00	81.02	0.00	0.00	81.02
TOTAL	316.07	33.09	9.55	18.16	3.54	308.24	18.84	0.00	327.08

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***

UK and Ireland Office Locations