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Traffic Impact Assessment

Lands in the townlands of Commons West, Boycetown and Kilcock (adjacent of the existing Brayton Park estate), Kilcock, Co. Kildare.

Rycroft Homes Ltd.

18-Dec-19

STRUCTURAL • CIVIL • DUE DILIGENCE • ENGINEERING MASTERPLANNING
FLOOD MANAGEMENT • INFRASTRUCTURE DESIGN
PRE-DEVELOPMENT ENGINEERING • BUILDING INFORMATION MODELLING

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REVISIONS

Revision By	Date	Context
0	06/07/18	Draft
1	11/09/185	Update of schedule of accommodation
2	17/09/18	Statement of Compliance with DMURS added
3	28/09/18	Final draft issue
9	02/12/19	Issued for printing

ISSUES

Revision	Date	Context
0	06/07/18	Draft
1	11/09/185	Update of schedule of accommodation
2	17/09/18	Statement of Compliance with DMURS added
3	28/09/18	Final draft issue
4	04/10/18	ABP Issue
5	06/02/19	Planning Application
6	12/07/19	Updated with BMC Comments
7	06/09/19	Development description updated
8	13/11/19	Updated modelling
9	02/12/19	Issued for printing

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1 Introduction

This Traffic & Transport Assessment has been prepared by Pinnacle Consulting Engineers in support of a planning application to An Bord Pleanala as part of the Strategic Housing Development (SHD) Act for the following:

'345 no. residential units (69 no. Duplex Type Units, 182 no. Houses and 94 no. Apartments) ranging from 2 to 5 storeys, a standalone creche facility (approximately 466.76 sqm) with an overall height of 2 storeys, an associated external play area (approximately 277.67 sqm), associated ancillary surface car parking spaces and bicycle parking spaces, a link street, internal roads, pedestrian paths, cycle paths, public and private open spaces.

The proposed housing mix is comprised of 13 no. 1 bed units, 136 no. 2 bed units, 158 no. 3 bed units and 38 no. 4 bed units.

Out of the 345 no. residential units, 35 no. units are put forward to meet the applicant's obligations under Part V of the Planning & Development Act 2000 (as amended).

Each residential unit has associated private open space, in the form of either gardens, terraces or balconies in addition to access to the proposed public open space (including 3 no. playground areas) with hard and soft landscaping treatment.

A total of 650 no. surface car parking spaces are provided for the residential development including visitor parking. 280 no. bicycle spaces are proposed for the proposed apartments and duplexes and bicycle spaces for the proposed houses are provided on curtilage. In addition, the crèche will be provided with 34 no. surface car parking spaces and 30 no. bicycle parking spaces.

The proposed development provides for 1 no. vehicular access and associated pedestrian and cycle paths via a new link street connecting from the Brayton Park Road and 1 no. vehicular access and associated pedestrian path providing a link into the existing Brayton Park Estate.

The proposed development makes provision for future linkages to adjoining lands; including undeveloped lands to the north-west, the adjoining undeveloped educational zoned lands to the north, as part of this application land is reserved for access to a potential future pedestrian/cycle bridge over the railway line to the north-east of the site (to be delivered by others) . In addition, the proposed development provides for pedestrian and cycle paths connection to the north east of the site, as well as 4 no. pedestrian access points and 1 no. gated vehicular (for Kildare County Council maintenance use only) and pedestrian access point to the open space at Bawnogues/Commons West along the southern boundary of the site.

Bin storage is provided either on curtilage and or in communal storage. The associated site and infrastructural works include foul and surface water drainage, attenuation tanks, SuDs arrangements, hard and soft landscaping, permeable paving, boundary walls, fences and noise buffers, 3 no. substations (approximately 20 sqm each), public lighting, a link street, internal roads, cycle paths, pedestrian paths and all associated ancillary site development works.'

The site is 11.56Ha in size.

The location of the development site is shown in Figure 1 below.



Figure 1 Site Location (Source: CW O'Brien)

In order to complete this report, Pinnacle Consulting Engineers has made reference to the following documents:

- The Traffic Management Guidelines;
- Guidance on Transport Assessment;
- Kildare County Development Plan 2017-2023;
- Kilcock Local Area Plan 2015-2021;
- Design Manual for Urban Roads and Streets (DMURS); and
- Adopted Special Speed Limit Bye-Law 30 KPH 2018.

1.1 Objectives

The main objective of this report is to examine the traffic impact of the proposed development and its access arrangements on the local area road network. The net change in traffic on the network due to additional traffic has been examined and its impact on the local area road network has been determined.

1.2 Study Methodology

The methodology adopted for this report can be summarised as follows:

Existing Traffic Flow Assessment: - Baseline traffic counts were undertaken in March 2018

Existing Transport Infrastructure: - Pinnacle Consulting Engineering collected information on public transport, walking and cycling in the area of the proposed development.

Development Proposals: - Description of proposed development, including proposed improvements to the road accesses to the site and a review of parking and servicing provisions, and facilities for pedestrians and cyclists.

Development Trip Generation Figures: - Based on the schedule of accommodation of the proposed development, Pinnacle Consulting Engineering derived trip rate data and developed development traffic flows, which were assigned to the existing network having regard for traffic patterns on the surrounding network.

Percentage Impact: - The development traffic impact on key junctions was considered, taking account for traffic growth and committed development traffic.

Assessment of Junction Capacity: - The operation of key junctions, with and without the proposed development, was undertaken, to determine future operation and any requirements for mitigation measures.

1.3 Structure of Report

The remainder of this report is divided into the following sections:

- Section 2 considers the location of the site and existing traffic flows;
- Section 3 discusses the proposed development;
- Section 4 considers the traffic generation and potential impacts of the development,
- Section 5 contains an analysis of capacity of key junctions, including proposed mitigation measures; and
- Section 6 provides a summary and conclusion.

2 Existing Conditions and Receiving Environment

2.1 Introduction

The subject site is a green field site located on lands in the townlands of Commons West, Boycetown and Kilcock (adjacent of the existing Brayton Park estate), Kilcock, Co. Kildare.

The development site abuts the M4 to the south and the remainder by farmland.

The location of the site is shown on the map extract below at Figure 2.



Figure 2 Site Location (Source: Google Maps & Topographical Survey)

2.2 Existing Road Network

A summary of the existing road network is provided below:

The road network surrounding the site provides a variety of movement functions. The R125 provides access to local estates in Kilcock while Brayton Park Road provides access to Brayton Park estate and the proposed development.

These routes provide for pedestrians, cyclists and motorists alike and a general commentary on these facilities is presented below:

Site Access – Brayton Park Road

Brayton Park Road is a high-quality single carriageway road approximately 8.85m wide. It forms a priority-controlled junction with the R125 to the east and provides access to the Brayton Park residential development. It terminates to the west of Brayton Park with a stub for future extension to lands to the west. It runs in a general north-west/south-east direction and provides a link between Kilcock and Brayton Park.

A 1.5m cycle path/1.5m footpath and 2.0m grass verge is located on each side of Brayton Park Road.

No speed limit signs are noted along Brayton Park and therefore it is assumed that a 30km/h speed limit is in operation. A 30km/h speed limit exists within the Brayton Park development.

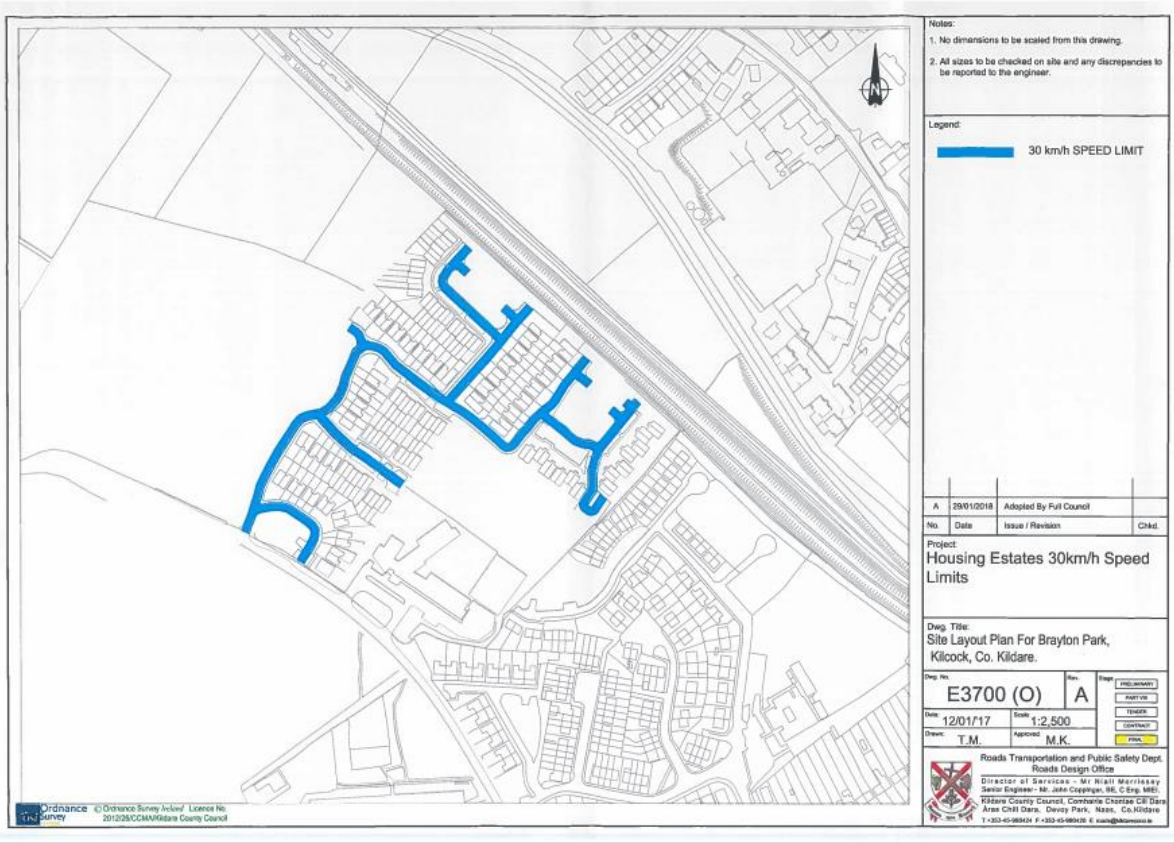


Figure 3 Extract from 'Adopted Special Speed Limit Bye-Law 30 KPH 2018.'

R125

The R125 is a high-quality single carriageway road approximately 10.0m wide. It forms a roundabout with the R407 to the east and a priority-controlled junction with the R148 to the west. It runs in a general south-west/north-east direction and provides access Kilcock village and surrounding residential developments.

An approximate 2.0m wide footpath is located on both sides of the R125 at the junction with the Brayton Park access road.

No speed limit signs are noted along the R125 adjacent to Brayton Park and therefore it is assumed that a 50km/h speed limit is in operation.

No cycle facilities were noted along R125

2.3 Traffic Counts

It is proposed that the subject site will be accessed from Brayton Park via a new Link Street that will be constructed as part of the development.

In order to quantify the volumes of traffic movements at key points on the road network adjacent to the site, a set of classified turning movement traffic counts were commissioned. The location of these counts was agreed in consultation with the senior executive engineer of Kildare County Council's Roads Department.

Accordingly, classified counts were carried out at the following junction locations:

- Site 1 – R125/Brayton Park Road
- Site 2 – Kilcock R125/Courtown Road/Bridge Street roundabout
- Site 3 – R125/Brayton Park Road, Bridge Street/R125
- Site 4 – R125/Highfield/Penwall Crossroads
- Site 5 – R125/R407 Roundabout

The surveys were carried out on the dates identified above to ensure that flows were representative of normal term time and hence not affected by school holidays or other public holidays or events. As such they provide a reasonable representation of a neutral month during a period of normal school and employment activity. The surveys are designed to provide representative values encompassing AM and PM peak periods during normal traffic conditions.

The location of the survey points is depicted below at Figure 4.

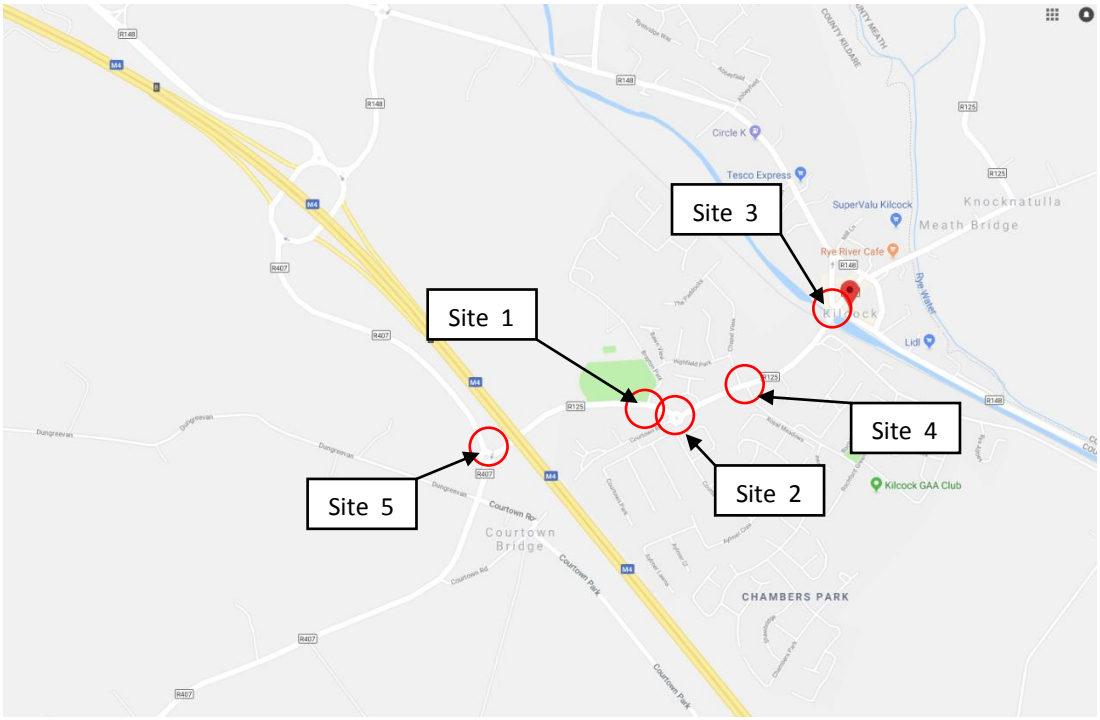


Figure 4 Survey Location (Source: Google Maps)

The results of the traffic surveys are also set out in Appendix A of this report.

The locations of the surveys are each pertinent to the proposal in terms of being at key nodes in the road network that would be affected by traffic assignment and distribution of flows associated with the development site.

2.4 Public Transport

2.4.1 Bus

Table 1 below outlines bus services and presents their weekday frequency.

Bus Routes		
Route	Destination	Frequency
115	Dublin - Kilcock - Enfield - Mullingar	Up to 14 services/day
115a	Dublin - Kilcock - Enfield/Summerhill	Up to 10 services/day

Table 1 – *Bus Routes*

The closest bus stop to the site is ca. 1000m (12 minute) walking distance from the proposed development.

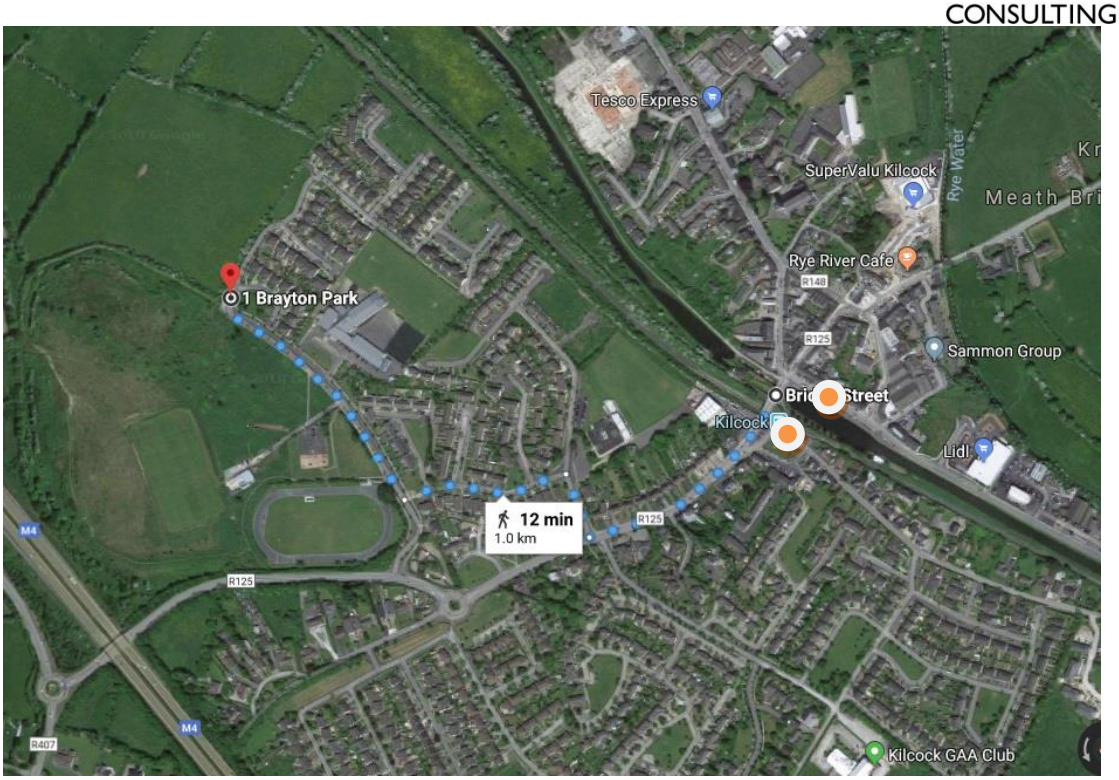


Figure 5 Bus Stop Locations

2.4.2 Rail

Table 2 below outlines the rail services and presents their weekday frequency.

Rail Routes		
Route	Destination	Frequency
Sligo/Longford Service	Sligo/Longford – Dublin Connolly	Up to 9 services/day stopping at Kilcock

Table 2 – Rail Routes

The closest station to the site is ca. 1000m (12 minute) walking distance from the proposed development.

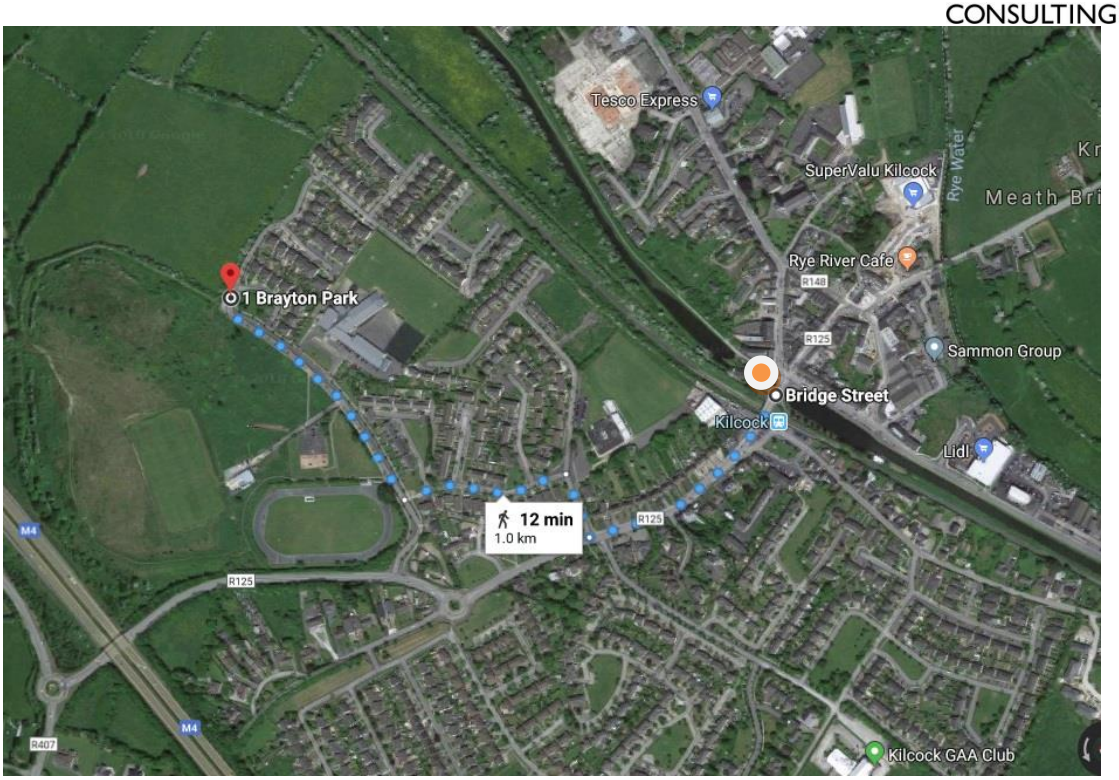


Figure 6 Kilcock Train Station

2.4.3 Summary

It is reasonable to conclude that with such direct pedestrian linkage to public transport surrounding the development, there is the opportunity to cultivate increased bus and train patronage by those travelling to/from the site.

2.5 Walking and Cycling

2.5.1 Walking

Footpaths, with an approximate width of between 1.5 and 2.0m are located between Brayton Park and Kilcock Village to the east and to residential developments to the west. At grade pedestrian crossing are in place along the R125 and within Brayton Park facilitated with dropped kerbs at various locations.

2.5.2 Cycling

There is a 1.5m off road cycle path along Brayton Park access road. There are no cycle facilities noted along the R125, however the width of the road is conducive to safe cycling conditions.

2.6 Summary

In summary, the site is well located to provide non-car access for residents of the proposed development with good local walk-in access from the local catchment.

Public transport services are available adjacent to the site, or within reasonable walking distance for commuter related trips.

2.7 Road Safety Data

A review of the Road Safety Authority (RSA) traffic collision database has been undertaken for the road network in the vicinity of the proposed site to identify any collision trends. This review will assist to identify any potential safety concerns in relation to the existing road network.

Traffic collision data was obtained for the period 2005-2016, which is the most recent data available from the RSA website. These incidents are categorised into class of severity, which includes minor, serious, or fatal collisions. The analysis is shown in Figure 7.

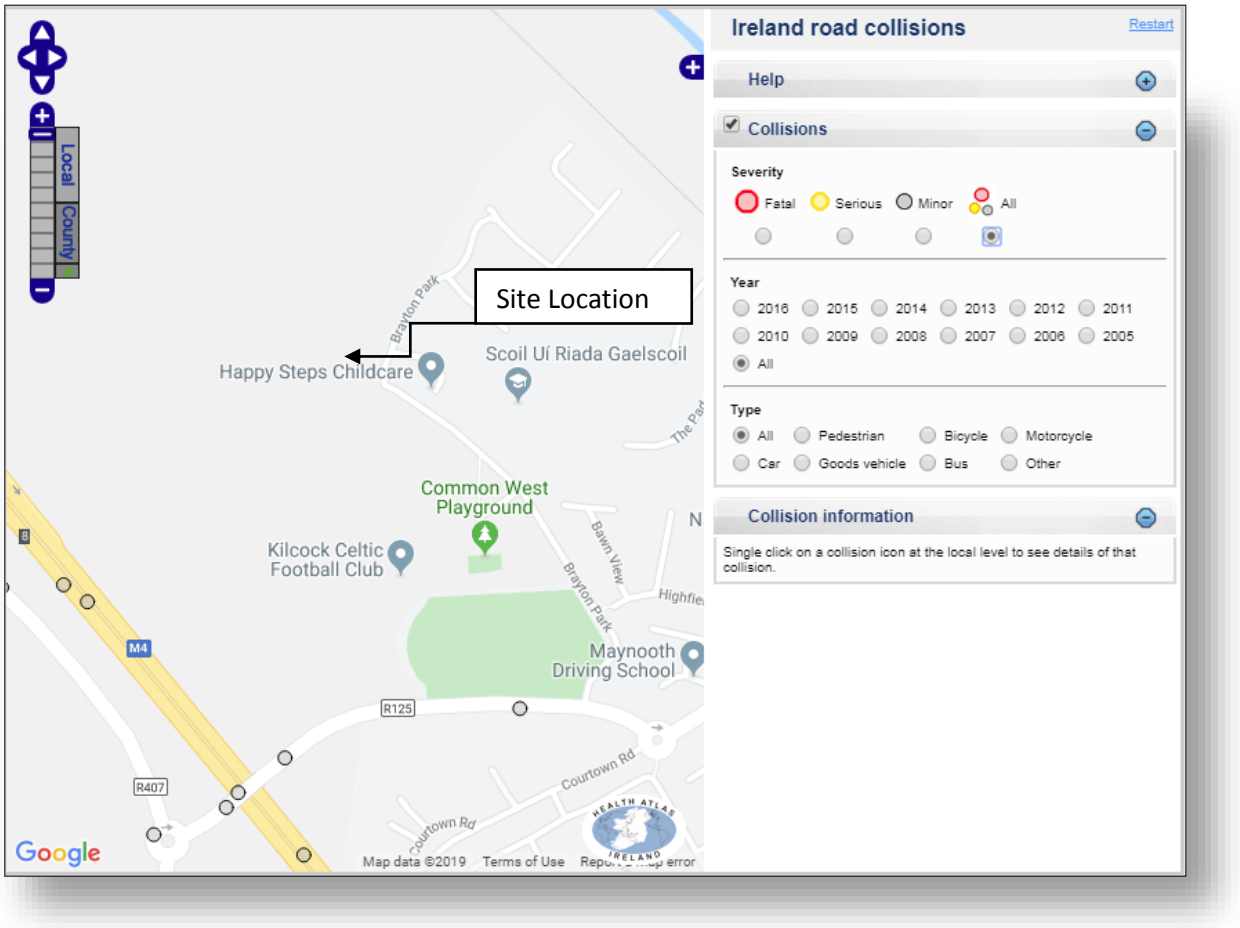


Figure 7 Road Collision Statistics (Source: RSA.ie)

There were no reported incidents in the surrounding areas adjacent to the proposed development.

As part of the proposed development, appropriate design measures will be undertaken to ensure that the required sight lines and forward visibility is provided at access points to reduce the likelihood of incidents occurring.

2.8 Planning Search

A planning search was undertaken to identify any developments that have planning permission but are not yet implemented or any schemes that are implemented but are as yet un-occupied or not developed.

The following applications were deemed to influence the study area of the proposed site:

Register Reference: 161345

Status: Granted subject to conditions

Development Description: *'450 no. residential units comprising of 54 no. 'Type A' 4 bed house of 169.1m2 (16 detached and 38 semi-detached); 83 no. 'Type B1' optional 2 or 2.5 storey, 3 or 4 bed houses of 111.7 or 147.4m2 (5 detached, 70 semi-detached and 8 end of terrace); 93 no. Type B2 optional 2 or 2.5 storey 3 or 4 bed houses of 111.6sqm or 148.5sqm; 5 detached, 76 semi-detached & 12 end of terrace; 54 no. 'Type B3' optional 2 or 2.5 storey, 3 or 4 bed houses of 110.8m or 147.4m2 m (2 detached, 44 semi-detached and 8 end of terrace); 49 no. 'Type C' 2 storey, 3 bed semi-detached houses of 107.1m2; 43 'Type C1' 2 storey 3 bed semi-detached houses of 111.9m2; 14 no. 'Type D' 2 storey, 3 bed mid-terrace houses of 101.4m2; 14 no. 'Type E' 2 storey, 2 bed mid-terrace houses of 89.2m2; 24 no. 'Type F' 2 storey, 3 bed houses of 102.6m2 (2 semi-detached, 22 end of terrace); 11 no. 'Type G' 2 storey, 3 bed mid-terrace houses of 93.1m2; 11 no. 'Type H' 2 storey, 2 bed mid-terrace houses of 80.4m2; 1 no. two storey crèche with floor area of 569m2; a 230m long boulevard/link road along the northern boundary of GAA lands linking to Penwell Lodge that connects to Molly Ware St; and ancillary site development work..'*

This development will be included the modelling of the impacted junctions. Where a Traffic & Transport Statement is available the figures will be taken directly. If no Traffic & Transport Statement is available TRICS will be used to estimate flows from the development and traffic surveys used for distribution.

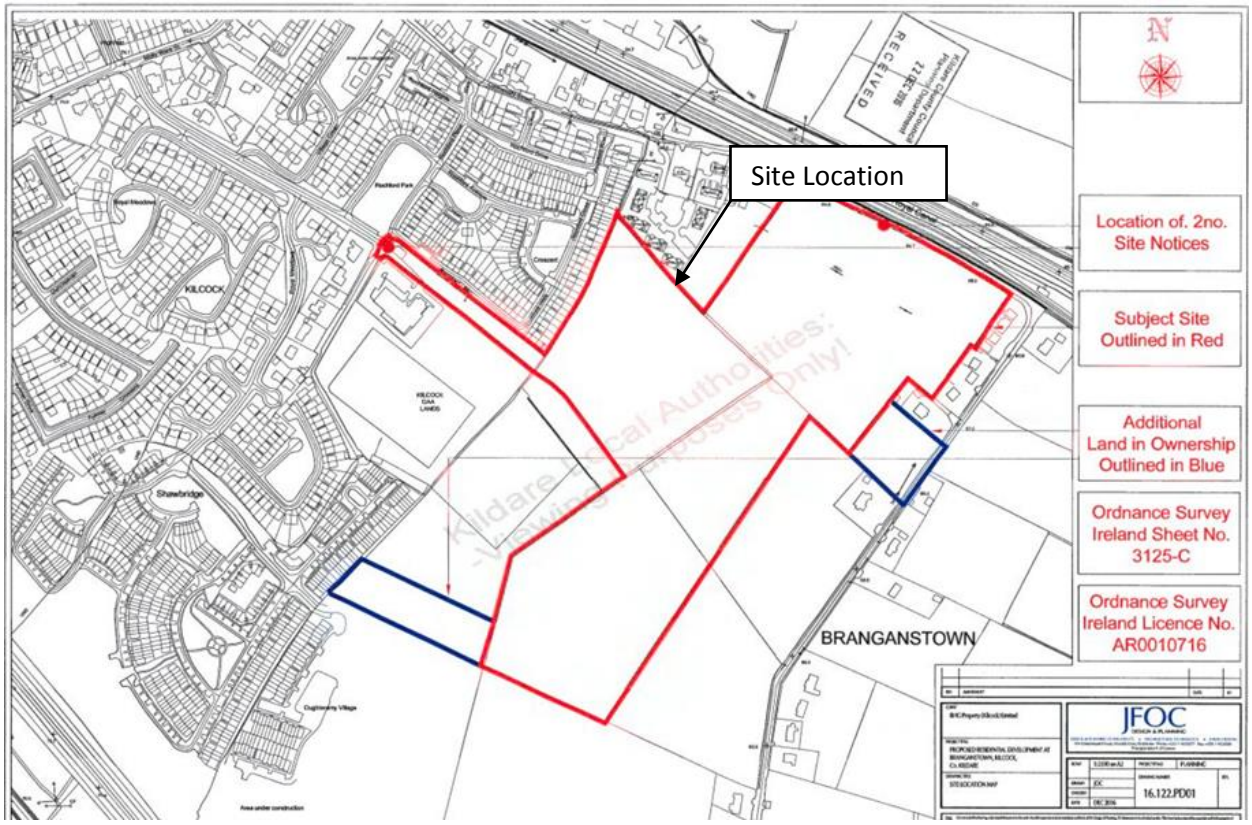


Figure 8 Planning Search (Source: Kildare County Council Planning Portal)

2.9 Potential/Proposed/Committed Infrastructure Works

There are several potential new infrastructure schemes in the vicinity of the proposed development site. Consideration has been given to the impact that these infrastructure schemes may have on the development. This will ensure that provision is allowed for these schemes to be delivered in the future.

A summary of the potential road infrastructure schemes are outlined below.

2.9.1 Cycle Network Improvements

In accordance with the National Transport Authority's Cycle Network Plan for the Greater Dublin area the following improvements to the local cycle networks are proposed:

- K1 Royal Canal Greenway: Clonsilla - Leixlip - Maynooth - Kilcock - Enfield.
- K6 Kilcock - Rathcoffey - Straffan - Ardclogh, intersecting routes K3, K4 and K5.
- Kilcock - Kk1 R148 Church Street to R407 Clane Road.

The proposed cycle routes are illustrated in Figure 9 below.



Figure 9 Proposed Cycle Network Upgrades (Source: NTA)

2.9.2 Road Improvement Schemes

The Kilcock LAP 2015-2021 lists the following objective of Kildare County Council

'MTO 23 To facilitate the future construction of the following roads and in the interim protect their routes from development:

- *From the Bawnogues to the M4 interchange.'*

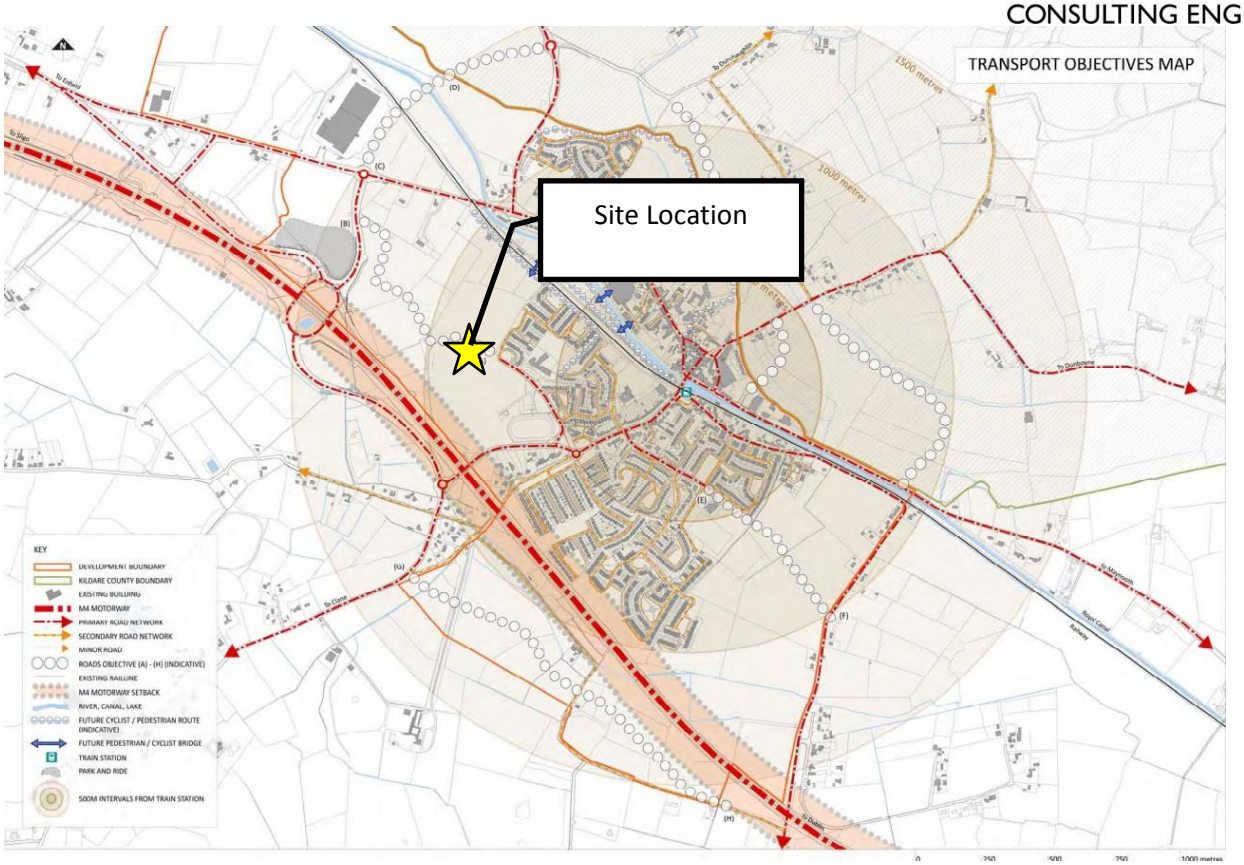


Figure 10 Transport Objectives Map (Source: Kilcock LAP 2015-2021)

As part of the proposed development, Objective MTO 23 will be partially delivered via internal estate roads. The indicative route, outlined in red in Figure 11, shows the extent of the delivery of Objective MTO 23 under this application.

Through discussions with the adjoining landowners, the extent of the delivery of Objective MTO 23 under this application has be coordinated both in terms of design philosophy i.e. DMURS and tie in points. Refer to Pinnacle Drawing No. P180307-P106 for more details.

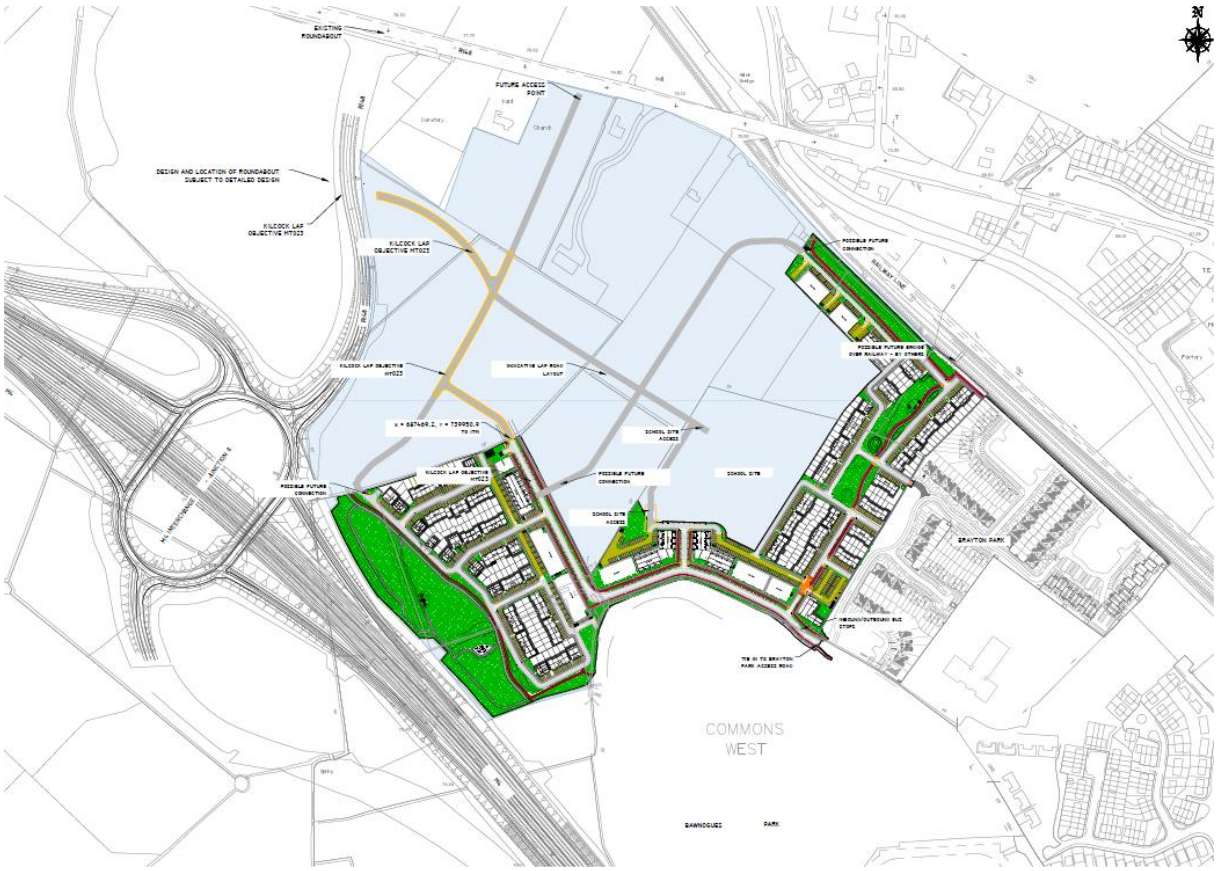


Figure 11 Indicative Layouts for The Bawnogues and Commons West

Please note that the layout on Third Party lands is indicative only and subject to separate application. The Applicant has endeavoured to coordinate with the adjoining landowner to agree to the location of tie in points for roads and services as indicated in the correspondence reproduced in Appendix C of this report.

2.10 Summary

In summary, the existing site benefits from good levels of existing public transport and walking/cycling infrastructure which will assist to encourage sustainable modes of travel for residents to/from the proposed development.

3 The Proposed Development

3.1 Introduction

It is proposed to develop a residential development consisting of 345 residential units with associated car park and servicing arrangements on lands adjoining Brayton Park, Kilcock, Co. Kildare**.**

Refer to Pinnacle drawing P180307-P100 for a general arrangement drawing for the proposed development.

3.2 Local Authority Consultation

The Applicant has engaged in significant consultation with the Local Authority as part of the planning process as follows:

- Pre-Planning
- Section 247 Consultation
- Post - Section 247 Consultation
- Pre-Application Consultation Meeting
- Pre-Application communications

Based on the above consultations the following has been agreed between the Local Authority and the Applicant:

- Proposed Link Street to be 6.5m in width;
- No direct unit access will be considered on to the above road;
- The proposed Link Street shall follow as direct a route as is practical, i.e. around the northern boundary of the Bawnogues Land, prior to heading north towards the R148 in a straight-line direction;
- Speed control measures have been included as discussed previously at the Pre-Application Consultation Meeting;
- That the Link Street can accommodate HGVs and buses;
- One inbound/outbound bus stop has been included;
- That the TTA and DMURs statement will reflect the above;
- As part of this application land has been reserved for the provision of a future pedestrian/cycle bridge over the railway line;
- Provision has been made for connections to Brayton Park, the school site and other LAP lands;
- That the TTA will include the future development of the lands to the rear of Kilcock GAA (subject to a separate application);
- Widths of footpaths and cycle tracks should be 2m;
- A cycle track on each side of the internal spine road to the proposed railway bridge should be provided;
- The LA requested that the speed tabletop ramps should be removed from the Link Street; and
- The Applicant has written to the adjacent landowner outlining the agreed roads design strategy (as outlined above) to facilitate the delivery of MTO 032.

The Applicant can confirm that the road proposals presented in the application responds to the following requirements/requests from Kildare County Council:

- The Local Authority has requested that Objective MT0 32 has been designed as an Link Street.
- The Local Authority has requested that the Link Street be capable of accommodating HGVs
- The Local Authority has requested that all speed tables be removed from the Link Street. This will have the impact of reducing the pedestrian/cyclist permeability north/south between each neighbourhood and to the Bawonogues.

The above items relate specifically to Traffic and Transportation. Objective MT0 32 refers to the KIlcock Local Area Plan 2015-2021.

3.3 General

The development will consist of the following:

'345 no. residential units (69 no. Duplex Type Units, 182 no. Houses and 94 no. Apartments) ranging from 2 to 5 storeys, a standalone creche facility (approximately 466.76 sqm) with an overall height of 2 storeys, an associated external play area (approximately 277.67 sqm), associated ancillary surface car parking spaces and bicycle parking spaces, a link street, internal roads, pedestrian paths, cycle paths, public and private open spaces.

The proposed housing mix is comprised of 13 no. 1 bed units, 136 no. 2 bed units, 158 no. 3 bed units and 38 no. 4 bed units.

Out of the 345 no. residential units, 35 no. units are put forward to meet the applicant's obligations under Part V of the Planning & Development Act 2000 (as amended).

Each residential unit has associated private open space, in the form of either gardens, terraces or balconies in addition to access to the proposed public open space (including 3 no. playground areas) with hard and soft landscaping treatment.

A total of 650 no. surface car parking spaces are provided for the residential development including visitor parking. 280 no. bicycle spaces are proposed for the proposed apartments and duplexes and bicycle spaces for the proposed houses are provided on curtilage. In addition, the crèche will be provided with 34 no. surface car parking spaces and 30 no. bicycle parking spaces.

The proposed development provides for 1 no. vehicular access and associated pedestrian and cycle paths via a new link street connecting from the Brayton Park Road and 1 no. vehicular access and associated pedestrian path providing a link into the existing Brayton Park Estate.

The proposed development makes provision for future linkages to adjoining lands; including undeveloped lands to the north-west, the adjoining undeveloped educational zoned lands to the north, as part of this application land is reserved for access to a potential future pedestrian/cycle bridge over the railway line to the north-east of the site (to be delivered by others) . In addition, the proposed development provides for pedestrian and cycle paths

connection to the north east of the site, as well as 4 no. pedestrian access points and 1 no. gated vehicular (for Kildare County Council maintenance use only) and pedestrian access point to the open space at Bawnogues/Commons West along the southern boundary of the site.

Bin storage is provided either on curtilage and or in communal storage. The associated site and infrastructural works include foul and surface water drainage, attenuation tanks, SuDs arrangements, hard and soft landscaping, permeable paving, boundary walls, fences and noise buffers, 3 no. substations (approximately 20 sqm each), public lighting, a link street, internal roads, cycle paths, pedestrian paths and all associated ancillary site development works.'

The site has an area of 11.56Ha .

3.4 Site Access

Vehicular access would be by means of a new priority-controlled access junction on to Brayton Park Road located along the site's road frontage.

In accordance with the requirements of the Design Manual for Urban Roads and Streets published by the Department of Transport, Tourism and Sport 2.4m x 59m sight lines have been provided for access off the Link Street. All internal junctions will have a sight lines of 2.4m x 23m.

Refer to Pinnacle drawing P180307-P140 to P180307-P142 for more details.

3.5 Parking Provision

3.5.1 Car Parking Standards

Table 17.9 '*Car Parking Standards'* of the Kildare County Development Plan 2017-2023 sets out the car parking requirements for various types of development.

The car parking rates are illustrated in Table 3 below.

Car Parking Standards	
Land Use	**Standards**
Apartment	1.5 spaces per unit + 1 visitor space per 4 apartments
House	2 spaces per unit

Crèche	0.5 per resident member plus 1 per 4 children

Table 3 Parking Standards

	Parking Provision		
No. Beds	**No.**	**Standard**	**Provided**
Apartment	*163*	*1.5 per Unit*	*245*
Houses	*182*	*2 per unit*	*364*
Creche	*91 children, 17 staff*	*0.5 per resident member plus 1 per 4 children*	*34*
Visitor	*-*	*1vistors space per 4 apartments*	*41*
Total			*684*

Table 4 Parking Provision

A total of 684 parking spaces will be provided in accordance to Table 17.9 '*Car Parking Standards'* of the Kildare County Development Plan 2017-2023.

Parking will be provided within the curtilage of each house. Parking for the creche, duplexs and apartments will be on street.

Residential parking standards are not described as a maximum standard under the Kildare County Development Plan 2017-2023. The car parking provision would be commensurate with the scale and nature of the development in terms of quantity and layout.

3.5.2 Cycle Parking Standards

Table 17.10 'Cycle *Parking Standards'* of the Kildare County Development Plan 2017-2023 sets out the cycle parking requirements for various types of development.

The cycle parking rates are illustrated in Table 5 below.

Cycle Parking Standards	
Land Use	**Standards**
Apartment	*1 space per unit + 1 visitor space per 2 units*
Crèche	*1 space per 5 residents + 1 space per 10 children*

Table 5 Cycle Parking Standards

Cycle Parking Provision		
Land Use	**Standards**	**Provided**
Apartment	*245*	*280*
Crèche	*11*	*30*
Total	**256**	**310**

Table 6 Cycle Parking Provision

A total of 310 cycle parking spaces will be provided which is in excess of the requirements of Table 17.10 '*Cycle Parking Standards'* of the Kildare County Development Plan 2017-2023.

3.5.3 Pedestrian and Cycle networks

It is a necessary part of the design framework for a residential development such as this to ensure that there is good permeability for those residents and visitors to the development who choose not to travel by car. The development has been designed to ensure that there is

good permeability for pedestrians and cyclists. Connections between the internal layout and the external pedestrian and cycle networks form part of the overall access strategy for the site. With this development pedestrian movement is suitably catered for by footpath connections within and adjacent to the development. These provide good linkage to the surrounding urban areas.

The internal layout demands that all visitors to the site are catered for and so pedestrian routes between dwelling areas and key nodes within the layout are well designed and clearly delineated. This applicant is very experienced in creating safe environments that satisfy resident's requirements and convenience. Accordingly, every effort has been made to ensure that vehicular access will be restricted in areas where there are likely to be the highest concentrations of pedestrian/cycle movements.

The internal site layout will include a number of crossing facilities that are located along key desire lines to enhance the safety, visibility and convenience of those people on foot. These facilities will include features such as tactile paving and surface treatments that will benefit all users and assist those with impaired mobility.

Pedestrian linkages will be provided to the local estates such as Brayton Park and other future developments as part of the development. Pedestrian linkage to the lands that form part of the Kilcock LAP will be provided as part of subsequent stages of this development and subsequent developments.

Safe crossing points will be provide on all internal development roads along pedestrian desire lines that will include tactile pacing, dropped kerbs, road markings and signage Pedestrian/cycling facilities will be provided to link the proposed development to the surrounding residential developments and amenities which will assist pedestrian accessibility in the area. In addition, a footpath will be provided along the frontage of the site onto the Brayton Park Road.

It is hoped the provision of improved infrastructure to assist pedestrian/cyclist linkage on the desire line between the site, external pedestrian routes and public transport networks will ensure a modal shift away from private vehicle usage.

The design and layout of the proposal has been prepared so as to fully comply with the rigorous design standards and specifications applicable to this form of development. The applicant has drawn upon considerable experience in the design and implementation of such proposals.

As part of this application land has been reserved for the provision of a future pedestrian/cycle bridge over the railway line to the north of the proposed development. In the future this will provide a more direct link to Kilcock village for pedestrians/cyclists. This bridge is to be provided by others.

Given the desire in current planning guidance to improve accessibility for non-car modes of travel, access by cycle is increasingly important. In view of the fact that the weather and topography inevitably have an influence on cycle use, the key to cycle accessibility is the existence of convenient and safe links associated with secure and carefully sited cycle parking.

3.5.4 Facilities and access for those with impaired mobility

The design has sought to ensure that the environment created within this development will be accessible to residents and visitors with disabilities. Footpaths will be designed in accordance with the latest design criteria to ensure safe access for those that have a mobility impairment.

The design of the roads layout has taken into account pedestrian desire line and ensures that visually and mobility impaired pedestrians can easily access the opposite side of the road at crossing points and on a surface that is flat and level.

3.6 Road Safety

A Stage 1 Road Safety Audit has been undertaken by the Applicant for the entire development. The recommendations of the Road Safety Audit have been accepted by the design team. Refer to the Stage 1 Road Safety Audit for details of the recommendations and Designer's response.

3.7 Electric Charging

In line with national policy, provision will be made for electric car charging. All in curtilage car parking spaces will be ducted to allow for future upgrade for electric car charging.

Up to 10% of on street parking will be accessible for electric car charging with all spaces ducted for future upgradeability.

4 Traffic Generation and Distribution

4.1 Modal Choice/Trip Attraction

The methodology for assessing the traffic implications of this development involves quantifying the number and nature of trips that would be generated and reviewing these trips in the context of the prevailing conditions, the area of influence and the available infrastructure.

The nature of the development and its relative location to the catchment dictates that the modal choice to and from the site would primarily be via private car but with some elements of public transport use.

Accordingly, the development will attract private car, pedestrian and cycle visitation that will need to be catered for in terms of access routes and internal design. Visitation will also include residents and visitors using public transport connections.

A significant factor in trip attraction and hence resultant impact on the surrounding network is the relationship between trips that already utilise the road network which would choose to visit the development and those trips which would be newly generated onto the road network by the creation of the development in this location.

Research into trips associated with developments of this type has been extensive and in order to try and determine a realistic level of resultant impact the following classifications are adopted.

Primary New trip ~ a single purpose trip (such as development-work-development) that would not exist on the network prior to the opening of the development.

Primary Transfer trip ~ an existing single purpose trip to another destination (such as another similar development) that would transfer to the new development once it becomes operational.

Non-Primary Diverted trip ~ an existing multi-purpose (linked) trip that involves deviating from the normal route in order to visit the new development whilst on the way to another destination.

Non-Primary Pass-By trip ~ an existing multi-purpose (linked) trip that arises from visiting the new development without having to deviate significantly from the existing route being taken.

For the purpose of this assessment it is assumed that the proposed development will generate primary new trips.

4.2 Trip Distribution and assignment

As the site is currently undeveloped, the directional distribution of development-generated traffic is based on current trip patterns at the relevant existing junctions' i.e. R125/Brayton

Park Road, Bridge Street/R125 and the R125/Courtown Road/Bridge Street roundabout, etc . It is logical to assume that generated traffic will broadly follow the turning proportions exhibited in the traffic movement survey results.

In order to test the effect of anticipated traffic distribution on the network, a traffic model has been developed assigning a potential range of distribution values and scenarios of generated movements at each of the junctions to be assessed. These various flow regimes are illustrated on a series of flow diagrams and referenced later in this report in terms of resultant impact.

4.3 Assessment Years

For this report an opening year for the development of 2022 is assumed and traffic growth factors have been applied to the survey data collected in March 2018 to derive representative turning movements for that year, for a 5-year design horizon, namely 2027 and for a 15-year design horizon, namely 2037. This timeframe accords with the advice provided by the Chartered Institute of Highways and Transportation "Traffic and Transportation Assessment Guidelines" and the Traffic Impact Assessments and Traffic and Transportation Guidelines published by the NRA.

Traffic growth for all passing traffic in the vicinity of the site has been assessed by reference to Table 5.5.1 of the Project Appraisal Guidelines – Unit 5.5 Link-Based Traffic Growth Forecasting published by the NRA. The traffic growth calculations are discussed elsewhere in this report.

4.4 Growth Factors

The estimated opening year for the proposed development is 2022. This has therefore been the focus of the road network assessment. These flows are shown in Appendix D and for the weekday AM and PM peaks respectively.

The factor used is outlined below:

Traffic Growth Rates, NRA Project Appraisal Guidelines		
Year	***To Year***	**Table 5.5.1**
2018	2019	1.011
2018	2022	1.044
2018	2027	1.086
2018	2037	1.176

Table 7 Growth Factors

These growth rates are applicable to Kildare and no distinction is offered between rural and urban locations. It has been assumed that medium growth would occur.

4.5 Traffic Generation

The Trip Rate Information Computer System [TRICS] database has been interrogated to derive trip rates commensurate with developments of the character proposed in this case, notably a 345 dwelling residential development.

The use of the TRICS database has also enabled the profile of arrivals and departures throughout the day to be assessed and this has served to confirm the choice of the highest respective peak hours for use in the analyses.

This database is a well-established and constantly updated tool used in the determination of generated traffic for developments since it is a substantial source of validated empirical data on the arrival and departure rates for a range of differing types and sizes of developments in a variety of locations.

The trip rates selected for the proposed development are illustrated in Figure 8 below.

Trip Generation from TRICS		**Weekday AM** **08:00-09:00**		**Weekday PM** **17:00-18:00**	
Usage	***Units***	***Arrivals***	**Departures**	***Arrivals***	**Departures**
Houses – Privately Owned	*Per 1 unit*	*0.123*	0.340	*0.345*	0.215
Apartments – Privately Owned	*Per 1 unit*	*0.048*	0.133	*0.162*	0.095

Table 8 Summary of peak hour trip generations

* In addition to the residential element of the proposed development, the scheme also includes a crèche. It has been assumed that all trips to/from the crèche will be internal to the development and will not impact on the surrounding road network.

These trip rates are used in conjunction with the proposed schedule of accommodation where the total trips generated by the proposed development can be found. These figures can be seen in Table 9 below.

Trip Generation from TRICS		Weekday AM 08:00-09:00		Weekday PM 17:00-18:00	
Usage	***Units***	***Arrivals***	**Departures**	***Arrivals***	**Departures**
Houses – Privately Owned	*182*	*8*	*33*	*55*	*32*
Apartments – Privately Owned	*163*	*8*	*22*	*26*	*15*
Total		***16***	***55***	***81***	***47***
Two Way Total		***71***		***128***	
Permitted (Reg. Ref. 161345)	*450*	*55*	*153*	*155*	*97*

Table 9 Trips generated by proposed development

It can be seen from the above that the total vehicle movements generated by the proposed development will be 16 arrivals and 55 departures in the AM peak (two-way total of 71). The total number of vehicle movements in the PM peak hour will be 81 arrivals and 47 departures (two-way total of 128).

A series of flow diagrams depicts the flow regimes from surveyed flows through the application of growth and development generations and illustrates the distribution of resultant flows from the assumed opening year of 2022, through the 15-year design horizon year of 2037. Refer to Appendix D for more information.

4.6 Geometric Parameters

The geometric parameters used for the junctions have been ascertained from the topographical survey details of the junction and other relevant sources. In this way a very good approximation of the relevant geometric inputs has been used. For the proposed junction, the geometry has been obtained by reference to the initial design drawing. This has also enabled an iterative process to be adopted if necessary, to ensure that the junction is designed in accord with relevant design standards and to achieve sufficient levels of capacity.

In this case, the surveyed junctions will each be analysed to determine the extent of resultant highway impact and the need, if any, for mitigating measures. It is anticipated that the capacity analyses will show how the proposal will be accommodated with a reasonable degree of reserve capacity.

4.7 Base Line Data

The traffic survey data, including relevant growth factors, has been combined with the trips generated by Reg. Ref. 161345 to form the baseline data. The baseline data will be used to assess the ‘do nothing scenario’ i.e. no development.

5 Network Assessment

5.1 Introduction

To assess the resultant impact on the surrounding road network, the anticipated traffic generation and distribution through the network has been applied to the traffic model in order to assess comparative flow levels at the surveyed locations and to analyse resultant junction performance.

In addition to traffic generated due to the proposed development, there is also an expected increase in traffic flows due to general development and an increase in car ownership that needs to be considered using Table 5.5.1 of the Project Appraisal Guidelines – Unit 5.5 Link-Based Traffic Growth Forecasting published by the NRA.

5.2 Junction Capacity Analyses

Junction capacity analyses have been undertaken at the site access junction and at the key junctions at which existing flow data had been obtained. These tests have been carried out using industry standard and approved software for the existing junctions with no development and the assumed year of opening of the development, namely 2022, and for a 5-year design horizon, namely 2027 and for a 15-year design horizon, namely 2037 with development flows added. It may be the case at some nodes within the network that following the distribution and assignment of the traffic generated by the development, the actual proportional impact or change in traffic demand would not necessarily warrant further assessment. For the purpose of a full and frank assessment, all junctions have been put forward for assessment.

The use of the TRL capacity model programme PICADY [Priority Intersection Capacity and Delay] is well established and accepted by the Kildare County Council for the prediction of capacity and incurred delay at priority junctions, whilst ARCADY [Assessment of Roundabout Capacity and Delay] is similarly accepted and used to provide comparable measures of the operational efficiency of roundabout junctions. OSCADY (Optimised Signal Capacity And Delay: Phase-based Rapid Optimisation) is a computer program for optimising phase-based signal timings and calculating capacities, queue lengths and delays (both queuing and geometric) for traffic signal-controlled junctions. Similarly, LinSig is a computer program for optimising phase-based signal timings and calculating capacities, queue lengths and delays (both queuing and geometric) for traffic signal-controlled junctions.

With these well-established methods the results are expressed in terms of a ratio of flow to capacity (RFC) on each approach and the maximum queue length on that approach during the period tested. If the RFC value approaches 1.0 then queuing and delay can be expected to increase. It is normal practice to ensure that the RFC is below 0.85 to achieve a theoretical reserve capacity of greater than 15%, although a value of 0.85 can be marginally exceeded in a future design year situation without any detrimental effect on the satisfactory and safe operation of the junction.

LinSig results are expressed in terms of queues generated and the ‘Degree of Saturation’ (DoS). A Dos value of 85% or below indicates that the junction is operating within capacity. A

DoS value of between 85% and 100% indicates that the junction remains within capacity but is beginning to show signs of queuing and delay. A DoS value of less than 100% is desirable in urban areas during peak period traffic. However, values of greater than 100% are typical at many junctions. For the purpose of these calculations the results are reported in terms of maximising the capacity of the junction analysed.

The results of the various capacity assessments are summarised in a series of tables. For each flow condition and for each junction the PICADY or ARCADY output has been assessed and the maximum Ratio of flow to Capacity [RFC] tabulated together with the maximum (end) queue value for the relevant time segment. For signalised junctions the OSCADY/ LinSig output will be in terms of maximum (end) queue value and DoS.

5.3 Junction Capacity Results

5.3.1 Brayton Park Road/R125 Priority Junction [Surveyed Junction 1].

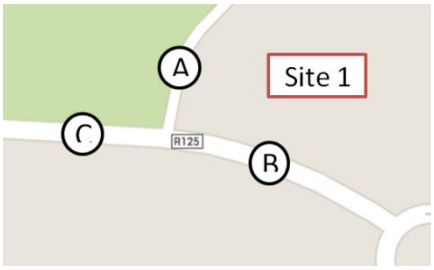


Figure 12 Junction 1 Layout

The capacity results are summarised in Table 10 and 11 below.

Junction 1	Committed Development			Opening Year - 2022			Design Year - 2027			Design Year - 2037		
AM Peak Hour	RFC	Q (PCU)	PRC	RFC	Q (PCU)	PRC	RFC	Q (PCU)	PRC	RFC	Q (PCU)	PRC
Arm A	-	-	-	-	-	-	-	-	-	-	-	-
Arm B	0.348	0.52	65.2%	0.326	0.48	67.4%	0.343	0.52	65.7%	0.379	0.61	62.1%
Arm C	0.396	0.65	60.4%	0.363	0.57	63.7%	0.380	0.61	62.0%	0.414	0.70	58.6%
Arm A with dev	-	-	-	-	-	-	-	-	-	-	-	-
Arm B with dev	-	-	-	0.463	0.85	53.7%	0.482	0.92	51.8%	0.522	1.06	44.8%
Arm C with dev	-	-	-	0.406	0.68	59.4%	0.420	0.73	58.0%	0.456	0.82	54.4%

Table 10 Summary of capacity assessments for Junction 1~ AM peak

Junction 1	Committed Development			Opening Year - 2022			Design Year - 2027			Design Year - 2037		
PM Peak Hour	RFC	Q (PCU)	PRC	RFC	Q (PCU)	PRC	RFC	Q (PCU)	PRC	RFC	Q (PCU)	PRC
Arm A	-	-	-	-	-	-	-	-	-	-	-	-
Arm B	0.110	0.12	89.0 %	0.111	0.12	88.9 %	0.112	0.13	88.8 %	0.118	0.10	88.2 %
Arm C	0.110	0.12	89.0 %	0.115	0.13	88.5 %	0.119	0.13	88.1 %	0.132	011	86.8 %
Arm A with dev	-	-	-	-	-	-	-	-	-	-	-	-
Arm B with dev	-	-	-	0.236	0.31	76.7 %	0.244	0.32	75.6 %	0.261	0.35	73.9 %
Arm C with dev	-	-	-	0.220	0.28	78.0 %	0.227	0.29	77.3 %	0.243	032	76.0 %

Table 11 Summary of capacity assessments for Junction 1~ PM peak

This assessment serves to confirm firstly the extent of available capacity exhibited at this junction, and secondly the proportional effect of the addition of the development traffic.

It can be seen from Table 10 and Table 11 above that the Junction 1 operates within capacity for all scenarios assessed up to the design year of 2037 with a maximum RFC of 0.552 for the year 2037.

It is apparent from these results that the effect on this junction of the newly generated flows is minimal. With queuing and delays at a minimum the junction operates within capacity.

5.3.2 R125/Bridge Street Roundabout [Surveyed Junction 2].



Figure 13 Junction 2 Layout

The capacity results are summarised in Table 12 below.

	AM				PM			
	Queue (PCU)	**Delay (min)**	**RFC**	**LOS**	**Queue (PCU)**	**Delay (min)**	**RFC**	**LOS**
	2019 Committed Development							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A
Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

Table 12 Summary of capacity assessments for Junction 2~ AM/PM peak

This assessment serves to confirm firstly the extent of available capacity exhibited at this junction, and secondly the proportional effect of the addition of the development traffic.

It can be seen from Table 12 above that the Junction 2 operates within capacity for all scenarios assessed up to the design year of 2037 with a maximum RFC of 0.58.

It is apparent from these results that the effect on this junction of the newly generated flows is minimal. With queuing and delays at a minimum the junction operates within capacity.

5.3.3 Bridge Street/R125 Crossroads [Surveyed Junction 3].



Figure 14 Junction 2 Layout

Due to the complex nature of the junction layout LinSig was used to model Junction 3. As well as signalised junctions/networks LinSig can also be used to model priority junctions with results given in terms of Degree of Saturation.

Arm B and Arm C shown above were modelled as un-signalled lanes with appropriate giveaway restrictions to represent the stop lines on Bridge Street and Harbour Road.

The capacity results are summarised in Table 13 to 26 below.

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**52.8%**	**484**	**0**	**0**	**1.3**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**52.8%**	**484**	**0**	**0**	**1.3**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	507	1940	1940	26.1%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	776	2115	1469	52.8%	312	0	0	0.6	2.6	0.6
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	394	2015	986	40.0%	172	0	0	0.3	3.0	0.3
4/1		U	-		-	-	-	86	1940	1940	4.4%	-	-	-	0.0	1.0	0.0
5/1		U	-		-	-	-	464	1940	1940	23.9%	-	-	-	0.2	1.2	0.2
6/1	School Street	U	-		-	-	-	113	1940	1940	5.8%	-	-	-	0.0	1.0	0.0
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 70.4 Total Delay Over All Lanes(pcuHr): 1.28																	

Table 13 2019 PM Survey

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.1%**	**502**	**0**	**0**	**1.4**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.1%**	**502**	**0**	**0**	**1.4**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	523	1940	1940	27.0%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	801	2115	1454	55.1%	324	0	0	0.6	2.7	0.6
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	407	2015	952	42.8%	178	0	0	0.4	3.3	0.4
4/1		U	-		-	-	-	89	1940	1940	4.6%	-	-	-	0.0	1.0	0.0
5/1		U	-		-	-	-	477	1940	1940	24.6%	-	-	-	0.2	1.2	0.2
6/1	School Street	U	-		-	-	-	119	1940	1940	6.1%	-	-	-	0.0	1.0	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 63.4 Total Delay Over All Lanes(pcuHr): 1.39

Table 14 2022 PM No Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.1%**	**512**	**0**	**0**	**1.5**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.1%**	**512**	**0**	**0**	**1.5**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	535	1940	1940	27.6%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	805	2115	1436	56.1%	324	0	0	0.6	2.8	0.6
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	429	2015	945	45.4%	188	0	0	0.4	3.5	0.4
4/1		U	-		-	-	-	94	1940	1940	4.8%	-	-	-	0.0	1.0	0.0
5/1		U	-		-	-	-	481	1940	1940	24.8%	-	-	-	0.2	1.2	0.2
6/1	School Street	U	-		-	-	-	124	1940	1940	6.4%	-	-	-	0.0	1.0	0.0
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 60.5 Total Delay Over All Lanes(pcuHr): 1.47																	

Table 15 2022 PM With Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.7%**	**521**	**0**	**0**	**1.5**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.7%**	**521**	**0**	**0**	**1.5**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	542	1940	1940	27.9%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	831	2115	1441	57.7%	337	0	0	0.7	2.9	0.7
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	420	2015	910	46.2%	184	0	0	0.4	3.7	0.4
4/1		U	-		-	-	-	92	1940	1940	4.7%	-	-	-	0.0	1.0	0.0
5/1		U	-		-	-	-	494	1940	1940	25.5%	-	-	-	0.2	1.2	0.2
6/1	School Street	U	-		-	-	-	123	1940	1940	6.3%	-	-	-	0.0	1.0	0.0
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 56.1 Total Delay Over All Lanes(pcuHr): 1.53																	

Table 16 2027 PM No Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.7%**	**531**	**0**	**0**	**1.6**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.7%**	**531**	**0**	**0**	**1.6**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	555	1940	1940	28.6%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	834	2115	1421	58.7%	337	0	0	0.7	3.1	0.7
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	443	2015	906	48.9%	194	0	0	0.5	3.9	0.5
4/1		U	-		-	-	-	97	1940	1940	5.0%	-	-	-	0.0	1.0	0.0
5/1		U	-		-	-	-	497	1940	1940	25.6%	-	-	-	0.2	1.2	0.2
6/1	School Street	U	-		-	-	-	128	1940	1940	6.6%	-	-	-	0.0	1.0	0.0
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 53.3 Total Delay Over All Lanes(pcuHr): 1.62																	

Table 17 2027 PM With Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.3%**	**560**	**0**	**0**	**1.9**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.3%**	**560**	**0**	**0**	**1.9**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	584	1940	1940	30.1%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	893	2115	1411	63.3%	364	0	0	0.9	3.5	0.9
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	449	2015	823	54.6%	196	0	0	0.6	4.8	0.6
4/1		U	-		-	-	-	98	1940	1940	5.1%	-	-	-	0.0	1.0	0.0
5/1		U	-		-	-	-	529	1940	1940	27.3%	-	-	-	0.2	1.3	0.2
6/1	School Street	U	-		-	-	-	131	1940	1940	6.8%	-	-	-	0.0	1.0	0.0
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 42.2 Total Delay Over All Lanes(pcuHr): 1.92																	

Table 18 2037 PM No Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.5%**	**570**	**0**	**0**	**2.1**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.5%**	**570**	**0**	**0**	**2.1**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	597	1940	1940	30.8%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	897	2115	1390	64.5%	364	0	0	0.9	3.6	0.9
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	472	2015	817	57.8%	206	0	0	0.7	5.2	0.7
4/1		U	-		-	-	-	103	1940	1940	5.3%	-	-	-	0.0	1.0	0.0
5/1		U	-		-	-	-	533	1940	1940	27.5%	-	-	-	0.2	1.3	0.2
6/1	School Street	U	-		-	-	-	136	1940	1940	7.0%	-	-	-	0.0	1.0	0.0
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 39.5 Total Delay Over All Lanes(pcuHr): 2.06																	

Table 19 2037 With Development PM

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**51.8%**	**492**	**0**	**0**	**1.1**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**51.8%**	**492**	**0**	**0**	**1.1**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	425	1940	1940	21.9%	-	-	-	0.1	1.2	0.1
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	450	2115	1328	33.9%	141	0	0	0.3	2.0	0.3
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	650	2015	1255	51.8%	351	0	0	0.5	3.0	0.5
4/1		U	-		-	-	-	177	1940	1940	9.1%	-	-	-	0.1	1.0	0.1
5/1		U	-		-	-	-	309	1940	1940	15.9%	-	-	-	0.1	1.1	0.1
6/1	School Street	U	-		-	-	-	189	1940	1940	9.7%	-	-	-	0.1	1.0	0.1
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 73.7 Total Delay Over All Lanes(pcuHr): 1.13																	

Table 20 2019 Committed AM

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**53.9%**	**507**	**0**	**0**	**1.2**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**53.9%**	**507**	**0**	**0**	**1.2**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	438	1940	1940	22.6%	-	-	-	0.1	1.2	0.1
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	464	2115	1304	35.6%	146	0	0	0.3	2.1	0.3
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	669	2015	1241	53.9%	361	0	0	0.6	3.1	0.6
4/1		U	-		-	-	-	182	1940	1940	9.4%	-	-	-	0.1	1.0	0.1
5/1		U	-		-	-	-	318	1940	1940	16.4%	-	-	-	0.1	1.1	0.1
6/1	School Street	U	-		-	-	-	195	1940	1940	10.1%	-	-	-	0.1	1.0	0.1

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 66.9 Total Delay Over All Lanes(pcuHr): 1.21

Table 21 2022 AM No Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.0%**	**527**	**0**	**0**	**1.3**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.0%**	**527**	**0**	**0**	**1.3**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	455	1940	1940	23.5%	-	-	-	0.2	1.2	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	466	2115	1263	36.9%	146	0	0	0.3	2.3	0.3
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	706	2015	1238	57.0%	381	0	0	0.7	3.4	0.7
4/1		U	-		-	-	-	189	1940	1940	9.7%	-	-	-	0.1	1.0	0.1
5/1		U	-		-	-	-	320	1940	1940	16.5%	-	-	-	0.1	1.1	0.1
6/1	School Street	U	-		-	-	-	208	1940	1940	10.7%	-	-	-	0.1	1.0	0.1

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 57.9 Total Delay Over All Lanes(pcuHr): 1.32

Table 22 2022 AM With Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.7%**	**525**	**0**	**0**	**1.3**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.7%**	**525**	**0**	**0**	**1.3**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	455	1940	1940	23.5%	-	-	-	0.2	1.2	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	481	2115	1276	37.7%	151	0	0	0.3	2.3	0.3
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	694	2015	1223	56.7%	374	0	0	0.7	3.4	0.7
4/1		U	-		-	-	-	189	1940	1940	9.7%	-	-	-	0.1	1.0	0.1
5/1		U	-		-	-	-	330	1940	1940	17.0%	-	-	-	0.1	1.1	0.1
6/1	School Street	U	-		-	-	-	201	1940	1940	10.4%	-	-	-	0.1	1.0	0.1

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 58.7 Total Delay Over All Lanes(pcuHr): 1.32

Table 23 2027 AM No Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.9%**	**545**	**0**	**0**	**1.4**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.9%**	**545**	**0**	**0**	**1.4**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	472	1940	1940	24.3%	-	-	-	0.2	1.2	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	483	2115	1233	39.2%	151	0	0	0.3	2.4	0.3
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	731	2015	1221	59.9%	394	0	0	0.7	3.7	0.7
4/1		U	-		-	-	-	199	1940	1940	10.3%	-	-	-	0.1	1.0	0.1
5/1		U	-		-	-	-	332	1940	1940	17.1%	-	-	-	0.1	1.1	0.1
6/1	School Street	U	-		-	-	-	211	1940	1940	10.9%	-	-	-	0.1	1.0	0.1
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 50.4 Total Delay Over All Lanes(pcuHr): 1.45																	

Table 24 2027 AM With Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.1%**	**566**	**0**	**0**	**1.6**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.1%**	**566**	**0**	**0**	**1.6**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	490	1940	1940	25.3%	-	-	-	0.2	1.2	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	520	2115	1209	43.0%	164	0	0	0.4	2.6	0.4
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	746	2015	1182	63.1%	402	0	0	0.9	4.1	0.9
4/1		U	-		-	-	-	203	1940	1940	10.5%	-	-	-	0.1	1.0	0.1
5/1		U	-		-	-	-	356	1940	1940	18.4%	-	-	-	0.1	1.1	0.1
6/1	School Street	U	-		-	-	-	217	1940	1940	11.2%	-	-	-	0.1	1.0	0.1

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 42.6 Total Delay Over All Lanes(pcuHr): 1.63

Table 25 2037 AM No Development

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.3%**	**585**	**0**	**0**	**1.8**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.3%**	**585**	**0**	**0**	**1.8**	**-**	**-**
1/1	Bridge Street	U	-		-	-	-	506	1940	1940	26.1%	-	-	-	0.2	1.3	0.2
2/1	Harbour Street Ahead Left Right	O	-		-	-	-	521	2115	1165	44.7%	163	0	0	0.4	2.8	0.4
3/1	Bridge Street Left Right Ahead	O	-		-	-	-	783	2015	1181	66.3%	422	0	0	1.0	4.5	1.0
4/1		U	-		-	-	-	213	1940	1940	11.0%	-	-	-	0.1	1.0	0.1
5/1		U	-		-	-	-	358	1940	1940	18.5%	-	-	-	0.1	1.1	0.1
6/1	School Street	U	-		-	-	-	227	1940	1940	11.7%	-	-	-	0.1	1.1	0.1
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1 PRC Over All Lanes (%): 35.7 Total Delay Over All Lanes(pcuHr): 1.80																	

Table 26 2037 AM with Development

This assessment serves to confirm firstly the extent of available capacity exhibited at this junction, and secondly the proportional effect of the addition of the development traffic.

It can be seen from Table 14 and Table 15 above that the Junction 3 operates within capacity for all scenarios assessed up to the design year of 2037 with a maximum DoS of 64.5%.

It is apparent from these results that the effect on this junction of the newly generated flows is minimal. With queuing and delays at a minimum the junction operates within capacity.

5.3.4 R125/Highfield/Penwall Crossroads [Surveyed Junction 4].

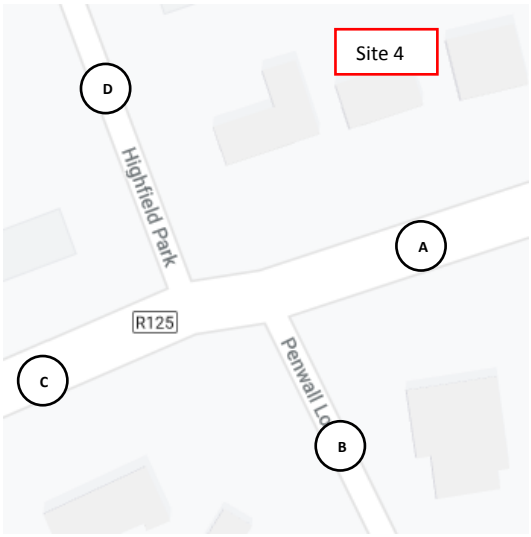


Figure 15 Junction 4 Layout

The capacity results are summarised in Table 27 & 28 below.

	2019			2022			2027			2037		
Arm	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)
1	29.75	202.56	0.09	31.33	187.23	0.10	32.53	176.64	0.11	35.07	156.65	0.13
1	30.95	190.81	0.09	29.55	204.60	0.08	33.28	170.40	0.11	36.20	148.59	0.14
2	61.14	47.20	0.67	62.70	43.54	0.73	62.37	44.29	0.72	65.83	36.72	0.88
2	60.23	49.42	0.61	61.45	46.45	0.66	63.49	41.76	0.74	66.74	34.84	0.90
3	54.80	64.23	0.48	57.73	55.91	0.57	59.98	50.06	0.65	64.74	39.01	0.87
3	54.31	65.73	0.43	51.57	74.51	0.37	57.81	55.69	0.53	58.98	52.60	0.56
4	26.75	236.41	0.07	28.07	220.64	0.07	28.21	219.05	0.08	29.91	200.94	0.09
4	16.69	439.37	0.02	17.50	414.28	0.02	17.91	402.59	0.03	19.54	360.71	0.03
Ped	1.27	9999.00	0.00	1.27	9999.00	0.00	1.27	9999.00	0.00	1.27	9999.00	0.00
	2019 with Development			2022 with Development			2027 with Development			2037 with Development		
	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)
1	-	-	-	30.53	194.84	0.09	32.09	180.42	0.11	33.72	166.92	0.12
1	-	-	-	32.12	180.23	0.10	33.28	170.40	0.11	36.20	148.59	0.14
2	-	-	-	64.49	39.56	0.81	66.27	35.80	0.91	69.84	28.86	1.13
2	-	-	-	64.55	39.42	0.79	62.27	44.54	0.69	69.75	29.03	1.08
3	-	-	-	60.62	48.46	0.68	64.00	40.63	0.83	67.98	32.40	1.06
3	-	-	-	57.81	55.69	0.53	59.56	51.11	0.58	64.23	40.12	0.77
4	-	-	-	28.07	220.64	0.07	28.95	210.92	0.08	31.14	189.03	0.10
4	-	-	-	19.50	361.64	0.03	18.72	380.74	0.03	21.66	315.48	0.04
Ped	-	-	-	1.27	9999.00	0.00	1.27	9999.00	0.00	1.27	9999.00	0.00

Table 27 Summary of capacity assessments for Junction 4~ AM peak

	2019			2022			2027			2037		
Arm	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)
1	65.77	36.84	0.91	69.65	29.22	1.15	67.40	33.53	1.01	71.13	26.53	1.27
1	9.29	869.29	0.01	9.58	839.92	0.01	10.01	799.42	0.01	10.42	763.40	0.01
2	44.12	104.00	0.23	45.04	99.84	0.25	48.01	87.46	0.30	51.76	73.88	0.37
2	55.30	62.74	0.46	57.14	57.49	0.51	58.90	52.81	0.57	63.44	41.87	0.74
3	37.71	138.65	0.16	40.31	123.26	0.19	38.98	130.87	0.17	41.77	115.49	0.21
3	65.87	36.64	0.87	67.61	33.12	0.97	70.93	26.89	1.18	70.71	27.27	1.17
4	16.81	435.50	0.02	16.81	435.50	0.02	17.05	427.96	0.02	17.53	413.49	0.02
4	8.30	984.96	0.00	8.30	984.96	0.00	8.41	969.68	0.01	8.65	940.38	0.01
Ped	0.74	9999.00	0.00	0.66	9999.00	0.00	0.75	9999.00	0.00	0.77	9999.00	0.00
	2019 with Development			2022 with Development			2027 with Development			2037 with Development		
	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)
1	-	-	-	68.10	32.15	1.05	67.55	33.24	1.02	71.57	25.75	1.31
1	-	-	-	9.04	895.32	0.01	10.01	799.42	0.01	10.42	763.40	0.01
2	-	-	-	48.94	83.89	0.31	51.27	75.53	0.36	52.72	70.72	0.39
2	-	-	-	57.49	56.54	0.52	59.36	51.61	0.58	63.92	40.80	0.76
3	-	-	-	42.88	109.87	0.23	42.42	112.15	0.22	44.60	101.80	0.25
3	-	-	-	67.13	34.06	0.94	74.17	21.35	1.45	74.09	21.47	1.45
4	-	-	-	17.50	414.42	0.02	17.94	401.56	0.03	19.83	353.78	0.03
4	-	-	-	9.82	816.87	0.01	10.28	775.20	0.01	11.53	680.28	0.01
Ped	-	-	-	0.75	9999.00	0.00	0.75	9999.00	0.00	0.77	9999.00	0.00

Table 28 Summary of capacity assessments for Junction 4~ PM peak

This assessment serves to confirm firstly the extent of available capacity exhibited at this junction, and secondly the proportional effect of the addition of the development traffic.

It can be seen from Table 16 and Table 17 above that the Junction 4 operates within capacity for all scenarios assessed up to the design year of 2037 with a maximum DoS of 74.09% for the year 2037.

5.3.5 R125/R406 Roundabout [Surveyed Junction 5].

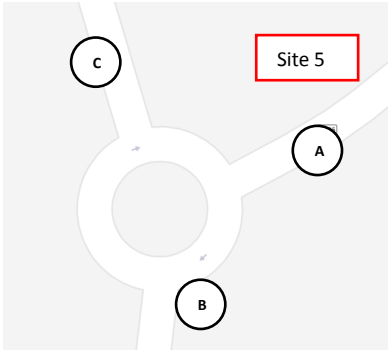


Figure 16 Junction 5 Layout

The capacity results are summarised in Table 31 below.

This assessment serves to confirm firstly the extent of available capacity exhibited at this junction, and secondly the proportional effect of the addition of the development traffic.

It can be seen from Table 17 below that the Junction 5 operates within capacity for all scenarios assessed up to the design year of 2037 with a maximum RFC of 0.52.

It is apparent from these results that the effect on this junction of the newly generated flows is minimal. With queuing and delays at a minimum the junction operates within capacity

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A
Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

Table 29 Summary of capacity assessments for Junction 5~ AM/PM peak

5.4 Summary of capacity assessments

It is considered that the methodology provides a very robust test of future flows since, first, trip generation values have been adopted that do not take into account the likely modal shift towards non-car trips. Assuming such a high proportion of newly generated traffic is likely to result in an over-estimation of the resultant impact.

Secondly, a conservative approach has been taken in determining the growth factor used in deriving future flows using Table 5.5.1 of the Project Appraisal Guidelines – Unit 5.5 Link-Based Traffic Growth Forecasting published by the NRA. Whilst it is normal practice to incorporate traffic growth to account for assumed increases in network activity (arising from other new developments, increased car ownership and other factors), it is feasible that this level of compound growth may be an over-estimate in this locality given the reducing rates of car ownership and a greater provision of public transport.

The overall analyses indicate that the local network as tested does not exhibit peak time congestion. The traffic generated would be typical given urban environment such as this where there is typical town centre activity (in traffic terms) involving pedestrian activity, interaction with direct points of access and roadside servicing.

It is also relevant that the net effect of any additional traffic arising from the development of the site results in minor reduction in overall capacity of the junctions analysed.

6 Summary and Conclusion

6.1 Executive Summary

This Transport Assessment has been compiled in support of an SHD application to An Bord Pleanala for a residential development comprising of 345 dwellings and local crèche off Brayton Park access road.

A pre-application discussion took place with representatives of Kildare County Council Roads Department. The scope and methodology of the assessment was agreed as part of this discussion.

The subject site is a green field site located adjacent to the Brayton Park residential development, Kilcock.

The development site abuts the M4 to the south and the remainder by farmland.

The current site is a green field site.

Development Proposals

The proposed development is comprising of the following

'345 no. residential units (69 no. Duplex Type Units, 182 no. Houses and 94 no. Apartments) ranging from 2 to 5 storeys, a standalone creche facility (approximately 466.76 sqm) with an overall height of 2 storeys, an associated external play area (approximately 277.67 sqm), associated ancillary surface car parking spaces and bicycle parking spaces, a link street, internal roads, pedestrian paths, cycle paths, public and private open spaces.

The proposed housing mix is comprised of 13 no. 1 bed units, 136 no. 2 bed units, 158 no. 3 bed units and 38 no. 4 bed units.

Out of the 345 no. residential units, 35 no. units are put forward to meet the applicant's obligations under Part V of the Planning & Development Act 2000 (as amended).

Each residential unit has associated private open space, in the form of either gardens, terraces or balconies in addition to access to the proposed public open space (including 3 no. playground areas) with hard and soft landscaping treatment.

A total of 650 no. surface car parking spaces are provided for the residential development including visitor parking. 280 no. bicycle spaces are proposed for the proposed apartments and duplexes and bicycle spaces for the proposed houses are provided on curtilage. In addition, the crèche will be provided with 34 no. surface car parking spaces and 30 no. bicycle parking spaces.

The proposed development provides for 1 no. vehicular access and associated pedestrian and cycle paths via a new link street connecting from the Brayton Park Road and 1 no. vehicular access and associated pedestrian path providing a link into the existing Brayton Park Estate.

The proposed development makes provision for future linkages to adjoining lands; including undeveloped lands to the north-west, the adjoining undeveloped educational zoned lands to the north, as part of this application land is reserved for access to a potential future pedestrian/cycle bridge over the railway line to the north-east of the site (to be delivered by others) . In addition, the proposed development provides for pedestrian and cycle paths connection to the north east of the site, as well as 4 no. pedestrian access points and 1 no. gated vehicular (for Kildare County Council maintenance use only) and pedestrian access point to the open space at Bawnogues/Commons West along the southern boundary of the site.

Bin storage is provided either on curtilage and or in communal storage. The associated site and infrastructural works include foul and surface water drainage, attenuation tanks, SuDs arrangements, hard and soft landscaping, permeable paving, boundary walls, fences and noise buffers, 3 no. substations (approximately 20 sqm each), public lighting, a link street, internal roads, cycle paths, pedestrian paths and all associated ancillary site development works. '

Development Access

Vehicular access to the development is by means of the existing access road to Brayton Park on to the R125.

A secondary access will be provided as part of the development of lands to the north-west of the proposed development. This is subject to a separate application.

Parking

The current proposal for the site includes car and cycle parking within the curtilage of the development.

In total, it is proposed to provide 684 car parking spaces in line with Kildare County Development Plan 2017-2023.

A total of 310 cycle park spaces are proposed as part of the development.

Trip Generation

For the scale and type of development proposed, it is expected that the development will generate 16 arrivals and 55 departures in the AM peak (two-way total of 71). The total number of vehicle movements in the PM peak hour will be 81 arrivals and 47 departures (two-way total of 128).

Operational Assessment

The results of the junction analysis undertaken demonstrates that traffic from the proposed development can be accommodated on the surrounding road network and is within reasonable limits having regard to the residential nature of Brayton Park access road and the surrounding area.

6.2 Conclusion

The proposed development is in accordance with the planning and development of this area in relation to traffic and transportation issues.

The Transport Assessment demonstrates that the traffic generated by the proposed development can be accommodated within the surrounding road network and will no have adverse impact on the junctions modelled.

Appendix A

Traffic Counts

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Traffic and Data Services



Junction Turning Count

Project Number	3298-IRE
Project Name	Kilcock Traffic Surveys
Client	Pinnacle
Sites	1-5
Survey Date	20/03/2018
Survey Time	07:00-19:00

Observations

High number of u-turns on arm A of Site 1. Vehicles are seen droping off/picking up pedestrians between arm A and arm B.

Site 3 is missing counts between 07:00-07:45 due to camera issues.

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Traffic and Data Services

3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 1 - Bridge Street / Courtown Road / R125

Origin : Arm A Bridge Street

	Destination : Arm A Bridge Street								Destination : Arm B Courtown Road								Destination : Arm C R125								Arm Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	
07:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	27	7	1	0	1	0	0	36	40
07:15	3	0	0	0	0	0	0	3	3	1	0	0	1	0	1	6	44	6	0	1	2	0	0	53	62
07:30	4	1	0	0	0	0	0	5	2	1	0	0	0	0	0	3	42	8	0	0	1	0	1	52	60
07:45	0	0	1	0	0	0	0	1	5	1	0	0	0	0	0	6	36	3	1	0	0	1	0	41	48
1 Hr	7	1	1	0	0	0	0	9	14	3	0	0	1	0	1	19	149	24	2	1	4	1	1	182	210
08:00	1	0	0	0	0	0	0	1	7	1	0	0	0	0	0	8	54	6	0	1	0	0	0	61	70
08:15	5	0	1	0	1	0	0	7	2	0	0	0	0	0	0	2	44	11	1	0	3	1	0	60	69
08:30	0	1	0	0	0	0	0	1	4	1	0	0	0	0	0	5	70	7	1	0	1	1	0	80	86
08:45	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4	93	11	1	0	0	0	0	105	111
1 Hr	8	1	1	0	1	0	0	11	17	2	0	0	0	0	0	19	261	35	3	1	4	2	0	306	336
09:00	1	0	0	0	0	0	0	1	7	0	0	0	0	0	0	7	97	2	0	0	0	0	0	99	107
09:15	0	1	0	0	0	0	0	1	7	1	0	0	0	0	0	8	73	5	2	0	0	0	0	80	89
09:30	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	48	10	2	0	0	0	0	60	65
09:45	1	1	0	0	0	0	0	2	4	0	0	0	0	0	0	4	32	3	1	0	0	0	0	36	42
1 Hr	2	2	0	0	0	0	0	4	23	1	0	0	0	0	0	24	250	20	5	0	0	0	0	275	303
10:00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	1	8	32	8	1	0	0	0	0	41	49
10:15	2	0	0	0	0	0	0	2	9	0	0	0	0	0	0	9	33	4	0	1	0	0	0	38	49
10:30	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	11	32	5	0	0	0	0	0	37	48
10:45	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	34	3	0	0	0	0	0	37	47
1 Hr	2	0	0	0	0	0	0	2	36	1	0	0	0	0	1	38	131	20	1	1	0	0	0	153	193
11:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	39	4	2	0	0	0	0	45	48
11:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	36	7	1	0	0	0	0	44	46
11:30	2	0	0	0	0	0	0	2	7	0	0	0	0	0	0	7	32	7	1	0	0	0	0	40	49
11:45	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	33	7	5	1	0	0	0	46	54
1 Hr	2	0	0	0	0	0	0	2	20	0	0	0	0	0	0	20	140	25	9	1	0	0	0	175	197
12:00	3	0	0	0	0	0	0	3	13	0	0	0	0	0	0	13	42	2	1	2	0	0	2	49	65
12:15	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	41	2	1	1	0	0	0	45	53
12:30	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	11	37	5	0	0	0	0	0	42	53
12:45	3	0	0	0	0	0	0	3	8	0	0	0	0	0	0	8	36	3	0	1	0	0	0	40	51
1 Hr	6	0	0	0	0	0	0	6	39	1	0	0	0	0	0	40	156	12	2	4	0	0	2	176	222
13:00	1	1	0	0	0	0	0	2	13	1	0	0	0	0	0	14	42	7	0	0	0	0	0	49	65
13:15	1	0	0	0	0	0	0	1	5	1	0	0	0	0	0	6	35	7	2	0	0	1	0	45	52
13:30	1	0	0	0	0	0	0	1	10	0	0	0	0	0	0	10	57	2	1	1	0	0	0	61	72
13:45	2	0	0	0	0	0	0	2	5	0	0	0	0	0	0	5	44	2	0	0	0	0	0	46	53
1 Hr	5	1	0	0	0	0	0	6	33	2	0	0	0	0	0	35	178	18	3	1	0	1	0	201	242
14:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	45	4	1	0	0	0	0	50	54
14:15	1	0	1	0	0	0	0	2	5	0	0	0	0	0	0	5	43	6	1	0	0	0	0	50	57
14:30	1	0	0	0	0	0	0	1	15	0	0	0	0	0	0	15	55	4	1	0	2	0	0	62	78
14:45	1	0	0	0	0	0	0	1	13	0	0	0	0	0	0	13	56	5	1	0	0	0	1	63	77
1 Hr	3	0	1	0	0	0	0	4	37	0	0	0	0	0	0	37	199	19	4	0	2	0	1	225	266
15:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	39	7	0	0	0	0	0	46	50
15:15	1	0	0	0	0	0	0	1	9	0	0	0	0	0	0	9	43	3	3	1	0	0	0	50	60
15:30	1	0	0	0	0	0	0	1	12	0	0	0	0	0	0	12	51	11	1	0	0	0	0	63	76
15:45	0	1	0	0	1	0	0	2	11	0	0	0	0	0	0	11	49	1	0	1	1	0	0	52	65
1 Hr	2	1	0	0	1	0	0	4	36	0	0	0	0	0	0	36	182	22	4	2	1	0	0	211	251
16:00	3	0	0	0	1	0	0	4	6	0	0	0	0	0	0	6	62	5	1	1	1	0	0	70	80
16:15	1	0	0	0	0	0	0	1	13	0	0	0	0	0	0	13	68	9	1	1	2	0	1	82	96
16:30	1	1	0	0	0	0	0	2	13	0	0	0	0	0	0	13	64	9	0	1	0	0	0	74	89
16:45	2	0	0	0	0	0	0	2	14	0	1	0	0	0	0	15	62	8	1	1	0	0	0	72	89
1 Hr	7	1	0	0	1	0	0	9	46	0	1	0	0	0	0	47	256	31	3	4	3	0	1	298	354
17:00	2	0	0	0	0	0	0	2	8	0	0	0	0	0	0	8	64	6	1	3	0	0	0	74	84
17:15	2	0	0	0	0	0	0	2	13	2	0	0	0	0	0	15	52	11	0	1	0	0	0	64	81
17:30	0	1	0	0	0	0	0	1	18	3	0	0	0	0	1	22	59	12	0	0	0	0	0	71	94
17:45	1	1	0	0	0	0	0	2	16	0	0	0	0	0	0	16	81	6	1	0	0	0	0	88	106
1 Hr	5	2	0	0	0	0	0	7	55	5	0	0	0	0	1	61	256	35	2	4	0	0	0	297	365
18:00	1	0	0	0	0	0	0	1	17	0	0	0	0	0	1	18	66	5	0	1	0	0	0	72	91
18:15	1	1	0	0	0	0	0	2	21	0	0	0	0	0	0	21	47	4	1	0	0	0	0	52	75
18:30	1	0	0	0	0	0	0	1	11	0	0	0	0	0	0	11	54	2	0	0	0	0	0	56	68
18:45	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11	55	4	0	0	0	0	0	59	70
1 Hr	3	1	0	0	0	0	0	4	60	0	0	0	0	0	1	61	222	15	1	1	0	0	0	239	304
Total	52	10	3	0	3	0	0	68	416	15	1	0	1	0	4	437	2380	276	39	20	14	4	5	2738	3243

Origin : Arm B Courtown Road

	Destination : Arm A Bridge Street	Total	Destination : Arm B Courtown Road	Total	Destination : Arm C R125	Total	Arm

Tracsis plc
Traffic and Data Services

3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 1 - Bridge Street / Courtown Road / R125

Origin : Arm C R125

Destination : Arm A Bridge Street

	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total
07:00	8	2	0	0	0	0	0	10
07:15	12	2	0	0	0	0	0	14
07:30	17	0	0	0	0	0	0	17
07:45	21	1	0	0	0	0	0	22
1 Hr	58	5	0	0	0	0	0	63
08:00	22	1	0	0	0	0	0	23
08:15	18	0	0	0	0	0	0	18
08:30	23	0	0	0	0	0	1	24
08:45	24	0	0	0	0	0	0	24
1 Hr	87	1	0	0	0	0	1	89
09:00	13	2	1	0	0	0	0	16
09:15	9	1	0	0	0	0	0	10
09:30	15	1	1	0	0	0	0	17
09:45	9	1	0	0	0	0	0	10
1 Hr	46	5	2	0	0	0	0	53
10:00	7	0	0	0	0	0	0	7
10:15	6	1	0	0	0	0	0	7
10:30	8	1	0	0	0	0	0	9
10:45	8	2	0	0	0	0	0	10
1 Hr	29	4	0	0	0	0	0	33
11:00	1	0	0	0	0	0	0	1
11:15	11	0	0	0	0	0	0	11
11:30	8	0	0	0	0	0	0	8
11:45	7	0	0	0	0	0	0	7
1 Hr	27	0	0	0	0	0	0	27
12:00	6	1	0	0	0	0	0	7
12:15	9	0	0	0	0	0	0	9
12:30	10	0	0	0	0	0	0	10
12:45	6	0	0	0	0	0	0	6
1 Hr	31	1	0	0	0	0	0	32
13:00	0	1	0	0	0	0	0	1
13:15	7	3	0	0	0	0	0	10
13:30	11	0	0	0	0	0	0	11
13:45	9	0	0	0	0	0	0	9
1 Hr	27	4	0	0	0	0	0	31
14:00	8	1	0	0	0	0	0	9
14:15	15	0	0	0	0	0	0	15
14:30	7	0	0	0	0	0	0	7
14:45	8	0	0	0	0	0	0	8
1 Hr	38	1	0	0	0	0	0	39
15:00	8	0	0	0	0	0	0	8
15:15	5	0	0	0	0	0	0	5
15:30	13	1	0	0	0	0	0	14
15:45	9	0	0	0	0	0	0	9
1 Hr	35	1	0	0	0	0	0	36
16:00	10	1	0	0	0	0	0	11
16:15	11	0	0	0	0	0	0	11
16:30	8	0	0	0	0	0	0	8
16:45	10	0	0	0	0	0	0	10
1 Hr	39	1	0	0	0	0	0	40
17:00	10	1	0	0	0	0	0	11
17:15	10	1	0	0	0	0	1	12
17:30	8	0	0	0	0	0	0	8
17:45	10	3	0	0	0	0	0	13
1 Hr	38	5	0	0	0	0	1	44
18:00	11	0	0	0	0	0	0	11
18:15	13	0	0	0	0	0	0	13
18:30	9	0	0	0	0	0	0	9
18:45	18	2	0	0	0	0	0	20
1 Hr	51	2	0	0	0	0	0	53
Total	506	30	2	0	0	0	2	540

Destination : Arm B Courtown Road

	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0

Destination : Arm C R125

	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Arm Totals
07:00	6	0	0	0	0	0	0	6	16
07:15	9	1	0	0	0	0	0	10	24
07:30	7	1	0	0	0	0	0	8	25
07:45	11	1	0	0	0	0	0	12	34
1 Hr	33	3	0	0	0	0	0	36	99
08:00	7	2	0	0	0	0	0	9	32
08:15	10	1	0	0	0	0	0	11	29
08:30	4	0	0	0	0	0	0	4	28
08:45	22	0	0	0	0	0	0	22	46
1 Hr	43	3	0	0	0	0	0	46	135
09:00	17	1	0	0	0	0	0	18	34
09:15	12	0	0	0	0	0	0	12	22
09:30	6	2	0	0	0	0	0	8	25
09:45	3	0	0	0	0	0	0	3	13
1 Hr	38	3	0	0	0	0	0	41	94
10:00	2	0	0	0	0	0	0	2	9
10:15	4	1	0	0	0	0	0	5	12
10:30	4	0	1	0	0	0	0	5	14
10:45	2	0	0	0	0	0	0	2	12
1 Hr	12	1	1	0	0	0	0	14	47
11:00	5	0	0	0	0	0	0	5	6
11:15	5	0	0	0	0	0	0	5	16
11:30	4	0	0	0	0	0	0	4	12
11:45	5	0	0	0	0	0	0	5	12
1 Hr	19	0	0	0	0	0	0	19	46
12:00	4	0	0	0	0	0	0	4	11
12:15	6	0	0	0	0	0	0	6	15
12:30	3	1	0	0	0	0	0	4	14
12:45	4	0	0	0	0	0	0	4	10
1 Hr	17	1	0	0	0	0	0	18	50
13:00	5	0	0	0	0	0	0	5	6
13:15	3	0	0	0	0	0	0	3	13
13:30	3	0	0	0	0	0	0	3	14
13:45	9	1	0	0	0	0	0	10	19
1 Hr	20	1	0	0	0	0	0	21	52
14:00	2	1	0	0	0	0	0	3	12
14:15	4	0	0	0	0	0	0	4	19
14:30	8	1	0	0	0	0	0	9	18
14:45	7	2	0	0	0	0	0	9	17
1 Hr	21	4	0	0	0	0	0	25	64
15:00	4	0	0	0	0	0	0	4	12
15:15	5	0	0	0	0	0	0	5	10
15:30	4	0	0	0	0	0	0	4	18
15:45	7	0	0	0	0	0	0	7	16
1 Hr	20	0	0	0	0	0	0	20	56
16:00	7	0	0	0	0	0	0	7	18
16:15	9	2	0	0	0	0	0	11	22
16:30	5	0	0	0	0	0	0	5	13
16:45	7	1	0	0	0	0	0	8	18
1 Hr	28	3	0	0	0	0	0	31	71
17:00	3	0	1	0	0	0	0	4	15
17:15	9	0	1	0	0	0	0	10	22
17:30	10	0	0	0	0	0	0	10	18
17:45	7	1	0	0	0	0	0	8	21
1 Hr	29	1	2	0	0	0	0	32	76
18:00	7	0	0	0	0	0	0	7	18
18:15	5	1	0	0	0	0	0	6	19
18:30	6	0	0	0	0	0	0	6	15
18:45	6	1	0	0	0	0	0	7	27
1 Hr	24	2	0	0	0	0	0	26	78
Total	304	22	3	0	0	0	0	329	869

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3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 1 - Bridge Street / Courtown Road / R125

07:00	37	6	0	0	0	0	0	43	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	46
07:15	57	11	0	0	0	0	0	68	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	76
07:30	51	14	1	0	0	0	0	66	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	68
07:45	71	11	3	0	0	0	0	85	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	91
1 Hr	216	42	4	0	0	0	0	262	19	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	281
08:00	57	9	0	0	0	0	0	66	4	1	0	1	0	0	0	6	0	0	0	0	0	0	0	0	72
08:15	77	9	1	0	1	0	0	88	5	0	0	0	0	0	0	5	2	0	0	0	0	0	0	2	95
08:30	80	10	0	0	2	0	0	92	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	97
08:45	100	11	1	0	1	0	0	113	6	1	0	0	0	0	0	7	2	0	0	0	0	0	0	2	122
1 Hr	314	39	2	0	4	0	0	359	20	2	0	1	0	0	0	23	4	0	0	0	0	0	0	4	386
09:00	93	5	1	0	0	0	0	99	12	1	0	0	0	0	0	13	1	0	0	0	0	0	0	1	113
09:15	93	11	3	0	0	0	1	108	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	115
09:30	34	5	0	1	0	0	0	40	3	1	1	0	0	0	0	5	0	0	0	0	0	0	0	0	45
09:45	43	10	2	0	0	0	0	55	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	60
1 Hr	263	31	6	1	0	0	1	302	26	3	1	0	0	0	0	30	1	0	0	0	0	0	0	1	333
10:00	23	4	0	0	0	0	0	27	2	1	1	0	0	0	0	4	0	0	0	0	0	0	0	0	31
10:15	34	4	0	0	0	0	0	38	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	43
10:30	39	8	1	0	0	0	0	48	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	49
10:45	37	7	1	0	1	0	0	46	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	50
1 Hr	133	23	2	0	1	0	0	159	10	3	1	0	0	0	0	14	0	0	0	0	0	0	0	0	173
11:00	28	8	2	1	1	1	0	41	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	46
11:15	34	5	1	0	0	0	0	40	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	42
11:30	25	5	2	0	0	0	2	34	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	37
11:45	43	8	1	0	0	0	1	53	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	54
1 Hr	130	26	6	1	1	1	3	168	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	179
12:00	36	4	0	0	0	0	1	41	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	45
12:15	38	6	1	0	0	0	0	45	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	48
12:30	42	8	1	0	0	0	0	51	3	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	56
12:45	45	4	1	0	0	0	1	51	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	53
1 Hr	161	22	3	0	0	0	2	188	11	3	0	0	0	0	0	14	0	0	0	0	0	0	0	0	202
13:00	35	9	2	0	0	0	0	46	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	52
13:15	45	5	0	0	1	0	0	51	10	0	0	0	0	0	0	10	1	0	0	0	0	0	0	1	62
13:30	37	2	1	1	0	0	0	41	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	47
13:45	42	7	2	1	0	0	0	52	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	61
1 Hr	159	23	5	2	1	0	0	190	31	0	0	0	0	0	0	31	1	0	0	0	0	0	0	1	222
14:00	72	3	0	0	0	0	0	75	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0	81
14:15	70	6	3	0	0	0	1	80	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	87
14:30	47	8	0	0	1	0	0	56	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0	62
14:45	36	10	3	0	0	0	0	49	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	56
1 Hr	225	27	6	0	1	0	1	260	24	2	0	0	0	0	0	26	0	0	0	0	0	0	0	0	286
15:00	88	12	3	1	0	0	0	104	18	1	0	0	0	0	0	19	0	0	0	0	0	0	0	0	123
15:15	61	8	2	1	1	0	0	73	12	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	85
15:30	69	5	0	1	0	0	0	75	9	1	0	0	0	0	0	10	0	0	0	0	0	0	0	0	85
15:45	62	7	0	0	2	0	0	71	5	3	0	0	0	0	0	8	0	0	0	0	0	0	0	0	79
1 Hr	280	32	5	3	3	0	0	323	44	5	0	0	0	0	0	49	0	0	0	0	0	0	0	0	372
16:00	84	3	1	1	1	0	0	90	15	1	0	1	0	0	0	17	3	0	0	0	0	0	0	3	110
16:15	68	3	0	0	2	2	0	75	14	2	0	0	0	0	0	16	0	0	0	0	0	0	0	0	91
16:30	72	14	3	0	0	0	0	89	15	1	0	0	0	0	0	16	0	0	0	0	0	0	0	0	105
16:45	60	10	1	0	0	0	0	71	18	1	0	0	0	0	0	19	0	0	0	1	0	0	0	1	91
1 Hr	284	30	5	1	3	2	0	325	62	5	0	1	0	0	0	68	3	0	0	1	0	0	0	4	397
17:00	79	12	4	0	0	1	0	96	12	2	1	0	0	0	0	15	0	0	0	0	0	0	0	0	111
17:15	90	15	2	0	0	0	1	108	15	4	0	0	0	0	0	19	1	0	0	0	0	0	0	1	128
17:30	78	9	1	0	0	2	0	90	29	1	0	0	0	0	0	30	2	0	0	0	0	0	0	2	122
17:45	70	8	2	0	0	0	0	80	26	1	0	0	0	0	0	27	1	0	0	0	0	0	0	1	108
1 Hr	317	44	9	0	0	3	1	374	82	8	1	0	0	0	0	91	4	0	0	0	0	0	0	4	469
18:00	75	3	0	0	0	0	0	78	15	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	93
18:15	73	4	0	0	0	1	0	78	21	1	0	0	0	0	0	22	1	0	0	0	0	0	0	1	101
18:30	59	8	1	0	0	0	0	68	9	2	0	0	0	0	0	11	0	0	0	0	0	0	0	0	79
18:45	77	4	0	0	0	1	0	82	15	0	0	0	0	0	0	15	1	0	0	0	0	0	0	1	98
1 Hr	284	19	1	0	0	2	0	306	60	3	0	0	0	0	0	63	2	0	0	0	0	0	0	2	371
Total	2766	358	54	8	14	8	8	3216	400	34	3	2	0	0	0	439	15	0	0	1	0	0	0	16	3671

ORIGIN SUMMARY

	Origin : Arm A Bridge Street							Total	Origin : Arm B Courtown Road							Total	Origin : Arm C R125							Total	Origin Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		
07:00	31	7	1	0	1	0	0	40	14	2	0	0	0	0	0	16	40	6	0	0	0	0	0	46	102
07:15	50	7	0	1	3	0	1	62	21	3	0	0	0	0	0	24	65	11	0	0	0	0	0	76	162

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Junction Turning Count
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Site 1 - Bridge Street / Courtown Road / R125

07:30	48	10	0	0	1	0	1	60		24	1	0	0	0	0	0	25		53	14	1	0	0	0	0	68		153
07:45	41	4	2	0	0	1	0	48		32	2	0	0	0	0	0	34		77	11	3	0	0	0	0	91		173
1 Hr	170	28	3	1	5	1	2	210		91	8	0	0	0	0	0	99		235	42	4	0	0	0	0	281		590
08:00	62	7	0	1	0	0	0	70		29	3	0	0	0	0	0	32		61	10	0	1	0	0	0	72		174
08:15	51	11	2	0	4	1	0	69		28	1	0	0	0	0	0	29		84	9	1	0	1	0	0	95		193
08:30	74	9	1	0	1	1	0	86		27	0	0	0	0	0	1	28		85	10	0	0	2	0	0	97		211
08:45	99	11	1	0	0	0	0	111		46	0	0	0	0	0	0	46		108	12	1	0	1	0	0	122		279
1 Hr	286	38	4	1	5	2	0	336		130	4	0	0	0	0	1	135		338	41	2	1	4	0	0	386		857
09:00	105	2	0	0	0	0	0	107		30	3	1	0	0	0	0	34		106	6	1	0	0	0	0	113		254
09:15	80	7	2	0	0	0	0	89		21	1	0	0	0	0	0	22		100	11	3	0	0	0	1	115		226
09:30	53	10	2	0	0	0	0	65		21	3	1	0	0	0	0	25		37	6	1	1	0	0	0	45		135
09:45	37	4	1	0	0	0	0	42		12	1	0	0	0	0	0	13		47	11	2	0	0	0	0	60		115
1 Hr	275	23	5	0	0	0	0	303		84	8	2	0	0	0	0	94		290	34	7	1	0	0	1	333		730
10:00	39	8	1	0	0	0	1	49		9	0	0	0	0	0	0	9		25	5	1	0	0	0	0	31		89
10:15	44	4	0	1	0	0	0	49		10	2	0	0	0	0	0	12		38	5	0	0	0	0	0	43		104
10:30	42	6	0	0	0	0	0	48		12	1	1	0	0	0	0	14		40	8	1	0	0	0	0	49		111
10:45	44	3	0	0	0	0	0	47		10	2	0	0	0	0	0	12		40	8	1	0	1	0	0	50		109
1 Hr	169	21	1	1	0	0	1	193		41	5	1	0	0	0	0	47		143	26	3	0	1	0	0	173		413
11:00	42	4	2	0	0	0	0	48		6	0	0	0	0	0	0	6		33	8	2	1	1	1	0	46		100
11:15	38	7	1	0	0	0	0	46		16	0	0	0	0	0	0	16		36	5	1	0	0	0	0	42		104
11:30	41	7	1	0	0	0	0	49		12	0	0	0	0	0	0	12		28	5	2	0	0	0	2	37		98
11:45	41	7	5	1	0	0	0	54		12	0	0	0	0	0	0	12		44	8	1	0	0	0	1	54		120
1 Hr	162	25	9	1	0	0	0	197		46	0	0	0	0	0	0	46		141	26	6	1	1	1	3	179		422
12:00	58	2	1	2	0	0	2	65		10	1	0	0	0	0	0	11		40	4	0	0	0	0	1	45		121
12:15	49	2	1	1	0	0	0	53		15	0	0	0	0	0	0	15		40	7	1	0	0	0	0	48		116
12:30	47	6	0	0	0	0	0	53		13	1	0	0	0	0	0	14		45	10	1	0	0	0	0	56		123
12:45	47	3	0	1	0	0	0	51		10	0	0	0	0	0	0	10		47	4	1	0	0	0	1	53		114
1 Hr	201	13	2	4	0	0	2	222		48	2	0	0	0	0	0	50		172	25	3	0	0	0	2	202		474
13:00	56	9	0	0	0	0	0	65		5	1	0	0	0	0	0	6		41	9	2	0	0	0	0	52		123
13:15	41	8	2	0	0	1	0	52		10	3	0	0	0	0	0	13		56	5	0	0	1	0	0	62		127
13:30	68	2	1	1	0	0	0	72		14	0	0	0	0	0	0	14		43	2	1	1	0	0	0	47		133
13:45	51	2	0	0	0	0	0	53		16	1	0	0	0	0	0	19		51	7	2	1	0	0	0	61		133
1 Hr	216	21	3	1	0	1	0	242		47	5	0	0	0	0	0	52		191	23	5	2	1	0	0	222		516
14:00	49	4	1	0	0	0	0	54		10	2	0	0	0	0	0	12		77	4	0	0	0	0	0	81		147
14:15	49	6	2	0	0	0	0	57		19	0	0	0	0	0	0	19		77	6	3	0	0	0	1	87		163
14:30	71	4	1	0	2	0	0	78		15	1	0	0	0	0	0	16		52	9	0	0	1	0	0	62		156
14:45	70	5	1	0	0	0	1	77		15	2	0	0	0	0	0	17		43	10	3	0	0	0	0	56		150
1 Hr	239	19	5	0	2	0	1	266		59	5	0	0	0	0	0	64		249	29	6	0	1	0	1	286		616
15:00	43	7	0	0	0	0	0	50		12	0	0	0	0	0	0	12		106	13	3	1	0	0	0	123		185
15:15	53	3	3	1	0	0	0	60		10	0	0	0	0	0	0	10		73	8	2	1	1	0	0	85		155
15:30	64	11	1	0	0	0	0	76		17	1	0	0	0	0	0	18		78	6	0	1	0	0	0	85		179
15:45	60	2	0	1	2	0	0	65		16	0	0	0	0	0	0	16		67	10	0	0	2	0	0	79		160
1 Hr	220	23	4	2	2	0	0	251		55	1	0	0	0	0	0	56		324	37	5	3	3	0	0	372		679
16:00	71	5	1	1	2	0	0	80		17	1	0	0	0	0	0	18		102	4	1	2	1	0	0	110		208
16:15	82	9	1	1	2	0	1	96		20	2	0	0	0	0	0	22		82	5	0	0	2	2	0	91		209
16:30	78	10	0	1	0	0	0	89		13	0	0	0	0	0	0	13		87	15	3	0	0	0	0	105		207
16:45	78	8	2	1	0	0	0	89		17	1	0	0	0	0	0	18		78	11	1	1	0	0	0	91		198
1 Hr	309	32	4	4	4	0	1	354		67	4	0	0	0	0	0	71		349	35	5	3	3	2	0	397		822
17:00	74	6	1	3	0	0	0	84		13	1	1	0	0	0	0	15		91	14	5	0	0	1	0	111		210
17:15	67	13	0	1	0	0	0	81		19	1	1	0	0	0	1	22		106	19	2	0	0	0	1	128		231
17:30	77	16	0	0	0	0	1	94		18	0	0	0	0	0	0	18		109	10	1	0	0	2	0	122		234
17:45	98	7	1	0	0	0	0	106		17	4	0	0	0	0	0	21		97	9	2	0	0	0	0	108		235
1 Hr	316	42	2	4	0	0	1	365		67	6	2	0	0	0	1	76		403	52	10	0	0	3	1	469		910
18:00	84	5	0	1	0	0	1	91		18	0	0	0	0	0	0	18		90	3	0	0	0	0	0	93		202
18:15	69	5	1	0	0	0	0	75		18	1	0	0	0	0	0	19		95	5	0	0	0	1	0	101		195
18:30	66	2	0	0	0	0	0	68		15	0	0	0	0	0	0	15		68	10	1	0	0	0	0	79		162
18:45	66	4	0	0	0	0	0	70		24	3	0	0	0	0	0	27		93	4	0	0	0	1	0	98		195
1 Hr	285	16	1	1	0	0	1	304		75	4	0	0	0	0	0	79		346	22	1	0	0	2	0	371		754
Total	2848	301	43	20	18	4	9	3243		810	52	5	0	0	0	2	869		3181	392	57	11	14	8	8	3671		7783

DESTINATION SUMMARY

	Destination : Arm A Bridge Street							Total	Destination : Arm B Courtown Road							Total	Destination : Arm C R125							Total	Dest Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		
07:00	45	8	0	0	0	0	0	53	7	0	0	0	0	0	0	7	33	7	1	0	1	0	0	42	102
07:15	72	13	0	0	0	0	0	85	11	1	0	0	1	0	1	14	53	7	0	1	2	0	0	63	162
07:30	72	15	1	0	0	0	0	88	4	1	0	0	0	0	0	5	49	9	0	0	1	0	1	60	153
07:45	92	12	4	0	0	0	0	108	11	1	0	0	0	0	0	12	47	4	1	0	0	1	0	53	173

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3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 1 - Bridge Street / Courtown Road / R125

1 Hr	281	48	5	0	0	0	0	334	33	3	0	0	1	0	1	38	182	27	2	1	4	1	1	218	590
08:00	80	10	0	0	0	0	0	90	11	2	0	1	0	0	0	14	61	8	0	1	0	0	0	70	174
08:15	100	9	2	0	2	0	0	113	7	0	0	0	0	0	0	7	56	12	1	0	3	1	0	73	193
08:30	103	11	0	0	2	0	1	117	9	1	0	0	0	0	0	10	74	7	1	0	1	1	0	84	211
08:45	126	11	1	0	1	0	0	139	10	1	0	0	0	0	0	11	117	11	1	0	0	0	0	129	279
1 Hr	409	41	3	0	5	0	1	459	37	4	0	1	0	0	0	42	308	38	3	1	4	2	0	356	857
09:00	107	7	2	0	0	0	0	116	19	1	0	0	0	0	0	20	115	3	0	0	0	0	0	118	254
09:15	102	13	3	0	0	0	1	119	14	1	0	0	0	0	0	15	85	5	2	0	0	0	0	92	226
09:30	49	6	1	1	0	0	0	57	8	1	1	0	0	0	0	10	54	12	2	0	0	0	0	68	135
09:45	53	12	2	0	0	0	0	67	8	1	0	0	0	0	0	9	35	3	1	0	0	0	0	39	115
1 Hr	311	38	8	1	0	0	1	359	49	4	1	0	0	0	0	54	289	23	5	0	0	0	0	317	730
10:00	30	4	0	0	0	0	0	34	9	1	1	0	0	0	1	12	34	8	1	0	0	0	0	43	89
10:15	42	5	0	0	0	0	0	47	13	1	0	0	0	0	0	14	37	5	0	1	0	0	0	43	104
10:30	47	9	1	0	0	0	0	57	11	1	0	0	0	0	0	12	36	5	1	0	0	0	0	42	111
10:45	45	9	1	0	1	0	0	56	13	1	0	0	0	0	0	14	36	3	0	0	0	0	0	39	109
1 Hr	164	27	2	0	1	0	0	194	46	4	1	0	0	0	1	52	143	21	2	1	0	0	0	167	413
11:00	29	8	2	1	1	1	0	42	8	0	0	0	0	0	0	8	44	4	2	0	0	0	0	50	100
11:15	45	5	1	0	0	0	0	51	4	0	0	0	0	0	0	4	41	7	1	0	0	0	0	49	104
11:30	35	5	2	0	0	0	2	44	10	0	0	0	0	0	0	10	36	7	1	0	0	0	0	44	98
11:45	50	8	1	0	0	0	1	60	9	0	0	0	0	0	0	9	38	7	5	1	0	0	0	51	120
1 Hr	159	26	6	1	1	1	3	197	31	0	0	0	0	0	0	31	159	25	9	1	0	0	0	194	422
12:00	45	5	0	0	0	0	1	51	17	0	0	0	0	0	0	17	46	2	1	2	0	0	2	53	121
12:15	47	6	1	0	0	0	0	54	10	1	0	0	0	0	0	11	47	2	1	1	0	0	0	51	116
12:30	52	8	1	0	0	0	0	61	13	3	0	0	0	0	0	16	40	6	0	0	0	0	0	46	123
12:45	54	4	1	0	0	0	1	60	10	0	0	0	0	0	0	10	40	3	0	1	0	0	0	44	114
1 Hr	198	23	3	0	0	0	2	226	50	4	0	0	0	0	0	54	173	13	2	4	0	0	2	194	474
13:00	36	11	2	0	0	0	0	49	19	1	0	0	0	0	0	20	47	7	0	0	0	0	0	54	123
13:15	53	8	0	0	1	0	0	62	15	1	0	0	0	0	0	16	39	7	2	0	0	1	0	49	127
13:30	49	2	1	1	0	0	0	53	16	0	0	0	0	0	0	16	60	2	1	1	0	0	0	64	133
13:45	53	7	2	1	0	0	0	63	14	0	0	0	0	0	0	14	53	3	0	0	0	0	0	56	133
1 Hr	191	28	5	2	1	0	0	227	64	2	0	0	0	0	0	66	199	19	3	1	0	1	0	223	516
14:00	80	4	0	0	0	0	0	84	9	1	0	0	0	0	0	10	47	5	1	0	0	0	0	53	147
14:15	86	6	4	0	0	0	1	97	12	0	0	0	0	0	0	12	47	6	1	0	0	0	0	54	163
14:30	55	8	0	0	1	0	0	64	20	1	0	0	0	0	0	21	63	5	1	0	2	0	0	71	156
14:45	45	10	3	0	0	0	0	58	20	0	0	0	0	0	0	20	63	7	1	0	0	0	1	72	150
1 Hr	266	28	7	0	1	0	1	303	61	2	0	0	0	0	0	63	220	23	4	0	2	0	1	250	616
15:00	96	12	3	1	0	0	0	112	22	1	0	0	0	0	0	23	43	7	0	0	0	0	0	50	185
15:15	67	8	2	1	1	0	0	79	21	0	0	0	0	0	0	21	48	3	3	1	0	0	0	55	155
15:30	83	6	0	1	0	0	0	90	21	1	0	0	0	0	0	22	55	11	1	0	0	0	0	67	179
15:45	71	8	0	0	3	0	0	82	16	3	0	0	0	0	0	19	56	1	0	1	1	0	0	59	160
1 Hr	317	34	5	3	4	0	0	363	80	5	0	0	0	0	0	85	202	22	4	2	1	0	0	231	679
16:00	97	4	1	1	2	0	0	105	21	1	0	1	0	0	0	23	72	5	1	1	1	0	0	80	208
16:15	80	3	0	0	2	2	0	87	27	2	0	0	0	0	0	29	77	11	1	1	2	0	1	93	209
16:30	81	15	3	0	0	0	0	99	28	1	0	0	0	0	0	29	69	9	0	1	0	0	0	79	207
16:45	72	10	1	0	0	0	0	83	32	1	1	0	0	0	0	34	69	9	1	2	0	0	0	81	198
1 Hr	330	32	5	1	4	2	0	374	108	5	1	1	0	0	0	115	287	34	3	5	3	0	1	333	822
17:00	91	13	4	0	0	1	0	109	20	2	1	0	0	0	0	23	67	6	2	3	0	0	0	78	210
17:15	102	16	2	0	0	0	2	122	28	6	0	0	0	0	0	34	62	11	1	1	0	0	0	75	231
17:30	86	10	1	0	0	2	0	99	47	4	0	0	0	0	1	52	71	12	0	0	0	0	0	83	234
17:45	81	12	2	0	0	0	0	95	42	1	0	0	0	0	0	43	89	7	1	0	0	0	0	97	235
1 Hr	360	51	9	0	0	3	2	425	137	13	1	0	0	0	1	152	289	36	4	4	0	0	0	333	910
18:00	87	3	0	0	0	0	0	90	32	0	0	0	0	0	1	33	73	5	0	1	0	0	0	79	202
18:15	87	5	0	0	0	1	0	93	42	1	0	0	0	0	0	43	53	5	1	0	0	0	0	59	195
18:30	69	8	1	0	0	0	0	78	20	2	0	0	0	0	0	22	60	2	0	0	0	0	0	62	162
18:45	95	6	0	0	0	1	0	102	26	0	0	0	0	0	0	26	62	5	0	0	0	0	0	67	195
1 Hr	338	22	1	0	0	2	0	363	120	3	0	0	0	0	1	124	246	17	1	1	0	0	0	267	754
Total	3324	398	59	8	17	8	10	3824	816	49	4	2	1	0	4	876	2699	298	42	21	14	4	5	3083	7783

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3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 2 - Brayton Park / R125 (E) / Courtown Road (W)

Origin : Arm A Brayton Park

	Destination : Arm A Brayton Park								Destination : Arm B R125 (E)								Destination : Arm C Courtown Road (W)								Arm Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	
07:00	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	5	1	0	0	0	0	0	6	11
07:15	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11	3	1	0	0	0	0	1	5	16
07:30	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	11	7	0	0	0	0	0	0	7	18
07:45	0	0	0	0	0	0	0	0	15	2	0	0	0	0	0	17	5	1	0	0	0	0	0	6	23
1 Hr	0	0	0	0	0	0	0	0	41	3	0	0	0	0	0	44	20	3	0	0	0	0	1	24	68
08:00	0	0	0	0	0	0	0	0	10	3	1	0	0	0	0	14	8	0	0	0	0	0	0	8	22
08:15	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	3	0	0	0	0	0	0	3	21
08:30	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	12	3	0	0	0	1	0	0	4	16
08:45	0	0	0	0	0	0	0	0	20	2	0	0	0	0	0	22	2	1	0	0	0	0	0	3	25
1 Hr	0	0	0	0	0	0	0	0	58	7	1	0	0	0	0	66	16	1	0	0	1	0	0	18	84
09:00	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	52	30	1	0	0	3	0	0	34	86
09:15	0	0	0	0	0	0	0	0	56	2	0	0	0	0	0	58	15	1	0	0	1	0	0	17	75
09:30	0	0	0	0	0	0	0	0	12	0	1	0	0	0	0	13	10	0	0	1	1	0	0	12	25
09:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	4	0	0	0	0	0	0	4	7
1 Hr	0	0	0	0	0	0	0	0	123	2	1	0	0	0	0	126	59	2	0	1	5	0	0	67	193
10:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	3
10:15	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	7	7	0	0	0	0	0	0	7	14
10:30	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	9	5	0	0	0	0	0	0	5	14
10:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	3
1 Hr	0	0	0	0	0	0	0	0	17	3	0	0	0	0	0	20	14	0	0	0	0	0	0	14	34
11:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	3
11:15	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	4	0	0	0	0	0	0	4	10
11:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	6
11:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	6
1 Hr	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	14	11	0	0	0	0	0	0	11	25
12:00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	1	1	0	0	0	0	0	2	7
12:15	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	6	0	0	0	0	0	0	6	13
12:30	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	3	0	0	0	0	0	0	3	8
12:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
1 Hr	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	20	10	1	0	0	0	0	0	11	31
13:00	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	6	3	1	0	0	0	0	0	4	10
13:15	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	2	0	0	0	0	0	0	2	8
13:30	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9	2	1	0	0	0	0	0	3	12
13:45	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	7	6	1	0	0	0	0	0	7	14
1 Hr	0	0	0	0	0	0	0	0	24	3	1	0	0	0	0	28	13	3	0	0	0	0	0	16	44
14:00	0	0	0	0	0	0	0	0	24	1	0	0	0	0	0	25	9	0	0	0	0	0	0	9	34
14:15	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	12	4	0	0	0	1	0	0	5	17
14:30	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	4	0	0	0	1	0	0	5	12
14:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4	8
1 Hr	0	0	0	0	0	0	0	0	46	2	0	0	0	0	0	48	21	0	0	0	2	0	0	23	71
15:00	0	0	0	0	0	0	0	0	52	3	0	0	0	0	0	55	26	1	0	0	4	0	0	31	86
15:15	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13	11	0	0	0	0	0	0	11	24
15:30	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	16	3	0	0	0	0	0	0	3	19
15:45	0	0	0	0	0	0	0	0	8	2	0	0	0	0	0	10	3	0	0	0	0	0	0	3	13
1 Hr	0	0	0	0	0	0	0	0	89	5	0	0	0	0	0	94	43	1	0	0	4	0	0	48	142
16:00	0	0	0	0	0	0	0	0	40	0	0	0	0	0	0	40	22	0	0	0	0	0	0	22	62
16:15	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	10	7	0	0	0	0	0	0	7	17
16:30	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	10	8	0	0	0	0	0	0	8	18
16:45	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	6	3	0	0	0	0	0	0	3	9
1 Hr	0	0	0	0	0	0	0	0	64	2	0	0	0	0	0	66	40	0	0	0	0	0	0	40	106
17:00	0	0	0	0	0	0	0	0	10	1	0	0	0	0	0	11	5	0	0	0	0	0	0	5	16
17:15	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7	3	0	0	0	0	0	0	3	10
17:30	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	13	10	3	0	0	0	0	0	13	26
17:45	0	0	0	0	0	0	0	0	11	0	1	0	0	0	0	12	4	0	0	0	0	0	0	4	16
1 Hr	0	0	0	0	0	0	0	0	39	3	1	0	0	0	0	43	22	3	0	0	0	0	0	25	68

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Traffic and Data Services

3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 2 - Brayton Park / R125 (E) / Courtown Road (W)

Time	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Arm Totals
18:00	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	4	0	0	0	0	0	0	4	16
18:15	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	6	1	0	0	0	0	0	7	14
18:30	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	12	8	0	0	0	0	1	0	9	21
18:45	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	12	6	0	0	0	0	0	0	6	18
1 Hr	0	0	0	0	0	0	0	0	41	2	0	0	0	0	0	43	24	1	0	0	0	1	0	26	69
Total	0	0	0	0	0	0	0	0	575	33	4	0	0	0	0	612	293	15	0	1	12	1	1	323	935

Origin : Arm B R125 (E)

	Destination : Arm A Brayton Park								Destination : Arm B R125 (E)								Destination : Arm C Courtown Road (W)								
Time	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Arm Totals
07:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	34	7	1	0	1	0	0	43	44
07:15	4	1	0	1	0	0	0	6	0	0	0	0	0	0	0	0	50	8	0	0	2	0	0	60	66
07:30	8	0	0	0	0	0	0	8	0	1	0	0	0	0	0	1	41	9	0	0	1	0	1	52	61
07:45	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	42	4	1	0	0	1	0	48	52
1 Hr	16	2	0	1	0	0	0	19	0	1	0	0	0	0	0	1	167	28	2	0	4	1	1	203	223
08:00	2	1	0	1	0	0	0	4	0	0	0	0	0	0	0	0	58	8	0	0	0	0	0	66	70
08:15	6	2	0	0	0	0	0	8	0	0	0	0	0	0	0	0	50	10	1	0	3	2	0	66	74
08:30	10	2	0	0	1	0	0	13	0	0	0	0	0	0	0	0	64	5	1	0	0	1	0	71	84
08:45	30	0	0	0	0	0	0	30	0	0	0	0	0	0	0	0	84	10	1	0	0	0	0	95	125
1 Hr	48	5	0	1	1	0	0	55	0	0	0	0	0	0	0	0	256	33	3	0	3	3	0	298	353
09:00	54	4	0	0	0	0	0	58	0	0	0	0	0	0	0	0	62	2	0	0	0	0	0	64	122
09:15	32	1	0	0	0	0	0	33	0	0	0	0	0	0	0	0	53	4	2	0	0	0	1	60	93
09:30	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	47	11	2	0	0	0	1	61	69
09:45	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	29	2	1	0	0	0	0	32	36
1 Hr	98	5	0	0	0	0	0	103	0	0	0	0	0	0	0	0	191	19	5	0	0	0	2	217	320
10:00	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	33	8	1	0	0	0	0	42	45
10:15	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	31	6	0	1	0	0	0	38	42
10:30	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	35	4	1	0	0	0	0	40	43
10:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	32	4	0	0	0	0	1	37	39
1 Hr	10	2	0	0	0	0	0	12	0	0	0	0	0	0	0	0	131	22	2	1	0	0	1	157	169
11:00	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	39	4	2	0	0	0	0	45	51
11:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	36	7	1	0	0	0	0	44	49
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	8	1	0	0	0	0	44	44
11:45	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	36	7	5	1	0	0	0	49	51
1 Hr	12	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	146	26	9	1	0	0	0	182	195
12:00	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	39	2	1	2	0	0	2	46	53
12:15	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0	40	2	1	1	0	0	0	44	51
12:30	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	35	6	0	0	0	0	0	41	46
12:45	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	35	4	0	1	0	0	0	40	44
1 Hr	21	2	0	0	0	0	0	23	0	0	0	0	0	0	0	0	149	14	2	4	0	0	2	171	194
13:00	5	0	0	0	0	0	0	5	1	0	0	0	0	0	0	1	40	7	0	0	0	0	0	47	53
13:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	34	7	2	0	0	1	0	44	49
13:30	16	1	0	0	0	0	0	17	0	0	0	0	0	0	0	0	44	2	1	1	0	0	2	50	67
13:45	19	1	0	0	0	0	0	20	0	0	0	0	0	0	0	0	32	3	0	0	0	0	0	35	55
1 Hr	45	2	0	0	0	0	0	47	1	0	0	0	0	0	0	1	150	19	3	1	0	1	2	176	224
14:00	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0	42	3	1	0	0	0	0	46	53
14:15	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	38	4	1	0	0	0	0	43	51
14:30	20	1	0	0	1	0	0	22	1	0	0	0	0	0	0	1	42	5	1	0	1	0	0	49	72
14:45	25	1	0	0	0	0	0	26	0	0	0	0	0	0	0	0	38	6	1	0	0	0	1	46	72
1 Hr	59	3	0	0	1	0	0	63	1	0	0	0	0	0	0	1	160	18	4	0	1	0	1	184	248
15:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	39	7	0	0	0	0	0	46	50
15:15	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	34	3	3	1	0	0	0	41	55
15:30	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	40	11	2	0	0	0	0	53	67
15:45	15	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	41	1	0	1	1	0	0	44	59
1 Hr	47	0	0	0	0	0	0	47	0	0	0	0	0	0	0	0	154	22	5	2	1	0	0	184	231
16:00	16	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	56	5	1	1	1	0	0	64	80
16:15	11	1	0	0	0	0	0	12	0	0	0	0	0	0	0	0	57	9	2	1	2	0	1	72	84

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Site 2 - Brayton Park / R125 (E) / Courtown Road (W)

16:30	11	1	0	0	0	0	0	12	0	0	0	0	0	0	0	0	57	9	0	1	0	0	0	67	79
16:45	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	57	11	1	2	0	0	0	71	79
1 Hr	46	2	0	0	0	0	0	48	0	0	0	0	0	0	0	0	227	34	4	5	3	0	1	274	322
17:00	13	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	53	8	2	3	0	0	0	66	79
17:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	56	13	1	1	0	0	0	71	76
17:30	11	2	0	0	0	0	0	13	0	0	0	0	0	0	0	0	57	12	0	0	0	0	0	69	82
17:45	11	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	78	7	1	0	0	0	0	86	97
1 Hr	40	2	0	0	0	0	0	42	0	0	0	0	0	0	0	0	244	40	4	4	0	0	0	292	334
18:00	15	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	55	6	0	1	0	0	0	62	77
18:15	6	1	1	0	0	0	0	8	0	0	0	0	0	0	0	0	48	5	0	0	0	0	0	53	61
18:30	12	2	0	0	0	0	0	14	0	0	0	0	0	0	0	0	47	1	0	0	0	0	0	48	62
18:45	18	1	0	0	0	0	0	19	0	0	0	0	0	0	0	0	43	5	0	0	0	0	0	48	67
1 Hr	51	4	1	0	0	0	0	56	0	0	0	0	0	0	0	0	193	17	0	1	0	0	0	211	267
Total	493	30	1	2	2	0	0	528	2	1	0	0	0	0	0	3	2168	282	43	19	12	5	10	2549	3080

Origin : Arm C Courtown Road (W)

	Destination : Arm A Brayton Park							Total	Destination : Arm B R125 (E)							Total	Destination : Arm C Courtown Road (W)							Total	Arm Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		
07:00	4	0	0	0	0	0	0	4	35	5	0	0	0	0	0	40	0	0	0	0	0	0	0	0	44
07:15	1	0	0	0	0	0	0	1	55	10	0	0	1	0	0	66	0	0	0	0	0	0	0	0	67
07:30	3	1	0	0	0	0	0	4	41	13	2	0	0	0	0	56	0	0	0	0	0	0	0	0	60
07:45	3	0	0	0	0	0	0	3	63	10	1	1	0	0	0	75	0	0	0	0	0	0	0	0	78
1 Hr	11	1	0	0	0	0	0	12	194	38	3	1	1	0	0	237	0	0	0	0	0	0	0	0	249
08:00	6	2	0	0	0	0	0	8	50	5	0	0	0	0	0	55	0	0	0	0	0	0	0	0	63
08:15	7	0	0	0	0	0	0	7	67	8	1	0	1	0	0	77	0	0	0	0	0	0	0	0	84
08:30	18	0	0	0	0	0	0	18	75	8	0	0	3	0	0	86	0	0	0	0	0	0	0	0	104
08:45	23	1	0	0	1	0	0	25	90	9	1	0	1	0	0	101	0	0	0	0	0	0	0	0	126
1 Hr	54	3	0	0	1	0	0	58	282	30	2	0	5	0	0	319	0	0	0	0	0	0	0	0	377
09:00	34	2	0	0	4	0	0	40	53	6	1	0	0	0	0	60	0	0	0	0	0	0	0	0	100
09:15	12	0	1	0	0	0	0	13	43	8	3	0	0	0	1	55	0	0	0	0	0	0	0	0	68
09:30	3	0	0	0	0	0	0	3	25	5	0	1	0	0	0	31	0	0	0	0	0	0	0	0	34
09:45	2	0	0	0	0	0	0	2	44	12	2	0	0	0	0	58	0	0	0	0	0	0	0	0	60
1 Hr	51	2	1	0	4	0	0	58	165	31	6	1	0	0	1	204	0	0	0	0	0	0	0	0	262
10:00	2	1	0	0	0	0	0	3	24	4	1	0	0	0	0	29	0	0	0	0	0	0	0	0	32
10:15	3	0	0	0	0	0	0	3	34	2	0	0	0	0	0	36	0	0	0	0	0	0	0	0	39
10:30	2	0	0	0	0	0	0	2	31	7	1	0	0	0	0	39	0	0	0	0	0	0	0	0	41
10:45	2	0	0	0	0	0	0	2	39	6	1	0	1	0	0	47	0	0	0	0	0	0	0	0	49
1 Hr	9	1	0	0	0	0	0	10	128	19	3	0	1	0	0	151	0	0	0	0	0	0	0	0	161
11:00	0	0	0	0	0	0	0	0	33	7	2	1	1	1	0	45	1	0	0	0	0	0	0	1	46
11:15	4	0	0	0	0	0	0	4	31	5	1	0	0	0	0	37	0	0	0	0	0	0	0	0	41
11:30	0	0	0	0	0	0	0	0	24	4	3	0	0	0	2	33	0	0	0	0	0	0	0	0	33
11:45	5	1	0	0	0	0	0	6	39	10	1	0	0	0	2	52	0	0	0	0	0	0	0	0	58
1 Hr	9	1	0	0	0	0	0	10	127	26	7	1	1	1	4	167	1	0	0	0	0	0	0	1	178
12:00	3	0	0	0	0	0	0	3	36	3	0	0	0	0	1	40	0	0	0	0	0	0	0	0	43
12:15	4	1	0	0	0	0	0	5	35	6	1	0	0	0	0	42	0	0	0	0	0	0	0	0	47
12:30	1	0	0	0	0	0	0	1	40	9	1	0	0	0	0	50	0	0	0	0	0	0	0	0	51
12:45	5	1	0	0	0	0	0	6	44	4	1	0	0	0	1	50	0	0	0	0	0	0	0	0	56
1 Hr	13	2	0	0	0	0	0	15	155	22	3	0	0	0	2	182	0	0	0	0	0	0	0	0	197
13:00	5	1	0	0	0	0	0	6	40	6	2	0	0	0	0	48	0	0	0	0	0	0	0	0	54
13:15	8	1	0	0	0	0	0	9	48	4	0	0	1	0	0	53	0	0	0	0	0	0	0	0	62
13:30	10	1	1	0	0	0	0	12	33	3	1	1	0	0	0	38	0	0	0	0	0	0	0	0	50
13:45	13	0	0	0	0	0	0	13	46	6	1	1	0	0	0	54	0	0	0	0	0	0	0	0	67
1 Hr	36	3	1	0	0	0	0	40	167	19	4	2	1	0	0	193	0	0	0	0	0	0	0	0	233
14:00	5	0	0	0	0	0	0	5	53	4	0	0	0	0	0	57	0	0	0	0	0	0	0	0	62
14:15	6	0	0	0	0	0	0	6	68	4	3	0	0	0	1	76	0	0	0	0	0	0	0	0	82
14:30	18	0	1	0	3	0	0	22	42	10	0	0	1	0	0	53	0	0	0	0	0	0	0	0	75
14:45	23	1	0	0	1	0	0	25	39	10	3	0	0	0	0	52	0	0	0	0	0	0	0	0	77

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Junction Turning Count
20/03/2018

Site 2 - Brayton Park / R125 (E) / Courtown Road (W)

1 Hr	52	1	1	0	4	0	0	58	202	28	6	0	1	0	1	238	0	0	0	0	0	0	0	0	296
15:00	7	0	0	0	0	0	0	7	57	7	3	1	0	0	0	68	0	0	0	0	0	0	0	0	75
15:15	13	0	0	0	0	0	0	13	61	8	2	1	2	0	0	74	0	0	0	0	0	0	0	0	87
15:30	5	1	1	0	0	0	0	7	63	5	0	1	0	0	0	69	0	0	0	0	0	0	0	0	76
15:45	15	1	0	0	0	0	0	16	57	8	0	0	2	0	0	67	0	0	0	0	0	0	0	0	83
1 Hr	40	2	1	0	0	0	0	43	238	28	5	3	4	0	0	278	0	0	0	0	0	0	0	0	321
16:00	8	0	0	0	0	0	0	8	61	4	1	2	1	0	0	69	0	0	0	0	0	0	0	0	77
16:15	6	0	0	0	0	0	0	6	75	4	0	0	2	2	0	83	0	0	0	0	0	0	0	0	89
16:30	6	2	0	0	0	0	0	8	80	13	3	0	0	0	0	96	1	0	0	0	0	0	0	1	105
16:45	7	0	0	0	0	0	0	7	80	5	1	1	0	0	0	87	0	0	0	0	0	0	0	0	94
1 Hr	27	2	0	0	0	0	0	29	296	26	5	3	3	2	0	335	1	0	0	0	0	0	0	1	365
17:00	5	1	0	0	0	0	0	6	78	13	5	0	0	1	0	97	0	0	0	0	0	0	0	0	103
17:15	11	1	0	0	0	1	0	13	97	20	0	0	0	0	1	118	0	0	0	0	0	0	0	0	131
17:30	12	0	0	0	0	0	0	12	98	9	1	0	0	2	0	110	0	0	0	0	0	0	0	0	122
17:45	11	3	1	0	0	0	0	15	87	8	1	0	0	0	0	96	0	0	0	0	0	0	0	0	111
1 Hr	39	5	1	0	0	1	0	46	360	50	7	0	0	3	1	421	0	0	0	0	0	0	0	0	467
18:00	14	1	0	0	0	0	0	15	79	3	0	0	0	0	0	82	0	0	0	0	0	0	0	0	97
18:15	6	2	0	0	0	0	0	8	88	4	0	0	0	1	0	93	0	0	0	0	0	0	0	0	101
18:30	13	0	0	0	0	0	0	13	55	9	1	0	0	0	0	65	0	0	0	0	0	0	0	0	78
18:45	28	1	0	0	0	0	0	29	82	4	0	0	0	1	0	87	0	0	0	0	0	0	0	0	116
1 Hr	61	4	0	0	0	0	0	65	304	20	1	0	0	2	0	327	0	0	0	0	0	0	0	0	392
Total	402	27	5	0	9	1	0	444	2618	337	52	11	17	8	9	3052	2	0	0	0	0	0	0	2	3498

ORIGIN SUMMARY

	Origin : Arm A Brayton Park							Total	Origin : Arm B R125 (E)							Total	Origin : Arm C Courtown Road (W)							Total	Origin Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		
07:00	9	2	0	0	0	0	0	11	35	7	1	0	1	0	0	44	39	5	0	0	0	0	0	44	99
07:15	14	1	0	0	0	0	1	16	54	9	0	1	2	0	0	66	56	10	0	0	1	0	0	67	149
07:30	18	0	0	0	0	0	0	18	49	10	0	0	1	0	1	61	44	14	2	0	0	0	0	60	139
07:45	20	3	0	0	0	0	0	23	45	5	1	0	0	1	0	52	66	10	1	1	0	0	0	78	153
1 Hr	61	6	0	0	0	0	1	68	183	31	2	1	4	1	1	223	205	39	3	1	1	0	0	249	540
08:00	18	3	1	0	0	0	0	22	60	9	0	1	0	0	0	70	56	7	0	0	0	0	0	63	155
08:15	20	1	0	0	0	0	0	21	56	12	1	0	3	2	0	74	74	8	1	0	1	0	0	84	179
08:30	14	1	0	0	1	0	0	16	74	7	1	0	1	1	0	84	93	8	0	0	3	0	0	104	204
08:45	22	3	0	0	0	0	0	25	114	10	1	0	0	0	0	125	113	10	1	0	2	0	0	126	276
1 Hr	74	8	1	0	1	0	0	84	304	38	3	1	4	3	0	353	336	33	2	0	6	0	0	377	814
09:00	82	1	0	0	3	0	0	86	116	6	0	0	0	0	0	122	87	8	1	0	4	0	0	100	308
09:15	71	3	0	0	1	0	0	75	85	5	2	0	0	0	1	93	55	8	4	0	0	0	1	68	236
09:30	22	0	1	1	1	0	0	25	55	11	2	0	0	0	1	69	28	5	0	1	0	0	0	34	128
09:45	7	0	0	0	0	0	0	7	33	2	1	0	0	0	0	36	46	12	2	0	0	0	0	60	103
1 Hr	182	4	1	1	5	0	0	193	289	24	5	0	0	0	2	320	216	33	7	1	4	0	1	262	775
10:00	3	0	0	0	0	0	0	3	35	9	1	0	0	0	0	45	26	5	1	0	0	0	0	32	80
10:15	12	2	0	0	0	0	0	14	35	6	0	1	0	0	0	42	37	2	0	0	0	0	0	39	95
10:30	13	1	0	0	0	0	0	14	37	5	1	0	0	0	0	43	33	7	1	0	0	0	0	41	98
10:45	3	0	0	0	0	0	0	3	34	4	0	0	0	0	1	39	41	6	1	0	1	0	0	49	91
1 Hr	31	3	0	0	0	0	0	34	141	24	2	1	0	0	1	169	137	20	3	0	1	0	0	161	364
11:00	3	0	0	0	0	0	0	3	45	4	2	0	0	0	0	51	34	7	2	1	1	1	0	46	100
11:15	10	0	0	0	0	0	0	10	41	7	1	0	0	0	0	49	35	5	1	0	0	0	0	41	100
11:30	6	0	0	0	0	0	0	6	35	8	1	0	0	0	0	44	24	4	3	0	0	0	2	33	83
11:45	6	0	0	0	0	0	0	6	37	8	5	1	0	0	0	51	44	11	1	0	0	0	2	58	115
1 Hr	25	0	0	0	0	0	0	25	158	27	9	1	0	0	0	195	137	27	7	1	1	1	4	178	398
12:00	6	1	0	0	0	0	0	7	46	2	1	2	0	0	2	53	39	3	0	0	0	0	1	43	103
12:15	12	1	0	0	0	0	0	13	46	3	1	1	0	0	0	51	39	7	1	0	0	0	0	47	111
12:30	8	0	0	0	0	0	0	8	40	6	0	0	0	0	0	46	41	9	1	0	0	0	0	51	105
12:45	3	0	0	0	0	0	0	3	38	5	0	1	0	0	0	44	49	5	1	0	0	0	1	56	103
1 Hr	29	2	0	0	0	0	0	31	170	16	2	4	0	0	2	194	168	24	3	0	0	0	2	197	422
13:00	6	4	0	0	0	0	0	10	46	7	0	0	0	0	0	53	45	7	2	0	0	0	0	54	117

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3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 2 - Brayton Park / R125 (E) / Courtown Road (W)

13:15	8	0	0	0	0	0	0	8		39	7	2	0	0	1	0	49		56	5	0	0	1	0	0	62		119
13:30	11	1	0	0	0	0	0	12		60	3	1	1	0	0	2	67		43	4	2	1	0	0	0	50		129
13:45	12	1	1	0	0	0	0	14		51	4	0	0	0	0	0	55		59	6	1	1	0	0	0	67		136
1 Hr	37	6	1	0	0	0	0	44		196	21	3	1	0	1	2	224		203	22	5	2	1	0	0	233		501
14:00	33	1	0	0	0	0	0	34		48	4	1	0	0	0	0	53		58	4	0	0	0	0	0	62		149
14:15	15	1	0	0	1	0	0	17		46	4	1	0	0	0	0	51		74	4	3	0	0	0	1	82		150
14:30	11	0	0	0	1	0	0	12		63	6	1	0	2	0	0	72		60	10	1	0	4	0	0	75		159
14:45	8	0	0	0	0	0	0	8		63	7	1	0	0	0	1	72		62	11	3	0	1	0	0	77		157
1 Hr	67	2	0	0	2	0	0	71		220	21	4	0	2	0	1	248		254	29	7	0	5	0	1	296		615
15:00	78	4	0	0	4	0	0	86		43	7	0	0	0	0	0	50		64	7	3	1	0	0	0	75		211
15:15	24	0	0	0	0	0	0	24		48	3	3	1	0	0	0	55		74	8	2	1	2	0	0	87		166
15:30	19	0	0	0	0	0	0	19		54	11	2	0	0	0	0	67		68	6	1	1	0	0	0	76		162
15:45	11	2	0	0	0	0	0	13		56	1	0	1	1	0	0	59		72	9	0	0	2	0	0	83		155
1 Hr	132	6	0	0	4	0	0	142		201	22	5	2	1	0	0	231		278	30	6	3	4	0	0	321		694
16:00	62	0	0	0	0	0	0	62		72	5	1	1	1	0	0	80		69	4	1	2	1	0	0	77		219
16:15	17	0	0	0	0	0	0	17		68	10	2	1	2	0	1	84		81	4	0	0	2	2	0	89		190
16:30	17	1	0	0	0	0	0	18		68	10	0	1	0	0	0	79		87	15	3	0	0	0	0	105		202
16:45	8	1	0	0	0	0	0	9		65	11	1	2	0	0	0	79		87	5	1	1	0	0	0	94		182
1 Hr	104	2	0	0	0	0	0	106		273	36	4	5	3	0	1	322		324	28	5	3	3	2	0	365		793
17:00	15	1	0	0	0	0	0	16		66	8	2	3	0	0	0	79		83	14	5	0	0	1	0	103		198
17:15	9	1	0	0	0	0	0	10		61	13	1	1	0	0	0	76		108	21	0	0	0	1	1	131		217
17:30	22	4	0	0	0	0	0	26		68	14	0	0	0	0	0	82		110	9	1	0	0	2	0	122		230
17:45	15	0	1	0	0	0	0	16		89	7	1	0	0	0	0	97		98	11	2	0	0	0	0	111		224
1 Hr	61	6	1	0	0	0	0	68		284	42	4	4	0	0	0	334		399	55	8	0	0	4	1	467		869
18:00	16	0	0	0	0	0	0	16		70	6	0	1	0	0	0	77		93	4	0	0	0	0	0	97		190
18:15	13	1	0	0	0	0	0	14		54	6	1	0	0	0	0	61		94	6	0	0	0	1	0	101		176
18:30	19	1	0	0	0	1	0	21		59	3	0	0	0	0	0	62		68	9	1	0	0	0	0	78		161
18:45	17	1	0	0	0	0	0	18		61	6	0	0	0	0	0	67		110	5	0	0	0	1	0	116		201
1 Hr	65	3	0	0	0	1	0	69		244	21	1	1	0	0	0	267		365	24	1	0	0	2	0	392		728
Total	868	48	4	1	12	1	1	935		2663	323	44	21	14	5	10	3080		3022	364	57	11	26	9	9	3498		7513

DESTINATION SUMMARY

	Destination : Arm A Brayton Park							Total	Destination : Arm B R125 (E)							Total	Destination : Arm C Courtown Road (W)							Total	Dest Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		
07:00	5	0	0	0	0	0	0	5	39	6	0	0	0	0	0	45	39	8	1	0	1	0	0	49	99
07:15	5	1	0	1	0	0	0	7	66	10	0	0	1	0	0	77	53	9	0	0	2	0	1	65	149
07:30	11	1	0	0	0	0	0	12	52	14	2	0	0	0	0	68	48	9	0	0	1	0	1	59	139
07:45	6	1	0	0	0	0	0	7	78	12	1	1	0	0	0	92	47	5	1	0	0	1	0	54	153
1 Hr	27	3	0	1	0	0	0	31	235	42	3	1	1	0	0	282	187	31	2	0	4	1	2	227	540
08:00	8	3	0	1	0	0	0	12	60	8	1	0	0	0	0	69	66	8	0	0	0	0	0	74	155
08:15	13	2	0	0	0	0	0	15	84	9	1	0	1	0	0	95	53	10	1	0	3	2	0	69	179
08:30	28	2	0	0	1	0	0	31	86	9	0	0	3	0	0	98	67	5	1	0	1	1	0	75	204
08:45	53	1	0	0	1	0	0	55	110	11	1	0	1	0	0	123	86	11	1	0	0	0	0	98	276
1 Hr	102	8	0	1	2	0	0	113	340	37	3	0	5	0	0	385	272	34	3	0	4	3	0	316	814
09:00	88	6	0	0	4	0	0	98	105	6	1	0	0	0	0	112	92	3	0	0	3	0	0	96	306
09:15	44	1	1	0	0	0	0	46	99	10	3	0	0	0	1	113	68	5	2	0	1	0	1	77	236
09:30	11	0	0	0	0	0	0	11	37	5	1	1	0	0	0	44	57	11	2	1	1	0	1	73	128
09:45	6	0	0	0	0	0	0	6	47	12	2	0	0	0	0	61	33	2	1	0	0	0	0	36	103
1 Hr	149	7	1	0	4	0	0	161	288	33	7	1	0	0	1	330	250	21	5	1	5	0	2	284	775
10:00	4	2	0	0	0	0	0	6	26	4	1	0	0	0	0	31	34	8	1	0	0	0	0	43	80
10:15	7	0	0	0	0	0	0	7	39	4	0	0	0	0	0	43	38	6	0	1	0	0	0	45	95
10:30	4	1	0	0	0	0	0	5	39	8	1	0	0	0	0	48	40	4	1	0	0	0	0	45	98
10:45	4	0	0	0	0	0	0	4	41	6	1	0	1	0	0	49	33	4	0	0	0	0	1	38	91
1 Hr	19	3	0	0	0	0	0	22	145	22	3	0	1	0	0	171	145	22	2	1	0	0	1	171	364
11:00	6	0	0	0	0	0	0	6	35	7	2	1	1	1	0	47	41	4	2	0	0	0	0	47	100
11:15	9	0	0	0	0	0	0	9	37	5	1	0	0	0	0	43	40	7	1	0	0	0	0	48	100
11:30	0	0	0	0	0	0	0	0	27	4	3	0	0	0	2	36	38	8	1	0	0	0	0	47	83

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Site 2 - Brayton Park / R125 (E) / Courtown Road (W)

11:45	6	2	0	0	0	0	0	8	42	10	1	0	0	0	2	55	39	7	5	1	0	0	0	52	115
1 Hr	21	2	0	0	0	0	0	23	141	26	7	1	1	1	4	181	158	26	9	1	0	0	0	194	398
12:00	10	0	0	0	0	0	0	10	41	3	0	0	0	0	1	45	40	3	1	2	0	0	2	48	103
12:15	10	2	0	0	0	0	0	12	41	7	1	0	0	0	0	49	46	2	1	1	0	0	0	50	111
12:30	6	0	0	0	0	0	0	6	45	9	1	0	0	0	0	55	38	6	0	0	0	0	0	44	105
12:45	8	2	0	0	0	0	0	10	47	4	1	0	0	0	1	53	35	4	0	1	0	0	0	40	103
1 Hr	34	4	0	0	0	0	0	38	174	23	3	0	0	0	2	202	159	15	2	4	0	0	2	182	422
13:00	10	1	0	0	0	0	0	11	44	9	2	0	0	0	0	55	43	8	0	0	0	0	0	51	117
13:15	13	1	0	0	0	0	0	14	54	4	0	0	1	0	0	59	36	7	2	0	0	1	0	46	119
13:30	26	2	1	0	0	0	0	29	42	3	1	1	0	0	0	47	46	3	1	1	0	0	2	53	129
13:45	32	1	0	0	0	0	0	33	52	6	2	1	0	0	0	61	38	4	0	0	0	0	0	42	136
1 Hr	81	5	1	0	0	0	0	87	192	22	5	2	1	0	0	222	163	22	3	1	0	1	2	192	501
14:00	11	1	0	0	0	0	0	12	77	5	0	0	0	0	0	82	51	3	1	0	0	0	0	55	149
14:15	14	0	0	0	0	0	0	14	79	5	3	0	0	0	1	88	42	4	1	0	1	0	0	48	150
14:30	38	1	1	0	4	0	0	44	50	10	0	0	1	0	0	61	46	5	1	0	2	0	0	54	159
14:45	48	2	0	0	1	0	0	51	43	10	3	0	0	0	0	56	42	6	1	0	0	0	1	50	157
1 Hr	111	4	1	0	5	0	0	121	249	30	6	0	1	0	1	287	181	18	4	0	3	0	1	207	315
15:00	11	0	0	0	0	0	0	11	109	10	3	1	0	0	0	123	65	8	0	0	4	0	0	77	211
15:15	27	0	0	0	0	0	0	27	74	8	2	1	2	0	0	87	45	3	3	1	0	0	0	52	166
15:30	19	1	1	0	0	0	0	21	79	5	0	1	0	0	0	85	43	11	2	0	0	0	0	56	162
15:45	30	1	0	0	0	0	0	31	65	10	0	0	2	0	0	77	44	1	0	1	1	0	0	47	155
1 Hr	87	2	1	0	0	0	0	90	327	33	5	3	4	0	0	372	197	23	5	2	5	0	0	232	394
16:00	24	0	0	0	0	0	0	24	101	4	1	2	1	0	0	109	78	5	1	1	1	0	0	86	219
16:15	17	1	0	0	0	0	0	18	85	4	0	0	2	2	0	93	64	9	2	1	2	0	1	79	190
16:30	17	3	0	0	0	0	0	20	89	14	3	0	0	0	0	106	66	9	0	1	0	0	0	76	202
16:45	15	0	0	0	0	0	0	15	85	6	1	1	0	0	0	93	60	11	1	2	0	0	0	74	182
1 Hr	73	4	0	0	0	0	0	77	360	28	5	3	3	2	0	401	268	34	4	5	3	0	1	315	793
17:00	18	1	0	0	0	0	0	19	88	14	5	0	0	1	0	108	58	8	2	3	0	0	0	71	198
17:15	16	1	0	0	0	1	0	18	103	21	0	0	0	0	1	125	59	13	1	1	0	0	0	74	217
17:30	23	2	0	0	0	0	0	25	110	10	1	0	0	2	0	123	67	15	0	0	0	0	0	82	230
17:45	22	3	1	0	0	0	0	26	98	8	2	0	0	0	0	108	82	7	1	0	0	0	0	90	224
1 Hr	79	7	1	0	0	1	0	88	399	53	8	0	0	3	1	464	266	43	4	4	0	0	0	317	369
18:00	29	1	0	0	0	0	0	30	91	3	0	0	0	0	0	94	59	6	0	1	0	0	0	66	190
18:15	12	3	1	0	0	0	0	16	95	4	0	0	0	1	0	100	54	6	0	0	0	0	0	60	176
18:30	25	2	0	0	0	0	0	27	66	10	1	0	0	0	0	77	55	1	0	0	0	1	0	57	161
18:45	46	2	0	0	0	0	0	48	93	5	0	0	0	1	0	99	49	5	0	0	0	0	0	54	201
1 Hr	112	8	1	0	0	0	0	121	345	22	1	0	0	2	0	370	217	18	0	1	0	1	0	237	728
Total	895	57	6	2	11	1	0	972	3195	371	56	11	17	8	9	3667	2463	307	43	20	24	6	11	2874	7513

Tracsis plc
Traffic and Data Services

3298-IRE Kilcock Traffic Surveys
Junction Turning Count
20/03/2018

Site 3 - R125 / R407 (S) / R407 (N)

Origin Arm A R125

	Destination : Arm A R125								**Destination :** Arm B R407 (S)								**Destination :** Arm C R407 (N)								Arm Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	19	3	0	0	0	0	0	22	27	2	1	0	0	1	0	31	53
1 Hr	0	0	0	0	0	0	0	0	19	3	0	0	0	0	0	22	27	2	1	0	0	1	0	31	53
08:00	0	0	0	0	0	0	0	0	32	3	0	0	0	0	0	35	35	5	0	0	0	0	0	40	75
08:15	0	0	0	0	0	0	0	0	27	3	0	0	0	0	0	30	28	7	1	0	2	2	0	40	70
08:30	0	0	0	0	0	0	0	0	33	3	0	0	0	0	0	36	30	2	1	0	1	1	0	35	71
08:45	0	0	0	0	0	0	0	0	43	6	0	0	0	0	0	49	63	4	1	0	1	0	0	69	118
1 Hr	0	0	0	0	0	0	0	0	135	15	0	0	0	0	0	150	156	18	3	0	4	3	0	184	334
09:00	0	0	0	0	0	0	0	0	33	1	0	0	0	0	0	34	57	3	0	0	3	0	0	63	97
09:15	0	0	0	0	0	0	0	0	19	3	2	0	0	0	1	25	53	2	0	0	0	0	0	55	80
09:30	0	0	0	0	0	0	0	0	24	7	0	1	0	0	0	32	34	5	2	0	1	0	0	42	74
09:45	0	0	0	0	0	0	0	0	20	2	1	0	0	1	0	24	12	0	0	0	0	0	0	12	36
1 Hr	0	0	0	0	0	0	0	0	96	13	3	1	0	1	1	115	156	10	2	0	4	0	0	172	287
10:00	0	0	0	0	0	0	0	0	13	4	1	0	0	0	0	18	20	3	0	0	0	0	0	23	41
10:15	0	0	0	0	0	0	0	0	19	3	0	0	0	0	0	22	18	3	0	1	0	0	0	22	44
10:30	0	0	0	0	0	0	0	0	22	2	0	0	0	0	0	24	19	2	1	0	0	0	0	22	46
10:45	0	0	0	0	0	0	0	0	24	1	0	0	0	0	1	26	12	2	0	0	0	0	0	14	40
1 Hr	0	0	0	0	0	0	0	0	78	10	1	0	0	0	1	90	69	10	1	1	0	0	0	81	171
11:00	0	0	0	0	0	0	0	0	19	3	2	0	0	0	0	24	23	0	0	0	0	0	0	23	47
11:15	0	0	0	0	0	0	0	0	20	5	0	0	0	0	0	25	21	2	1	0	0	0	0	24	49
11:30	0	0	0	0	0	0	0	0	17	4	0	0	0	0	0	21	19	3	1	0	0	0	0	23	44
11:45	0	0	0	0	0	0	0	0	21	3	3	1	0	0	0	28	21	4	2	0	0	0	0	27	55
1 Hr	0	0	0	0	0	0	0	0	77	15	5	1	0	0	0	98	84	9	4	0	0	0	0	97	195
12:00	0	0	0	0	0	0	0	0	24	3	1	2	0	0	1	31	17	0	0	0	0	0	1	18	49
12:15	0	0	0	0	0	0	0	0	21	1	1	0	0	0	0	23	24	1	0	1	0	0	0	26	49
12:30	0	0	0	0	0	0	0	0	19	2	0	0	0	0	0	21	21	3	0	0	0	0	0	24	45
12:45	0	0	0	0	0	0	0	0	24	2	0	0	0	0	0	26	10	1	0	1	0	0	0	12	38
1 Hr	0	0	0	0	0	0	0	0	88	8	2	2	0	0	1	101	72	5	0	2	0	0	1	80	181
13:00	0	0	0	0	0	0	0	0	26	6	0	0	0	0	0	32	15	2	0	0	0	0	0	17	49
13:15	0	0	0	0	0	0	0	0	21	1	1	0	0	0	0	23	17	7	1	0	0	1	0	26	49
13:30	0	0	0	0	0	0	0	0	24	1	0	1	0	0	2	28	20	2	1	0	0	0	0	23	51
13:45	0	0	0	0	0	0	0	0	22	2	0	0	0	0	0	24	21	1	0	0	0	0	0	22	46
1 Hr	0	0	0	0	0	0	0	0	93	10	1	1	0	0	2	107	73	12	2	0	0	1	0	88	195
14:00	0	0	0	0	0	0	0	0	26	1	0	0	0	0	0	27	24	2	1	0	0	0	0	27	54
14:15	0	0	0	0	0	0	0	0	20	2	0	0	0	0	0	22	22	2	1	0	0	0	0	25	47
14:30	0	0	0	0	0	0	0	0	20	2	0	0	0	0	0	22	29	2	1	0	2	0	0	34	56
14:45	0	0	0	0	0	0	0	0	23	1	1	0	0	0	1	26	18	6	0	0	0	0	0	24	50
1 Hr	0	0	0	0	0	0	0	0	89	6	1	0	0	0	1	97	93	12	3	0	2	0	0	110	207
15:00	0	0	0	0	0	0	0	0	26	6	0	0	1	0	0	33	37	2	0	0	3	0	0	42	75
15:15	0	0	0	0	0	0	0	0	24	2	1	0	0	0	0	27	21	2	2	1	0	0	0	26	53

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Site 3 - R125 / R407 (S) / R407 (N)

15:30	0	0	0	0	0	0	0	0	26	6	0	0	0	0	0	32	17	6	1	0	0	0	0	24	56
15:45	0	0	0	0	0	0	0	0	24	0	0	1	1	0	0	26	20	2	0	0	0	0	0	22	48
1 Hr	0	0	0	0	0	0	0	0	100	14	1	1	2	0	0	118	95	12	3	1	3	0	0	114	232
16:00	1	0	0	0	0	0	0	1	41	3	0	1	0	0	0	45	37	1	1	0	1	0	0	40	86
16:15	0	0	0	0	0	0	0	0	29	5	1	1	0	0	1	37	32	5	0	0	1	0	0	38	75
16:30	0	0	0	0	0	0	0	0	35	3	0	1	0	0	0	39	32	4	0	0	0	0	0	36	75
16:45	0	0	0	0	0	0	0	0	35	6	1	2	0	0	0	44	27	7	0	0	0	0	0	34	78
1 Hr	1	0	0	0	0	0	0	1	140	17	2	5	0	0	1	165	128	17	1	0	2	0	0	148	314
17:00	0	0	0	0	0	0	0	0	28	5	1	3	0	0	0	37	38	3	2	0	0	0	0	43	80
17:15	0	0	0	0	0	0	0	0	26	5	1	0	0	0	0	32	31	9	0	0	0	0	0	40	72
17:30	0	0	0	0	0	0	0	0	35	8	0	0	0	0	0	43	33	7	0	0	0	0	0	40	83
17:45	0	0	0	0	0	0	0	0	28	3	0	0	0	0	0	31	35	3	1	0	0	0	0	39	70
1 Hr	0	0	0	0	0	0	0	0	117	21	2	3	0	0	0	143	137	22	3	0	0	0	0	162	305
18:00	0	0	0	0	0	0	0	0	31	4	0	1	0	0	0	36	27	3	0	0	0	0	0	30	66
18:15	0	0	0	0	0	0	0	0	31	3	0	0	0	0	0	34	24	3	0	0	0	0	0	27	61
18:30	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	28	28	1	0	0	0	1	0	30	58
18:45	0	0	0	0	0	0	0	0	27	2	0	0	0	0	0	29	23	3	0	0	0	0	0	26	55
1 Hr	0	0	0	0	0	0	0	0	117	9	0	1	0	0	0	127	102	10	0	0	0	1	0	113	240
Total	1	0	0	0	0	0	0	1	1149	141	18	15	2	1	7	1333	1192	139	23	4	15	6	1	1380	2714

Origin Arm B R407 (S)

	Destination : Arm A R125								Destination : Arm B R407 (S)								Destination : Arm C R407 (N)								Arm Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	
07:00	29	3	0	0	0	0	0	32	0	0	0	0	0	0	0	0	63	15	0	1	0	0	0	79	111
07:15	34	9	0	0	1	0	0	44	0	0	0	0	0	0	0	0	69	9	0	2	2	0	0	82	126
07:30	28	10	2	0	0	0	0	40	0	0	0	0	0	0	0	0	34	4	2	2	0	0	0	42	82
07:45	42	6	1	0	0	0	0	49	0	0	0	0	0	0	0	0	54	12	0	7	1	0	0	74	123
1 Hr	133	28	3	0	1	0	0	165	0	0	0	0	0	0	0	0	220	40	2	12	3	0	0	277	442
08:00	31	5	0	0	0	0	0	36	0	0	0	0	0	0	0	0	35	9	1	2	0	0	0	47	83
08:15	44	5	0	0	0	0	0	49	0	0	0	0	0	0	0	0	51	8	4	4	0	0	0	67	116
08:30	52	6	0	0	0	0	0	58	1	0	0	0	0	0	0	1	50	3	1	2	0	0	0	56	115
08:45	40	1	1	0	0	0	0	42	0	0	0	0	0	0	0	0	39	4	2	3	0	1	0	49	91
1 Hr	167	17	1	0	0	0	0	185	1	0	0	0	0	0	0	1	175	24	8	11	0	1	0	219	405
09:00	45	2	1	0	1	0	1	50	0	0	0	0	0	0	0	0	28	4	4	4	0	0	0	40	90
09:15	30	2	2	0	0	0	0	34	1	0	0	0	0	0	0	1	32	5	2	1	1	0	0	41	76
09:30	17	3	0	1	0	0	0	21	0	0	0	0	0	0	0	0	31	3	1	2	0	0	0	37	58
09:45	35	8	2	0	0	0	0	45	0	0	1	0	0	0	0	1	19	2	4	6	0	0	0	31	77
1 Hr	127	15	5	1	1	0	1	150	1	0	1	0	0	0	0	2	110	14	11	13	1	0	0	149	301
10:00	21	3	0	0	0	0	0	24	1	0	0	0	0	0	0	1	20	5	3	3	0	0	0	31	56
10:15	14	1	0	0	0	0	0	15	1	1	0	0	0	0	0	2	27	5	2	3	0	0	0	37	54
10:30	25	5	0	0	0	0	0	30	0	1	0	0	0	0	0	1	24	6	0	5	0	0	0	35	66
10:45	27	1	0	0	0	0	0	28	0	1	0	0	0	0	0	1	29	6	2	3	0	0	0	40	69
1 Hr	87	10	0	0	0	0	0	97	2	3	0	0	0	0	0	5	100	22	7	14	0	0	0	143	245
11:00	19	4	1	0	0	0	0	24	0	0	0	0	0	0	0	0	24	6	1	7	0	0	0	38	62

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Site 3 - R125 / R407 (S) / R407 (N)

11:15	20	1	1	0	0	0	0	22	0	0	1	0	0	0	0	1	20	4	3	6	0	0	1	34	57
11:30	13	3	2	0	0	0	2	20	1	0	0	0	0	0	0	1	17	6	3	2	0	0	0	28	49
11:45	27	2	1	0	0	0	1	31	0	0	0	0	0	0	0	0	31	5	1	3	0	0	0	40	71
1 Hr	79	10	5	0	0	0	3	97	1	0	1	0	0	0	0	2	92	21	8	18	0	0	1	140	239
12:00	18	1	0	0	0	0	1	20	1	0	0	0	0	0	0	1	27	7	2	3	0	0	0	39	60
12:15	24	3	1	0	0	0	0	28	0	0	0	0	0	0	0	0	28	6	4	4	0	0	1	43	71
12:30	25	5	1	0	0	0	0	31	0	0	0	0	0	0	0	0	24	4	2	6	0	0	0	36	67
12:45	23	2	1	0	0	0	1	27	0	0	0	0	0	0	0	0	18	7	3	1	0	0	0	29	56
1 Hr	90	11	3	0	0	0	2	106	1	0	0	0	0	0	0	1	97	24	11	14	0	0	1	147	254
13:00	23	5	1	0	0	0	0	29	0	0	0	0	0	0	0	0	29	5	2	7	0	0	0	43	72
13:15	24	1	0	0	0	0	0	25	1	0	0	0	0	0	0	1	25	2	3	4	0	0	0	34	60
13:30	20	2	1	1	0	0	0	24	2	0	0	0	0	0	0	2	23	2	1	8	1	0	0	35	61
13:45	30	3	1	1	0	0	0	35	0	0	0	0	0	0	0	0	19	3	3	4	0	0	0	29	64
1 Hr	97	11	3	2	0	0	0	113	3	0	0	0	0	0	0	3	96	12	9	23	1	0	0	141	257
14:00	32	4	0	0	0	0	0	36	1	0	0	0	0	0	0	1	23	6	2	2	0	0	0	33	70
14:15	32	2	3	0	0	0	1	38	0	0	0	0	0	0	0	0	25	9	0	5	1	0	0	40	78
14:30	26	4	0	0	0	0	0	30	0	0	0	0	0	0	0	0	31	4	1	1	1	0	0	38	68
14:45	29	2	1	0	0	0	0	32	0	0	0	0	0	0	0	0	22	4	1	4	0	0	0	31	63
1 Hr	119	12	4	0	0	0	1	136	1	0	0	0	0	0	0	1	101	23	4	12	2	0	0	142	279
15:00	25	4	0	0	0	0	0	29	2	0	0	0	0	0	0	2	24	7	2	6	2	0	0	41	72
15:15	30	4	1	1	1	0	0	37	2	0	0	0	0	0	0	2	19	6	2	5	0	0	0	32	71
15:30	30	3	0	0	0	0	0	33	0	0	0	0	0	0	0	0	35	5	2	7	0	1	0	50	83
15:45	26	2	0	0	0	0	0	28	0	0	0	0	0	0	0	0	23	9	3	5	0	0	0	40	68
1 Hr	111	13	1	1	1	0	0	127	4	0	0	0	0	0	0	4	101	27	9	23	2	1	0	163	294
16:00	25	4	1	0	0	0	0	30	1	1	0	0	0	0	0	2	30	15	3	3	0	0	0	51	83
16:15	25	3	0	0	0	2	0	30	0	0	0	0	0	0	0	0	48	8	2	4	2	0	0	64	94
16:30	31	2	1	0	0	0	0	34	0	0	0	0	0	0	0	0	44	13	0	3	1	0	0	61	95
16:45	26	3	0	1	0	0	0	30	0	0	0	0	0	0	0	0	52	10	0	7	2	1	0	72	102
1 Hr	107	12	2	1	0	2	0	124	1	1	0	0	0	0	0	2	174	46	5	17	5	1	0	248	374
17:00	34	5	4	0	0	1	0	44	1	0	0	0	0	0	0	1	46	13	1	1	0	0	0	61	106
17:15	47	12	1	0	0	1	1	62	1	0	0	0	0	0	0	1	64	12	1	3	0	0	0	80	143
17:30	49	5	1	0	0	1	0	56	0	0	0	0	0	0	0	0	49	11	2	0	0	0	0	62	118
17:45	31	4	2	0	0	0	0	37	3	0	0	0	0	0	0	3	62	8	0	3	0	0	0	73	113
1 Hr	161	26	8	0	0	3	1	199	5	0	0	0	0	0	0	5	221	44	4	7	0	0	0	276	480
18:00	25	2	0	0	0	0	0	27	0	0	0	0	0	0	0	0	32	5	0	0	0	0	0	37	64
18:15	32	3	0	0	0	0	0	35	1	0	0	0	0	0	0	1	39	6	2	4	0	0	0	51	87
18:30	26	5	1	0	0	0	0	32	0	0	0	0	0	0	0	0	28	9	0	3	0	0	0	40	72
18:45	43	2	0	0	0	0	0	45	0	0	0	0	0	0	0	0	37	8	0	2	0	0	0	47	92
1 Hr	126	12	1	0	0	0	0	139	1	0	0	0	0	0	0	1	136	28	2	9	0	0	0	175	315
Total	1404	177	36	5	3	5	8	1638	21	4	2	0	0	0	0	27	1623	325	80	173	14	3	2	2220	3885

Origin Arm C R407 (N)

Destination : Arm A R125							
Car	LGV	OGV1	OGV2	PSV	MC	PC	Total

Destination : Arm B R407 (S)							
Car	LGV	OGV1	OGV2	PSV	MC	PC	Total

Destination : Arm C R407 (N)							
Car	LGV	OGV1	OGV2	PSV	MC	PC	Total

Arm Totals

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Site 3 - R125 / R407 (S) / R407 (N)

07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	18	2	0	0	0	0	0	20	37	15	0	2	0	0	0	54	0	0	0	0	0	0	0	0	74
07:30	16	3	0	0	0	0	0	19	59	11	2	5	0	0	0	77	0	0	0	0	0	0	0	0	96
07:45	30	4	1	0	0	0	0	35	60	9	1	4	0	0	0	74	1	0	0	0	0	0	0	1	110
1 Hr	64	9	1	0	0	0	0	74	156	35	3	11	0	0	0	205	1	0	0	0	0	0	0	1	280
08:00	23	2	0	0	0	0	0	25	60	11	1	1	0	0	0	73	0	0	0	0	0	0	0	0	98
08:15	28	3	1	0	1	0	0	33	51	5	0	4	0	0	0	60	0	0	0	0	0	0	0	0	93
08:30	46	3	0	0	2	0	0	51	54	11	1	3	0	0	0	69	0	0	0	0	0	0	0	0	120
08:45	69	10	0	0	2	0	0	81	36	17	1	4	1	0	0	59	0	0	0	0	0	0	0	0	140
1 Hr	166	18	1	0	5	0	0	190	201	44	3	12	1	0	0	261	0	0	0	0	0	0	0	0	451
09:00	40	6	0	0	3	0	0	49	35	8	1	4	0	0	0	48	0	0	0	0	0	0	0	0	97
09:15	24	5	2	0	0	0	0	31	41	5	3	4	0	0	0	53	0	0	0	0	0	0	0	0	84
09:30	12	3	0	0	0	0	0	15	27	7	3	2	0	0	0	39	1	0	0	0	0	0	0	1	55
09:45	13	1	0	0	0	0	0	14	40	7	0	5	1	0	0	53	0	0	0	0	0	0	0	0	67
1 Hr	89	15	2	0	3	0	0	109	143	27	7	15	1	0	0	193	1	0	0	0	0	0	0	1	303
10:00	8	1	1	0	0	0	0	10	26	9	5	5	0	0	0	45	1	0	0	0	0	0	0	1	56
10:15	20	1	0	0	0	0	0	21	30	6	2	4	1	0	0	43	1	0	0	0	0	0	0	1	65
10:30	10	1	1	0	0	0	0	12	28	9	6	4	0	0	0	47	0	0	0	0	0	0	0	0	59
10:45	14	5	1	0	2	1	0	23	21	7	3	3	1	0	0	35	0	0	0	0	0	0	0	0	58
1 Hr	52	8	3	0	2	1	0	66	105	31	16	16	2	0	0	170	2	0	0	0	0	0	0	2	238
11:00	14	4	1	1	0	0	0	20	21	6	2	7	0	0	0	36	0	0	0	0	0	0	0	0	56
11:15	15	4	0	0	0	0	0	19	28	3	0	3	0	0	0	34	0	0	0	0	0	0	0	0	53
11:30	11	5	0	0	0	0	0	16	21	6	2	6	0	0	0	35	0	0	0	0	0	0	0	0	51
11:45	19	5	0	0	0	0	0	24	25	8	4	4	0	0	0	41	1	0	0	0	0	0	0	1	66
1 Hr	59	18	1	1	0	0	0	79	95	23	8	20	0	0	0	146	1	0	0	0	0	0	0	1	226
12:00	22	1	0	0	0	0	0	23	27	3	1	2	0	0	0	33	1	0	0	0	0	0	0	1	57
12:15	17	3	0	0	0	0	0	20	29	11	4	2	0	0	0	46	0	0	0	0	0	0	0	0	66
12:30	15	4	0	0	0	0	0	19	28	6	4	3	0	0	0	41	0	0	0	0	0	0	0	0	60
12:45	24	4	0	0	0	0	0	28	31	5	2	4	0	0	0	42	0	0	0	0	0	0	0	0	70
1 Hr	78	12	0	0	0	0	0	90	115	25	11	11	0	0	0	162	1	0	0	0	0	0	0	1	253
13:00	23	3	1	0	0	0	0	27	23	2	1	2	0	0	0	28	0	0	0	0	0	0	0	0	55
13:15	30	4	0	0	1	0	0	35	30	8	1	2	0	0	0	41	0	0	0	0	0	0	0	0	76
13:30	25	2	1	0	0	0	0	28	22	3	1	5	0	0	0	31	1	0	0	0	0	0	0	1	60
13:45	28	4	0	0	1	0	0	33	29	8	1	6	0	0	0	44	0	0	0	0	0	0	0	0	77
1 Hr	106	13	2	0	2	0	0	123	104	21	4	15	0	0	0	144	1	0	0	0	0	0	0	1	268
14:00	24	2	0	0	0	0	0	26	32	6	3	5	0	1	0	47	1	1	0	0	0	0	0	2	75
14:15	38	1	0	0	0	0	0	39	33	5	3	2	0	0	0	43	0	0	0	0	0	0	0	0	82
14:30	37	6	1	0	4	0	0	48	28	2	4	5	0	0	0	39	0	0	0	0	0	0	0	0	87
14:45	35	7	2	0	1	0	0	45	38	11	3	4	0	0	0	56	0	0	0	0	0	0	0	0	101
1 Hr	134	16	3	0	5	0	0	158	131	24	13	16	0	1	0	185	1	1	0	0	0	0	0	2	345
15:00	36	3	3	1	1	0	0	44	31	13	4	1	0	0	0	49	0	0	0	0	0	0	0	0	93
15:15	47	5	1	0	1	0	0	54	38	7	0	4	0	0	0	49	0	0	0	0	0	0	0	0	103
15:30	35	4	1	1	0	0	0	41	24	8	4	5	2	0	0	43	0	0	0	0	0	0	0	0	84
15:45	50	7	0	1	2	0	0	60	24	12	5	2	0	2	0	45	0	0	0	0	0	0	0	0	105
1 Hr	168	19	5	3	4	0	0	199	117	40	13	12	2	2	0	186	0	0	0	0	0	0	0	0	385
16:00	44	0	0	1	3	0	0	48	52	9	3	3	0	0	0	67	0	1	0	0	0	0	0	1	116

Appendix B

TRICS Data

TRICS 7.1.1
Trip Rate Parameter: Number of dwellings

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 03 - RESIDENTIAL
Category A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

14	LEINSTER		
	KD	KILDARE	1 days
	KK	KILKENNY	4 days
15	GREATER DUBLIN		
	DL	DUBLIN	7 days

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

Filtering Stage 2 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: Number of dwellings
Actual Range: 8 to 437 (units:)
Range Selected by User: 100 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/05 to 07/09/12

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

Monday	4 days
Tuesday	2 days
Wednesday	1 days
Thursday	1 days
Friday	2 days
Saturday	2 days

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

Selected survey types:

Manual count	12 days
Directional ATC Count	0 days

This data displays the number of m the total adding up to the whilst ATC surveys are undertaking using machines.

Selected Locations:

Town Centre	0
Edge of Town Centre	4
Suburban Area (PPS6 Out of Centre	4
Edge of Town	2
Neighbourhood Centre (PPS6 Local	2
Free Standing (PPS6 Out of Town)	0
Not Known	0

This data displays the number of su Edge of Town Suburban Neighbou Edge of To Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	0
Commercial Zone	0
Development Zone	0
Residential Zone	10
Retail Zone	0
Built-Up Zone	0
Village	0
Out of Town	0
High Street	0
No Sub Category	2

This data displays the number of su Industrial Zone Developm Residentia Retail Zon Built-Up Z Village Out of Tov High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:
C3 12 days
This data displays the number of su which can be found within the Library module of TRICS®.

Population within 1 mile:
1,001 to 5,000 1 days
5,001 to 10,000 1 days
10,001 to 15,000 1 days
15,001 to 20,000 5 days
25,001 to 50,000 4 days
This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
5,001 to 25,000 1 days
75,001 to 100,000 4 days
125,001 to 250,000 1 days
250,001 to 500,000 1 days
500,001 or More 5 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 1 days
1.1 to 1.5 9 days
1.6 to 2.0 2 days
This data displays the number of se within a radius of 5-miles of selected survey sites.

Travel Plan:
No 12 days
This data displays the number of su and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 DL-03-A-02 SEMI DETA DUBLIN
COLLINS AVENUE

DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 437
Survey date: MONDAY ######## Survey Typ MANUAL

2 DL-03-A-03 TERRACED, DUBLIN
RAHENY ROAD
RAHENY
DUBLIN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 206
Survey date: TUESDAY ######## Survey Typ MANUAL

3 DL-03-A-05 MIXED HOI DUBLIN
UPPER KILMACUD ROAD
DUNDRUM
DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 234
Survey date: SATURDAY ######## Survey Typ MANUAL

4 DL-03-A-06 DETACHED DUBLIN
UPPER KILMACUD ROAD
DUNDRUM
DUBLIN
Edge of Town

Residential Zone
Total Number of dwellings: 147
Survey date: FRIDAY ######## Survey Typ MANUAL
5 DL-03-A-07 SEMI DET./ DUBLIN
CASTLE DAWSON
BLACKROCK
DUBLIN
Edge of Town Centre
Residential Zone
Total Number of dwellings: 56
Survey date: MONDAY ######## Survey Typ MANUAL
6 DL-03-A-08 VARIOUS H DUBLIN
CASTLE PARK ROAD
DALKEY
DUBLIN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 36
Survey date: MONDAY ######## Survey Typ MANUAL
7 DL-03-A-09 TERRACED DUBLIN
RATHFARNHAM ROAD
RATHFARNHAM
DUBLIN
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Number of dwellings: 8
Survey date: FRIDAY ######## Survey Typ MANUAL
8 KD-03-A-02 TERRACED, KILDARE
CEDARWOOD PARK
MORRISTOWN ROAD
NEWBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 71
Survey date: TUESDAY ######## Survey Typ MANUAL
9 KK-03-A-01 DETACHED KILKENNY
ASHLEIGH COURT

KILKENNY
Edge of Town Centre
Residential Zone
Total Number of dwellings: 10
Survey date: MONDAY ######## Survey Typ MANUAL
10 KK-03-A-02 SEMI-DETA KILKENNY
UPPER PATRICK STREET

KILKENNY
Edge of Town Centre
Residential Zone
Total Number of dwellings: 68
Survey date: SATURDAY ######## Survey Typ MANUAL
11 KK-03-A-03 MIXED HOI KILKENNY
FRESHFORD ROAD
FRIARSINCH
KILKENNY
Edge of Town
Residential Zone
Total Number of dwellings: 70
Survey date: WEDNESDA ######## Survey Typ MANUAL
12 KK-03-A-04 TERRACED KILKENNY
PATRICK STREET

KILKENNY
Edge of Town Centre
No Sub Category

Total Number of dwellings: 30
Survey date: THURSDAY ######## Survey Typ MANUAL

This section provides a list of all sur it displays a unique site re the selecte the day of and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Calculation Factor: 1 DWELLS
Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									No. of Units
05:00-06:00									
06:00-07:00	1	30	0.133	1	30	0.033	1	30	0.166
07:00-08:00	12	114	0.046	12	114	0.181	12	114	0.227
08:00-09:00	12	114	0.123	12	114	0.34	12	114	0.463
09:00-10:00	12	114	0.136	12	114	0.237	12	114	0.373
10:00-11:00	12	114	0.137	12	114	0.17	12	114	0.307
11:00-12:00	12	114	0.176	12	114	0.192	12	114	0.368
12:00-13:00	12	114	0.212	12	114	0.197	12	114	0.409
13:00-14:00	12	114	0.213	12	114	0.197	12	114	0.41
14:00-15:00	12	114	0.249	12	114	0.233	12	114	0.482
15:00-16:00	12	114	0.253	12	114	0.24	12	114	0.493
16:00-17:00	12	114	0.301	12	114	0.175	12	114	0.476
17:00-18:00	12	114	0.345	12	114	0.215	12	114	0.56
18:00-19:00	12	114	0.267	12	114	0.227	12	114	0.494
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			2.591			2.637			5.228

Parameter summary

Trip rate parameter range selected: 8 - 437 (units:)
Survey date date range: 01/01/05 - 07/09/12
Number of weekdays (Monday-Frid 10
Number of Saturdays: 2
Number of Sundays: 0
Surveys manually removed from se 0
This section displays a quick summa followed by the range of n the total n the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Site Reference:	DL-03-A-05 Multi-Modal Site
Created:	Version: 2010(b)v6.6.2 06/07/10
Latitude/Longitude:	53.28690, -6.22730
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	GREATER DUBLIN/DUBLIN
Description:	MIXED HOUSES
Street:	UPPER KILMACUD ROAD
District:	DUNDRUM
Town:	DUBLIN
Post Code:	
Planning Authority:	
Location:	Suburban Area (PPS6 Out of Centre)
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	3200
Population within 1 Mile:	25,001 to 50,000
Population within 5 Miles:	500,001 or More
Car ownership within 5 Miles:	1.1 to 1.5

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	302		302
Monday-Friday	0700-1000	94		94
Monday-Friday	1600-1900	88		88
Saturday	0700-1900	218		218
Sunday	0700-1900	158		158

Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Site area	9.92 hect
Number of dwellings	234
Housing Density	29.29
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

This site is located in the Dundrum area, south of Dublin city centre. Local roads lead south towards the M50 which runs around the outskirts of Dublin, and north into the city centre.
The site has 1 vehicle access point and 1 pedestrian access point, both leading off Upper Kilmacud Road.
There are schools and residential developments in the local area.

Bus (or tram) site accessibility

3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Dun Laoghaire	2	20
St Stephens Green (LUAS)	8	15

Design features encouraging non-car modes

12. Pedestrians

There are good pedestrian routes in the area, including segregated walkways through open space.

13. Pedal cycles

There is a new cycle lane on the road outside the site.

14. Public transport

There are bus shelters at the bus stops. They are illuminated, covered and have a dedicated bus lay-by.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2010
Nearest Primary School	1.1 kilometres
Nearest Secondary School	1.3 kilometres
Nearest Local Shop/Corner Shop	0.7 kilometres
Nearest Main Supermarket	2.6 kilometres
Nearest Doctors Surgery	2.0 kilometres
Nearest Hospital with Minor Injuries/A & E	6.3 kilometres
Nearest Sports/Leisure Centre	1.8 kilometres

Census Data	
Year of Census	2006
County	DUBLIN
Number of people employed within County	619646
Number of households within County	420429
Number of people living within County	1187176

SITE PHOTO



Site reference: DL-03-A-05 Multi-Modal survey site
Trade name: HOLYWELL/DRUMAHILL

Site area (h/a): 9.92
Site area excluding public open spaces (h/a): 7.99

Open since 1995

Occupied dwellings 234
Unoccupied dwellings 0
Total dwellings 234

Housing Density 29.29
Privately owned units 234
Non-Privately owned units 0
Name of nearest site KNOCKNASHEE HOUSING
Distance to nearest similar site 1.0 Km

Average Bedrooms Per Unit 3.53
No of units with 1 bedroom 0
No of units with 2 bedrooms 0
No of units with 3 bedrooms 120
No of units with 4+ bedrooms 114
Total bedrooms 825
Unit Density 23.6

Residential unit types

	Private	Non-Private	Total
Detached houses	38	0	38
Semi-detached houses	82	0	82
Terraced houses	114	0	114
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)	0	0	0

Other:

Comments

The nearest similar site is 0.2km away.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	458
Parking Spaces Per Hectare	46.169
Parking Spaces Per dwelling	1.957
Arrivals Per Parking Space	1.34

Number of spaces

On-Street	200
Driveway	258
Garages	0
Communal parking spaces	0

General Comments on Parking

Each house has a driveway with room for 1 vehicle. Around 10% of the houses have space for 2 vehicles in the driveway. There is ample on street parking spaces within the site.

Off-Site parking details

Is there off-site parking available
No

Off-Site parking included in the counts
No

Free On-Street parking available nearby
No

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Cold and Cloudy
PM weather: Cold and Heavy Rain
Initial car park occupancy: 361 Final car park occupancy: 345
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 78% (458 On-Site Spaces)
Data proportions in %

Motor cars	97	Motor cycles	0	Public service	0
Light goods	2	OGV (1)	0	OGV (2)	0
				Taxis	1

Time	Arr 615	Dep 631	Totals 1246	Parking Accum
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	0	5	5	356
08:00-09:00	6	18	24	344
09:00-10:00	28	55	83	317
10:00-11:00	35	60	95	292
11:00-12:00	54	62	116	284
12:00-13:00	71	69	140	286
13:00-14:00	70	66	136	290
14:00-15:00	78	76	154	292
15:00-16:00	74	64	138	302
16:00-17:00	66	30	96	338
17:00-18:00	69	65	134	342
18:00-19:00	64	61	125	345
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No PSV's or OGV's entered or exited the site during the survey.

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 7	Dep 7	Totals 14	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	1	1	2	(0)
13:00-14:00	1	1	2	(0)
14:00-15:00	3	3	6	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	1	1	2	(0)
17:00-18:00	1	1	2	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 11	Dep 13	Totals 24	Accumulation
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	0	0	0	(0)
08:00-09:00	0	3	3	(-3)
09:00-10:00	3	0	3	(0)
10:00-11:00	1	1	2	(0)
11:00-12:00	0	1	1	(-1)
12:00-13:00	0	0	0	(-1)
13:00-14:00	1	0	1	(0)
14:00-15:00	3	2	5	(1)
15:00-16:00	3	3	6	(1)
16:00-17:00	0	3	3	(-2)
17:00-18:00	0	0	0	(-2)
18:00-19:00	0	0	0	(-2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 738	1	2	3	4	5	6	7	Dep 749	Totals 1487	Accum
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	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	5	(-5)
08:00-09:00	6	0	0	0	0	0	0	6	17	0	0	1	0	0	0	21	27	(-20)
09:00-10:00	28	0	0	0	0	0	0	28	51	3	1	0	0	0	0	60	88	(-52)
10:00-11:00	32	2	0	1	0	0	0	40	50	6	2	1	1	0	0	77	117	(-89)
11:00-12:00	47	6	0	1	0	0	0	63	51	7	4	0	0	0	0	77	140	(-103)
12:00-13:00	63	4	3	1	0	0	0	84	65	4	0	0	0	0	0	73	157	(-92)
13:00-14:00	60	6	3	1	0	0	0	85	56	4	6	0	0	0	0	82	167	(-89)
14:00-15:00	66	6	4	1	1	0	0	99	70	4	2	0	0	0	0	84	183	(-74)
15:00-16:00	65	5	3	1	0	0	0	88	54	7	3	0	0	0	0	77	165	(-63)
16:00-17:00	60	3	3	0	0	0	0	75	27	3	0	0	0	0	0	33	108	(-21)
17:00-18:00	55	9	4	1	0	0	0	89	52	6	3	4	0	0	0	89	178	(-21)
18:00-19:00	51	9	4	0	0	0	0	81	53	6	2	0	0	0	0	71	152	(-11)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 38	Dep 41	Totals 79	Accumulation
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	1	0	1	(1)
08:00-09:00	2	0	2	(3)
09:00-10:00	5	5	10	(3)
10:00-11:00	3	3	6	(3)
11:00-12:00	1	1	2	(3)
12:00-13:00	2	2	4	(3)
13:00-14:00	1	3	4	(1)
14:00-15:00	1	2	3	(0)
15:00-16:00	4	4	8	(0)
16:00-17:00	9	6	15	(3)
17:00-18:00	7	9	16	(1)
18:00-19:00	2	6	8	(-3)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Public transport Users

Time	Arr 32	Dep 35	Totals 67	Accumulation
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	1	0	1	(1)
08:00-09:00	0	2	2	(-1)
09:00-10:00	1	1	2	(-1)
10:00-11:00	2	6	8	(-5)
11:00-12:00	1	7	8	(-11)
12:00-13:00	1	0	1	(-10)
13:00-14:00	4	4	8	(-10)
14:00-15:00	2	2	4	(-10)
15:00-16:00	4	3	7	(-9)
16:00-17:00	7	2	9	(-4)
17:00-18:00	7	3	10	(0)
18:00-19:00	2	5	7	(-3)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Bus/Tram Passengers

Time	Arr 32	Dep 35	Totals 67	Accumulation
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	1	0	1	(1)
08:00-09:00	0	2	2	(-1)
09:00-10:00	1	1	2	(-1)
10:00-11:00	2	6	8	(-5)
11:00-12:00	1	7	8	(-11)
12:00-13:00	1	0	1	(-10)
13:00-14:00	4	4	8	(-10)
14:00-15:00	2	2	4	(-10)
15:00-16:00	4	3	7	(-9)
16:00-17:00	7	2	9	(-4)
17:00-18:00	7	3	10	(0)
18:00-19:00	2	5	7	(-3)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-05 Survey date: 01/05/10 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 819	Dep 838	Totals 1657	Accumulation
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	2	5	7	(-3)
08:00-09:00	8	26	34	(-21)
09:00-10:00	37	66	103	(-50)
10:00-11:00	46	87	133	(-91)
11:00-12:00	65	86	151	(-112)
12:00-13:00	87	75	162	(-100)
13:00-14:00	91	89	180	(-98)
14:00-15:00	105	90	195	(-83)
15:00-16:00	99	87	186	(-71)
16:00-17:00	91	44	135	(-24)
17:00-18:00	103	101	204	(-22)
18:00-19:00	85	82	167	(-19)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference:	DL-03-A-07 Multi-Modal Site
Created:	Version: 2012(a)v6.9.1 02/11/11
Latitude/Longitude:	53.30340, -6.18610
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	GREATER DUBLIN/DUBLIN
Description:	SEMI DET./TERRACED
Street:	CASTLE DAWSON
District:	BLACKROCK
Town:	DUBLIN
Post Code:	
Planning Authority:	
Location:	Edge of Town Centre
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	2850
Population within 1 Mile:	1,001 to 5,000
Population within 5 Miles:	125,001 to 250,000
Car ownership within 5 Miles:	1.6 to 2.0

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	230	96	326
Monday-Friday	0700-1000	60	24	84
Monday-Friday	1600-1900	58	24	82
Saturday	0700-1900	172	96	268
Sunday	0700-1900	114	44	158

Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Hilly
Urban Regeneration:	No
Site area	1.70 hect
Number of dwellings	56
Housing Density	46.67
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

The site is near the N31 which runs south/east into Dun Laoghaire. The site is also near the N11 which runs north into Dublin and south into Bray. Within the local area there are such developments as, a college, a school, park, sports ground and residential areas. The site has 4 access points 1 of which is for vehicles.

Bus (or tram) site accessibility

3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Cherrywood	4	15
Monkstown Avenue	4	9
Bray (Oldcourt)	2	40

Rail accessibility

7. Is there at least one railway station within 1 kilometre radius of the site?: Yes
8. If yes to question 7, is pedestrian access to the station satisfactory?: Yes
9. If yes to question 7, are there at least 2 stopping trains per hour (per direction between 0700 and 1900) with routes serving stations within a 10 kilometre radius (Mon-Sat)?: Yes
10. If yes to question 9, what are the service characteristics? (please complete the outline information below)

Destination (town/area	Number per hour	Approx. journey time
Dublin Conolly	4	18

Design features encouraging non-car modes

12. Pedestrians
There is local paving.

13. Pedal cycles
None

14. Public transport
There is local access to bus and rail services.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2011
Nearest Primary School	3.2 kilometres
Nearest Secondary School	1.0 kilometres
Nearest Local Shop/Corner Shop	1.4 kilometres
Nearest Main Supermarket	0.4 kilometres
Nearest Doctors Surgery	1.1 kilometres
Nearest Hospital with Minor Injuries/A & E	2.1 kilometres
Nearest Sports/Leisure Centre	1.9 kilometres

Census Data	
Year of Census	2006
County	DUBLIN
Number of people employed within County	629001
Number of households within County	420429
Number of people living within County	1187176

SITE PHOTO



Site reference:	DL-03-A-07	Multi-Modal survey site
Trade name:	SION HILL	
Site area (h/a):	1.70	
Site area excluding public open spaces (h/a):	1.20	
Open since	1990	
Occupied dwellings	56	
Unoccupied dwellings	0	
Total dwellings	56	
Housing Density	46.67	
Privately owned units	56	
Non-Privately owned units	0	
Name of nearest site	CASTLE COURT, DUBLIN	
Distance to nearest similar site	1.0 Km	
Average Bedrooms Per Unit	3.39	
No of units with 1 bedroom	0	
No of units with 2 bedrooms	0	
No of units with 3 bedrooms	34	
No of units with 4+ bedrooms	22	
Total bedrooms	190	
Unit Density	32.9	

Residential unit types

	Private	Non-Private	Total
Detached houses	0	0	0
Semi-detached houses	26	0	26
Terraced houses	22	0	22
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	8	0	8
Other (specify below)	0	0	0

Other:

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	120
Parking Spaces Per Hectare	70.588
Parking Spaces Per dwelling	2.143
Arrivals Per Parking Space	0.96

Number of spaces

On-Street	0
Driveway	0
Garages	0
Communal parking spaces	120

General Comments on Parking

Parking is for residents only with clamping in operation for non-residents found to be parked on the site.

Off-Site parking details

Is there off-site parking available
No

Off-Site parking included in the counts
No

Free On-Street parking available nearby
No

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
Yes, Most of the Area

Permitted on-street parking for non-residents available within this CPZ
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Mild and Clear
PM weather: Mild and Cloudy
Initial car park occupancy: 78 Final car park occupancy: 72
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 60% (120 On-Site Spaces)
Data proportions in %

Motor cars	92	Motor cycles	0	Public service	0
Light goods	6	OGV (1)	0	OGV (2)	0
				Taxis	2

Time	Arr 115	Dep 121	Totals 236	Parking Accum
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	1	21	22	58
08:00-09:00	5	48	53	15
09:00-10:00	5	11	16	9
10:00-11:00	2	6	8	5
11:00-12:00	1	3	4	3
12:00-13:00	5	6	11	2
13:00-14:00	13	3	16	12
14:00-15:00	3	5	8	10
15:00-16:00	15	3	18	22
16:00-17:00	37	4	41	55
17:00-18:00	21	6	27	70
18:00-19:00	7	5	12	72
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 3	Dep 3	Totals 6	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	1	0	1	(1)
10:00-11:00	0	1	1	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	2	1	3	(1)
14:00-15:00	0	1	1	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 21	Dep 22	Totals 43	Accumulation
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	0	1	1	(-1)
08:00-09:00	0	10	10	(-11)
09:00-10:00	1	5	6	(-15)
10:00-11:00	1	1	2	(-15)
11:00-12:00	0	2	2	(-17)
12:00-13:00	0	1	1	(-18)
13:00-14:00	1	1	2	(-18)
14:00-15:00	2	0	2	(-16)
15:00-16:00	4	0	4	(-12)
16:00-17:00	5	1	6	(-8)
17:00-18:00	7	0	7	(-1)
18:00-19:00	0	0	0	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 137	1	2	3	4	5	6	7	Dep 137	Totals 274	Accum
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	1	0	0	0	0	0	0	1	18	2	1	0	0	0	0	25	26	(-24)
08:00-09:00	4	1	0	0	0	0	0	6	42	4	2	0	0	0	0	56	62	(-74)
09:00-10:00	4	1	0	0	0	0	0	6	9	2	0	0	0	0	0	13	19	(-81)
10:00-11:00	2	0	0	0	0	0	0	2	5	1	0	0	0	0	0	7	9	(-86)
11:00-12:00	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3	5	(-87)
12:00-13:00	4	1	0	0	0	0	0	6	5	1	0	0	0	0	0	7	13	(-88)
13:00-14:00	12	1	0	0	0	0	0	14	3	0	0	0	0	0	0	3	17	(-77)
14:00-15:00	2	1	0	0	0	0	0	4	5	0	0	0	0	0	0	5	9	(-78)
15:00-16:00	11	3	1	0	0	0	0	20	3	0	0	0	0	0	0	3	23	(-61)
16:00-17:00	34	3	0	0	0	0	0	40	4	0	0	0	0	0	0	4	44	(-25)
17:00-18:00	15	5	1	0	0	0	0	28	6	0	0	0	0	0	0	6	34	(-3)
18:00-19:00	6	1	0	0	0	0	0	8	5	0	0	0	0	0	0	5	13	(0)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 22	Dep 24	Totals 46	Accumulation
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	0	1	1	(-1)
08:00-09:00	0	8	8	(-9)
09:00-10:00	0	11	11	(-20)
10:00-11:00	0	1	1	(-21)
11:00-12:00	0	0	0	(-21)
12:00-13:00	1	0	1	(-20)
13:00-14:00	2	1	3	(-19)
14:00-15:00	0	1	1	(-20)
15:00-16:00	1	1	2	(-20)
16:00-17:00	8	0	8	(-12)
17:00-18:00	6	0	6	(-6)
18:00-19:00	4	0	4	(-2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Public transport Users

Time	Arr 15	Dep 18	Totals 33	Accumulation
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	0	1	1	(-1)
08:00-09:00	0	8	8	(-9)
09:00-10:00	0	3	3	(-12)
10:00-11:00	0	2	2	(-14)
11:00-12:00	0	0	0	(-14)
12:00-13:00	0	1	1	(-15)
13:00-14:00	1	2	3	(-16)
14:00-15:00	1	0	1	(-15)
15:00-16:00	0	1	1	(-16)
16:00-17:00	7	0	7	(-9)
17:00-18:00	1	0	1	(-8)
18:00-19:00	5	0	5	(-3)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Bus/Tram Passengers

Time	Arr 9	Dep 8	Totals 17	Accumulation
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	0	1	1	(-1)
08:00-09:00	0	1	1	(-2)
09:00-10:00	0	2	2	(-4)
10:00-11:00	0	1	1	(-5)
11:00-12:00	0	0	0	(-5)
12:00-13:00	0	0	0	(-5)
13:00-14:00	1	2	3	(-6)
14:00-15:00	1	0	1	(-5)
15:00-16:00	0	1	1	(-6)
16:00-17:00	7	0	7	(1)
17:00-18:00	0	0	0	(1)
18:00-19:00	0	0	0	(1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Total Rail Passengers

Time	Arr 6	Dep 10	Totals 16	Accumulation
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	0	0	0	(0)
08:00-09:00	0	7	7	(-7)
09:00-10:00	0	1	1	(-8)
10:00-11:00	0	1	1	(-9)
11:00-12:00	0	0	0	(-9)
12:00-13:00	0	1	1	(-10)
13:00-14:00	0	0	0	(-10)
14:00-15:00	0	0	0	(-10)
15:00-16:00	0	0	0	(-10)
16:00-17:00	0	0	0	(-10)
17:00-18:00	1	0	1	(-9)
18:00-19:00	5	0	5	(-4)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-07 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 195	Dep 201	Totals 396	Accumulation
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	1	28	29	(-27)
08:00-09:00	6	82	88	(-103)
09:00-10:00	7	32	39	(-128)
10:00-11:00	3	11	14	(-136)
11:00-12:00	2	5	7	(-139)
12:00-13:00	7	9	16	(-141)
13:00-14:00	18	7	25	(-130)
14:00-15:00	7	6	13	(-129)
15:00-16:00	25	5	30	(-109)
16:00-17:00	60	5	65	(-54)
17:00-18:00	42	6	48	(-18)
18:00-19:00	17	5	22	(-6)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference: DL-03-A-09 Multi-Modal Site
Created: Version: 2013(a)v6.11.1 22/10/12
Latitude/Longitude: 53.30048, -6.28420
Land Use Type: 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area GREATER DUBLIN/DUBLIN

Description: TERRACED
Street: RATHFARNHAM ROAD
District: RATHFARNHAM
Town: DUBLIN
Post Code:
Planning Authority:

Location: Neighbourhood Centre (PPS6 Local Centre)
Location Sub Category: No Sub Category
Use Class: C3

Population within 500m: 1250
Population within 1 Mile: 10,001 to 15,000
Population within 5 Miles: 500,001 or More
Car ownership within 5 Miles: 1.1 to 1.5

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	270		270
Monday-Friday	0700-1000	78		78
Monday-Friday	1600-1900	72		72
Saturday	0700-1900	226		226
Sunday	0700-1900	118		118

Is site associated with a travel plan: No
If not, are there any plans to implement a Travel Plan in the future? No
Is survey data available before the implementation of the Travel Plan?
Is the location of the site hilly or flat: Flat
Urban Regeneration: No

Site area 0.27 hect
Number of dwellings 8
Housing Density 36.36

No. of developments for this Site: 1
No. of survey Days for this Site: 1

Bus (or tram) site accessibility

3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Grand Canal Dock	3	15
Rialto	2	10
Airport	5	64

Design features encouraging non-car modes

12. Pedestrians
There is a footpath linking the site to the public road.

13. Pedal cycles
There is a cycle route on the main road outside the site.

14. Public transport
There is a bus stop with a shelter and timetable within 100m of the site.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2012
Nearest Primary School	1.9 kilometres
Nearest Secondary School	0.7 kilometres
Nearest Local Shop/Corner Shop	0.1 kilometres
Nearest Main Supermarket	5.2 kilometres
Nearest Doctors Surgery	2.7 kilometres
Nearest Hospital with Minor Injuries/A & E	1.5 kilometres

Census Data	
Year of Census	2006
County	DUBLIN
Number of people employed within County	619646
Number of households within County	420429
Number of people living within County	1187176

SITE PHOTO



Site reference:	DL-03-A-09	Multi-Modal survey site
Trade name:	VILLAGE GREEN	
Site area (h/a):	0.27	
Site area excluding public open spaces (h/a):	0.22	
Open since	1990	
Occupied dwellings	8	
Unoccupied dwellings	0	
Total dwellings	8	
Housing Density	36.36	
Privately owned units	8	
Non-Privately owned units	0	
Name of nearest site	CASTLEVIEW	
Distance to nearest similar site	0.0 Km	
Average Bedrooms Per Unit	3	
No of units with 1 bedroom	0	
No of units with 2 bedrooms	0	
No of units with 3 bedrooms	8	
No of units with 4+ bedrooms	0	
Total bedrooms	24	
Unit Density	29.6	

Residential unit types

	Private	Non-Private	Total
Detached houses	0	0	0
Semi-detached houses	0	0	0
Terraced houses	8	0	8
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)			

Other:

Comments

This is a privately owned development with a private access road.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	16
Parking Spaces Per Hectare	59.259
Parking Spaces Per dwelling	2.000
Arrivals Per Parking Space	1.06

Number of spaces

On-Street	0
Driveway	0
Garages	0
Communal parking spaces	16

General Comments on Parking

Parking is in a perpendicular area off the private road with the tentative agreement of 2 car spaces per unit.

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
No

Free On-Street parking available nearby
Yes

If yes, considered easy to find a space
Yes

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: DL-03-A-09 Survey date: 07/09/12 Day of week: Friday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Hot and Clear
PM weather: Hot and Clear
Initial car park occupancy: 13 Final car park occupancy: 8
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 69% (16 On-Site Spaces)
Data proportions in %

Motor cars	90	Motor cycles	0	Public service	0
Light goods	10	OGV (1)	0	OGV (2)	0
				Taxis	0

Time	Arr 17	Dep 22	Totals 39	Parking Accum
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	0	2	2	11
08:00-09:00	0	0	0	11
09:00-10:00	1	4	5	8
10:00-11:00	2	2	4	8
11:00-12:00	4	4	8	8
12:00-13:00	3	0	3	11
13:00-14:00	1	2	3	10
14:00-15:00	0	1	1	9
15:00-16:00	1	3	4	7
16:00-17:00	1	2	3	6
17:00-18:00	1	0	1	7
18:00-19:00	3	2	5	8
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-09 Survey date: 07/09/12 Day of week: Friday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 20	1	2	3	4	5	6	7	Dep 25	Totals 45	Accum
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	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	2	(-2)
08:00-09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(-2)
09:00-10:00	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4	5	(-5)
10:00-11:00	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	4	(-5)
11:00-12:00	4	0	0	0	0	0	0	4	3	1	0	0	0	0	0	5	9	(-6)
12:00-13:00	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	(-3)
13:00-14:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	(-2)
14:00-15:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	3	(-5)
15:00-16:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	2	(-5)
16:00-17:00	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3	4	(-7)
17:00-18:00	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	2	4	(-7)
18:00-19:00	1	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	(-2)
19:00-20:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	3	(-5)
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: DL-03-A-09 Survey date: 07/09/12 Day of week: Friday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 18	Dep 20	Totals 38	Accumulation
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	0	1	1	(-1)
08:00-09:00	0	3	3	(-4)
09:00-10:00	1	1	2	(-4)
10:00-11:00	2	2	4	(-4)
11:00-12:00	0	1	1	(-5)
12:00-13:00	4	5	9	(-6)
13:00-14:00	2	1	3	(-5)
14:00-15:00	4	2	6	(-3)
15:00-16:00	1	1	2	(-3)
16:00-17:00	1	1	2	(-3)
17:00-18:00	2	2	4	(-3)
18:00-19:00	1	0	1	(-2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-09 Survey date: 07/09/12 Day of week: Friday
Multi-Modal survey site
People Surveyed: Public transport Users

Time	Arr 3	Dep 3	Totals 6	Accumulation
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	0	1	1	(-1)
08:00-09:00	0	0	0	(-1)
09:00-10:00	0	0	0	(-1)
10:00-11:00	0	0	0	(-1)
11:00-12:00	0	0	0	(-1)
12:00-13:00	0	1	1	(-2)
13:00-14:00	1	0	1	(-1)
14:00-15:00	0	0	0	(-1)
15:00-16:00	0	0	0	(-1)
16:00-17:00	1	0	1	(0)
17:00-18:00	0	1	1	(-1)
18:00-19:00	1	0	1	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-09 Survey date: 07/09/12 Day of week: Friday
Multi-Modal survey site
People Surveyed: Bus/Tram Passengers

Time	Arr 3	Dep 3	Totals 6	Accumulation
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	0	1	1	(-1)
08:00-09:00	0	0	0	(-1)
09:00-10:00	0	0	0	(-1)
10:00-11:00	0	0	0	(-1)
11:00-12:00	0	0	0	(-1)
12:00-13:00	0	1	1	(-2)
13:00-14:00	1	0	1	(-1)
14:00-15:00	0	0	0	(-1)
15:00-16:00	0	0	0	(-1)
16:00-17:00	1	0	1	(0)
17:00-18:00	0	1	1	(-1)
18:00-19:00	1	0	1	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-09 Survey date: 07/09/12 Day of week: Friday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 41	Dep 48	Totals 89	Accumulation
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	0	4	4	(-4)
08:00-09:00	0	3	3	(-7)
09:00-10:00	2	5	7	(-10)
10:00-11:00	4	4	8	(-10)
11:00-12:00	4	6	10	(-12)
12:00-13:00	7	6	13	(-11)
13:00-14:00	4	1	5	(-8)
14:00-15:00	4	5	9	(-9)
15:00-16:00	2	2	4	(-9)
16:00-17:00	3	4	7	(-10)
17:00-18:00	4	5	9	(-11)
18:00-19:00	7	0	7	(-4)
19:00-20:00	0	3	3	(-7)
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference: DL-03-A-02 Multi-Modal Site
Created: Version: 2008(b)v6.2.1 30/06/08
Latitude/Longitude: 53.38216, -6.23597
Land Use Type: 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area GREATER DUBLIN/DUBLIN

Description: SEMI DETACHED
Street: COLLINS AVENUE
District:
Town: DUBLIN
Post Code:
Planning Authority:

Location: Suburban Area (PPS6 Out of Centre)
Location Sub Category: Residential Zone
Use Class: C3

Population within 500m: 3200
Population within 1 Mile: 25,001 to 50,000
Population within 5 Miles: 250,001 to 500,000
Car ownership within 5 Miles: 0.6 to 1.0

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	266		266
Monday-Friday	0700-1000	74		74
Monday-Friday	1600-1900	70		70
Saturday	0700-1900	242		242
Sunday	0700-1900	144		144

Is site associated with a travel plan: No
If not, are there any plans to implement a Travel Plan in the future? No
Is survey data available before the implementation of the Travel Plan?
Is the location of the site hilly or flat: Flat
Urban Regeneration: No

Site area 13.90 hect
Number of dwellings 437
Housing Density 47.50

No. of developments for this Site: 1
No. of survey Days for this Site: 1

Comments
This site is located on Collins Avenue which leads west to the N1, which runs south into Dublin city centre and to the M1, which heads north out of Dublin. Local roads lead in all directions to the surrounding residential developments.
There are residential developments, parks and schools in the local area.
There are 3 observable bus stops within 400 metres of the site.
The site has 2 access points, 1 of which allows vehicles.

Bus (or tram) site accessibility
3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
4. If yes to question 3, where it is necessary to cross a road between the development and the stop, is there a conveniently placed crossing facility? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Dublin City Centre	4	50
Santry	3	5
Dublin Airport	3	15

11. Please enter general comments/views about the relevance, quality and importance of public transport services relating to this development.
There are a further 6 bus services per day to Beaumont Hospital.

Design features encouraging non-car modes

12. Pedestrians
There are footpaths in the local area.

13. Pedal cycles
The site is within close proximity to cycle paths.

14. Public transport
The site is within proximity to bus routes.

SITE PHOTO



Site reference:	DL-03-A-02	Multi-Modal survey site
Trade name:	COLLINSWOOD	
Site area (h/a):	13.90	
Site area excluding public open spaces (h/a):	9.20	
Open since	1980	
Occupied dwellings	437	
Unoccupied dwellings		
Total dwellings		
Housing Density	47.50	
Privately owned units	437	
Non-Privately owned units	0	
Name of nearest site	CHARLEMONT	
Distance to nearest similar site	1.0 Km	
Average Bedrooms Per Unit	3.11	
No of units with 1 bedroom	0	
No of units with 2 bedrooms	0	
No of units with 3 bedrooms	405	
No of units with 4+ bedrooms	32	
Total bedrooms	1361	
Unit Density	31.4	

Residential unit types

	Private	Non-Private	Total
Detached houses	10	0	10
Semi-detached houses	421	0	421
Terraced houses	0	0	0
Bungalows	6	0	6
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)			

Other:

Comments

The nearest similar site is less than 1km away.
This site has been open since the 1980's.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	591
Parking Spaces Per Hectare	42.518
Parking Spaces Per dwelling	1.352
Arrivals Per Parking Space	1.26

Number of spaces

On-Street	150
Driveway	439
Garages	3
Communal parking spaces	0

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
Yes

Free On-Street parking available nearby
Yes

If yes, considered easy to find a space
Yes

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Mild and Cloudy
PM weather: Mild and Cloudy
Initial car park occupancy: 586 Final car park occupancy: 471
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 86% (591 On-Site Spaces)
Data proportions in %

Motor cars	88	Motor cycles	1	Public service	0
Light goods	10	OGV (1)	1	OGV (2)	0
				Taxis	0

Time	Arr 746	Dep 861	Totals 1607	Parking Accum
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	16	95	111	507
08:00-09:00	36	165	201	378
09:00-10:00	44	67	111	355
10:00-11:00	27	44	71	338
11:00-12:00	44	50	94	332
12:00-13:00	61	46	107	347
13:00-14:00	52	58	110	341
14:00-15:00	82	88	170	335
15:00-16:00	72	72	144	335
16:00-17:00	98	55	153	378
17:00-18:00	115	51	166	442
18:00-19:00	99	70	169	471
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No PSV's entered or exited the site during this survey.
A very small amount of off-site parking was observed during this survey.

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: OGV

Data proportions in % OGV (1) 100 OGV (2) 0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 4	Dep 4	Totals 8	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	1	1	2	(0)
11:00-12:00	1	1	2	(0)
12:00-13:00	1	0	1	(1)
13:00-14:00	0	1	1	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	1	1	2	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 3	Dep 3	Totals 6	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	2	2	4	(0)
17:00-18:00	1	1	2	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 38	Dep 56	Totals 94	Accumulation
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	1	6	7	(-5)
08:00-09:00	0	10	10	(-15)
09:00-10:00	0	5	5	(-20)
10:00-11:00	3	4	7	(-21)
11:00-12:00	0	2	2	(-23)
12:00-13:00	1	3	4	(-25)
13:00-14:00	3	6	9	(-28)
14:00-15:00	6	6	12	(-28)
15:00-16:00	3	2	5	(-27)
16:00-17:00	5	4	9	(-26)
17:00-18:00	8	1	9	(-19)
18:00-19:00	8	7	15	(-18)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 923	1	2	3	4	5	6	7	Dep 1107	Totals 2030	Accum
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	15	0	1	0	0	0	0	18	84	9	1	1	0	0	0	109	127	(-91)
08:00-09:00	35	1	0	0	0	0	0	37	118	35	7	5	0	0	0	229	266	(-283)
09:00-10:00	44	0	0	0	0	0	0	44	63	4	0	0	0	0	0	71	115	(-310)
10:00-11:00	25	2	0	0	0	0	0	29	33	9	2	0	0	0	0	57	86	(-338)
11:00-12:00	42	2	0	0	0	0	0	46	39	8	2	1	0	0	0	65	111	(-357)
12:00-13:00	51	9	1	0	0	0	0	72	32	11	1	2	0	0	0	65	137	(-350)
13:00-14:00	43	8	1	0	0	0	0	62	47	8	2	1	0	0	0	73	135	(-361)
14:00-15:00	57	20	4	1	0	0	0	113	68	17	2	1	0	0	0	112	225	(-360)
15:00-16:00	56	13	3	0	0	0	0	91	55	13	3	1	0	0	0	94	185	(-363)
16:00-17:00	70	21	7	0	0	0	0	133	42	10	1	0	0	0	0	65	198	(-295)
17:00-18:00	86	27	2	0	0	0	0	146	36	12	2	0	0	0	0	66	212	(-215)
18:00-19:00	72	22	4	1	0	0	0	132	46	19	3	2	0	0	0	101	233	(-184)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 223	Dep 266	Totals 489	Accumulation
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	2	15	17	(-13)
08:00-09:00	4	52	56	(-61)
09:00-10:00	7	6	13	(-60)
10:00-11:00	5	15	20	(-70)
11:00-12:00	10	21	31	(-81)
12:00-13:00	5	15	20	(-91)
13:00-14:00	13	23	36	(-101)
14:00-15:00	58	26	84	(-69)
15:00-16:00	22	23	45	(-70)
16:00-17:00	26	19	45	(-63)
17:00-18:00	39	34	73	(-58)
18:00-19:00	32	17	49	(-43)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
People Surveyed: Public transport Users

Time	Arr 132	Dep 160	Totals 292	Accumulation
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	1	42	43	(-41)
08:00-09:00	0	48	48	(-89)
09:00-10:00	3	20	23	(-106)
10:00-11:00	0	10	10	(-116)
11:00-12:00	6	2	8	(-112)
12:00-13:00	4	7	11	(-115)
13:00-14:00	1	6	7	(-120)
14:00-15:00	15	12	27	(-117)
15:00-16:00	12	5	17	(-110)
16:00-17:00	7	1	8	(-104)
17:00-18:00	27	2	29	(-79)
18:00-19:00	56	5	61	(-28)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
People Surveyed: Bus/Tram Passengers

Time	Arr 132	Dep 160	Totals 292	Accumulation
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	1	42	43	(-41)
08:00-09:00	0	48	48	(-89)
09:00-10:00	3	20	23	(-106)
10:00-11:00	0	10	10	(-116)
11:00-12:00	6	2	8	(-112)
12:00-13:00	4	7	11	(-115)
13:00-14:00	1	6	7	(-120)
14:00-15:00	15	12	27	(-117)
15:00-16:00	12	5	17	(-110)
16:00-17:00	7	1	8	(-104)
17:00-18:00	27	2	29	(-79)
18:00-19:00	56	5	61	(-28)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-02 Survey date: 25/06/07 Day of week: Monday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 1316	Dep 1589	Totals 2905	Accumulation
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	22	172	194	(-150)
08:00-09:00	41	339	380	(-448)
09:00-10:00	54	102	156	(-496)
10:00-11:00	37	86	123	(-545)
11:00-12:00	62	90	152	(-573)
12:00-13:00	82	90	172	(-581)
13:00-14:00	79	108	187	(-610)
14:00-15:00	192	156	348	(-574)
15:00-16:00	128	124	252	(-570)
16:00-17:00	171	89	260	(-488)
17:00-18:00	220	103	323	(-371)
18:00-19:00	228	130	358	(-273)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference:	SW-16-A-01
Latitude/Longitude:	51.65485, -4.02493
Land Use Type:	16 - MIXED/A - MISCELLANEOUS
Region/Area	WALES/SWANSEA
Description:	FARM
Street:	
District:	GORSEINON
Town:	NEAR SWANSEA
Post Code:	SA4 4LN
Planning Authority:	
Location:	Free Standing (PPS6 Out of Town)
Location Sub Category:	Out of Town
Use Class:	Not Known
Population within 500m:	4
Population within 1 Mile:	1,001 to 5,000
Population within 5 Miles:	125,001 to 250,000
Car ownership within 5 Miles:	1.1 to 1.5
Reason for blank public transport table:	No local PT
Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments
This site is located a short distance to the west of Swansea, off the A484, which heads east towards Swansea and west towards Llanelli via Loughor.
The site is mainly surrounded by open land, with sewage works to the west and a small garden village to the north.

11. Please enter general comments/views about the relevance, quality and importance of public transport services relating to this development.
There is no local public transport available.

Design features encouraging non-car modes

12. Pedestrians
None

13. Pedal cycles
None

14. Public transport
None

Site reference:	SW-16-A-01
Trade name:	PENYFODAU-FAWR FARM
Site area (h/a):	6.20
Open since	1998
Total Employees	5
Full Time Employees	0
Part Time Employees	5
Approximate % of total employees working standard 9-5 hours or similar	%
Percentage Split of Employee Gender	
Male	%
Female	%
Name of nearest site	CLEMENT, SWANSEA
Distance to nearest similar site	6.0 Km

OPENING TIMES (24 Hour format)

Mon to Thurs	09:00	to	17:30
Friday	09:00	to	17:30
Saturday	08:00	to	17:30
Sunday	09:00	to	13:00

On-Site parking

Total no. of parking spaces	20

Number of spaces

Employee	0
Disabled	0
Visitor/Customer	20
OGV parking bays	0
Cycle racks	0
OGV loading bays	0
Mother & Toddler	0
Motorcycle spaces	0

Parking charges	No
Site parking surface or non-surface (multi-storey/underground)	Surface

Off-Site parking details

Is there off-site parking available	Yes
Off-Site parking included in the counts	No
Free On-Street parking available nearby	Yes
If yes, considered easy to find a space	Yes
If prepared to pay, easy to find somewhere to park off-site all day	No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)	No

Off-Street parking

Off-Street parking available	NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site	No

Site reference: SW-16-A-01 Survey date: 13/09/05 Day of week: Tuesday

Survey type: Manual Count
AM weather: Mild and Light Rain
PM weather: Mild and Cloudy
Initial car park occupancy: 0 Final car park occupancy: 2
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 35% (20 On-Site Spaces)

Data proportions in %

Motor cars	99	Motor cycles	0	Public service	0
Light goods	1	OGV (1)	0	OGV (2)	0
				Taxis	0

Taxis are included as cars in this survey

Time	Arr 70	Dep 68	Totals 138	Parking Accum
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				
08:00-09:00	2	0	2	2
09:00-10:00	4	2	6	4
10:00-11:00	8	5	13	7
11:00-12:00	8	11	19	4
12:00-13:00	10	11	21	3
13:00-14:00	9	9	18	3
14:00-15:00	13	11	24	5
15:00-16:00	10	12	22	3
16:00-17:00	6	7	13	2
17:00-18:00				
18:00-19:00				
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No OGVs, PSVs or pedal cycles entered or exited the site during this survey.
No taxis were recorded visiting the site.

Site Reference:	KK-03-A-02 Multi-Modal Site
Created:	Version: 2009(b)v6.4.1 09/02/09
Latitude/Longitude:	52.64566, -7.24962
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	LEINSTER/KILKENNY
Description:	SEMI-DETACHED
Street:	UPPER PATRICK STREET
District:	
Town:	KILKENNY
Post Code:	
Planning Authority:	
Location:	Edge of Town Centre
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	3502
Population within 1 Mile:	15,001 to 20,000
Population within 5 Miles:	75,001 to 100,000
Car ownership within 5 Miles:	1.1 to 1.5
Reason for blank public transport table:	No local PT
Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Site area	2.51 hect
Number of dwellings	68
Housing Density	31.63
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

This site is located south of Kilkenny town centre, just off Upper Patrick Street. Local roads lead in all directions in and out of Kilkenny town centre.
There is 1 vehicle access point at this site.
Adjacent to the site, there are some residential developments, a sports ground and a cemetery. There are some schools and further residential developments in the local area.

Design features encouraging non-car modes

12. Pedestrians
None

13. Pedal cycles
None

14. Public transport
None

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2008
Nearest Primary School	1.9 kilometres
Nearest Secondary School	0.5 kilometres
Nearest Local Shop/Corner Shop	0.6 kilometres
Nearest Main Supermarket	0.8 kilometres
Nearest Doctors Surgery	2.8 kilometres
Nearest Hospital with Minor Injuries/A & E	0.8 kilometres
Nearest Sports/Leisure Centre	0.5 kilometres

Census Data	
Year of Census	2006
County	
Number of people employed within County	42595
Number of households within County	29651
Number of people living within County	87558

SITE PHOTO



Site reference:	KK-03-A-02	Multi-Modal survey site
Trade name:	DEANS COURT	
Site area (h/a):	2.51	
Site area excluding public open spaces (h/a):	2.15	
Open since	1980	
Occupied dwellings	68	
Unoccupied dwellings	0	
Total dwellings	68	
Housing Density	31.63	
Privately owned units	68	
Non-Privately owned units	0	
Name of nearest site	VILLAGE COURT	
Distance to nearest similar site	1.0 Km	
Average Bedrooms Per Unit	2.12	
No of units with 1 bedroom	16	
No of units with 2 bedrooms	30	
No of units with 3 bedrooms	20	
No of units with 4+ bedrooms	2	
Total bedrooms	144	
Unit Density	27.1	

Residential unit types

	Private	Non-Private	Total
Detached houses	2	0	2
Semi-detached houses	50	0	50
Terraced houses	16	0	16
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)	0	0	0

Other:

Comments

The nearest similar site is 0.2km away.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	80
Parking Spaces Per Hectare	31.873
Parking Spaces Per dwelling	1.176
Arrivals Per Parking Space	2.64

Number of spaces

On-Street	0
Driveway	52
Garages	2
Communal parking spaces	26

Off-Site parking details

Is there off-site parking available
No

Off-Site parking included in the counts
No

Free On-Street parking available nearby
No

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: KK-03-A-02 Survey date: 29/11/08 Day of week: Saturday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Freezing and Clear
PM weather: Freezing and Clear
Initial car park occupancy: Final car park occupancy:
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity
Data proportions in %

Motor cars	87	Motor cycles	0	Public service	0
Light goods	8	OGV (1)	1	OGV (2)	0
				Taxis	4

Time	Arr 211	Dep 198	Totals 409	Parking Accum
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	2	4	6	(-2)
08:00-09:00	5	9	14	(-6)
09:00-10:00	9	15	24	(-12)
10:00-11:00	11	10	21	(-11)
11:00-12:00	31	28	59	(-8)
12:00-13:00	20	17	37	(-5)
13:00-14:00	19	18	37	(-4)
14:00-15:00	24	16	40	(4)
15:00-16:00	19	23	42	(0)
16:00-17:00	21	19	40	(2)
17:00-18:00	26	20	46	(8)
18:00-19:00	24	19	43	(13)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No PSV's visited the site during this survey.
No public transport users entered or exited the site during this survey.
It was not possible to obtain initial and final car park occupancy figures as some cars were parked in garages.

Site reference: KK-03-A-02 Survey date: 29/11/08 Day of week: Saturday
Multi-Modal survey site
Vehicles surveyed: OGV

Data proportions in % OGV (1) 100 OGV (2) 0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 2	Dep 1	Totals 3	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	1	1	2	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	1	0	1	(1)
18:00-19:00	0	0	0	(1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-02 Survey date: 29/11/08 Day of week: Saturday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 10	Dep 8	Totals 18	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	1	1	2	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	1	1	2	(0)
13:00-14:00	1	1	2	(0)
14:00-15:00	2	1	3	(1)
15:00-16:00	1	1	2	(1)
16:00-17:00	1	1	2	(1)
17:00-18:00	1	0	1	(2)
18:00-19:00	2	2	4	(2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-02 Survey date: 29/11/08 Day of week: Saturday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 2	Dep 0	Totals 2	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	1	0	1	(1)
10:00-11:00	0	0	0	(1)
11:00-12:00	1	0	1	(2)
12:00-13:00	0	0	0	(2)
13:00-14:00	0	0	0	(2)
14:00-15:00	0	0	0	(2)
15:00-16:00	0	0	0	(2)
16:00-17:00	0	0	0	(2)
17:00-18:00	0	0	0	(2)
18:00-19:00	0	0	0	(2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-02 Survey date: 29/11/08 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 391	1	2	3	4	5	6	7	Dep 359	Totals 750	Accum
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	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4	6	(-2)
08:00-09:00	5	0	0	0	0	0	0	5	9	3	0	0	0	0	0	15	20	(-12)
09:00-10:00	8	2	1	0	0	0	0	15	15	4	1	1	0	0	0	30	45	(-27)
10:00-11:00	11	3	0	1	0	0	0	21	11	3	0	0	0	0	0	17	38	(-23)
11:00-12:00	31	4	3	1	0	0	0	52	28	3	5	0	1	0	0	54	106	(-25)
12:00-13:00	20	2	0	0	0	0	0	24	17	3	3	1	0	0	0	36	60	(-37)
13:00-14:00	19	3	2	2	0	0	0	39	17	5	0	2	0	0	0	35	74	(-33)
14:00-15:00	24	6	3	1	2	0	0	59	16	3	1	0	0	0	0	25	84	(1)
15:00-16:00	18	7	1	0	0	0	0	35	22	9	2	0	1	0	0	51	86	(-15)
16:00-17:00	21	8	1	0	1	0	0	45	19	3	1	0	0	0	0	28	73	(2)
17:00-18:00	26	10	0	0	0	0	0	46	20	5	0	0	0	0	0	30	76	(18)
18:00-19:00	24	3	6	0	0	0	0	48	18	6	0	1	0	0	0	34	82	(32)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: KK-03-A-02 Survey date: 29/11/08 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 68	Dep 91	Totals 159	Accumulation
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	0	1	1	(-1)
08:00-09:00	1	7	8	(-7)
09:00-10:00	2	5	7	(-10)
10:00-11:00	2	5	7	(-13)
11:00-12:00	6	9	15	(-16)
12:00-13:00	3	4	7	(-17)
13:00-14:00	8	16	24	(-25)
14:00-15:00	16	10	26	(-19)
15:00-16:00	8	8	16	(-19)
16:00-17:00	8	16	24	(-27)
17:00-18:00	5	8	13	(-30)
18:00-19:00	9	2	11	(-23)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-02 Survey date: 29/11/08 Day of week: Saturday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 461	Dep 450	Totals 911	Accumulation
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	2	5	7	(-3)
08:00-09:00	6	22	28	(-19)
09:00-10:00	18	35	53	(-36)
10:00-11:00	23	22	45	(-35)
11:00-12:00	59	63	122	(-39)
12:00-13:00	27	40	67	(-52)
13:00-14:00	47	51	98	(-56)
14:00-15:00	75	35	110	(-16)
15:00-16:00	43	59	102	(-32)
16:00-17:00	53	44	97	(-23)
17:00-18:00	51	38	89	(-10)
18:00-19:00	57	36	93	(11)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference:	DL-03-A-08 Multi-Modal Site
Created:	Version: 2012(a)v6.9.1 03/11/11
Latitude/Longitude:	53.27820, -6.11520
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	GREATER DUBLIN/DUBLIN
Description:	VARIOUS HOUSES
Street:	CASTLE PARK ROAD
District:	DALKEY
Town:	DUBLIN
Post Code:	
Planning Authority:	
Location:	Suburban Area (PPS6 Out of Centre)
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	2136
Population within 1 Mile:	15,001 to 20,000
Population within 5 Miles:	500,001 or More
Car ownership within 5 Miles:	1.6 to 2.0

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	38	96	134
Monday-Friday	0700-1000	10	24	34
Monday-Friday	1600-1900	10	24	34
Saturday	0700-1900	38	96	134
Sunday	0700-1900	10	44	54

Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Site area	1.10 hect
Number of dwellings	36
Housing Density	70.59
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

The site isn't close to any motorways but the nearest to the site is the N31 which runs south/east into Dun Laoghaire. The other motorway near the site is the N11 which runs north into Dublin and south into Bray. Within the local area there are such developments as, sport ground, local shops and residential areas. The site has 1 access point which is for vehicles.

Bus (or tram) site accessibility

3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Mackintosh Park	2	40

Rail accessibility

7. Is there at least one railway station within 1 kilometre radius of the site?: Yes
8. If yes to question 7, is pedestrian access to the station satisfactory?: Yes
9. If yes to question 7, are there at least 2 stopping trains per hour (per direction between 0700 and 1900) with routes serving stations within a 10 kilometre radius (Mon-Sat)?: Yes
10. If yes to question 9, what are the service characteristics? (please complete the outline information below)

Destination (town/area	Number per hour	Approx. journey time
Dublin Conolly	4	30

Design features encouraging non-car modes

12. Pedestrians
There is local paving.

13. Pedal cycles
None

14. Public transport
There are nearby access to public transport - railway into Dublin and bus stops.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2011
Nearest Primary School	2.5 kilometres
Nearest Secondary School	0.6 kilometres
Nearest Local Shop/Corner Shop	0.4 kilometres
Nearest Main Supermarket	4.9 kilometres
Nearest Doctors Surgery	1.5 kilometres
Nearest Hospital with Minor Injuries/A & E	7.5 kilometres
Nearest Sports/Leisure Centre	0.8 kilometres

Census Data	
Year of Census	2006
County	DUBLIN
Number of people employed within County	629001
Number of households within County	420429
Number of people living within County	1187176

SITE PHOTO



Site reference:	DL-03-A-08 Multi-Modal survey site
Trade name:	WOLVERTON GLEN
Site area (h/a):	1.10
Site area excluding public open spaces (h/a):	0.51
Open since	1995
Occupied dwellings	36
Unoccupied dwellings	0
Total dwellings	36
Housing Density	70.59
Privately owned units	36
Non-Privately owned units	0
Name of nearest site	St Catherines Park, Dublin
Distance to nearest similar site	0.0 Km
Average Bedrooms Per Unit	2.33
No of units with 1 bedroom	0
No of units with 2 bedrooms	24
No of units with 3 bedrooms	12
No of units with 4+ bedrooms	0
Total bedrooms	84
Unit Density	32.7

Residential unit types

	Private	Non-Private	Total
Detached houses	5		
Semi-detached houses	6		
Terraced houses	10		
Bungalows	15		
Flats (in houses)	0		
Flats (in blocks)	0		
Other (specify below)	0		

Other:

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	61
Parking Spaces Per Hectare	55.455
Parking Spaces Per dwelling	1.694
Arrivals Per Parking Space	1.26

Number of spaces

On-Street	10
Driveway	0
Garages	36
Communal parking spaces	15

General Comments on Parking

Ample parking for housing on site.

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
No

Free On-Street parking available nearby
Yes

If yes, considered easy to find a space
Yes

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Mild and Clear
PM weather: Mild and Cloudy
Initial car park occupancy: 41 Final car park occupancy: 36
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 59% (61 On-Site Spaces)
Data proportions in %

Motor cars	93	Motor cycles	0	Public service	0
Light goods	2	OGV (1)	0	OGV (2)	0
				Taxis	5

Time	Arr 77	Dep 82	Totals 159	Parking Accum
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	1	8	9	34
08:00-09:00	5	23	28	16
09:00-10:00	5	9	14	12
10:00-11:00	5	3	8	14
11:00-12:00	1	3	4	12
12:00-13:00	3	3	6	12
13:00-14:00	4	8	12	8
14:00-15:00	3	6	9	5
15:00-16:00	5	4	9	6
16:00-17:00	10	5	15	11
17:00-18:00	25	5	30	31
18:00-19:00	10	5	15	36
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 4	Dep 4	Totals 8	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	1	1	2	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	2	2	4	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	1	1	2	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 18	Dep 17	Totals 35	Accumulation
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	0	5	5	(-5)
08:00-09:00	0	9	9	(-14)
09:00-10:00	1	0	1	(-13)
10:00-11:00	0	0	0	(-13)
11:00-12:00	1	0	1	(-12)
12:00-13:00	0	0	0	(-12)
13:00-14:00	1	1	2	(-12)
14:00-15:00	0	0	0	(-12)
15:00-16:00	0	2	2	(-14)
16:00-17:00	12	0	12	(-2)
17:00-18:00	3	0	3	(1)
18:00-19:00	0	0	0	(1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 121	1	2	3	4	5	6	7	Dep 128	Totals 249	Accum
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	1	0	0	0	0	0	0	1	3	2	2	1	0	0	0	17	18	(-16)
08:00-09:00	3	1	1	0	0	0	0	8	12	6	4	1	0	0	0	40	48	(-48)
09:00-10:00	4	1	0	0	0	0	0	6	7	1	1	0	0	0	0	12	18	(-54)
10:00-11:00	5	0	0	0	0	0	0	5	1	2	0	0	0	0	0	5	10	(-54)
11:00-12:00	0	1	0	0	0	0	0	2	1	2	0	0	0	0	0	5	7	(-57)
12:00-13:00	2	1	0	0	0	0	0	4	3	0	0	0	0	0	0	3	7	(-56)
13:00-14:00	2	2	0	0	0	0	0	6	3	5	0	0	0	0	0	13	19	(-63)
14:00-15:00	2	1	0	0	0	0	0	4	5	1	0	0	0	0	0	7	11	(-66)
15:00-16:00	1	3	1	0	0	0	0	10	4	0	0	0	0	0	0	4	14	(-60)
16:00-17:00	1	5	2	2	0	0	0	25	3	2	0	0	0	0	0	7	32	(-42)
17:00-18:00	16	7	1	1	0	0	0	37	3	1	1	0	0	0	0	8	45	(-13)
18:00-19:00	7	3	0	0	0	0	0	13	3	2	0	0	0	0	0	7	20	(-7)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 39	Dep 35	Totals 74	Accumulation
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	1	8	9	(-7)
08:00-09:00	1	10	11	(-16)
09:00-10:00	2	2	4	(-16)
10:00-11:00	3	1	4	(-14)
11:00-12:00	0	2	2	(-16)
12:00-13:00	1	0	1	(-15)
13:00-14:00	1	5	6	(-19)
14:00-15:00	0	5	5	(-24)
15:00-16:00	6	0	6	(-18)
16:00-17:00	9	1	10	(-10)
17:00-18:00	7	1	8	(-4)
18:00-19:00	8	0	8	(4)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Public transport Users

Time	Arr 22	Dep 21	Totals 43	Accumulation
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	0	8	8	(-8)
08:00-09:00	0	6	6	(-14)
09:00-10:00	0	1	1	(-15)
10:00-11:00	0	1	1	(-16)
11:00-12:00	0	1	1	(-17)
12:00-13:00	3	3	6	(-17)
13:00-14:00	0	0	0	(-17)
14:00-15:00	2	1	3	(-16)
15:00-16:00	5	0	5	(-11)
16:00-17:00	1	0	1	(-10)
17:00-18:00	5	0	5	(-5)
18:00-19:00	6	0	6	(1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Bus/Tram Passengers

Time	Arr 16	Dep 17	Totals 33	Accumulation
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	0	5	5	(-5)
08:00-09:00	0	5	5	(-10)
09:00-10:00	0	1	1	(-11)
10:00-11:00	0	1	1	(-12)
11:00-12:00	0	1	1	(-13)
12:00-13:00	3	3	6	(-13)
13:00-14:00	0	0	0	(-13)
14:00-15:00	2	1	3	(-12)
15:00-16:00	3	0	3	(-9)
16:00-17:00	0	0	0	(-9)
17:00-18:00	3	0	3	(-6)
18:00-19:00	5	0	5	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Total Rail Passengers

Time	Arr 6	Dep 4	Totals 10	Accumulation
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	0	3	3	(-3)
08:00-09:00	0	1	1	(-4)
09:00-10:00	0	0	0	(-4)
10:00-11:00	0	0	0	(-4)
11:00-12:00	0	0	0	(-4)
12:00-13:00	0	0	0	(-4)
13:00-14:00	0	0	0	(-4)
14:00-15:00	0	0	0	(-4)
15:00-16:00	2	0	2	(-2)
16:00-17:00	1	0	1	(-1)
17:00-18:00	2	0	2	(1)
18:00-19:00	1	0	1	(2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-08 Survey date: 26/09/11 Day of week: Monday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 200	Dep 201	Totals 401	Accumulation
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	2	38	40	(-36)
08:00-09:00	9	65	74	(-92)
09:00-10:00	9	15	24	(-98)
10:00-11:00	8	7	15	(-97)
11:00-12:00	3	8	11	(-102)
12:00-13:00	8	6	14	(-100)
13:00-14:00	8	19	27	(-111)
14:00-15:00	6	13	19	(-118)
15:00-16:00	21	6	27	(-103)
16:00-17:00	47	8	55	(-64)
17:00-18:00	52	9	61	(-21)
18:00-19:00	27	7	34	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference: DL-03-A-06 Multi-Modal Site
Created: Version: 2010(b)v6.6.2 13/07/10
Latitude/Longitude: 53.28300, -6.21090
Land Use Type: 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area GREATER DUBLIN/DUBLIN

Description: DETACHED
Street: UPPER KILMACUD ROAD
District: DUNDRUM
Town: DUBLIN
Post Code:
Planning Authority:

Location: Edge of Town
Location Sub Category: Residential Zone
Use Class: C3

Population within 500m: 3500
Population within 1 Mile: 25,001 to 50,000
Population within 5 Miles: 500,001 or More
Car ownership within 5 Miles: 1.1 to 1.5

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	338		338
Monday-Friday	0700-1000	106		106
Monday-Friday	1600-1900	98		98
Saturday	0700-1900	248		248
Sunday	0700-1900	182		182

Is site associated with a travel plan: No
If not, are there any plans to implement a Travel Plan in the future? No
Is survey data available before the implementation of the Travel Plan?
Is the location of the site hilly or flat: Flat
Urban Regeneration: No

Site area 9.24 hect
Number of dwellings 147
Housing Density 18.42

No. of developments for this Site: 1
No. of survey Days for this Site: 1

Comments
This site is located on Upper Kilmacud Road, just west of the N11 and north of the M50. The N11 runs north-west into Dublin city centre and south-east to join the M11. The M50 runs around the outskirts of Dublin.
The site has 1 vehicle access and 1 pedestrian access.
There are some offices, schools, industrial and residential developments in the local area.

Bus (or tram) site accessibility
3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Dublin city centre (LUAS	8	15
Dun Laoghaire	2	20
Bray	2	20

Design features encouraging non-car modes

12. Pedestrians
There are good pedestrian routes in the area, including segregated walkways through open space.

13. Pedal cycles
There is a new cycle lane on the local road outside the site.

14. Public transport

There is a bus stop with a shelter and a dedicated lay-by within close proximity to the site.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2010
Nearest Primary School	0.4 kilometres
Nearest Secondary School	0.4 kilometres
Nearest Local Shop/Corner Shop	1.3 kilometres
Nearest Main Supermarket	1.4 kilometres
Nearest Doctors Surgery	0.8 kilometres
Nearest Hospital with Minor Injuries/A & E	5.2 kilometres
Nearest Sports/Leisure Centre	0.6 kilometres

Census Data	
Year of Census	2006
County	DUBLIN
Number of people employed within County	619646
Number of households within County	420429
Number of people living within County	1187176

SITE PHOTO



Site reference:	DL-03-A-06 Multi-Modal survey site
Trade name:	STILLORGAN WOOD
Site area (h/a):	9.24
Site area excluding public open spaces (h/a):	7.98
Open since	1975
Occupied dwellings	147
Unoccupied dwellings	2
Total dwellings	149
Housing Density	18.42
Privately owned units	147
Non-Privately owned units	0
Name of nearest site	STILLORGAN HEATH
Distance to nearest similar site	1.0 Km
Average Bedrooms Per Unit	4
No of units with 1 bedroom	0
No of units with 2 bedrooms	0
No of units with 3 bedrooms	0
No of units with 4+ bedrooms	147
Total bedrooms	588
Unit Density	15.9

Residential unit types

	Private	Non-Private	Total
Detached houses	147	0	147
Semi-detached houses	0	0	0
Terraced houses	0	0	0
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)	0	0	0

Other:

Comments

The nearest similar site is 0.2km away.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	329
Parking Spaces Per Hectare	35.606
Parking Spaces Per dwelling	2.238
Arrivals Per Parking Space	1.42

Number of spaces

On-Street	0
Driveway	298
Garages	31
Communal parking spaces	0

General Comments on Parking

Each house has a driveway with space for two vehicles.
It is possible to also park on-street however these spaces have not been counted as most parking takes place in driveways.

Off-Site parking details

Is there off-site parking available
No
Off-Site parking included in the counts
No
Free On-Street parking available nearby
No
If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Mild and Cloudy
PM weather: Mild and Heavy Rain
Initial car park occupancy: 258 Final car park occupancy: 252
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 79% (329 On-Site Spaces)
Data proportions in %

Motor cars	93	Motor cycles	0	Public service	0
Light goods	5	OGV (1)	1	OGV (2)	0
				Taxis	1

Time	Arr 468	Dep 474	Totals 942	Parking Accum
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	12	24	36	246
08:00-09:00	25	54	79	217
09:00-10:00	23	45	68	195
10:00-11:00	29	32	61	192
11:00-12:00	50	45	95	197
12:00-13:00	42	38	80	201
13:00-14:00	50	28	78	223
14:00-15:00	40	43	83	220
15:00-16:00	44	53	97	211
16:00-17:00	54	33	87	232
17:00-18:00	61	32	93	261
18:00-19:00	38	47	85	252
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

It was noted that many of the residents at this site appeared to be elderly/retired which can explain the unusual peak arrival and departure periods.

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
Vehicles surveyed: OGV

Data proportions in % OGV (1) 100 OGV (2) 0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 4	Dep 4	Totals 8	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	1	1	2	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	1	1	2	(0)
13:00-14:00	1	1	2	(0)
14:00-15:00	1	1	2	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
Vehicles surveyed: PSV

Time	Arr 2	Dep 2	Totals 4	Accumulation
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	1	0	1	(1)
08:00-09:00	0	1	1	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	1	1	2	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 6	Dep 6	Totals 12	Accumulation
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	2	2	4	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	1	1	2	(0)
17:00-18:00	3	3	6	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 27	Dep 30	Totals 57	Accumulation
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	0	0	0	(0)
08:00-09:00	2	6	8	(-4)
09:00-10:00	1	3	4	(-6)
10:00-11:00	0	0	0	(-6)
11:00-12:00	1	2	3	(-7)
12:00-13:00	2	2	4	(-7)
13:00-14:00	3	0	3	(-4)
14:00-15:00	4	3	7	(-3)
15:00-16:00	4	6	10	(-5)
16:00-17:00	3	1	4	(-3)
17:00-18:00	5	6	11	(-4)
18:00-19:00	2	1	3	(-3)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 522	1	2	3	4	5	6	7	Dep 518	Totals 1040	Accum
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	11	1	0	0	0	0	0	13	23	0	0	1	0	0	0	27	40	(-14)
08:00-09:00	27	0	0	0	0	0	0	27	48	5	0	1	0	0	0	62	89	(-49)
09:00-10:00	23	0	0	0	0	0	0	23	44	1	0	0	0	0	0	46	69	(-72)
10:00-11:00	28	1	0	0	0	0	0	30	30	2	0	0	0	0	0	34	64	(-76)
11:00-12:00	50	0	0	0	0	0	0	50	44	1	0	0	0	0	0	46	96	(-72)
12:00-13:00	40	1	1	0	0	0	0	45	36	2	0	0	0	0	0	40	85	(-67)
13:00-14:00	45	5	0	0	0	0	0	55	28	0	0	0	0	0	0	28	83	(-40)
14:00-15:00	31	6	1	2	0	0	0	54	41	2	0	0	0	0	0	45	99	(-31)
15:00-16:00	38	3	1	1	1	0	0	56	49	2	1	1	0	0	0	60	116	(-35)
16:00-17:00	46	6	1	1	0	0	0	65	30	0	2	1	0	0	0	40	105	(-10)
17:00-18:00	57	4	0	0	0	0	0	65	29	2	0	1	0	0	0	37	102	(18)
18:00-19:00	37	1	0	0	0	0	0	39	41	6	0	0	0	0	0	53	92	(4)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 151	Dep 154	Totals 305	Accumulation
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	2	7	9	(-5)
08:00-09:00	21	44	65	(-28)
09:00-10:00	17	18	35	(-29)
10:00-11:00	11	8	19	(-26)
11:00-12:00	5	10	15	(-31)
12:00-13:00	10	13	23	(-34)
13:00-14:00	11	1	12	(-24)
14:00-15:00	14	9	23	(-19)
15:00-16:00	19	15	34	(-15)
16:00-17:00	8	9	17	(-16)
17:00-18:00	17	11	28	(-10)
18:00-19:00	16	9	25	(-3)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
People Surveyed: Public transport Users

Time	Arr 113	Dep 126	Totals 239	Accumulation
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	1	12	13	(-11)
08:00-09:00	7	42	49	(-46)
09:00-10:00	3	12	15	(-55)
10:00-11:00	4	6	10	(-57)
11:00-12:00	9	10	19	(-58)
12:00-13:00	7	8	15	(-59)
13:00-14:00	5	7	12	(-61)
14:00-15:00	7	7	14	(-61)
15:00-16:00	8	3	11	(-56)
16:00-17:00	6	1	7	(-51)
17:00-18:00	20	9	29	(-40)
18:00-19:00	36	9	45	(-13)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
People Surveyed: Bus/Tram Passengers

Time	Arr 112	Dep 125	Totals 237	Accumulation
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	1	12	13	(-11)
08:00-09:00	7	41	48	(-45)
09:00-10:00	3	12	15	(-54)
10:00-11:00	4	6	10	(-56)
11:00-12:00	9	10	19	(-57)
12:00-13:00	7	8	15	(-58)
13:00-14:00	4	7	11	(-61)
14:00-15:00	7	7	14	(-61)
15:00-16:00	8	3	11	(-56)
16:00-17:00	6	1	7	(-51)
17:00-18:00	20	9	29	(-40)
18:00-19:00	36	9	45	(-13)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
People Surveyed: Coach Passengers

Time	Arr 1	Dep 1	Totals 2	Accumulation
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	0	0	0	(0)
08:00-09:00	0	1	1	(-1)
09:00-10:00	0	0	0	(-1)
10:00-11:00	0	0	0	(-1)
11:00-12:00	0	0	0	(-1)
12:00-13:00	0	0	0	(-1)
13:00-14:00	1	0	1	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-06 Survey date: 30/04/10 Day of week: Friday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 813	Dep 828	Totals 1641	Accumulation
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	16	46	62	(-30)
08:00-09:00	57	154	211	(-127)
09:00-10:00	44	79	123	(-162)
10:00-11:00	45	48	93	(-165)
11:00-12:00	65	68	133	(-168)
12:00-13:00	64	63	127	(-167)
13:00-14:00	74	36	110	(-129)
14:00-15:00	79	64	143	(-114)
15:00-16:00	87	84	171	(-111)
16:00-17:00	82	51	133	(-80)
17:00-18:00	107	63	170	(-36)
18:00-19:00	93	72	165	(-15)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference:	WM-16-C-01
Created:	Version: 2009(b)v6.4.1 22/04/09
Latitude/Longitude:	52.53240, -1.95990
Land Use Type:	16 - MIXED/C - FARM DIVERSIFICATION
Region/Area	WEST MIDLANDS/WEST MIDLANDS
Description:	DAIRY FARM
Street:	FORGE LANE
District:	
Town:	NEAR WEST BROMWICH
Post Code:	B71 3SZ
Planning Authority:	
Location:	Free Standing (PPS6 Out of Town)
Location Sub Category:	Out of Town
Use Class:	Sui Generis
Population within 500m:	50
Population within 1 Mile:	10,001 to 15,000
Population within 5 Miles:	500,001 or More
Car ownership within 5 Miles:	0.6 to 1.0
Reason for blank public transport table:	No local PT
Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments
The site is located to the east of West Bromwich and the M5. The entrance to the site is off Forge Lane which leads north to the A4041 and south towards the A41. The A41 heads south-east into Birmingham and north-west into West Bromwich. The A4041 heads south-west into West Bromwich and north-east towards Sutton Coldfield.
This site is located within an area of golf courses and farm land which is surrounded by residential and industrial development.

Design features encouraging non-car modes

12. Pedestrians
There are footpaths in the local area.

13. Pedal cycles
There are cycle tracks in the local area.

14. Public transport
None

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2009
Nearest Primary School	1.8 kilometres
Nearest Secondary School	1.3 kilometres
Nearest Local Shop/Corner Shop	1.1 kilometres
Nearest Main Supermarket	2.4 kilometres
Nearest Doctors Surgery	1.0 kilometres
Nearest Hospital with Minor Injuries/A & E	2.1 kilometres
Nearest Sports/Leisure Centre	2.6 kilometres

Census Data	
Year of Census	2001
Census Output Area/Data Zone	
Number of people employed within Census Output Area	134
Number of households within Census Output Area	126
Number of people living within Census Output Area	280
Area of Census Output Area (hectares)	5.00
Population density within Census Output Area (per hectare)	58.82

SITE PHOTO



Site reference:	WM-16-C-01
Trade name:	FORGE MILL FARM
Site area (h/a):	27.00
Open since	1994
Total Employees	6
Full Time Employees	4 66%
Part Time Employees	2 34%
Approximate % of total employees working standard 9-5 hours or similar	0%
Percentage Split of Employee Gender	
Male	50%
Female	50%
Name of nearest site	SANDWELL PARK FARM
Distance to nearest similar site	2.0 Km

OPENING TIMES (24 Hour format)

Mon to Thurs	10:00	to	16:30
Friday	10:00	to	16:30
Saturday	10:00	to	16:30
Sunday	10:00	to	16:30

Comments

This site is a working dairy farm owned by Sandwell Metropolitan Brough Council. The farm is open to the public with a farm shop and a play area at the site. The site also offeres indoor and outdoor picnic areas.
The entire farm is 27 hectares with 6000m2 diversified available for public access.
This site was formally a Mill which is no longer in use.
The site is closed on Christmas Day and Boxing Day.

On-Site parking

Total no. of parking spaces	20

Number of spaces

Employee	0
Disabled	0
Visitor/Customer	20
OGV parking bays	0
Cycle racks	0
OGV loading bays	0
Mother & Toddler	0
Motorcycle spaces	0

Parking charges No

Comments about the management of the site car park, along with enforcement measures

There was no car park management observed on the day of the survey.

Site parking surface or non-surface (multi-storey/underground)
Surface

General Comments on Parking

The 20 car parking spaces at this site are unmarked.
There is off-site parking available a short distance south of the site. This car park is for the local nature reserve.
There is a footpath link connecting the farm and this car park.

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
Yes

Free On-Street parking available nearby
Yes

If yes, considered easy to find a space
Yes

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available	Yes, Public Off-Street Parking is Available
Approx. available spaces	62

Parking located within a control parking zone (CPZ)
No

Charges for this Off-Street parking
No

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: WM-16-C-01 Survey date: 30/11/08 Day of week: Sunday

Survey type: Manual Count
AM weather: Freezing and Cloudy
PM weather: Freezing and Cloudy
Initial car park occupancy: 3 Final car park occupancy: 3
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 85% (20 On-Site Spaces)
Data proportions in %

Motor cars	89	Motor cycles	0	Public service	0
Light goods	11	OGV (1)	0	OGV (2)	0
				Taxis	0

Time	Arr 103	Dep 103	Totals 206	Parking Accum
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				
08:00-09:00				
09:00-10:00	0	0	0	3
10:00-11:00	16	9	25	10
11:00-12:00	24	19	43	15
12:00-13:00	20	18	38	17
13:00-14:00	23	26	49	14
14:00-15:00	14	16	30	12
15:00-16:00	6	13	19	5
16:00-17:00	0	2	2	3
17:00-18:00				
18:00-19:00				
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No OGV, PSV or taxi vehicles entered or exited the site on the day of the survey.

Site reference: WM-16-C-01 Survey date: 30/11/08 Day of week: Sunday

Vehicles surveyed: Cycles

Time	Arr 6	Dep 6	Totals 12	Accumulation
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				
08:00-09:00				
09:00-10:00	0	0	0	(0)
10:00-11:00	1	1	2	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	1	0	1	(1)
13:00-14:00	4	4	8	(1)
14:00-15:00	0	1	1	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00				
18:00-19:00				
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference: KD-06-D-01
Created: Version: 2011(a)v6.7.2 08/12/10
Latitude/Longitude: 53.38180, -6.58170
Land Use Type: 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
Region/Area LEINSTER/KILDARE

Description: MCDONALD'S
Street: DUBLIN ROAD
District:
Town: MAYNOOTH
Post Code:
Planning Authority:

Location: Neighbourhood Centre (PPS6 Local Centre)
Location Sub Category: Retail Zone
Use Class: A3

Population within 500m: 800
Population within 1 Mile: 5,001 to 10,000
Population within 5 Miles: 50,001 to 75,000
Car ownership within 5 Miles: 1.1 to 1.5

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	68	66	134
Monday-Friday	0700-1000	14	18	32
Monday-Friday	1600-1900	18	24	42
Saturday	0700-1900	68	42	110
Sunday	0700-1900	44	24	68

Is site associated with a travel plan: No
If not, are there any plans to implement a Travel Plan in the future? No
Is survey data available before the implementation of the Travel Plan?
Is the location of the site hilly or flat: Flat
Urban Regeneration: No

Gross floor area 380 sqm
Total Employees 65

No. of developments for this Site: 1
No. of survey Days for this Site: 1

Comments
This site is located on the outskirts of Maynooth, on Dublin Road, within Carton Park (retail park). Dublin Road runs west into Maynooth town centre, and east to join with the N4 which runs into Dublin town centre.

Bus (or tram) site accessibility
3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
4. If yes to question 3, where it is necessary to cross a road between the development and the stop, is there a conveniently placed crossing facility? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Dublin City Centre	2	50

Rail accessibility
7. Is there at least one railway station within 1 kilometre radius of the site?: Yes
8. If yes to question 7, is pedestrian access to the station satisfactory?: Yes
9. If yes to question 7, are there at least 2 stopping trains per hour (per direction between 0700 and 1900) with routes serving stations within a 10 kilometre radius (Mon-Sat)?: Yes
10. If yes to question 9, what are the service characteristics? (please complete the outline information below)

Destination (town/area	Number per hour	Approx. journey time
Dublin	2	30

11. Please enter general comments/views about the relevance, quality and importance of public transport services relating to this development.

There are varying times for the two hourly trains running in the area. 1 train runs slow from Dublin to Maynooth with a journey time of 1 hour. The other train runs fast from Dublin to Maynooth, then slow to Longford.
In addition to the bus service shown, there is 1 bus per hour to Longford, with an approximate journey time of 95 minutes.

Design features encouraging non-car modes

12. Pedestrians

The site is located within close proximity to the town centre.

13. Pedal cycles

None

14. Public transport

The site is located within close proximity to the town centre bus stops and railway station.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2010
Nearest Primary School	0.5 kilometres
Nearest Secondary School	0.9 kilometres
Nearest Local Shop/Corner Shop	0.8 kilometres
Nearest Main Supermarket	0.1 kilometres
Nearest Doctors Surgery	1.0 kilometres
Nearest Hospital with Minor Injuries/A & E	14.0 kilometres
Nearest Sports/Leisure Centre	2.0 kilometres

Census Data	
Year of Census	2006
County	KILDARE
Number of people employed within County	96611
Number of households within County	60957
Number of people living within County	186335

SITE PHOTO



Site reference:	KD-06-D-01	
Trade name:	MCDONALDS	
Site area (h/a):	0.26	
Gross floor area (sqm)	380	
GFA not in use (sqm)	0	
Open since	2009	
Total Employees	65	
Full Time Employees	40	61%
Part Time Employees	25	39%
Approximate % of total employees working standard 9-5 hours or similar	31%	
Percentage Split of Employee Gender		
Male	49%	
Female	51%	
GFA per employee	5.846	
Name of nearest site	MCDONALDS, LUCAN	
Distance to nearest similar site	13.0 Km	

OPENING TIMES (24 Hour format)

Mon to Thurs	00:00	to	24:00
Friday	00:00	to	24:00
Saturday	00:00	to	24:00
Sunday	00:00	to	24:00

Comments

The restaurant has 72 seats. The site is located within a retail park.

On-Site parking

Total no. of parking spaces	36
Parking Spaces Per 100m2 GFA	9.474

Number of spaces

Employee	0
Disabled	2
Visitor/Customer	32
OGV parking bays	0
Cycle racks	0
OGV loading bays	0
Mother & Toddler	0
Motorcycle spaces	0

Parking charges No

Comments about the management of the site car park, along with enforcement measures

No management or enforcement measures were observed during the survey.

Site parking surface or non-surface (multi-storey/underground)
Surface

General Comments on Parking

There are a further 2 parking bays for those awaiting food orders, included in the total shown.

Off-Site parking details

Is there off-site parking available
Yes
Off-Site parking included in the counts
No
Free On-Street parking available nearby
Yes
If yes, considered easy to find a space
No
If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available	Yes, Public Off-Street Parking is Available
Approx. available spaces	1000

Parking located within a control parking zone (CPZ)
No
Charges for this Off-Street parking
No

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: KD-06-D-01 Survey date: 19/10/10 Day of week: Tuesday

Survey type: Manual Count
AM weather: Cold and Clear
PM weather: Cold and Clear
Initial car park occupancy: 1 Final car park occupancy: 18
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 78% (36 On-Site Spaces)
Data proportions in %

Motor cars	94	Motor cycles	0	Public service	0
Light goods	6	OGV (1)	0	OGV (2)	0
				Taxis	0

Time	Arr 723	Dep 706	Totals 1429	Parking Accum
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	8	6	14	3
07:00-08:00	16	11	27	8
08:00-09:00	15	18	33	5
09:00-10:00	23	20	43	8
10:00-11:00	22	21	43	9
11:00-12:00	31	28	59	12
12:00-13:00	57	47	104	22
13:00-14:00	85	89	174	18
14:00-15:00	64	68	132	14
15:00-16:00	64	57	121	21
16:00-17:00	59	52	111	28
17:00-18:00	53	53	106	28
18:00-19:00	64	64	128	28
19:00-20:00	56	61	117	23
20:00-21:00	42	52	94	13
21:00-22:00	64	59	123	18
22:00-23:00				
23:00-24:00				

Comments

No motorcycles or OGVs entered or exited the site during the survey.

Site reference: KD-06-D-01 Survey date: 19/10/10 Day of week: Tuesday

Vehicles surveyed: PSV

Time	Arr 3	Dep 3	Totals 6	Accumulation
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	0	0	0	(0)
07:00-08:00	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	1	1	2	(0)
17:00-18:00	1	1	2	(0)
18:00-19:00	1	1	2	(0)
19:00-20:00	0	0	0	(0)
20:00-21:00	0	0	0	(0)
21:00-22:00	0	0	0	(0)
22:00-23:00				
23:00-24:00				

Site reference: KD-06-D-01 Survey date: 19/10/10 Day of week: Tuesday

Vehicles surveyed: Taxis

Time	Arr 1	Dep 1	Totals 2	Accumulation
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	0	0	0	(0)
07:00-08:00	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	1	1	2	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00	0	0	0	(0)
20:00-21:00	0	0	0	(0)
21:00-22:00	0	0	0	(0)
22:00-23:00				
23:00-24:00				

Site reference: KD-06-D-01 Survey date: 19/10/10 Day of week: Tuesday

Vehicles surveyed: Cycles

Time	Arr 1	Dep 1	Totals 2	Accumulation
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	0	0	0	(0)
07:00-08:00	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	1	0	1	(1)
14:00-15:00	0	1	1	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00	0	0	0	(0)
20:00-21:00	0	0	0	(0)
21:00-22:00	0	0	0	(0)
22:00-23:00				
23:00-24:00				

Site Reference:	KK-03-A-01 Multi-Modal Site
Created:	Version: 2009(b)v6.4.1 09/02/09
Latitude/Longitude:	52.64520, -7.25586
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	LEINSTER/KILKENNY
Description:	DETACHED
Street:	ASHLEIGH COURT
District:	
Town:	KILKENNY
Post Code:	
Planning Authority:	
Location:	Edge of Town Centre
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	3502
Population within 1 Mile:	15,001 to 20,000
Population within 5 Miles:	75,001 to 100,000
Car ownership within 5 Miles:	1.1 to 1.5
Reason for blank public transport table:	No local PT
Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Site area	1.00 hect
Number of dwellings	10
Housing Density	10.00
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

This site is located on the south-western side of Kilkenny town centre. This site is located just off College Road, which runs onto the N10 ring road around the south-eastern side of Kilkenny. The N10 also runs south towards Waterford. Other local roads run north towards Portlaoise.
This site has 1 vehicle access point off College Road.
Developments adjacent to the site include a school, college and some residential developments. There is a petrol filling station, a hotel and further residential developments in the local area.

11. Please enter general comments/views about the relevance, quality and importance of public transport services relating to this development.

Although there is a bus stop nearby, this is only used by private hire or college buses. No public buses stop here.

Design features encouraging non-car modes

12. Pedestrians

This site is located in area with pedestrian crossings and is close to all town centre amenities.

13. Pedal cycles

None

14. Public transport

This site is located within close proximity to a bus stop.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2008
Nearest Primary School	1.8 kilometres
Nearest Secondary School	0.3 kilometres
Nearest Local Shop/Corner Shop	0.2 kilometres
Nearest Main Supermarket	0.9 kilometres
Nearest Doctors Surgery	1.1 kilometres
Nearest Hospital with Minor Injuries/A & E	1.1 kilometres
Nearest Sports/Leisure Centre	0.1 kilometres

Census Data	
Year of Census	2006
County	
Number of people employed within County	42595
Number of households within County	29651
Number of people living within County	87558

SITE PHOTO



Site reference:	KK-03-A-01 Multi-Modal survey site
Trade name:	ASHLEIGH COURT
Site area (h/a):	1.00
Site area excluding public open spaces (h/a):	1.00
Open since	1980
Occupied dwellings	10
Unoccupied dwellings	
Total dwellings	
Housing Density	10.00
Privately owned units	10
Non-Privately owned units	0
Name of nearest site	ASHURST
Distance to nearest similar site	1.0 Km
Average Bedrooms Per Unit	3
No of units with 1 bedroom	0
No of units with 2 bedrooms	0
No of units with 3 bedrooms	10
No of units with 4+ bedrooms	0
Total bedrooms	30
Unit Density	10

Residential unit types

	Private	Non-Private	Total
Detached houses	10	0	10
Semi-detached houses	0	0	0
Terraced houses	0	0	0
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)			

Other:

Comments

The nearest similar site is located 0.2km away.
The year of opening given is not exact, but it is estimated that the site was built around 1980.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	20
Parking Spaces Per Hectare	20.000
Parking Spaces Per dwelling	2.000
Arrivals Per Parking Space	2.40

Number of spaces

On-Street	0
Driveway	10
Garages	10
Communal parking spaces	0

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
No

Free On-Street parking available nearby
Yes

If yes, considered easy to find a space
Yes

If prepared to pay, easy to find somewhere to park off-site all day
Yes

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available	Yes, Public Off-Street Parking is Available
Approx. available spaces	100

Parking located within a control parking zone (CPZ)
No

Charges for this Off-Street parking
Yes, All Day

Charge amount	120
Charge period	Hour

Park & Ride

Site reference: KK-03-A-01 Survey date: 24/11/08 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Freezing and Cloudy
PM weather: Freezing and Clear
Initial car park occupancy: Final car park occupancy:
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity
Data proportions in %

Motor cars	73	Motor cycles	0	Public service	0
Light goods	27	OGV (1)	0	OGV (2)	0
				Taxis	0

Time	Arr 48	Dep 53	Totals 101	Parking Accum
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	0	2	2	(-2)
08:00-09:00	3	6	9	(-5)
09:00-10:00	4	7	11	(-8)
10:00-11:00	6	8	14	(-10)
11:00-12:00	4	4	8	(-10)
12:00-13:00	2	6	8	(-14)
13:00-14:00	5	4	9	(-13)
14:00-15:00	5	2	7	(-10)
15:00-16:00	8	9	17	(-11)
16:00-17:00	4	1	5	(-8)
17:00-18:00	6	2	8	(-4)
18:00-19:00	1	2	3	(-5)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No taxi's, OGV's or public transport users entered or exited the site during the survey.
It was not possible to obtain initial and final car park occupancy figures for this site, as some of the houses have garages for their cars.
It was noted that there are many retired residents in the area, which can explain the varying arrival and departure peaks recorded on the day of the survey.
The difference in the number of arrivals and departures in the total people count can be explained by the fact that the site is 24 hour in nature and the overall counts are quite low.

Site reference: KK-03-A-01 Survey date: 24/11/08 Day of week: Monday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 1	Dep 0	Totals 1	Accumulation
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	0	0	0	(0)
08:00-09:00	1	0	1	(1)
09:00-10:00	0	0	0	(1)
10:00-11:00	0	0	0	(1)
11:00-12:00	0	0	0	(1)
12:00-13:00	0	0	0	(1)
13:00-14:00	0	0	0	(1)
14:00-15:00	0	0	0	(1)
15:00-16:00	0	0	0	(1)
16:00-17:00	0	0	0	(1)
17:00-18:00	0	0	0	(1)
18:00-19:00	0	0	0	(1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-01 Survey date: 24/11/08 Day of week: Monday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 53	1	2	3	4	5	6	7	Dep 73	Totals 126	Accum
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	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	2	(-2)
08:00-09:00	3	1	1	0	0	0	0	8	6	2	0	0	0	0	0	10	18	(-4)
09:00-10:00	4	0	0	0	0	0	0	4	7	0	0	0	0	0	0	7	11	(-7)
10:00-11:00	6	0	0	0	0	0	0	6	8	0	0	0	0	0	0	8	14	(-9)
11:00-12:00	4	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4	8	(-9)
12:00-13:00	2	0	0	0	0	0	0	2	6	1	0	0	0	0	0	8	10	(-15)
13:00-14:00	5	0	0	0	0	0	0	5	4	2	1	0	0	0	0	11	16	(-21)
14:00-15:00	5	0	0	0	0	0	0	5	2	0	0	0	0	0	0	2	7	(-18)
15:00-16:00	8	0	0	0	0	0	0	8	9	1	1	0	0	0	0	14	22	(-24)
16:00-17:00	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1	5	(-21)
17:00-18:00	5	0	0	0	0	0	0	5	2	0	0	0	0	0	0	2	7	(-18)
18:00-19:00	0	1	0	0	0	0	0	2	2	1	0	0	0	0	0	4	6	(-20)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: KK-03-A-01 Survey date: 24/11/08 Day of week: Monday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 6	Dep 7	Totals 13	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	1	1	2	(0)
10:00-11:00	0	3	3	(-3)
11:00-12:00	1	0	1	(-2)
12:00-13:00	2	0	2	(0)
13:00-14:00	2	0	2	(2)
14:00-15:00	0	0	0	(2)
15:00-16:00	0	1	1	(1)
16:00-17:00	0	0	0	(1)
17:00-18:00	0	1	1	(0)
18:00-19:00	0	1	1	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-01 Survey date: 24/11/08 Day of week: Monday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 60	Dep 80	Totals 140	Accumulation
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	0	2	2	(-2)
08:00-09:00	9	10	19	(-3)
09:00-10:00	5	8	13	(-6)
10:00-11:00	6	11	17	(-11)
11:00-12:00	5	4	9	(-10)
12:00-13:00	4	8	12	(-14)
13:00-14:00	7	11	18	(-18)
14:00-15:00	5	2	7	(-15)
15:00-16:00	8	15	23	(-22)
16:00-17:00	4	1	5	(-19)
17:00-18:00	5	3	8	(-17)
18:00-19:00	2	5	7	(-20)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference:	KK-03-A-03 Multi-Modal Site
Created:	Version: 2009(b)v6.4.1 23/02/09
Latitude/Longitude:	52.66308, -7.26860
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	LEINSTER/KILKENNY
Description:	MIXED HOUSING
Street:	FRESHFORD ROAD
District:	FRIARSINCH
Town:	KILKENNY
Post Code:	
Planning Authority:	
Location:	Edge of Town
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	3502
Population within 1 Mile:	15,001 to 20,000
Population within 5 Miles:	75,001 to 100,000
Car ownership within 5 Miles:	1.1 to 1.5
Reason for blank public transport table:	No local PT
Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Site area	6.50 hect
Number of dwellings	70
Housing Density	14.29
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

This site is located just off Freshford Road, north-west of Kilkenny town centre. Freshford Road runs south into the town centre and north towards Freshford.
There are 2 vehicle access points, 1 of which is located on Freshford Road.
There is a hotel, and industrial unit and residential developments adjacent to the site. In the local area there is a hospital and further residential developments.

Design features encouraging non-car modes

12. Pedestrians

There are some alleyways located at various parts of the site, creating shortcuts for pedestrians.

13. Pedal cycles

None

14. Public transport

None

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2008
Nearest Primary School	2.2 kilometres
Nearest Secondary School	0.9 kilometres
Nearest Local Shop/Corner Shop	1.5 kilometres
Nearest Main Supermarket	2.9 kilometres
Nearest Doctors Surgery	0.2 kilometres
Nearest Hospital with Minor Injuries/A & E	0.2 kilometres
Nearest Sports/Leisure Centre	4.1 kilometres

Census Data	
Year of Census	2008
County	Kilkenny
Number of people employed within County	42595
Number of households within County	29651
Number of people living within County	87558

SITE PHOTO



Site reference:	KK-03-A-03	Multi-Modal survey site
Trade name:	THE GRANGE	
Site area (h/a):	6.50	
Site area excluding public open spaces (h/a):	4.90	
Open since	1990	
Occupied dwellings	70	
Unoccupied dwellings		
Total dwellings	70	
Housing Density	14.29	
Privately owned units	53	
Non-Privately owned units	17	
Name of nearest site	TALBOT INCH VILLAGE	
Distance to nearest similar site	1.0 Km	
Average Bedrooms Per Unit	2.51	
No of units with 1 bedroom	17	
No of units with 2 bedrooms	0	
No of units with 3 bedrooms	53	
No of units with 4+ bedrooms	0	
Total bedrooms	176	
Unit Density	8.2	

Residential unit types

	Private	Non-Private	Total
Detached houses			33
Semi-detached houses			8
Terraced houses			12
Bungalows			0
Flats (in houses)			0
Flats (in blocks)			17
Other (specify below)			

Other:

Comments

The nearest similar site is 0.2km away.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	116
Parking Spaces Per Hectare	17.846
Parking Spaces Per dwelling	1.657
Arrivals Per Parking Space	2.14

Number of spaces

On-Street	0
Driveway	53
Garages	41
Communal parking spaces	22

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
No

Free On-Street parking available nearby
No

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available	Yes, Public Off-Street Parking is Available
Approx. available spaces	3000

Parking located within a control parking zone (CPZ)
No

Charges for this Off-Street parking
Yes, All Day

Charge amount	170
Charge period	Hour

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Cold and Clear
PM weather: Cold and Clear
Initial car park occupancy: Final car park occupancy:
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity
Data proportions in %

Motor cars	90	Motor cycles	0	Public service	0
Light goods	5	OGV (1)	1	OGV (2)	0
				Taxis	4

Time	Arr 248	Dep 268	Totals 516	Parking Accum
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	5	15	20	(-10)
08:00-09:00	22	46	68	(-34)
09:00-10:00	20	38	58	(-52)
10:00-11:00	11	13	24	(-54)
11:00-12:00	8	11	19	(-57)
12:00-13:00	16	24	40	(-65)
13:00-14:00	21	16	37	(-60)
14:00-15:00	24	24	48	(-60)
15:00-16:00	26	22	48	(-56)
16:00-17:00	26	15	41	(-45)
17:00-18:00	44	25	69	(-26)
18:00-19:00	25	19	44	(-20)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No PSV's or public transport users entered or exited the site during the survey.
No initial and final car park occupancy figures have been given as many of the houses had private garages for their cars.

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: OGV

Data proportions in % OGV (1) 100 OGV (2) 0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 3	Dep 3	Totals 6	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	2	1	3	(1)
10:00-11:00	0	1	1	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	1	1	2	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 10	Dep 12	Totals 22	Accumulation
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	0	0	0	(0)
08:00-09:00	1	2	3	(-1)
09:00-10:00	2	2	4	(-1)
10:00-11:00	1	2	3	(-2)
11:00-12:00	0	0	0	(-2)
12:00-13:00	0	1	1	(-3)
13:00-14:00	1	1	2	(-3)
14:00-15:00	1	0	1	(-2)
15:00-16:00	1	2	3	(-3)
16:00-17:00	0	0	0	(-3)
17:00-18:00	3	2	5	(-2)
18:00-19:00	0	0	0	(-2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 2	Dep 3	Totals 5	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	2	0	2	(2)
10:00-11:00	0	1	1	(1)
11:00-12:00	0	0	0	(1)
12:00-13:00	0	0	0	(1)
13:00-14:00	0	0	0	(1)
14:00-15:00	0	2	2	(-1)
15:00-16:00	0	0	0	(-1)
16:00-17:00	0	0	0	(-1)
17:00-18:00	0	0	0	(-1)
18:00-19:00	0	0	0	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 458	1	2	3	4	5	6	7	Dep 464	Totals 922	Accum
00:00-01:00																		
01:00-02:00																		
02:00-03:00																		
03:00-04:00																		
04:00-05:00																		
05:00-06:00																		
06:00-07:00																		
07:00-08:00	5	0	0	0	0	0	0	5	15	1	0	0	0	0	0	17	22	(-12)
08:00-09:00	21	8	3	0	1	0	0	51	45	10	5	1	0	0	0	84	135	(-45)
09:00-10:00	19	6	4	0	0	0	0	43	37	4	1	0	0	0	0	48	91	(-50)
10:00-11:00	11	0	0	0	0	0	0	11	12	1	0	0	0	0	0	14	25	(-53)
11:00-12:00	8	1	0	1	0	0	0	14	11	3	0	0	2	0	0	27	41	(-66)
12:00-13:00	16	3	0	0	0	0	0	22	23	2	3	1	0	0	0	40	62	(-84)
13:00-14:00	21	1	0	1	0	0	0	27	16	2	0	1	0	0	0	24	51	(-81)
14:00-15:00	23	3	4	1	0	0	0	45	24	2	0	0	0	0	0	28	73	(-64)
15:00-16:00	26	9	3	0	0	0	0	53	22	11	3	1	1	0	0	62	115	(-73)
16:00-17:00	26	15	1	0	0	0	0	59	15	5	2	2	0	0	0	39	98	(-53)
17:00-18:00	42	12	4	2	0	0	0	86	24	9	1	2	0	0	0	53	139	(-20)
18:00-19:00	25	7	1	0	0	0	0	42	19	3	1	0	0	0	0	28	70	(-6)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 20	Dep 21	Totals 41	Accumulation
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	0	2	2	(-2)
08:00-09:00	1	2	3	(-3)
09:00-10:00	0	0	0	(-3)
10:00-11:00	1	1	2	(-3)
11:00-12:00	3	4	7	(-4)
12:00-13:00	2	1	3	(-3)
13:00-14:00	1	2	3	(-4)
14:00-15:00	1	0	1	(-3)
15:00-16:00	1	2	3	(-4)
16:00-17:00	4	3	7	(-3)
17:00-18:00	4	1	5	(0)
18:00-19:00	2	3	5	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 480	Dep 488	Totals 968	Accumulation
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	5	19	24	(-14)
08:00-09:00	52	86	138	(-48)
09:00-10:00	45	48	93	(-51)
10:00-11:00	12	16	28	(-55)
11:00-12:00	17	31	48	(-69)
12:00-13:00	24	41	65	(-86)
13:00-14:00	28	26	54	(-84)
14:00-15:00	46	30	76	(-68)
15:00-16:00	54	64	118	(-78)
16:00-17:00	63	42	105	(-57)
17:00-18:00	90	54	144	(-21)
18:00-19:00	44	31	75	(-8)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference:	DL-03-A-03 Multi-Modal Site
Created:	Version: 2010(b)v6.6.2 05/07/10
Latitude/Longitude:	53.38370, -6.17300
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	GREATER DUBLIN/DUBLIN
Description:	TERRACED/SEMI-DET.
Street:	RAHENY ROAD
District:	RAHENY
Town:	DUBLIN
Post Code:	
Planning Authority:	
Location:	Neighbourhood Centre (PPS6 Local Centre)
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	4000
Population within 1 Mile:	25,001 to 50,000
Population within 5 Miles:	500,001 or More
Car ownership within 5 Miles:	1.1 to 1.5

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	98	106	204
Monday-Friday	0700-1000	28	30	58
Monday-Friday	1600-1900	26	26	52
Saturday	0700-1900	78	92	170
Sunday	0700-1900	48	56	104

Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Site area	5.89 hect
Number of dwellings	206
Housing Density	39.92
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

This site is located north-east of Dublin city centre, in the area of Raheny. Local roads lead south-west into the city centre, and west towards the M1, which runs north towards Drogheda and Dundalk.
The site has 1 vehicle access point off Raheny Road. There is a hospice, train station, shops and residential developments in the surrounding area.

Bus (or tram) site accessibility

3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes
4. If yes to question 3, where it is necessary to cross a road between the development and the stop, is there a conveniently placed crossing facility? : Yes
5. If yes to question 3, are there at least 2 buses (or trams) per hour (per direction between 0700 and 1900) with routes serving significant areas of population within a 5 kilometre radius? (Mon-Sat): Yes
6. If yes to question 5, what are the service characteristics? (please complete the outline information below)

Destination (town/area)	Number per hour	Approx. journey time
Newgrove Cross	4	15

Rail accessibility

7. Is there at least one railway station within 1 kilometre radius of the site?: Yes
8. If yes to question 7, is pedestrian access to the station satisfactory?: Yes
9. If yes to question 7, are there at least 2 stopping trains per hour (per direction between 0700 and 1900) with routes

serving stations within a 10 kilometre radius (Mon-Sat)?: Yes

10. If yes to question 9, what are the service characteristics? (please complete the outline information below)

Destination (town/area	Number per hour	Approx. journey time
Dublin City Centre	4	11

Design features encouraging non-car modes

12. Pedestrians

There are good pedestrian routes in the area, including segregated walkways through open space.

13. Pedal cycles

None

14. Public transport

There are bus stops in the local area.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2010
Nearest Primary School	0.7 kilometres
Nearest Secondary School	0.5 kilometres
Nearest Local Shop/Corner Shop	0.5 kilometres
Nearest Main Supermarket	2.1 kilometres
Nearest Doctors Surgery	0.4 kilometres
Nearest Hospital with Minor Injuries/A & E	0.3 kilometres
Nearest Sports/Leisure Centre	1.2 kilometres

Census Data	
Year of Census	2001
County	DUBLIN
Number of people employed within County	619646
Number of households within County	420429
Number of people living within County	1187176

SITE PHOTO



Site reference:	DL-03-A-03	Multi-Modal survey site
Trade name:	ASHCROFT	
Site area (h/a):	5.89	
Site area excluding public open spaces (h/a):	5.16	
Open since	1985	
Occupied dwellings	206	
Unoccupied dwellings	3	
Total dwellings	209	
Housing Density	39.92	
Privately owned units	206	
Non-Privately owned units	0	
Name of nearest site	RATHMORE PARK	
Distance to nearest similar site	1.0 Km	
Average Bedrooms Per Unit	3	
No of units with 1 bedroom	0	
No of units with 2 bedrooms	0	
No of units with 3 bedrooms	206	
No of units with 4+ bedrooms	0	
Total bedrooms	618	
Unit Density	35	

Residential unit types

	Private	Non-Private	Total
Detached houses	0	0	0
Semi-detached houses	6	0	6
Terraced houses	200	0	200
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	0	0	0
Other (specify below)	0	0	0

Other:

Comments

The nearest similar site is 0.3km away.
There were 3 dwellings which were unoccupied during the survey - 1 was for sale, and 2 were being refurbished.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	334
Parking Spaces Per Hectare	56.706
Parking Spaces Per dwelling	1.621
Arrivals Per Parking Space	1.23

Number of spaces

On-Street	101
Driveway	209
Garages	0
Communal parking spaces	24

General Comments on Parking

There was ample parking at the site and no evidence of cars struggling to find a space on the day of the survey.

Off-Site parking details

Is there off-site parking available
No

Off-Site parking included in the counts
No

Free On-Street parking available nearby
No

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Cold and Clear
PM weather: Mild and Clear
Initial car park occupancy: 238 Final car park occupancy: 218
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 65% (334 On-Site Spaces)
Data proportions in %

Motor cars	88	Motor cycles	0	Public service	1
Light goods	9	OGV (1)	0	OGV (2)	0
				Taxis	2

Time	Arr 410	Dep 430	Totals 840	Parking Accum
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	14	42	56	210
08:00-09:00	31	55	86	186
09:00-10:00	21	30	51	177
10:00-11:00	30	30	60	177
11:00-12:00	24	31	55	170
12:00-13:00	45	35	80	180
13:00-14:00	25	28	53	177
14:00-15:00	36	31	67	182
15:00-16:00	35	32	67	185
16:00-17:00	46	33	79	198
17:00-18:00	56	44	100	210
18:00-19:00	47	39	86	218
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

It was noted on the day of the survey that a PSV with no passengers entered the site at 11:00 and left at 13:30, arriving again at 18:30. It is believed that this was a resident with his own mini bus.
There is a school located within close proximity to the site. The increased number of pedestrian arrivals between 14:00-17:00 can be attributed to the school children returning home from the local school.

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: OGV

Data proportions in % OGV (1) 100 OGV (2) 0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 1	Dep 1	Totals 2	Accumulation
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	1	0	1	(1)
08:00-09:00	0	1	1	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	0	0	0	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: PSV

Time	Arr 4	Dep 3	Totals 7	Accumulation
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	0	0	0	(0)
08:00-09:00	1	1	2	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	1	0	1	(1)
12:00-13:00	0	0	0	(1)
13:00-14:00	0	1	1	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	1	1	2	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	1	0	1	(1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 8	Dep 8	Totals 16	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	2	1	3	(1)
11:00-12:00	1	1	2	(1)
12:00-13:00	2	2	4	(1)
13:00-14:00	0	1	1	(0)
14:00-15:00	1	1	2	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	1	0	1	(1)
17:00-18:00	1	2	3	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 12	Dep 15	Totals 27	Accumulation
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	0	2	2	(-2)
08:00-09:00	1	6	7	(-7)
09:00-10:00	1	2	3	(-8)
10:00-11:00	0	0	0	(-8)
11:00-12:00	0	0	0	(-8)
12:00-13:00	0	0	0	(-8)
13:00-14:00	1	2	3	(-9)
14:00-15:00	0	1	1	(-10)
15:00-16:00	0	0	0	(-10)
16:00-17:00	4	1	5	(-7)
17:00-18:00	2	0	2	(-5)
18:00-19:00	3	1	4	(-3)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 446	1	2	3	4	5	6	7	Dep 483	Totals 929	Accum
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	13	1	0	0	0	0	0	15	38	3	1	0	0	0	0	47	62	(-32)
08:00-09:00	31	0	0	0	0	0	0	31	45	7	2	1	0	0	0	69	100	(-70)
09:00-10:00	21	0	0	0	0	0	0	21	29	0	1	0	0	0	0	32	53	(-81)
10:00-11:00	29	1	0	0	0	0	0	31	28	1	1	0	0	0	0	33	64	(-83)
11:00-12:00	23	0	1	0	0	0	0	26	31	0	0	0	0	0	0	31	57	(-88)
12:00-13:00	44	1	0	0	0	0	0	46	33	2	0	0	0	0	0	37	83	(-79)
13:00-14:00	23	2	0	0	0	0	0	27	27	1	0	0	0	0	0	29	56	(-81)
14:00-15:00	33	2	1	0	0	0	0	40	29	1	1	0	0	0	0	34	74	(-75)
15:00-16:00	30	3	2	0	0	0	0	42	29	2	1	0	0	0	0	36	78	(-69)
16:00-17:00	43	2	1	0	0	0	0	50	32	1	0	0	0	0	0	34	84	(-53)
17:00-18:00	51	2	3	0	0	0	0	64	36	5	2	1	0	0	0	56	120	(-45)
18:00-19:00	43	2	2	0	0	0	0	53	35	3	0	1	0	0	0	45	98	(-37)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 183	Dep 196	Totals 379	Accumulation
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	1	16	17	(-15)
08:00-09:00	6	87	93	(-96)
09:00-10:00	13	18	31	(-101)
10:00-11:00	8	15	23	(-108)
11:00-12:00	4	12	16	(-116)
12:00-13:00	14	4	18	(-106)
13:00-14:00	11	7	18	(-102)
14:00-15:00	35	6	41	(-73)
15:00-16:00	29	9	38	(-53)
16:00-17:00	33	5	38	(-25)
17:00-18:00	22	7	29	(-10)
18:00-19:00	7	10	17	(-13)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Public transport Users

Time	Arr 101	Dep 102	Totals 203	Accumulation
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	0	23	23	(-23)
08:00-09:00	0	44	44	(-67)
09:00-10:00	0	16	16	(-83)
10:00-11:00	0	4	4	(-87)
11:00-12:00	1	2	3	(-88)
12:00-13:00	3	3	6	(-88)
13:00-14:00	2	0	2	(-86)
14:00-15:00	7	1	8	(-80)
15:00-16:00	14	4	18	(-70)
16:00-17:00	14	2	16	(-58)
17:00-18:00	30	2	32	(-30)
18:00-19:00	30	1	31	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Bus/Tram Passengers

Time	Arr 11	Dep 7	Totals 18	Accumulation
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	0	3	3	(-3)
08:00-09:00	0	1	1	(-4)
09:00-10:00	0	2	2	(-6)
10:00-11:00	0	1	1	(-7)
11:00-12:00	0	0	0	(-7)
12:00-13:00	0	0	0	(-7)
13:00-14:00	0	0	0	(-7)
14:00-15:00	1	0	1	(-6)
15:00-16:00	3	0	3	(-3)
16:00-17:00	2	0	2	(-1)
17:00-18:00	4	0	4	(3)
18:00-19:00	1	0	1	(4)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Coach Passengers

Time	Arr 1	Dep 1	Totals 2	Accumulation
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	0	0	0	(0)
08:00-09:00	0	1	1	(-1)
09:00-10:00	0	0	0	(-1)
10:00-11:00	0	0	0	(-1)
11:00-12:00	0	0	0	(-1)
12:00-13:00	0	0	0	(-1)
13:00-14:00	0	0	0	(-1)
14:00-15:00	0	0	0	(-1)
15:00-16:00	0	0	0	(-1)
16:00-17:00	1	0	1	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Total Rail Passengers

Time	Arr 89	Dep 94	Totals 183	Accumulation
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	0	20	20	(-20)
08:00-09:00	0	42	42	(-62)
09:00-10:00	0	14	14	(-76)
10:00-11:00	0	3	3	(-79)
11:00-12:00	1	2	3	(-80)
12:00-13:00	3	3	6	(-80)
13:00-14:00	2	0	2	(-78)
14:00-15:00	6	1	7	(-73)
15:00-16:00	11	4	15	(-66)
16:00-17:00	11	2	13	(-57)
17:00-18:00	26	2	28	(-33)
18:00-19:00	29	1	30	(-5)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: DL-03-A-03 Survey date: 20/04/10 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 742	Dep 796	Totals 1538	Accumulation
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	16	88	104	(-72)
08:00-09:00	38	206	244	(-240)
09:00-10:00	35	68	103	(-273)
10:00-11:00	39	52	91	(-286)
11:00-12:00	31	45	76	(-300)
12:00-13:00	63	44	107	(-281)
13:00-14:00	41	38	79	(-278)
14:00-15:00	82	42	124	(-238)
15:00-16:00	85	49	134	(-202)
16:00-17:00	101	42	143	(-143)
17:00-18:00	118	65	183	(-90)
18:00-19:00	93	57	150	(-54)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference: KD-03-A-02 Multi-Modal Site
Created: Version: 2009(b)v6.4.2 13/07/09
Latitude/Longitude: 53.17690, -6.81530
Land Use Type: 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area LEINSTER/KILDARE

Description: TERRACED/SEMI-D.
Street: CEDARWOOD PARK
District: MORRISTOWN ROAD
Town: NEWBRIDGE
Post Code:
Planning Authority:

Location: Suburban Area (PPS6 Out of Centre)
Location Sub Category: Residential Zone
Use Class: C3

Population within 500m: 1578
Population within 1 Mile: 5,001 to 10,000
Population within 5 Miles: 5,001 to 25,000
Car ownership within 5 Miles: 1.1 to 1.5

Public Transport Provision Summary

Day	Period	Total buses/trams within 400m	Total Trains within 1000m	Total Services
Monday-Friday	0700-1900	22	42	64
Monday-Friday	0700-1000	8	6	14
Monday-Friday	1600-1900	6	16	22
Saturday	0700-1900	22	42	64
Sunday	0700-1900	0	20	20

Is site associated with a travel plan: No
If not, are there any plans to implement a Travel Plan in the future? No
Is survey data available before the implementation of the Travel Plan?
Is the location of the site hilly or flat: Flat
Urban Regeneration: No

Site area 2.74 hect
Number of dwellings 71
Housing Density 30.60

No. of developments for this Site: 1
No. of survey Days for this Site: 1

Comments
This site is located in west Newbridge with one access point for all modes off Morristown Road. Morristown road leads south towards the R445 which provides access north-east into Newbridge town centre and south-west to the M7.

Bus (or tram) site accessibility
3. Is there at least 1 bus (or tram) stop within the site frontage or within 400m of the site frontage? : Yes

Rail accessibility
7. Is there at least one railway station within 1 kilometre radius of the site?: Yes
8. If yes to question 7, is pedestrian access to the station satisfactory?: Yes

Design features encouraging non-car modes

12. Pedestrians
There are pedestrian footways from Morristown Road which continue to the town centre.

13. Pedal cycles
None

14. Public transport
There are public transport services available.

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2009
Nearest Primary School	0.1 kilometres
Nearest Secondary School	3.1 kilometres
Nearest Local Shop/Corner Shop	0.2 kilometres
Nearest Main Supermarket	0.8 kilometres
Nearest Doctors Surgery	0.8 kilometres
Nearest Hospital with Minor Injuries/A & E	19.5 kilometres
Nearest Sports/Leisure Centre	3.0 kilometres

Census Data	
Year of Census	2006
County	KILDARE
Number of people employed within County	96611
Number of households within County	60957
Number of people living within County	186335

SITE PHOTO



Site reference: KD-03-A-02 Multi-Modal survey site
Trade name: CEDARWOOD PARK

Site area (h/a): 2.74
Site area excluding public open spaces (h/a): 2.32

Open since 1972

Occupied dwellings 71
Unoccupied dwellings 0
Total dwellings 71

Housing Density 30.60
Privately owned units 65
Non-Privately owned units 6
Name of nearest site MORRISTOWN
Distance to nearest similar site 0.0 Km

Average Bedrooms Per Unit 2.96
No of units with 1 bedroom 2
No of units with 2 bedrooms 0
No of units with 3 bedrooms 68
No of units with 4+ bedrooms 1
Total bedrooms 210
Unit Density 25.9

Residential unit types

	Private	Non-Private	Total
Detached houses	1	0	1
Semi-detached houses	10	0	10
Terraced houses	54	4	58
Bungalows	0	0	0
Flats (in houses)	0	0	0
Flats (in blocks)	0	2	2
Other (specify below)	0	0	

Other:

Comments

The nearest similar site is located 200m away.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	118
Parking Spaces Per Hectare	43.066
Parking Spaces Per dwelling	1.662
Arrivals Per Parking Space	1.92

Number of spaces

On-Street	40
Driveway	71
Garages	7
Communal parking spaces	0

General Comments on Parking

The roadway is narrow and parking on street can only really be achieved on one side of the road.

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
No

Free On-Street parking available nearby
Yes

If yes, considered easy to find a space
Yes

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available NO

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: KD-03-A-02 Survey date: 12/05/09 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Hot and Windy
PM weather: Hot and Windy
Initial car park occupancy: 82 Final car park occupancy: 75
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity 64% (118 On-Site Spaces)
Data proportions in %

Motor cars	78	Motor cycles	0	Public service	0
Light goods	18	OGV (1)	0	OGV (2)	1
				Taxis	3

Time	Arr 226	Dep 233	Totals 459	Parking Accum
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	6	18	24	70
08:00-09:00	14	20	34	64
09:00-10:00	10	24	34	50
10:00-11:00	17	16	33	51
11:00-12:00	12	15	27	48
12:00-13:00	18	19	37	47
13:00-14:00	19	22	41	44
14:00-15:00	23	18	41	49
15:00-16:00	23	17	40	55
16:00-17:00	26	22	48	59
17:00-18:00	29	24	53	64
18:00-19:00	29	18	47	75
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

There were no PSV's recorded entering or exiting the site in the day of the survey.

Site reference: KD-03-A-02 Survey date: 12/05/09 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: OGV

Data proportions in % OGV (1) 33 OGV (2) 67

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 1	Dep 2	Totals 3	Accumulation
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	0	0	0	(0)
08:00-09:00	1	2	3	(-1)
09:00-10:00	0	0	0	(-1)
10:00-11:00	0	0	0	(-1)
11:00-12:00	0	0	0	(-1)
12:00-13:00	0	0	0	(-1)
13:00-14:00	0	0	0	(-1)
14:00-15:00	0	0	0	(-1)
15:00-16:00	0	0	0	(-1)
16:00-17:00	0	0	0	(-1)
17:00-18:00	0	0	0	(-1)
18:00-19:00	0	0	0	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KD-03-A-02 Survey date: 12/05/09 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 5	Dep 5	Totals 10	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	1	1	2	(0)
11:00-12:00	1	0	1	(1)
12:00-13:00	0	1	1	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	1	1	2	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	1	1	2	(0)
18:00-19:00	1	1	2	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KD-03-A-02 Survey date: 12/05/09 Day of week: Tuesday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 6	Dep 6	Totals 12	Accumulation
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	0	0	0	(0)
08:00-09:00	0	1	1	(-1)
09:00-10:00	0	0	0	(-1)
10:00-11:00	0	0	0	(-1)
11:00-12:00	2	2	4	(-1)
12:00-13:00	1	0	1	(0)
13:00-14:00	1	0	1	(1)
14:00-15:00	0	2	2	(-1)
15:00-16:00	1	0	1	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	1	1	2	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KD-03-A-02 Survey date: 12/05/09 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 251	1	2	3	4	5	6	7	Dep 261	Totals 512	Accum
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	6	0	0	0	0	0	0	6	18	0	0	0	0	0		18	24	(-12)
08:00-09:00	12	1	1	0	0	0	0	17	18	1	1	0	0	0	0	23	40	(-18)
09:00-10:00	10	0	0	0	0	0	0	10	24	0	0	0	0	0	0	24	34	(-32)
10:00-11:00	17	0	0	0	0	0	0	17	16	0	0	0	0	0	0	16	33	(-31)
11:00-12:00	12	0	0	0	0	0	0	12	14	1	0	0	0	0	0	16	28	(-35)
12:00-13:00	17	1	0	0	0	0	0	19	16	3	0	0	0	0	0	22	41	(-38)
13:00-14:00	18	1	0	0	0	0	0	20	21	1	0	0	0	0	0	23	43	(-41)
14:00-15:00	18	5	0	0	0	0	0	28	17	1	0	0	0	0	0	19	47	(-32)
15:00-16:00	20	2	1	0	0	0	0	27	14	2	1	0	0	0	0	21	48	(-26)
16:00-17:00	25	1	0	0	0	0	0	27	17	3	1	1	0	0	0	30	57	(-29)
17:00-18:00	26	3	0	0	0	0	0	32	20	4	0	0	0	0	0	28	60	(-25)
18:00-19:00	25	2	1	1	0	0	0	36	16	1	1	0	0	0	0	21	57	(-10)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: KD-03-A-02 Survey date: 12/05/09 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Pedestrians

Time	Arr 76	Dep 78	Totals 154	Accumulation
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	1	2	3	(-1)
08:00-09:00	2	15	17	(-14)
09:00-10:00	3	9	12	(-20)
10:00-11:00	6	9	15	(-23)
11:00-12:00	8	3	11	(-18)
12:00-13:00	4	8	12	(-22)
13:00-14:00	11	5	16	(-16)
14:00-15:00	13	6	19	(-9)
15:00-16:00	6	5	11	(-8)
16:00-17:00	8	5	13	(-5)
17:00-18:00	7	5	12	(-3)
18:00-19:00	7	6	13	(-2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KD-03-A-02 Survey date: 12/05/09 Day of week: Tuesday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 333	Dep 345	Totals 678	Accumulation
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	7	20	27	(-13)
08:00-09:00	19	39	58	(-33)
09:00-10:00	13	33	46	(-53)
10:00-11:00	23	25	48	(-55)
11:00-12:00	22	21	43	(-54)
12:00-13:00	24	30	54	(-60)
13:00-14:00	32	28	60	(-56)
14:00-15:00	41	27	68	(-42)
15:00-16:00	34	26	60	(-34)
16:00-17:00	35	35	70	(-34)
17:00-18:00	39	33	72	(-28)
18:00-19:00	44	28	72	(-12)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site Reference:	KK-03-A-03 Multi-Modal Site
Created:	Version: 2009(b)v6.4.1 23/02/09
Latitude/Longitude:	52.66308, -7.26860
Land Use Type:	03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
Region/Area	LEINSTER/KILKENNY
Description:	MIXED HOUSING
Street:	FRESHFORD ROAD
District:	FRIARSINCH
Town:	KILKENNY
Post Code:	
Planning Authority:	
Location:	Edge of Town
Location Sub Category:	Residential Zone
Use Class:	C3
Population within 500m:	3502
Population within 1 Mile:	15,001 to 20,000
Population within 5 Miles:	75,001 to 100,000
Car ownership within 5 Miles:	1.1 to 1.5
Reason for blank public transport table:	No local PT
Is site associated with a travel plan:	No
If not, are there any plans to implement a Travel Plan in the future?	No
Is survey data available before the implementation of the Travel Plan?	
Is the location of the site hilly or flat:	Flat
Urban Regeneration:	No
Site area	6.50 hect
Number of dwellings	70
Housing Density	14.29
No. of developments for this Site:	1
No. of survey Days for this Site:	1

Comments

This site is located just off Freshford Road, north-west of Kilkenny town centre. Freshford Road runs south into the town centre and north towards Freshford.
There are 2 vehicle access points, 1 of which is located on Freshford Road.
There is a hotel, and industrial unit and residential developments adjacent to the site. In the local area there is a hospital and further residential developments.

Design features encouraging non-car modes

12. Pedestrians

There are some alleyways located at various parts of the site, creating shortcuts for pedestrians.

13. Pedal cycles

None

14. Public transport

None

Design features encouraging non-car modes

Road Network Distance to Local Developments	
Year of Analysis	2008
Nearest Primary School	2.2 kilometres
Nearest Secondary School	0.9 kilometres
Nearest Local Shop/Corner Shop	1.5 kilometres
Nearest Main Supermarket	2.9 kilometres
Nearest Doctors Surgery	0.2 kilometres
Nearest Hospital with Minor Injuries/A & E	0.2 kilometres
Nearest Sports/Leisure Centre	4.1 kilometres

Census Data	
Year of Census	2008
County	Kilkenny
Number of people employed within County	42595
Number of households within County	29651
Number of people living within County	87558

SITE PHOTO



Site reference:	KK-03-A-03	Multi-Modal survey site
Trade name:	THE GRANGE	
Site area (h/a):	6.50	
Site area excluding public open spaces (h/a):	4.90	
Open since	1990	
Occupied dwellings	70	
Unoccupied dwellings		
Total dwellings	70	
Housing Density	14.29	
Privately owned units	53	
Non-Privately owned units	17	
Name of nearest site	TALBOT INCH VILLAGE	
Distance to nearest similar site	1.0 Km	
Average Bedrooms Per Unit	2.51	
No of units with 1 bedroom	17	
No of units with 2 bedrooms	0	
No of units with 3 bedrooms	53	
No of units with 4+ bedrooms	0	
Total bedrooms	176	
Unit Density	8.2	

Residential unit types

	Private	Non-Private	Total
Detached houses			33
Semi-detached houses			8
Terraced houses			12
Bungalows			0
Flats (in houses)			0
Flats (in blocks)			17
Other (specify below)			

Other:

Comments

The nearest similar site is 0.2km away.

Multi-Modal survey site

On-Site parking

Total no. of parking spaces	116
Parking Spaces Per Hectare	17.846
Parking Spaces Per dwelling	1.657
Arrivals Per Parking Space	2.14

Number of spaces

On-Street	0
Driveway	53
Garages	41
Communal parking spaces	22

Off-Site parking details

Is there off-site parking available
Yes

Off-Site parking included in the counts
No

Free On-Street parking available nearby
No

If prepared to pay, easy to find somewhere to park off-site all day
No

Parking restrictions

Area subject to parking restrictions (controlled parking zone - CPZ)
No

Off-Street parking

Off-Street parking available	Yes, Public Off-Street Parking is Available
Approx. available spaces	3000

Parking located within a control parking zone (CPZ)
No

Charges for this Off-Street parking
Yes, All Day

Charge amount	170
Charge period	Hour

Park & Ride

Park & Ride Type Facility providing relevant means of accessing the site
No

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: Total vehicles
Survey type: Manual Count
AM weather: Cold and Clear
PM weather: Cold and Clear
Initial car park occupancy: Final car park occupancy:
BRACKETED ACCUMULATION FIGURES ARE NOT ABSOLUTE
Parking Capacity
Data proportions in %

Motor cars	90	Motor cycles	0	Public service	0
Light goods	5	OGV (1)	1	OGV (2)	0
				Taxis	4

Time	Arr 248	Dep 268	Totals 516	Parking Accum
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	5	15	20	(-10)
08:00-09:00	22	46	68	(-34)
09:00-10:00	20	38	58	(-52)
10:00-11:00	11	13	24	(-54)
11:00-12:00	8	11	19	(-57)
12:00-13:00	16	24	40	(-65)
13:00-14:00	21	16	37	(-60)
14:00-15:00	24	24	48	(-60)
15:00-16:00	26	22	48	(-56)
16:00-17:00	26	15	41	(-45)
17:00-18:00	44	25	69	(-26)
18:00-19:00	25	19	44	(-20)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Comments

No PSV's or public transport users entered or exited the site during the survey.
No initial and final car park occupancy figures have been given as many of the houses had private garages for their cars.

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: OGV

Data proportions in % OGV (1) 100 OGV (2) 0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 3	Dep 3	Totals 6	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	2	1	3	(1)
10:00-11:00	0	1	1	(0)
11:00-12:00	0	0	0	(0)
12:00-13:00	1	1	2	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: Taxis

Time	Arr 10	Dep 12	Totals 22	Accumulation
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	0	0	0	(0)
08:00-09:00	1	2	3	(-1)
09:00-10:00	2	2	4	(-1)
10:00-11:00	1	2	3	(-2)
11:00-12:00	0	0	0	(-2)
12:00-13:00	0	1	1	(-3)
13:00-14:00	1	1	2	(-3)
14:00-15:00	1	0	1	(-2)
15:00-16:00	1	2	3	(-3)
16:00-17:00	0	0	0	(-3)
17:00-18:00	3	2	5	(-2)
18:00-19:00	0	0	0	(-2)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
Vehicles surveyed: Cycles

Time	Arr 2	Dep 3	Totals 5	Accumulation
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	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	2	0	2	(2)
10:00-11:00	0	1	1	(1)
11:00-12:00	0	0	0	(1)
12:00-13:00	0	0	0	(1)
13:00-14:00	0	0	0	(1)
14:00-15:00	0	2	2	(-1)
15:00-16:00	0	0	0	(-1)
16:00-17:00	0	0	0	(-1)
17:00-18:00	0	0	0	(-1)
18:00-19:00	0	0	0	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
People Surveyed: Car/LGV/Motorcycle occupants

This count consists of car occupants, light goods vehicle occupants, motorcycle riders and OGV occupants
Taxi drivers and drivers of private vehicles picking up/dropping off passengers at the site are excluded from the count

Time	1	2	3	4	5	6	7	Arr 458	1	2	3	4	5	6	7	Dep 464	Totals 922	Accum
00:00-01:00																		
01:00-02:00																		
02:00-03:00																		
03:00-04:00																		
04:00-05:00																		
05:00-06:00																		
06:00-07:00																		
07:00-08:00	5	0	0	0	0	0	0	5	15	1	0	0	0	0	0	17	22	(-12)
08:00-09:00	21	8	3	0	1	0	0	51	45	10	5	1	0	0	0	84	135	(-45)
09:00-10:00	19	6	4	0	0	0	0	43	37	4	1	0	0	0	0	48	91	(-50)
10:00-11:00	11	0	0	0	0	0	0	11	12	1	0	0	0	0	0	14	25	(-53)
11:00-12:00	8	1	0	1	0	0	0	14	11	3	0	0	2	0	0	27	41	(-66)
12:00-13:00	16	3	0	0	0	0	0	22	23	2	3	1	0	0	0	40	62	(-84)
13:00-14:00	21	1	0	1	0	0	0	27	16	2	0	1	0	0	0	24	51	(-81)
14:00-15:00	23	3	4	1	0	0	0	45	24	2	0	0	0	0	0	28	73	(-64)
15:00-16:00	26	9	3	0	0	0	0	53	22	11	3	1	1	0	0	62	115	(-73)
16:00-17:00	26	15	1	0	0	0	0	59	15	5	2	2	0	0	0	39	98	(-53)
17:00-18:00	42	12	4	2	0	0	0	86	24	9	1	2	0	0	0	53	139	(-20)
18:00-19:00	25	7	1	0	0	0	0	42	19	3	1	0	0	0	0	28	70	(-6)
19:00-20:00																		
20:00-21:00																		
21:00-22:00																		
22:00-23:00																		
23:00-24:00																		

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
People Surveyed: Pedestrians

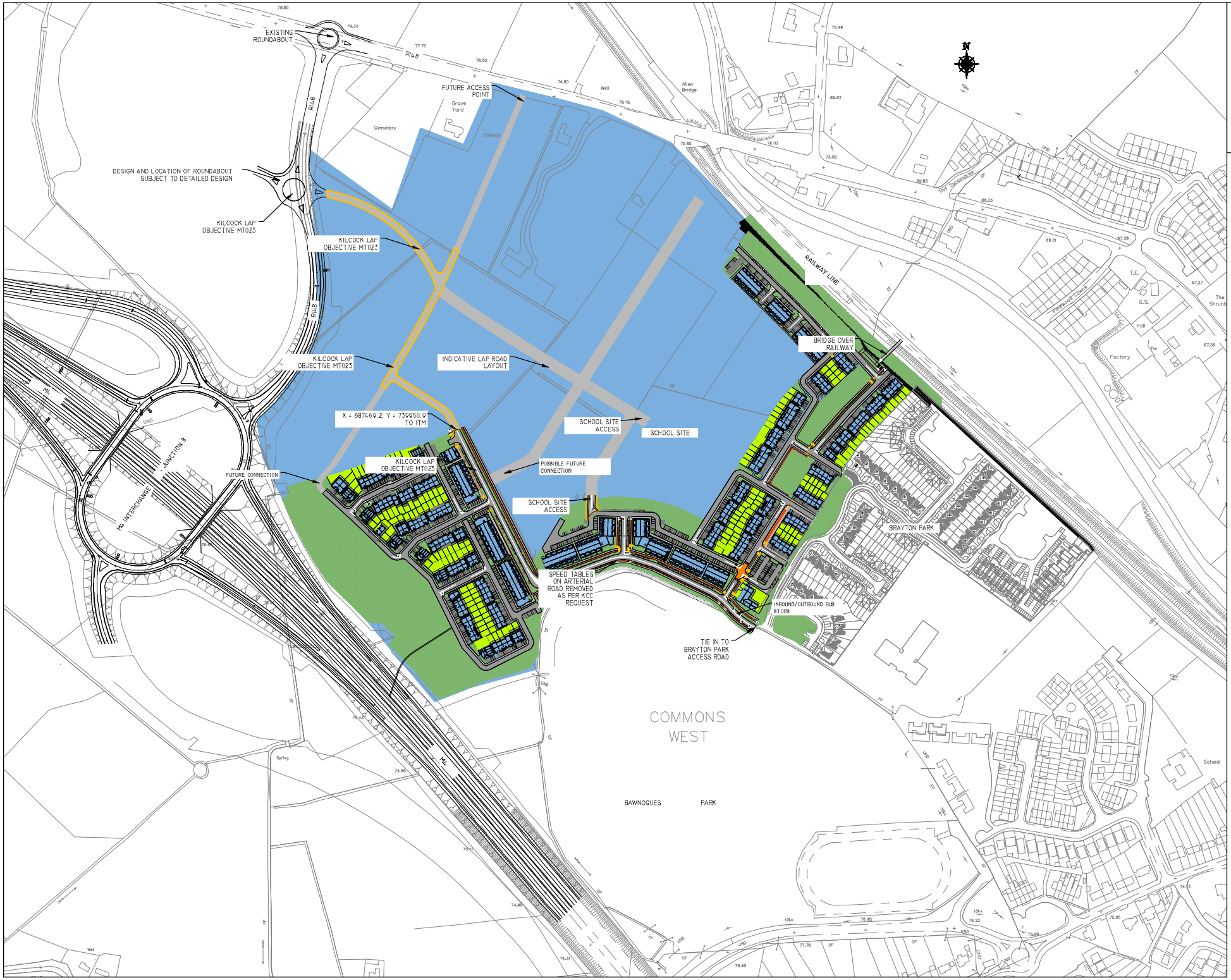
Time	Arr 20	Dep 21	Totals 41	Accumulation
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	0	2	2	(-2)
08:00-09:00	1	2	3	(-3)
09:00-10:00	0	0	0	(-3)
10:00-11:00	1	1	2	(-3)
11:00-12:00	3	4	7	(-4)
12:00-13:00	2	1	3	(-3)
13:00-14:00	1	2	3	(-4)
14:00-15:00	1	0	1	(-3)
15:00-16:00	1	2	3	(-4)
16:00-17:00	4	3	7	(-3)
17:00-18:00	4	1	5	(0)
18:00-19:00	2	3	5	(-1)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: KK-03-A-03 Survey date: 26/11/08 Day of week: Wednesday
Multi-Modal survey site
People Surveyed: Total people

Time	Arr 480	Dep 488	Totals 968	Accumulation
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	5	19	24	(-14)
08:00-09:00	52	86	138	(-48)
09:00-10:00	45	48	93	(-51)
10:00-11:00	12	16	28	(-55)
11:00-12:00	17	31	48	(-69)
12:00-13:00	24	41	65	(-86)
13:00-14:00	28	26	54	(-84)
14:00-15:00	46	30	76	(-68)
15:00-16:00	54	64	118	(-78)
16:00-17:00	63	42	105	(-57)
17:00-18:00	90	54	144	(-21)
18:00-19:00	44	31	75	(-8)
19:00-20:00				
20:00-21:00				
21:00-22:00				
22:00-23:00				
23:00-24:00				

Appendix C

Objective MTO 32



LEGEND:

- PROPOSED CYCLE TRACK
- PROPOSED FOOTPATHS
- PROPOSED CARRIAGEWAY
- PROPOSED SPEED RAMP
- LOCAL PARK FOOTPATH
- FUTURE APPLICATION BOUNDARY - THIRD PARTIES
- REMAINDER OF LAP LANDS

NOTES:-

1. THE PROPOSED NEW ROAD ALIGNMENT HAS BEEN DESIGNED IN STRICT ACCORDANCE WITH THE "DESIGN MANUAL FOR URBAN ROADS AND STREETS (DMURS)" AS PREPARED FOR THE DEPT. OF TOURISM & SPORT AND FOR THE DEPT. OF ENVIRONMENT, COMMUNITY & LOCAL GOVERNMENT.

5 July 2019 07:54 -- DRAFT --

0 50MM ON A1 DWG. 50

REV	DESCRIPTION	BY	CHK	DATE
3	LAYOUT UPDATED WITH KCC COMMENTS	RK	RK	05/07/19
2	LAYOUT UPDATED	RK	RK	11/06/19
1	ABP PLANNING ISSUE	RK	RK	23/05/19

CLIENT

RYCROFT HOMES LTD.

PROJECT

LANDS ADJOINING BRAYTON PARK, KILCOCK, CO. KILDARE.

-

DRAWING TITLE

LAP
General Layout

-

PINNACLE CONSULTING ENGINEERS

GROSVENOR COURT,
STAPATRICK STREET,
DUNLAOGHAIRE,
COUNTY DUBLIN,
IRELAND. TELEPHONE: +353 1 231 1041
NORWICH | WELWYN GARDEN CITY | LONDON | BRISTOL

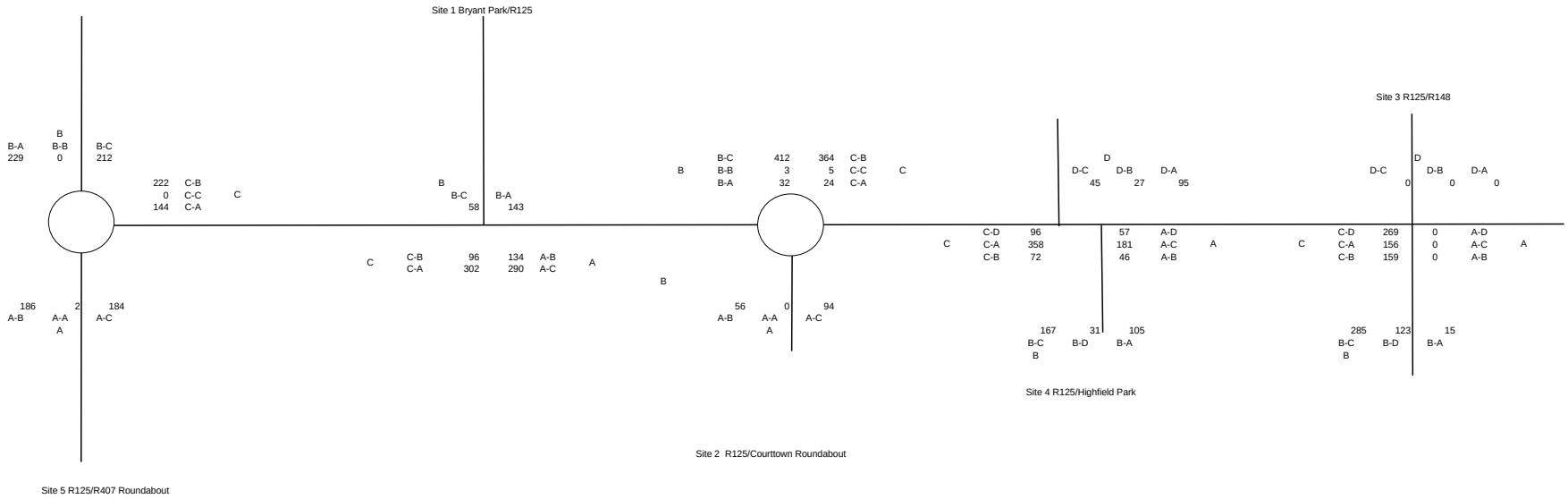
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PLANNING			
SCALE	DATE	DRAWN BY	CHECKED
1:2000	May '19	RK	RK
DRG NO.		REVISION	SHEET SIZE
P106		3	A1

COPYRIGHT PINNACLE

REF: P106DG01

Appendix D

Flow Diagrams



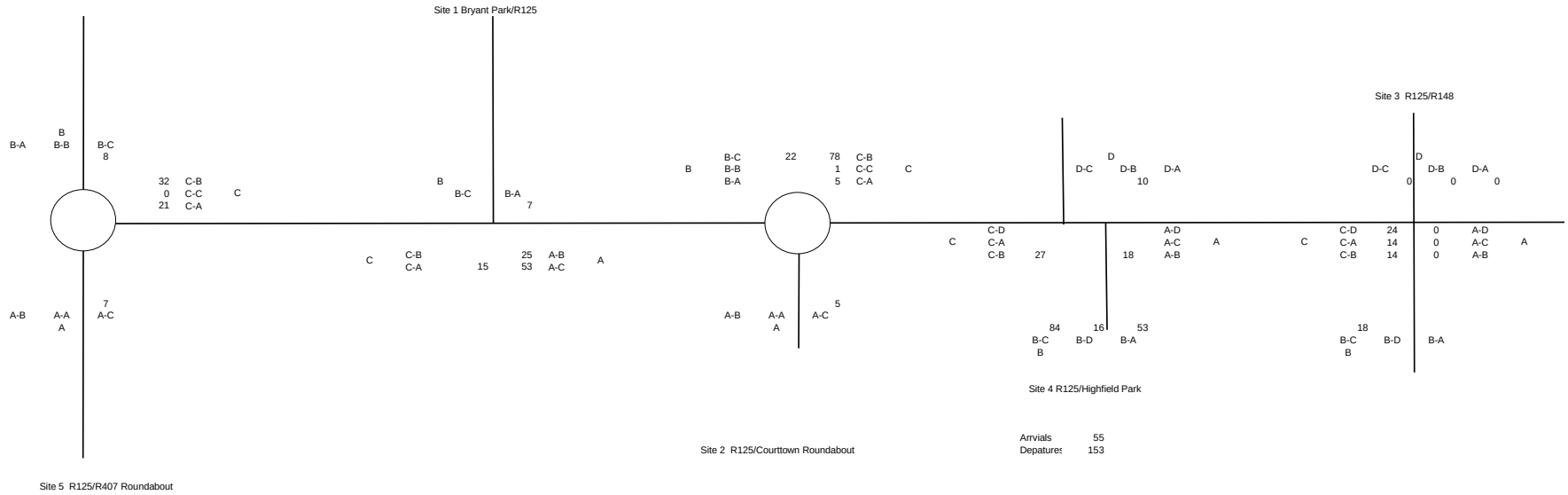
Proposed development Brayant Park, Kilcock

Traffic flow and turning movement diagram

Appendix D.1

Flow condition: Survey

2018 AM Peak Hour

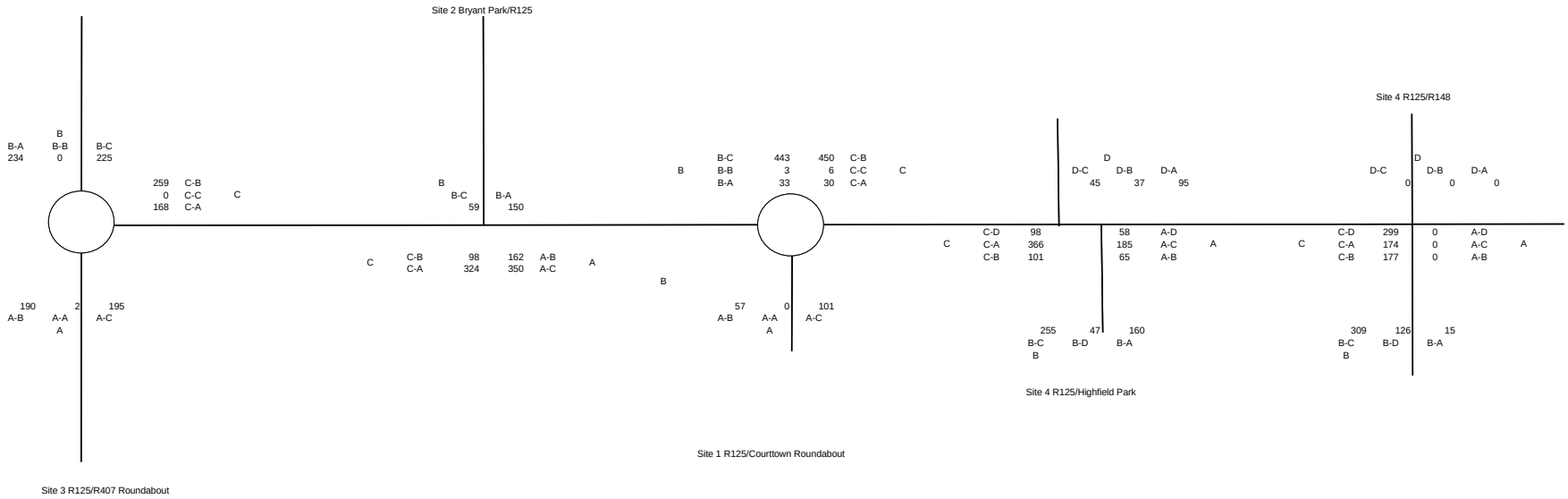


Proposed development Brayant Park, Kilcock

Appendix D.2

Traffic flow and turning movement diagram

Flow condition:	Development Flows/Trip Distribution - Reg Ref 161345
-	AM Peak Hour

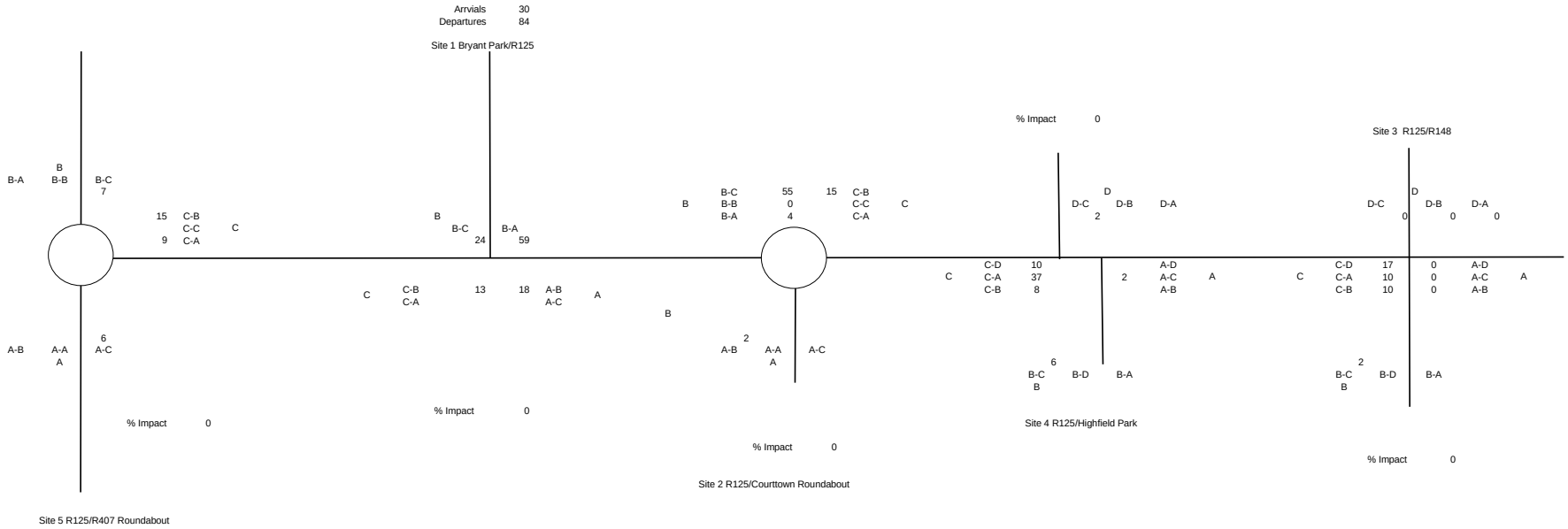


Proposed develoAMent Brayant Park, Kilcock

Appendix D.3

Traffic flow and turning movement diagram

Flow condition:	Commited Developent
2019	AM Peak Hour

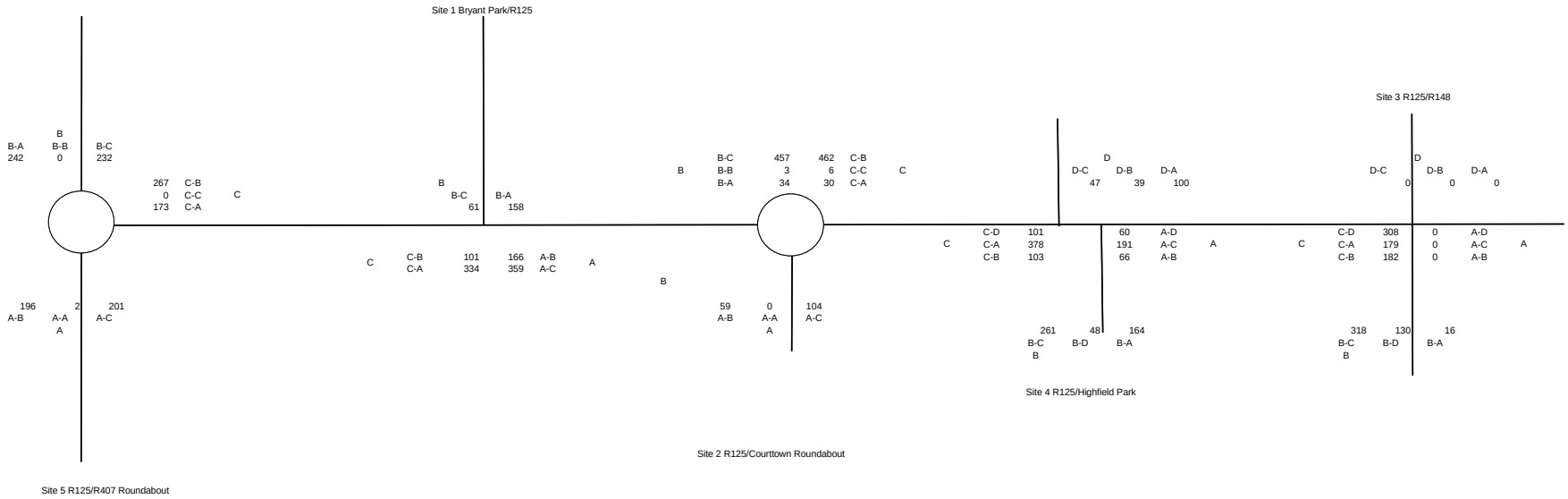


Proposed development Brayant Park, Kilcock

Appendix D.4

Traffic flow and turning movement diagram

Flow condition:	Development Flows/Trip Distribution
-	AM Peak Hour



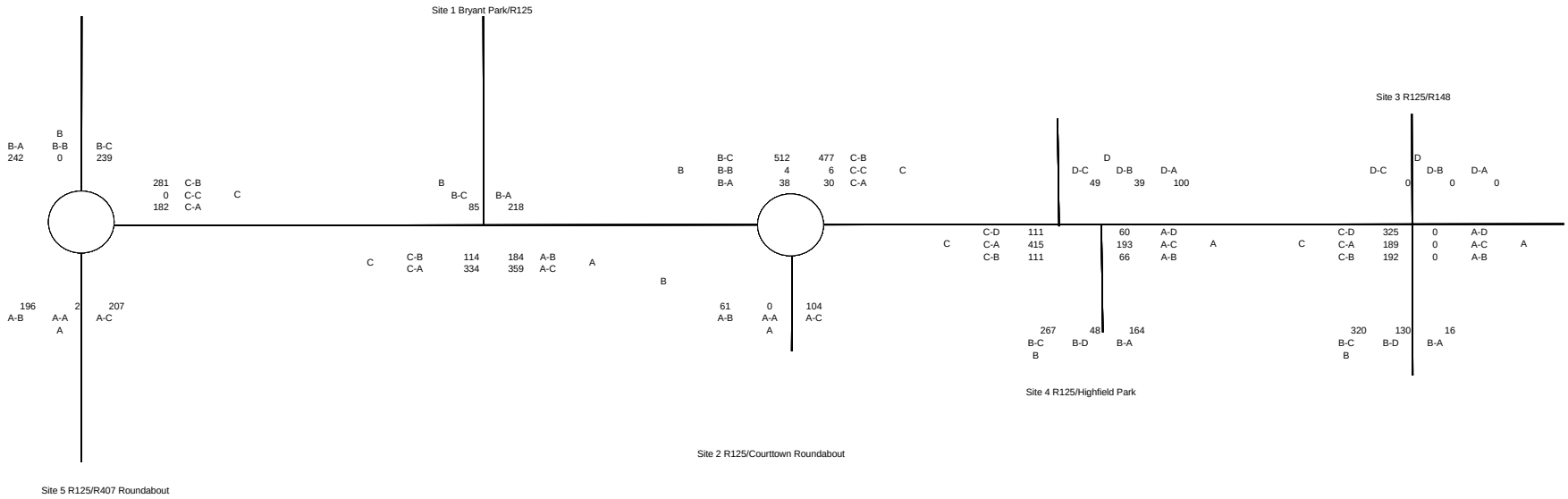
Proposed development Brayant Park, Kilcock

Traffic flow and turning movement diagram

Appendix D.5

Flow condition:

No Development	
2022	AM Peak Hour + Committed

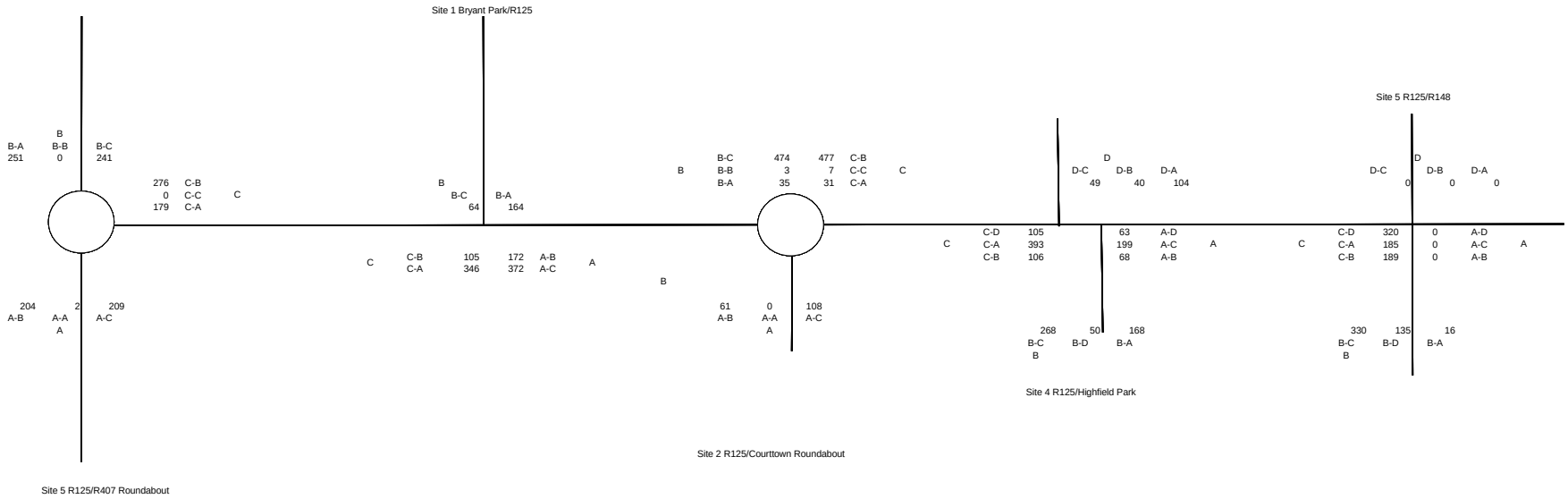


Proposed development Brayant Park, Kilcock

Appendix D.6

Traffic flow and turning movement diagram

Flow condition:	With Development	
	2022	AM Peak Hour + Committed

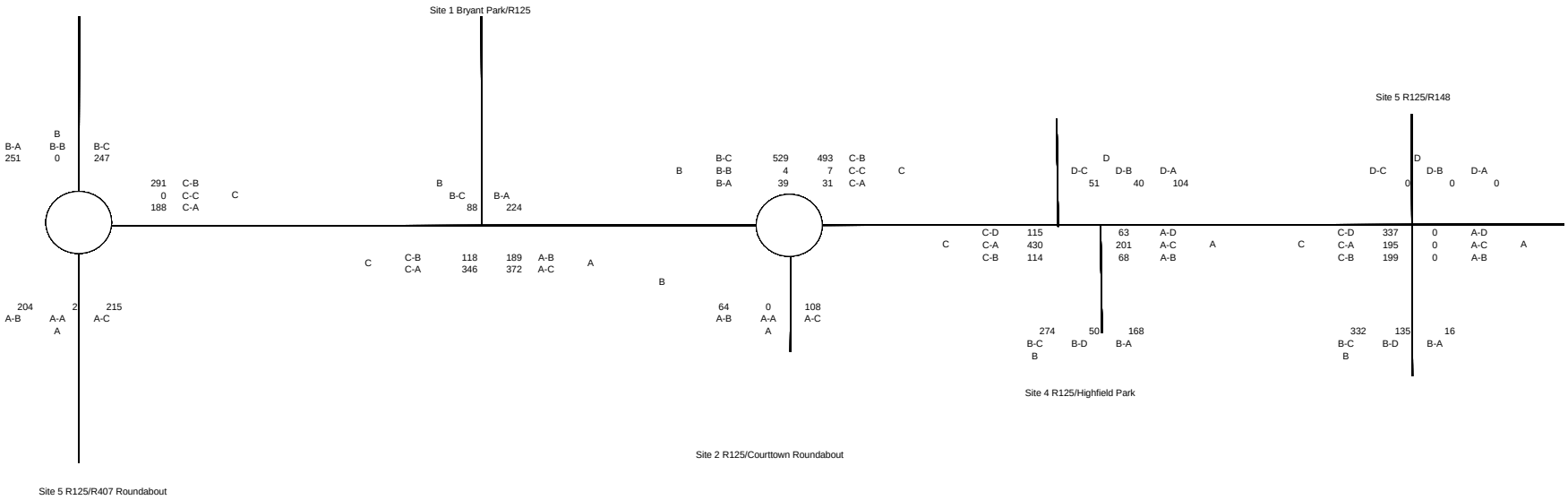


Proposed development Brayant Park, Kilcock

Appendix D.7

Traffic flow and turning movement diagram

Flow condition:	No Development
	2027 AM Peak Hour + Committed

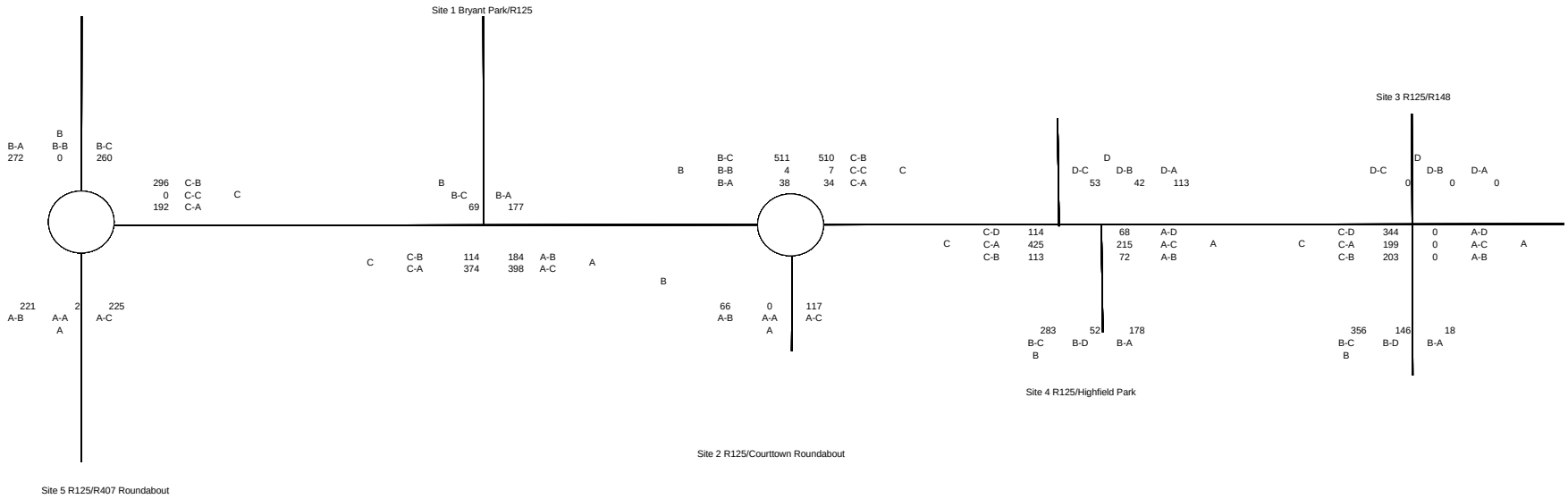


Proposed development Brayant Park, Kilcock

Appendix D.8

Traffic flow and turning movement diagram

Flow condition:	With Development	
	2027	AM Peak Hour + Committed

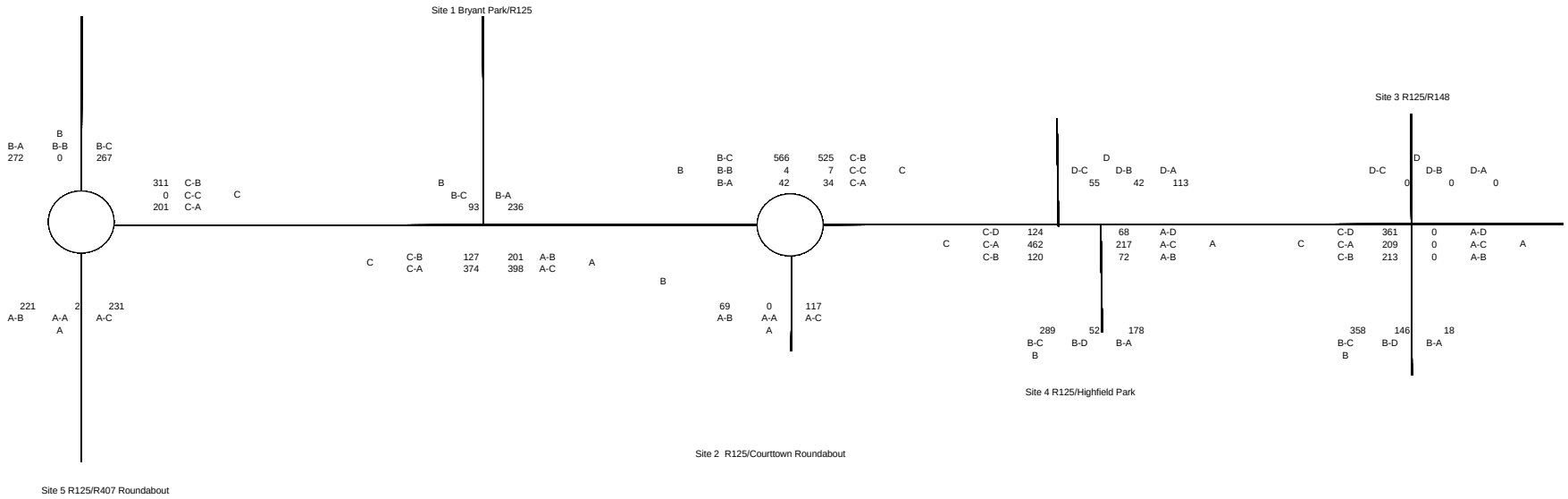


Proposed development Brayant Park, Kilcock

Appendix D.9

Traffic flow and turning movement diagram

Flow condition:	No Development
2037	AM Peak Hour + Committed

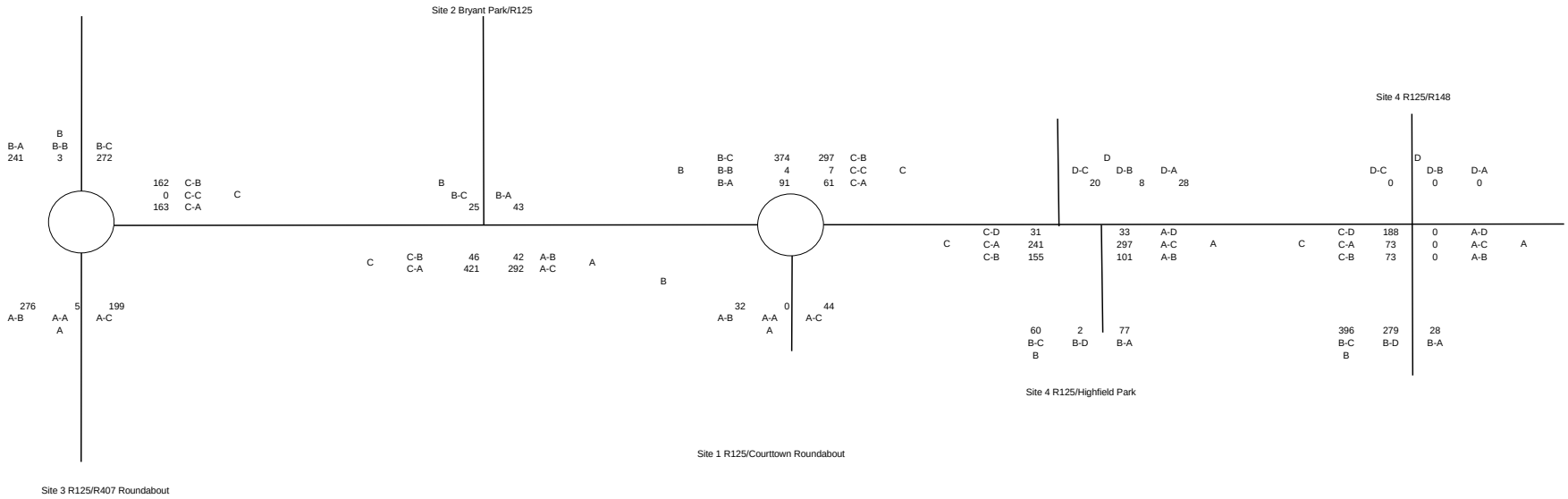


Proposed development Brayant Park, Kilcock

Appendix D.10

Traffic flow and turning movement diagram

Flow condition:	With Development
2037	AM Peak Hour + Committed



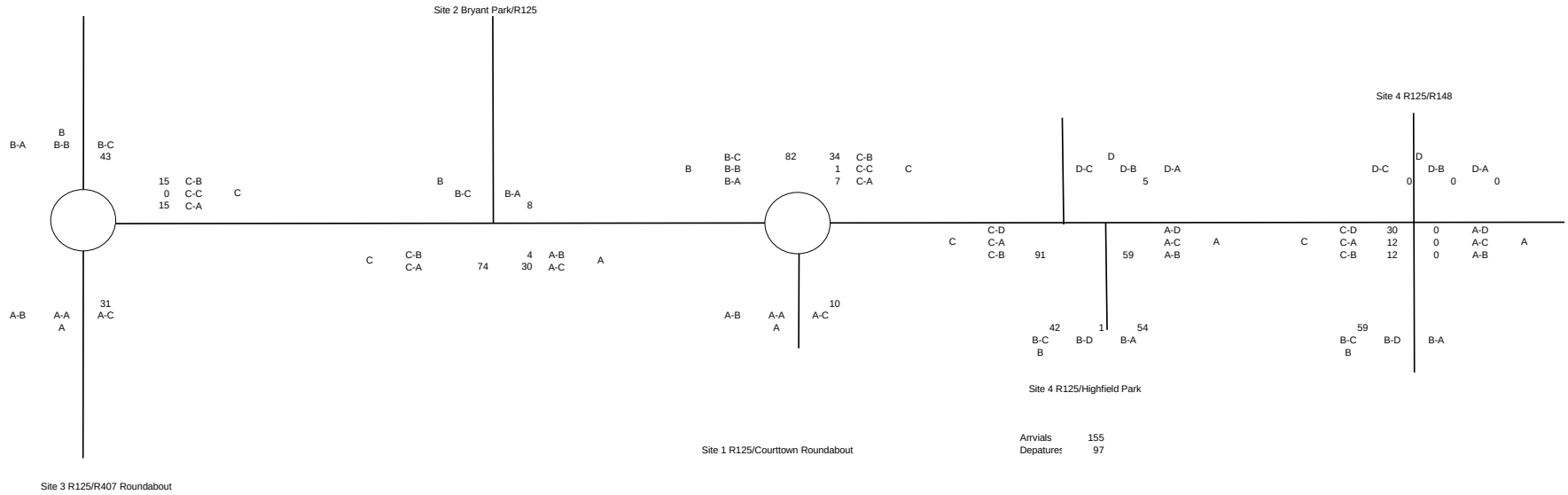
Proposed development Brayant Park, Kilcock

Appendix D.11

Traffic flow and turning movement diagram

Flow condition: Survey

2018 PM Peak Hour

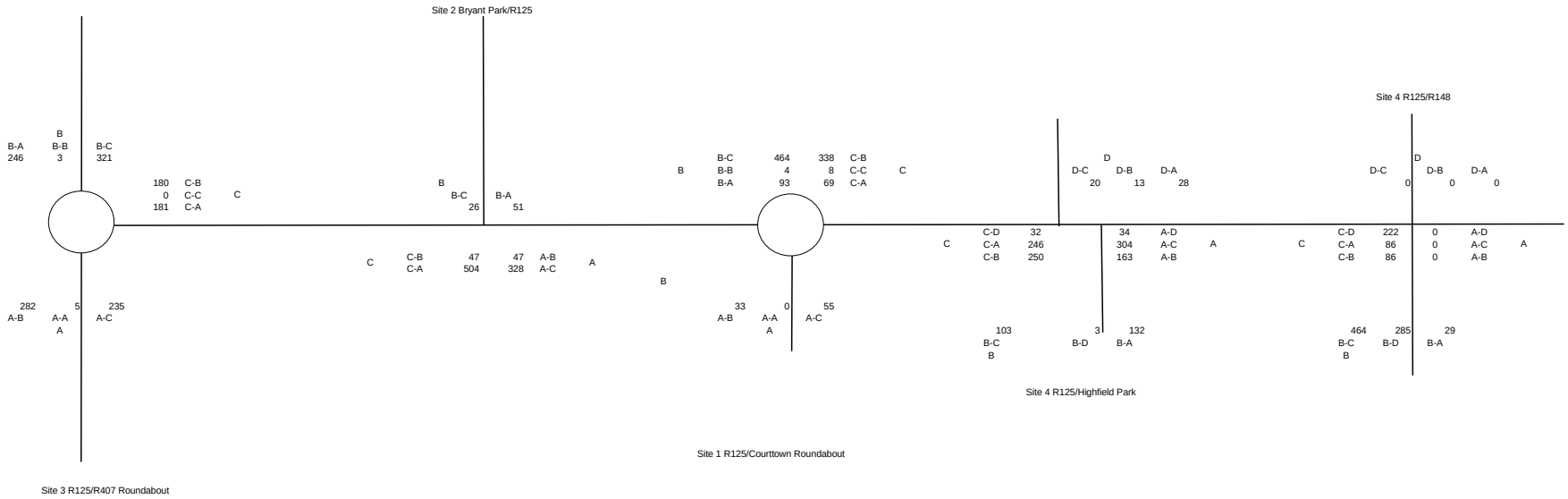


Proposed development Brayant Park, Kilcock

Appendix D.12

Traffic flow and turning movement diagram

Flow condition:	Development Flows/Trip Distribution - Reg Ref 161345
-	PM Peak Hour



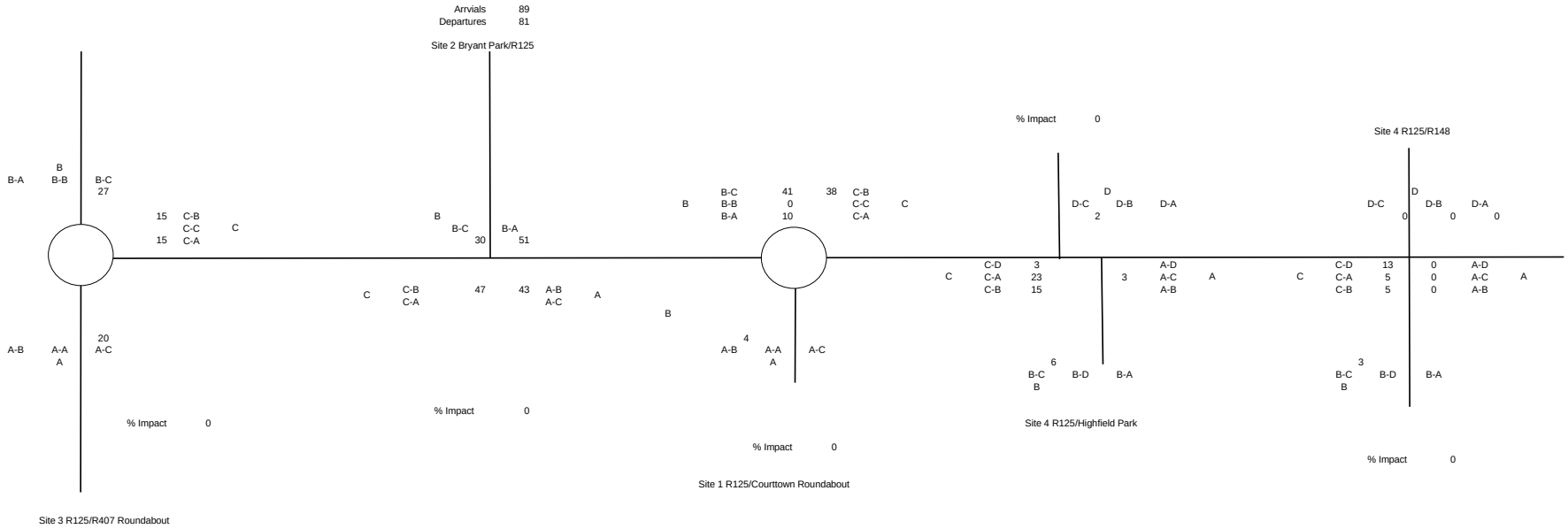
Proposed development Brayant Park, Kilcock

Appendix D.13

Traffic flow and turning movement diagram

Flow condition: Commited Developent

2019 PM Peak Hour

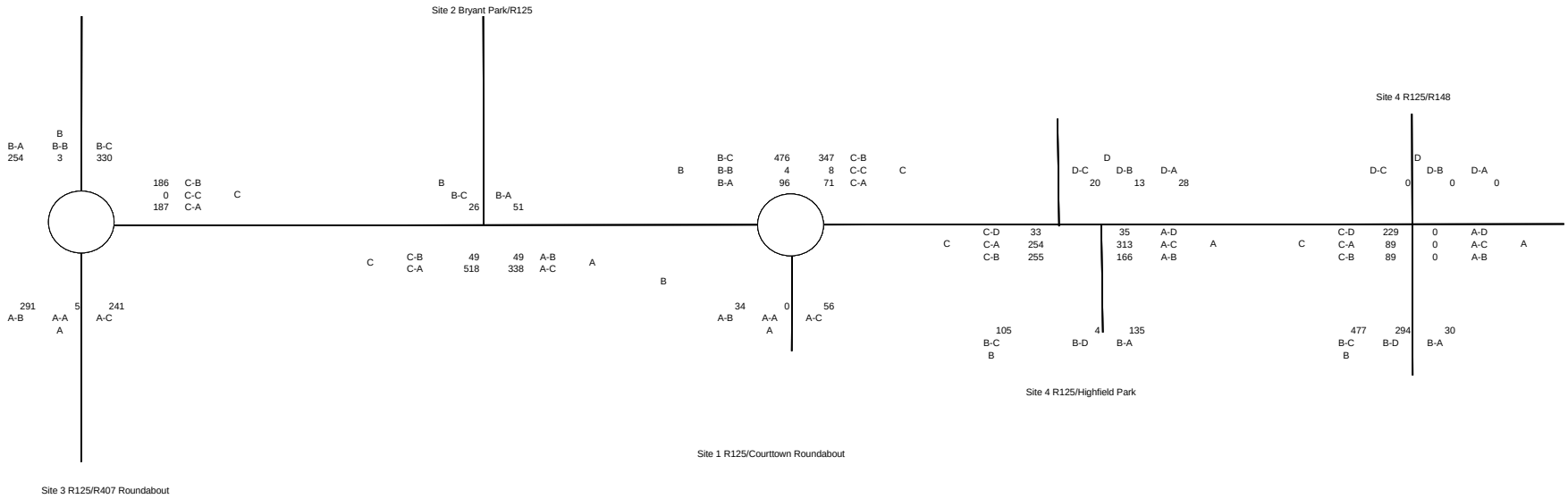


Proposed development Brayant Park, Kilcock

Appendix D.14

Traffic flow and turning movement diagram

Flow condition:	Development Flows/Trip Distribution
-	PM Peak Hour



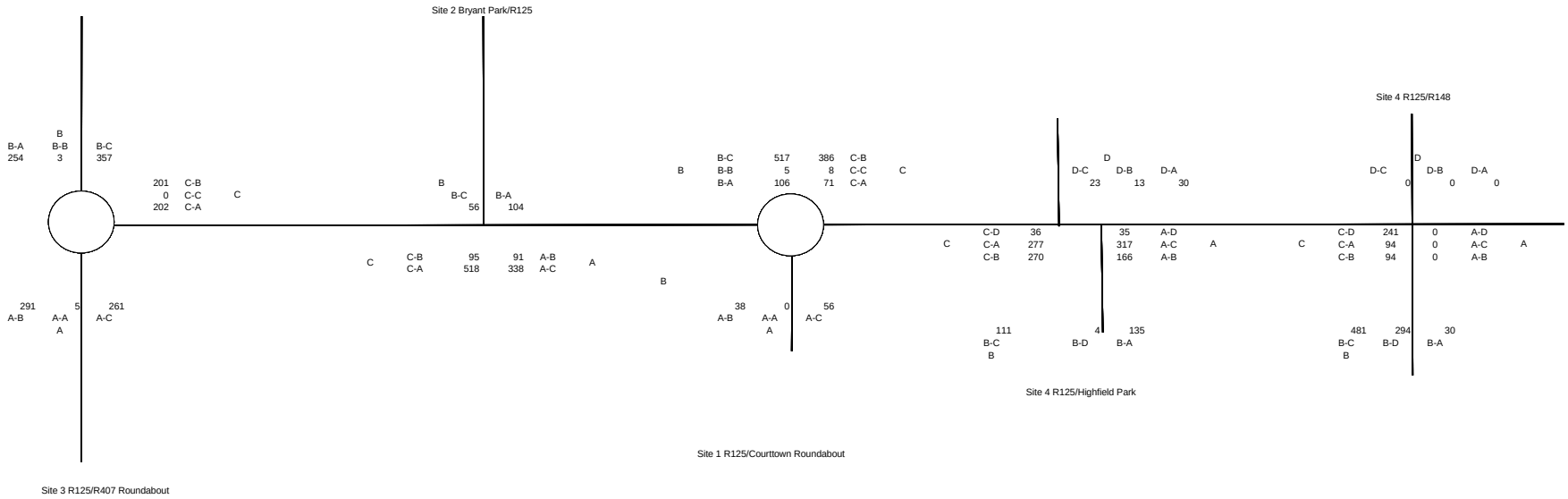
Proposed development Brayant Park, Kilcock

Traffic flow and turning movement diagram

Appendix D.15

Flow condition: Commited Developent

2022 PM Peak Hour



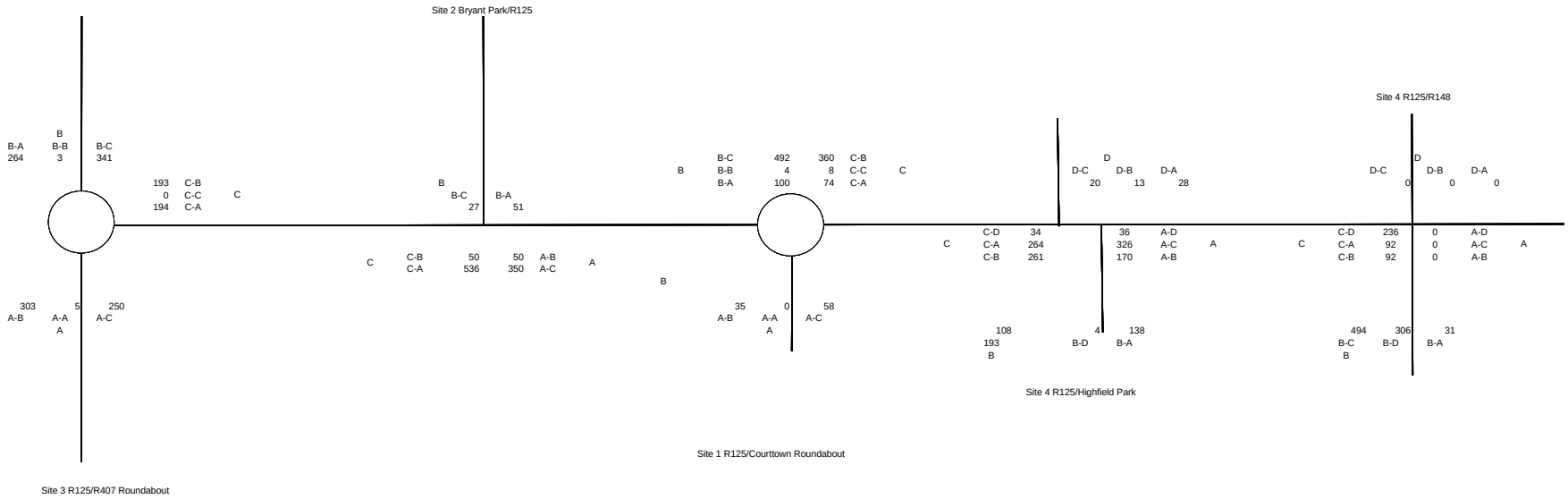
Proposed development Brayant Park, Kilcock

Traffic flow and turning movement diagram

Appendix D.16

Flow condition: With Developent

2022 PM Peak Hour + Committed



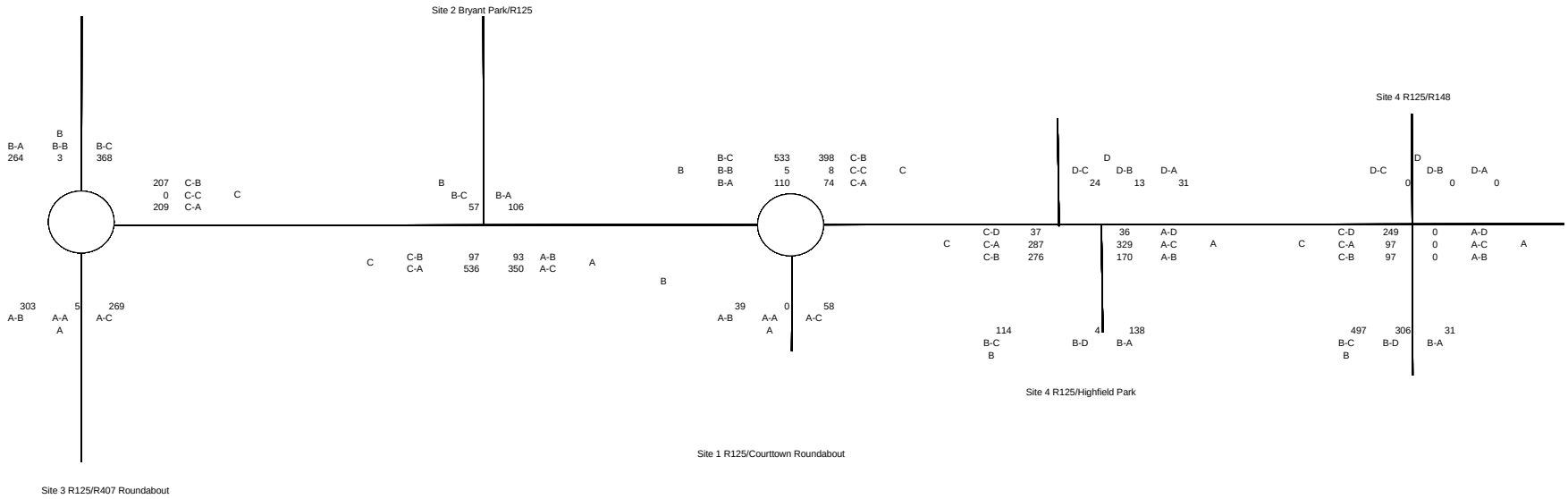
Proposed development Brayant Park, Kilcock

Traffic flow and turning movement diagram

Appendix D.17

Flow condition:

Commited Developent	
2027	PM Peak Hour

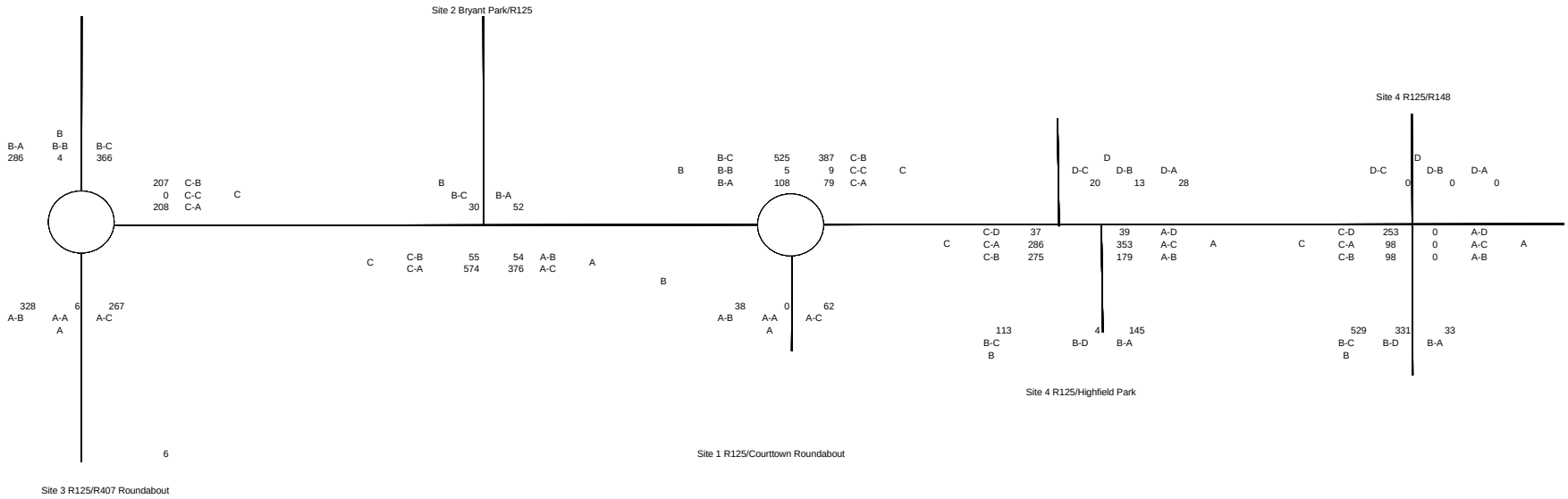


Proposed development Brayant Park, Kilcock

Appendix D.18

Traffic flow and turning movement diagram

Flow condition:	With Development	
	2027	PM Peak Hour + Committed

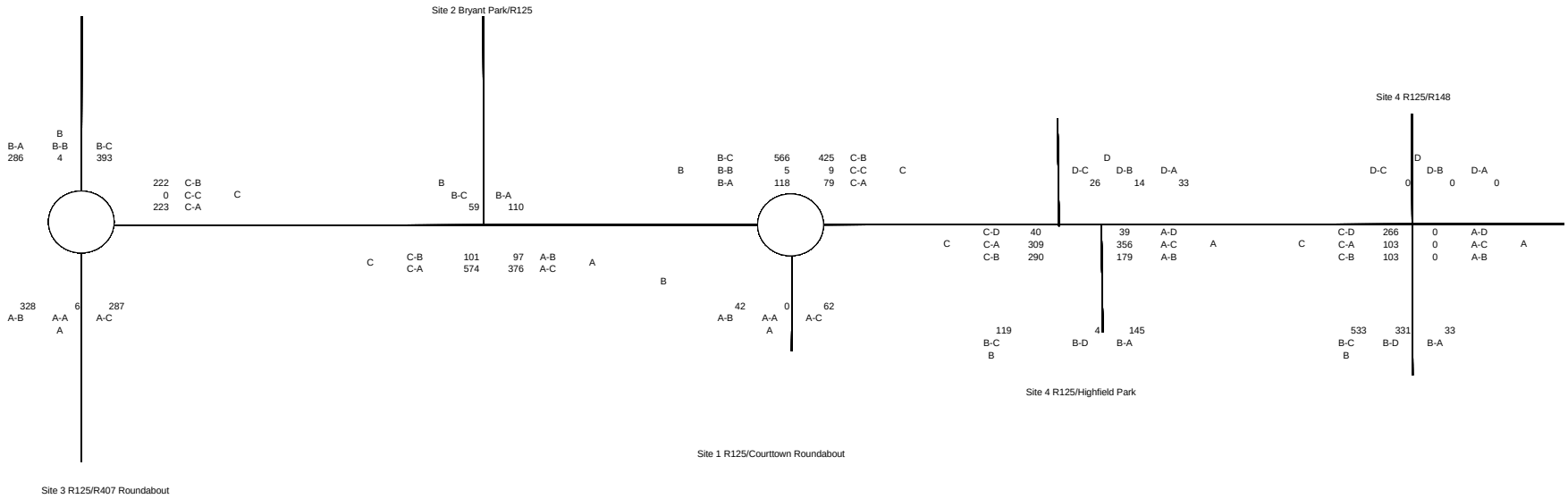


Proposed development Brayant Park, Kilcock

Traffic flow and turning movement diagram

Appendix D.19

Flow condition:	Commited Developent
2037	PM Peak Hour



Proposed development Brayant Park, Kilcock

Appendix D.20

Traffic flow and turning movement diagram

Flow condition:	With Developent
2037	PM Peak Hour + Committed

Appendix E

Model Analysis Output

Appendix E.1

Junction 1

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:44:01

« A1 - (Default Analysis Set) - D1 - 2019 Committed, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
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2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

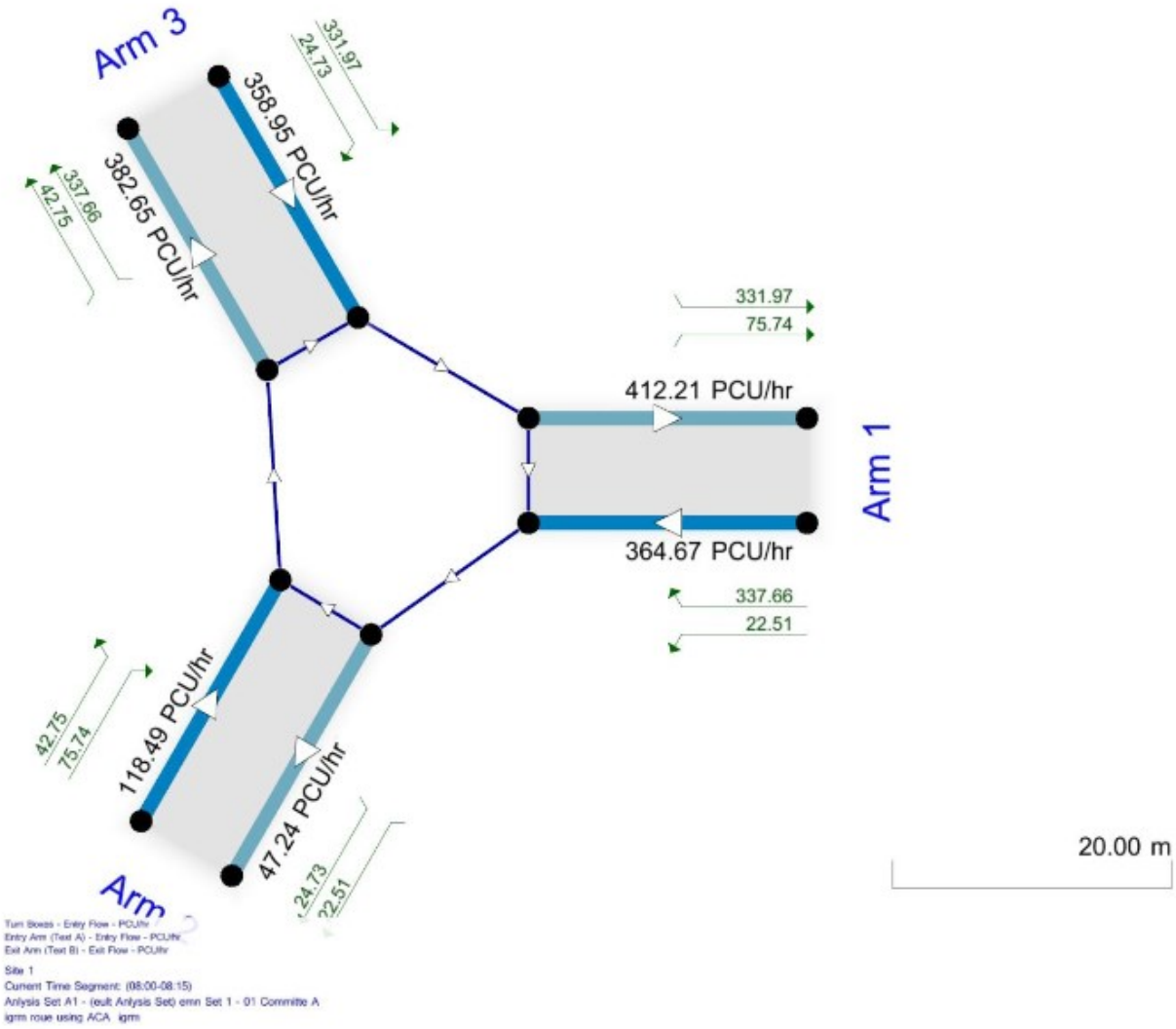
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D1 - 2019 Committed, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2019 Committed, AM	2019 Committed	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	486.00	100.000	N/A
2	ONE HOUR	Yes	158.00	100.000	N/A
3	ONE HOUR	Yes	479.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	365.89	365.89	N/A	N/A
1	2	118.95	118.95	N/A	N/A
1	3	360.62	360.62	N/A	N/A
2	1	436.90	436.90	N/A	N/A
2	2	142.04	142.04	N/A	N/A
2	3	430.61	430.61	N/A	N/A
3	1	535.10	535.10	N/A	N/A
3	2	173.96	173.96	N/A	N/A
3	3	527.39	527.39	N/A	N/A
4	1	535.10	535.10	N/A	N/A
4	2	173.96	173.96	N/A	N/A
4	3	527.39	527.39	N/A	N/A
5	1	436.90	436.90	N/A	N/A
5	2	142.04	142.04	N/A	N/A
5	3	430.61	430.61	N/A	N/A
6	1	365.89	365.89	N/A	N/A
6	2	118.95	118.95	N/A	N/A
6	3	360.62	360.62	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	6.000	30.000	450.000
	2	101.000	0.000	57.000
	3	443.000	33.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

	To

		To		
		1	2	3
From	1	0.01	0.06	0.93
	2	0.64	0.00	0.36
	3	0.92	0.07	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.32	0.06	0.52	A	445.96	668.94	36.07	0.05	0.40	36.07	0.05	0.622	1698.990
2	0.15	0.07	0.19	A	144.98	217.48	13.64	0.06	0.15	13.64	0.06	0.552	1436.448
3	0.41	0.09	0.76	A	439.54	659.31	51.58	0.08	0.57	51.58	0.08	0.544	1347.805

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	365.89	91.47	364.67	412.21	26.98	0.00	1682.20	1645.90	0.218	0.00	0.30
2	118.95	29.74	118.49	47.24	344.41	0.00	1246.39	580.32	0.095	0.00	0.12
3	360.62	90.15	358.95	382.65	80.24	0.00	1304.17	1135.02	0.277	0.00	0.42

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	436.90	109.23	436.58	493.89	32.33	0.00	1678.87	1645.90	0.260	0.30	0.39
2	142.04	35.51	141.92	56.58	412.33	0.00	1208.91	580.32	0.117	0.12	0.15
3	430.61	107.65	430.11	458.13	96.11	0.00	1295.54	1135.02	0.332	0.42	0.54

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	535.10	133.77	534.58	604.63	39.57	0.00	1674.36	1645.90	0.320	0.39	0.51

2	173.96	43.49	173.77	69.27	504.88	0.00	1157.84	580.32	0.150	0.15	0.19
3	527.39	131.85	526.52	560.97	117.68	0.00	1283.81	1135.02	0.411	0.54	0.76

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	535.10	133.77	535.09	605.55	39.64	0.00	1674.32	1645.90	0.320	0.51	0.52
2	173.96	43.49	173.96	69.36	505.36	0.00	1157.57	580.32	0.150	0.19	0.19
3	527.39	131.85	527.37	561.51	117.81	0.00	1283.74	1135.02	0.411	0.76	0.76

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	436.90	109.23	437.41	495.35	32.43	0.00	1678.81	1645.90	0.260	0.52	0.39
2	142.04	35.51	142.23	56.73	413.11	0.00	1208.48	580.32	0.118	0.19	0.15
3	430.61	107.65	431.46	459.02	96.32	0.00	1295.43	1135.02	0.332	0.76	0.55

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	365.89	91.47	366.21	414.63	27.14	0.00	1682.10	1645.90	0.218	0.39	0.31
2	118.95	29.74	119.07	47.49	345.87	0.00	1245.58	580.32	0.096	0.15	0.12
3	360.62	90.15	361.13	384.30	80.64	0.00	1303.95	1135.02	0.277	0.55	0.42

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.48	0.30	0.050	A	A
2	1.70	0.11	0.058	A	A
3	6.11	0.41	0.070	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.70	0.38	0.053	A	A
2	2.16	0.14	0.062	A	A
3	8.00	0.53	0.076	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.58	0.51	0.058	A	A
2	2.86	0.19	0.067	A	A
3	11.12	0.74	0.087	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.72	0.51	0.058	A	A
2	2.91	0.19	0.067	A	A
3	11.43	0.76	0.087	A	A

Queueing Delay results: (09:00-09:15)

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.92	0.39	0.053	A	A
2	2.24	0.15	0.062	A	A
3	8.46	0.56	0.076	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.67	0.31	0.050	A	A
2	1.77	0.12	0.059	A	A
3	6.47	0.43	0.070	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	365.89	1682.20	0.218	0.00	0.00	0.30	4.48	(0.02)	0.050
1	2	118.95	1246.39	0.095	0.00	0.00	0.12	1.70	(0.02)	0.058
1	3	360.62	1304.17	0.277	0.00	0.00	0.42	6.11	(0.02)	0.070
2	1	436.90	1678.87	0.260	0.00	0.30	0.39	5.70	(0.02)	0.053
2	2	142.04	1208.91	0.117	0.00	0.12	0.15	2.16	(0.02)	0.062
2	3	430.61	1295.54	0.332	0.00	0.42	0.54	8.00	(0.02)	0.076
3	1	535.10	1674.36	0.320	0.00	0.39	0.51	7.58	(0.02)	0.058
3	2	173.96	1157.84	0.150	0.00	0.15	0.19	2.86	(0.02)	0.067
3	3	527.39	1283.81	0.411	0.00	0.54	0.76	11.12	(0.02)	0.087
4	1	535.10	1674.32	0.320	0.00	0.51	0.52	7.72	(0.02)	0.058
4	2	173.96	1157.57	0.150	0.00	0.19	0.19	2.91	(0.02)	0.067
4	3	527.39	1283.74	0.411	0.00	0.76	0.76	11.43	(0.02)	0.087
5	1	436.90	1678.81	0.260	0.00	0.52	0.39	5.92	(0.02)	0.053
5	2	142.04	1208.48	0.118	0.00	0.19	0.15	2.24	(0.02)	0.062
5	3	430.61	1295.43	0.332	0.00	0.76	0.55	8.46	(0.02)	0.076
6	1	365.89	1682.10	0.218	0.00	0.39	0.31	4.67	(0.02)	0.050
6	2	118.95	1245.58	0.096	0.00	0.15	0.12	1.77	(0.02)	0.059
6	3	360.62	1303.95	0.277	0.00	0.55	0.42	6.47	(0.02)	0.070

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:46:05

« A1 - (Default Analysis Set) - D2 - 2022 No Development, AM

» Roundabout Network
» Arms
» Traffic Flows
» Entry Flows
» Direct/Resultant Flows
» Turning Proportions
» Vehicle Mix
» Results
» Overview: Standard Roundabout Geometry
» Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
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2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

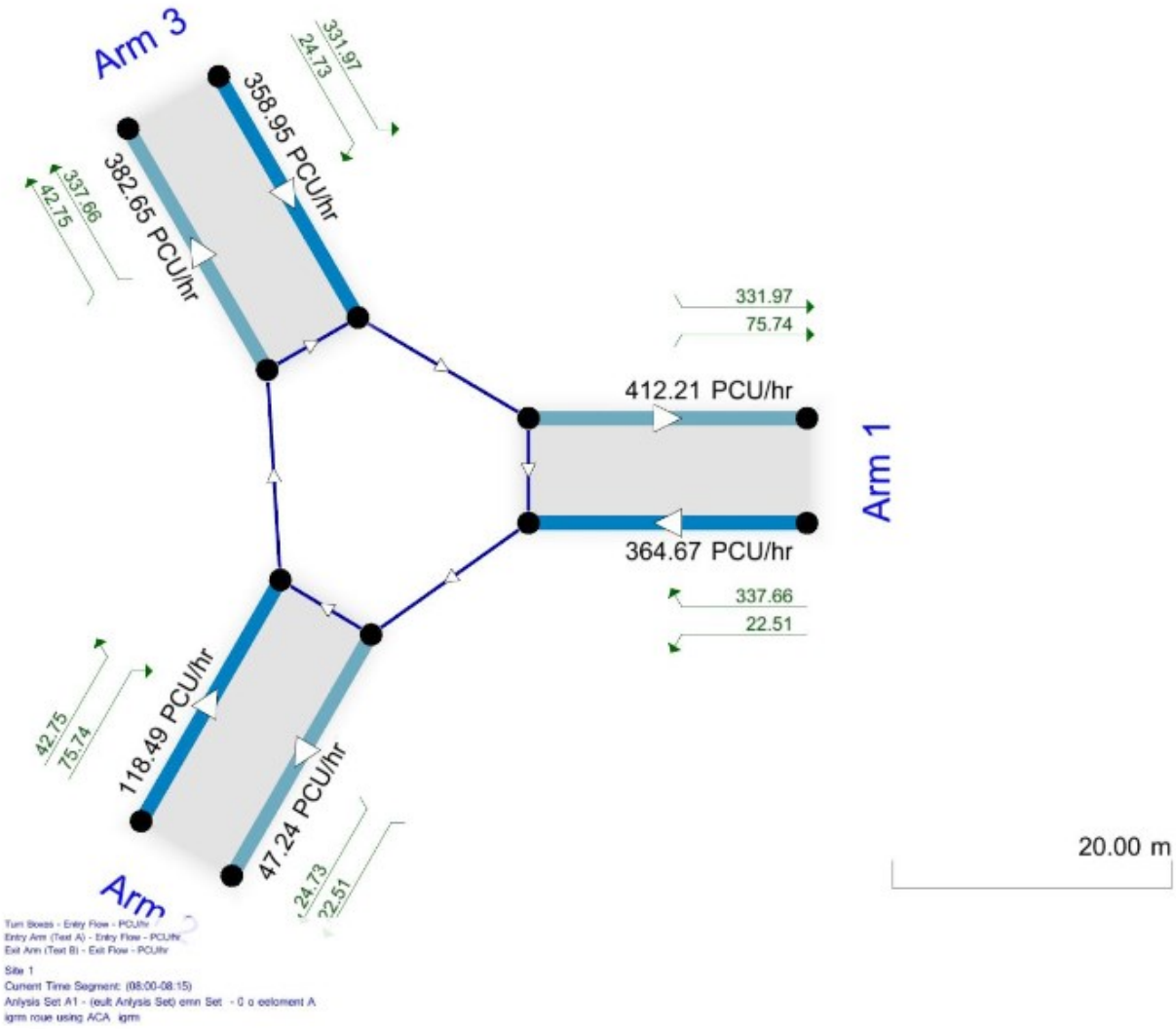
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D2 - 2022 No Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2022 No Development, AM	2022 No Development	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	498.00	100.000	N/A
2	ONE HOUR	Yes	163.00	100.000	N/A
3	ONE HOUR	Yes	494.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	374.92	374.92	N/A	N/A
1	2	122.71	122.71	N/A	N/A
1	3	371.91	371.91	N/A	N/A
2	1	447.69	447.69	N/A	N/A
2	2	146.53	146.53	N/A	N/A
2	3	444.10	444.10	N/A	N/A
3	1	548.31	548.31	N/A	N/A
3	2	179.47	179.47	N/A	N/A
3	3	543.90	543.90	N/A	N/A
4	1	548.31	548.31	N/A	N/A
4	2	179.47	179.47	N/A	N/A
4	3	543.90	543.90	N/A	N/A
5	1	447.69	447.69	N/A	N/A
5	2	146.53	146.53	N/A	N/A
5	3	444.10	444.10	N/A	N/A
6	1	374.92	374.92	N/A	N/A
6	2	122.71	122.71	N/A	N/A
6	3	371.91	371.91	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	6.000	30.000	462.000
	2	104.000	0.000	59.000
	3	457.000	34.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.01	0.06	0.93
	2	0.64	0.00	0.36
	3	0.93	0.07	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.33	0.06	0.53	A	456.97	685.46	37.33	0.05	0.41	37.33	0.05	0.622	1698.990
2	0.16	0.07	0.20	A	149.57	224.36	14.22	0.06	0.16	14.22	0.06	0.552	1436.448
3	0.42	0.09	0.81	A	453.30	679.95	54.22	0.08	0.60	54.23	0.08	0.544	1347.805

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	374.92	93.73	373.66	424.93	27.72	0.00	1681.74	1646.04	0.223	0.00	0.31
2	122.71	30.68	122.23	47.99	353.40	0.00	1241.43	579.01	0.099	0.00	0.12
3	371.91	92.98	370.16	393.14	82.49	0.00	1302.94	1136.12	0.285	0.00	0.44

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	447.69	111.92	447.36	509.14	33.22	0.00	1678.31	1646.04	0.267	0.31	0.40
2	146.53	36.63	146.41	57.48	423.10	0.00	1202.96	579.01	0.122	0.12	0.15
3	444.10	111.02	443.56	470.70	98.80	0.00	1294.07	1136.12	0.343	0.44	0.57

Main results: (08:30-08:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	548.31	137.08	547.77	623.28	40.67	0.00	1673.68	1646.03	0.328	0.40	0.53
2	179.47	44.87	179.26	70.37	518.07	0.00	1150.56	579.01	0.156	0.15	0.20
3	543.90	135.98	542.98	576.36	120.98	0.00	1282.01	1136.11	0.424	0.57	0.80

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	548.31	137.08	548.30	624.26	40.74	0.00	1673.64	1646.03	0.328	0.53	0.53
2	179.47	44.87	179.46	70.46	518.57	0.00	1150.28	579.01	0.156	0.20	0.20
3	543.90	135.98	543.89	576.93	121.11	0.00	1281.94	1136.11	0.424	0.80	0.81

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	447.69	111.92	448.22	510.69	33.33	0.00	1678.25	1646.04	0.267	0.53	0.40
2	146.53	36.63	146.73	57.63	423.92	0.00	1202.51	579.01	0.122	0.20	0.15
3	444.10	111.02	445.00	471.63	99.02	0.00	1293.96	1136.12	0.343	0.81	0.58

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	374.92	93.73	375.26	427.46	27.90	0.00	1681.63	1646.04	0.223	0.40	0.32
2	122.71	30.68	122.84	48.24	354.92	0.00	1240.59	579.01	0.099	0.15	0.12
3	371.91	92.98	372.46	394.86	82.90	0.00	1302.72	1136.12	0.285	0.58	0.44

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.62	0.31	0.050	A	A
2	1.77	0.12	0.059	A	A
3	6.38	0.43	0.071	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.89	0.39	0.054	A	A
2	2.25	0.15	0.062	A	A
3	8.39	0.56	0.078	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.86	0.52	0.059	A	A
2	2.99	0.20	0.068	A	A
3	11.73	0.78	0.089	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.01	0.53	0.059	A	A
2	3.04	0.20	0.068	A	A
3	12.07	0.80	0.089	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.13	0.41	0.054	A	A
2	2.34	0.16	0.063	A	A
3	8.89	0.59	0.078	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.82	0.32	0.051	A	A
2	1.84	0.12	0.059	A	A
3	6.76	0.45	0.071	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	374.92	1681.74	0.223	0.00	0.00	0.31	4.62	(0.02)	0.050
1	2	122.71	1241.43	0.099	0.00	0.00	0.12	1.77	(0.02)	0.059
1	3	371.91	1302.94	0.285	0.00	0.00	0.44	6.38	(0.02)	0.071
2	1	447.69	1678.31	0.267	0.00	0.31	0.40	5.89	(0.02)	0.054
2	2	146.53	1202.96	0.122	0.00	0.12	0.15	2.25	(0.02)	0.062
2	3	444.10	1294.07	0.343	0.00	0.44	0.57	8.39	(0.02)	0.078
3	1	548.31	1673.68	0.328	0.00	0.40	0.53	7.86	(0.02)	0.059
3	2	179.47	1150.56	0.156	0.00	0.15	0.20	2.99	(0.02)	0.068
3	3	543.90	1282.01	0.424	0.00	0.57	0.80	11.73	(0.02)	0.089
4	1	548.31	1673.64	0.328	0.00	0.53	0.53	8.01	(0.02)	0.059
4	2	179.47	1150.28	0.156	0.00	0.20	0.20	3.04	(0.02)	0.068
4	3	543.90	1281.94	0.424	0.00	0.80	0.81	12.07	(0.02)	0.089
5	1	447.69	1678.25	0.267	0.00	0.53	0.40	6.13	(0.02)	0.054
5	2	146.53	1202.51	0.122	0.00	0.20	0.15	2.34	(0.02)	0.063
5	3	444.10	1293.96	0.343	0.00	0.81	0.58	8.89	(0.02)	0.078
6	1	374.92	1681.63	0.223	0.00	0.40	0.32	4.82	(0.02)	0.051
6	2	122.71	1240.59	0.099	0.00	0.15	0.12	1.84	(0.02)	0.059
6	3	371.91	1302.72	0.285	0.00	0.58	0.44	6.76	(0.02)	0.071

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:47:22

« A1 - (Default Analysis Set) - D3 - 2022 With Development, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

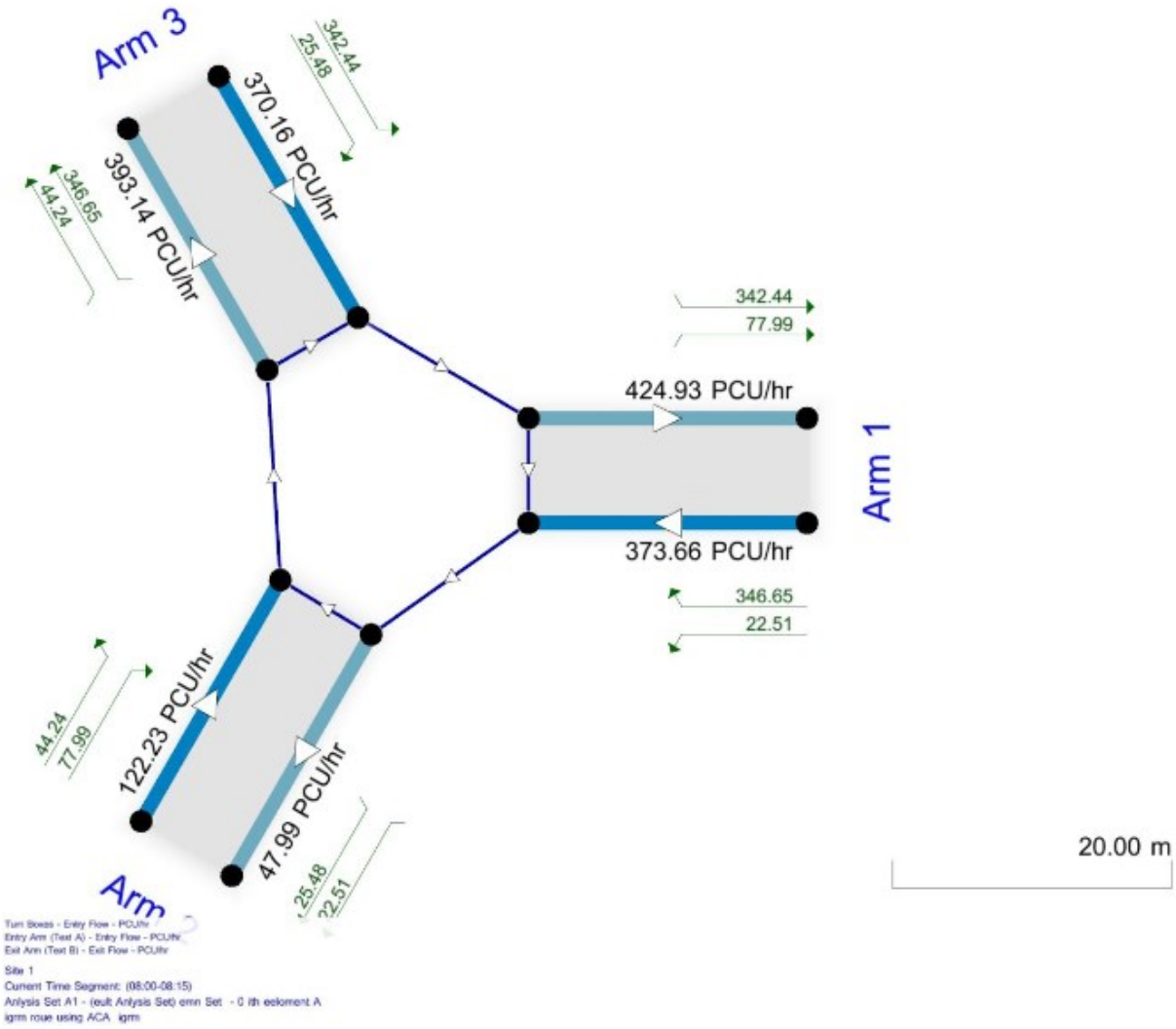
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D3 - 2022 With Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2022 With Development, AM	2022 With Development	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	513.00	100.000	N/A
2	ONE HOUR	Yes	165.00	100.000	N/A
3	ONE HOUR	Yes	554.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	386.21	386.21	N/A	N/A
1	2	124.22	124.22	N/A	N/A
1	3	417.08	417.08	N/A	N/A
2	1	461.18	461.18	N/A	N/A
2	2	148.33	148.33	N/A	N/A
2	3	498.03	498.03	N/A	N/A
3	1	564.82	564.82	N/A	N/A
3	2	181.67	181.67	N/A	N/A
3	3	609.97	609.97	N/A	N/A
4	1	564.82	564.82	N/A	N/A
4	2	181.67	181.67	N/A	N/A
4	3	609.97	609.97	N/A	N/A
5	1	461.18	461.18	N/A	N/A
5	2	148.33	148.33	N/A	N/A
5	3	498.03	498.03	N/A	N/A
6	1	386.21	386.21	N/A	N/A
6	2	124.22	124.22	N/A	N/A
6	3	417.08	417.08	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	6.000	30.000	477.000
	2	104.000	0.000	61.000
	3	512.000	38.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.01	0.06	0.93
	2	0.63	0.00	0.37
	3	0.92	0.07	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.34	0.06	0.56	A	470.74	706.11	39.01	0.06	0.43	39.01	0.06	0.622	1698.990
2	0.16	0.07	0.21	A	151.41	227.11	14.54	0.06	0.16	14.54	0.06	0.552	1436.448
3	0.48	0.10	0.99	A	508.36	762.54	65.40	0.09	0.73	65.41	0.09	0.544	1347.805

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	386.21	96.55	384.91	466.05	31.46	0.00	1679.41	1645.23	0.230	0.00	0.33
2	124.22	31.06	123.73	50.98	365.39	0.00	1234.81	577.10	0.101	0.00	0.12
3	417.08	104.27	415.02	406.63	82.49	0.00	1302.95	1139.53	0.320	0.00	0.51

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	461.18	115.29	460.82	558.46	37.71	0.00	1675.52	1645.23	0.275	0.33	0.42
2	148.33	37.08	148.20	61.06	437.46	0.00	1195.04	577.10	0.124	0.12	0.16
3	498.03	124.51	497.36	486.86	98.80	0.00	1294.07	1139.53	0.385	0.51	0.68

Main results: (08:30-08:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	564.82	141.21	564.25	683.57	46.15	0.00	1670.27	1645.23	0.338	0.42	0.56
2	181.67	45.42	181.46	74.75	535.65	0.00	1140.86	577.10	0.159	0.16	0.21
3	609.97	152.49	608.75	596.14	120.97	0.00	1282.02	1139.53	0.476	0.68	0.99

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	564.82	141.21	564.82	684.81	46.24	0.00	1670.21	1645.23	0.338	0.56	0.56
2	181.67	45.42	181.67	74.87	536.19	0.00	1140.56	577.10	0.159	0.21	0.21
3	609.97	152.49	609.94	596.75	121.11	0.00	1281.94	1139.53	0.476	0.99	0.99

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	461.18	115.29	461.74	560.40	37.85	0.00	1675.44	1645.23	0.275	0.56	0.42
2	148.33	37.08	148.54	61.25	438.34	0.00	1194.55	577.10	0.124	0.21	0.16
3	498.03	124.51	499.23	487.85	99.02	0.00	1293.95	1139.53	0.385	0.99	0.69

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	386.21	96.55	386.57	469.00	31.67	0.00	1679.28	1645.23	0.230	0.42	0.33
2	124.22	31.06	124.35	51.26	366.98	0.00	1233.93	577.10	0.101	0.16	0.12
3	417.08	104.27	417.77	408.43	82.90	0.00	1302.72	1139.53	0.320	0.69	0.52

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.81	0.32	0.051	A	A
2	1.80	0.12	0.059	A	A
3	7.50	0.50	0.074	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.15	0.41	0.054	A	A
2	2.30	0.15	0.063	A	A
3	10.01	0.67	0.083	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.24	0.55	0.060	A	A
2	3.06	0.20	0.069	A	A
3	14.37	0.96	0.098	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.40	0.56	0.060	A	A
2	3.11	0.21	0.069	A	A
3	14.85	0.99	0.098	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.40	0.43	0.054	A	A
2	2.39	0.16	0.063	A	A
3	10.68	0.71	0.083	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.02	0.33	0.051	A	A
2	1.88	0.13	0.060	A	A
3	7.99	0.53	0.075	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	386.21	1679.41	0.230	0.00	0.00	0.33	4.81	(0.02)	0.051
1	2	124.22	1234.81	0.101	0.00	0.00	0.12	1.80	(0.02)	0.059
1	3	417.08	1302.95	0.320	0.00	0.00	0.51	7.50	(0.02)	0.074
2	1	461.18	1675.52	0.275	0.00	0.33	0.42	6.15	(0.02)	0.054
2	2	148.33	1195.04	0.124	0.00	0.12	0.16	2.30	(0.02)	0.063
2	3	498.03	1294.07	0.385	0.00	0.51	0.68	10.01	(0.02)	0.083
3	1	564.82	1670.27	0.338	0.00	0.42	0.56	8.24	(0.02)	0.060
3	2	181.67	1140.86	0.159	0.00	0.16	0.21	3.06	(0.02)	0.069
3	3	609.97	1282.02	0.476	0.00	0.68	0.99	14.37	(0.02)	0.098
4	1	564.82	1670.21	0.338	0.00	0.56	0.56	8.40	(0.02)	0.060
4	2	181.67	1140.56	0.159	0.00	0.21	0.21	3.11	(0.02)	0.069
4	3	609.97	1281.94	0.476	0.00	0.99	0.99	14.85	(0.02)	0.098
5	1	461.18	1675.44	0.275	0.00	0.56	0.42	6.40	(0.02)	0.054
5	2	148.33	1194.55	0.124	0.00	0.21	0.16	2.39	(0.02)	0.063
5	3	498.03	1293.95	0.385	0.00	0.99	0.69	10.68	(0.02)	0.083
6	1	386.21	1679.28	0.230	0.00	0.42	0.33	5.02	(0.02)	0.051
6	2	124.22	1233.93	0.101	0.00	0.16	0.12	1.88	(0.02)	0.060
6	3	417.08	1302.72	0.320	0.00	0.69	0.52	7.99	(0.02)	0.075

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:48:31

« A1 - (Default Analysis Set) - D4 - 2027 No Development, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

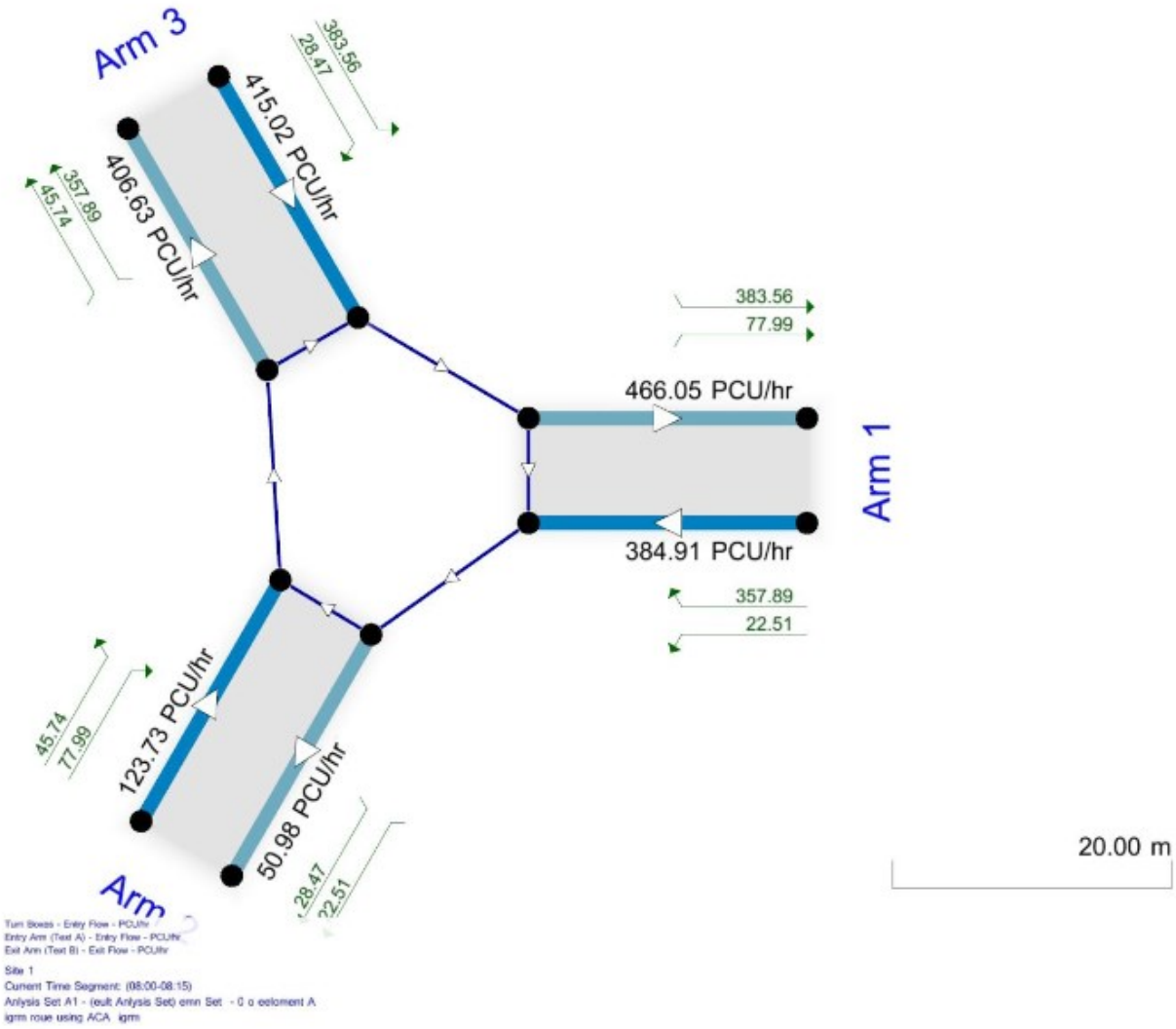
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D4 - 2027 No Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2027 No Development, AM	2027 No Development	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	515.00	100.000	N/A
2	ONE HOUR	Yes	169.00	100.000	N/A
3	ONE HOUR	Yes	512.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	387.72	387.72	N/A	N/A
1	2	127.23	127.23	N/A	N/A
1	3	385.46	385.46	N/A	N/A
2	1	462.97	462.97	N/A	N/A
2	2	151.93	151.93	N/A	N/A
2	3	460.28	460.28	N/A	N/A
3	1	567.03	567.03	N/A	N/A
3	2	186.07	186.07	N/A	N/A
3	3	563.72	563.72	N/A	N/A
4	1	567.03	567.03	N/A	N/A
4	2	186.07	186.07	N/A	N/A
4	3	563.72	563.72	N/A	N/A
5	1	462.97	462.97	N/A	N/A
5	2	151.93	151.93	N/A	N/A
5	3	460.28	460.28	N/A	N/A
6	1	387.72	387.72	N/A	N/A
6	2	127.23	127.23	N/A	N/A
6	3	385.46	385.46	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	7.000	31.000	477.000
	2	108.000	0.000	61.000
	3	474.000	35.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.01	0.06	0.93
	2	0.64	0.00	0.36
	3	0.93	0.07	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.34	0.06	0.56	A	472.57	708.86	39.15	0.06	0.43	39.15	0.06	0.622	1698.990
2	0.16	0.07	0.21	A	155.08	232.62	14.95	0.06	0.17	14.95	0.06	0.552	1436.448
3	0.44	0.09	0.86	A	469.82	704.73	57.59	0.08	0.64	57.60	0.08	0.544	1347.805

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	387.72	96.93	386.41	441.39	28.47	0.00	1681.27	1646.59	0.231	0.00	0.33
2	127.23	31.81	126.73	49.48	365.39	0.00	1234.81	578.82	0.103	0.00	0.13
3	385.46	96.37	383.62	405.88	86.24	0.00	1300.91	1134.48	0.296	0.00	0.46

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	462.97	115.74	462.62	528.87	34.12	0.00	1677.76	1646.59	0.276	0.33	0.42
2	151.93	37.98	151.79	59.27	437.47	0.00	1195.04	578.82	0.127	0.13	0.16
3	460.28	115.07	459.70	485.97	103.29	0.00	1291.63	1134.48	0.356	0.46	0.60

Main results: (08:30-08:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	567.03	141.76	566.45	647.42	41.76	0.00	1673.00	1646.59	0.339	0.42	0.56
2	186.07	46.52	185.86	72.56	535.65	0.00	1140.85	578.82	0.163	0.16	0.21
3	563.72	140.93	562.71	595.04	126.47	0.00	1279.03	1134.48	0.441	0.60	0.86

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	567.03	141.76	567.02	648.48	41.84	0.00	1672.95	1646.59	0.339	0.56	0.56
2	186.07	46.52	186.07	72.67	536.19	0.00	1140.56	578.82	0.163	0.21	0.21
3	563.72	140.93	563.70	595.64	126.62	0.00	1278.95	1134.48	0.441	0.86	0.86

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	462.97	115.74	463.54	530.56	34.23	0.00	1677.68	1646.59	0.276	0.56	0.42
2	151.93	37.98	152.14	59.43	438.34	0.00	1194.56	578.82	0.127	0.21	0.16
3	460.28	115.07	461.27	486.95	103.53	0.00	1291.51	1134.48	0.356	0.86	0.61

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	387.72	96.93	388.08	444.07	28.65	0.00	1681.16	1646.59	0.231	0.42	0.33
2	127.23	31.81	127.37	49.75	366.98	0.00	1233.93	578.82	0.103	0.16	0.13
3	385.46	96.37	386.05	407.68	86.67	0.00	1300.67	1134.48	0.296	0.61	0.47

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.83	0.32	0.051	A	A
2	1.85	0.12	0.060	A	A
3	6.72	0.45	0.072	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.17	0.41	0.054	A	A
2	2.36	0.16	0.063	A	A
3	8.88	0.59	0.079	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.27	0.55	0.060	A	A
2	3.15	0.21	0.069	A	A
3	12.53	0.84	0.092	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.42	0.56	0.060	A	A
2	3.20	0.21	0.069	A	A
3	12.91	0.86	0.092	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.42	0.43	0.054	A	A
2	2.45	0.16	0.063	A	A
3	9.43	0.63	0.080	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.04	0.34	0.051	A	A
2	1.93	0.13	0.060	A	A
3	7.13	0.48	0.072	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	387.72	1681.27	0.231	0.00	0.00	0.33	4.83	(0.02)	0.051
1	2	127.23	1234.81	0.103	0.00	0.00	0.13	1.85	(0.02)	0.060
1	3	385.46	1300.91	0.296	0.00	0.00	0.46	6.72	(0.02)	0.072
2	1	462.97	1677.76	0.276	0.00	0.33	0.42	6.17	(0.02)	0.054
2	2	151.93	1195.04	0.127	0.00	0.13	0.16	2.36	(0.02)	0.063
2	3	460.28	1291.63	0.356	0.00	0.46	0.60	8.88	(0.02)	0.079
3	1	567.03	1673.00	0.339	0.00	0.42	0.56	8.27	(0.02)	0.060
3	2	186.07	1140.85	0.163	0.00	0.16	0.21	3.15	(0.02)	0.069
3	3	563.72	1279.03	0.441	0.00	0.60	0.86	12.53	(0.02)	0.092
4	1	567.03	1672.95	0.339	0.00	0.56	0.56	8.42	(0.02)	0.060
4	2	186.07	1140.56	0.163	0.00	0.21	0.21	3.20	(0.02)	0.069
4	3	563.72	1278.95	0.441	0.00	0.86	0.86	12.91	(0.02)	0.092
5	1	462.97	1677.68	0.276	0.00	0.56	0.42	6.42	(0.02)	0.054
5	2	151.93	1194.56	0.127	0.00	0.21	0.16	2.45	(0.02)	0.063
5	3	460.28	1291.51	0.356	0.00	0.86	0.61	9.43	(0.02)	0.080
6	1	387.72	1681.16	0.231	0.00	0.42	0.33	5.04	(0.02)	0.051
6	2	127.23	1233.93	0.103	0.00	0.16	0.13	1.93	(0.02)	0.060
6	3	385.46	1300.67	0.296	0.00	0.61	0.47	7.13	(0.02)	0.072

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:49:28

« A1 - (Default Analysis Set) - D5 - 2027 With Development, AM
- » Roundabout Network
- » Arms
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- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

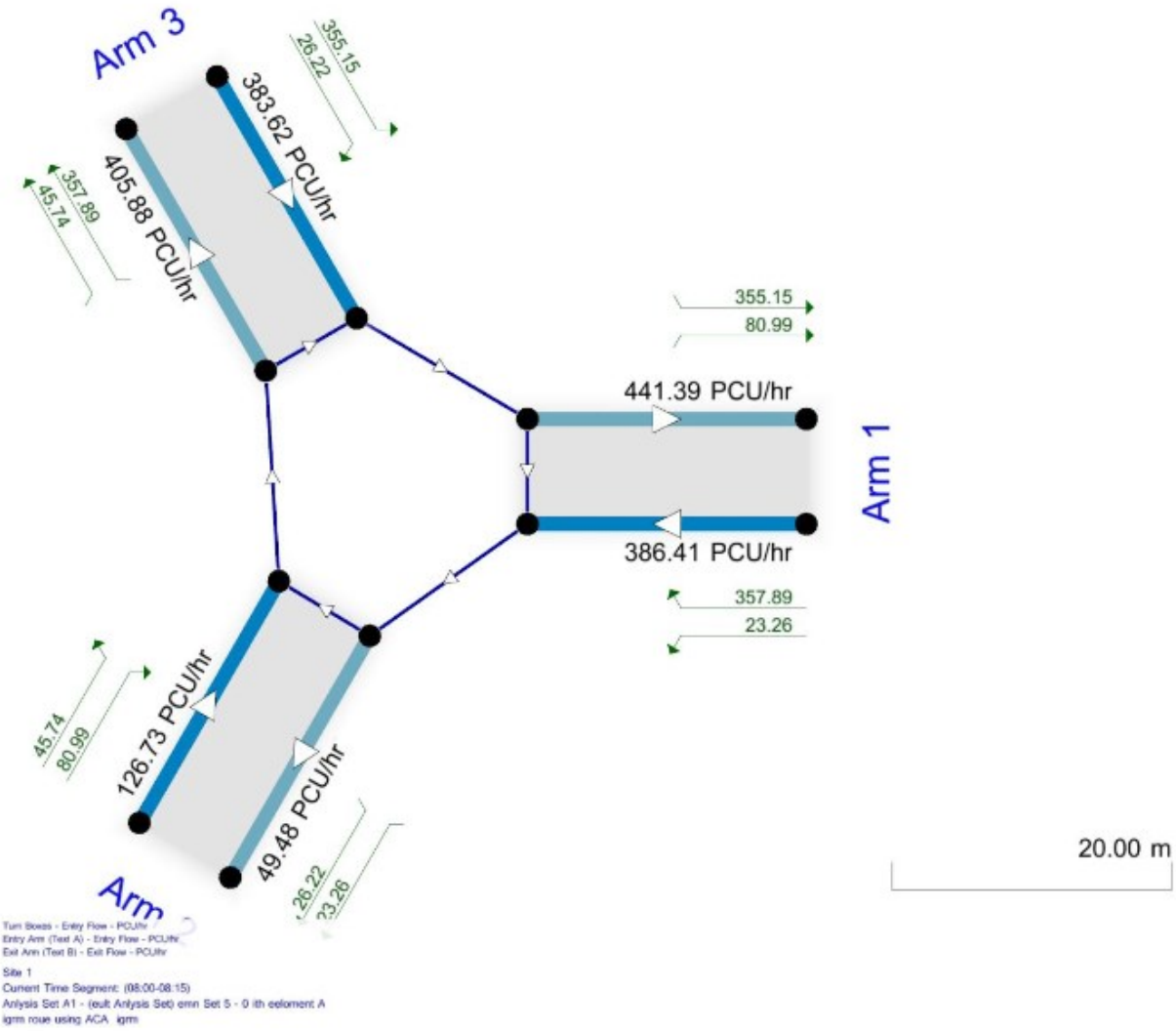
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D5 - 2027 With Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2027 With Development, AM	2027 With Development	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	531.00	100.000	N/A
2	ONE HOUR	Yes	172.00	100.000	N/A
3	ONE HOUR	Yes	572.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	399.76	399.76	N/A	N/A
1	2	129.49	129.49	N/A	N/A
1	3	430.63	430.63	N/A	N/A
2	1	477.36	477.36	N/A	N/A
2	2	154.62	154.62	N/A	N/A
2	3	514.22	514.22	N/A	N/A
3	1	584.64	584.64	N/A	N/A
3	2	189.38	189.38	N/A	N/A
3	3	629.78	629.78	N/A	N/A
4	1	584.64	584.64	N/A	N/A
4	2	189.38	189.38	N/A	N/A
4	3	629.78	629.78	N/A	N/A
5	1	477.36	477.36	N/A	N/A
5	2	154.62	154.62	N/A	N/A
5	3	514.22	514.22	N/A	N/A
6	1	399.76	399.76	N/A	N/A
6	2	129.49	129.49	N/A	N/A
6	3	430.63	430.63	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	7.000	31.000	493.000
	2	108.000	0.000	64.000
	3	529.000	39.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.01	0.06	0.93
	2	0.63	0.00	0.37
	3	0.92	0.07	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.35	0.06	0.59	A	487.25	730.88	40.99	0.06	0.46	40.99	0.06	0.622	1698.990
2	0.17	0.07	0.22	A	157.83	236.75	15.39	0.07	0.17	15.39	0.07	0.552	1436.448
3	0.49	0.10	1.06	A	524.88	787.32	69.34	0.09	0.77	69.35	0.09	0.544	1347.805

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	399.76	99.94	398.40	482.50	32.21	0.00	1678.94	1645.71	0.238	0.00	0.34
2	129.49	32.37	128.97	52.47	378.13	0.00	1227.78	576.91	0.105	0.00	0.13
3	430.63	107.66	428.47	420.87	86.24	0.00	1300.91	1139.01	0.331	0.00	0.54

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	477.36	119.34	476.98	578.18	38.60	0.00	1674.97	1645.70	0.285	0.34	0.44
2	154.62	38.66	154.48	62.86	452.73	0.00	1186.62	576.91	0.130	0.13	0.16
3	514.22	128.55	513.49	503.92	103.29	0.00	1291.63	1139.01	0.398	0.54	0.72

Main results: (08:30-08:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	584.64	146.16	584.03	707.68	47.24	0.00	1669.59	1645.70	0.350	0.44	0.59
2	189.38	47.34	189.15	76.95	554.33	0.00	1130.55	576.91	0.168	0.16	0.22
3	629.78	157.45	628.45	617.01	126.47	0.00	1279.03	1139.01	0.492	0.72	1.05

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	584.64	146.16	584.63	709.03	47.34	0.00	1669.53	1645.70	0.350	0.59	0.59
2	189.38	47.34	189.37	77.07	554.91	0.00	1130.23	576.91	0.168	0.22	0.22
3	629.78	157.45	629.76	617.66	126.62	0.00	1278.95	1139.01	0.492	1.05	1.06

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	477.36	119.34	477.96	580.29	38.75	0.00	1674.87	1645.70	0.285	0.59	0.44
2	154.62	38.66	154.84	63.05	453.66	0.00	1186.10	576.91	0.130	0.22	0.17
3	514.22	128.55	515.52	504.98	103.53	0.00	1291.50	1139.01	0.398	1.06	0.73

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	399.76	99.94	400.15	485.62	32.43	0.00	1678.81	1645.71	0.238	0.44	0.35
2	129.49	32.37	129.63	52.77	379.80	0.00	1226.86	576.91	0.106	0.17	0.13
3	430.63	107.66	431.38	422.76	86.67	0.00	1300.67	1139.01	0.331	0.73	0.55

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.03	0.34	0.051	A	A
2	1.90	0.13	0.060	A	A
3	7.87	0.52	0.075	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.45	0.43	0.055	A	A
2	2.43	0.16	0.064	A	A
3	10.57	0.70	0.085	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.68	0.58	0.061	A	A
2	3.25	0.22	0.070	A	A
3	15.32	1.02	0.101	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.85	0.59	0.061	A	A
2	3.31	0.22	0.070	A	A
3	15.86	1.06	0.102	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.72	0.45	0.055	A	A
2	2.52	0.17	0.064	A	A
3	11.31	0.75	0.085	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.25	0.35	0.052	A	A
2	1.98	0.13	0.060	A	A
3	8.40	0.56	0.076	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	399.76	1678.94	0.238	0.00	0.00	0.34	5.03	(0.02)	0.051
1	2	129.49	1227.78	0.105	0.00	0.00	0.13	1.90	(0.02)	0.060
1	3	430.63	1300.91	0.331	0.00	0.00	0.54	7.87	(0.02)	0.075
2	1	477.36	1674.97	0.285	0.00	0.34	0.44	6.45	(0.02)	0.055
2	2	154.62	1186.62	0.130	0.00	0.13	0.16	2.43	(0.02)	0.064
2	3	514.22	1291.63	0.398	0.00	0.54	0.72	10.57	(0.02)	0.085
3	1	584.64	1669.59	0.350	0.00	0.44	0.59	8.68	(0.02)	0.061
3	2	189.38	1130.55	0.168	0.00	0.16	0.22	3.25	(0.02)	0.070
3	3	629.78	1279.03	0.492	0.00	0.72	1.05	15.32	(0.02)	0.101
4	1	584.64	1669.53	0.350	0.00	0.59	0.59	8.85	(0.02)	0.061
4	2	189.38	1130.23	0.168	0.00	0.22	0.22	3.31	(0.02)	0.070
4	3	629.78	1278.95	0.492	0.00	1.05	1.06	15.86	(0.02)	0.102
5	1	477.36	1674.87	0.285	0.00	0.59	0.44	6.72	(0.02)	0.055
5	2	154.62	1186.10	0.130	0.00	0.22	0.17	2.52	(0.02)	0.064
5	3	514.22	1291.50	0.398	0.00	1.06	0.73	11.31	(0.02)	0.085
6	1	399.76	1678.81	0.238	0.00	0.44	0.35	5.25	(0.02)	0.052
6	2	129.49	1226.86	0.106	0.00	0.17	0.13	1.98	(0.02)	0.060
6	3	430.63	1300.67	0.331	0.00	0.73	0.55	8.40	(0.02)	0.076

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:51:38

« A1 - (Default Analysis Set) - D6 - 2037 No Development, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

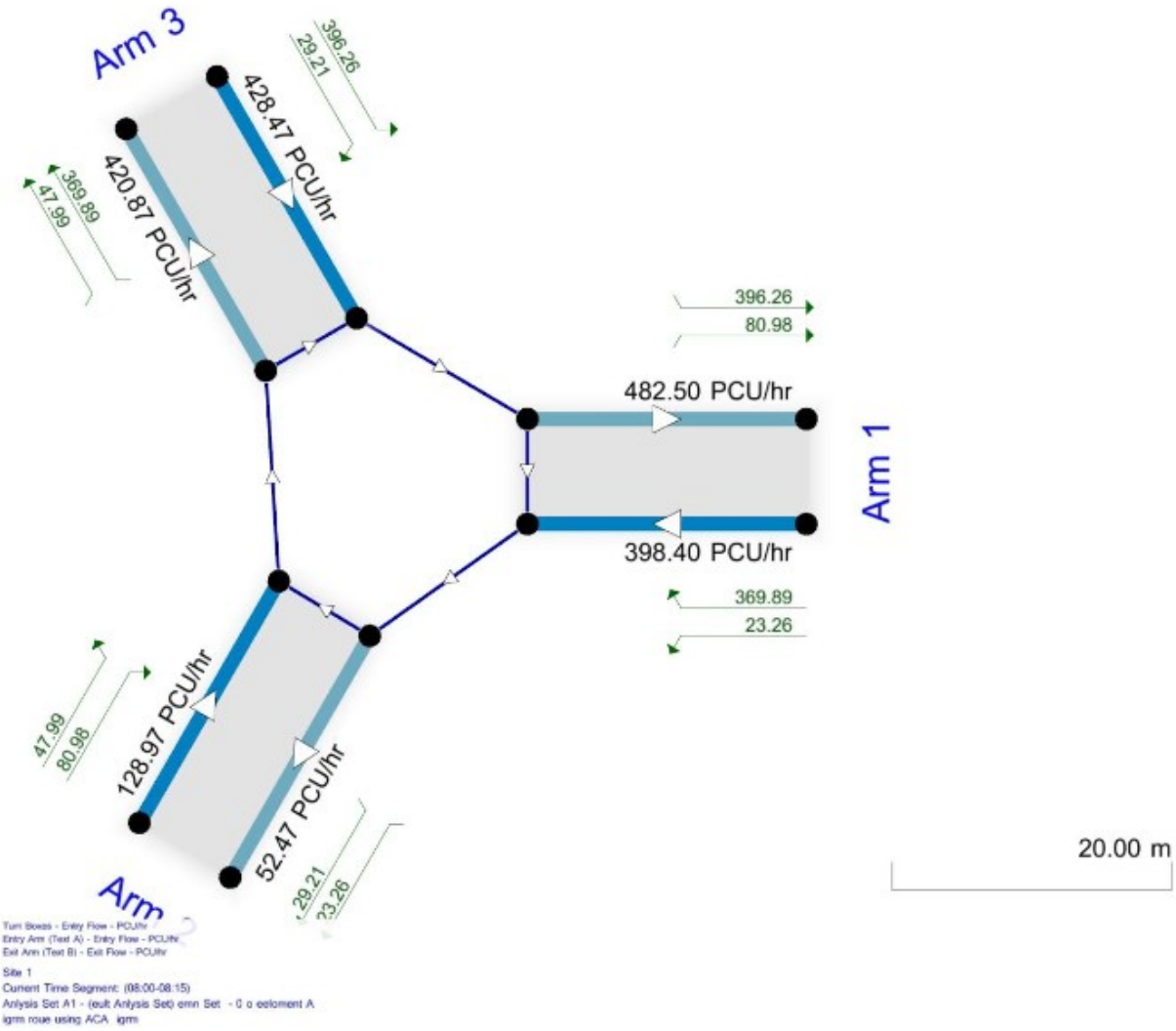
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D6 - 2037 No Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2037 No Development, AM	2037 No Development	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	551.00	100.000	N/A
2	ONE HOUR	Yes	183.00	100.000	N/A
3	ONE HOUR	Yes	553.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	414.82	414.82	N/A	N/A
1	2	137.77	137.77	N/A	N/A
1	3	416.33	416.33	N/A	N/A
2	1	495.34	495.34	N/A	N/A
2	2	164.51	164.51	N/A	N/A
2	3	497.14	497.14	N/A	N/A
3	1	606.66	606.66	N/A	N/A
3	2	201.49	201.49	N/A	N/A
3	3	608.86	608.86	N/A	N/A
4	1	606.66	606.66	N/A	N/A
4	2	201.49	201.49	N/A	N/A
4	3	608.86	608.86	N/A	N/A
5	1	495.34	495.34	N/A	N/A
5	2	164.51	164.51	N/A	N/A
5	3	497.14	497.14	N/A	N/A
6	1	414.82	414.82	N/A	N/A
6	2	137.77	137.77	N/A	N/A
6	3	416.33	416.33	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	7.000	34.000	510.000
	2	117.000	0.000	66.000
	3	511.000	38.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.01	0.06	0.93
	2	0.64	0.00	0.36
	3	0.92	0.07	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.36	0.06	0.63	A	505.61	758.41	43.22	0.06	0.48	43.22	0.06	0.622	1698.990
2	0.18	0.07	0.24	A	167.92	251.89	16.69	0.07	0.19	16.69	0.07	0.552	1436.448
3	0.48	0.10	1.00	A	507.44	761.16	65.84	0.09	0.73	65.84	0.09	0.544	1347.805

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	414.82	103.71	413.38	475.78	31.46	0.00	1679.41	1645.36	0.247	0.00	0.36
2	137.77	34.44	137.21	53.97	390.87	0.00	1220.75	579.97	0.113	0.00	0.14
3	416.33	104.08	414.26	435.11	92.98	0.00	1297.24	1134.79	0.321	0.00	0.52

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	495.34	123.83	494.94	570.12	37.71	0.00	1675.52	1645.36	0.296	0.36	0.46
2	164.51	41.13	164.36	64.66	467.99	0.00	1178.19	579.97	0.140	0.14	0.18
3	497.14	124.28	496.46	520.98	111.37	0.00	1287.24	1134.79	0.386	0.52	0.69

Main results: (08:30-08:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	606.66	151.67	606.01	697.84	46.15	0.00	1670.27	1645.35	0.363	0.46	0.62
2	201.49	50.37	201.24	79.15	573.01	0.00	1120.24	579.98	0.180	0.18	0.24
3	608.86	152.22	607.63	637.89	136.36	0.00	1273.65	1134.79	0.478	0.69	1.00

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	606.66	151.67	606.65	699.12	46.24	0.00	1670.21	1645.35	0.363	0.62	0.63
2	201.49	50.37	201.48	79.27	573.62	0.00	1119.90	579.98	0.180	0.24	0.24
3	608.86	152.22	608.84	638.58	136.52	0.00	1273.56	1134.79	0.478	1.00	1.00

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	495.34	123.83	495.98	572.14	37.85	0.00	1675.43	1645.36	0.296	0.63	0.46
2	164.51	41.13	164.76	64.85	468.98	0.00	1177.64	579.97	0.140	0.24	0.18
3	497.14	124.28	498.35	522.10	111.64	0.00	1287.09	1134.79	0.386	1.00	0.70

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	414.82	103.71	415.23	478.81	31.67	0.00	1679.28	1645.36	0.247	0.46	0.36
2	137.77	34.44	137.93	54.28	392.62	0.00	1219.78	579.97	0.113	0.18	0.14
3	416.33	104.08	417.03	437.09	93.46	0.00	1296.98	1134.79	0.321	0.70	0.52

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.28	0.35	0.052	A	A
2	2.05	0.14	0.061	A	A
3	7.52	0.50	0.075	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.79	0.45	0.056	A	A
2	2.63	0.18	0.065	A	A
3	10.07	0.67	0.083	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.18	0.61	0.062	A	A
2	3.54	0.24	0.072	A	A
3	14.49	0.97	0.099	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.37	0.62	0.062	A	A
2	3.60	0.24	0.072	A	A
3	14.98	1.00	0.099	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.08	0.47	0.056	A	A
2	2.74	0.18	0.065	A	A
3	10.75	0.72	0.084	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.52	0.37	0.052	A	A
2	2.14	0.14	0.061	A	A
3	8.02	0.53	0.075	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	414.82	1679.41	0.247	0.00	0.00	0.36	5.28	(0.02)	0.052
1	2	137.77	1220.75	0.113	0.00	0.00	0.14	2.05	(0.02)	0.061
1	3	416.33	1297.24	0.321	0.00	0.00	0.52	7.52	(0.02)	0.075
2	1	495.34	1675.52	0.296	0.00	0.36	0.46	6.79	(0.02)	0.056
2	2	164.51	1178.19	0.140	0.00	0.14	0.18	2.63	(0.02)	0.065
2	3	497.14	1287.24	0.386	0.00	0.52	0.69	10.07	(0.02)	0.083
3	1	606.66	1670.27	0.363	0.00	0.46	0.62	9.18	(0.02)	0.062
3	2	201.49	1120.24	0.180	0.00	0.18	0.24	3.54	(0.02)	0.072
3	3	608.86	1273.65	0.478	0.00	0.69	1.00	14.49	(0.02)	0.099
4	1	606.66	1670.21	0.363	0.00	0.62	0.63	9.37	(0.02)	0.062
4	2	201.49	1119.90	0.180	0.00	0.24	0.24	3.60	(0.02)	0.072
4	3	608.86	1273.56	0.478	0.00	1.00	1.00	14.98	(0.02)	0.099
5	1	495.34	1675.43	0.296	0.00	0.63	0.46	7.08	(0.02)	0.056
5	2	164.51	1177.64	0.140	0.00	0.24	0.18	2.74	(0.02)	0.065
5	3	497.14	1287.09	0.386	0.00	1.00	0.70	10.75	(0.02)	0.084
6	1	414.82	1679.28	0.247	0.00	0.46	0.36	5.52	(0.02)	0.052
6	2	137.77	1219.78	0.113	0.00	0.18	0.14	2.14	(0.02)	0.061
6	3	416.33	1296.98	0.321	0.00	0.70	0.52	8.02	(0.02)	0.075

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:52:26

« A1 - (Default Analysis Set) - D7 - 2037 With Development, AM
- » Roundabout Network
- » Arms
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- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

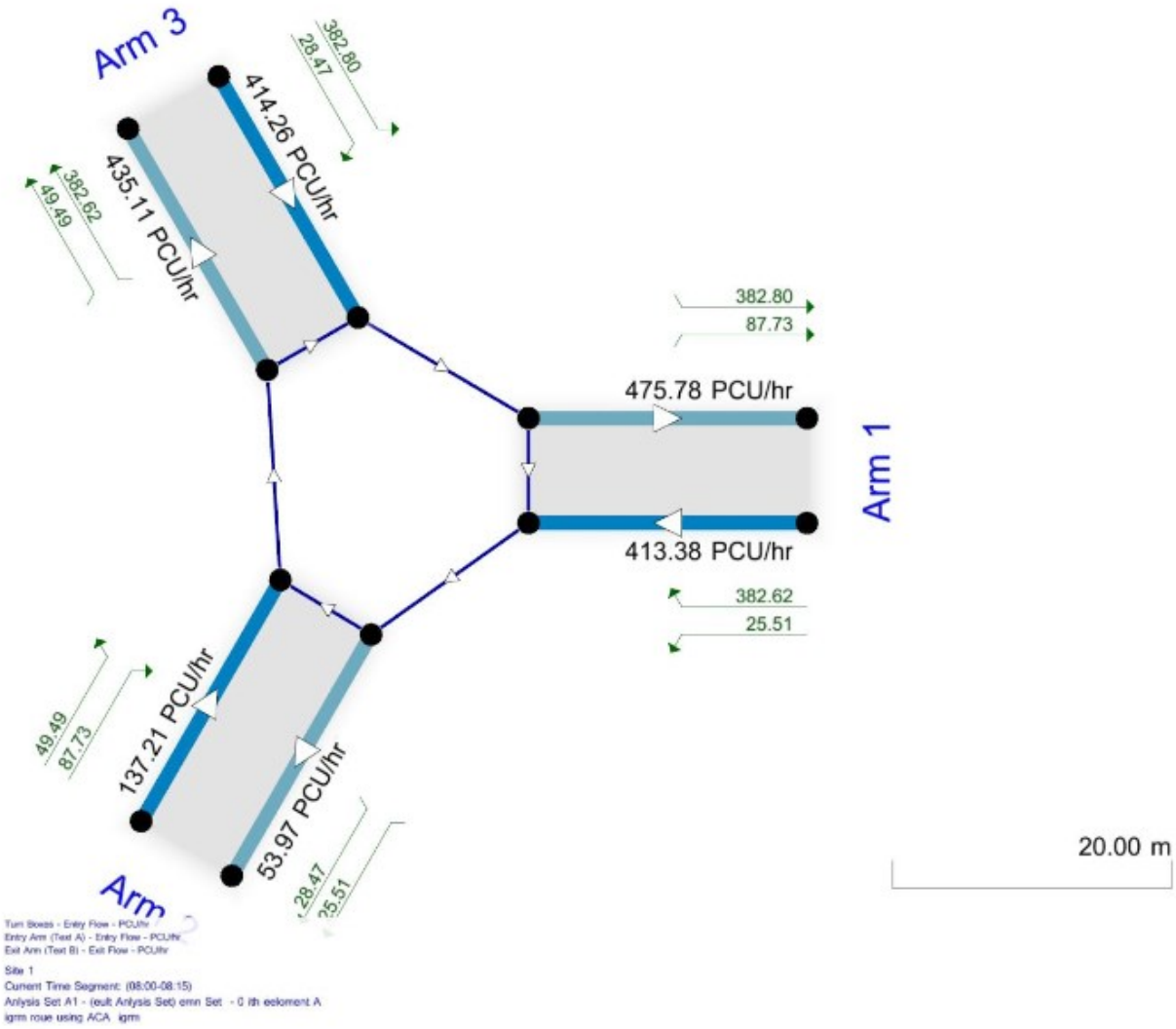
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D7 - 2037 With Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2037 With Development, AM	2037 With Development	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	566.00	100.000	N/A
2	ONE HOUR	Yes	186.00	100.000	N/A
3	ONE HOUR	Yes	612.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	426.11	426.11	N/A	N/A
1	2	140.03	140.03	N/A	N/A
1	3	460.75	460.75	N/A	N/A
2	1	508.82	508.82	N/A	N/A
2	2	167.21	167.21	N/A	N/A
2	3	550.18	550.18	N/A	N/A
3	1	623.18	623.18	N/A	N/A
3	2	204.79	204.79	N/A	N/A
3	3	673.82	673.82	N/A	N/A
4	1	623.18	623.18	N/A	N/A
4	2	204.79	204.79	N/A	N/A
4	3	673.82	673.82	N/A	N/A
5	1	508.82	508.82	N/A	N/A
5	2	167.21	167.21	N/A	N/A
5	3	550.18	550.18	N/A	N/A
6	1	426.11	426.11	N/A	N/A
6	2	140.03	140.03	N/A	N/A
6	3	460.75	460.75	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	7.000	34.000	525.000
	2	117.000	0.000	69.000
	3	566.000	42.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.01	0.06	0.93
	2	0.63	0.00	0.37
	3	0.92	0.07	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.37	0.06	0.65	A	519.37	779.06	45.05	0.06	0.50	45.05	0.06	0.622	1698.990
2	0.18	0.07	0.25	A	170.68	256.02	17.15	0.07	0.19	17.15	0.07	0.552	1436.448
3	0.53	0.11	1.23	A	561.58	842.37	78.81	0.09	0.88	78.82	0.09	0.544	1347.805

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	426.11	106.53	424.62	516.87	34.45	0.00	1677.55	1645.72	0.254	0.00	0.37
2	140.03	35.01	139.46	56.96	402.11	0.00	1214.55	578.72	0.115	0.00	0.14
3	460.75	115.19	458.34	448.60	92.98	0.00	1297.24	1138.77	0.355	0.00	0.60

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	508.82	127.21	508.40	619.41	41.29	0.00	1673.29	1645.72	0.304	0.37	0.48
2	167.21	41.80	167.05	68.24	481.45	0.00	1170.76	578.72	0.143	0.14	0.18
3	550.18	137.54	549.33	537.13	111.37	0.00	1287.24	1138.77	0.427	0.60	0.81

Main results: (08:30-08:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	623.18	155.79	622.48	758.04	50.53	0.00	1667.55	1645.72	0.374	0.48	0.65
2	204.79	51.20	204.53	83.52	589.48	0.00	1111.15	578.72	0.184	0.18	0.25
3	673.82	168.46	672.21	657.66	136.36	0.00	1273.65	1138.77	0.529	0.81	1.22

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	623.18	155.79	623.17	759.67	50.64	0.00	1667.47	1645.72	0.374	0.65	0.65
2	204.79	51.20	204.79	83.67	590.14	0.00	1110.79	578.72	0.184	0.25	0.25
3	673.82	168.46	673.79	658.40	136.52	0.00	1273.56	1138.77	0.529	1.22	1.23

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	508.82	127.21	509.51	621.93	41.47	0.00	1673.18	1645.72	0.304	0.65	0.48
2	167.21	41.80	167.46	68.47	482.51	0.00	1170.18	578.72	0.143	0.25	0.18
3	550.18	137.54	551.76	538.33	111.64	0.00	1287.09	1138.77	0.427	1.23	0.83

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	426.11	106.53	426.54	520.38	34.70	0.00	1677.40	1645.72	0.254	0.48	0.38
2	140.03	35.01	140.19	57.30	403.94	0.00	1213.54	578.72	0.115	0.18	0.14
3	460.75	115.19	461.62	450.67	93.46	0.00	1296.98	1138.77	0.355	0.83	0.61

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.48	0.37	0.053	A	A
2	2.10	0.14	0.061	A	A
3	8.74	0.58	0.078	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.06	0.47	0.057	A	A
2	2.70	0.18	0.066	A	A
3	11.90	0.79	0.089	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.60	0.64	0.063	A	A
2	3.64	0.24	0.073	A	A
3	17.64	1.18	0.109	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.80	0.65	0.063	A	A
2	3.71	0.25	0.073	A	A
3	18.34	1.22	0.110	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.37	0.49	0.057	A	A
2	2.81	0.19	0.066	A	A
3	12.81	0.85	0.090	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.73	0.38	0.053	A	A
2	2.19	0.15	0.062	A	A
3	9.37	0.62	0.079	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	426.11	1677.55	0.254	0.00	0.00	0.37	5.48	(0.02)	0.053
1	2	140.03	1214.55	0.115	0.00	0.00	0.14	2.10	(0.02)	0.061
1	3	460.75	1297.24	0.355	0.00	0.00	0.60	8.74	(0.02)	0.078
2	1	508.82	1673.29	0.304	0.00	0.37	0.48	7.06	(0.02)	0.057
2	2	167.21	1170.76	0.143	0.00	0.14	0.18	2.70	(0.02)	0.066
2	3	550.18	1287.24	0.427	0.00	0.60	0.81	11.90	(0.02)	0.089
3	1	623.18	1667.55	0.374	0.00	0.48	0.65	9.60	(0.02)	0.063
3	2	204.79	1111.15	0.184	0.00	0.18	0.25	3.64	(0.02)	0.073
3	3	673.82	1273.65	0.529	0.00	0.81	1.22	17.64	(0.02)	0.109
4	1	623.18	1667.47	0.374	0.00	0.65	0.65	9.80	(0.02)	0.063
4	2	204.79	1110.79	0.184	0.00	0.25	0.25	3.71	(0.02)	0.073
4	3	673.82	1273.56	0.529	0.00	1.22	1.23	18.34	(0.02)	0.110
5	1	508.82	1673.18	0.304	0.00	0.65	0.48	7.37	(0.02)	0.057
5	2	167.21	1170.18	0.143	0.00	0.25	0.18	2.81	(0.02)	0.066
5	3	550.18	1287.09	0.427	0.00	1.23	0.83	12.81	(0.02)	0.090
6	1	426.11	1677.40	0.254	0.00	0.48	0.38	5.73	(0.02)	0.053
6	2	140.03	1213.54	0.115	0.00	0.18	0.14	2.19	(0.02)	0.062
6	3	460.75	1296.98	0.355	0.00	0.83	0.61	9.37	(0.02)	0.079

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:53:30

« A1 - (Default Analysis Set) - D8 - 2019 Committed, PM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

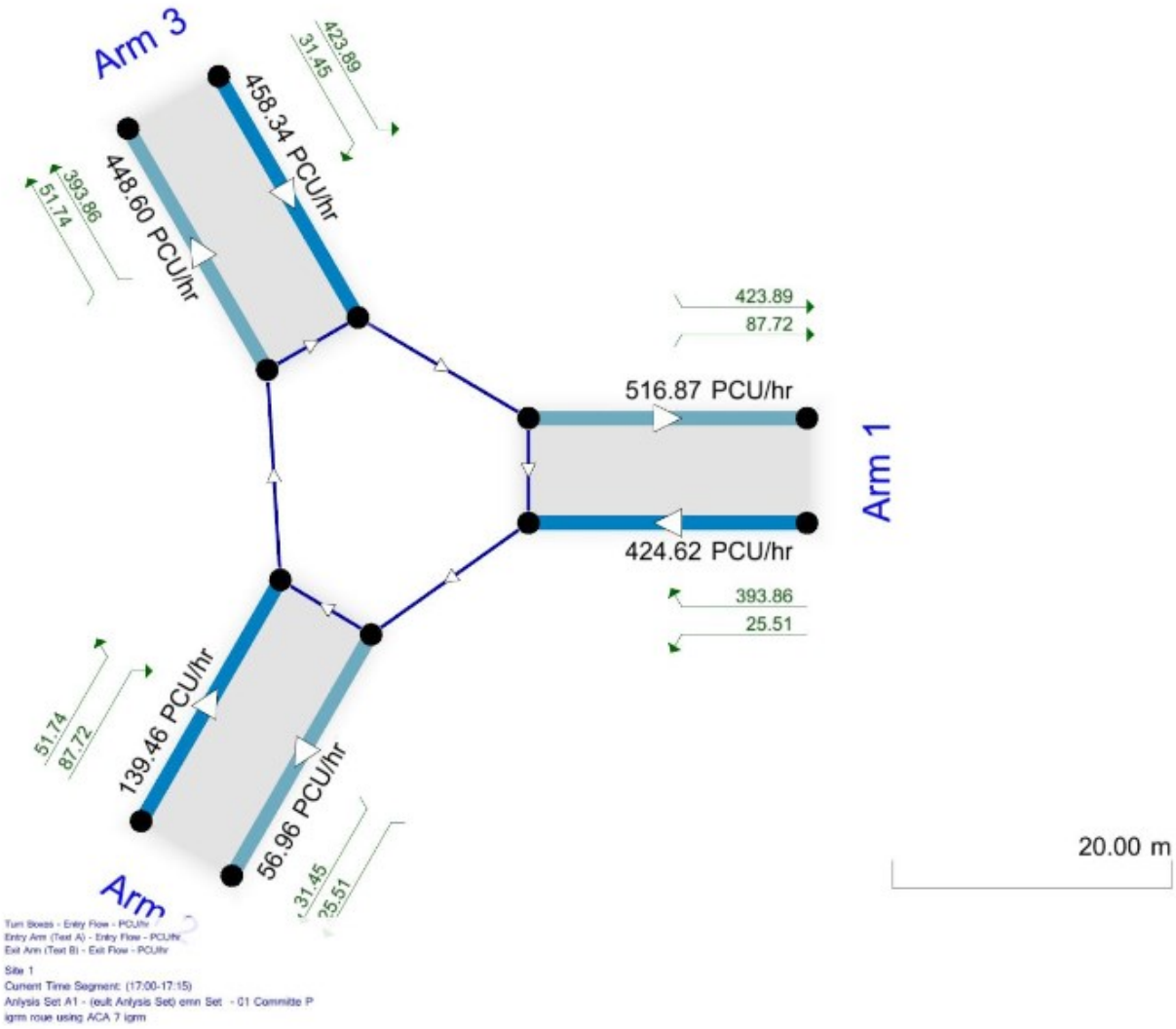
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D8 - 2019 Committed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2019 Committed, PM	2019 Committed	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	415.00	100.000	N/A
2	ONE HOUR	Yes	88.00	100.000	N/A
3	ONE HOUR	Yes	561.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	312.43	312.43	N/A	N/A
1	2	66.25	66.25	N/A	N/A
1	3	422.35	422.35	N/A	N/A
2	1	373.08	373.08	N/A	N/A
2	2	79.11	79.11	N/A	N/A
2	3	504.33	504.33	N/A	N/A
3	1	456.92	456.92	N/A	N/A
3	2	96.89	96.89	N/A	N/A
3	3	617.67	617.67	N/A	N/A
4	1	456.92	456.92	N/A	N/A
4	2	96.89	96.89	N/A	N/A
4	3	617.67	617.67	N/A	N/A
5	1	373.08	373.08	N/A	N/A
5	2	79.11	79.11	N/A	N/A
5	3	504.33	504.33	N/A	N/A
6	1	312.43	312.43	N/A	N/A
6	2	66.25	66.25	N/A	N/A
6	3	422.35	422.35	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	8.000	69.000	338.000
	2	55.000	0.000	33.000
	3	464.000	93.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

	To

		To		
		1	2	3
From	1	0.02	0.17	0.81
	2	0.63	0.00	0.38
	3	0.83	0.17	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.28	0.06	0.43	A	380.81	571.22	30.03	0.05	0.33	30.03	0.05	0.622	1698.990
2	0.08	0.06	0.09	A	80.75	121.13	6.80	0.06	0.08	6.80	0.06	0.552	1436.448
3	0.47	0.10	0.98	A	514.78	772.18	64.70	0.08	0.72	64.71	0.08	0.544	1347.805

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	312.43	78.11	311.41	394.89	72.67	0.00	1653.76	1581.52	0.189	0.00	0.26
2	66.25	16.56	66.01	121.45	262.63	0.00	1291.52	704.52	0.051	0.00	0.06
3	422.35	105.59	420.30	281.38	47.26	0.00	1322.10	1091.77	0.319	0.00	0.51

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	373.08	93.27	372.81	473.18	87.09	0.00	1644.79	1581.52	0.227	0.26	0.32
2	79.11	19.78	79.05	145.48	314.42	0.00	1262.94	704.52	0.063	0.06	0.07
3	504.33	126.08	503.67	336.88	56.60	0.00	1317.03	1091.77	0.383	0.51	0.68

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	456.92	114.23	456.51	579.21	106.60	0.00	1632.65	1581.52	0.280	0.32	0.43

2	96.89	24.22	96.81	178.10	385.00	0.00	1223.99	704.52	0.079	0.07	0.09
3	617.67	154.42	616.50	412.50	69.30	0.00	1310.12	1091.77	0.471	0.68	0.97

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	456.92	114.23	456.92	580.22	106.80	0.00	1632.53	1581.52	0.280	0.43	0.43
2	96.89	24.22	96.89	178.36	385.35	0.00	1223.79	704.52	0.079	0.09	0.09
3	617.67	154.42	617.65	412.88	69.36	0.00	1310.08	1091.77	0.471	0.97	0.98

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	373.08	93.27	373.49	474.77	87.40	0.00	1644.60	1581.52	0.227	0.43	0.32
2	79.11	19.78	79.19	145.89	314.99	0.00	1262.62	704.52	0.063	0.09	0.07
3	504.33	126.08	505.48	337.49	56.69	0.00	1316.97	1091.77	0.383	0.98	0.69

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	312.43	78.11	312.70	397.35	73.14	0.00	1653.47	1581.52	0.189	0.32	0.26
2	66.25	16.56	66.31	122.12	263.73	0.00	1290.91	704.52	0.051	0.07	0.06
3	422.35	105.59	423.02	282.56	47.47	0.00	1321.99	1091.77	0.319	0.69	0.52

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.76	0.25	0.049	A	A
2	0.87	0.06	0.054	A	A
3	7.48	0.50	0.073	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.76	0.32	0.052	A	A
2	1.09	0.07	0.056	A	A
3	9.94	0.66	0.081	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.28	0.42	0.056	A	A
2	1.39	0.09	0.059	A	A
3	14.14	0.94	0.095	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.39	0.43	0.056	A	A
2	1.41	0.09	0.059	A	A
3	14.60	0.97	0.095	A	A

Queueing Delay results: (18:00-18:15)

Queueing Delay results: (16:00-16:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.93	0.33	0.052	A	A
2	1.12	0.07	0.056	A	A
3	10.59	0.71	0.081	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.91	0.26	0.049	A	A
2	0.91	0.06	0.054	A	A
3	7.96	0.53	0.073	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	312.43	1653.76	0.189	0.00	0.00	0.26	3.76	(0.02)	0.049
1	2	66.25	1291.52	0.051	0.00	0.00	0.06	0.87	(0.02)	0.054
1	3	422.35	1322.10	0.319	0.00	0.00	0.51	7.48	(0.02)	0.073
2	1	373.08	1644.79	0.227	0.00	0.26	0.32	4.76	(0.02)	0.052
2	2	79.11	1262.94	0.063	0.00	0.06	0.07	1.09	(0.02)	0.056
2	3	504.33	1317.03	0.383	0.00	0.51	0.68	9.94	(0.02)	0.081
3	1	456.92	1632.65	0.280	0.00	0.32	0.43	6.28	(0.02)	0.056
3	2	96.89	1223.99	0.079	0.00	0.07	0.09	1.39	(0.02)	0.059
3	3	617.67	1310.12	0.471	0.00	0.68	0.97	14.14	(0.02)	0.095
4	1	456.92	1632.53	0.280	0.00	0.43	0.43	6.39	(0.02)	0.056
4	2	96.89	1223.79	0.079	0.00	0.09	0.09	1.41	(0.02)	0.059
4	3	617.67	1310.08	0.471	0.00	0.97	0.98	14.60	(0.02)	0.095
5	1	373.08	1644.60	0.227	0.00	0.43	0.32	4.93	(0.02)	0.052
5	2	79.11	1262.62	0.063	0.00	0.09	0.07	1.12	(0.02)	0.056
5	3	504.33	1316.97	0.383	0.00	0.98	0.69	10.59	(0.02)	0.081
6	1	312.43	1653.47	0.189	0.00	0.32	0.26	3.91	(0.02)	0.049
6	2	66.25	1290.91	0.051	0.00	0.07	0.06	0.91	(0.02)	0.054
6	3	422.35	1321.99	0.319	0.00	0.69	0.52	7.96	(0.02)	0.073

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:54:14

« A1 - (Default Analysis Set) - D9 - 2022 No Development, PM
- » Roundabout Network
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- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

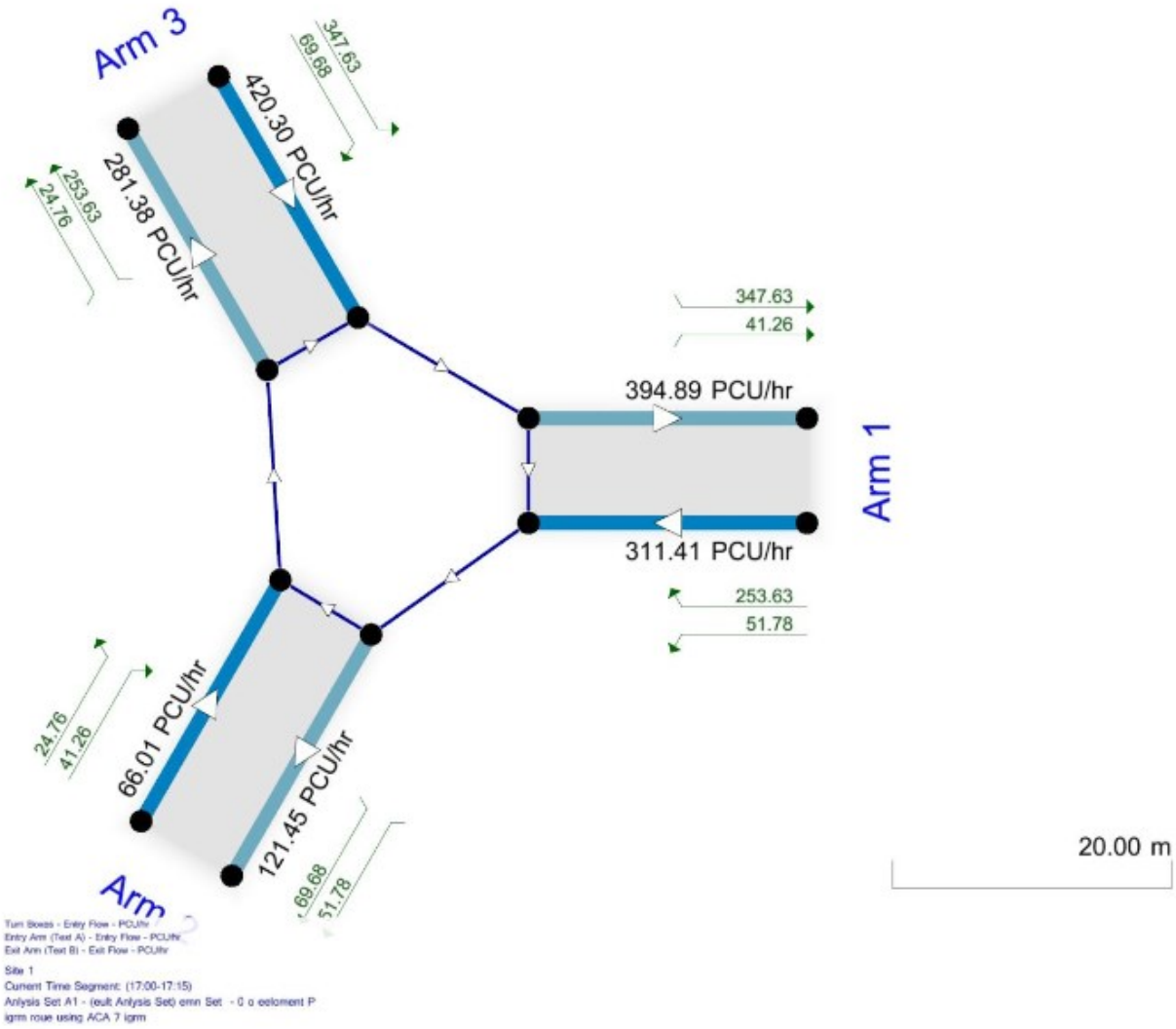
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D9 - 2022 No Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2022 No Development, PM	2022 No Development	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	426.00	100.000	N/A
2	ONE HOUR	Yes	90.00	100.000	N/A
3	ONE HOUR	Yes	576.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	320.72	320.72	N/A	N/A
1	2	67.76	67.76	N/A	N/A
1	3	433.64	433.64	N/A	N/A
2	1	382.97	382.97	N/A	N/A
2	2	80.91	80.91	N/A	N/A
2	3	517.81	517.81	N/A	N/A
3	1	469.03	469.03	N/A	N/A
3	2	99.09	99.09	N/A	N/A
3	3	634.19	634.19	N/A	N/A
4	1	469.03	469.03	N/A	N/A
4	2	99.09	99.09	N/A	N/A
4	3	634.19	634.19	N/A	N/A
5	1	382.97	382.97	N/A	N/A
5	2	80.91	80.91	N/A	N/A
5	3	517.81	517.81	N/A	N/A
6	1	320.72	320.72	N/A	N/A
6	2	67.76	67.76	N/A	N/A
6	3	433.64	433.64	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	8.000	71.000	347.000
	2	56.000	0.000	34.000
	3	476.000	96.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.02	0.17	0.81
	2	0.62	0.00	0.38
	3	0.83	0.17	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.29	0.06	0.44	A	390.91	586.36	31.13	0.05	0.35	31.13	0.05	0.622	1698.990
2	0.08	0.06	0.10	A	82.59	123.88	6.99	0.06	0.08	6.99	0.06	0.552	1436.448
3	0.48	0.10	1.03	A	528.55	792.82	67.73	0.09	0.75	67.74	0.09	0.544	1347.805

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	320.72	80.18	319.66	404.61	74.91	0.00	1652.37	1580.90	0.194	0.00	0.26
2	67.76	16.94	67.51	125.19	269.38	0.00	1287.79	705.26	0.053	0.00	0.06
3	433.64	108.41	431.51	288.88	48.01	0.00	1321.70	1093.02	0.328	0.00	0.53

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	382.97	95.74	382.69	484.83	89.78	0.00	1643.12	1580.90	0.233	0.26	0.33
2	80.91	20.23	80.85	149.97	322.50	0.00	1258.48	705.26	0.064	0.06	0.08
3	517.81	129.45	517.12	345.86	57.49	0.00	1316.54	1093.02	0.393	0.53	0.71

Main results: (17:30-17:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	469.03	117.26	468.60	593.45	109.88	0.00	1630.60	1580.90	0.288	0.33	0.44
2	99.09	24.77	99.01	183.59	394.89	0.00	1218.53	705.26	0.081	0.08	0.10
3	634.19	158.55	632.93	423.50	70.40	0.00	1309.52	1093.02	0.484	0.71	1.02

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	469.03	117.26	469.03	594.53	110.10	0.00	1630.47	1580.90	0.288	0.44	0.44
2	99.09	24.77	99.09	183.87	395.26	0.00	1218.33	705.26	0.081	0.10	0.10
3	634.19	158.55	634.16	423.89	70.46	0.00	1309.48	1093.02	0.484	1.02	1.03

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	382.97	95.74	383.39	486.53	90.11	0.00	1642.91	1580.90	0.233	0.44	0.34
2	80.91	20.23	80.99	150.41	323.10	0.00	1258.15	705.26	0.064	0.10	0.08
3	517.81	129.45	519.04	346.50	57.60	0.00	1316.48	1093.02	0.393	1.03	0.72

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	320.72	80.18	320.99	407.17	75.41	0.00	1652.06	1580.90	0.194	0.34	0.27
2	67.76	16.94	67.81	125.89	270.51	0.00	1287.17	705.26	0.053	0.08	0.06
3	433.64	108.41	434.36	290.10	48.22	0.00	1321.58	1093.02	0.328	0.72	0.54

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.89	0.26	0.049	A	A
2	0.90	0.06	0.054	A	A
3	7.77	0.52	0.074	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.93	0.33	0.052	A	A
2	1.12	0.07	0.056	A	A
3	10.37	0.69	0.082	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.53	0.44	0.057	A	A
2	1.44	0.10	0.059	A	A
3	14.86	0.99	0.097	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.64	0.44	0.057	A	A
2	1.46	0.10	0.059	A	A
3	15.36	1.02	0.098	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.11	0.34	0.052	A	A
2	1.15	0.08	0.056	A	A
3	11.07	0.74	0.083	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.04	0.27	0.050	A	A
2	0.93	0.06	0.054	A	A
3	8.29	0.55	0.074	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	320.72	1652.37	0.194	0.00	0.00	0.26	3.89	(0.02)	0.049
1	2	67.76	1287.79	0.053	0.00	0.00	0.06	0.90	(0.02)	0.054
1	3	433.64	1321.70	0.328	0.00	0.00	0.53	7.77	(0.02)	0.074
2	1	382.97	1643.12	0.233	0.00	0.26	0.33	4.93	(0.02)	0.052
2	2	80.91	1258.48	0.064	0.00	0.06	0.08	1.12	(0.02)	0.056
2	3	517.81	1316.54	0.393	0.00	0.53	0.71	10.37	(0.02)	0.082
3	1	469.03	1630.60	0.288	0.00	0.33	0.44	6.53	(0.02)	0.057
3	2	99.09	1218.53	0.081	0.00	0.08	0.10	1.44	(0.02)	0.059
3	3	634.19	1309.52	0.484	0.00	0.71	1.02	14.86	(0.02)	0.097
4	1	469.03	1630.47	0.288	0.00	0.44	0.44	6.64	(0.02)	0.057
4	2	99.09	1218.33	0.081	0.00	0.10	0.10	1.46	(0.02)	0.059
4	3	634.19	1309.48	0.484	0.00	1.02	1.03	15.36	(0.02)	0.098
5	1	382.97	1642.91	0.233	0.00	0.44	0.34	5.11	(0.02)	0.052
5	2	80.91	1258.15	0.064	0.00	0.10	0.08	1.15	(0.02)	0.056
5	3	517.81	1316.48	0.393	0.00	1.03	0.72	11.07	(0.02)	0.083
6	1	320.72	1652.06	0.194	0.00	0.34	0.27	4.04	(0.02)	0.050
6	2	67.76	1287.17	0.053	0.00	0.08	0.06	0.93	(0.02)	0.054
6	3	433.64	1321.58	0.328	0.00	0.72	0.54	8.29	(0.02)	0.074

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:55:23

« A1 - (Default Analysis Set) - D10 - 2022 With Development, PM
- » Roundabout Network
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- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

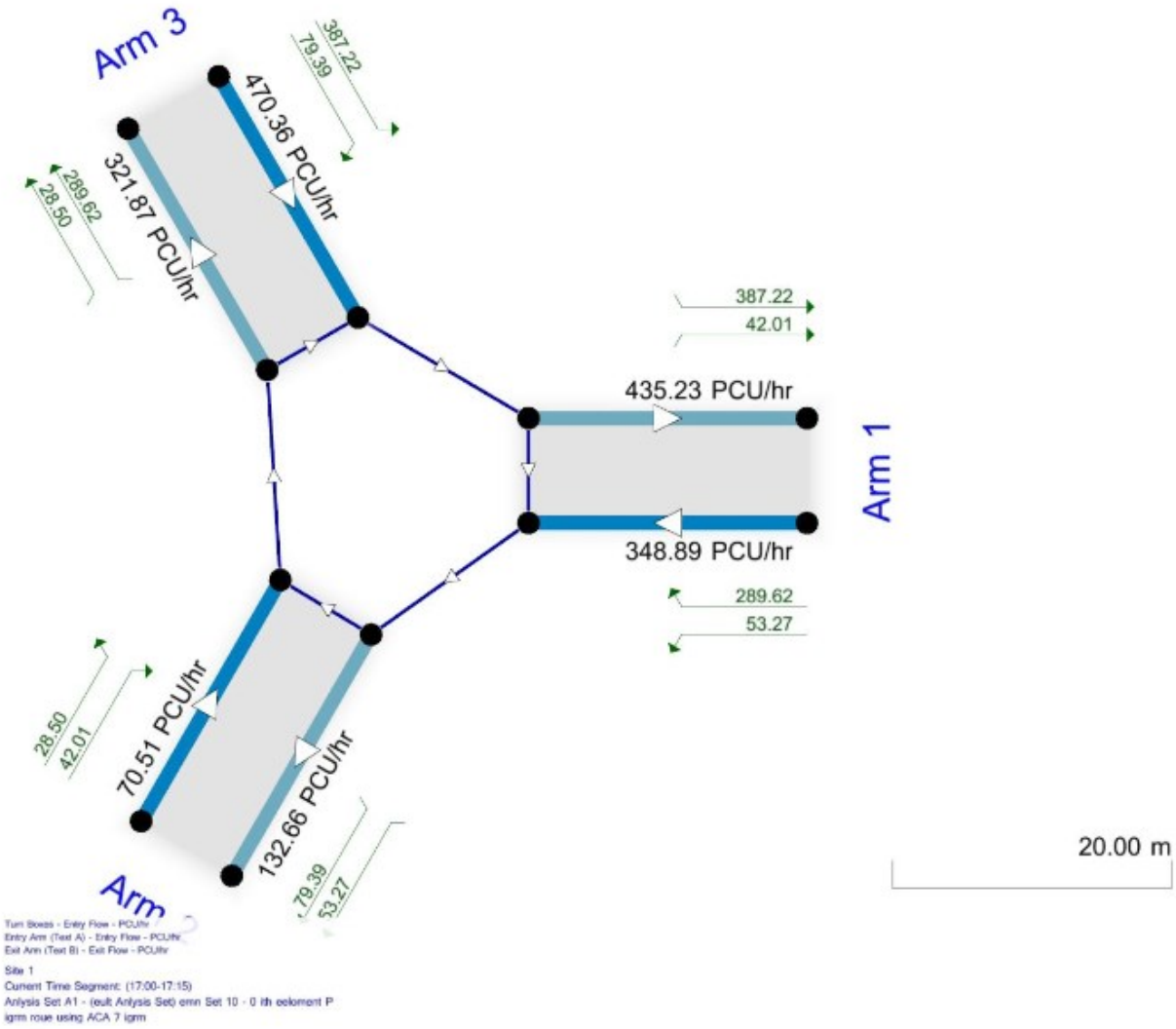
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D10 - 2022 With Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2022 With Development, PM	2022 With Development	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	465.00	100.000	N/A
2	ONE HOUR	Yes	94.00	100.000	N/A
3	ONE HOUR	Yes	628.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	350.08	350.08	N/A	N/A
1	2	70.77	70.77	N/A	N/A
1	3	472.79	472.79	N/A	N/A
2	1	418.03	418.03	N/A	N/A
2	2	84.50	84.50	N/A	N/A
2	3	564.56	564.56	N/A	N/A
3	1	511.97	511.97	N/A	N/A
3	2	103.50	103.50	N/A	N/A
3	3	691.44	691.44	N/A	N/A
4	1	511.97	511.97	N/A	N/A
4	2	103.50	103.50	N/A	N/A
4	3	691.44	691.44	N/A	N/A
5	1	418.03	418.03	N/A	N/A
5	2	84.50	84.50	N/A	N/A
5	3	564.56	564.56	N/A	N/A
6	1	350.08	350.08	N/A	N/A
6	2	70.77	70.77	N/A	N/A
6	3	472.79	472.79	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	8.000	71.000	386.000
	2	56.000	0.000	38.000
	3	517.000	106.000	5.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.02	0.15	0.83
	2	0.60	0.00	0.40
	3	0.82	0.17	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.32	0.06	0.51	A	426.69	640.04	35.22	0.06	0.39	35.22	0.06	0.622	1698.990
2	0.09	0.06	0.10	A	86.26	129.38	7.46	0.06	0.08	7.46	0.06	0.552	1436.448
3	0.53	0.11	1.22	A	576.26	864.40	79.03	0.09	0.88	79.03	0.09	0.544	1347.805

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	350.08	87.52	348.89	435.23	83.14	0.00	1647.25	1577.10	0.213	0.00	0.30
2	70.77	17.69	70.51	132.66	299.37	0.00	1271.25	694.16	0.056	0.00	0.06
3	472.79	118.20	470.36	321.87	48.01	0.00	1321.70	1108.16	0.358	0.00	0.61

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	418.03	104.51	417.71	521.57	99.64	0.00	1636.98	1577.10	0.255	0.30	0.38
2	84.50	21.13	84.44	158.93	358.42	0.00	1238.66	694.16	0.068	0.06	0.08
3	564.56	141.14	563.72	385.37	57.49	0.00	1316.54	1108.16	0.429	0.61	0.82

Main results: (17:30-17:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	511.97	127.99	511.46	638.33	121.93	0.00	1623.10	1577.09	0.315	0.38	0.50
2	103.50	25.87	103.40	194.54	438.86	0.00	1194.27	694.16	0.087	0.08	0.10
3	691.44	172.86	689.86	471.86	70.40	0.00	1309.52	1108.16	0.528	0.82	1.21

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	511.97	127.99	511.97	639.66	122.21	0.00	1622.93	1577.09	0.315	0.50	0.51
2	103.50	25.87	103.49	194.87	439.30	0.00	1194.02	694.16	0.087	0.10	0.10
3	691.44	172.86	691.41	472.33	70.46	0.00	1309.48	1108.16	0.528	1.21	1.22

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	418.03	104.51	418.53	523.65	100.06	0.00	1636.72	1577.10	0.255	0.51	0.38
2	84.50	21.13	84.60	159.46	359.13	0.00	1238.26	694.16	0.068	0.10	0.08
3	564.56	141.14	566.11	386.13	57.60	0.00	1316.48	1108.16	0.429	1.22	0.83

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	350.08	87.52	350.40	438.16	83.72	0.00	1646.89	1577.10	0.213	0.38	0.30
2	70.77	17.69	70.83	133.45	300.67	0.00	1270.53	694.16	0.056	0.08	0.07
3	472.79	118.20	473.66	323.27	48.23	0.00	1321.58	1108.16	0.358	0.83	0.62

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.35	0.29	0.051	A	A
2	0.95	0.06	0.055	A	A
3	8.84	0.59	0.077	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.55	0.37	0.054	A	A
2	1.19	0.08	0.057	A	A
3	11.97	0.80	0.088	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.43	0.50	0.059	A	A
2	1.54	0.10	0.060	A	A
3	17.59	1.17	0.106	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.57	0.50	0.059	A	A
2	1.56	0.10	0.061	A	A
3	18.27	1.22	0.107	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.78	0.39	0.054	A	A
2	1.23	0.08	0.057	A	A
3	12.87	0.86	0.088	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.53	0.30	0.051	A	A
2	0.99	0.07	0.055	A	A
3	9.47	0.63	0.078	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	350.08	1647.25	0.213	0.00	0.00	0.30	4.35	(0.02)	0.051
1	2	70.77	1271.25	0.056	0.00	0.00	0.06	0.95	(0.02)	0.055
1	3	472.79	1321.70	0.358	0.00	0.00	0.61	8.84	(0.02)	0.077
2	1	418.03	1636.98	0.255	0.00	0.30	0.38	5.55	(0.02)	0.054
2	2	84.50	1238.66	0.068	0.00	0.06	0.08	1.19	(0.02)	0.057
2	3	564.56	1316.54	0.429	0.00	0.61	0.82	11.97	(0.02)	0.088
3	1	511.97	1623.10	0.315	0.00	0.38	0.50	7.43	(0.02)	0.059
3	2	103.50	1194.27	0.087	0.00	0.08	0.10	1.54	(0.02)	0.060
3	3	691.44	1309.52	0.528	0.00	0.82	1.21	17.59	(0.02)	0.106
4	1	511.97	1622.93	0.315	0.00	0.50	0.51	7.57	(0.02)	0.059
4	2	103.50	1194.02	0.087	0.00	0.10	0.10	1.56	(0.02)	0.061
4	3	691.44	1309.48	0.528	0.00	1.21	1.22	18.27	(0.02)	0.107
5	1	418.03	1636.72	0.255	0.00	0.51	0.38	5.78	(0.02)	0.054
5	2	84.50	1238.26	0.068	0.00	0.10	0.08	1.23	(0.02)	0.057
5	3	564.56	1316.48	0.429	0.00	1.22	0.83	12.87	(0.02)	0.088
6	1	350.08	1646.89	0.213	0.00	0.38	0.30	4.53	(0.02)	0.051
6	2	70.77	1270.53	0.056	0.00	0.08	0.07	0.99	(0.02)	0.055
6	3	472.79	1321.58	0.358	0.00	0.83	0.62	9.47	(0.02)	0.078

ARCADY 7

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:56:54

« A1 - (Default Analysis Set) - D11 - 2027 No Development, PM
- » Roundabout Network
- » Arms
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

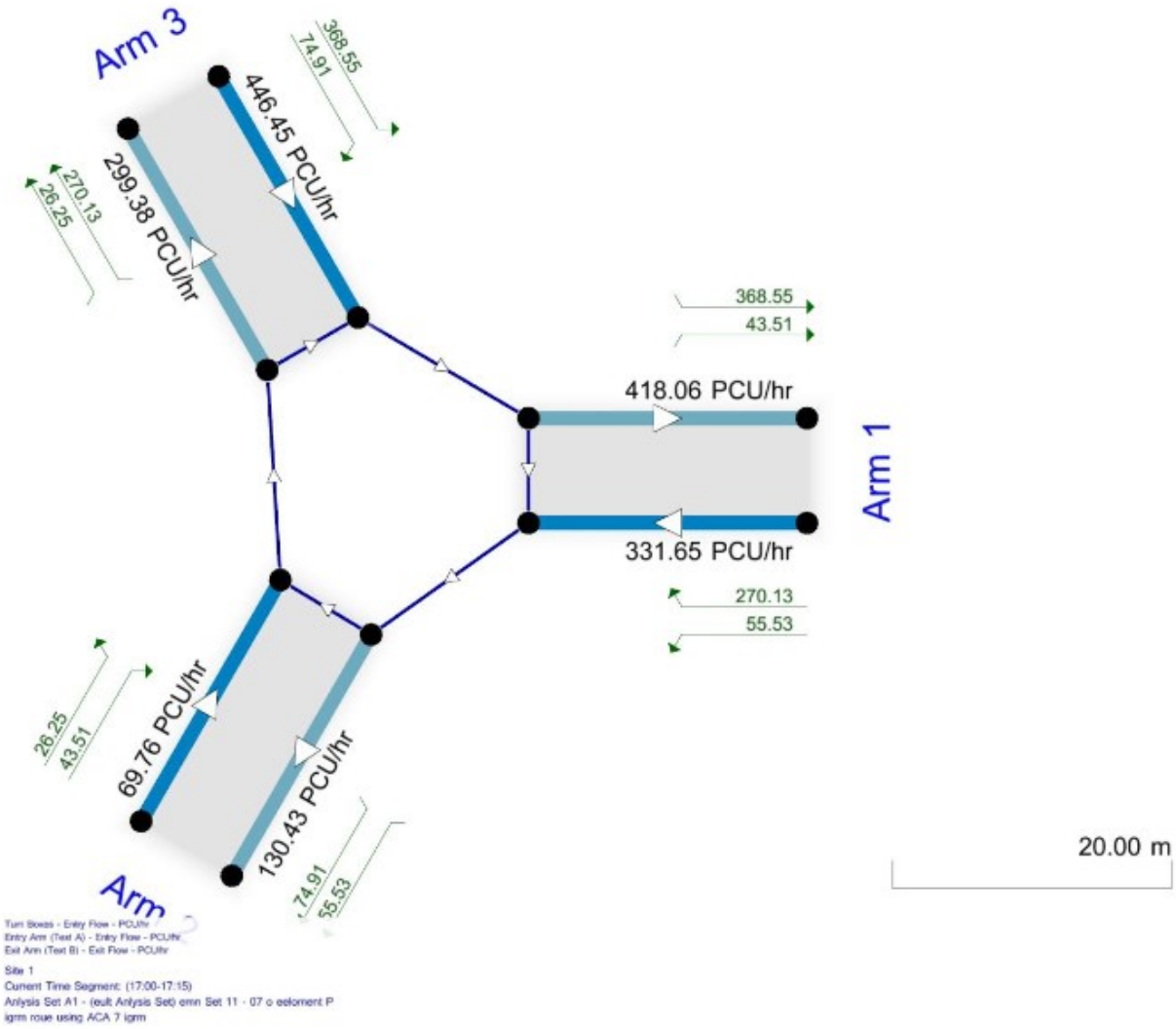
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D11 - 2027 No Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2027 No Development, PM	2027 No Development	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	442.00	100.000	N/A
2	ONE HOUR	Yes	93.00	100.000	N/A
3	ONE HOUR	Yes	596.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	332.76	332.76	N/A	N/A
1	2	70.02	70.02	N/A	N/A
1	3	448.70	448.70	N/A	N/A
2	1	397.35	397.35	N/A	N/A
2	2	83.61	83.61	N/A	N/A
2	3	535.79	535.79	N/A	N/A
3	1	486.65	486.65	N/A	N/A
3	2	102.39	102.39	N/A	N/A
3	3	656.21	656.21	N/A	N/A
4	1	486.65	486.65	N/A	N/A
4	2	102.39	102.39	N/A	N/A
4	3	656.21	656.21	N/A	N/A
5	1	397.35	397.35	N/A	N/A
5	2	83.61	83.61	N/A	N/A
5	3	535.79	535.79	N/A	N/A
6	1	332.76	332.76	N/A	N/A
6	2	70.02	70.02	N/A	N/A
6	3	448.70	448.70	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	8.000	74.000	360.000
	2	58.000	0.000	35.000
	3	492.000	100.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.02	0.17	0.81
	2	0.62	0.00	0.38
	3	0.83	0.17	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.30	0.06	0.47	A	405.59	608.38	32.77	0.05	0.36	32.77	0.05	0.622	1698.990
2	0.08	0.06	0.10	A	85.34	128.01	7.28	0.06	0.08	7.28	0.06	0.552	1436.448
3	0.50	0.10	1.10	A	546.90	820.35	71.99	0.09	0.80	72.00	0.09	0.544	1347.805

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	332.76	83.19	331.65	418.06	77.90	0.00	1650.51	1580.33	0.202	0.00	0.28
2	70.02	17.50	69.76	130.43	279.12	0.00	1282.42	706.32	0.055	0.00	0.06
3	448.70	112.18	446.45	299.38	49.51	0.00	1320.88	1092.70	0.340	0.00	0.56

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	397.35	99.34	397.06	500.97	93.36	0.00	1640.89	1580.33	0.242	0.28	0.35
2	83.61	20.90	83.54	156.25	334.17	0.00	1252.04	706.32	0.067	0.06	0.08
3	535.79	133.95	535.04	358.43	59.29	0.00	1315.56	1092.70	0.407	0.56	0.75

Main results: (17:30-17:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	486.65	121.66	486.18	613.17	114.27	0.00	1627.88	1580.33	0.299	0.35	0.47
2	102.39	25.60	102.30	191.27	409.18	0.00	1210.65	706.32	0.085	0.08	0.10
3	656.21	164.05	654.83	438.88	72.60	0.00	1308.32	1092.70	0.502	0.75	1.09

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	486.65	121.66	486.65	614.35	114.50	0.00	1627.73	1580.33	0.299	0.47	0.47
2	102.39	25.60	102.39	191.57	409.58	0.00	1210.43	706.32	0.085	0.10	0.10
3	656.21	164.05	656.18	439.30	72.67	0.00	1308.29	1092.70	0.502	1.09	1.10

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	397.35	99.34	397.81	502.81	93.73	0.00	1640.66	1580.33	0.242	0.47	0.35
2	83.61	20.90	83.69	156.73	334.81	0.00	1251.69	706.32	0.067	0.10	0.08
3	535.79	133.95	537.14	359.11	59.40	0.00	1315.50	1092.70	0.407	1.10	0.76

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	332.76	83.19	333.06	420.77	78.43	0.00	1650.18	1580.33	0.202	0.35	0.28
2	70.02	17.50	70.08	131.18	280.31	0.00	1281.76	706.32	0.055	0.08	0.06
3	448.70	112.18	449.47	300.66	49.73	0.00	1320.76	1092.70	0.340	0.76	0.57

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.07	0.27	0.050	A	A
2	0.93	0.06	0.054	A	A
3	8.18	0.55	0.075	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.18	0.35	0.053	A	A
2	1.16	0.08	0.056	A	A
3	10.98	0.73	0.084	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.89	0.46	0.058	A	A
2	1.50	0.10	0.060	A	A
3	15.89	1.06	0.101	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.01	0.47	0.058	A	A
2	1.52	0.10	0.060	A	A
3	16.45	1.10	0.101	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.38	0.36	0.053	A	A
2	1.20	0.08	0.056	A	A
3	11.75	0.78	0.085	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.24	0.28	0.050	A	A
2	0.97	0.06	0.054	A	A
3	8.74	0.58	0.076	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	332.76	1650.51	0.202	0.00	0.00	0.28	4.07	(0.02)	0.050
1	2	70.02	1282.42	0.055	0.00	0.00	0.06	0.93	(0.02)	0.054
1	3	448.70	1320.88	0.340	0.00	0.00	0.56	8.18	(0.02)	0.075
2	1	397.35	1640.89	0.242	0.00	0.28	0.35	5.18	(0.02)	0.053
2	2	83.61	1252.04	0.067	0.00	0.06	0.08	1.16	(0.02)	0.056
2	3	535.79	1315.56	0.407	0.00	0.56	0.75	10.98	(0.02)	0.084
3	1	486.65	1627.88	0.299	0.00	0.35	0.47	6.89	(0.02)	0.058
3	2	102.39	1210.65	0.085	0.00	0.08	0.10	1.50	(0.02)	0.060
3	3	656.21	1308.32	0.502	0.00	0.75	1.09	15.89	(0.02)	0.101
4	1	486.65	1627.73	0.299	0.00	0.47	0.47	7.01	(0.02)	0.058
4	2	102.39	1210.43	0.085	0.00	0.10	0.10	1.52	(0.02)	0.060
4	3	656.21	1308.29	0.502	0.00	1.09	1.10	16.45	(0.02)	0.101
5	1	397.35	1640.66	0.242	0.00	0.47	0.35	5.38	(0.02)	0.053
5	2	83.61	1251.69	0.067	0.00	0.10	0.08	1.20	(0.02)	0.056
5	3	535.79	1315.50	0.407	0.00	1.10	0.76	11.75	(0.02)	0.085
6	1	332.76	1650.18	0.202	0.00	0.35	0.28	4.24	(0.02)	0.050
6	2	70.02	1281.76	0.055	0.00	0.08	0.06	0.97	(0.02)	0.054
6	3	448.70	1320.76	0.340	0.00	0.76	0.57	8.74	(0.02)	0.076

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 10:58:01

« A1 - (Default Analysis Set) - D12 - 2027 With Development, PM
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

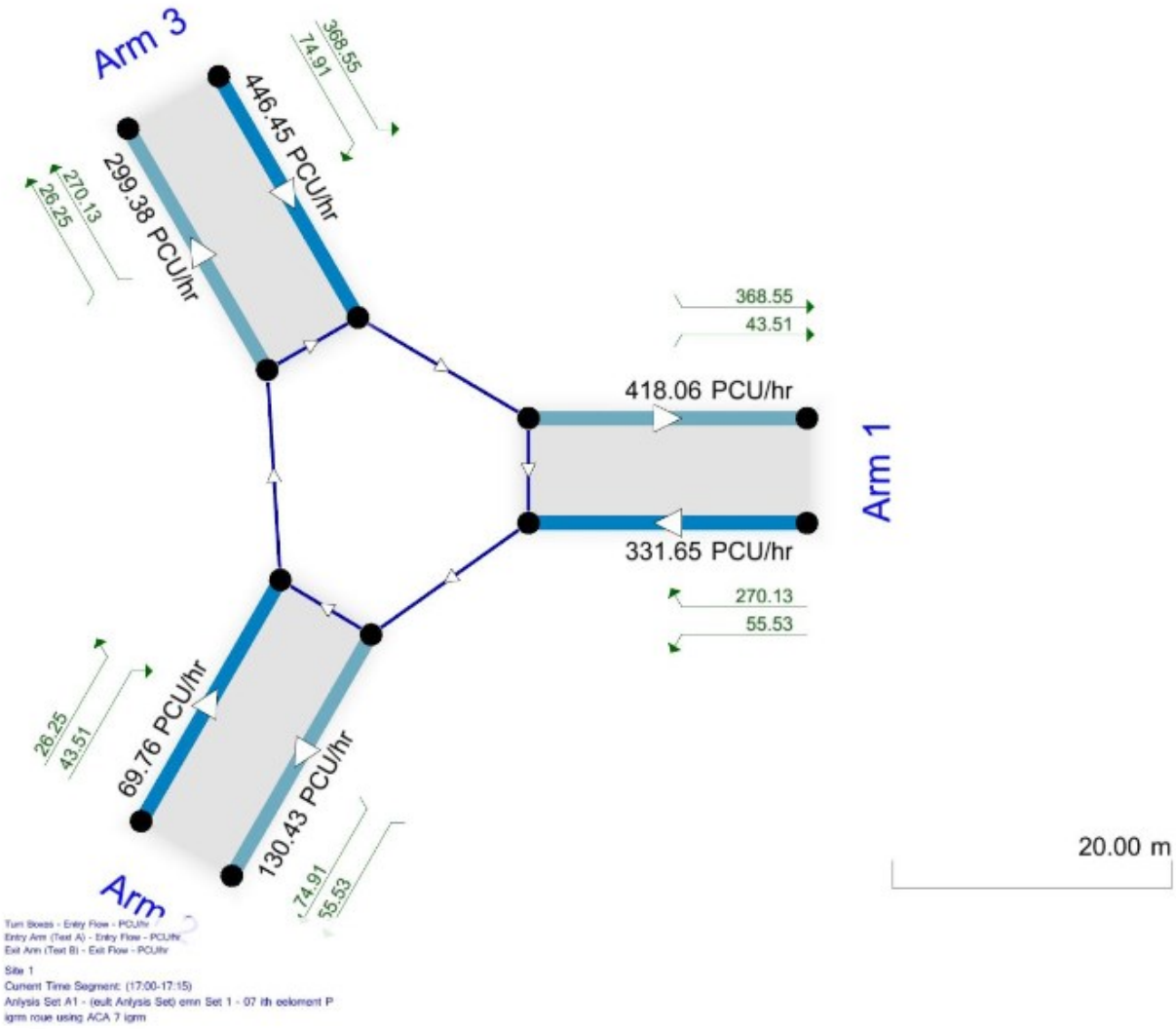
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D12 - 2027 With Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2027 With Development, PM	2027 With Development	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	480.00	100.000	N/A
2	ONE HOUR	Yes	97.00	100.000	N/A
3	ONE HOUR	Yes	648.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	361.37	361.37	N/A	N/A
1	2	73.03	73.03	N/A	N/A
1	3	487.85	487.85	N/A	N/A
2	1	431.51	431.51	N/A	N/A
2	2	87.20	87.20	N/A	N/A
2	3	582.54	582.54	N/A	N/A
3	1	528.49	528.49	N/A	N/A
3	2	106.80	106.80	N/A	N/A
3	3	713.46	713.46	N/A	N/A
4	1	528.49	528.49	N/A	N/A
4	2	106.80	106.80	N/A	N/A
4	3	713.46	713.46	N/A	N/A
5	1	431.51	431.51	N/A	N/A
5	2	87.20	87.20	N/A	N/A
5	3	582.54	582.54	N/A	N/A
6	1	361.37	361.37	N/A	N/A
6	2	73.03	73.03	N/A	N/A
6	3	487.85	487.85	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	8.000	74.000	398.000
	2	58.000	0.000	39.000
	3	533.000	110.000	5.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.02	0.15	0.83
	2	0.60	0.00	0.40
	3	0.82	0.17	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.33	0.06	0.53	A	440.46	660.68	36.87	0.06	0.41	36.88	0.06	0.622	1698.990
2	0.09	0.06	0.11	A	89.01	133.51	7.76	0.06	0.09	7.76	0.06	0.552	1436.448
3	0.55	0.11	1.31	A	594.62	891.92	83.94	0.09	0.93	83.95	0.09	0.544	1347.805

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	361.37	90.34	360.14	448.68	86.12	0.00	1645.39	1576.70	0.220	0.00	0.31
2	73.03	18.26	72.76	137.90	308.36	0.00	1266.28	695.78	0.058	0.00	0.07
3	487.85	121.96	485.29	331.61	49.51	0.00	1320.88	1107.27	0.369	0.00	0.64

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	431.51	107.88	431.17	537.70	103.22	0.00	1634.75	1576.70	0.264	0.31	0.39
2	87.20	21.80	87.14	165.21	369.19	0.00	1232.72	695.79	0.071	0.07	0.08
3	582.54	145.63	581.63	397.04	59.29	0.00	1315.56	1107.27	0.443	0.64	0.87

Main results: (17:30-17:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	528.49	132.12	527.94	658.02	126.31	0.00	1620.38	1576.70	0.326	0.39	0.53
2	106.80	26.70	106.70	202.21	452.04	0.00	1186.99	695.79	0.090	0.08	0.11
3	713.46	178.37	711.73	486.14	72.60	0.00	1308.32	1107.26	0.545	0.87	1.30

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	528.49	132.12	528.48	659.48	126.61	0.00	1620.19	1576.70	0.326	0.53	0.53
2	106.80	26.70	106.80	202.58	452.51	0.00	1186.73	695.79	0.090	0.11	0.11
3	713.46	178.37	713.42	486.65	72.67	0.00	1308.29	1107.26	0.545	1.30	1.31

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	431.51	107.88	432.05	539.96	103.68	0.00	1634.46	1576.70	0.264	0.53	0.40
2	87.20	21.80	87.30	165.78	369.95	0.00	1232.30	695.79	0.071	0.11	0.08
3	582.54	145.63	584.24	397.85	59.40	0.00	1315.50	1107.27	0.443	1.31	0.88

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	361.37	90.34	361.71	451.77	86.74	0.00	1645.00	1576.70	0.220	0.40	0.31
2	73.03	18.26	73.09	138.74	309.72	0.00	1265.53	695.78	0.058	0.08	0.07
3	487.85	121.96	488.78	333.08	49.73	0.00	1320.76	1107.27	0.369	0.88	0.65

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.54	0.30	0.051	A	A
2	0.99	0.07	0.055	A	A
3	9.29	0.62	0.079	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.81	0.39	0.055	A	A
2	1.24	0.08	0.058	A	A
3	12.65	0.84	0.090	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.81	0.52	0.060	A	A
2	1.60	0.11	0.061	A	A
3	18.80	1.25	0.110	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.95	0.53	0.060	A	A
2	1.63	0.11	0.061	A	A
3	19.57	1.30	0.111	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.04	0.40	0.055	A	A
2	1.28	0.09	0.058	A	A
3	13.65	0.91	0.090	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.73	0.32	0.051	A	A
2	1.03	0.07	0.055	A	A
3	9.97	0.66	0.079	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	361.37	1645.39	0.220	0.00	0.00	0.31	4.54	(0.02)	0.051
1	2	73.03	1266.28	0.058	0.00	0.00	0.07	0.99	(0.02)	0.055
1	3	487.85	1320.88	0.369	0.00	0.00	0.64	9.29	(0.02)	0.079
2	1	431.51	1634.75	0.264	0.00	0.31	0.39	5.81	(0.02)	0.055
2	2	87.20	1232.72	0.071	0.00	0.07	0.08	1.24	(0.02)	0.058
2	3	582.54	1315.56	0.443	0.00	0.64	0.87	12.65	(0.02)	0.090
3	1	528.49	1620.38	0.326	0.00	0.39	0.53	7.81	(0.02)	0.060
3	2	106.80	1186.99	0.090	0.00	0.08	0.11	1.60	(0.02)	0.061
3	3	713.46	1308.32	0.545	0.00	0.87	1.30	18.80	(0.02)	0.110
4	1	528.49	1620.19	0.326	0.00	0.53	0.53	7.95	(0.02)	0.060
4	2	106.80	1186.73	0.090	0.00	0.11	0.11	1.63	(0.02)	0.061
4	3	713.46	1308.29	0.545	0.00	1.30	1.31	19.57	(0.02)	0.111
5	1	431.51	1634.46	0.264	0.00	0.53	0.40	6.04	(0.02)	0.055
5	2	87.20	1232.30	0.071	0.00	0.11	0.08	1.28	(0.02)	0.058
5	3	582.54	1315.50	0.443	0.00	1.31	0.88	13.65	(0.02)	0.090
6	1	361.37	1645.00	0.220	0.00	0.40	0.31	4.73	(0.02)	0.051
6	2	73.03	1265.53	0.058	0.00	0.08	0.07	1.03	(0.02)	0.055
6	3	487.85	1320.76	0.369	0.00	0.88	0.65	9.97	(0.02)	0.079

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 11:00:13

« A1 - (Default Analysis Set) - D13 - 2037 No Development, PM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
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2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

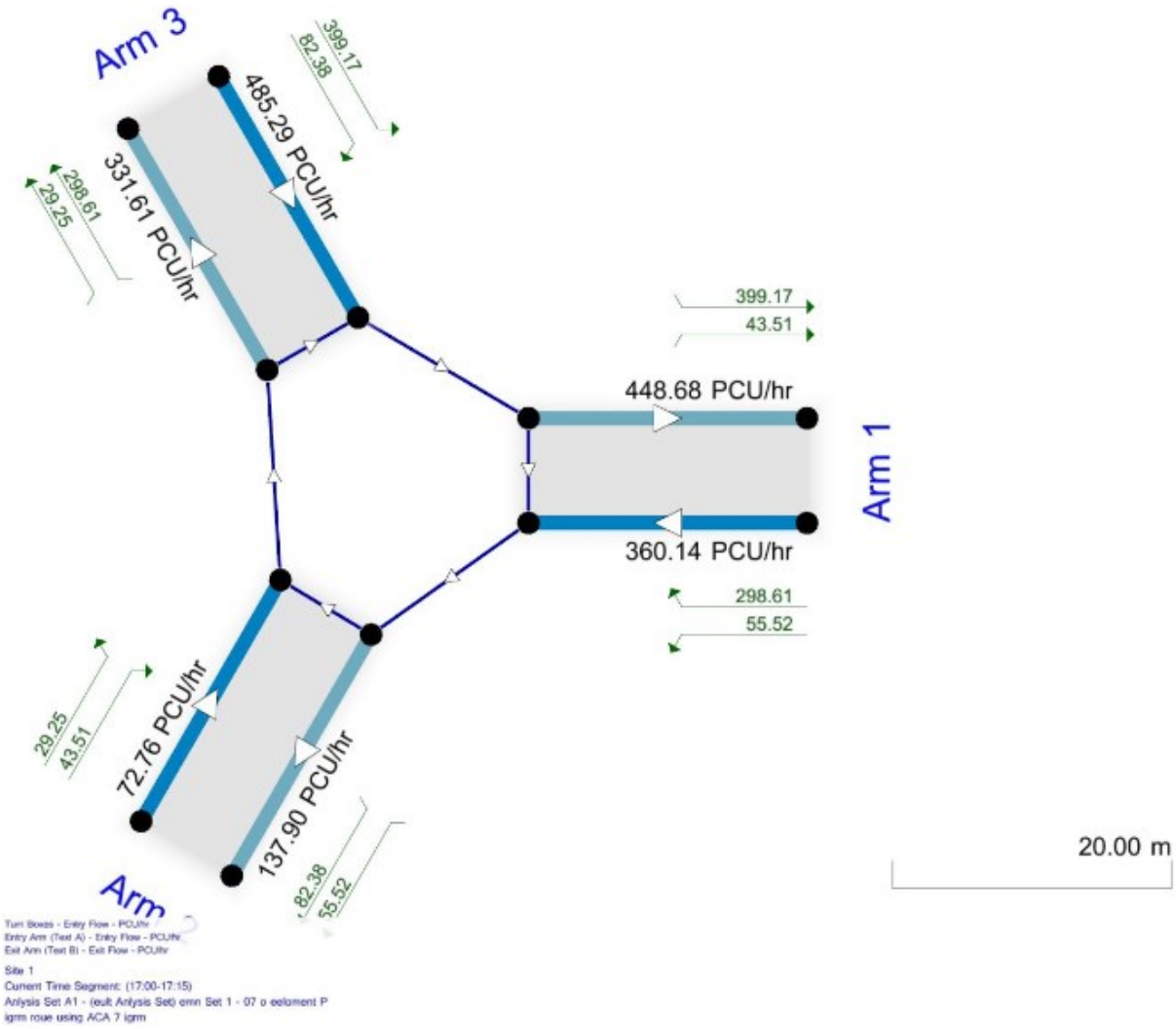
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D13 - 2037 No Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2037 No Development, PM	2037 No Development	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	475.00	100.000	N/A
2	ONE HOUR	Yes	100.00	100.000	N/A
3	ONE HOUR	Yes	638.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	357.60	357.60	N/A	N/A
1	2	75.29	75.29	N/A	N/A
1	3	480.32	480.32	N/A	N/A
2	1	427.02	427.02	N/A	N/A
2	2	89.90	89.90	N/A	N/A
2	3	573.55	573.55	N/A	N/A
3	1	522.98	522.98	N/A	N/A
3	2	110.10	110.10	N/A	N/A
3	3	702.45	702.45	N/A	N/A
4	1	522.98	522.98	N/A	N/A
4	2	110.10	110.10	N/A	N/A
4	3	702.45	702.45	N/A	N/A
5	1	427.02	427.02	N/A	N/A
5	2	89.90	89.90	N/A	N/A
5	3	573.55	573.55	N/A	N/A
6	1	357.60	357.60	N/A	N/A
6	2	75.29	75.29	N/A	N/A
6	3	480.32	480.32	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	9.000	79.000	387.000
	2	62.000	0.000	38.000
	3	525.000	108.000	5.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.02	0.17	0.81
	2	0.62	0.00	0.38
	3	0.82	0.17	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.32	0.06	0.52	A	435.87	653.80	36.31	0.06	0.40	36.31	0.06	0.622	1698.990
2	0.09	0.06	0.11	A	91.76	137.64	7.98	0.06	0.09	7.98	0.06	0.552	1436.448
3	0.54	0.11	1.27	A	585.44	878.16	81.82	0.09	0.91	81.83	0.09	0.544	1347.805

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	357.60	89.40	356.39	446.45	84.63	0.00	1646.32	1578.45	0.217	0.00	0.30
2	75.29	18.82	75.01	140.16	300.86	0.00	1270.42	705.54	0.059	0.00	0.07
3	480.32	120.08	477.82	322.61	53.26	0.00	1318.84	1093.66	0.364	0.00	0.62

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	427.02	106.75	426.68	535.02	101.43	0.00	1635.87	1578.45	0.261	0.30	0.39
2	89.90	22.47	89.83	167.91	360.21	0.00	1237.67	705.54	0.073	0.07	0.09
3	573.55	143.39	572.67	386.26	63.78	0.00	1313.12	1093.66	0.437	0.62	0.84

Main results: (17:30-17:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	522.98	130.75	522.45	654.76	124.12	0.00	1621.74	1578.44	0.322	0.39	0.52
2	110.10	27.53	110.00	205.52	441.05	0.00	1193.06	705.54	0.092	0.09	0.11
3	702.45	175.61	700.78	472.95	78.10	0.00	1305.33	1093.65	0.538	0.84	1.26

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	522.98	130.75	522.98	656.18	124.41	0.00	1621.56	1578.44	0.323	0.52	0.52
2	110.10	27.53	110.10	205.88	441.50	0.00	1192.81	705.54	0.092	0.11	0.11
3	702.45	175.61	702.41	473.43	78.17	0.00	1305.29	1093.65	0.538	1.26	1.27

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	427.02	106.75	427.54	537.21	101.88	0.00	1635.59	1578.45	0.261	0.52	0.39
2	89.90	22.47	90.00	168.47	360.94	0.00	1237.27	705.54	0.073	0.11	0.09
3	573.55	143.39	575.19	387.04	63.90	0.00	1313.05	1093.66	0.437	1.27	0.86

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	357.60	89.40	357.94	449.49	85.23	0.00	1645.95	1578.45	0.217	0.39	0.31
2	75.29	18.82	75.35	140.99	302.18	0.00	1269.69	705.54	0.059	0.09	0.07
3	480.32	120.08	481.23	324.03	53.50	0.00	1318.71	1093.66	0.364	0.86	0.64

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.47	0.30	0.051	A	A
2	1.02	0.07	0.055	A	A
3	9.09	0.61	0.078	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.72	0.38	0.055	A	A
2	1.27	0.08	0.057	A	A
3	12.36	0.82	0.089	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.68	0.51	0.060	A	A
2	1.65	0.11	0.061	A	A
3	18.29	1.22	0.109	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.82	0.52	0.060	A	A
2	1.67	0.11	0.061	A	A
3	19.02	1.27	0.109	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.95	0.40	0.055	A	A
2	1.32	0.09	0.058	A	A
3	13.31	0.89	0.090	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.66	0.31	0.051	A	A
2	1.06	0.07	0.055	A	A
3	9.75	0.65	0.079	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	357.60	1646.32	0.217	0.00	0.00	0.30	4.47	(0.02)	0.051
1	2	75.29	1270.42	0.059	0.00	0.00	0.07	1.02	(0.02)	0.055
1	3	480.32	1318.84	0.364	0.00	0.00	0.62	9.09	(0.02)	0.078
2	1	427.02	1635.87	0.261	0.00	0.30	0.39	5.72	(0.02)	0.055
2	2	89.90	1237.67	0.073	0.00	0.07	0.09	1.27	(0.02)	0.057
2	3	573.55	1313.12	0.437	0.00	0.62	0.84	12.36	(0.02)	0.089
3	1	522.98	1621.74	0.322	0.00	0.39	0.52	7.68	(0.02)	0.060
3	2	110.10	1193.06	0.092	0.00	0.09	0.11	1.65	(0.02)	0.061
3	3	702.45	1305.33	0.538	0.00	0.84	1.26	18.29	(0.02)	0.109
4	1	522.98	1621.56	0.323	0.00	0.52	0.52	7.82	(0.02)	0.060
4	2	110.10	1192.81	0.092	0.00	0.11	0.11	1.67	(0.02)	0.061
4	3	702.45	1305.29	0.538	0.00	1.26	1.27	19.02	(0.02)	0.109
5	1	427.02	1635.59	0.261	0.00	0.52	0.39	5.95	(0.02)	0.055
5	2	89.90	1237.27	0.073	0.00	0.11	0.09	1.32	(0.02)	0.058
5	3	573.55	1313.05	0.437	0.00	1.27	0.86	13.31	(0.02)	0.090
6	1	357.60	1645.95	0.217	0.00	0.39	0.31	4.66	(0.02)	0.051
6	2	75.29	1269.69	0.059	0.00	0.09	0.07	1.06	(0.02)	0.055
6	3	480.32	1318.71	0.364	0.00	0.86	0.64	9.75	(0.02)	0.079

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 1 - R125- Courttown Roundabout\Site 1 - R125- Courttown Roundabout_Rev2.arc7
Report generation date: 06/12/2019 11:00:55

« A1 - (Default Analysis Set) - D14 - 2037 With Development, PM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.52	0.06	0.32	A	0.43	0.06	0.28	A
Arm 2	0.19	0.07	0.15	A	0.09	0.06	0.08	A
Arm 3	0.76	0.09	0.41	A	0.98	0.10	0.47	A
	(Default Analysis Set) - 2022 No Development							
Arm 1	0.53	0.06	0.33	A	0.44	0.06	0.29	A
Arm 2	0.20	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.81	0.09	0.42	A	1.03	0.10	0.48	A
	(Default Analysis Set) - 2022 With Development							
Arm 1	0.56	0.06	0.34	A	0.51	0.06	0.32	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.09	A
Arm 3	0.99	0.10	0.48	A	1.22	0.11	0.53	A
	(Default Analysis Set) - 2027 No Development							
Arm 1	0.56	0.06	0.34	A	0.47	0.06	0.30	A
Arm 2	0.21	0.07	0.16	A	0.10	0.06	0.08	A
Arm 3	0.86	0.09	0.44	A	1.10	0.10	0.50	A
	(Default Analysis Set) - 2027 With Development							
Arm 1	0.59	0.06	0.35	A	0.53	0.06	0.33	A
Arm 2	0.22	0.07	0.17	A	0.11	0.06	0.09	A
Arm 3	1.06	0.10	0.49	A	1.31	0.11	0.55	A
	(Default Analysis Set) - 2037 No Development							
Arm 1	0.63	0.06	0.36	A	0.52	0.06	0.32	A
Arm 2	0.24	0.07	0.18	A	0.11	0.06	0.09	A
Arm 3	1.00	0.10	0.48	A	1.27	0.11	0.54	A
	(Default Analysis Set) - 2037 With Development							
Arm 1	0.65	0.06	0.37	A	0.59	0.06	0.35	A

Arm 2	0.25	0.07	0.18	A	0.12	0.06	0.10	A
Arm 3	1.23	0.11	0.53	A	1.51	0.12	0.58	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Development - AM runs from 08:00:00 to 09:30:00
2022 With Development - AM runs from 08:00:00 to 09:30:00
2027 No Development - AM runs from 08:00:00 to 09:30:00
2027 With Development - AM runs from 08:00:00 to 09:30:00
2037 No Development - AM runs from 08:00:00 to 09:30:00
2037 With Development - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Development - PM runs from 17:00:00 to 18:30:00
2022 With Development - PM runs from 17:00:00 to 18:30:00
2027 No Development - PM runs from 17:00:00 to 18:30:00
2027 With Development - PM runs from 17:00:00 to 18:30:00
2037 No Development - PM runs from 17:00:00 to 18:30:00
2037 With Development - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	Site 1
Location	R125/Courtown Roundabout
Site Number	
Date	05/02/2019
Version	Rev 4
Status	TIA
Identifier	
Client	Orivo Properties
Jobnumber	P180307- BRAYTON PK EXT., Kilcock\
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

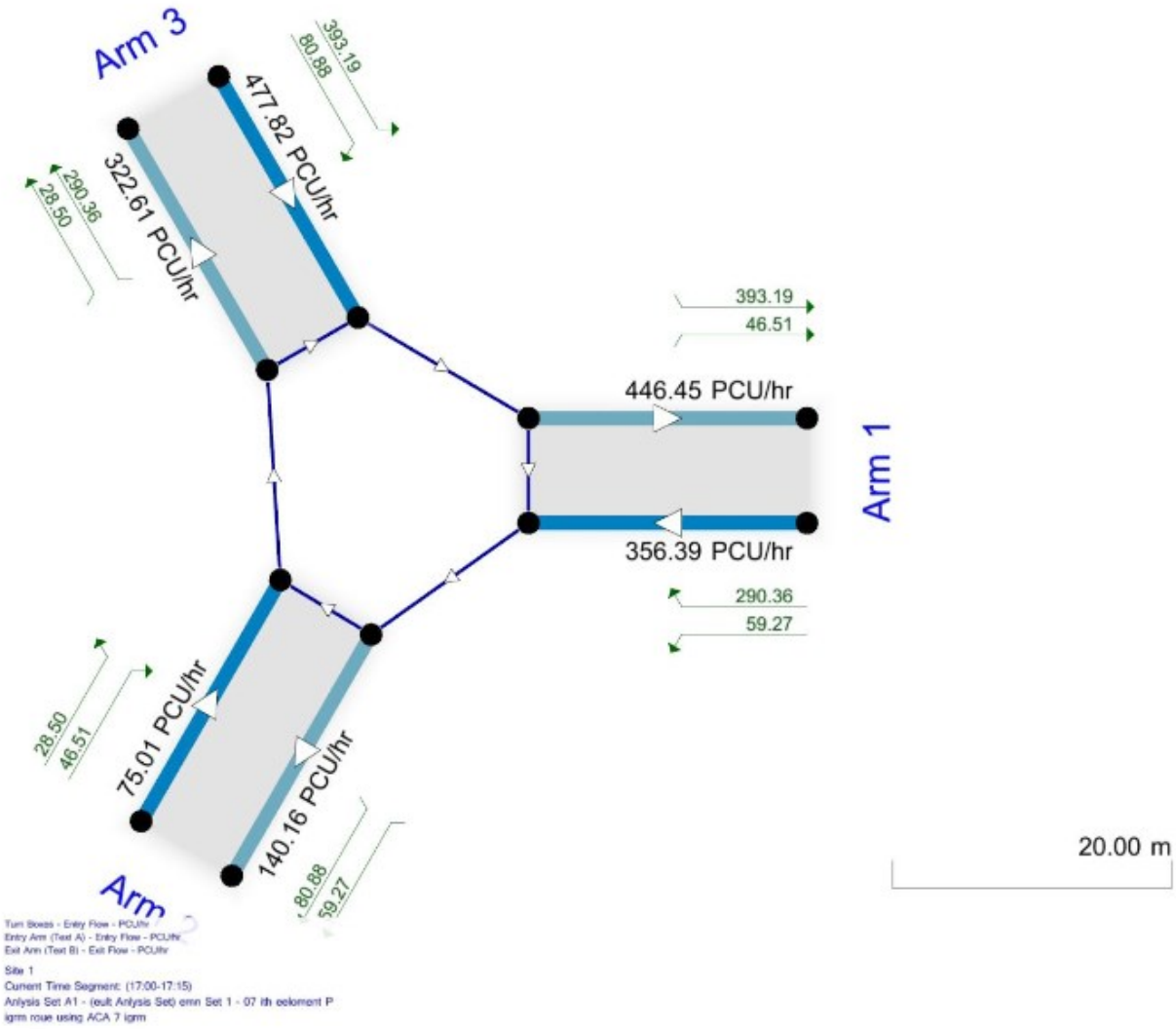
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D14 - 2037 With Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

										Time	Time	

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2037 With Development, PM	2037 With Development	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	R125 East	
2	Courttown	
3	R125 West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.85	7.80	25.00	18.00	20.00	67.00	
2	3.35	7.21	22.00	16.00	20.00	80.00	
3	3.95	5.75	15.00	14.00	20.00	68.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.622	1698.990
2		((calculated))	((calculated))	0.552	1436.448
3		((calculated))	((calculated))	0.544	1347.805

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	513.00	100.000	N/A
2	ONE HOUR	Yes	104.00	100.000	N/A
3	ONE HOUR	Yes	689.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	386.21	386.21	N/A	N/A
1	2	78.30	78.30	N/A	N/A
1	3	518.72	518.72	N/A	N/A
2	1	461.18	461.18	N/A	N/A
2	2	93.49	93.49	N/A	N/A
2	3	619.40	619.40	N/A	N/A
3	1	564.82	564.82	N/A	N/A
3	2	114.51	114.51	N/A	N/A
3	3	758.60	758.60	N/A	N/A
4	1	564.82	564.82	N/A	N/A
4	2	114.51	114.51	N/A	N/A
4	3	758.60	758.60	N/A	N/A
5	1	461.18	461.18	N/A	N/A
5	2	93.49	93.49	N/A	N/A
5	3	619.40	619.40	N/A	N/A
6	1	386.21	386.21	N/A	N/A
6	2	78.30	78.30	N/A	N/A
6	3	518.72	518.72	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	9.000	79.000	425.000
	2	62.000	0.000	42.000
	3	566.000	118.000	5.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.02	0.15	0.83
	2	0.60	0.00	0.40
	3	0.82	0.17	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.100	1.100	1.100
	2	1.100	1.100	1.100
	3	1.100	1.100	1.100

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	10.000	10.000	10.000
	2	10.000	10.000	10.000
	3	10.000	10.000	10.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.35	0.06	0.59	A	470.74	706.11	40.66	0.06	0.45	40.66	0.06	0.622	1698.990
2	0.10	0.06	0.12	A	95.43	143.15	8.48	0.06	0.09	8.48	0.06	0.552	1436.448
3	0.58	0.12	1.51	A	632.24	948.36	95.09	0.10	1.06	95.10	0.10	0.544	1347.805

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	386.21	96.55	384.87	477.05	92.10	0.00	1641.67	1576.00	0.235	0.00	0.34
2	78.30	19.57	78.00	147.62	329.34	0.00	1254.70	696.24	0.062	0.00	0.07
3	518.72	129.68	515.89	354.09	53.26	0.00	1318.84	1107.05	0.393	0.00	0.71

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	461.18	115.29	460.80	571.73	110.39	0.00	1630.29	1576.00	0.283	0.34	0.43
2	93.49	23.37	93.42	176.86	394.32	0.00	1218.84	696.24	0.077	0.07	0.09
3	619.40	154.85	618.34	423.97	63.78	0.00	1313.12	1107.05	0.472	0.71	0.97

Main results: (17:30-17:45)

Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating Flow	Pedestrian	Capacity	Saturation	RFC	Start	End

Arm	(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	(PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)	RFC	Queue (PCU)	Queue (PCU)
1	564.82	141.21	564.20	699.54	135.05	0.00	1614.94	1576.00	0.350	0.43	0.59
2	114.51	28.63	114.40	216.44	482.80	0.00	1170.02	696.25	0.098	0.09	0.12
3	758.60	189.65	756.49	519.10	78.10	0.00	1305.33	1107.04	0.581	0.97	1.50

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	564.82	141.21	564.82	701.30	135.42	0.00	1614.71	1576.00	0.350	0.59	0.59
2	114.51	28.63	114.50	216.89	483.34	0.00	1169.72	696.25	0.098	0.12	0.12
3	758.60	189.65	758.55	519.67	78.17	0.00	1305.29	1107.04	0.581	1.50	1.51

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	461.18	115.29	461.79	574.43	110.94	0.00	1629.94	1576.00	0.283	0.59	0.44
2	93.49	23.37	93.60	177.55	395.19	0.00	1218.37	696.24	0.077	0.12	0.09
3	619.40	154.85	621.47	424.89	63.90	0.00	1313.05	1107.05	0.472	1.51	0.99

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	386.21	96.55	386.60	480.52	92.80	0.00	1641.24	1576.00	0.235	0.44	0.34
2	78.30	19.57	78.37	148.56	330.84	0.00	1253.88	696.24	0.062	0.09	0.07
3	518.72	129.68	519.81	355.70	53.50	0.00	1318.71	1107.05	0.393	0.99	0.72

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.95	0.33	0.052	A	A
2	1.07	0.07	0.056	A	A
3	10.26	0.68	0.082	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.38	0.43	0.056	A	A
2	1.35	0.09	0.059	A	A
3	14.17	0.94	0.095	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.66	0.58	0.063	A	A
2	1.76	0.12	0.063	A	A
3	21.59	1.44	0.120	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.84	0.59	0.063	A	A
2	1.78	0.12	0.063	A	A
3	22.60	1.51	0.121	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.65	0.44	0.057	A	A
2	1.40	0.09	0.059	A	A
3	15.40	1.03	0.096	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.17	0.34	0.053	A	A
2	1.12	0.07	0.056	A	A
3	11.06	0.74	0.083	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	3.85	7.80	25.00	18.00	20.00	67.00		0.622	1698.990
2	3.35	7.21	22.00	16.00	20.00	80.00		0.552	1436.448
3	3.95	5.75	15.00	14.00	20.00	68.00		0.544	1347.805

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	386.21	1641.67	0.235	0.00	0.00	0.34	4.95	(0.02)	0.052
1	2	78.30	1254.70	0.062	0.00	0.00	0.07	1.07	(0.02)	0.056
1	3	518.72	1318.84	0.393	0.00	0.00	0.71	10.26	(0.02)	0.082
2	1	461.18	1630.29	0.283	0.00	0.34	0.43	6.38	(0.02)	0.056
2	2	93.49	1218.84	0.077	0.00	0.07	0.09	1.35	(0.02)	0.059
2	3	619.40	1313.12	0.472	0.00	0.71	0.97	14.17	(0.02)	0.095
3	1	564.82	1614.94	0.350	0.00	0.43	0.59	8.66	(0.02)	0.063
3	2	114.51	1170.02	0.098	0.00	0.09	0.12	1.76	(0.02)	0.063
3	3	758.60	1305.33	0.581	0.00	0.97	1.50	21.59	(0.02)	0.120
4	1	564.82	1614.71	0.350	0.00	0.59	0.59	8.84	(0.02)	0.063
4	2	114.51	1169.72	0.098	0.00	0.12	0.12	1.78	(0.02)	0.063
4	3	758.60	1305.29	0.581	0.00	1.50	1.51	22.60	(0.02)	0.121
5	1	461.18	1629.94	0.283	0.00	0.59	0.44	6.65	(0.02)	0.057
5	2	93.49	1218.37	0.077	0.00	0.12	0.09	1.40	(0.02)	0.059
5	3	619.40	1313.05	0.472	0.00	1.51	0.99	15.40	(0.02)	0.096
6	1	386.21	1641.24	0.235	0.00	0.44	0.34	5.17	(0.02)	0.053
6	2	78.30	1253.88	0.062	0.00	0.09	0.07	1.12	(0.02)	0.056
6	3	518.72	1318.71	0.393	0.00	0.99	0.72	11.06	(0.02)	0.083

Appendix E.2

Junction 2

Site 2 - Brayton Park Access_Rev2
TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 5.0 (JUNE 2010) (Patch 15 Apr 2011)

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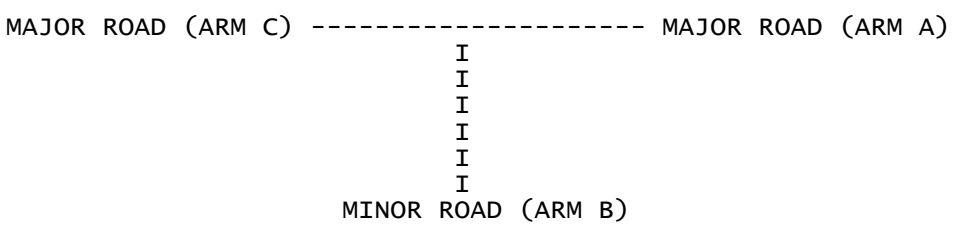
Run with file:-
"S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\
Site 2 - Bryaton Park R125 Access\Site 2 - Brayton Park Access_Rev2.vpi"
(drive-on-the-left) at 14:03:54 on Friday, 8 November 2019

.RUN INFORMATION
****

RUN TITLE	: Site 2 - Brayton Park Access
LOCATION	: Brayant Park, Kilcock
DATE	: 05/06/19
CLIENT	: Orivo Properties
ENUMERATOR	: ronan.kearns [PECT015]
JOB NUMBER	: \P180307- BRAYTON PK EXT., Kilcock
STATUS	: TIA
DESCRIPTION	: 'The development will consist of 359 no. dwelling units, associated car parking spaces, internal roads and paths, public and private open spaces and a crèche facility.

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS R125 West
ARM B IS Site Access
ARM C IS R125 East

.STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.00 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	75.00 M.
- BLOCKS TRAFFIC (SPACES)		NO (0)
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	75.0 M.
- VISIBILITY TO RIGHT	(VB-A)	75.0 M.
- LANE 1 WIDTH	(WB-C)	3.00 M.
- LANE 2 WIDTH	(WB-A)	3.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
671.15	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
539.43	0.25	0.10	0.16	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
617.40	0.24	0.24

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

.Demand set: 2022 With Dev AM

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.60	8.40	5.60
ARM B	15.00	45.00	75.00	3.79	5.68	3.79
ARM C	15.00	45.00	75.00	6.79	10.18	6.79

.Demand set: 2022 With Dev AM

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.00 - 09.30	ARM A	0.000	0.254	0.746
		0.0	114.0	334.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.281	0.000	0.719

```
 I                  I         I   85.0 I    0.0 I  218.0 I
 I                  I         I (  0.0)I (  0.0)I (  0.0)I
 I                  I         I        I       I        I
 I                  I ARM  C  I  0.661 I  0.339 I  0.000 I
 I                  I         I  359.0 I  184.0 I    0.0 I
 I                  I         I (  0.0)I (  0.0)I (  0.0)I
 I                  I         I        I       I        I
 ------------------------------------------------------------
 TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

.              QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
               ---------------------------------------------------------
                FOR DEMAND SET         2022 With Dev AM
                AND FOR TIME PERIOD        1
.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.00-08.15
                                I
 I   B-C       2.74      9.53    0.287               0.00   0.40        5.7
                        0.15      I
 I   B-A       1.07      6.29    0.170               0.00   0.20        2.9
                        0.19      I
 I   C-A       4.50
                                I
 I   C-B       2.31      8.95    0.258               0.00   0.34        4.9
                        0.15      I
 I   A-B       1.43
                                I
 I   A-C       4.19
                                I
 I
                                I
.-------------------------------------------------------------------------------
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.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 08.15-08.30
                                I
 I   B-C       3.27      9.17    0.356               0.40   0.54        7.9
                        0.17      I
 I   B-A       1.27      5.75    0.221               0.20   0.28        4.0
                        0.22      I
 I   C-A       5.38
                                I
 I   C-B       2.76      8.68    0.317               0.34   0.46        6.7
                        0.17      I
 I   A-B       1.71
                                I
 I   A-C       5.00
                                I
 I
                                I
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I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY I
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	SEGMENT)	TIME SEGMENT) VEHICLE (MIN) I
I 08.30-08.45									
I			I						
I B-C	4.00	8.64	0.463		0.54	0.84	12.0		
			0.21	I					
I B-A	1.56	5.02	0.310		0.28	0.44	6.3		
			0.29	I					
I C-A	6.59								
I			I						
I C-B	3.38	8.32	0.406		0.46	0.67	9.6		
			0.20	I					
I A-B	2.09								
I			I						
I A-C	6.13								
I			I						
I			I						

I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY I
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	SEGMENT)	TIME SEGMENT) VEHICLE (MIN) I
I 08.45-09.00									
I			I						
I B-C	4.00	8.63	0.463		0.84	0.85	12.7		
			0.22	I					
I B-A	1.56	5.02	0.311		0.44	0.44	6.6		
			0.29	I					
I C-A	6.59								
I			I						
I C-B	3.38	8.32	0.406		0.67	0.68	10.1		
			0.20	I					
I A-B	2.09								
I			I						
I A-C	6.13								
I			I						
I			I						

I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY I
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	SEGMENT)	TIME SEGMENT) VEHICLE (MIN) I
I 09.00-09.15									
I			I						
I B-C	3.27	9.16	0.357		0.85	0.56	8.8		
			0.17	I					
I B-A	1.27	5.75	0.222		0.44	0.29	4.5		
			0.22	I					
I C-A	5.38								
I			I						

```
 I   C-B       2.76      8.68    0.317                0.68   0.47        7.4
                       0.17      I
 I   A-B       1.71
                                 I
 I   A-C       5.00
                                 I
 I
                                 I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 09.15-09.30
                                 I
 I   B-C       2.74      9.52    0.287                0.56   0.41        6.3
                       0.15      I
 I   B-A       1.07      6.28    0.170                0.29   0.21        3.2
                       0.19      I
 I   C-A       4.50
                                 I
 I   C-B       2.31      8.95    0.258                0.47   0.35        5.5
                       0.15      I
 I   A-B       1.43
                                 I
 I   A-C       4.19
                                 I
 I
                                 I
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.
 QUEUE FOR STREAM    B-C
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   08.15           0.4
   08.30           0.5    *
   08.45           0.8    *
   09.00           0.9    *
   09.15           0.6    *
   09.30           0.4
.
 QUEUE FOR STREAM    B-A
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   08.15           0.2
   08.30           0.3
   08.45           0.4
   09.00           0.4
   09.15           0.3
   09.30           0.2
.
 QUEUE FOR STREAM    C-B
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   08.15           0.3
   08.30           0.5
```

08.45	0.7	*
09.00	0.7	*
09.15	0.5	
09.30	0.4	

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I STREAM I	TOTAL DEMAND		I	* QUEUEING * DELAY *		I	* INCLUSIVE QUEUEING * DELAY *		I
I	I (VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I B-C	I 300.1	I 200.0	I	53.5	I 0.18	I	53.5	I 0.18	I
I B-A	I 117.0	I 78.0	I	27.6	I 0.24	I	27.6	I 0.24	I
I C-A	I 494.1	I 329.4	I		I	I		I	I
I C-B	I 253.3	I 168.8	I	44.1	I 0.17	I	44.1	I 0.17	I
I A-B	I 156.9	I 104.6	I		I	I		I	I
I A-C	I 459.7	I 306.5	I		I	I		I	I
I ALL	I 1781.1	I 1187.4	I	125.1	I 0.07	I	125.1	I 0.07	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	I
I 671.15	0.26	0.10	I

I Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	I
I 539.43	0.25	0.10	0.16	0.35	I

I Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	I
I 617.40	0.24	0.24	I

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

.Demand set: 2022 With Dev PM

TIME PERIOD BEGINS 17.00 AND ENDS 18.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.66	11.49	7.66
ARM B	15.00	45.00	75.00	2.00	3.00	2.00
ARM C	15.00	45.00	75.00	5.36	8.04	5.36

.Demand set: 2022 With Dev PM

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
17.00 - 18.30	ARM A	0.000 0.0 (0.0)%	0.155 95.0 (0.0)%	0.845 518.0 (0.0)%
	ARM B	0.350 56.0 (0.0)%	0.000 0.0 (0.0)%	0.650 104.0 (0.0)%
	ARM C	0.788 338.0 (0.0)%	0.212 91.0 (0.0)%	0.000 0.0 (0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2022 With Dev PM
AND FOR TIME PERIOD 2

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN))	AVERAGE DELAY PER ARRIVING
17.00-17.15									
B-C	1.30	9.11	0.143		0.00	0.17	2.4		0.13
B-A	0.70	6.19	0.113		0.00	0.13	1.8		0.18
C-A	4.24								
C-B	1.14	8.45	0.135		0.00	0.15	2.2		0.14
A-B	1.19								
A-C	6.50								
17.15-17.30									
B-C	1.56	8.68	0.179		0.17	0.22	3.2		0.14
B-A	0.84	5.64	0.149		0.13	0.17	2.5		0.21
C-A	5.06								
C-B	1.36	8.09	0.168		0.15	0.20	2.9		0.15
A-B	1.42								
A-C	7.76								
17.30-17.45									
B-C	1.91	8.08	0.236		0.22	0.30	4.4		0.16

```
 I   B-A       1.03      4.89    0.210                0.17   0.26        3.7
                       0.26      I
 I   C-A       6.20                                                          
                                 I
 I   C-B       1.67      7.60    0.220                0.20   0.28        4.0
                       0.17      I
 I   A-B       1.74                                                          
                                 I
 I   A-C       9.51                                                          
                                 I
 I                                                                           
                                 I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                               (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.45-18.00                                                               
                                 I
 I   B-C       1.91      8.08    0.236                0.30   0.31        4.6
                       0.16      I
 I   B-A       1.03      4.89    0.210                0.26   0.26        3.9
                       0.26      I
 I   C-A       6.20                                                          
                                 I
 I   C-B       1.67      7.60    0.220                0.28   0.28        4.2
                       0.17      I
 I   A-B       1.74                                                          
                                 I
 I   A-C       9.51                                                          
                                 I
 I                                                                           
                                 I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                               (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 18.00-18.15                                                               
                                 I
 I   B-C       1.56      8.68    0.180                0.31   0.22        3.4
                       0.14      I
 I   B-A       0.84      5.64    0.149                0.26   0.18        2.8
                       0.21      I
 I   C-A       5.06                                                          
                                 I
 I   C-B       1.36      8.09    0.168                0.28   0.20        3.2
                       0.15      I
 I   A-B       1.42                                                          
                                 I
 I   A-C       7.76                                                          
                                 I
 I                                                                           
                                 I
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I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY I
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	PER ARRIVING I
I			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	SEGMENT)	TIME SEGMENT) VEHICLE (MIN) I
I 18.15-18.30									I
I B-C	1.30	9.10	0.143		0.22	0.17	2.6	0.13	I
I B-A	0.70	6.19	0.114		0.18	0.13	2.0	0.18	I
I C-A	4.24								I
I C-B	1.14	8.45	0.135		0.20	0.16	2.4	0.14	I
I A-B	1.19								I
I A-C	6.50								I
I									I

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.1
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I STREAM I	TOTAL DEMAND I	* QUEUEING * DELAY * I	* INCLUSIVE QUEUEING * DELAY * I

I		I (VEH)	(VEH/H) I	(MIN)	(MIN/VEH) I	(MIN)	(MIN/VEH) I
I	B-C	I 143.1 I	95.4 I	20.6 I	0.14 I	20.6 I	0.14 I
I	B-A	I 77.1 I	51.4 I	16.8 I	0.22 I	16.8 I	0.22 I
I	C-A	I 465.2 I	310.2 I	I	I	I	I
I	C-B	I 125.3 I	83.5 I	19.0 I	0.15 I	19.0 I	0.15 I
I	A-B	I 130.8 I	87.2 I	I	I	I	I
I	A-C	I 713.0 I	475.3 I	I	I	I	I
I	ALL	I 1654.5 I	1103.0 I	56.3 I	0.03 I	56.3 I	0.03 I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B I
I 671.15	0.26	0.10 I

I Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B I
I 539.43	0.25	0.10	0.16	0.35 I

I Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B I
I 617.40	0.24	0.24 I

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

I ARM	I FLOW SCALE(%) I
I A	I 100 I
I B	I 100 I
I C	I 100 I

.Demand set: 2027 With Dev AM

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.80	8.70	5.80
ARM B	15.00	45.00	75.00	3.90	5.85	3.90
ARM C	15.00	45.00	75.00	7.01	10.52	7.01

.Demand set: 2027 With Dev AM

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.00 - 09.30	ARM A	0.000	0.254	0.746
		0.0	118.0	346.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.282	0.000	0.718
		88.0	0.0	224.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.663	0.337	0.000
		372.0	189.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR DEMAND SET 2027 With Dev AM
AND FOR TIME PERIOD 1

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY TIME (VEH.MIN/ SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)

```
I 08.00-08.15                                                                  I
I   B-C       2.81      9.46    0.297                0.00   0.42        6.0
                      0.15      I
I   B-A       1.10      6.20    0.178                0.00   0.21        3.0
                      0.20      I
I   C-A       4.67                                                             I
I   C-B       2.37      8.90    0.267                0.00   0.36        5.1
                      0.15      I
I   A-B       1.48                                                             I
I   A-C       4.34                                                             I
I                                                                              I
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.------------------------------------------------------------------------------
----------------------------------
I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
   (VEH.MIN/      PER ARRIVING  I
I                             (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
I 08.15-08.30                                                                  I
I   B-C       3.36      9.09    0.369                0.42   0.58        8.3
                      0.17      I
I   B-A       1.32      5.65    0.234                0.21   0.30        4.3
                      0.23      I
I   C-A       5.57                                                             I
I   C-B       2.83      8.63    0.328                0.36   0.48        7.0
                      0.17      I
I   A-B       1.77                                                             I
I   A-C       5.18                                                             I
I                                                                              I
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----------------------------------
I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
   (VEH.MIN/      PER ARRIVING  I
I                             (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
I 08.30-08.45                                                                  I
I   B-C       4.11      8.53    0.482                0.58   0.90       12.9
                      0.22      I
I   B-A       1.61      4.89    0.330                0.30   0.48        6.8
                      0.30      I
I   C-A       6.83                                                             I
I   C-B       3.47      8.25    0.420                0.48   0.71       10.2
                      0.21      I
I   A-B       2.17                                                             I
I   A-C       6.35                                                             I
I                                                                              I
```

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
08.45-09.00										
	B-C	4.11	8.53	0.482		0.90	0.92	13.7		0.23
	B-A	1.61	4.89	0.330		0.48	0.49	7.2		0.31
	C-A	6.83								
	C-B	3.47	8.25	0.420		0.71	0.72	10.7		0.21
	A-B	2.17								
	A-C	6.35								

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
09.00-09.15										
	B-C	3.36	9.08	0.370		0.92	0.60	9.4		0.18
	B-A	1.32	5.64	0.234		0.49	0.31	4.9		0.23
	C-A	5.57								
	C-B	2.83	8.63	0.328		0.72	0.50	7.7		0.17
	A-B	1.77								
	A-C	5.18								

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
09.15-09.30										
	B-C	2.81	9.45	0.297		0.60	0.43	6.7		

```
                        0.15      I
I   B-A       1.10        6.18    0.179                0.31   0.22        3.4
                        0.20      I
I   C-A       4.67                I
I   C-B       2.37        8.90    0.267                0.50   0.37        5.7
                        0.15      I
I   A-B       1.48                I
I   A-C       4.34                I
I                               I
                                  I
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.
 QUEUE FOR STREAM    B-C
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   08.15           0.4
   08.30           0.6    *
   08.45           0.9    *
   09.00           0.9    *
   09.15           0.6    *
   09.30           0.4
.
 QUEUE FOR STREAM    B-A
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   08.15           0.2
   08.30           0.3
   08.45           0.5
   09.00           0.5
   09.15           0.3
   09.30           0.2
.
 QUEUE FOR STREAM    C-B
 -------------------------
  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   08.15           0.4
   08.30           0.5
   08.45           0.7    *
   09.00           0.7    *
   09.15           0.5
   09.30           0.4
.
                 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
                 --------------------------------------------
 ------------------------------------------------------------------------
 I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
 I        I                 I    * DELAY *        I       * DELAY *        I
 I        I-----------------------------------------------------------------I
 I        I  (VEH)   (VEH/H) I  (MIN)    (MIN/VEH) I    (MIN)     (MIN/VEH) I
 ------------------------------------------------------------------------
 I  B-C   I  308.3 I  205.5 I    56.9 I    0.18   I      56.9  I    0.18   I
 I  B-A   I  121.1 I   80.8 I    29.7 I    0.25   I      29.7  I    0.25   I
 I  C-A   I  512.0 I  341.4 I         I           I            I           I
 I  C-B   I  260.1 I  173.4 I    46.4 I    0.18   I      46.4  I    0.18   I
 I  A-B   I  162.4 I  108.3 I         I           I            I           I
 I  A-C   I  476.2 I  317.5 I         I           I            I           I
 ------------------------------------------------------------------------
 I  ALL   I 1840.3 I 1226.9 I   133.0 I    0.07   I     133.0  I    0.07   I
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 * DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
  A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

 *******END OF RUN*******



 .SLOPES AND INTERCEPT
  --------------------
  (NB:Streams may be combined, in which case capacity will be adjusted)

 ------------------------------------------------------------
 I Intercept For Slope For Opposing   Slope For Opposing I
 I STREAM B-C     STREAM  A-C          STREAM A-B        I
 ------------------------------------------------------------
 I     671.15            0.26                0.10        I
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 I Intercept For Slope For Opposing   Slope For Opposing   Slope For Opposing
Slope For OpposingI
 I STREAM B-A     STREAM  A-C          STREAM A-B          STREAM  C-A
STREAM  C-B       I

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 I     539.43            0.25                0.10                  0.16
      0.35       I

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 I Intercept For Slope For Opposing   Slope For Opposing I
 I STREAM C-B     STREAM  A-C          STREAM A-B        I
 ------------------------------------------------------------
 I     617.40            0.24                0.24        I
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  (NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA
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 I ARM I FLOW SCALE(%) I
 ------------------------
 I A   I      100      I
 I B   I      100      I
 I C   I      100      I
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.Demand set:        2027 With Dev PM


 TIME PERIOD BEGINS 17.00 AND ENDS  18.30

 LENGTH OF TIME PERIOD  -   90 MIN.
 LENGTH OF TIME SEGMENT -   15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA


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ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	7.91	11.87	7.91
ARM B	15.00	45.00	75.00	2.04	3.06	2.04
ARM C	15.00	45.00	75.00	5.54	8.31	5.54

.Demand set: 2027 With Dev PM

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
17.00 - 18.30	ARM A	0.000	0.153	0.847
		0.0	97.0	536.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.350	0.000	0.650
		57.0	0.0	106.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.790	0.210	0.000
		350.0	93.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2027 With Dev PM
AND FOR TIME PERIOD 2

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING
17.00-17.15									
B-C	1.33	9.04	0.147		0.00	0.17	2.5		0.13
B-A	0.72	6.10	0.117		0.00	0.13	1.9		0.19
C-A	4.39								
C-B	1.17	8.39	0.139		0.00	0.16	2.3		0.14
A-B	1.22								

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                                    I
 I   A-C       6.73
                                    I
 I
                                    I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                                  (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
                                    I
 I   B-C       1.59      8.60    0.185                0.17   0.22        3.3
                      0.14      I
 I   B-A       0.85      5.54    0.154                0.13   0.18        2.6
                      0.21      I
 I   C-A       5.24
                                    I
 I   C-B       1.39      8.02    0.174                0.16   0.21        3.0
                      0.15      I
 I   A-B       1.45
                                    I
 I   A-C       8.03
                                    I
 I
                                    I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                                  (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
                                    I
 I   B-C       1.95      7.98    0.244                0.22   0.32        4.6
                      0.17      I
 I   B-A       1.05      4.76    0.220                0.18   0.28        4.0
                      0.27      I
 I   C-A       6.42
                                    I
 I   C-B       1.71      7.51    0.227                0.21   0.29        4.2
                      0.17      I
 I   A-B       1.78
                                    I
 I   A-C       9.84
                                    I
 I
                                    I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                                  (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
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SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.45-18.00
                                  I
 I   B-C       1.95      7.97    0.244                0.32   0.32        4.8
                      0.17      I
 I   B-A       1.05      4.76    0.220                0.28   0.28        4.2
                      0.27      I
 I   C-A       6.42
                                  I
 I   C-B       1.71      7.51    0.227                0.29   0.29        4.4
                      0.17      I
 I   A-B       1.78
                                  I
 I   A-C       9.84
                                  I
 I
                                  I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 18.00-18.15
                                  I
 I   B-C       1.59      8.60    0.185                0.32   0.23        3.5
                      0.14      I
 I   B-A       0.85      5.53    0.154                0.28   0.19        2.9
                      0.21      I
 I   C-A       5.24
                                  I
 I   C-B       1.39      8.02    0.174                0.29   0.21        3.3
                      0.15      I
 I   A-B       1.45
                                  I
 I   A-C       8.03
                                  I
 I
                                  I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 18.15-18.30
                                  I
 I   B-C       1.33      9.03    0.147                0.23   0.17        2.7
                      0.13      I
 I   B-A       0.72      6.10    0.117                0.19   0.13        2.1
                      0.19      I
 I   C-A       4.39
                                  I
 I   C-B       1.17      8.39    0.139                0.21   0.16        2.5
                      0.14      I
 I   A-B       1.22
                                  I
 I   A-C       6.73
                                  I
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QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.2

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QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.1
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.1

.

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.2

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	145.9	97.3	21.4	0.15	21.4	0.15
B-A	78.5	52.3	17.6	0.22	17.6	0.22
C-A	481.7	321.2				
C-B	128.0	85.3	19.7	0.15	19.7	0.15
A-B	133.5	89.0				
A-C	737.8	491.8				
ALL	1705.4	1136.9	58.7	0.03	58.7	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
671.15	0.26	0.10

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
539.43	0.25	0.10	0.16	0.35

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
617.40	0.24	0.24

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

.Demand set: 2037 With Dev AM

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK

ARM A	15.00	45.00	75.00	6.26	9.39	6.26			
ARM B	15.00	45.00	75.00	4.11	6.17	4.11			
ARM C	15.00	45.00	75.00	7.49	11.23	7.49			

.Demand set: 2037 With Dev AM

TIME	FROM/TO	TURNING PROPORTIONS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.253	0.747
		0.0	127.0	374.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.283	0.000	0.717
		93.0	0.0	236.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.664	0.336	0.000
		398.0	201.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2037 With Dev AM
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
B-C	2.96	9.32	0.318		0.00	0.46	6.5	0.16	
B-A	1.17	5.99	0.195		0.00	0.24	3.4	0.21	
C-A	4.99								
C-B	2.52	8.79	0.287		0.00	0.40	5.7	0.16	
A-B	1.59								
A-C	4.69								

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY

GEOMETRIC DELAY	AVERAGE DELAY						
(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
PER ARRIVING							
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME SEGMENT)	VEHICLE	(MIN)				
08.15-08.30							
B-C	3.54	8.91	0.397		0.46	0.65	9.3
	0.19						
B-A	1.39	5.40	0.258		0.24	0.34	4.9
	0.25						
C-A	5.96						
C-B	3.01	8.49	0.355		0.40	0.54	7.8
	0.18						
A-B	1.90						
A-C	5.60						

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	AVERAGE DELAY						
(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
PER ARRIVING							
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME SEGMENT)	VEHICLE	(MIN)				
08.30-08.45							
B-C	4.33	8.30	0.522		0.65	1.06	14.9
	0.25						
B-A	1.71	4.59	0.371		0.34	0.57	8.0
	0.34						
C-A	7.30						
C-B	3.69	8.09	0.456		0.54	0.82	11.7
	0.23						
A-B	2.33						
A-C	6.86						

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	AVERAGE DELAY						
(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
PER ARRIVING							
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME SEGMENT)	VEHICLE	(MIN)				
08.45-09.00							
B-C	4.33	8.29	0.522		1.06	1.07	16.0
	0.25						
B-A	1.71	4.59	0.372		0.57	0.58	8.7
	0.35						
C-A	7.30						
C-B	3.69	8.09	0.456		0.82	0.83	12.3
	0.23						

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 I   A-B       2.33
                                  I
 I   A-C       6.86
                                  I
 I
                                  I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 09.00-09.15
                                  I
 I   B-C       3.54      8.90    0.397                1.07   0.67       10.6
                        0.19      I
 I   B-A       1.39      5.39    0.258                0.58   0.36        5.6
                        0.25      I
 I   C-A       5.96
                                  I
 I   C-B       3.01      8.49    0.355                0.83   0.56        8.7
                        0.18      I
 I   A-B       1.90
                                  I
 I   A-C       5.60
                                  I
 I
                                  I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
 GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
    (VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 09.15-09.30
                                  I
 I   B-C       2.96      9.31    0.318                0.67   0.47        7.4
                        0.16      I
 I   B-A       1.17      5.98    0.195                0.36   0.25        3.8
                        0.21      I
 I   C-A       4.99
                                  I
 I   C-B       2.52      8.79    0.287                0.56   0.41        6.3
                        0.16      I
 I   A-B       1.59
                                  I
 I   A-C       4.69
                                  I
 I
                                  I
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 QUEUE FOR STREAM    B-C
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  TIME          NO. OF
  SEGMENT       VEHICLES
  ENDING        IN QUEUE
   08.15           0.5
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08.30	0.6	*
08.45	1.1	*
09.00	1.1	*
09.15	0.7	*
09.30	0.5	

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QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.2	
08.30	0.3	
08.45	0.6	*
09.00	0.6	*
09.15	0.4	
09.30	0.2	

.

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.4	
08.30	0.5	*
08.45	0.8	*
09.00	0.8	*
09.15	0.6	*
09.30	0.4	

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	324.8	216.6	64.7	0.20	64.7	0.20
B-A	128.0	85.3	34.5	0.27	34.5	0.27
C-A	547.8	365.2				
C-B	276.7	184.4	52.6	0.19	52.6	0.19
A-B	174.8	116.5				
A-C	514.8	343.2				
ALL	1966.9	1311.3	151.8	0.08	151.8	0.08

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
671.15	0.26	0.10

I Intercept For Slope For Opposing STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For OpposingI STREAM C-B I
I 539.43	0.25	0.10	0.16	0.35 I

I Intercept For Slope For Opposing STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B I
I 617.40	0.24	0.24 I

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

.Demand set: 2037 With Dev PM

TIME PERIOD BEGINS 17.00 AND ENDS 18.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE I	TOP OF PEAK IS REACHED I	FLOW STOPS FALLING I	RATE OF FLOW (VEH/MIN) BEFORE PEAK I	AT TOP OF PEAK I	AFTER PEAK I
I ARM A I	15.00 I	45.00 I	75.00 I	8.44 I	12.66 I	8.44 I
I ARM B I	15.00 I	45.00 I	75.00 I	2.11 I	3.17 I	2.11 I
I ARM C I	15.00 I	45.00 I	75.00 I	5.91 I	8.87 I	5.91 I

.Demand set: 2037 With Dev PM

TIME	FROM/TO	ARM A	ARM B	ARM C
17.00 - 18.30				
	ARM A	0.000	0.150	0.850
		0.0	101.0	574.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.349	0.000	0.651
		59.0	0.0	110.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.795	0.205	0.000
		376.0	97.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2037 With Dev PM
AND FOR TIME PERIOD 2

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
17.00-17.15									
B-C	1.38	8.89	0.155		0.00	0.18	2.6		
								0.13	
B-A	0.74	5.91	0.125		0.00	0.14	2.0		
								0.19	
C-A	4.72								
C-B	1.22	8.26	0.147		0.00	0.17	2.5		
								0.14	
A-B	1.27								
A-C	7.20								

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
17.15-17.30									
B-C	1.65	8.42	0.196		0.18	0.24	3.5		
								0.15	
B-A	0.88	5.31	0.167		0.14	0.20	2.8		
								0.23	

I									
I	C-A	5.63		I					
I	C-B	1.45	7.87	0.185		0.17	0.22	3.3	
			0.16	I					
I	A-B	1.51		I					
I	A-C	8.60		I					
I				I					

I	TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING	I
I	17.30-17.45										
I	B-C	2.02	7.75	0.260		0.24	0.35	5.0			
			0.17	I							
I	B-A	1.08	4.48	0.242		0.20	0.31	4.4			
			0.29	I							
I	C-A	6.90		I							
I	C-B	1.78	7.33	0.243		0.22	0.32	4.6			
			0.18	I							
I	A-B	1.85		I							
I	A-C	10.53		I							
I				I							

I	TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING	I
I	17.45-18.00										
I	B-C	2.02	7.75	0.261		0.35	0.35	5.2			
			0.17	I							
I	B-A	1.08	4.48	0.242		0.31	0.32	4.7			
			0.29	I							
I	C-A	6.90		I							
I	C-B	1.78	7.33	0.243		0.32	0.32	4.8			
			0.18	I							
I	A-B	1.85		I							
I	A-C	10.53		I							
I				I							

I TIME SEGMENT)	DEMAND TIME SEGMENT)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ PER ARRIVING	AVERAGE DELAY
I 18.00-18.15									I
I B-C	1.65	8.42	0.196		0.35	0.25	3.8		I
		0.15							I
I B-A	0.88	5.30	0.167		0.32	0.20	3.2		I
		0.23							I
I C-A	5.63								I
I C-B	1.45	7.87	0.185		0.32	0.23	3.5		I
		0.16							I
I A-B	1.51								I
I A-C	8.60								I
I									I

I TIME SEGMENT)	DEMAND TIME SEGMENT)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ PER ARRIVING	AVERAGE DELAY
I 18.15-18.30									I
I B-C	1.38	8.89	0.155		0.25	0.19	2.9		I
		0.13							I
I B-A	0.74	5.90	0.125		0.20	0.15	2.3		I
		0.19							I
I C-A	4.72								I
I C-B	1.22	8.26	0.147		0.23	0.17	2.7		I
		0.14							I
I A-B	1.27								I
I A-C	7.20								I
I									I

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE

17.15	0.1
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.2
17.45	0.3
18.00	0.3
18.15	0.2
18.30	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	151.4	100.9	23.1	0.15	23.1	0.15
B-A	81.2	54.1	19.5	0.24	19.5	0.24
C-A	517.5	345.0				
C-B	133.5	89.0	21.3	0.16	21.3	0.16
A-B	139.0	92.7				
A-C	790.1	526.7				
ALL	1812.8	1208.5	63.8	0.04	63.8	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

Appendix E.3

Junction 3

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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Web: www.trlsoftware.co.uk

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 AM_Rev2.osc
Report generation date: 06/12/2019 11:20:03

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell Lodge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	120
Evaluation Cycle Time (s)	120
Start Displacement (s)	1.4
End Displacement (s)	2.9

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 PM_Rev2.osc
Report generation date: 06/12/2019 11:25:53

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell LOdge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	0
Evaluation Cycle Time (s)	0
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	17:00	18:30	ODTAB	No	D1
2022 No Dev	No	17:00	18:30	ODTAB	No	D1
2022 with Dev	No	17:00	18:30	ODTAB	No	D1
2027 no Dev	No	17:00	18:30	ODTAB	No	D1
2027 with Dev	No	17:00	18:30	ODTAB	No	D1
2037 No Dev	No	17:00	18:30	ODTAB	No	D1
2037 with Dev	Yes	17:00	18:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
61.0	3.28	16.18	16.18	52.3

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	16.0	19.0
2	22.0	9.0	31.0
3	34.0	7.0	41.0
4	44.0	7.0	51.0
5	54.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	16.0	19						
B	22	9.0	31						
C	34	7.0	41						
D	44	7.0	51						
E	54	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	488	A	17.50	47.12	6.39	87.14	3.28	4.13	10.67	6.53	13.70
1	**2**	37	B	10.50	22.40	0.23	12.03	648.21	0.01	0.53	0.52	2.20
2	**1**	110	C	8.50	31.50	0.96	44.05	104.30	0.23	1.87	1.64	4.10
2	**2**	133	D	8.50	35.21	1.30	53.41	68.50	0.41	2.41	1.99	4.50
3	**1**	315	A	17.50	23.21	2.03	54.30	65.74	0.45	4.52	4.06	18.80
3	**2**	263	B	10.50	65.10	4.76	85.50	5.26	3.30	7.20	3.89	5.70
4	**1**	43	C	8.50	24.94	0.30	16.57	443.05	0.02	0.65	0.63	2.10
4	**2**	24	D	8.50	23.92	0.16	9.64	833.78	0.01	0.36	0.35	1.20
Ped	**1**	9	E	8.50	22.62	0.06	0.65	9999.00	0.00	0.13	0.13	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	45.24	16.58	16.58	92.4

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	47.0	50.0
2	53.0	27.0	80.0
3	83.0	11.0	94.0
4	97.0	13.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	47.0	50						
B	53	27.0	80						
C	83	11.0	94						
D	97	13.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	488	A	48.50	33.25	4.51	61.86	45.50	0.73	11.47	10.74	36.50
1	**2**	37	B	28.50	36.16	0.37	8.72	932.35	0.01	0.95	0.95	2.90
2	**1**	110	C	12.50	69.15	2.11	58.93	52.73	0.56	3.92	3.36	2.90
2	**2**	133	D	14.50	67.35	2.49	61.59	46.12	0.66	4.67	4.00	3.70
3	**1**	315	A	48.50	27.05	2.37	38.55	133.49	0.17	6.85	6.68	32.00
3	**2**	263	B	28.50	49.92	3.65	61.97	45.24	0.70	7.75	7.06	11.70
4	**1**	43	C	12.50	52.77	0.63	22.17	305.96	0.04	1.34	1.30	1.60
4	**2**	24	D	14.50	48.38	0.32	11.11	709.73	0.01	0.72	0.71	1.10
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! !!	! !						
D	! !	! !!	! !						
E	! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	1	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
2	2	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
4	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
4	2	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 PM_Rev2.osc
Report generation date: 06/12/2019 11:25:33

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell LOdge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	0
Evaluation Cycle Time (s)	0
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	17:00	18:30	ODTAB	No	D1
2022 No Dev	No	17:00	18:30	ODTAB	No	D1
2022 with Dev	No	17:00	18:30	ODTAB	No	D1
2027 no Dev	No	17:00	18:30	ODTAB	No	D1
2027 with Dev	No	17:00	18:30	ODTAB	No	D1
2037 No Dev	Yes	17:00	18:30	ODTAB	No	D1
2037 with Dev	No	17:00	18:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
59.0	1.30	16.57	16.57	49.2

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	15.0	18.0
2	21.0	8.0	29.0
3	32.0	7.0	39.0
4	42.0	7.0	49.0
5	52.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	15.0	18						
B	21	8.0	29						
C	32	7.0	39						
D	42	7.0	49						
E	52	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	485	A	16.50	51.40	6.92	88.84	1.30	4.87	11.22	6.34	12.50
1	**2**	37	B	9.50	22.42	0.23	12.86	599.90	0.01	0.53	0.51	2.10
2	**1**	108	C	8.50	29.57	0.89	41.83	115.14	0.20	1.75	1.55	4.30
2	**2**	132	D	8.50	32.94	1.21	51.27	75.53	0.36	2.27	1.90	4.70
3	**1**	295	A	16.50	22.48	1.84	52.17	72.52	0.40	4.10	3.70	17.70
3	**2**	251	B	9.50	72.62	5.06	87.23	3.17	3.81	7.45	3.63	5.00
4	**1**	38	C	8.50	23.52	0.25	14.17	535.34	0.02	0.55	0.54	1.90
4	**2**	18	D	8.50	22.53	0.11	6.99	9999.00	0.00	0.26	0.25	1.00
Ped	**1**	9	E	8.50	21.64	0.05	0.62	9999.00	0.00	0.13	0.13	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	46.84	15.76	15.76	92.4

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	48.0	51.0
2	54.0	26.0	80.0
3	83.0	11.0	94.0
4	97.0	13.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	48.0	51						
B	54	26.0	80						
C	83	11.0	94						
D	97	13.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	485	A	49.50	32.00	4.31	60.23	49.42	0.66	11.18	10.52	38.10
1	**2**	37	B	27.50	36.98	0.38	9.03	896.13	0.01	0.96	0.96	2.80
2	**1**	108	C	12.50	68.34	2.05	57.86	55.56	0.53	3.83	3.30	2.90
2	**2**	132	D	14.50	67.00	2.46	61.13	47.22	0.64	4.62	3.97	3.70
3	**1**	295	A	49.50	25.80	2.11	35.37	154.46	0.14	6.27	6.14	31.50
3	**2**	251	B	27.50	50.55	3.52	61.29	46.84	0.67	7.46	6.79	11.00
4	**1**	38	C	12.50	52.13	0.55	19.59	359.38	0.03	1.18	1.14	1.50
4	**2**	18	D	14.50	47.85	0.24	8.34	979.65	0.01	0.53	0.53	0.90
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! !!	! !						
D	! !	! !!	! !						
E	! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	1	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
2	2	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
4	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
4	2	! !	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 PM_Rev2.osc
Report generation date: 06/12/2019 11:25:16

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell LOdge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	0
Evaluation Cycle Time (s)	0
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	17:00	18:30	ODTAB	No	D1
2022 No Dev	No	17:00	18:30	ODTAB	No	D1
2022 with Dev	No	17:00	18:30	ODTAB	No	D1
2027 no Dev	No	17:00	18:30	ODTAB	No	D1
2027 with Dev	Yes	17:00	18:30	ODTAB	No	D1
2037 No Dev	No	17:00	18:30	ODTAB	No	D1
2037 with Dev	No	17:00	18:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
58.0	3.18	15.47	15.47	48.1

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	14.0	17.0
2	20.0	8.0	28.0
3	31.0	7.0	38.0
4	41.0	7.0	48.0
5	51.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	14.0	17						
B	20	8.0	28						
C	31	7.0	38						
D	41	7.0	48						
E	51	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	455	A	15.50	48.71	6.16	87.22	3.18	4.12	10.03	5.91	12.10
1	**2**	34	B	9.50	21.74	0.21	11.62	674.79	0.01	0.47	0.46	2.00
2	**1**	110	C	8.50	28.98	0.89	41.89	114.87	0.20	1.75	1.55	4.40
2	**2**	127	D	8.50	31.20	1.10	48.49	85.59	0.31	2.10	1.79	4.70
3	**1**	296	A	15.50	23.53	1.94	54.78	64.30	0.46	4.18	3.71	16.40
3	**2**	252	B	9.50	67.77	4.74	86.10	4.54	3.46	7.03	3.58	5.20
4	**1**	40	C	8.50	23.08	0.26	14.66	513.98	0.02	0.57	0.55	2.10
4	**2**	22	D	8.50	22.22	0.14	8.40	971.36	0.01	0.31	0.30	1.20
Ped	**1**	9	E	8.50	21.15	0.05	0.61	9999.00	0.00	0.12	0.12	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	52.73	15.46	15.46	89.1

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	46.0	49.0
2	52.0	28.0	80.0
3	83.0	11.0	94.0
4	97.0	13.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	46.0	49						
B	52	28.0	80						
C	83	11.0	94						
D	97	13.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	455	A	47.50	32.94	4.16	58.89	52.84	0.61	10.69	10.08	34.90
1	**2**	34	B	29.50	35.24	0.33	7.74	9999.00	0.00	0.86	0.86	2.80
2	**1**	110	C	12.50	69.15	2.11	58.93	52.73	0.56	3.92	3.36	2.90
2	**2**	127	D	14.50	65.33	2.30	58.82	53.02	0.56	4.38	3.82	3.70
3	**1**	296	A	47.50	27.40	2.25	36.98	143.36	0.15	6.49	6.34	29.80
3	**2**	252	B	29.50	46.94	3.29	57.36	56.89	0.53	7.21	6.67	12.50
4	**1**	40	C	12.50	52.38	0.58	20.62	336.41	0.04	1.24	1.20	1.50
4	**2**	22	D	14.50	48.20	0.29	10.19	783.35	0.01	0.66	0.65	1.00
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! !!	! !						
D	! !	! !!	! !						
E	! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	1	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
2	2	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
4	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
4	2	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 PM_Rev2.osc
Report generation date: 06/12/2019 11:24:54

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell LOdge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	0
Evaluation Cycle Time (s)	0
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	17:00	18:30	ODTAB	No	D1
2022 No Dev	No	17:00	18:30	ODTAB	No	D1
2022 with Dev	No	17:00	18:30	ODTAB	No	D1
2027 no Dev	Yes	17:00	18:30	ODTAB	No	D1
2027 with Dev	No	17:00	18:30	ODTAB	No	D1
2037 No Dev	No	17:00	18:30	ODTAB	No	D1
2037 with Dev	No	17:00	18:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
56.0	0.20	16.56	16.56	44.6

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	13.0	16.0
2	19.0	7.0	26.0
3	29.0	7.0	36.0
4	39.0	7.0	46.0
5	49.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	13.0	16						
B	19	7.0	26						
C	29	7.0	36						
D	39	7.0	46						
E	49	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	454	A	14.50	56.17	7.08	89.82	0.20	5.34	11.09	5.76	10.80
1	**2**	34	B	8.50	21.79	0.21	12.53	617.99	0.01	0.46	0.45	1.80
2	**1**	103	C	8.50	26.67	0.76	37.87	137.67	0.16	1.54	1.39	4.40
2	**2**	126	D	8.50	29.21	1.02	46.45	93.74	0.27	1.98	1.71	4.90
3	**1**	272	A	14.50	22.65	1.71	51.95	73.23	0.39	3.71	3.32	15.20
3	**2**	241	B	8.50	80.50	5.39	88.85	1.29	4.39	7.73	3.34	4.50
4	**1**	38	C	8.50	21.87	0.23	13.45	569.38	0.01	0.52	0.51	2.00
4	**2**	18	D	8.50	20.97	0.10	6.64	9999.00	0.00	0.24	0.24	1.00
Ped	**1**	9	E	8.50	20.17	0.05	0.59	9999.00	0.00	0.12	0.12	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	54.24	14.61	14.61	88.7

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	47.0	50.0
2	53.0	27.0	80.0
3	83.0	11.0	94.0
4	97.0	13.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	47.0	50						
B	53	27.0	80						
C	83	11.0	94						
D	97	13.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	454	A	48.50	31.82	4.01	57.55	56.40	0.56	10.48	9.92	36.40
1	**2**	34	B	28.50	36.05	0.34	8.01	9999.00	0.00	0.87	0.87	2.70
2	**1**	103	C	12.50	66.47	1.90	55.18	63.11	0.45	3.59	3.14	2.80
2	**2**	126	D	14.50	65.02	2.28	58.35	54.24	0.55	4.34	3.79	3.70
3	**1**	272	A	48.50	26.06	1.97	33.28	170.41	0.12	5.83	5.71	29.00
3	**2**	241	B	28.50	47.61	3.19	56.78	58.49	0.52	6.95	6.44	11.70
4	**1**	38	C	12.50	52.13	0.55	19.59	359.38	0.03	1.18	1.14	1.50
4	**2**	18	D	14.50	47.85	0.24	8.34	979.65	0.01	0.53	0.53	0.90
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! !!	! !						
D	! !	! !!	! !						
E	! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	1	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
2	2	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
4	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
4	2	! !	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 PM_Rev2.osc
Report generation date: 06/12/2019 11:24:34

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell LOdge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	0
Evaluation Cycle Time (s)	0
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	17:00	18:30	ODTAB	No	D1
2022 No Dev	No	17:00	18:30	ODTAB	No	D1
2022 with Dev	Yes	17:00	18:30	ODTAB	No	D1
2027 no Dev	No	17:00	18:30	ODTAB	No	D1
2027 with Dev	No	17:00	18:30	ODTAB	No	D1
2037 No Dev	No	17:00	18:30	ODTAB	No	D1
2037 with Dev	No	17:00	18:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
57.0	1.57	14.80	14.80	45.7

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	13.0	16.0
2	19.0	8.0	27.0
3	30.0	7.0	37.0
4	40.0	7.0	47.0
5	50.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	13.0	16						
B	19	8.0	27						
C	30	7.0	37						
D	40	7.0	47						
E	50	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	440	A	14.50	53.60	6.55	88.61	1.57	4.69	10.38	5.70	10.80
1	**2**	33	B	9.50	21.16	0.19	11.08	712.27	0.01	0.45	0.44	1.90
2	**1**	105	C	8.50	27.64	0.81	39.29	129.05	0.17	1.62	1.44	4.40
2	**2**	123	D	8.50	29.74	1.02	46.16	94.99	0.27	1.97	1.70	4.80
3	**1**	287	A	14.50	24.26	1.93	55.80	61.30	0.49	4.09	3.59	15.00
3	**2**	245	B	9.50	57.01	3.88	82.26	9.41	2.54	5.93	3.40	5.70
4	**1**	39	C	8.50	22.47	0.24	14.05	540.77	0.02	0.54	0.53	2.00
4	**2**	21	D	8.50	21.64	0.13	7.88	9999.00	0.00	0.29	0.28	1.10
Ped	**1**	9	E	8.50	20.66	0.05	0.60	9999.00	0.00	0.12	0.12	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	58.00	14.72	14.72	88.2

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	46.0	49.0
2	52.0	28.0	80.0
3	83.0	11.0	94.0
4	97.0	13.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	46.0	49						
B	52	28.0	80						
C	83	11.0	94						
D	97	13.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	440	A	47.50	32.32	3.95	56.95	58.05	0.54	10.26	9.72	34.80
1	**2**	33	B	29.50	35.21	0.32	7.51	9999.00	0.00	0.84	0.84	2.70
2	**1**	105	C	12.50	67.20	1.96	56.25	60.00	0.48	3.69	3.20	2.90
2	**2**	123	D	14.50	64.11	2.19	56.96	58.00	0.51	4.20	3.70	3.60
3	**1**	287	A	47.50	27.18	2.17	35.86	150.99	0.14	6.27	6.13	29.30
3	**2**	245	B	29.50	46.31	3.15	55.77	61.38	0.49	6.96	6.48	12.40
4	**1**	39	C	12.50	52.26	0.57	20.11	347.60	0.03	1.21	1.17	1.50
4	**2**	21	D	14.50	48.11	0.28	9.73	825.41	0.01	0.62	0.62	1.00
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! !!	! !						
D	! !	! !!	! !						
E	! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	1	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
2	2	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
4	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
4	2	! !	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 PM_Rev2.osc
Report generation date: 06/12/2019 11:24:16

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell LOdge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	0
Evaluation Cycle Time (s)	0
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	17:00	18:30	ODTAB	No	D1
2022 No Dev	Yes	17:00	18:30	ODTAB	No	D1
2022 with Dev	No	17:00	18:30	ODTAB	No	D1
2027 no Dev	No	17:00	18:30	ODTAB	No	D1
2027 with Dev	No	17:00	18:30	ODTAB	No	D1
2037 No Dev	No	17:00	18:30	ODTAB	No	D1
2037 with Dev	No	17:00	18:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
56.0	4.09	14.19	14.19	45.5

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	13.0	16.0
2	19.0	7.0	26.0
3	29.0	7.0	36.0
4	39.0	7.0	46.0
5	49.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	13.0	16						
B	19	7.0	26						
C	29	7.0	36						
D	39	7.0	46						
E	49	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	437	A	14.50	47.42	5.76	86.46	4.09	3.82	9.34	5.52	11.70
1	**2**	33	B	8.50	21.74	0.20	12.17	639.75	0.01	0.45	0.44	1.80
2	**1**	98	C	8.50	26.21	0.71	36.03	149.80	0.14	1.46	1.32	4.30
2	**2**	124	D	8.50	28.97	1.00	45.72	96.87	0.26	1.94	1.68	4.90
3	**1**	262	A	14.50	22.19	1.61	50.04	79.85	0.35	3.54	3.19	15.10
3	**2**	233	B	8.50	69.80	4.52	85.90	4.77	3.37	6.59	3.22	4.70
4	**1**	38	C	8.50	21.87	0.23	13.45	569.38	0.01	0.52	0.51	2.00
4	**2**	18	D	8.50	20.97	0.10	6.64	9999.00	0.00	0.24	0.24	1.00
Ped	**1**	9	E	8.50	20.17	0.05	0.59	9999.00	0.00	0.12	0.12	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	57.71	13.95	13.95	87.5

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	47.0	50.0
2	53.0	27.0	80.0
3	83.0	10.0	93.0
4	96.0	14.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	47.0	50						
B	53	27.0	80						
C	83	10.0	93						
D	96	14.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	437	A	48.50	31.17	3.78	55.39	62.48	0.50	10.01	9.51	36.20
1	**2**	33	B	28.50	36.01	0.33	7.78	9999.00	0.00	0.85	0.84	2.60
2	**1**	98	C	11.50	69.87	1.90	57.07	57.71	0.50	3.52	3.01	2.50
2	**2**	124	D	15.50	60.68	2.09	53.72	67.53	0.42	4.11	3.69	4.00
3	**1**	262	A	48.50	25.84	1.88	32.06	180.73	0.11	5.60	5.49	28.30
3	**2**	233	B	28.50	46.87	3.03	54.90	63.94	0.46	6.67	6.21	11.60
4	**1**	38	C	11.50	53.66	0.57	21.30	322.63	0.04	1.19	1.15	1.40
4	**2**	18	D	15.50	46.83	0.23	7.80	9999.00	0.00	0.53	0.52	0.90
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! !!	! !						
D	! !	! !!	! !						
E	! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
2	2	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
4	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
4	2	! !	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 PM_Rev2.osc
Report generation date: 06/12/2019 11:23:55

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell LOdge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	0
Evaluation Cycle Time (s)	0
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	Yes	17:00	18:30	ODTAB	No	D1
2022 No Dev	No	17:00	18:30	ODTAB	No	D1
2022 with Dev	No	17:00	18:30	ODTAB	No	D1
2027 no Dev	No	17:00	18:30	ODTAB	No	D1
2027 with Dev	No	17:00	18:30	ODTAB	No	D1
2037 No Dev	No	17:00	18:30	ODTAB	No	D1
2037 with Dev	No	17:00	18:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
55.0	0.05	14.50	14.50	42.7

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	12.0	15.0
2	18.0	7.0	25.0
3	28.0	7.0	35.0
4	38.0	7.0	45.0
5	48.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	12.0	15						
B	18	7.0	25						
C	28	7.0	35						
D	38	7.0	45						
E	48	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	431	A	13.50	58.39	6.99	89.96	0.05	5.37	10.80	5.44	9.90
1	**2**	32	B	8.50	21.14	0.19	11.59	676.74	0.01	0.43	0.42	1.70
2	**1**	96	C	8.50	25.30	0.67	34.66	159.64	0.12	1.39	1.26	4.30
2	**2**	120	D	8.50	27.64	0.92	43.45	107.13	0.23	1.81	1.59	4.90
3	**1**	256	A	13.50	23.00	1.64	51.58	74.48	0.38	3.49	3.11	13.80
3	**2**	227	B	8.50	58.91	3.71	82.19	9.50	2.51	5.58	3.07	5.10
4	**1**	38	C	8.50	21.32	0.23	13.21	581.55	0.01	0.51	0.49	2.00
4	**2**	18	D	8.50	20.46	0.10	6.52	9999.00	0.00	0.24	0.23	1.00
Ped	**1**	9	E	8.50	19.68	0.05	0.58	9999.00	0.00	0.12	0.12	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	61.95	13.45	13.45	88.1

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	48.0	51.0
2	54.0	26.0	80.0
3	83.0	11.0	94.0
4	97.0	13.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	48.0	51						
B	54	26.0	80						
C	83	11.0	94						
D	97	13.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	431	A	49.50	29.96	3.59	53.53	68.14	0.44	9.68	9.24	37.40
1	**2**	32	B	27.50	36.79	0.33	7.81	9999.00	0.00	0.83	0.83	2.50
2	**1**	96	C	12.50	64.15	1.71	51.43	75.00	0.36	3.29	2.92	2.80
2	**2**	120	D	14.50	63.26	2.11	55.57	61.95	0.47	4.07	3.60	3.60
3	**1**	256	A	49.50	24.97	1.78	30.69	193.23	0.09	5.38	5.28	28.50
3	**2**	227	B	27.50	47.99	3.03	55.43	62.37	0.47	6.58	6.11	10.90
4	**1**	38	C	12.50	52.13	0.55	19.59	359.38	0.03	1.18	1.14	1.50
4	**2**	18	D	14.50	47.85	0.24	8.34	979.65	0.01	0.53	0.53	0.90
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! ! !!
!	! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! !!	! !						
D	! !	! !!	! !						
E	! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
2	2	! ! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! !! !
4	1	! !	!	! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
4	2	! !	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 AM_Rev2.osc
Report generation date: 06/12/2019 11:22:34

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell Lodge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	120
Evaluation Cycle Time (s)	120
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	08:00	09:30	ODTAB	No	D1
2022 No Dev	No	08:00	09:30	ODTAB	No	D1
2022 with Dev	No	08:00	09:30	ODTAB	No	D1
2027 no Dev	No	08:00	09:30	ODTAB	No	D1
2027 with Dev	No	08:00	09:30	ODTAB	No	D1
2037 No Dev	No	08:00	09:30	ODTAB	No	D1
2037 with Dev	Yes	08:00	09:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
65.0	0.34	21.05	21.05	59.1

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	18.0	21.0
2	24.0	7.0	31.0
3	34.0	11.0	45.0
4	48.0	7.0	55.0
5	58.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	18.0	21						
B	24	7.0	31						
C	34	11.0	45						
D	48	7.0	55						
E	58	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	264	A	19.50	21.58	1.58	44.49	102.30	0.25	3.77	3.52	18.70
1	**2**	62	B	8.50	29.10	0.50	26.53	239.22	0.06	1.05	0.99	2.60
2	**1**	313	C	12.50	73.11	6.36	89.28	0.80	4.76	9.63	4.87	6.40
2	**2**	161	D	8.50	48.76	2.18	68.90	30.63	1.02	3.63	2.61	4.20
3	**1**	536	A	19.50	52.55	7.82	89.69	0.34	5.42	13.00	7.59	14.00
3	**2**	110	B	8.50	35.12	1.07	47.07	91.20	0.28	2.05	1.77	3.80
4	**1**	142	C	12.50	27.34	1.08	39.81	126.10	0.18	2.31	2.13	7.20
4	**2**	50	D	8.50	28.02	0.39	21.40	320.63	0.04	0.83	0.79	2.20
Ped	**1**	9	E	8.50	24.59	0.06	0.69	9999.00	0.00	0.14	0.14	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	27.93	21.11	21.11	96.2

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	46.0	49.0
2	52.0	9.0	61.0
3	64.0	29.0	93.0
4	96.0	14.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	46.0	49						
B	52	9.0	61						
C	64	29.0	93						
D	96	14.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	264	A	47.50	26.82	1.97	33.72	166.92	0.12	5.73	5.61	27.50
1	**2**	62	B	10.50	61.64	1.06	39.65	126.98	0.17	2.08	1.91	1.80
2	**1**	313	C	30.50	50.80	4.42	67.55	33.23	0.98	9.28	8.30	13.40
2	**2**	161	D	15.50	72.89	3.26	69.75	29.03	1.08	5.91	4.83	4.10
3	**1**	536	A	47.50	36.30	5.40	67.98	32.40	1.06	13.15	12.09	34.90
3	**2**	110	B	10.50	87.36	2.67	70.35	27.93	1.09	4.52	3.42	2.30
4	**1**	142	C	30.50	38.31	1.51	30.12	198.82	0.09	3.72	3.63	10.00
4	**2**	50	D	15.50	49.65	0.69	21.66	315.48	0.04	1.51	1.47	2.20
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! ! !!
!	! ! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! ! !!	! !						
D	! !	! ! !!	! ! !						
E	! ! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 AM_Rev2.osc
Report generation date: 06/12/2019 11:22:12

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell Lodge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	120
Evaluation Cycle Time (s)	120
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	08:00	09:30	ODTAB	No	D1
2022 No Dev	No	08:00	09:30	ODTAB	No	D1
2022 with Dev	No	08:00	09:30	ODTAB	No	D1
2027 no Dev	No	08:00	09:30	ODTAB	No	D1
2027 with Dev	No	08:00	09:30	ODTAB	No	D1
2037 No Dev	Yes	08:00	09:30	ODTAB	No	D1
2037 with Dev	No	08:00	09:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
63.0	1.84	18.36	18.36	57.3

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	16.0	19.0
2	22.0	7.0	29.0
3	32.0	11.0	43.0
4	46.0	7.0	53.0
5	56.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	16.0	19						
B	22	7.0	29						
C	32	11.0	43						
D	46	7.0	53						
E	56	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	263	A	17.50	22.90	1.67	47.87	88.02	0.31	3.81	3.51	16.60
1	**2**	62	B	8.50	27.82	0.48	25.72	249.99	0.06	1.01	0.95	2.70
2	**1**	305	C	12.50	56.70	4.80	84.32	6.73	3.05	7.60	4.56	7.40
2	**2**	164	D	8.50	46.28	2.11	68.02	32.31	0.97	3.54	2.57	4.40
3	**1**	489	A	17.50	51.26	6.96	88.37	1.84	4.66	11.51	6.85	12.80
3	**2**	101	B	8.50	32.04	0.90	41.89	114.84	0.20	1.76	1.56	3.80
4	**1**	141	C	12.50	25.90	1.01	38.31	134.93	0.16	2.20	2.04	7.40
4	**2**	48	D	8.50	26.67	0.36	19.91	352.07	0.03	0.77	0.73	2.20
Ped	**1**	9	E	8.50	23.61	0.06	0.67	9999.00	0.00	0.14	0.14	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	36.72	19.67	19.67	93.3

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	44.0	47.0
2	50.0	9.0	59.0
3	62.0	29.0	91.0
4	94.0	16.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	44.0	47						
B	50	9.0	59						
C	62	29.0	91						
D	94	16.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	263	A	45.50	28.38	2.07	35.07	156.65	0.13	5.88	5.74	25.90
1	**2**	62	B	10.50	61.64	1.06	39.65	126.98	0.17	2.08	1.91	1.80
2	**1**	305	C	30.50	49.82	4.22	65.83	36.72	0.88	8.96	8.08	13.50
2	**2**	164	D	17.50	63.36	2.89	62.93	43.01	0.72	5.55	4.83	5.00
3	**1**	489	A	45.50	36.38	4.94	64.74	39.01	0.87	12.08	11.22	32.40
3	**2**	101	B	10.50	79.65	2.23	64.59	39.33	0.78	3.91	3.14	2.30
4	**1**	141	C	30.50	38.27	1.50	29.91	200.94	0.09	3.69	3.61	10.00
4	**2**	48	D	17.50	47.04	0.63	18.42	388.63	0.03	1.41	1.38	2.40
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! ! !!
!	! ! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! ! !!	! !						
D	! !	! ! !!	! ! !						
E	! ! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 AM_Rev2.osc
Report generation date: 06/12/2019 11:21:47

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell Lodge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	120
Evaluation Cycle Time (s)	120
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	08:00	09:30	ODTAB	No	D1
2022 No Dev	No	08:00	09:30	ODTAB	No	D1
2022 with Dev	No	08:00	09:30	ODTAB	No	D1
2027 no Dev	No	08:00	09:30	ODTAB	No	D1
2027 with Dev	Yes	08:00	09:30	ODTAB	No	D1
2037 No Dev	No	08:00	09:30	ODTAB	No	D1
2037 with Dev	No	08:00	09:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
62.0	2.44	18.28	18.28	55.9

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	16.0	19.0
2	22.0	7.0	29.0
3	32.0	10.0	42.0
4	45.0	7.0	52.0
5	55.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	16.0	19						
B	22	7.0	29						
C	32	10.0	42						
D	45	7.0	52						
E	55	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	246	A	17.50	21.58	1.47	44.06	104.26	0.24	3.44	3.20	16.50
1	**2**	57	B	8.50	26.78	0.42	23.27	286.83	0.05	0.90	0.86	2.60
2	**1**	297	C	11.50	68.50	5.65	87.83	2.47	4.11	8.54	4.43	6.30
2	**2**	153	D	8.50	41.03	1.74	62.45	44.11	0.70	3.05	2.35	4.50
3	**1**	494	A	17.50	49.11	6.74	87.86	2.44	4.43	11.21	6.78	13.30
3	**2**	102	B	8.50	31.35	0.89	41.63	116.17	0.20	1.75	1.55	3.90
4	**1**	132	C	11.50	26.42	0.97	38.36	134.59	0.16	2.06	1.90	6.60
4	**2**	46	D	8.50	25.93	0.33	18.78	379.33	0.03	0.72	0.69	2.20
Ped	**1**	9	E	8.50	23.11	0.06	0.66	9999.00	0.00	0.13	0.13	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	37.97	18.85	18.85	93.1

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	45.0	48.0
2	51.0	9.0	60.0
3	63.0	29.0	92.0
4	95.0	15.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	45.0	48						
B	51	9.0	60						
C	63	29.0	92						
D	95	15.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	246	A	46.50	27.17	1.86	32.09	180.42	0.11	5.39	5.28	25.40
1	**2**	57	B	10.50	60.25	0.95	36.45	146.89	0.14	1.89	1.75	1.70
2	**1**	297	C	30.50	48.91	4.04	64.10	40.41	0.80	8.65	7.85	13.50
2	**2**	153	D	16.50	64.44	2.74	62.27	44.54	0.69	5.23	4.54	4.60
3	**1**	494	A	46.50	35.36	4.85	64.00	40.63	0.83	12.02	11.19	33.90
3	**2**	102	B	10.50	80.40	2.28	65.23	37.97	0.81	3.98	3.17	2.30
4	**1**	132	C	30.50	37.89	1.39	28.00	221.46	0.07	3.44	3.37	9.50
4	**2**	46	D	16.50	48.04	0.61	18.72	380.74	0.03	1.36	1.33	2.20
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! ! !!
!	! ! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! ! !!	! !						
D	! !	! ! !!	! ! !						
E	! ! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! ! !! !
3	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 AM_Rev2.osc
Report generation date: 06/12/2019 11:21:19

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell Lodge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	120
Evaluation Cycle Time (s)	120
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	08:00	09:30	ODTAB	No	D1
2022 No Dev	No	08:00	09:30	ODTAB	No	D1
2022 with Dev	No	08:00	09:30	ODTAB	No	D1
2027 no Dev	Yes	08:00	09:30	ODTAB	No	D1
2027 with Dev	No	08:00	09:30	ODTAB	No	D1
2037 No Dev	No	08:00	09:30	ODTAB	No	D1
2037 with Dev	No	08:00	09:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
59.0	1.03	17.56	17.56	53.0

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	14.0	17.0
2	20.0	7.0	27.0
3	30.0	9.0	39.0
4	42.0	7.0	49.0
5	52.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	14.0	17						
B	20	7.0	27						
C	30	9.0	39						
D	42	7.0	49						
E	52	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	244	A	15.50	22.32	1.51	46.96	91.67	0.29	3.39	3.10	14.80
1	**2**	57	B	8.50	24.94	0.39	22.14	306.50	0.04	0.85	0.81	2.70
2	**1**	289	C	10.50	73.68	5.92	89.08	1.03	4.61	8.74	4.13	5.80
2	**2**	156	D	8.50	37.61	1.63	60.59	48.53	0.63	2.89	2.26	4.90
3	**1**	453	A	15.50	47.69	6.00	86.56	3.97	3.88	9.89	6.02	12.20
3	**2**	99	B	8.50	28.61	0.79	38.45	134.04	0.16	1.58	1.42	4.10
4	**1**	133	C	10.50	26.31	0.97	40.29	123.39	0.18	2.02	1.84	6.30
4	**2**	44	D	8.50	24.06	0.29	17.09	426.60	0.02	0.65	0.62	2.20
Ped	**1**	9	E	8.50	21.64	0.05	0.62	9999.00	0.00	0.13	0.13	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	44.29	17.92	17.92	89.8

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	43.0	46.0
2	49.0	10.0	59.0
3	62.0	29.0	91.0
4	94.0	16.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	43.0	46						
B	49	10.0	59						
C	62	29.0	91						
D	94	16.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	244	A	44.50	28.71	1.95	33.26	170.56	0.11	5.49	5.38	23.90
1	**2**	57	B	11.50	57.54	0.91	33.28	170.40	0.11	1.85	1.74	1.90
2	**1**	289	C	30.50	48.07	3.86	62.37	44.29	0.72	8.35	7.63	13.60
2	**2**	156	D	17.50	61.33	2.66	59.86	50.35	0.60	5.19	4.58	5.00
3	**1**	453	A	44.50	35.81	4.51	61.32	46.76	0.70	11.15	10.45	31.10
3	**2**	99	B	11.50	70.50	1.94	57.81	55.69	0.53	3.57	3.04	2.50
4	**1**	133	C	30.50	37.93	1.40	28.21	219.05	0.08	3.47	3.40	9.60
4	**2**	44	D	17.50	46.73	0.57	16.88	433.05	0.02	1.29	1.26	2.20
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! ! !!
!	! ! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! ! !!	! !						
D	! !	! ! !!	! ! !						
E	! ! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! ! !! !
3	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 AM_Rev2.osc
Report generation date: 06/12/2019 11:20:51

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell Lodge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	120
Evaluation Cycle Time (s)	120
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	08:00	09:30	ODTAB	No	D1
2022 No Dev	No	08:00	09:30	ODTAB	No	D1
2022 with Dev	Yes	08:00	09:30	ODTAB	No	D1
2027 no Dev	No	08:00	09:30	ODTAB	No	D1
2027 with Dev	No	08:00	09:30	ODTAB	No	D1
2037 No Dev	No	08:00	09:30	ODTAB	No	D1
2037 with Dev	No	08:00	09:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
61.0	1.45	17.13	17.13	54.1

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	15.0	18.0
2	21.0	7.0	28.0
3	31.0	10.0	41.0
4	44.0	7.0	51.0
5	54.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	15.0	18						
B	21	7.0	28						
C	31	10.0	41						
D	44	7.0	51						
E	54	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	239	A	16.50	22.03	1.46	44.67	101.48	0.25	3.35	3.10	15.30
1	**2**	55	B	8.50	26.01	0.40	22.09	307.47	0.04	0.85	0.81	2.60
2	**1**	289	C	11.50	57.32	4.60	84.09	7.03	2.97	7.19	4.22	6.80
2	**2**	149	D	8.50	38.61	1.60	59.84	50.41	0.60	2.84	2.24	4.60
3	**1**	478	A	16.50	52.41	6.96	88.71	1.45	4.80	11.33	6.53	12.10
3	**2**	99	B	8.50	30.18	0.83	39.76	126.37	0.18	1.65	1.47	3.90
4	**1**	128	C	11.50	25.48	0.91	36.60	145.89	0.14	1.95	1.81	6.60
4	**2**	45	D	8.50	25.28	0.32	18.07	398.02	0.03	0.69	0.66	2.20
Ped	**1**	9	E	8.50	22.62	0.06	0.65	9999.00	0.00	0.13	0.13	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	42.15	18.00	18.00	92.5

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	45.0	48.0
2	51.0	9.0	60.0
3	63.0	29.0	92.0
4	95.0	15.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	45.0	48						
B	51	9.0	60						
C	63	29.0	92						
D	95	15.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	239	A	46.50	27.01	1.79	31.18	188.63	0.10	5.22	5.12	24.90
1	**2**	55	B	10.50	59.73	0.91	35.17	155.87	0.13	1.82	1.69	1.70
2	**1**	289	C	30.50	48.07	3.86	62.37	44.29	0.72	8.35	7.63	13.60
2	**2**	149	D	16.50	63.31	2.62	60.64	48.42	0.63	5.04	4.42	4.50
3	**1**	478	A	46.50	34.59	4.59	61.93	45.34	0.73	11.52	10.79	34.10
3	**2**	99	B	10.50	78.22	2.15	63.31	42.15	0.72	3.79	3.07	2.30
4	**1**	128	C	30.50	37.72	1.34	27.15	231.51	0.07	3.33	3.27	9.30
4	**2**	45	D	16.50	47.95	0.60	18.31	391.42	0.03	1.33	1.31	2.10
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! ! !!
!	! ! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! ! !!	! !						
D	! !	! ! !!	! ! !						
E	! ! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! ! !! !
3	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !

OSCADY PRO

GUI Version: 1.3.1 [05/05/11]
Analysis Program Version: v1.3 23/03/2009

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 3 - R125 Highfield Park Signal Controlled Junction\Site 4 AM_Rev2.osc
Report generation date: 06/12/2019 11:20:32

Summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Date	23/11/2018
Location	Site 4 R125/Highfield Park/Penwell Lodge
Driving Side	Left
Identifier	
Client	Orivo Properties
Jobnumber	
Enumerator	ronan.kearns [SIMON-HP]
Status	TTA
Description	

Run Options

Run Evaluation Set	No
Evaluation Only	No
Optimise Critical Cycle TimeOnly	No
Use Horizontal Queues	Yes
Favour Continuous Green	No
Phase Timings Fuzziness (s)	0.5
Integer Phase Timings	Yes
Phase Snapping Distance (s)	0
Automatic Lane Turning Props	Yes
Automatic Vehicle Props	No

Signals

Signals

Max Cycle Time (s)	120
Fixed Cycle Time (s)	120
Evaluation Cycle Time (s)	120
Start Displacement (s)	1.4
End Displacement (s)	2.9

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	No	08:00	09:30	ODTAB	No	D1
2022 No Dev	Yes	08:00	09:30	ODTAB	No	D1
2022 with Dev	No	08:00	09:30	ODTAB	No	D1
2027 no Dev	No	08:00	09:30	ODTAB	No	D1
2027 with Dev	No	08:00	09:30	ODTAB	No	D1
2037 No Dev	No	08:00	09:30	ODTAB	No	D1
2037 with Dev	No	08:00	09:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
58.0	2.80	16.21	16.21	51.1

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	13.0	16.0
2	19.0	7.0	26.0
3	29.0	9.0	38.0
4	41.0	7.0	48.0
5	51.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	13.0	16						
B	19	7.0	26						
C	29	9.0	38						
D	41	7.0	48						
E	51	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	235	A	14.50	22.84	1.49	47.52	89.38	0.30	3.28	2.98	13.50
1	**2**	55	B	8.50	24.20	0.37	21.00	328.54	0.04	0.80	0.76	2.70
2	**1**	281	C	10.50	60.19	4.70	85.14	5.70	3.23	7.16	3.93	6.30
2	**2**	151	D	8.50	35.24	1.48	57.66	56.09	0.53	2.67	2.14	5.00
3	**1**	436	A	14.50	51.28	6.21	87.55	2.80	4.22	10.00	5.77	11.00
3	**2**	96	B	8.50	27.55	0.73	36.66	145.52	0.14	1.49	1.35	4.10
4	**1**	128	C	10.50	25.23	0.90	38.12	136.12	0.16	1.89	1.73	6.30
4	**2**	43	D	8.50	23.42	0.28	16.42	448.14	0.02	0.62	0.60	2.20
Ped	**1**	9	E	8.50	21.15	0.05	0.61	9999.00	0.00	0.12	0.12	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	46.59	17.12	17.12	89.5

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	43.0	46.0
2	49.0	9.0	58.0
3	61.0	30.0	91.0
4	94.0	16.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	43.0	46						
B	49	9.0	58						
C	61	30.0	91						
D	94	16.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	235	A	44.50	28.48	1.86	32.04	180.92	0.10	5.28	5.17	23.30
1	**2**	55	B	10.50	59.73	0.91	35.17	155.87	0.13	1.82	1.69	1.70
2	**1**	281	C	31.50	45.58	3.56	58.72	53.27	0.58	7.90	7.32	14.40
2	**2**	151	D	17.50	60.18	2.52	57.94	55.33	0.54	4.97	4.43	5.00
3	**1**	436	A	44.50	35.01	4.24	59.02	52.48	0.61	10.63	10.02	31.10
3	**2**	96	B	10.50	76.22	2.03	61.40	46.59	0.65	3.62	2.98	2.30
4	**1**	128	C	31.50	36.79	1.31	26.29	242.38	0.06	3.29	3.23	9.60
4	**2**	43	D	17.50	46.65	0.56	16.50	445.45	0.02	1.26	1.23	2.10
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! ! !!
!	! ! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! ! !!	! !						
D	! !	! ! !!	! ! !						
E	! ! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! ! !! !	! !! !	! ! !! !
3	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !

Phases

Phase	Name	Type	Associated Phase	Phase Min Green (s)	Phase Max Green (s)	Double Green
A	(Name)	Traffic	-	7.0	0.0	No
B	(Name)	Traffic	-	7.0	0.0	No
C	(Name)	Traffic	-	7.0	0.0	No
D	(Name)	Traffic	-	7.0	0.0	No
E	(Name)	Pedestrian	-	7.0	0.0	No

Intergreen Matrix

		To				
		A	**B**	**C**	**D**	**E**
From	**A**	-	3	3	3	3
	B	3	-	3	3	3
	C	3	3	-	3	3
	D	3	3	3	-	3
	E	3	3	3	3	-

Stages

Stage	Stage Min Green (s)	Phases In This Stage	Use To Generate Sequences
1	-1	A	Yes
2	-1	B	Yes
3	-1	C	Yes
4	-1	D	Yes
5	-1	E	Yes

Sequences

Sequence	Name	Stages In This Sequence
1		1,2,3,4

Constraints

(No constraints)

Traffic

Note:*Traffic flows are only shown for selected demand sets. Resultant flows are the sums of the selected demand sets adjusted by the global traffic scaling factor, and are shown as the arrival rates in the final results tables.*

Configuration

Traffic Scaling Factor	1.00
Time Period (min)	90
Time Segment Length (min)	15
Signal Optimiser Flows	Average
PCUs per Heavy Vehicle	2.00

Demand Sets

Name	Selected	Time Start	Time End	Profile Type	Use Relationship	Relationship
Commited 2019	Yes	08:00	09:30	ODTAB	No	D1
2022 No Dev	No	08:00	09:30	ODTAB	No	D1
2022 with Dev	No	08:00	09:30	ODTAB	No	D1
2027 no Dev	No	08:00	09:30	ODTAB	No	D1
2027 with Dev	No	08:00	09:30	ODTAB	No	D1
2037 No Dev	No	08:00	09:30	ODTAB	No	D1
2037 with Dev	No	08:00	09:30	ODTAB	No	D1

Results

Note:Duplicate solutions are not shown.

Sequence1; Objective: CRITICAL CYCLE TIME

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
56.0	1.58	16.75	16.75	48.0

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	12.0	15.0
2	18.0	7.0	25.0
3	28.0	8.0	36.0
4	39.0	7.0	46.0
5	49.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	12.0	15						
B	18	7.0	25						
C	28	8.0	36						
D	39	7.0	46						
E	49	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	228	A	13.50	22.77	1.44	47.81	88.23	0.30	3.12	2.82	12.70
1	**2**	53	B	8.50	22.88	0.34	19.54	360.60	0.03	0.74	0.71	2.70
2	**1**	274	C	9.50	72.96	5.55	88.60	1.58	4.37	8.11	3.74	5.40
2	**2**	148	D	8.50	32.35	1.33	54.56	64.94	0.44	2.46	2.01	5.20
3	**1**	423	A	13.50	53.23	6.26	88.09	2.17	4.43	9.88	5.46	10.20
3	**2**	93	B	8.50	25.80	0.67	34.29	162.49	0.12	1.37	1.25	4.10
4	**1**	122	C	9.50	25.42	0.86	38.77	132.15	0.17	1.78	1.62	5.60
4	**2**	41	D	8.50	22.18	0.25	15.12	495.41	0.02	0.56	0.55	2.10
Ped	**1**	9	E	8.50	20.17	0.05	0.59	9999.00	0.00	0.12	0.12	0.00

Sequence1; Objective: MAXIMUM CAPACITY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
120.0	51.32	16.40	16.40	88.3

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
1	3.0	43.0	46.0
2	49.0	9.0	58.0
3	61.0	30.0	91.0
4	94.0	16.0	110.0
5	113.0	7.0	0.0

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	3	43.0	46						
B	49	9.0	58						
C	61	30.0	91						
D	94	16.0	110						
E	113	7.0	0						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	**1**	228	A	44.50	28.30	1.79	31.08	189.54	0.10	5.11	5.01	22.80
1	**2**	53	B	10.50	59.22	0.87	33.90	165.52	0.12	1.74	1.63	1.60
2	**1**	274	C	31.50	45.00	3.43	57.26	57.18	0.53	7.66	7.13	14.40
2	**2**	148	D	17.50	59.54	2.45	56.79	58.48	0.50	4.85	4.34	4.90
3	**1**	423	A	44.50	34.44	4.05	57.26	57.17	0.55	10.24	9.69	31.00
3	**2**	93	B	10.50	74.39	1.92	59.48	51.32	0.58	3.46	2.88	2.20
4	**1**	122	C	31.50	36.56	1.24	25.05	259.22	0.06	3.13	3.07	9.30
4	**2**	41	D	17.50	46.50	0.53	15.73	472.06	0.02	1.20	1.18	2.10
Ped	**1**	9	E	8.50	51.89	0.13	1.27	9999.00	0.00	0.28	0.28	0.00

Sequence1; Objective: MINIMUM DELAY

Summary

Cycle Time (s)	Practical Reserve Capacity (%)	Rate of Delay (PCU)	Weighted Rate of Delay (PCU)	Geometric Delay (PCU-min)
! ! ! !!	! ! !! !	! ! !! !	! ! !! !	! ! !!

- *Cycle Time is the minimum cycle time that meets all safety criteria whilst optimising this objective.*
- *PRC is the lowest value encountered over all streams.*
- *Rate of delay is the sum of each stream's rate of delay.*

Stage Timings

Stage	Start Time (s)	Duration (s)	End Time (s)
!	! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! !!
!	! ! !!	! ! !!	! ! ! !!
!	! ! ! !!	! !!	! !!

Phase Timings

Phase	Start Time (s)	Duration (s)	End Time (s)	Filter Arrow Time (s)	Indicative Arrow Start (s)	Indicative Arrow Duration (s)	Start Time (s) (2nd green)	Duration (s) (2nd green)	End Time (s) (2nd green)
A	!	! ! !!	! !						
B	! !	! ! !!	! !						
C	! !	! ! !!	! !						
D	! !	! ! !!	! ! !						
E	! ! !	! !!	!						

Traffic Stream Details

Arm	Traffic Stream	Arrival Rate (PCU/hr)	Controlling Phase	Effective Green (s)	Average Delay (s)	Rate of Delay (PCU)	Degree of Saturation (%)	Practical Reserve Capacity (%)	Queue at End of Green (PCU)	Queue at End of Red (PCU)	Uniform Queue (PCU)	Geometric Delay (PCU-min)
1	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
1	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
2	2	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
3	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	1	! ! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
4	2	! !	!	! ! !! !	! ! !! !	! !! !	! ! !! !	! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !
Ped	1	!	!	! !! !	! ! !! !	! !! !	! !! !	! ! ! ! !! !	! !! !	! !! !	! !! !	! ! !! !

Appendix E.4

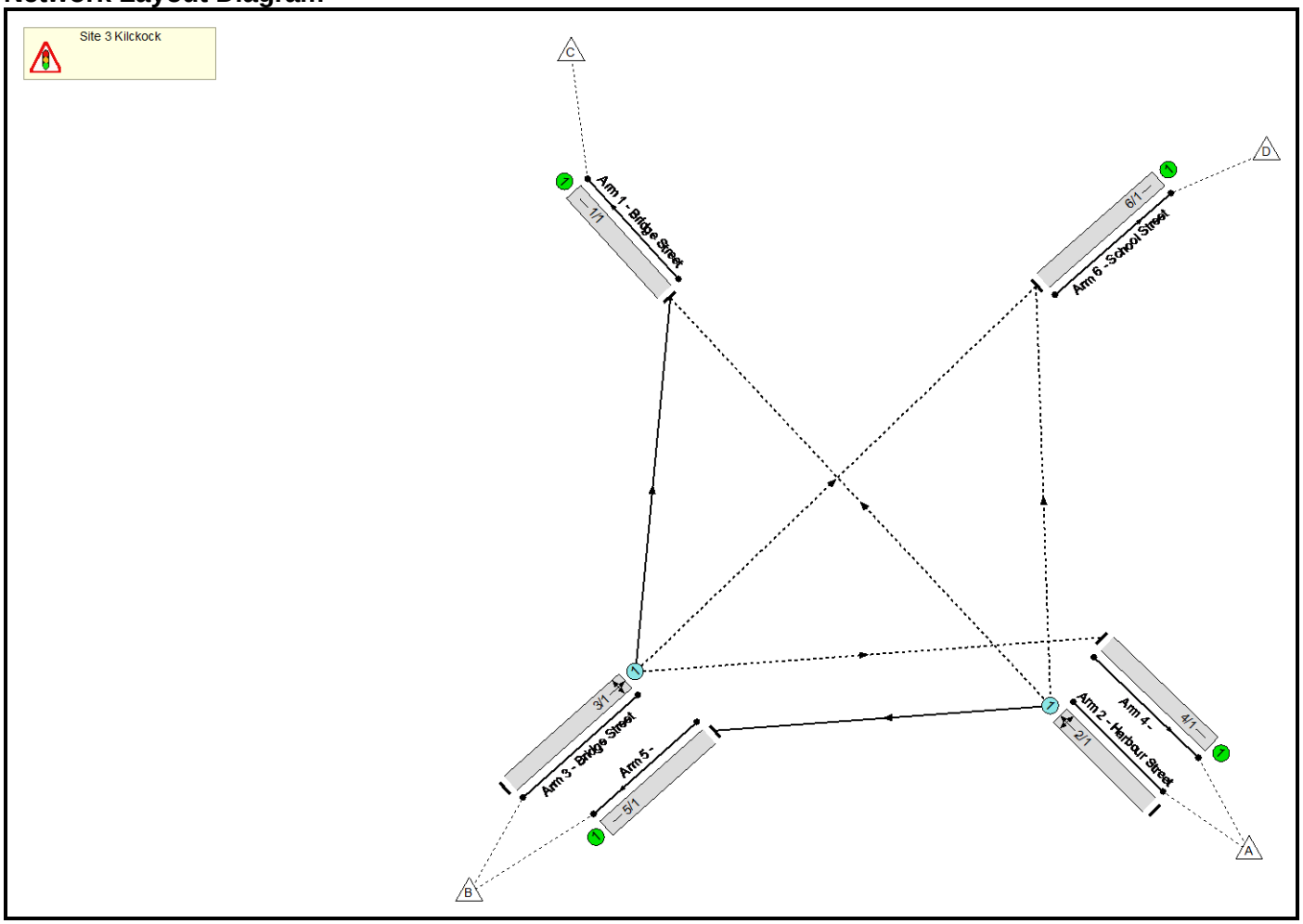
Junction 4

Full Input Data And Results

User and Project Details

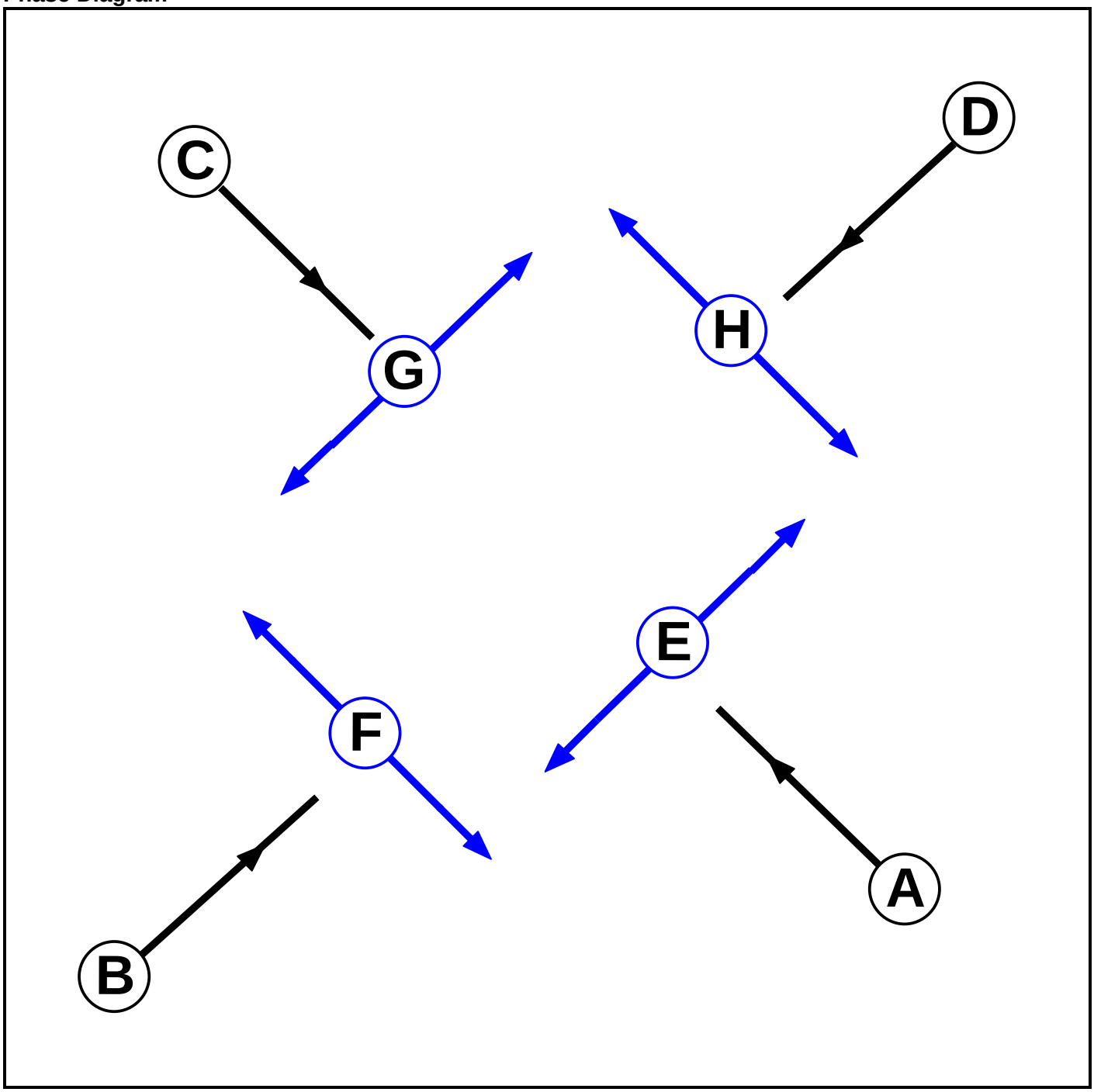
Project:	**P140705 - Aranbel Construction, Brayant Park, Kilcock**
Title:	
Location:	Kilcock
File name:	Site 4 R125-R148_Rev2.lsg3x
Author:	Ronan Kearns
Company:	Pinnacle
Address:	67a Patrick Street, Dun Laoghaire, Co. Dublin
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

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

Full Input Data And Results

Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H
A		6	-	6	10	10	-	10
B	6		6	-	10	10	-	10
C	-	6		6	10	10	10	10
D	6	-	6		10	10	-	10
E	10	10	10	10		-	-	-
F	10	10	10	10	-		-	-
G	-	-	10	-	-	-		-
H	10	10	10	10	-	-	-	

Phases in Stage

Stage No.	Phases in Stage

Stage Diagram

There are no Stages to display

Phase Delays

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

Prohibited Stage Change

From Stage \ To Stage	This View cannot be shown as there are currently no Stages defined.

Full Input Data And Results

Give-Way Lane Input Data

Junction: Site 3 Kilckock											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
2/1 (Harbour Street)	1/1 (Ahead)	1440	0	3/1	1.09	All	-	-	-	-	-
	6/1 (Right)	1440	0	3/1	1.09	All					
3/1 (Bridge Street)	4/1 (Right)	1440	0	2/1	1.09	All	-	-	-	-	-
	6/1 (Ahead)	1440	0	2/1	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: Site 3 Kilckock												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Bridge Street)	U		2	3	100.0	Geom	-	3.25	0.00	Y		
2/1 (Harbour Street)	O		2	3	10.0	Geom	-	5.00	0.00	Y	Arm 1 Ahead	Inf
											Arm 5 Left	Inf
											Arm 6 Right	Inf
3/1 (Bridge Street)	O		2	3	10.0	Geom	-	4.00	0.00	Y	Arm 1 Left	Inf
											Arm 4 Right	Inf
											Arm 6 Ahead	Inf
4/1	U		2	3	100.0	Geom	-	3.25	0.00	Y		
5/1	U		2	3	100.0	Geom	-	3.25	0.00	Y		
6/1 (School Street)	U		2	3	100.0	Geom	-	3.25	0.00	Y		

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2019 Commited Dev PM '	17:00	18:00	01:00	
2: '2022 PM - No Development'	17:00	18:00	01:00	
3: '2022 PM - with Development'	17:00	18:00	01:00	
4: '2027 PM - No Development'	17:00	18:00	01:00	
5: '2027 PM - With Development'	17:00	18:00	01:00	
6: '2037 PM - No Development'	17:00	18:00	01:00	
7: '2037 PM - With Development'	17:00	18:00	01:00	
8: '2019 Commited Dev AM'	08:00	09:00	01:00	
9: '2022 AM - No Development'	08:00	09:00	01:00	
10: '2022 AM - with Development'	08:00	09:00	01:00	
11: '2027 AM - No Development'	08:00	09:00	01:00	
12: '2027 AM - With Development'	08:00	09:00	01:00	
13: '2037 AM - No Development'	08:00	09:00	01:00	
14: '2037 AM - With Development'	08:00	09:00	01:00	

Scenario 1: '2019 PM Survey' (FG1: '2019 Commited Dev PM ', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	464	285	27	776
	B	86	0	222	86	394
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	86	464	507	113	1170

Traffic Lane Flows

Lane	Scenario 1: 2019 PM Survey
Junction: Site 3 Kilckock	
1/1	507
2/1	776
3/1	394
4/1	86
5/1	464
6/1	113

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	36.7 %	2115	2115
				Arm 5 Left	Inf	59.8 %		
				Arm 6 Right	Inf	3.5 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	56.3 %	2015	2015
				Arm 4 Right	Inf	21.8 %		
				Arm 6 Ahead	Inf	21.8 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 2: '2022 PM No Development ' (FG2: '2022 PM - No Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	477	294	30	801
	B	89	0	229	89	407
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	89	477	523	119	1208

Traffic Lane Flows

Lane	Scenario 2: 2022 PM No Development
Junction: Site 3 Kilckock	
1/1	523
2/1	801
3/1	407
4/1	89
5/1	477
6/1	119

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	36.7 %	2115	2115
				Arm 5 Left	Inf	59.6 %		
				Arm 6 Right	Inf	3.7 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	56.3 %	2015	2015
				Arm 4 Right	Inf	21.9 %		
				Arm 6 Ahead	Inf	21.9 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 3: '2022 PM With Development ' (FG3: '2022 PM - with Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	481	294	30	805
	B	94	0	241	94	429
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	94	481	535	124	1234

Traffic Lane Flows

Lane	Scenario 3: 2022 PM With Development
Junction: Site 3 Kilckock	
1/1	535
2/1	805
3/1	429
4/1	94
5/1	481
6/1	124

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	36.5 %	2115	2115
				Arm 5 Left	Inf	59.8 %		
				Arm 6 Right	Inf	3.7 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	56.2 %	2015	2015
				Arm 4 Right	Inf	21.9 %		
				Arm 6 Ahead	Inf	21.9 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 4: '2027 PM No Development ' (FG4: '2027 PM - No Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	494	306	31	831
	B	92	0	236	92	420
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	92	494	542	123	1251

Traffic Lane Flows

Lane	Scenario 4: 2027 PM No Development
Junction: Site 3 Kilckock	
1/1	542
2/1	831
3/1	420
4/1	92
5/1	494
6/1	123

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	36.8 %	2115	2115
				Arm 5 Left	Inf	59.4 %		
				Arm 6 Right	Inf	3.7 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	56.2 %	2015	2015
				Arm 4 Right	Inf	21.9 %		
				Arm 6 Ahead	Inf	21.9 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 5: '2027 PM With Development ' (FG5: '2027 PM - With Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	497	306	31	834
	B	97	0	249	97	443
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	97	497	555	128	1277

Traffic Lane Flows

Lane	Scenario 5: 2027 PM With Development
Junction: Site 3 Kilckock	
1/1	555
2/1	834
3/1	443
4/1	97
5/1	497
6/1	128

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	36.7 %	2115	2115
				Arm 5 Left	Inf	59.6 %		
				Arm 6 Right	Inf	3.7 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	56.2 %	2015	2015
				Arm 4 Right	Inf	21.9 %		
				Arm 6 Ahead	Inf	21.9 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 6: '2037 PM No Development' (FG6: '2037 PM - No Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	529	331	33	893
	B	98	0	253	98	449
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	98	529	584	131	1342

Traffic Lane Flows

Lane	Scenario 6: 2037 PM No Development
Junction: Site 3 Kilckock	
1/1	584
2/1	893
3/1	449
4/1	98
5/1	529
6/1	131

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	37.1 %	2115	2115
				Arm 5 Left	Inf	59.2 %		
				Arm 6 Right	Inf	3.7 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	56.3 %	2015	2015
				Arm 4 Right	Inf	21.8 %		
				Arm 6 Ahead	Inf	21.8 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 7: '2037 With Development' (FG7: '2037 PM - With Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	533	331	33	897
	B	103	0	266	103	472
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	103	533	597	136	1369

Traffic Lane Flows

Lane	Scenario 7: 2037 With Development
Junction: Site 3 Kilckock	
1/1	597
2/1	897
3/1	472
4/1	103
5/1	533
6/1	136

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	36.9 %	2115	2115
				Arm 5 Left	Inf	59.4 %		
				Arm 6 Right	Inf	3.7 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	56.4 %	2015	2015
				Arm 4 Right	Inf	21.8 %		
				Arm 6 Ahead	Inf	21.8 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 8: '2019 Committed AM' (FG8: '2019 Commited Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	309	126	15	450
	B	177	0	299	174	650
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	177	309	425	189	1100

Traffic Lane Flows

Lane	Scenario 8: 2019 Committed AM
Junction: Site 3 Kilckock	
1/1	425
2/1	450
3/1	650
4/1	177
5/1	309
6/1	189

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	28.0 %	2115	2115
				Arm 5 Left	Inf	68.7 %		
				Arm 6 Right	Inf	3.3 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	46.0 %	2015	2015
				Arm 4 Right	Inf	27.2 %		
				Arm 6 Ahead	Inf	26.8 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 9: '2022 AM No Development' (FG9: '2022 AM - No Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	318	130	16	464
	B	182	0	308	179	669
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	182	318	438	195	1133

Traffic Lane Flows

Lane	Scenario 9: 2022 AM No Development
Junction: Site 3 Kilckock	
1/1	438
2/1	464
3/1	669
4/1	182
5/1	318
6/1	195

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	28.0 %	2115	2115
				Arm 5 Left	Inf	68.5 %		
				Arm 6 Right	Inf	3.4 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	46.0 %	2015	2015
				Arm 4 Right	Inf	27.2 %		
				Arm 6 Ahead	Inf	26.8 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 10: '2022 AM With Development' (FG10: '2022 AM - with Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	320	130	16	466
	B	189	0	325	192	706
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	189	320	455	208	1172

Traffic Lane Flows

Lane	Scenario 10: 2022 AM With Development
Junction: Site 3 Kilckock	
1/1	455
2/1	466
3/1	706
4/1	189
5/1	320
6/1	208

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	27.9 %	2115	2115
				Arm 5 Left	Inf	68.7 %		
				Arm 6 Right	Inf	3.4 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	46.0 %	2015	2015
				Arm 4 Right	Inf	26.8 %		
				Arm 6 Ahead	Inf	27.2 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 11: '2027 AM No Development' (FG11: '2027 AM - No Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	330	135	16	481
	B	189	0	320	185	694
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	189	330	455	201	1175

Traffic Lane Flows

Lane	Scenario 11: 2027 AM No Development
Junction: Site 3 Kilckock	
1/1	455
2/1	481
3/1	694
4/1	189
5/1	330
6/1	201

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	28.1 %	2115	2115
				Arm 5 Left	Inf	68.6 %		
				Arm 6 Right	Inf	3.3 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	46.1 %	2015	2015
				Arm 4 Right	Inf	27.2 %		
				Arm 6 Ahead	Inf	26.7 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 12: '2027 AM With Development' (FG12: '2027 AM - With Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	332	135	16	483
	B	199	0	337	195	731
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	199	332	472	211	1214

Traffic Lane Flows

Lane	Scenario 12: 2027 AM With Development
Junction: Site 3 Kilckock	
1/1	472
2/1	483
3/1	731
4/1	199
5/1	332
6/1	211

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	28.0 %	2115	2115
				Arm 5 Left	Inf	68.7 %		
				Arm 6 Right	Inf	3.3 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	46.1 %	2015	2015
				Arm 4 Right	Inf	27.2 %		
				Arm 6 Ahead	Inf	26.7 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 13: '2037 AM No Development' (FG13: '2037 AM - No Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	356	146	18	520
	B	203	0	344	199	746
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	203	356	490	217	1266

Traffic Lane Flows

Lane	Scenario 13: 2037 AM No Development
Junction: Site 3 Kilckock	
1/1	490
2/1	520
3/1	746
4/1	203
5/1	356
6/1	217

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	28.1 %	2115	2115
				Arm 5 Left	Inf	68.5 %		
				Arm 6 Right	Inf	3.5 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	46.1 %	2015	2015
				Arm 4 Right	Inf	27.2 %		
				Arm 6 Ahead	Inf	26.7 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

Scenario 14: '2037 AM with Development ' (FG14: '2037 AM - With Development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	358	145	18	521
	B	213	0	361	209	783
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	213	358	506	227	1304

Traffic Lane Flows

Lane	Scenario 14: 2037 AM with Development
Junction: Site 3 Kilckock	
1/1	506
2/1	521
3/1	783
4/1	213
5/1	358
6/1	227

Full Input Data And Results

Lane Saturation Flows

Junction: Site 3 Kilckock								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Bridge Street)	3.25	0.00	Y				1940	1940
2/1 (Harbour Street)	5.00	0.00	Y	Arm 1 Ahead	Inf	27.8 %	2115	2115
				Arm 5 Left	Inf	68.7 %		
				Arm 6 Right	Inf	3.5 %		
3/1 (Bridge Street)	4.00	0.00	Y	Arm 1 Left	Inf	46.1 %	2015	2015
				Arm 4 Right	Inf	27.2 %		
				Arm 6 Ahead	Inf	26.7 %		
4/1	3.25	0.00	Y				1940	1940
5/1	3.25	0.00	Y				1940	1940
6/1 (School Street)	3.25	0.00	Y				1940	1940

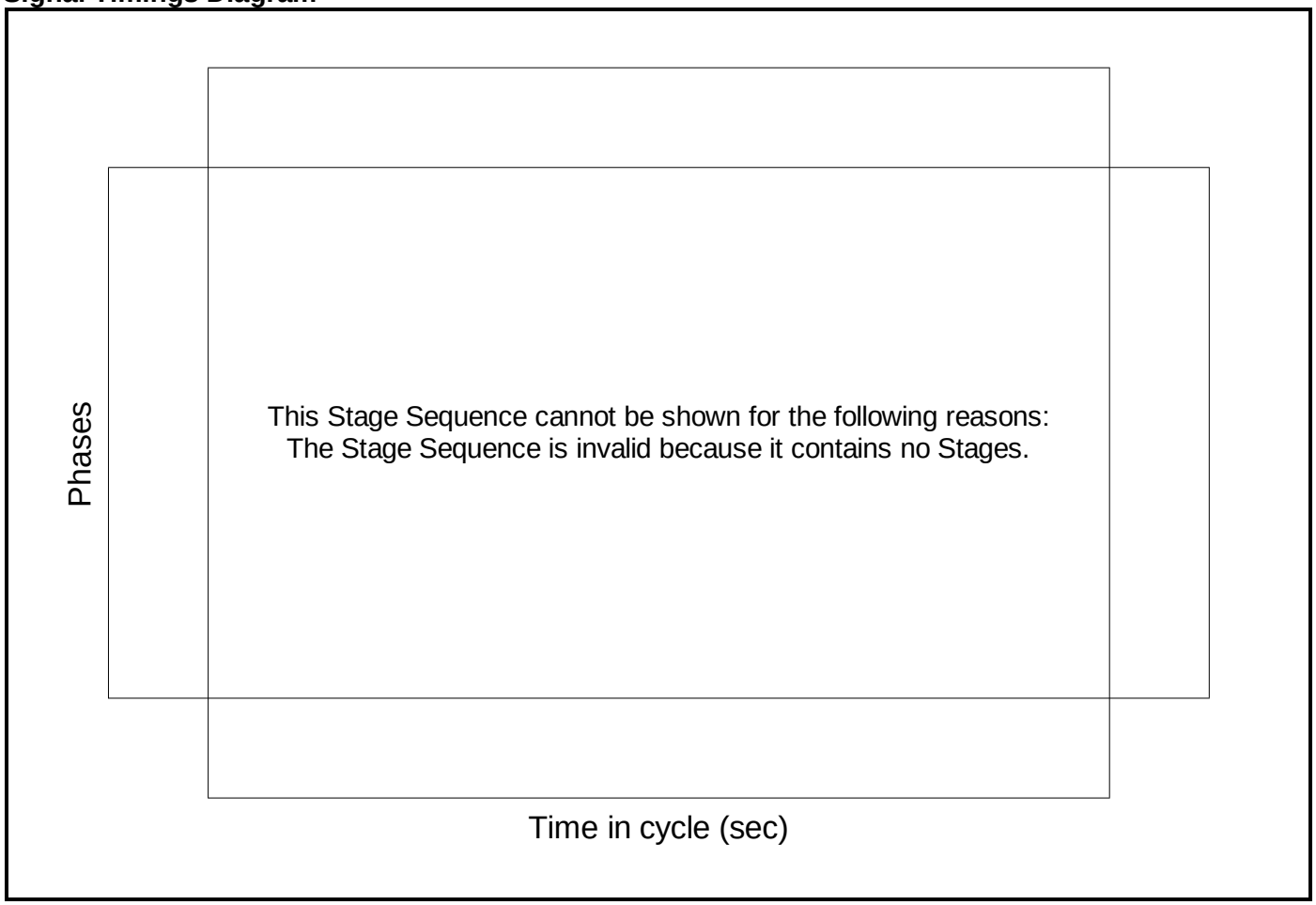
Scenario 1: '2019 PM Survey' (FG1: '2019 Commited Dev PM ', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

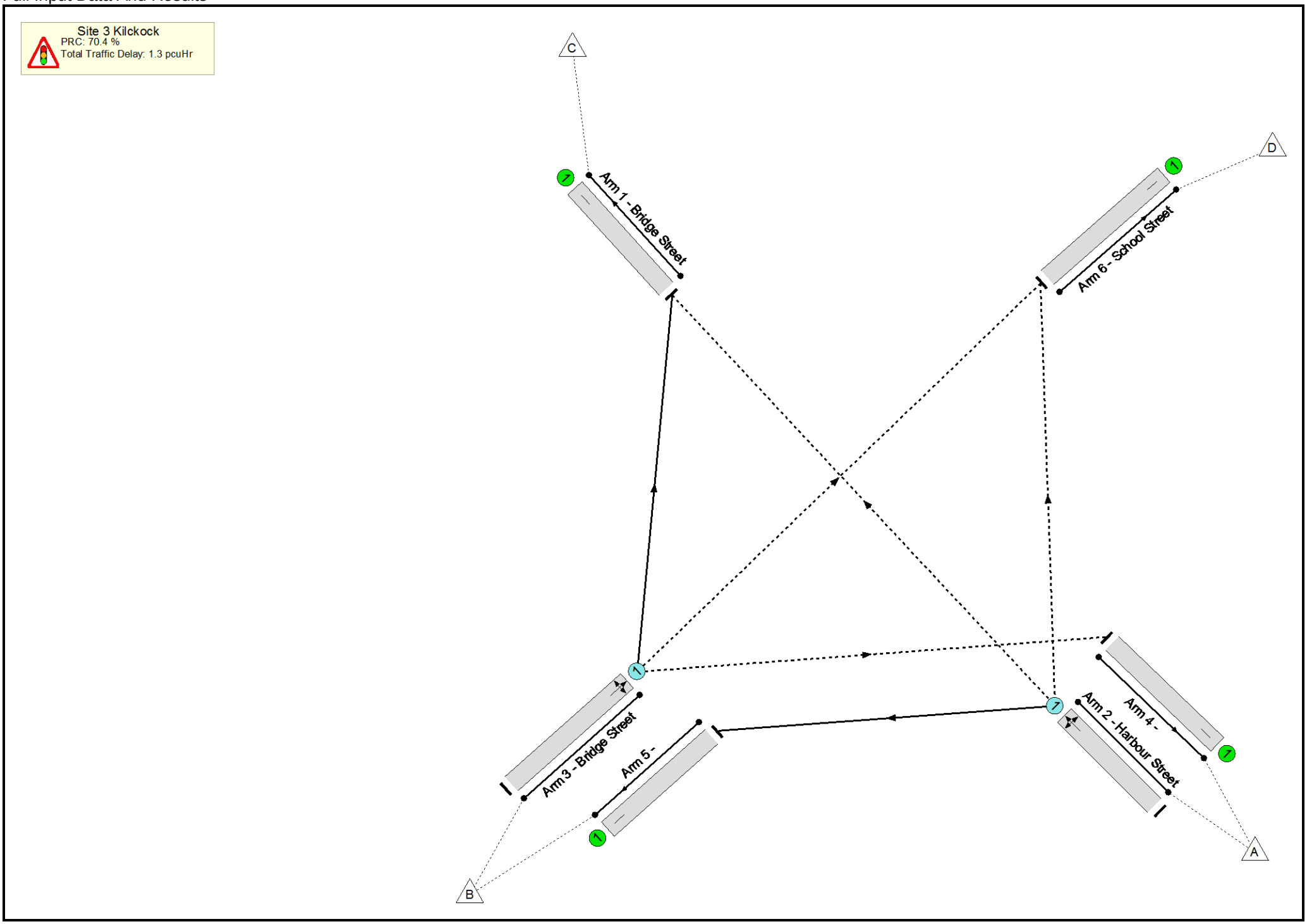
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**52.8%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**52.8%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	507	1940	1940	26.1%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	776	2115	1469	52.8%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	394	2015	986	40.0%
4/1		U	N/A	N/A	-		-	-	-	86	1940	1940	4.4%
5/1		U	N/A	N/A	-		-	-	-	464	1940	1940	23.9%
6/1	School Street	U	N/A	N/A	-		-	-	-	113	1940	1940	5.8%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**484**	**0**	**0**	**0.0**	**1.3**	**0.0**	**1.3**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**484**	**0**	**0**	**0.0**	**1.3**	**0.0**	**1.3**	**-**	**-**	**-**	**-**
1/1	507	507	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	776	776	312	0	0	0.0	0.6	-	0.6	2.6	0.0	0.6	0.6
3/1	394	394	172	0	0	0.0	0.3	-	0.3	3.0	0.0	0.3	0.3
4/1	86	86	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
5/1	464	464	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/1	113	113	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0

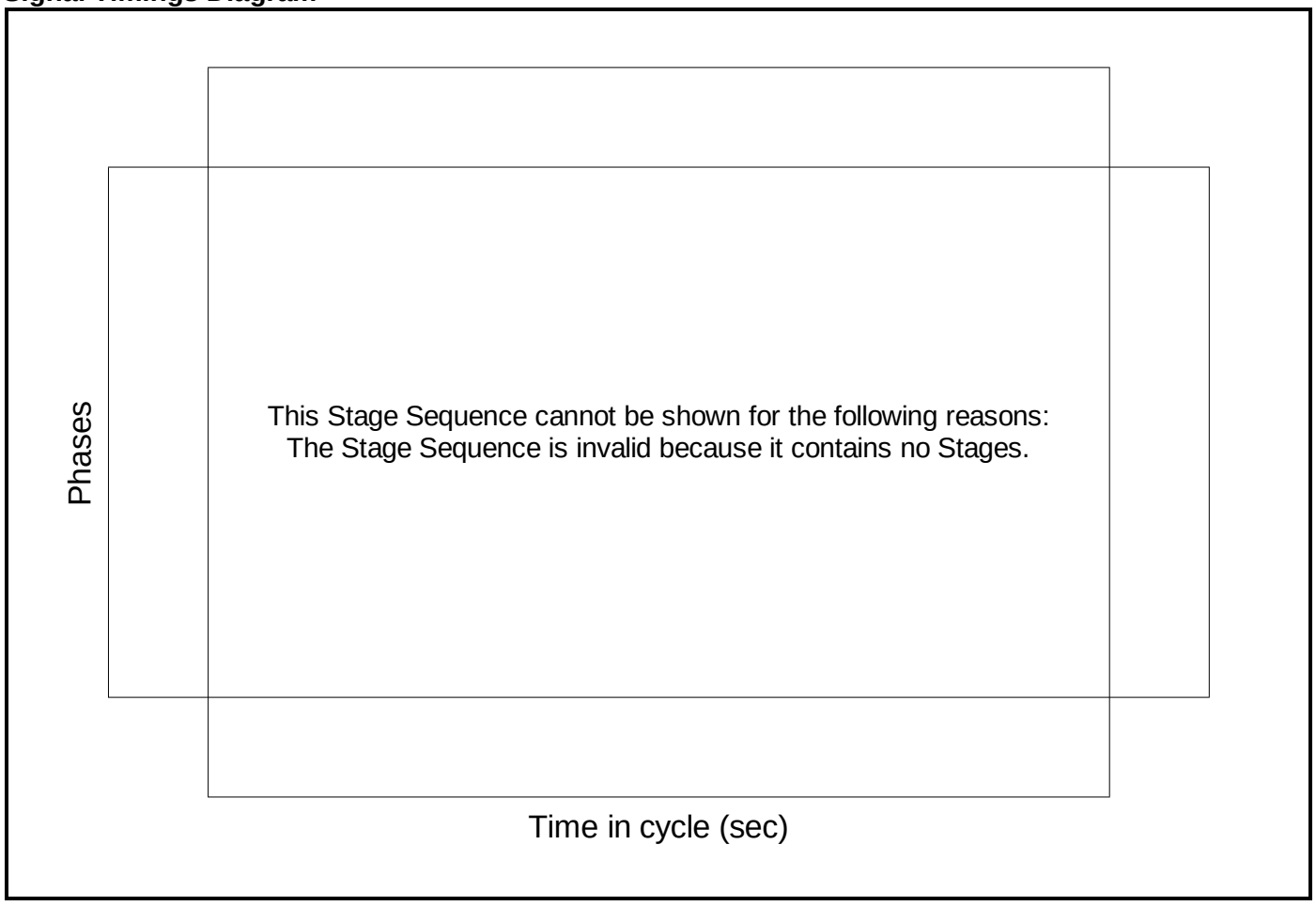
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 70.4 Total Delay Over All Lanes(pcuHr): 1.28

Scenario 2: '2022 PM No Development ' (FG2: '2022 PM - No Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

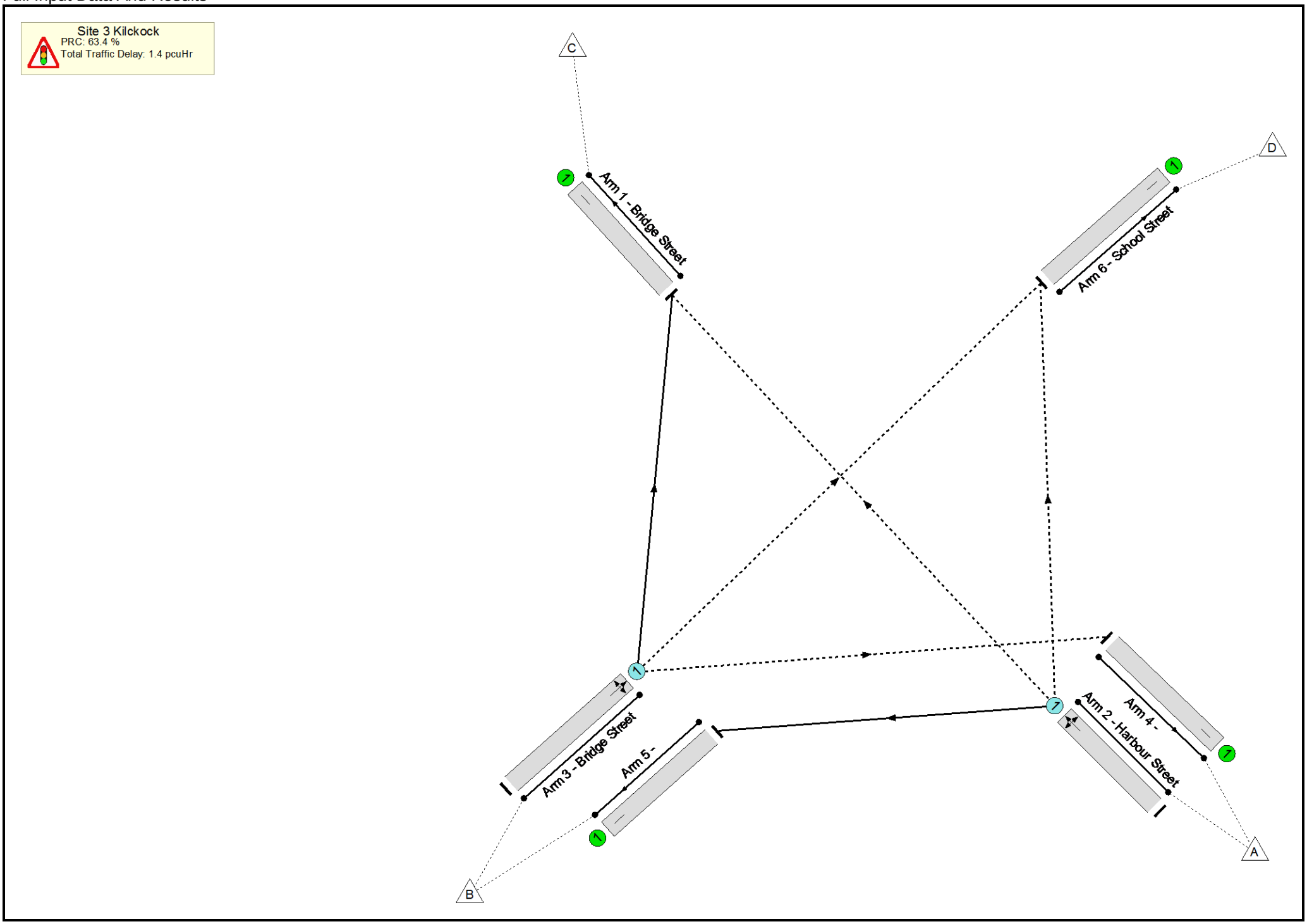
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.1%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**55.1%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	523	1940	1940	27.0%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	801	2115	1454	55.1%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	407	2015	952	42.8%
4/1		U	N/A	N/A	-		-	-	-	89	1940	1940	4.6%
5/1		U	N/A	N/A	-		-	-	-	477	1940	1940	24.6%
6/1	School Street	U	N/A	N/A	-		-	-	-	119	1940	1940	6.1%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**502**	**0**	**0**	**0.0**	**1.4**	**0.0**	**1.4**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**502**	**0**	**0**	**0.0**	**1.4**	**0.0**	**1.4**	**-**	**-**	**-**	**-**
1/1	523	523	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	801	801	324	0	0	0.0	0.6	-	0.6	2.7	0.0	0.6	0.6
3/1	407	407	178	0	0	0.0	0.4	-	0.4	3.3	0.0	0.4	0.4
4/1	89	89	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
5/1	477	477	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/1	119	119	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0

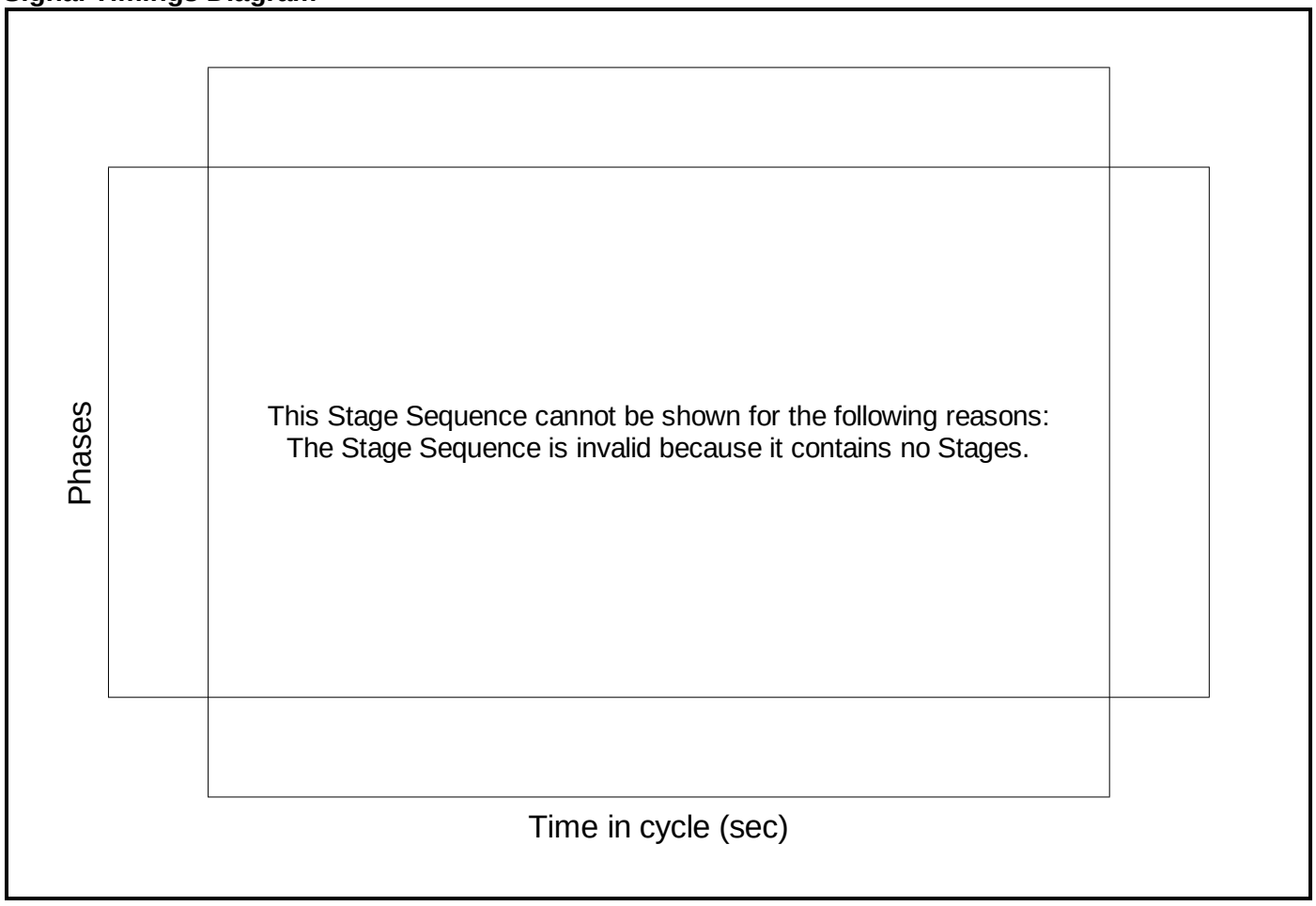
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 63.4 Total Delay Over All Lanes(pcuHr): 1.39

Scenario 3: '2022 PM With Development ' (FG3: '2022 PM - with Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

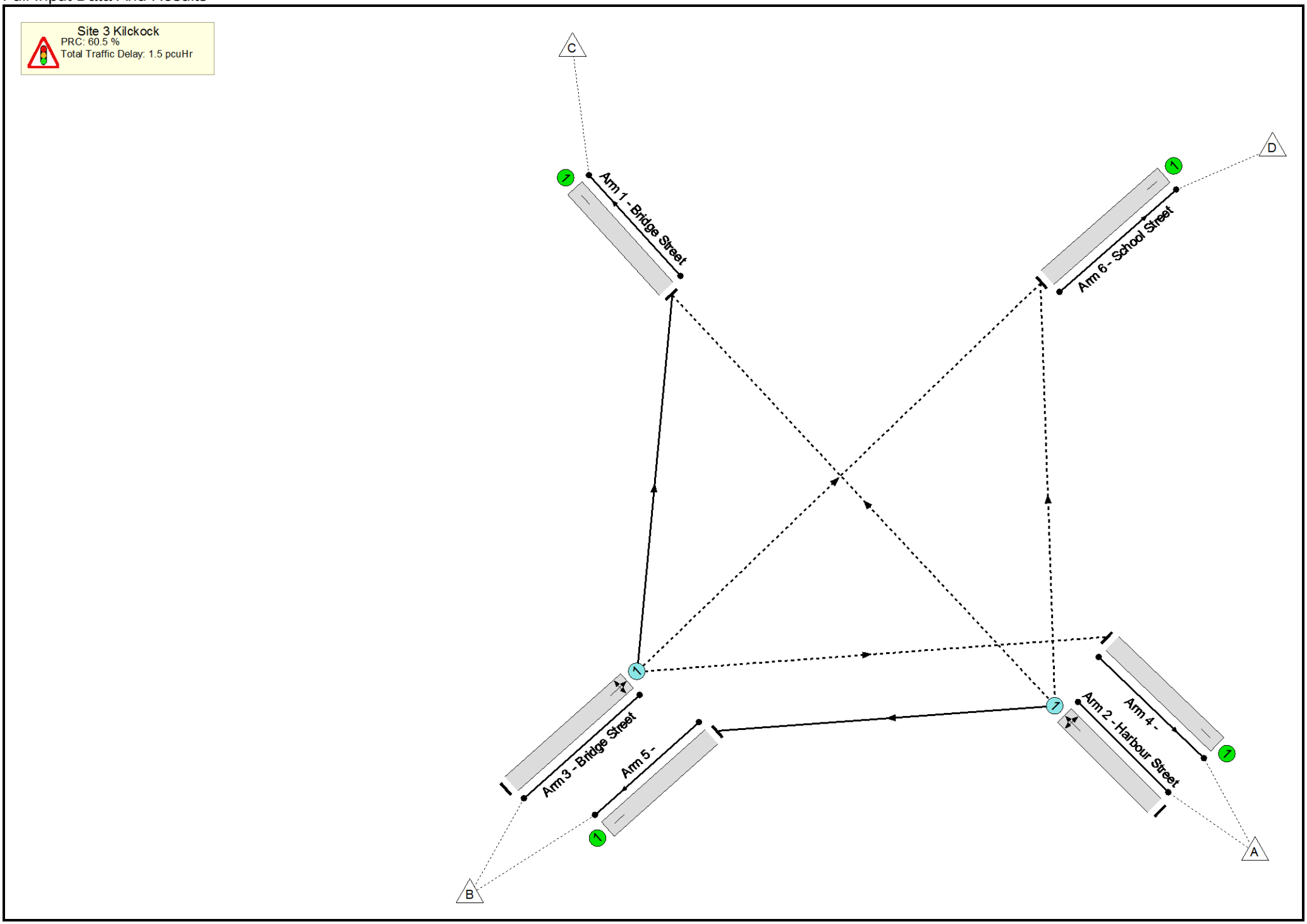
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.1%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.1%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	535	1940	1940	27.6%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	805	2115	1436	56.1%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	429	2015	945	45.4%
4/1		U	N/A	N/A	-		-	-	-	94	1940	1940	4.8%
5/1		U	N/A	N/A	-		-	-	-	481	1940	1940	24.8%
6/1	School Street	U	N/A	N/A	-		-	-	-	124	1940	1940	6.4%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**512**	**0**	**0**	**0.0**	**1.5**	**0.0**	**1.5**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**512**	**0**	**0**	**0.0**	**1.5**	**0.0**	**1.5**	**-**	**-**	**-**	**-**
1/1	535	535	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	805	805	324	0	0	0.0	0.6	-	0.6	2.8	0.0	0.6	0.6
3/1	429	429	188	0	0	0.0	0.4	-	0.4	3.5	0.0	0.4	0.4
4/1	94	94	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
5/1	481	481	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/1	124	124	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0

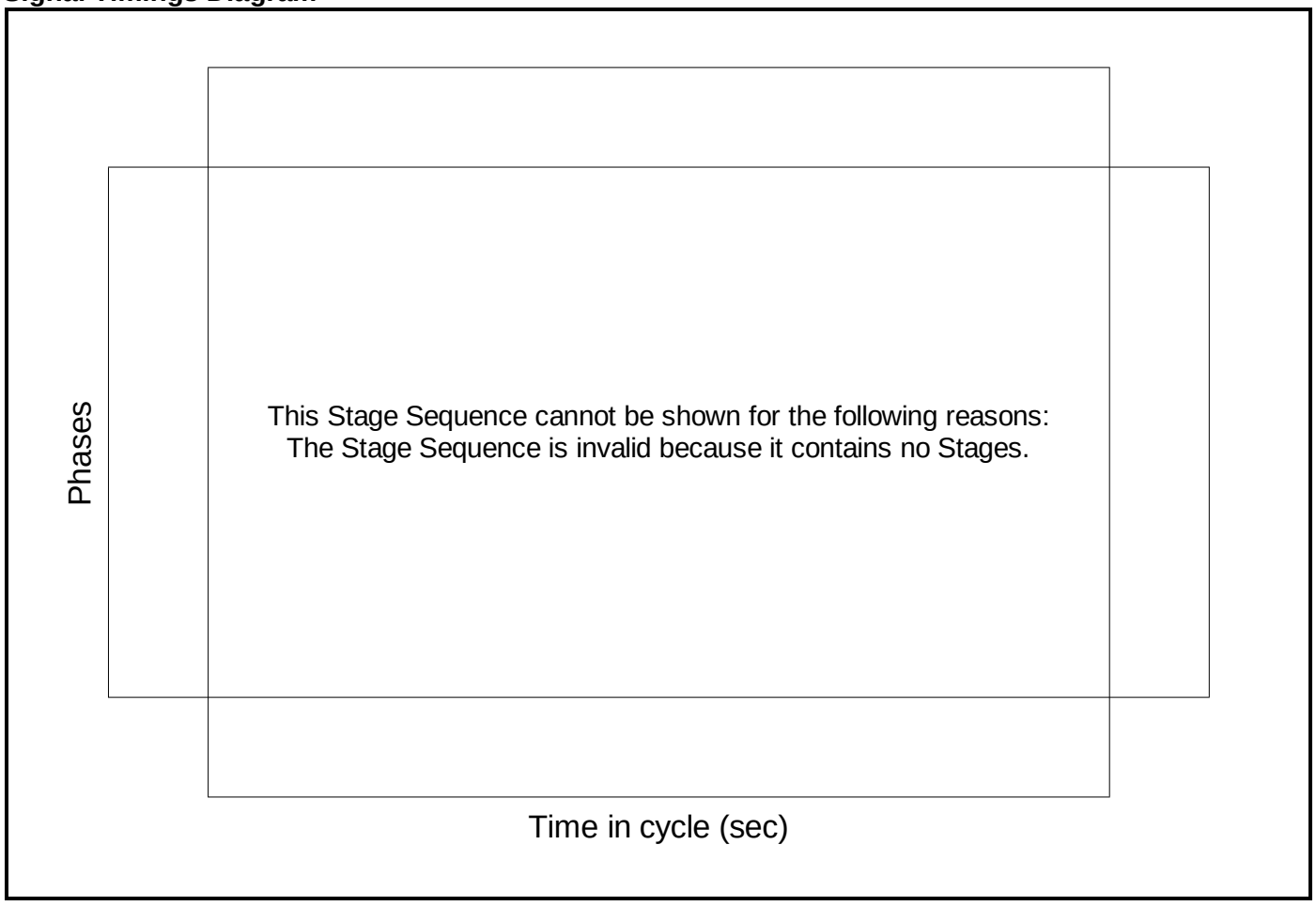
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 60.5 Total Delay Over All Lanes(pcuHr): 1.47

Scenario 4: '2027 PM No Development ' (FG4: '2027 PM - No Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

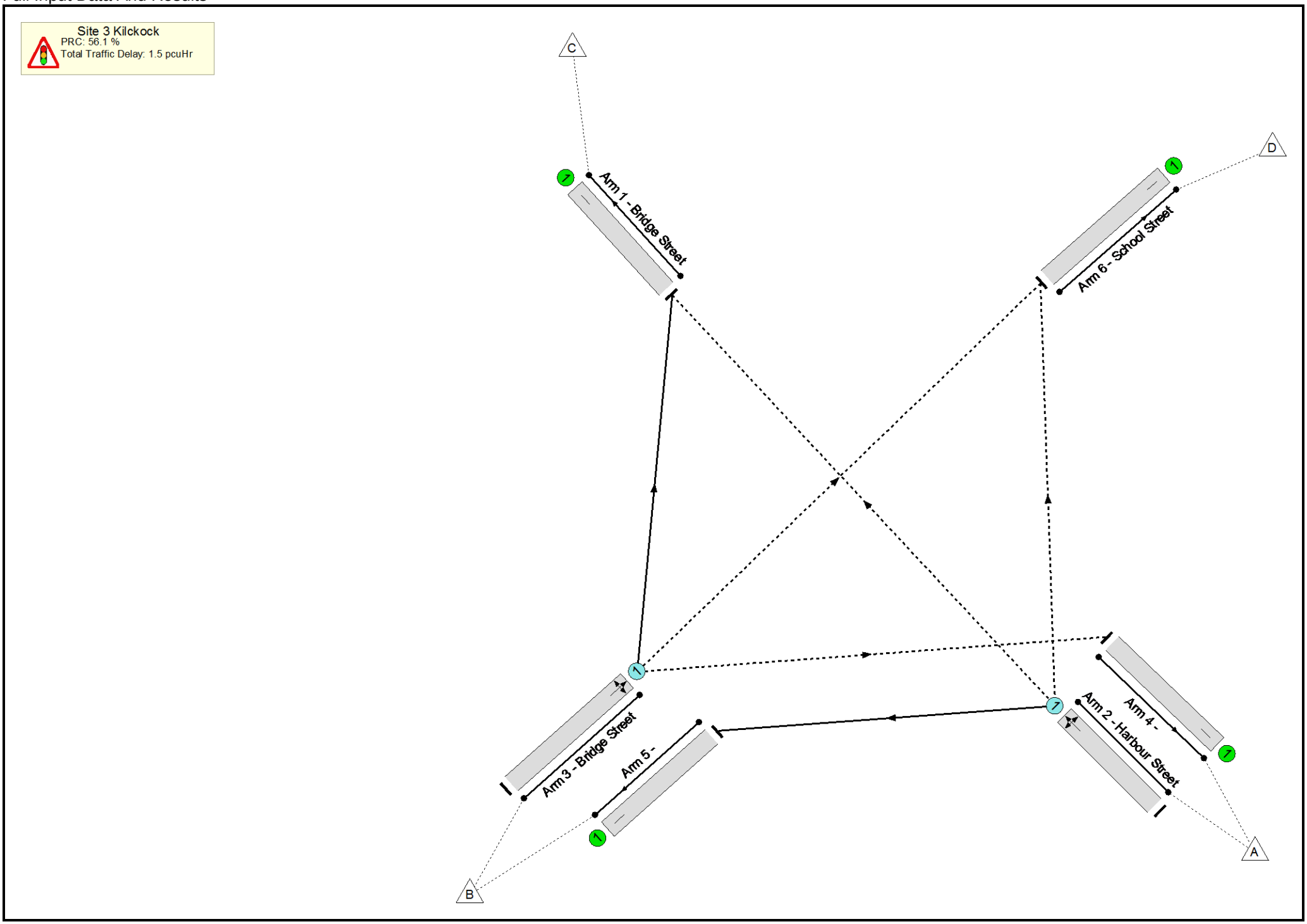
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.7%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.7%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	542	1940	1940	27.9%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	831	2115	1441	57.7%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	420	2015	910	46.2%
4/1		U	N/A	N/A	-		-	-	-	92	1940	1940	4.7%
5/1		U	N/A	N/A	-		-	-	-	494	1940	1940	25.5%
6/1	School Street	U	N/A	N/A	-		-	-	-	123	1940	1940	6.3%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**521**	**0**	**0**	**0.0**	**1.5**	**0.0**	**1.5**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**521**	**0**	**0**	**0.0**	**1.5**	**0.0**	**1.5**	**-**	**-**	**-**	**-**
1/1	542	542	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	831	831	337	0	0	0.0	0.7	-	0.7	2.9	0.0	0.7	0.7
3/1	420	420	184	0	0	0.0	0.4	-	0.4	3.7	0.0	0.4	0.4
4/1	92	92	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
5/1	494	494	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/1	123	123	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0

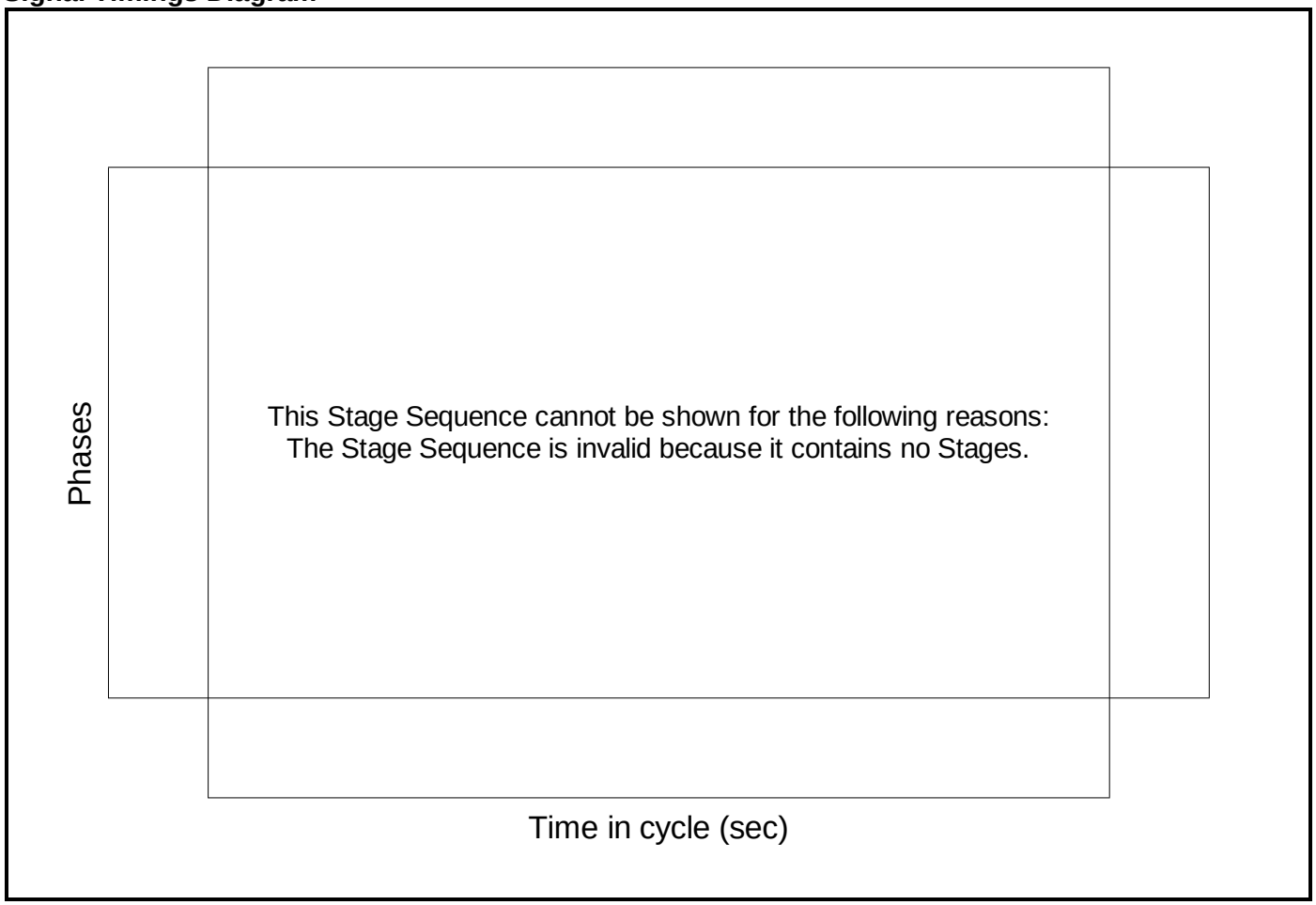
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 56.1 Total Delay Over All Lanes(pcuHr): 1.53

Scenario 5: '2027 PM With Development ' (FG5: '2027 PM - With Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

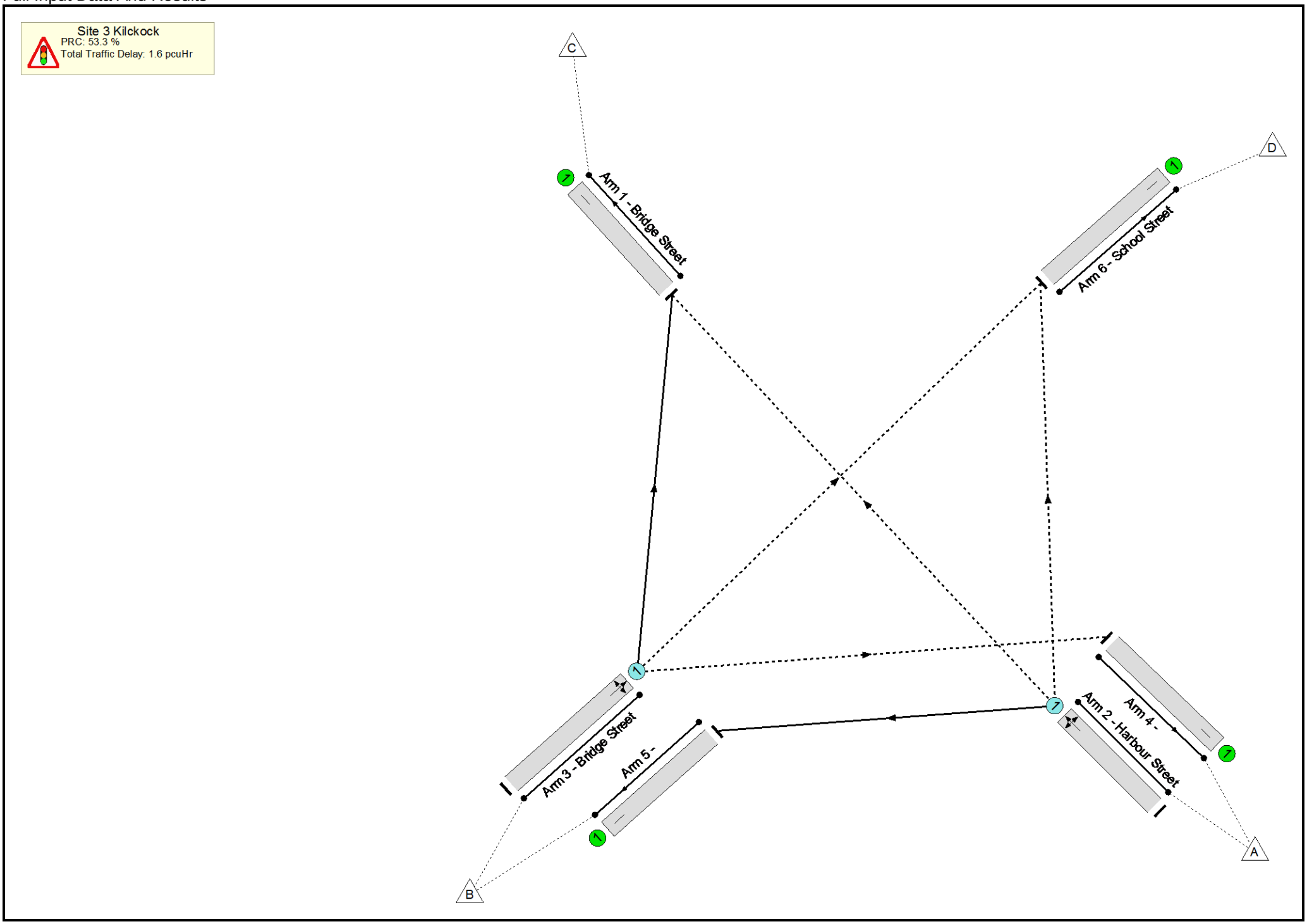
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.7%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.7%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	555	1940	1940	28.6%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	834	2115	1421	58.7%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	443	2015	906	48.9%
4/1		U	N/A	N/A	-		-	-	-	97	1940	1940	5.0%
5/1		U	N/A	N/A	-		-	-	-	497	1940	1940	25.6%
6/1	School Street	U	N/A	N/A	-		-	-	-	128	1940	1940	6.6%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**531**	**0**	**0**	**0.0**	**1.6**	**0.0**	**1.6**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**531**	**0**	**0**	**0.0**	**1.6**	**0.0**	**1.6**	**-**	**-**	**-**	**-**
1/1	555	555	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	834	834	337	0	0	0.0	0.7	-	0.7	3.1	0.0	0.7	0.7
3/1	443	443	194	0	0	0.0	0.5	-	0.5	3.9	0.0	0.5	0.5
4/1	97	97	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
5/1	497	497	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
6/1	128	128	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0

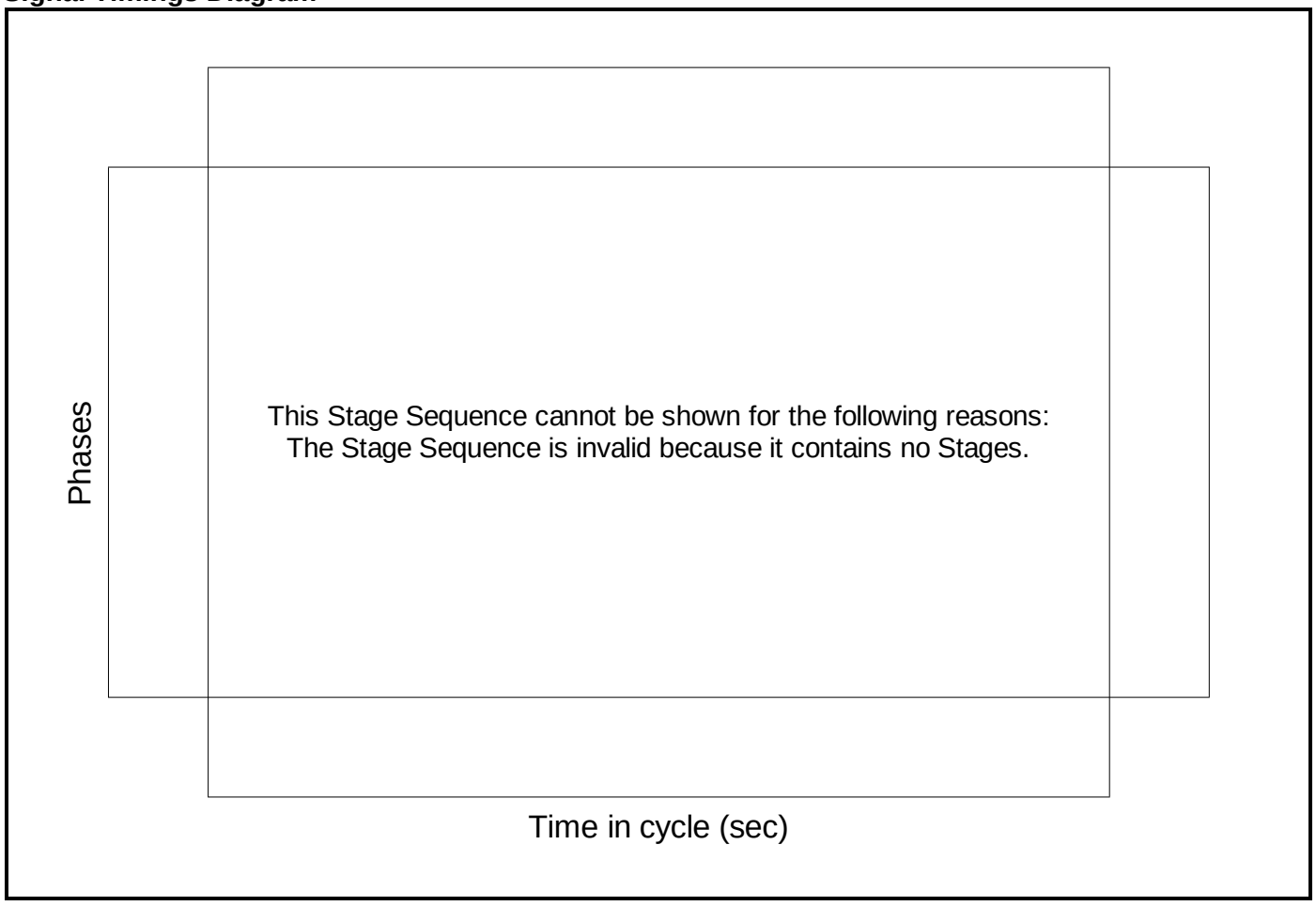
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 53.3 Total Delay Over All Lanes(pcuHr): 1.62

Scenario 6: '2037 PM No Development' (FG6: '2037 PM - No Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

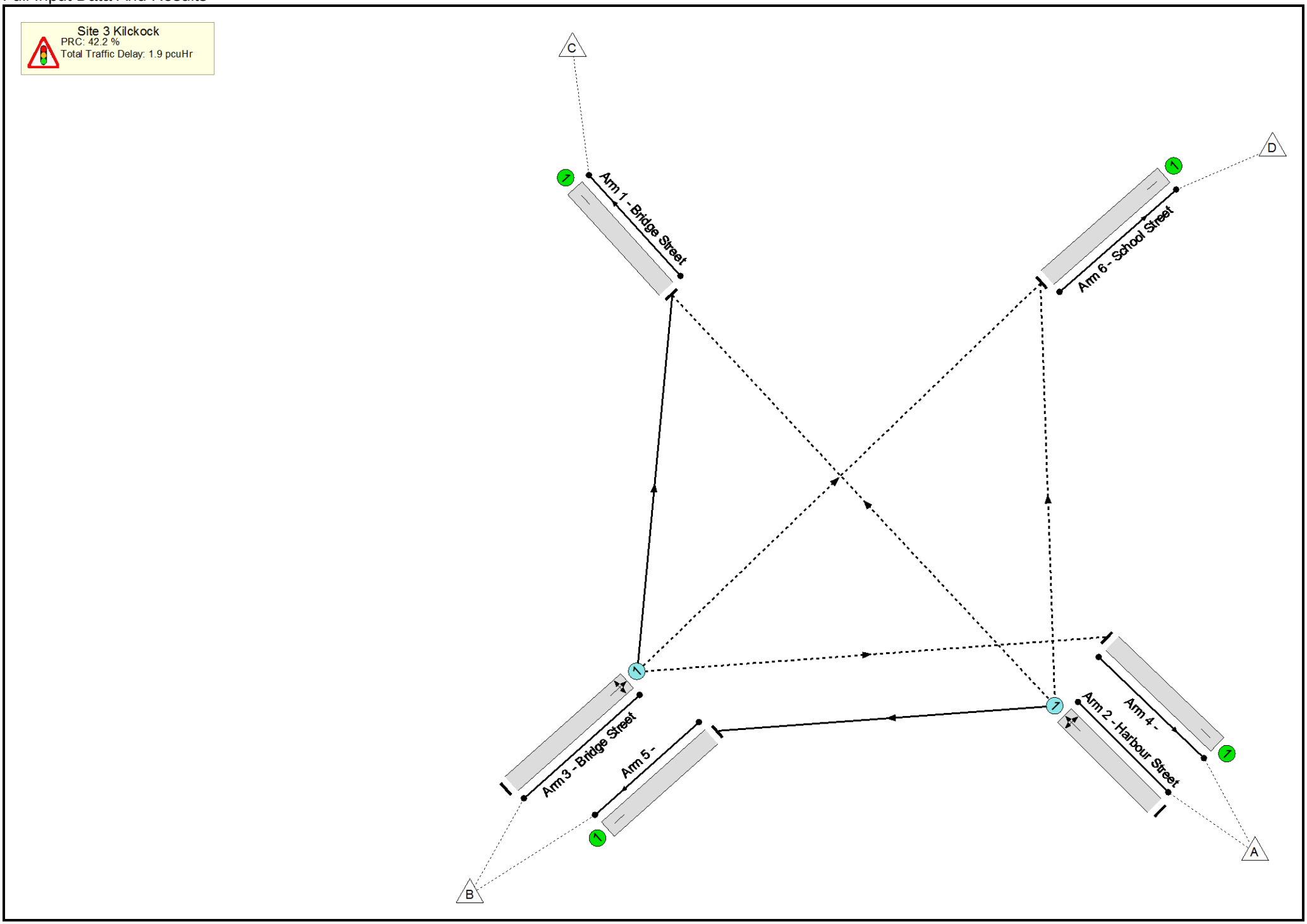
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.3%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.3%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	584	1940	1940	30.1%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	893	2115	1411	63.3%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	449	2015	823	54.6%
4/1		U	N/A	N/A	-		-	-	-	98	1940	1940	5.1%
5/1		U	N/A	N/A	-		-	-	-	529	1940	1940	27.3%
6/1	School Street	U	N/A	N/A	-		-	-	-	131	1940	1940	6.8%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**560**	**0**	**0**	**0.0**	**1.9**	**0.0**	**1.9**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**560**	**0**	**0**	**0.0**	**1.9**	**0.0**	**1.9**	**-**	**-**	**-**	**-**
1/1	584	584	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	893	893	364	0	0	0.0	0.9	-	0.9	3.5	0.0	0.9	0.9
3/1	449	449	196	0	0	0.0	0.6	-	0.6	4.8	0.0	0.6	0.6
4/1	98	98	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
5/1	529	529	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/1	131	131	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1

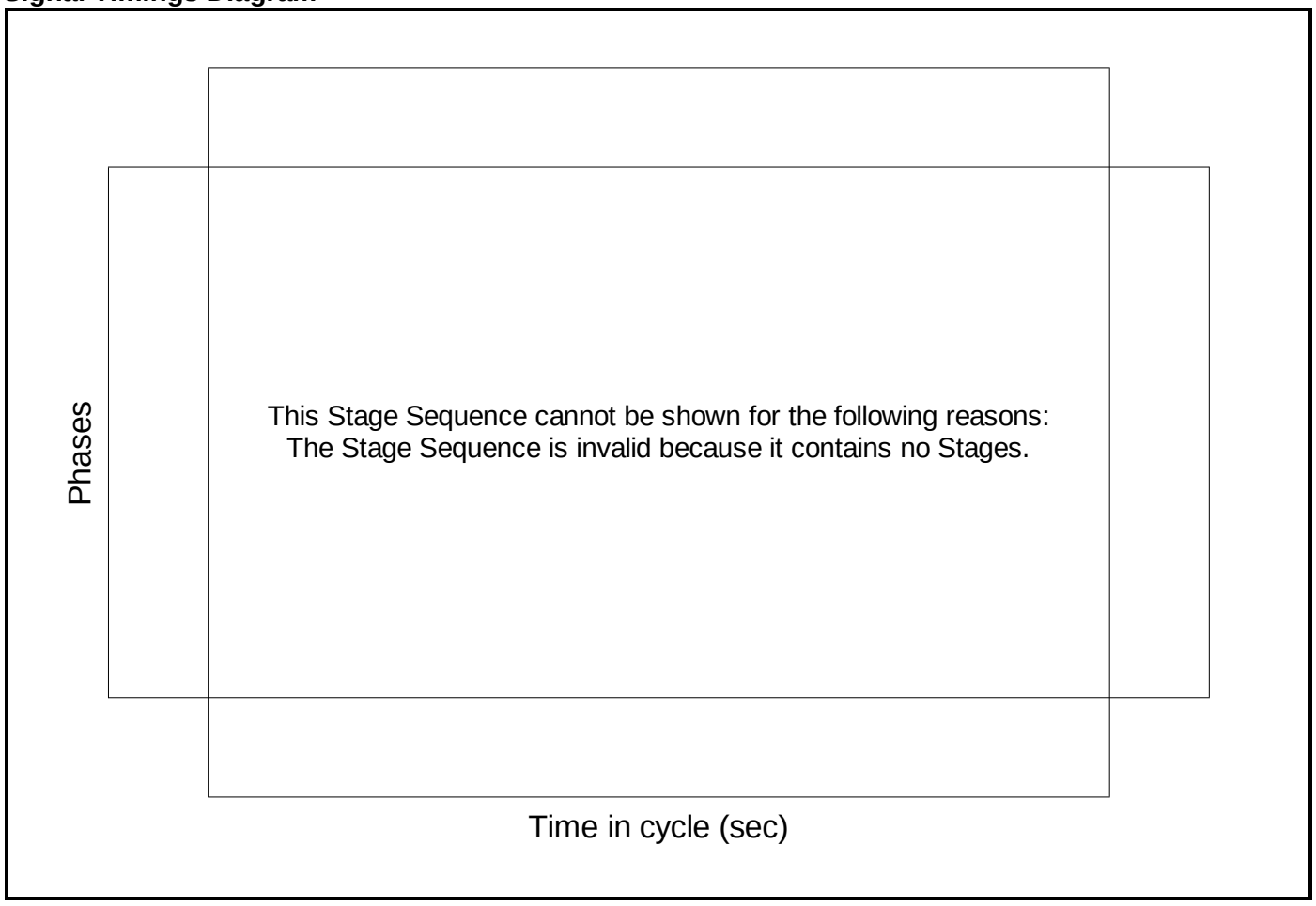
PRC Over All Lanes (%): 42.2 Total Delay Over All Lanes(pcuHr): 1.92

Scenario 7: '2037 With Development' (FG7: '2037 PM - With Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

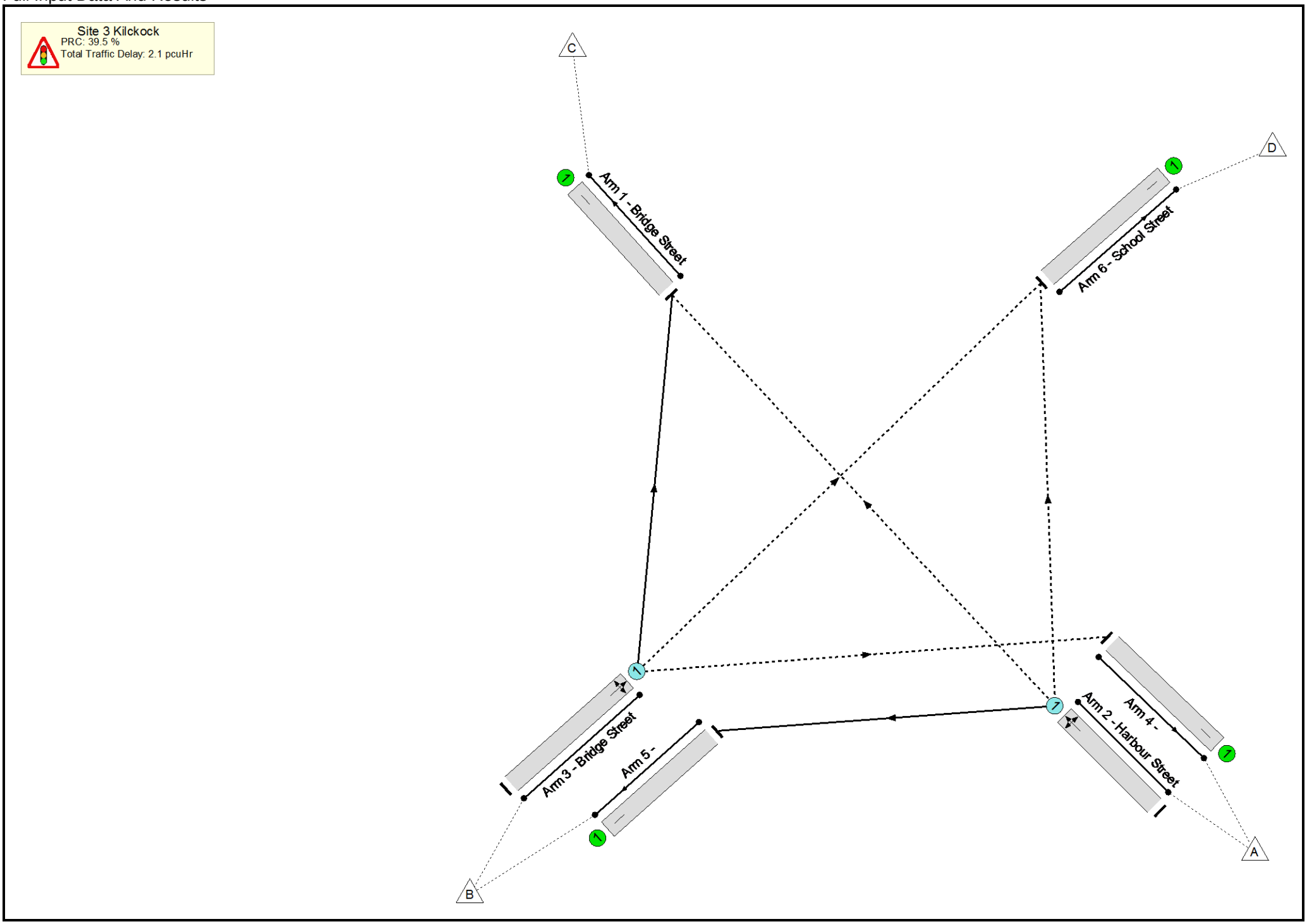
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.5%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.5%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	597	1940	1940	30.8%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	897	2115	1390	64.5%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	472	2015	817	57.8%
4/1		U	N/A	N/A	-		-	-	-	103	1940	1940	5.3%
5/1		U	N/A	N/A	-		-	-	-	533	1940	1940	27.5%
6/1	School Street	U	N/A	N/A	-		-	-	-	136	1940	1940	7.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**570**	**0**	**0**	**0.0**	**2.1**	**0.0**	**2.1**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**570**	**0**	**0**	**0.0**	**2.1**	**0.0**	**2.1**	**-**	**-**	**-**	**-**
1/1	597	597	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	897	897	364	0	0	0.0	0.9	-	0.9	3.6	0.0	0.9	0.9
3/1	472	472	206	0	0	0.0	0.7	-	0.7	5.2	0.0	0.7	0.7
4/1	103	103	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
5/1	533	533	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
6/1	136	136	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0

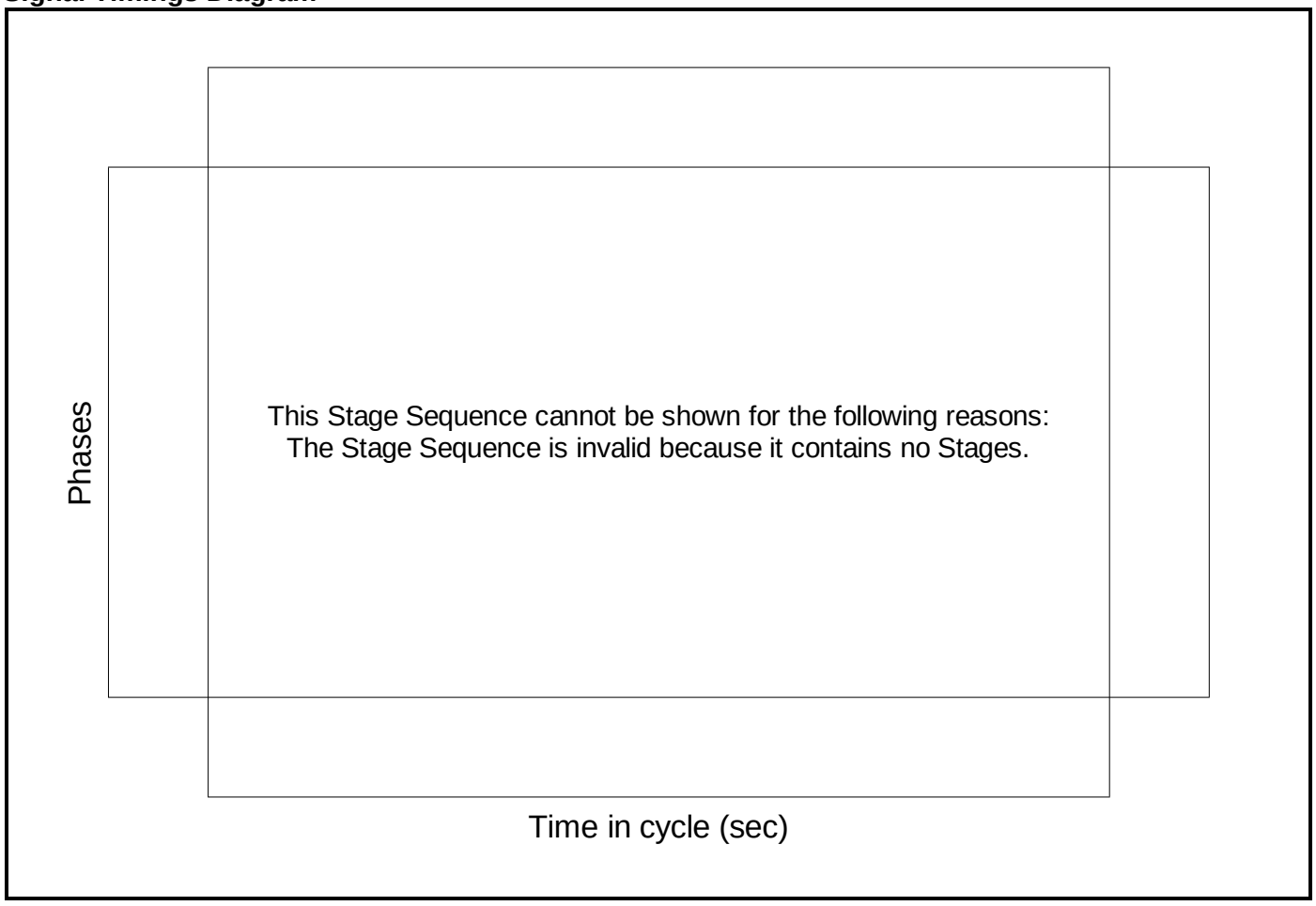
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 39.5 Total Delay Over All Lanes(pcuHr): 2.06

Scenario 8: '2019 Committed AM' (FG8: '2019 Commited Dev AM', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

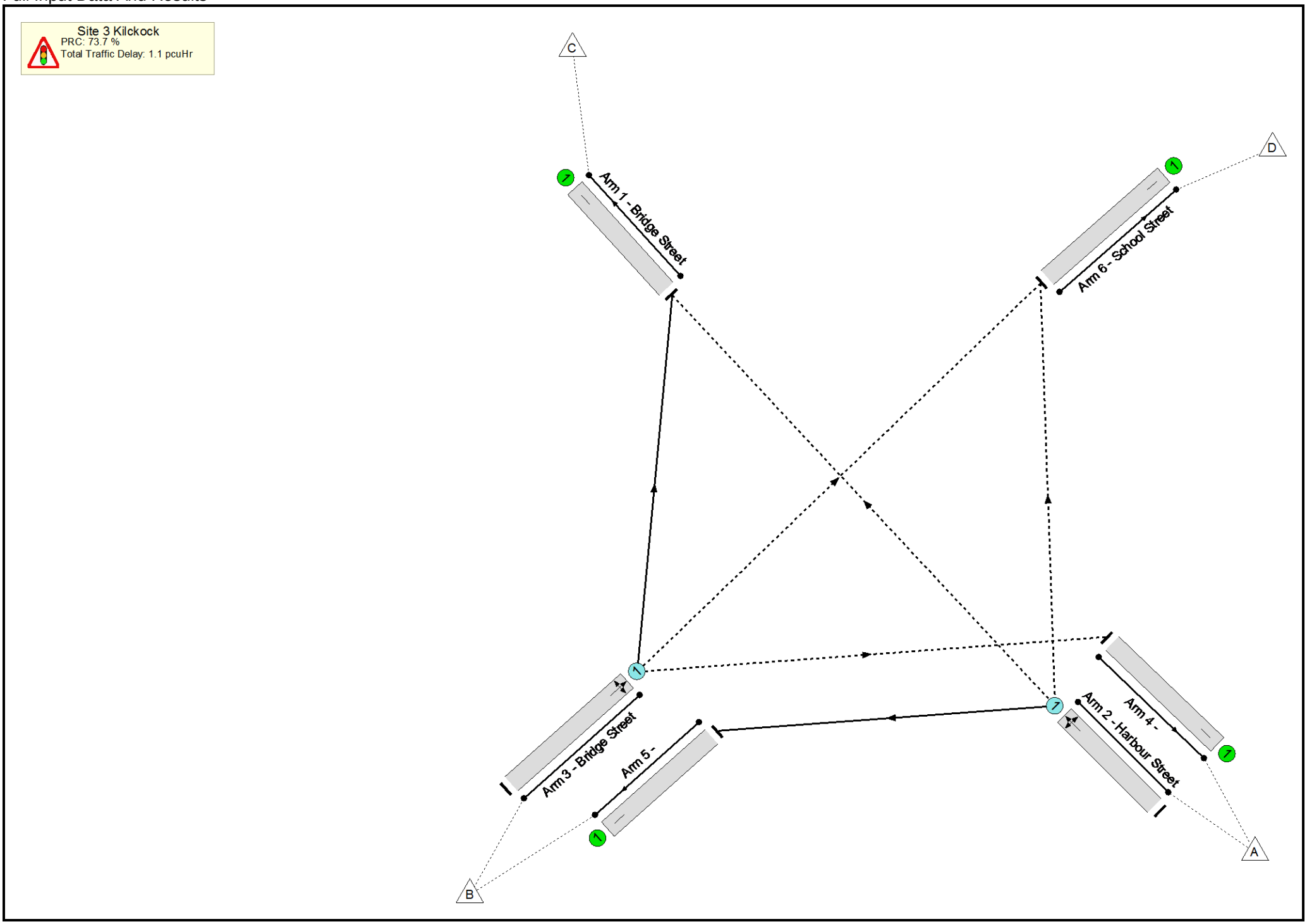
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**51.8%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**51.8%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	425	1940	1940	21.9%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	450	2115	1328	33.9%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	650	2015	1255	51.8%
4/1		U	N/A	N/A	-		-	-	-	177	1940	1940	9.1%
5/1		U	N/A	N/A	-		-	-	-	309	1940	1940	15.9%
6/1	School Street	U	N/A	N/A	-		-	-	-	189	1940	1940	9.7%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**492**	**0**	**0**	**0.0**	**1.1**	**0.0**	**1.1**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**492**	**0**	**0**	**0.0**	**1.1**	**0.0**	**1.1**	**-**	**-**	**-**	**-**
1/1	425	425	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
2/1	450	450	141	0	0	0.0	0.3	-	0.3	2.0	0.0	0.3	0.3
3/1	650	650	351	0	0	0.0	0.5	-	0.5	3.0	0.0	0.5	0.5
4/1	177	177	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/1	309	309	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
6/1	189	189	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1

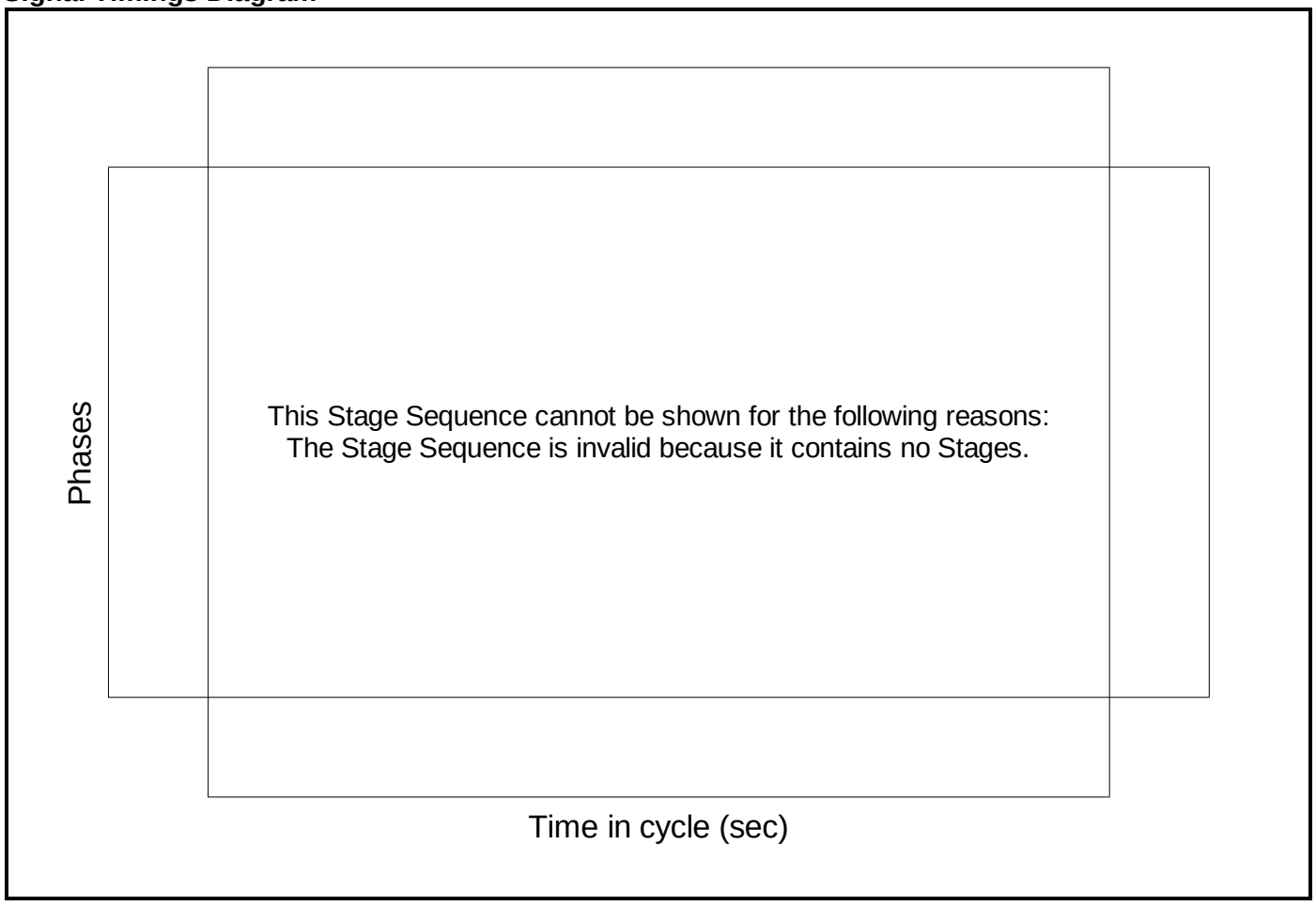
PRC Over All Lanes (%): 73.7 Total Delay Over All Lanes(pcuHr): 1.13

Scenario 9: '2022 AM No Development' (FG9: '2022 AM - No Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

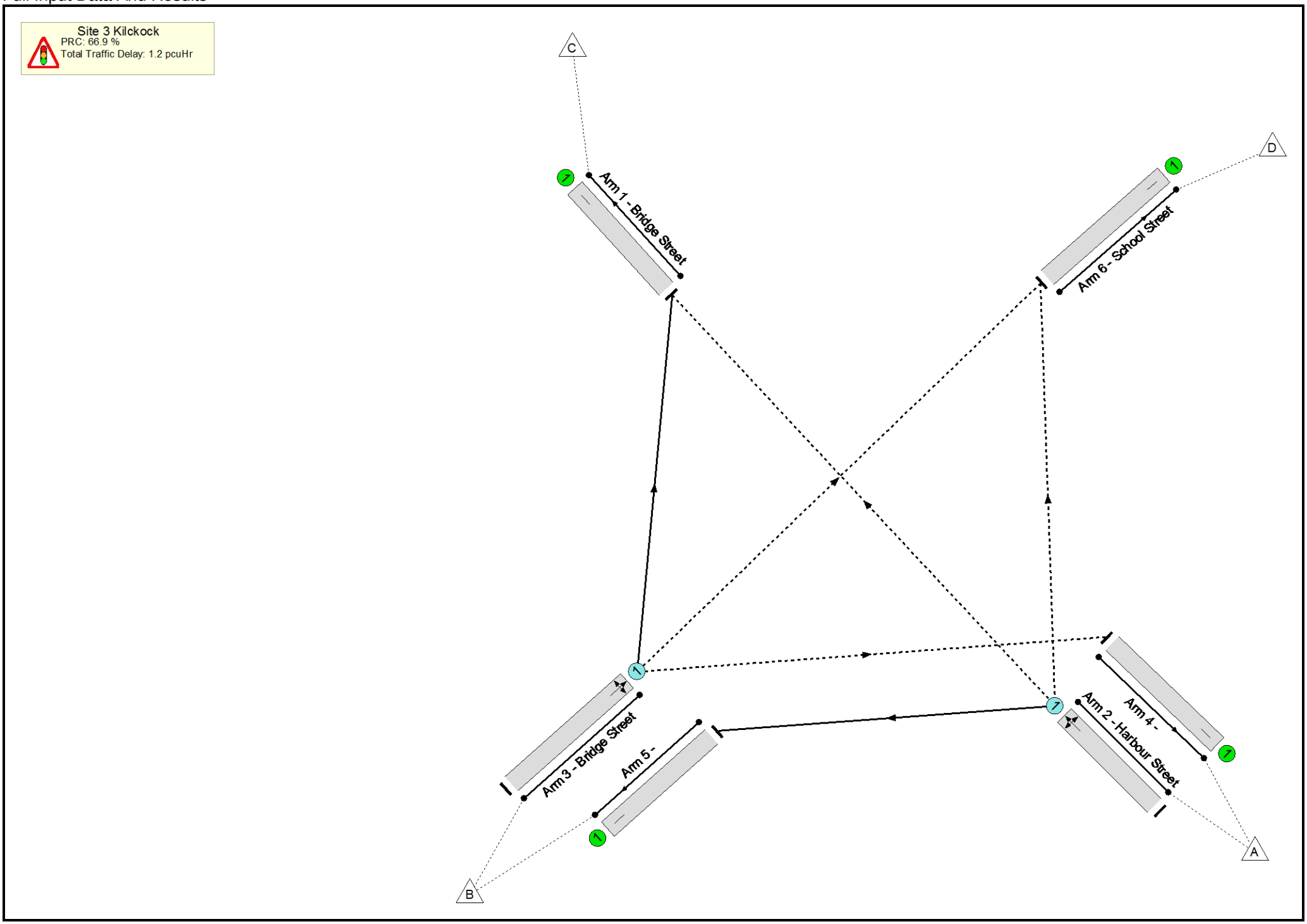
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**53.9%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**53.9%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	438	1940	1940	22.6%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	464	2115	1304	35.6%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	669	2015	1241	53.9%
4/1		U	N/A	N/A	-		-	-	-	182	1940	1940	9.4%
5/1		U	N/A	N/A	-		-	-	-	318	1940	1940	16.4%
6/1	School Street	U	N/A	N/A	-		-	-	-	195	1940	1940	10.1%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**507**	**0**	**0**	**0.0**	**1.2**	**0.0**	**1.2**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**507**	**0**	**0**	**0.0**	**1.2**	**0.0**	**1.2**	**-**	**-**	**-**	**-**
1/1	438	438	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
2/1	464	464	146	0	0	0.0	0.3	-	0.3	2.1	0.0	0.3	0.3
3/1	669	669	361	0	0	0.0	0.6	-	0.6	3.1	0.0	0.6	0.6
4/1	182	182	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/1	318	318	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
6/1	195	195	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1

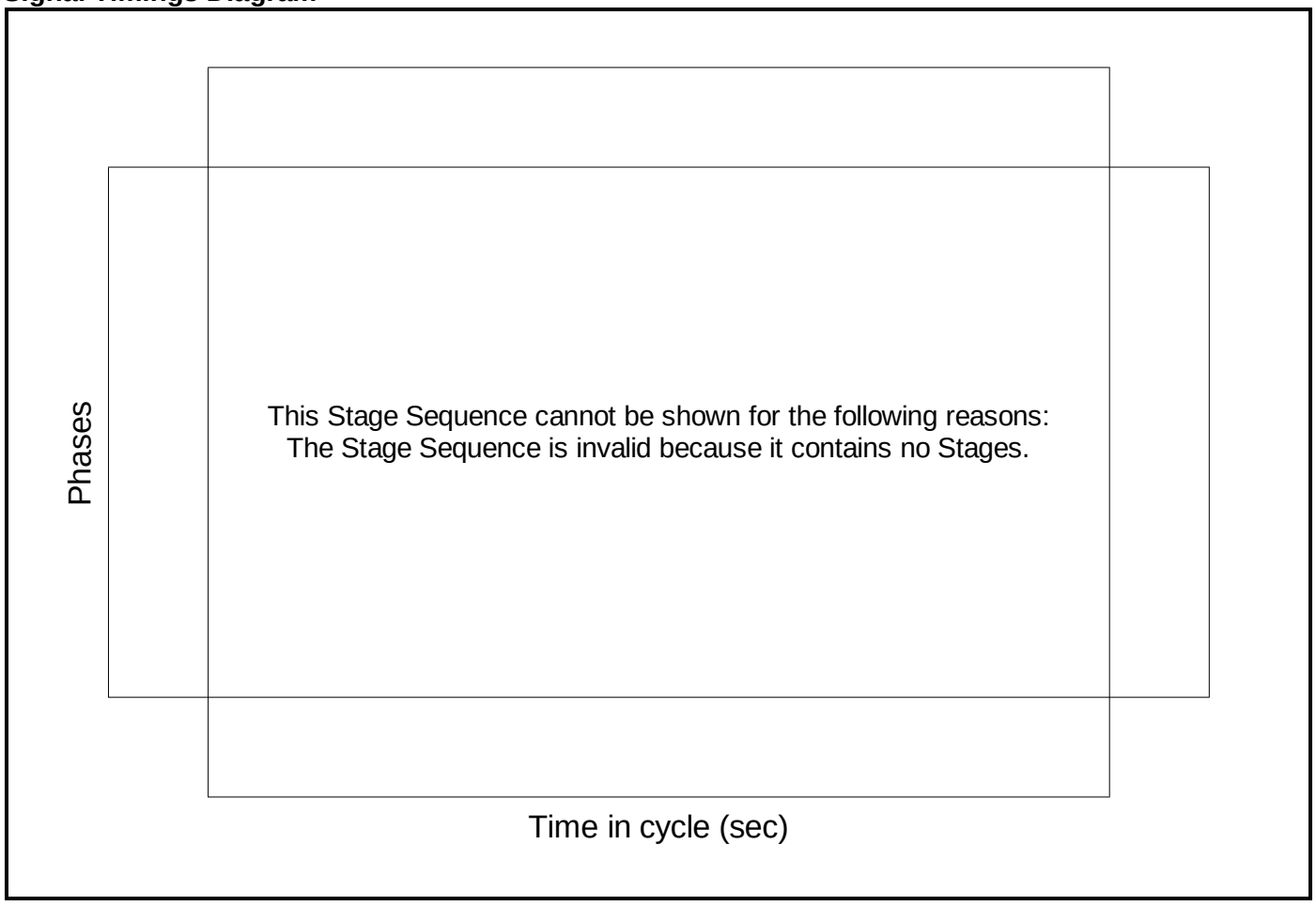
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 66.9 Total Delay Over All Lanes(pcuHr): 1.21

Scenario 10: '2022 AM With Development' (FG10: '2022 AM - with Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

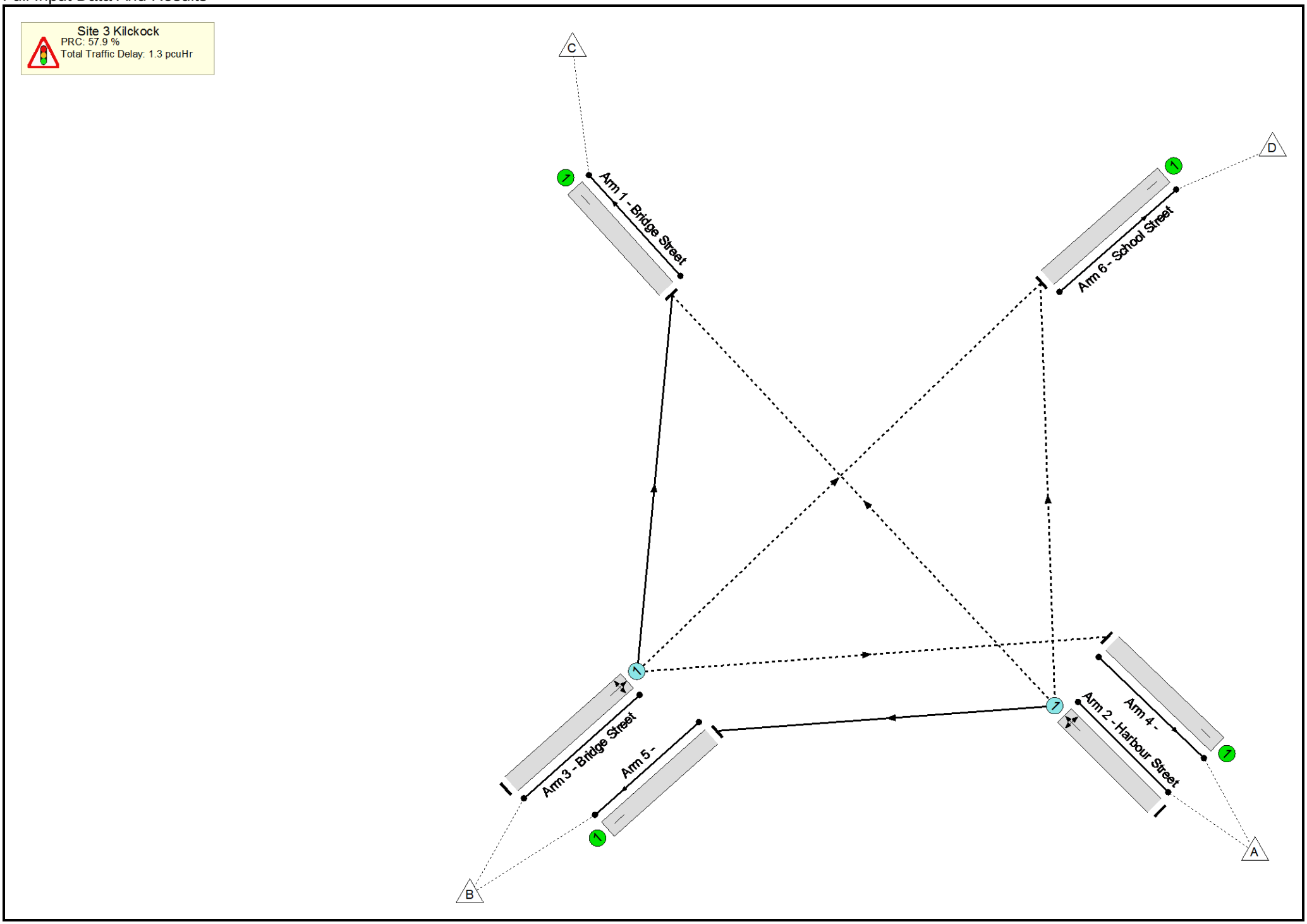
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.0%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**57.0%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	455	1940	1940	23.5%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	466	2115	1263	36.9%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	706	2015	1238	57.0%
4/1		U	N/A	N/A	-		-	-	-	189	1940	1940	9.7%
5/1		U	N/A	N/A	-		-	-	-	320	1940	1940	16.5%
6/1	School Street	U	N/A	N/A	-		-	-	-	208	1940	1940	10.7%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**527**	**0**	**0**	**0.0**	**1.3**	**0.0**	**1.3**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**527**	**0**	**0**	**0.0**	**1.3**	**0.0**	**1.3**	**-**	**-**	**-**	**-**
1/1	455	455	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	466	466	146	0	0	0.0	0.3	-	0.3	2.3	0.0	0.3	0.3
3/1	706	706	381	0	0	0.0	0.7	-	0.7	3.4	0.0	0.7	0.7
4/1	189	189	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/1	320	320	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
6/1	208	208	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1

C1

PRC for Signalled Lanes (%): 0.0
PRC Over All Lanes (%): 57.9

Total Delay for Signalled Lanes (pcuHr): 0.00
Total Delay Over All Lanes(pcuHr): 1.32

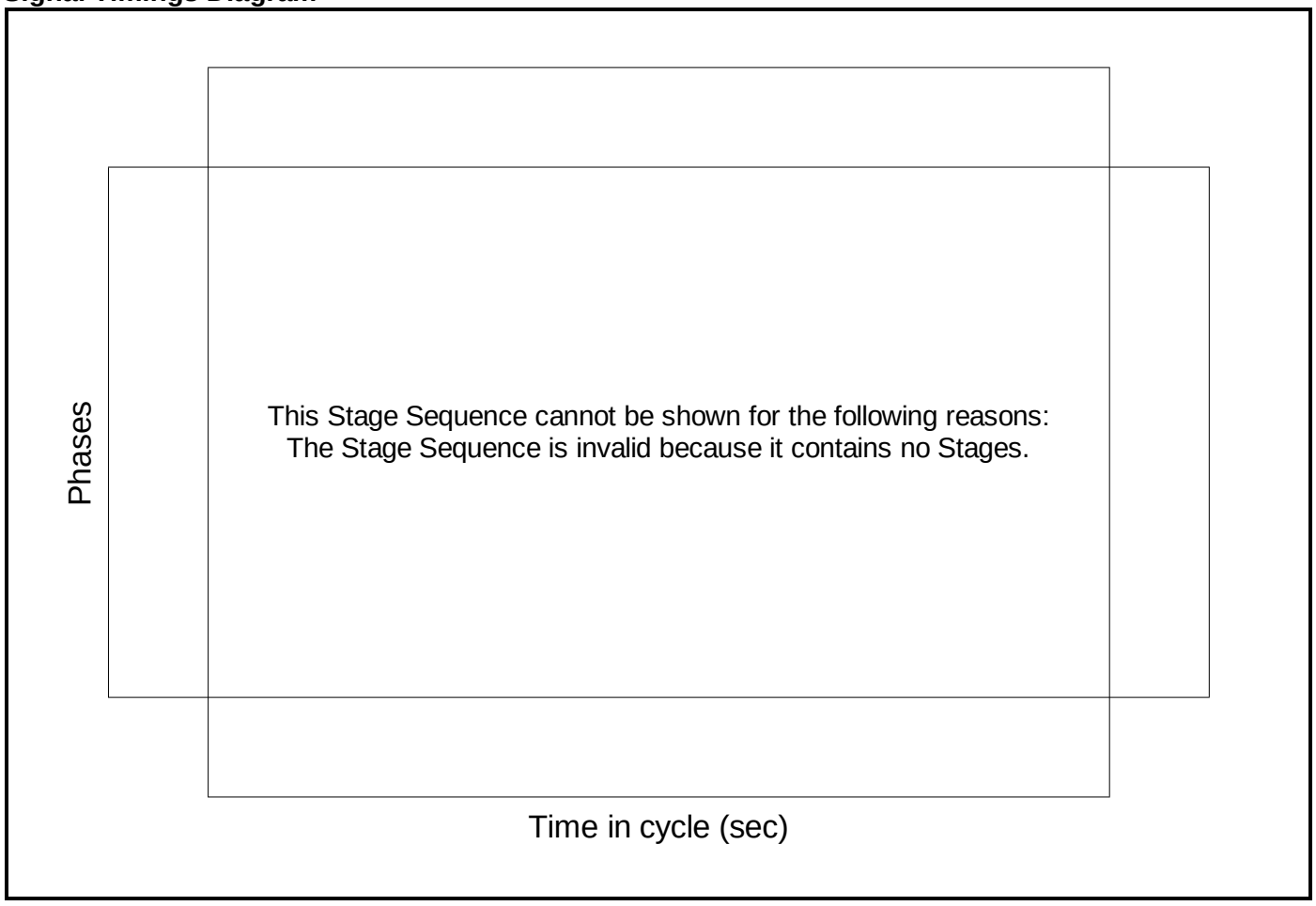
Cycle Time (s): 1

Scenario 11: '2027 AM No Development' (FG11: '2027 AM - No Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

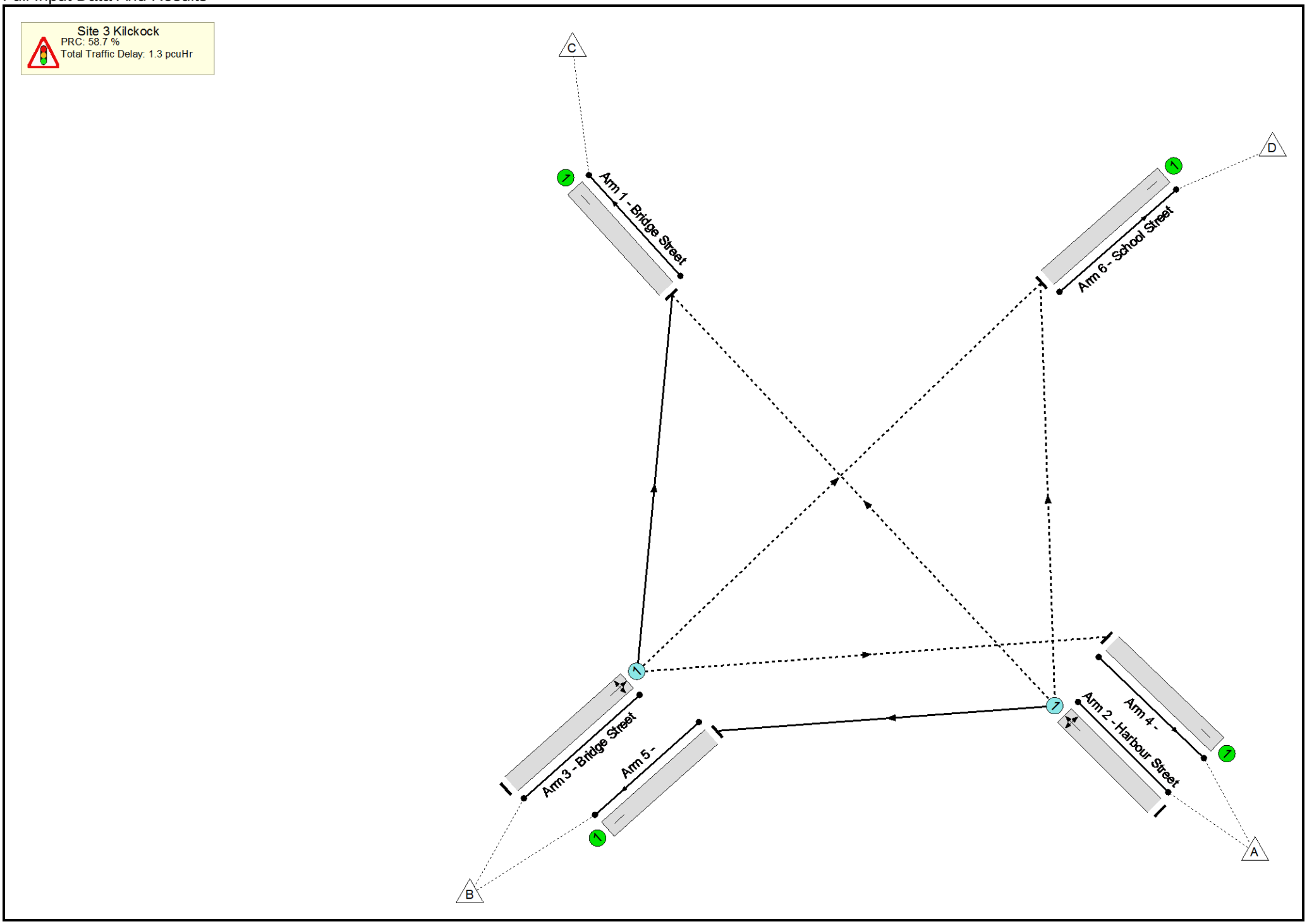
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.7%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**56.7%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	455	1940	1940	23.5%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	481	2115	1276	37.7%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	694	2015	1223	56.7%
4/1		U	N/A	N/A	-		-	-	-	189	1940	1940	9.7%
5/1		U	N/A	N/A	-		-	-	-	330	1940	1940	17.0%
6/1	School Street	U	N/A	N/A	-		-	-	-	201	1940	1940	10.4%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**525**	**0**	**0**	**0.0**	**1.3**	**0.0**	**1.3**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**525**	**0**	**0**	**0.0**	**1.3**	**0.0**	**1.3**	**-**	**-**	**-**	**-**
1/1	455	455	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	481	481	151	0	0	0.0	0.3	-	0.3	2.3	0.0	0.3	0.3
3/1	694	694	374	0	0	0.0	0.7	-	0.7	3.4	0.0	0.7	0.7
4/1	189	189	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/1	330	330	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
6/1	201	201	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1

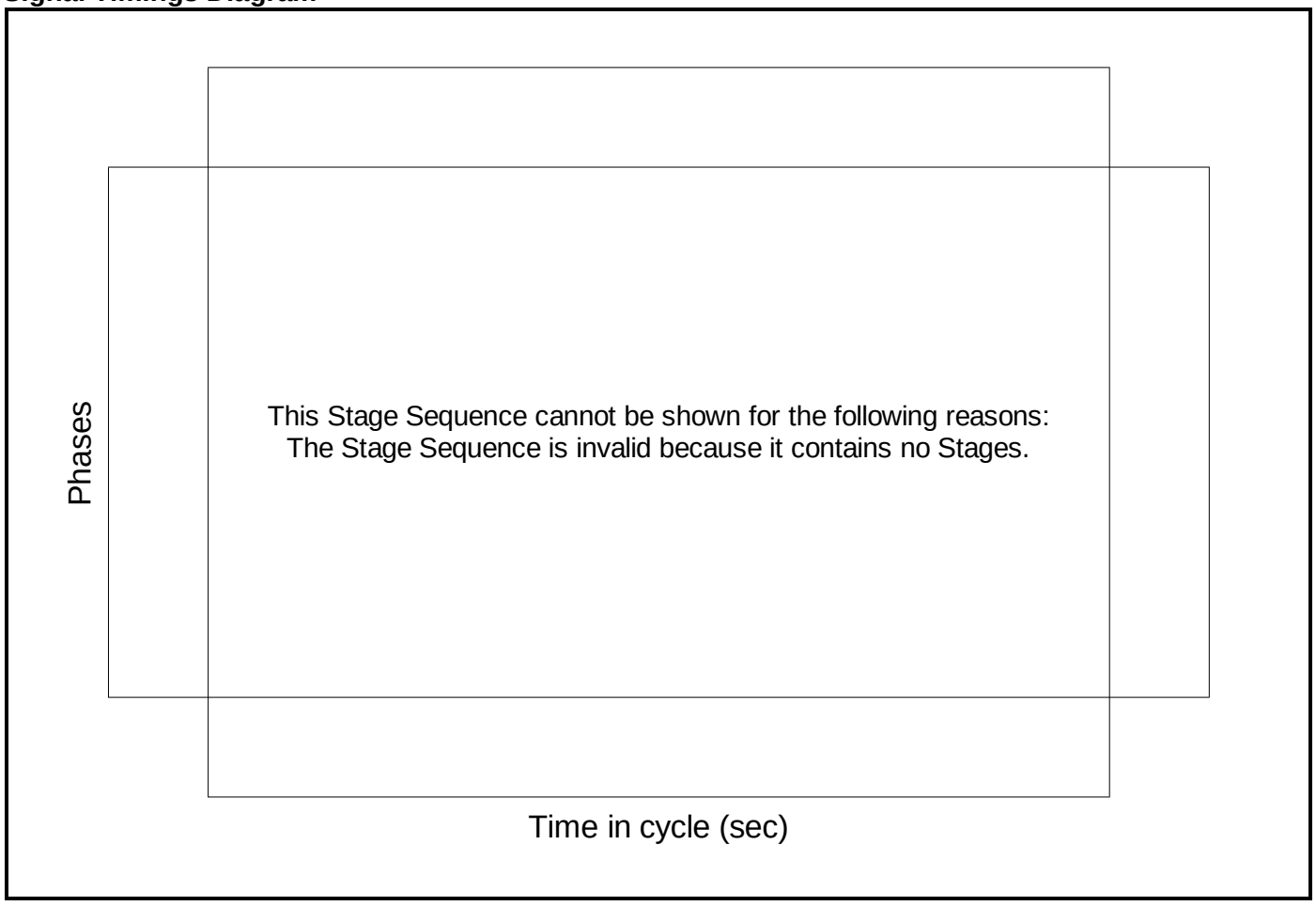
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 58.7 Total Delay Over All Lanes(pcuHr): 1.32

Scenario 12: '2027 AM With Development' (FG12: '2027 AM - With Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

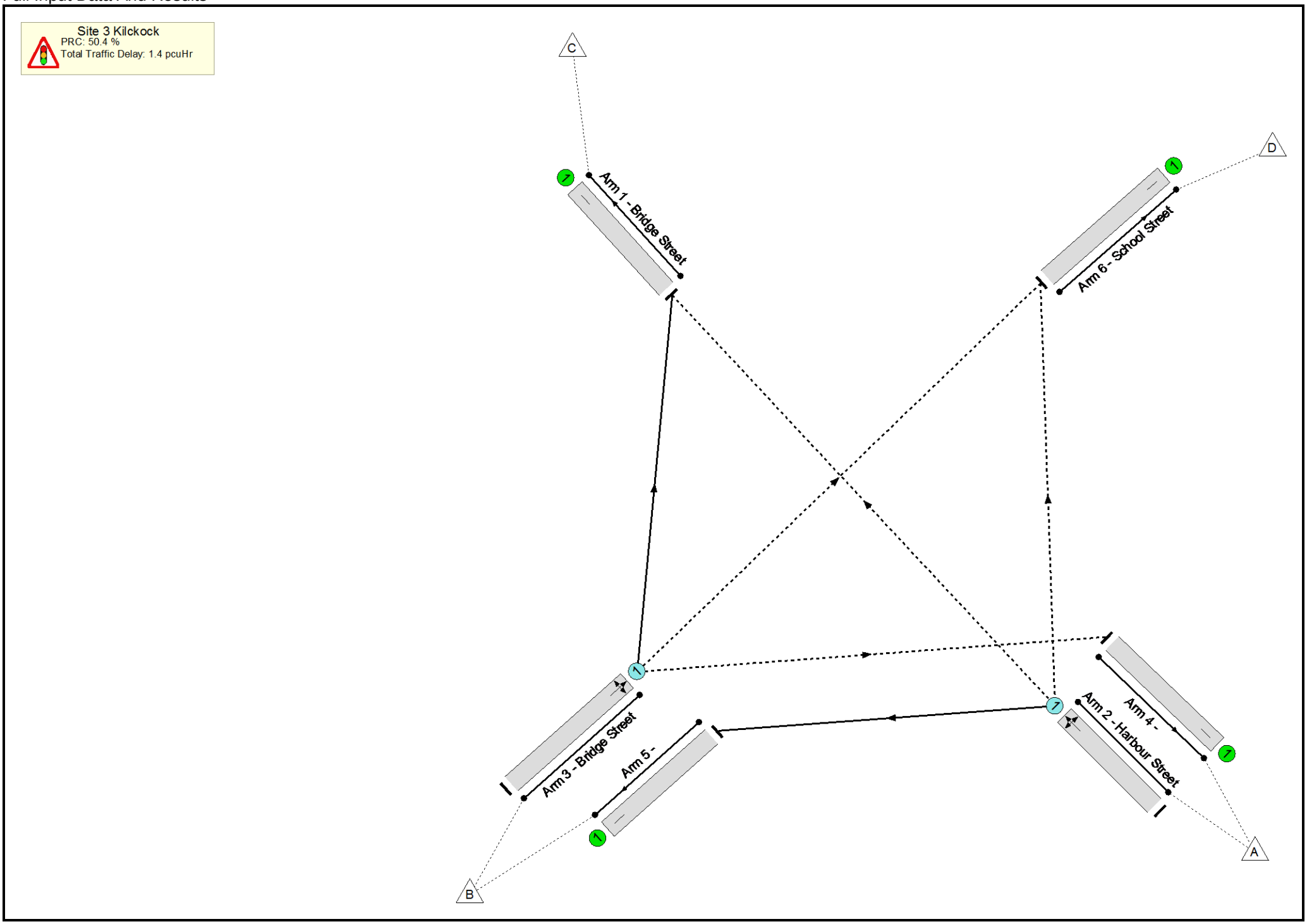
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.9%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.9%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	472	1940	1940	24.3%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	483	2115	1233	39.2%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	731	2015	1221	59.9%
4/1		U	N/A	N/A	-		-	-	-	199	1940	1940	10.3%
5/1		U	N/A	N/A	-		-	-	-	332	1940	1940	17.1%
6/1	School Street	U	N/A	N/A	-		-	-	-	211	1940	1940	10.9%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**545**	**0**	**0**	**0.0**	**1.4**	**0.0**	**1.4**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**545**	**0**	**0**	**0.0**	**1.4**	**0.0**	**1.4**	**-**	**-**	**-**	**-**
1/1	472	472	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	483	483	151	0	0	0.0	0.3	-	0.3	2.4	0.0	0.3	0.3
3/1	731	731	394	0	0	0.0	0.7	-	0.7	3.7	0.0	0.7	0.7
4/1	199	199	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/1	332	332	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
6/1	211	211	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1

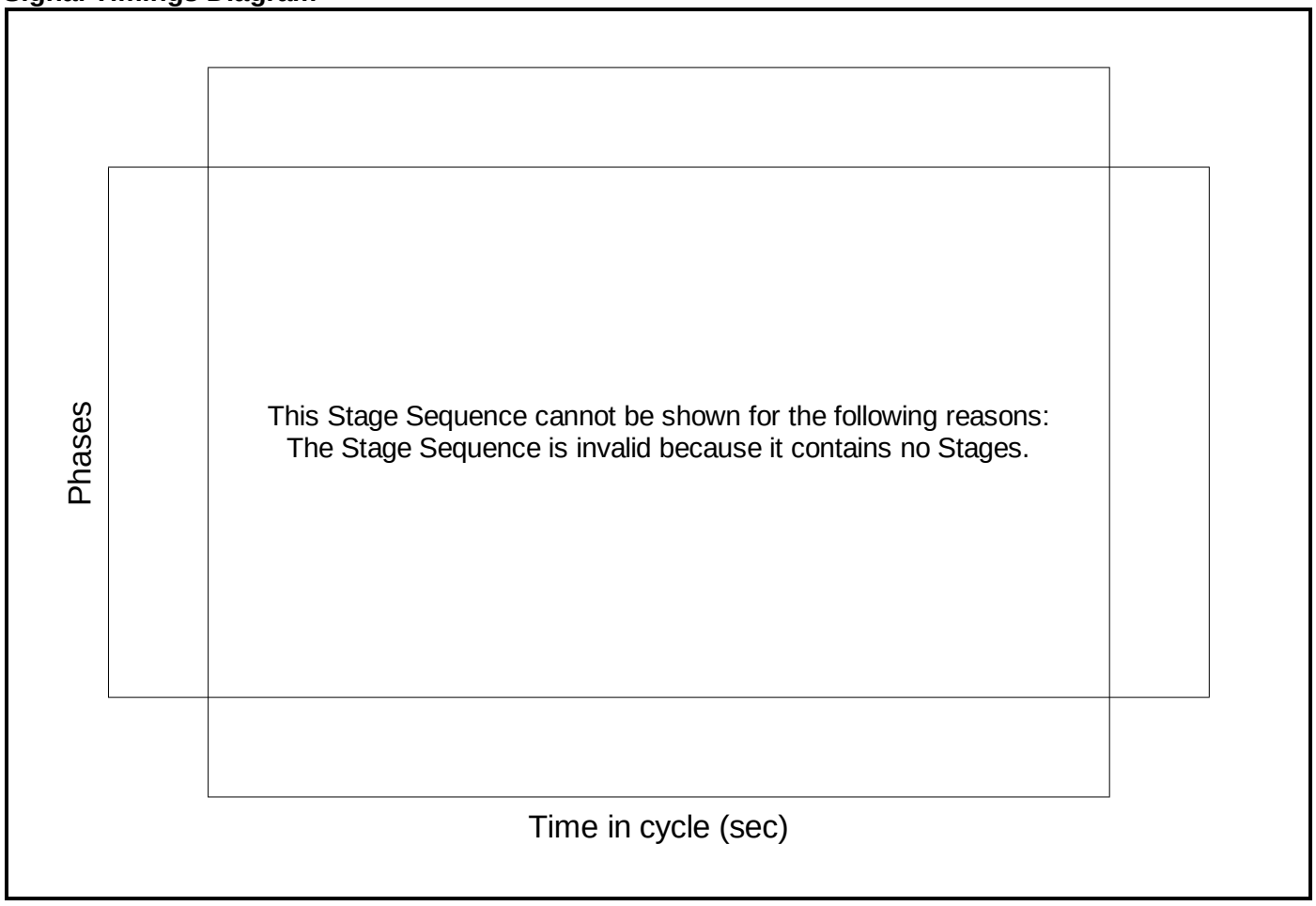
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 50.4 Total Delay Over All Lanes(pcuHr): 1.45

Scenario 13: '2037 AM No Development' (FG13: '2037 AM - No Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

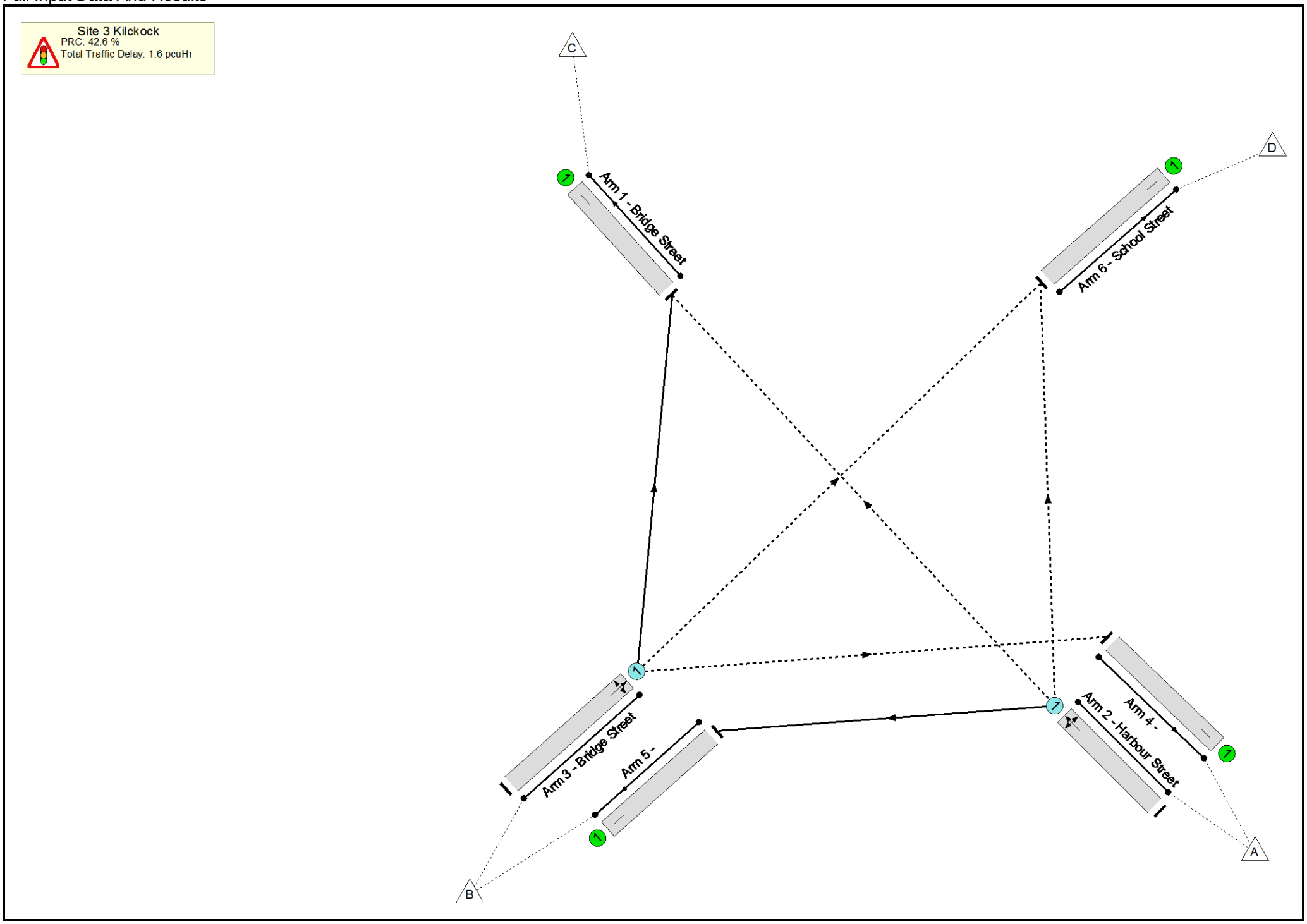
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.1%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**63.1%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	490	1940	1940	25.3%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	520	2115	1209	43.0%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	746	2015	1182	63.1%
4/1		U	N/A	N/A	-		-	-	-	203	1940	1940	10.5%
5/1		U	N/A	N/A	-		-	-	-	356	1940	1940	18.4%
6/1	School Street	U	N/A	N/A	-		-	-	-	217	1940	1940	11.2%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**566**	**0**	**0**	**0.0**	**1.6**	**0.0**	**1.6**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**566**	**0**	**0**	**0.0**	**1.6**	**0.0**	**1.6**	**-**	**-**	**-**	**-**
1/1	490	490	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	520	520	164	0	0	0.0	0.4	-	0.4	2.6	0.0	0.4	0.4
3/1	746	746	402	0	0	0.0	0.9	-	0.9	4.1	0.0	0.9	0.9
4/1	203	203	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/1	356	356	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
6/1	217	217	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1

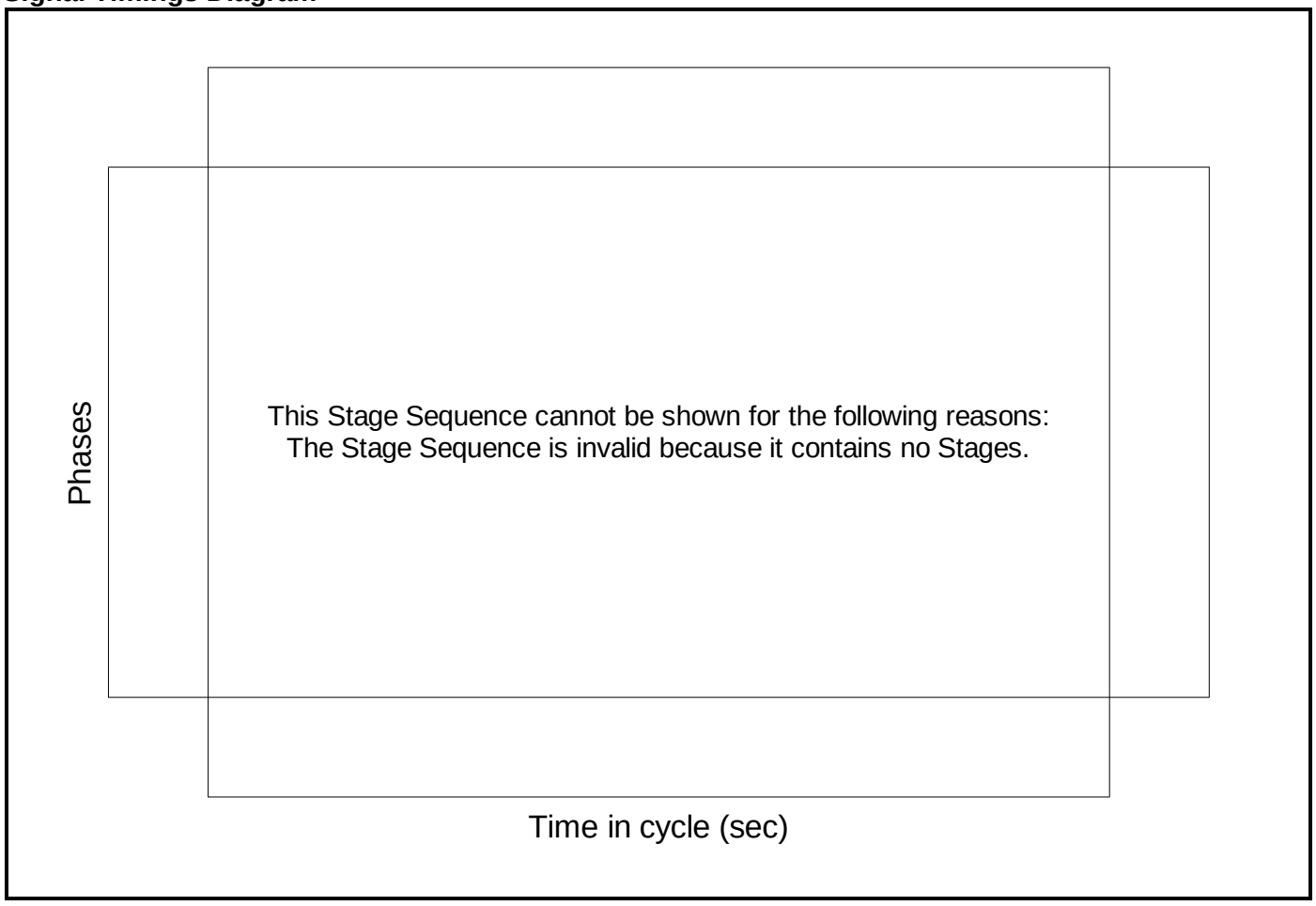
C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 42.6 Total Delay Over All Lanes(pcuHr): 1.63

Scenario 14: '2037 AM with Development ' (FG14: '2037 AM - With Development', Plan 1: 'Network Control Plan 1')
Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

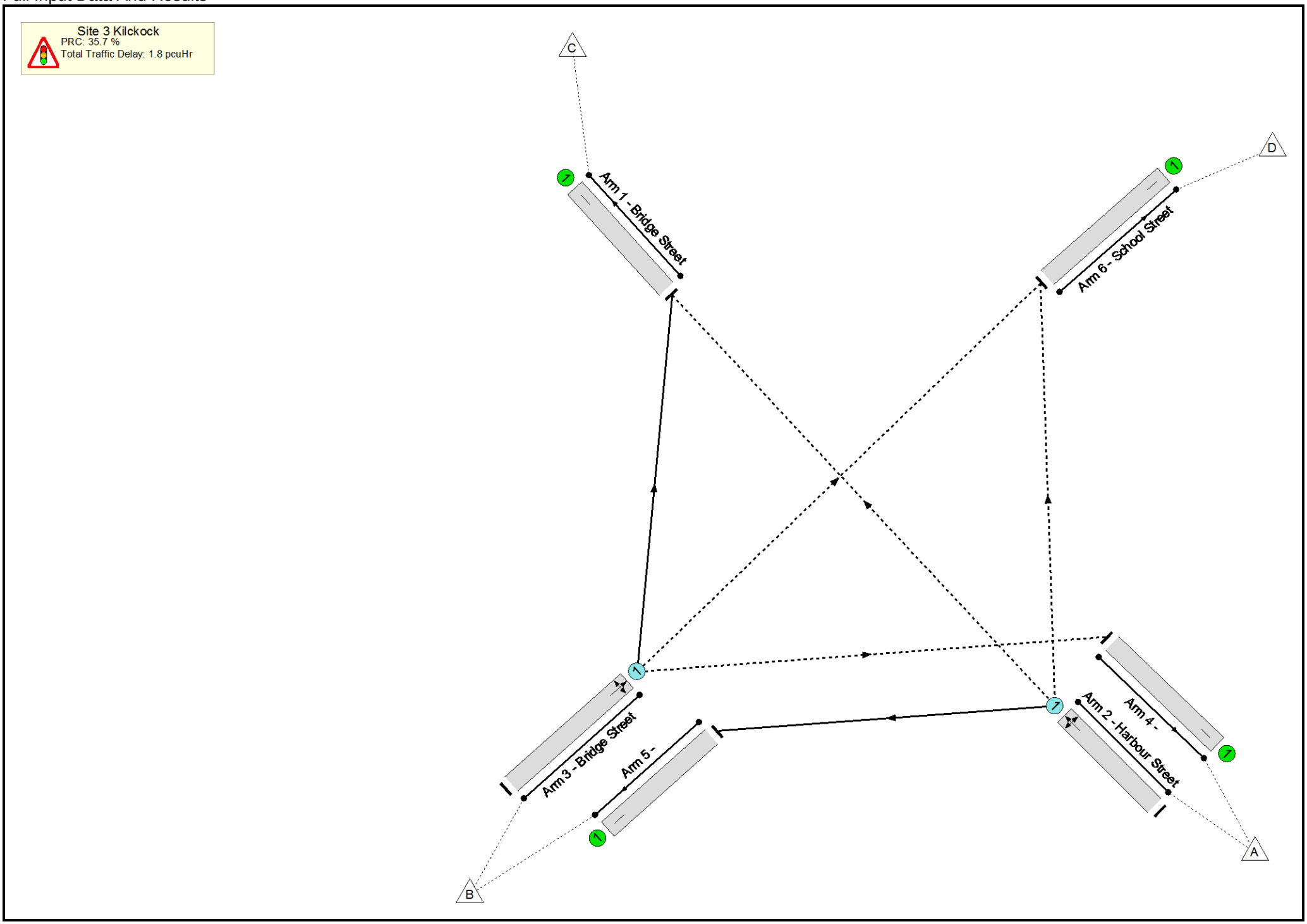
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.3%**
Site 3 Kilckock	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**66.3%**
1/1	Bridge Street	U	N/A	N/A	-		-	-	-	506	1940	1940	26.1%
2/1	Harbour Street Ahead Left Right	O	N/A	N/A	-		-	-	-	521	2115	1165	44.7%
3/1	Bridge Street Left Right Ahead	O	N/A	N/A	-		-	-	-	783	2015	1181	66.3%
4/1		U	N/A	N/A	-		-	-	-	213	1940	1940	11.0%
5/1		U	N/A	N/A	-		-	-	-	358	1940	1940	18.5%
6/1	School Street	U	N/A	N/A	-		-	-	-	227	1940	1940	11.7%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**585**	**0**	**0**	**0.0**	**1.8**	**0.0**	**1.8**	**-**	**-**	**-**	**-**
Site 3 Kilckock	**-**	**-**	**585**	**0**	**0**	**0.0**	**1.8**	**0.0**	**1.8**	**-**	**-**	**-**	**-**
1/1	506	506	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	521	521	163	0	0	0.0	0.4	-	0.4	2.8	0.0	0.4	0.4
3/1	783	783	422	0	0	0.0	1.0	-	1.0	4.5	0.0	1.0	1.0
4/1	213	213	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/1	358	358	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
6/1	227	227	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 1
PRC Over All Lanes (%): 35.7 Total Delay Over All Lanes(pcuHr): 1.80

Appendix E.5

Junction 5

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:35:34

« A1 - (Default Analysis Set) - D1 - 2019 Committed, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

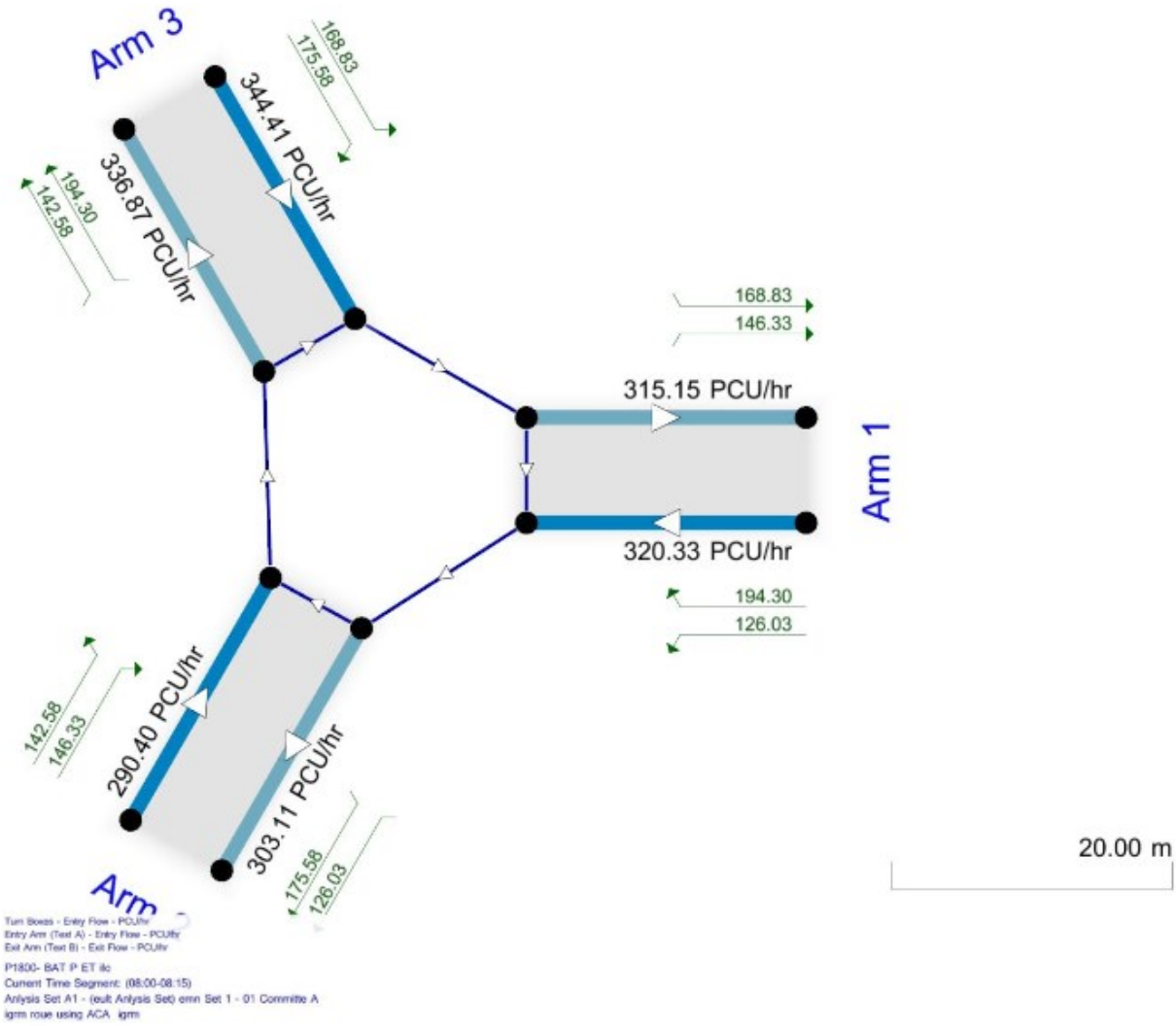
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D1 - 2019 Committed, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2019 Committed, AM	2019 Committed	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	427.00	100.000	N/A
2	ONE HOUR	Yes	387.00	100.000	N/A
3	ONE HOUR	Yes	459.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	321.47	321.47	N/A	N/A
1	2	291.35	291.35	N/A	N/A
1	3	345.56	345.56	N/A	N/A
2	1	383.86	383.86	N/A	N/A
2	2	347.91	347.91	N/A	N/A
2	3	412.63	412.63	N/A	N/A
3	1	470.14	470.14	N/A	N/A
3	2	426.09	426.09	N/A	N/A
3	3	505.37	505.37	N/A	N/A
4	1	470.14	470.14	N/A	N/A
4	2	426.09	426.09	N/A	N/A
4	3	505.37	505.37	N/A	N/A
5	1	383.86	383.86	N/A	N/A
5	2	347.91	347.91	N/A	N/A
5	3	412.63	412.63	N/A	N/A
6	1	321.47	321.47	N/A	N/A
6	2	291.35	291.35	N/A	N/A
6	3	345.56	345.56	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	168.000	259.000
	2	195.000	2.000	190.000
	3	225.000	234.000	0.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

	To

		To		
		1	2	3
From	1	0.00	0.39	0.61
	2	0.50	0.01	0.49
	3	0.49	0.51	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.34	0.06	0.51	A	391.82	587.73	34.66	0.06	0.39	34.66	0.06	0.563	1543.113
2	0.29	0.06	0.41	A	355.12	532.68	28.48	0.05	0.32	28.48	0.05	0.561	1621.319
3	0.34	0.06	0.51	A	421.19	631.78	34.88	0.06	0.39	34.89	0.06	0.561	1621.319

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	321.47	80.37	320.33	315.15	177.08	0.00	1443.44	1174.49	0.223	0.00	0.29
2	291.35	72.84	290.40	303.11	194.30	0.00	1512.23	1221.35	0.193	0.00	0.24
3	345.56	86.39	344.41	336.87	147.83	0.00	1538.32	1272.26	0.225	0.00	0.29

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	383.86	95.97	383.54	377.28	211.99	0.00	1423.79	1174.49	0.270	0.29	0.37
2	347.91	86.98	347.64	362.89	232.64	0.00	1490.71	1221.35	0.233	0.24	0.30
3	412.63	103.16	412.30	403.31	176.97	0.00	1521.96	1272.26	0.271	0.29	0.37

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	470.14	117.53	469.59	461.95	259.56	0.00	1397.02	1174.49	0.337	0.37	0.50

2	426.09	106.52	425.67	444.32	284.83	0.00	1461.40	1221.35	0.292	0.30	0.41
3	505.37	126.34	504.83	493.82	216.68	0.00	1499.66	1272.26	0.337	0.37	0.51

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	470.14	117.53	470.13	462.42	259.84	0.00	1396.86	1174.49	0.337	0.50	0.51
2	426.09	106.52	426.09	444.81	285.16	0.00	1461.22	1221.35	0.292	0.41	0.41
3	505.37	126.34	505.36	494.35	216.90	0.00	1499.54	1272.26	0.337	0.51	0.51

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	383.86	95.97	384.40	378.04	212.43	0.00	1423.55	1174.49	0.270	0.51	0.37
2	347.91	86.98	348.32	363.67	233.16	0.00	1490.41	1221.35	0.233	0.41	0.31
3	412.63	103.16	413.16	404.17	177.31	0.00	1521.77	1272.26	0.271	0.51	0.37

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	321.47	80.37	321.80	316.49	177.84	0.00	1443.01	1174.49	0.223	0.37	0.29
2	291.35	72.84	291.62	304.45	195.19	0.00	1511.73	1221.35	0.193	0.31	0.24
3	345.56	86.39	345.89	338.36	148.45	0.00	1537.98	1272.26	0.225	0.37	0.29

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.19	0.28	0.053	A	A
2	3.50	0.23	0.049	A	A
3	4.25	0.28	0.050	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.43	0.36	0.058	A	A
2	4.49	0.30	0.052	A	A
3	5.47	0.36	0.054	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.42	0.49	0.065	A	A
2	6.04	0.40	0.058	A	A
3	7.45	0.50	0.060	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.58	0.51	0.065	A	A
2	6.15	0.41	0.058	A	A
3	7.59	0.51	0.060	A	A

Queueing Delay results: (09:00-09:15)

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.66	0.38	0.058	A	A
2	4.66	0.31	0.053	A	A
3	5.70	0.38	0.054	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.38	0.29	0.054	A	A
2	3.64	0.24	0.049	A	A
3	4.43	0.30	0.050	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	321.47	1443.44	0.223	0.00	0.00	0.29	4.19	(0.02)	0.053
1	2	291.35	1512.23	0.193	0.00	0.00	0.24	3.50	(0.02)	0.049
1	3	345.56	1538.32	0.225	0.00	0.00	0.29	4.25	(0.02)	0.050
2	1	383.86	1423.79	0.270	0.00	0.29	0.37	5.43	(0.02)	0.058
2	2	347.91	1490.71	0.233	0.00	0.24	0.30	4.49	(0.02)	0.052
2	3	412.63	1521.96	0.271	0.00	0.29	0.37	5.47	(0.02)	0.054
3	1	470.14	1397.02	0.337	0.00	0.37	0.50	7.42	(0.02)	0.065
3	2	426.09	1461.40	0.292	0.00	0.30	0.41	6.04	(0.02)	0.058
3	3	505.37	1499.66	0.337	0.00	0.37	0.51	7.45	(0.02)	0.060
4	1	470.14	1396.86	0.337	0.00	0.50	0.51	7.58	(0.02)	0.065
4	2	426.09	1461.22	0.292	0.00	0.41	0.41	6.15	(0.02)	0.058
4	3	505.37	1499.54	0.337	0.00	0.51	0.51	7.59	(0.02)	0.060
5	1	383.86	1423.55	0.270	0.00	0.51	0.37	5.66	(0.02)	0.058
5	2	347.91	1490.41	0.233	0.00	0.41	0.31	4.66	(0.02)	0.053
5	3	412.63	1521.77	0.271	0.00	0.51	0.37	5.70	(0.02)	0.054
6	1	321.47	1443.01	0.223	0.00	0.37	0.29	4.38	(0.02)	0.054
6	2	291.35	1511.73	0.193	0.00	0.31	0.24	3.64	(0.02)	0.049
6	3	345.56	1537.98	0.225	0.00	0.37	0.29	4.43	(0.02)	0.050

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:39:51

« A1 - (Default Analysis Set) - D2 - 2022 No Dev, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

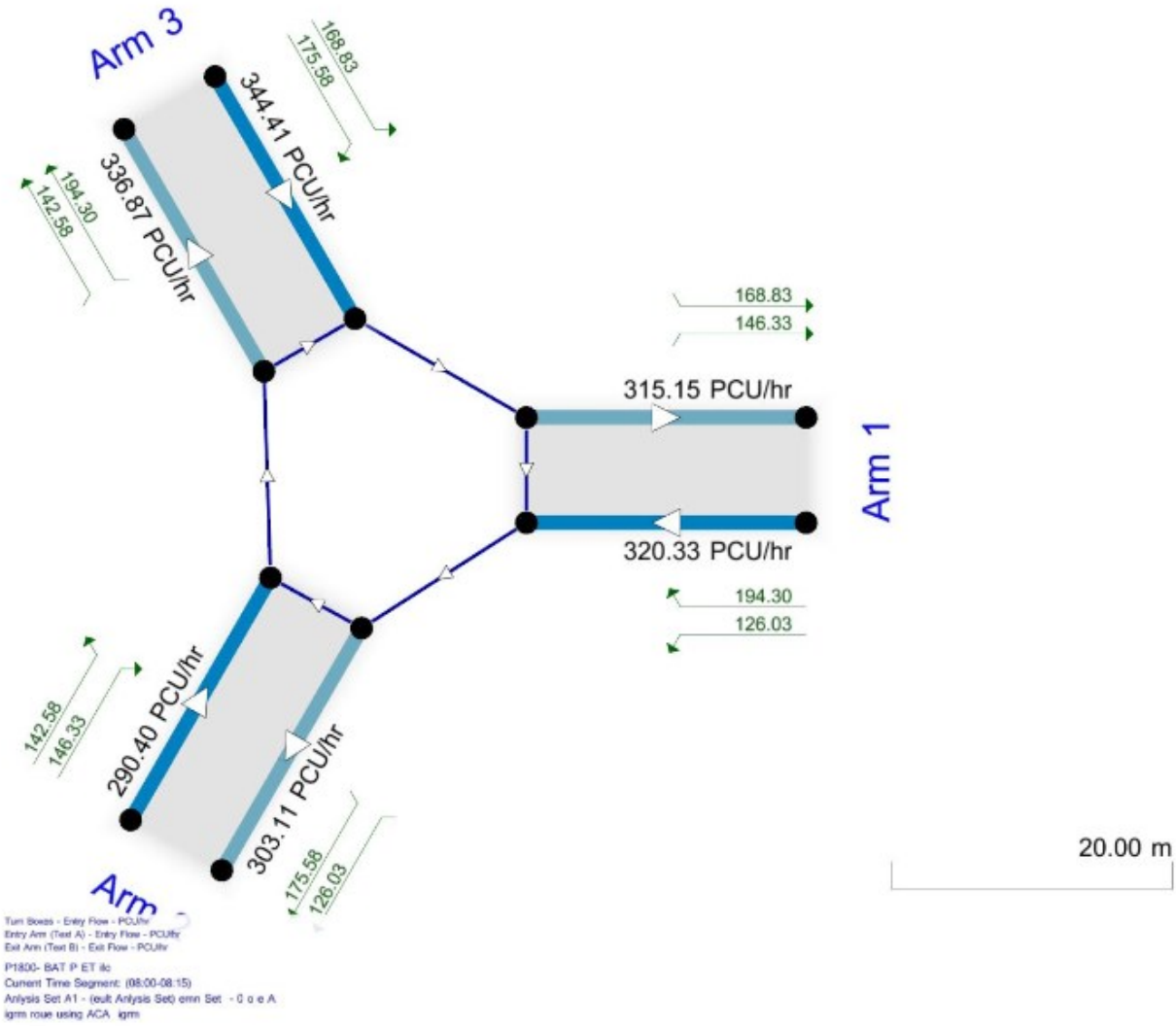
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D2 - 2022 No Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2022 No Dev, AM	2022 No Dev	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	440.00	100.000	N/A
2	ONE HOUR	Yes	399.00	100.000	N/A
3	ONE HOUR	Yes	474.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	331.26	331.26	N/A	N/A
1	2	300.39	300.39	N/A	N/A
1	3	356.85	356.85	N/A	N/A
2	1	395.55	395.55	N/A	N/A
2	2	358.69	358.69	N/A	N/A
2	3	426.12	426.12	N/A	N/A
3	1	484.45	484.45	N/A	N/A
3	2	439.31	439.31	N/A	N/A
3	3	521.88	521.88	N/A	N/A
4	1	484.45	484.45	N/A	N/A
4	2	439.31	439.31	N/A	N/A
4	3	521.88	521.88	N/A	N/A
5	1	395.55	395.55	N/A	N/A
5	2	358.69	358.69	N/A	N/A
5	3	426.12	426.12	N/A	N/A
6	1	331.26	331.26	N/A	N/A
6	2	300.39	300.39	N/A	N/A
6	3	356.85	356.85	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	173.000	267.000
	2	201.000	2.000	196.000
	3	232.000	242.000	0.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.39	0.61
	2	0.50	0.01	0.49
	3	0.49	0.51	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.35	0.07	0.53	A	403.75	605.63	36.32	0.06	0.40	36.32	0.06	0.563	1543.113
2	0.30	0.06	0.43	A	366.13	549.19	29.78	0.05	0.33	29.78	0.05	0.561	1621.319
3	0.35	0.06	0.53	A	434.95	652.43	36.62	0.06	0.41	36.62	0.06	0.561	1621.319

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	331.26	82.81	330.07	324.90	183.08	0.00	1440.07	1174.01	0.230	0.00	0.30
2	300.39	75.10	299.40	312.85	200.29	0.00	1508.87	1221.34	0.199	0.00	0.25
3	356.85	89.21	355.65	347.36	152.33	0.00	1535.80	1272.45	0.232	0.00	0.30

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	395.55	98.89	395.20	388.95	219.17	0.00	1419.75	1174.01	0.279	0.30	0.38
2	358.69	89.67	358.42	374.56	239.82	0.00	1486.68	1221.34	0.241	0.25	0.32
3	426.12	106.53	425.77	415.88	182.35	0.00	1518.94	1272.45	0.281	0.30	0.39

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	484.45	121.11	483.86	476.23	268.35	0.00	1392.07	1174.01	0.348	0.38	0.53
2	439.31	109.83	438.86	458.60	293.62	0.00	1456.47	1221.34	0.302	0.32	0.43
3	521.88	130.47	521.31	509.20	223.28	0.00	1495.96	1272.45	0.349	0.39	0.53

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	484.45	121.11	484.44	476.74	268.65	0.00	1391.91	1174.01	0.348	0.53	0.53
2	439.31	109.83	439.30	459.12	293.97	0.00	1456.27	1221.34	0.302	0.43	0.43
3	521.88	130.47	521.88	509.77	223.50	0.00	1495.83	1272.45	0.349	0.53	0.53

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	395.55	98.89	396.13	389.76	219.64	0.00	1419.49	1174.01	0.279	0.53	0.39
2	358.69	89.67	359.14	375.39	240.38	0.00	1486.36	1221.34	0.241	0.43	0.32
3	426.12	106.53	426.69	416.79	182.72	0.00	1518.73	1272.45	0.281	0.53	0.39

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	331.26	82.81	331.61	326.30	183.88	0.00	1439.62	1174.01	0.230	0.39	0.30
2	300.39	75.10	300.67	314.26	201.23	0.00	1508.34	1221.34	0.199	0.32	0.25
3	356.85	89.21	357.20	348.92	152.97	0.00	1535.44	1272.45	0.232	0.39	0.30

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.37	0.29	0.054	A	A
2	3.65	0.24	0.050	A	A
3	4.43	0.30	0.051	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.67	0.38	0.059	A	A
2	4.68	0.31	0.053	A	A
3	5.74	0.38	0.055	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.80	0.52	0.066	A	A
2	6.34	0.42	0.059	A	A
3	7.84	0.52	0.062	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.97	0.53	0.066	A	A
2	6.45	0.43	0.059	A	A
3	8.00	0.53	0.062	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.93	0.40	0.059	A	A
2	4.87	0.32	0.053	A	A
3	5.98	0.40	0.055	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.57	0.30	0.054	A	A
2	3.80	0.25	0.050	A	A
3	4.63	0.31	0.051	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	331.26	1440.07	0.230	0.00	0.00	0.30	4.37	(0.02)	0.054
1	2	300.39	1508.87	0.199	0.00	0.00	0.25	3.65	(0.02)	0.050
1	3	356.85	1535.80	0.232	0.00	0.00	0.30	4.43	(0.02)	0.051
2	1	395.55	1419.75	0.279	0.00	0.30	0.38	5.67	(0.02)	0.059
2	2	358.69	1486.68	0.241	0.00	0.25	0.32	4.68	(0.02)	0.053
2	3	426.12	1518.94	0.281	0.00	0.30	0.39	5.74	(0.02)	0.055
3	1	484.45	1392.07	0.348	0.00	0.38	0.53	7.80	(0.02)	0.066
3	2	439.31	1456.47	0.302	0.00	0.32	0.43	6.34	(0.02)	0.059
3	3	521.88	1495.96	0.349	0.00	0.39	0.53	7.84	(0.02)	0.062
4	1	484.45	1391.91	0.348	0.00	0.53	0.53	7.97	(0.02)	0.066
4	2	439.31	1456.27	0.302	0.00	0.43	0.43	6.45	(0.02)	0.059
4	3	521.88	1495.83	0.349	0.00	0.53	0.53	8.00	(0.02)	0.062
5	1	395.55	1419.49	0.279	0.00	0.53	0.39	5.93	(0.02)	0.059
5	2	358.69	1486.36	0.241	0.00	0.43	0.32	4.87	(0.02)	0.053
5	3	426.12	1518.73	0.281	0.00	0.53	0.39	5.98	(0.02)	0.055
6	1	331.26	1439.62	0.230	0.00	0.39	0.30	4.57	(0.02)	0.054
6	2	300.39	1508.34	0.199	0.00	0.32	0.25	3.80	(0.02)	0.050
6	3	356.85	1535.44	0.232	0.00	0.39	0.30	4.63	(0.02)	0.051

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:40:29

« A1 - (Default Analysis Set) - D3 - 2022 With Dev, AM
- » Roundabout Network
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- » Turning Proportions
- » Vehicle Mix
- » Results
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

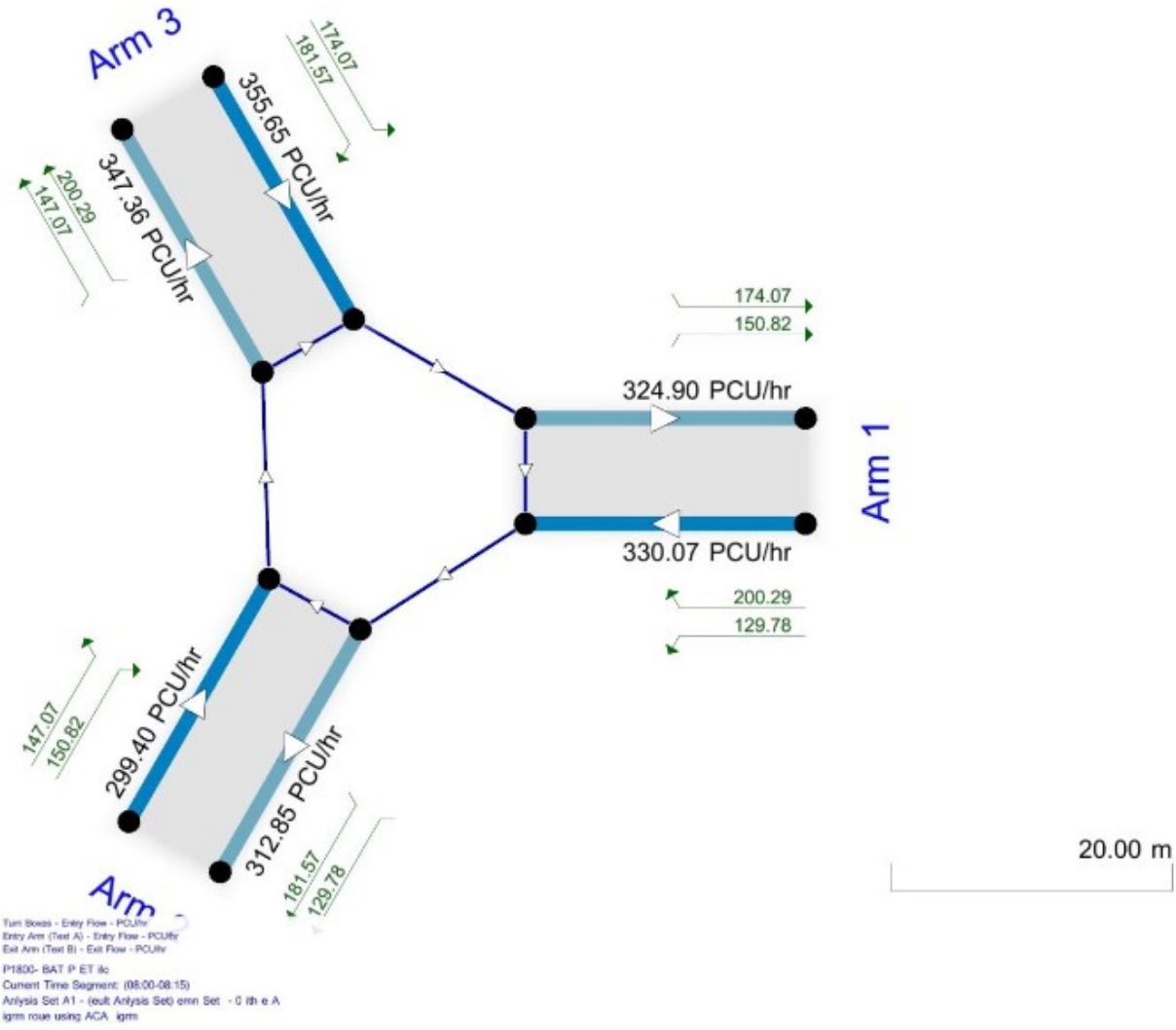
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D3 - 2022 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2022 With Dev, AM	2022 With Dev	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	463.00	100.000	N/A
2	ONE HOUR	Yes	405.00	100.000	N/A
3	ONE HOUR	Yes	481.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	348.57	348.57	N/A	N/A
1	2	304.91	304.91	N/A	N/A
1	3	362.12	362.12	N/A	N/A
2	1	416.23	416.23	N/A	N/A
2	2	364.09	364.09	N/A	N/A
2	3	432.41	432.41	N/A	N/A
3	1	509.77	509.77	N/A	N/A
3	2	445.91	445.91	N/A	N/A
3	3	529.59	529.59	N/A	N/A
4	1	509.77	509.77	N/A	N/A
4	2	445.91	445.91	N/A	N/A
4	3	529.59	529.59	N/A	N/A
5	1	416.23	416.23	N/A	N/A
5	2	364.09	364.09	N/A	N/A
5	3	432.41	432.41	N/A	N/A
6	1	348.57	348.57	N/A	N/A
6	2	304.91	304.91	N/A	N/A
6	3	362.12	362.12	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	182.000	281.000
	2	207.000	2.000	196.000
	3	242.000	239.000	0.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.39	0.61
	2	0.51	0.00	0.48
	3	0.50	0.50	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.37	0.07	0.57	A	424.86	637.29	39.02	0.06	0.43	39.02	0.06	0.563	1543.113
2	0.31	0.06	0.44	A	371.64	557.45	30.60	0.05	0.34	30.60	0.05	0.561	1621.319
3	0.35	0.06	0.55	A	441.37	662.06	37.51	0.06	0.42	37.51	0.06	0.561	1621.319

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	348.57	87.14	347.30	336.89	180.82	0.00	1441.34	1184.95	0.242	0.00	0.32
2	304.91	76.23	303.89	317.34	210.78	0.00	1502.98	1217.56	0.203	0.00	0.25
3	362.12	90.53	360.89	357.85	156.82	0.00	1533.27	1268.56	0.236	0.00	0.31

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	416.23	104.06	415.85	403.32	216.48	0.00	1421.27	1184.95	0.293	0.32	0.41
2	364.09	91.02	363.80	379.94	252.38	0.00	1479.62	1217.56	0.246	0.25	0.32
3	432.41	108.10	432.05	428.45	187.74	0.00	1515.91	1268.56	0.285	0.31	0.40

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	509.77	127.44	509.13	493.82	265.05	0.00	1393.93	1184.95	0.366	0.41	0.57
2	445.91	111.48	445.44	465.18	309.00	0.00	1447.84	1217.56	0.308	0.32	0.44
3	529.59	132.40	528.99	524.57	229.87	0.00	1492.26	1268.56	0.355	0.40	0.55

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	509.77	127.44	509.76	494.35	265.34	0.00	1393.77	1184.95	0.366	0.57	0.57
2	445.91	111.48	445.91	465.72	309.38	0.00	1447.62	1217.56	0.308	0.44	0.44
3	529.59	132.40	529.58	525.18	230.11	0.00	1492.13	1268.56	0.355	0.55	0.55

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	416.23	104.06	416.86	404.17	216.95	0.00	1421.00	1184.95	0.293	0.57	0.42
2	364.09	91.02	364.55	380.81	253.00	0.00	1479.28	1217.56	0.246	0.44	0.33
3	432.41	108.10	433.00	429.42	188.13	0.00	1515.70	1268.56	0.285	0.55	0.40

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	348.57	87.14	348.95	338.36	181.62	0.00	1440.89	1184.95	0.242	0.42	0.32
2	304.91	76.23	305.19	318.79	211.78	0.00	1502.41	1217.56	0.203	0.33	0.26
3	362.12	90.53	362.48	359.48	157.50	0.00	1532.89	1268.56	0.236	0.40	0.31

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.66	0.31	0.055	A	A
2	3.73	0.25	0.050	A	A
3	4.53	0.30	0.051	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.08	0.41	0.060	A	A
2	4.81	0.32	0.054	A	A
3	5.87	0.39	0.055	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.42	0.56	0.068	A	A
2	6.53	0.44	0.060	A	A
3	8.05	0.54	0.062	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.61	0.57	0.068	A	A
2	6.65	0.44	0.060	A	A
3	8.22	0.55	0.062	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.36	0.42	0.060	A	A
2	5.00	0.33	0.054	A	A
3	6.12	0.41	0.055	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.88	0.33	0.055	A	A
2	3.89	0.26	0.050	A	A
3	4.73	0.32	0.051	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	348.57	1441.34	0.242	0.00	0.00	0.32	4.66	(0.02)	0.055
1	2	304.91	1502.98	0.203	0.00	0.00	0.25	3.73	(0.02)	0.050
1	3	362.12	1533.27	0.236	0.00	0.00	0.31	4.53	(0.02)	0.051
2	1	416.23	1421.27	0.293	0.00	0.32	0.41	6.08	(0.02)	0.060
2	2	364.09	1479.62	0.246	0.00	0.25	0.32	4.81	(0.02)	0.054
2	3	432.41	1515.91	0.285	0.00	0.31	0.40	5.87	(0.02)	0.055
3	1	509.77	1393.93	0.366	0.00	0.41	0.57	8.42	(0.02)	0.068
3	2	445.91	1447.84	0.308	0.00	0.32	0.44	6.53	(0.02)	0.060
3	3	529.59	1492.26	0.355	0.00	0.40	0.55	8.05	(0.02)	0.062
4	1	509.77	1393.77	0.366	0.00	0.57	0.57	8.61	(0.02)	0.068
4	2	445.91	1447.62	0.308	0.00	0.44	0.44	6.65	(0.02)	0.060
4	3	529.59	1492.13	0.355	0.00	0.55	0.55	8.22	(0.02)	0.062
5	1	416.23	1421.00	0.293	0.00	0.57	0.42	6.36	(0.02)	0.060
5	2	364.09	1479.28	0.246	0.00	0.44	0.33	5.00	(0.02)	0.054
5	3	432.41	1515.70	0.285	0.00	0.55	0.40	6.12	(0.02)	0.055
6	1	348.57	1440.89	0.242	0.00	0.42	0.32	4.88	(0.02)	0.055
6	2	304.91	1502.41	0.203	0.00	0.33	0.26	3.89	(0.02)	0.050
6	3	362.12	1532.89	0.236	0.00	0.40	0.31	4.73	(0.02)	0.051

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:41:06

« A1 - (Default Analysis Set) - D4 - 2027 No Dev, AM

» Roundabout Network
» Arms
» Traffic Flows
» Entry Flows
» Direct/Resultant Flows
» Turning Proportions
» Vehicle Mix
» Results
» Overview: Standard Roundabout Geometry
» Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

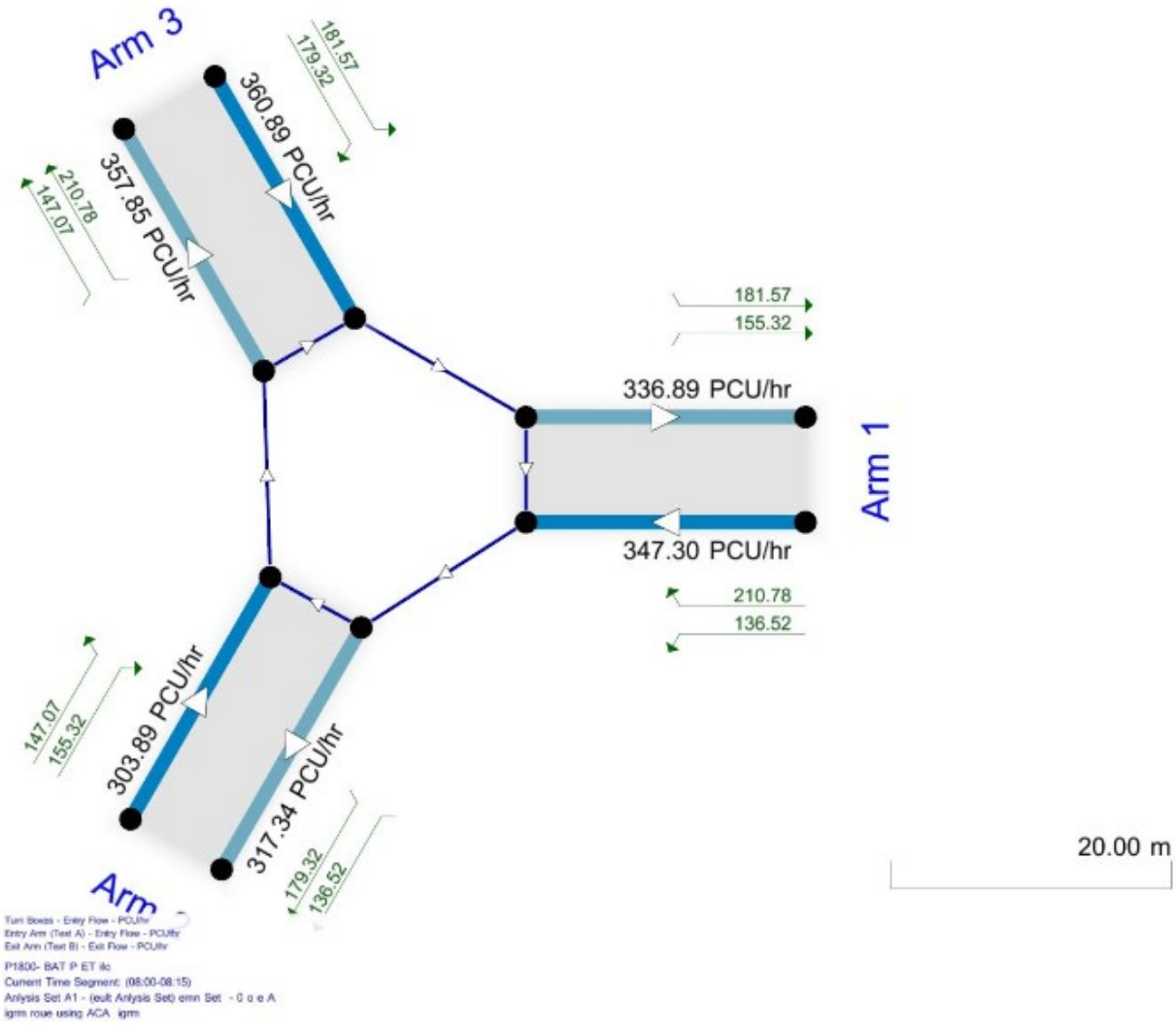
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D4 - 2027 No Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2027 No Dev, AM	2027 No Dev	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	455.00	100.000	N/A
2	ONE HOUR	Yes	415.00	100.000	N/A
3	ONE HOUR	Yes	492.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	342.55	342.55	N/A	N/A
1	2	312.43	312.43	N/A	N/A
1	3	370.40	370.40	N/A	N/A
2	1	409.04	409.04	N/A	N/A
2	2	373.08	373.08	N/A	N/A
2	3	442.30	442.30	N/A	N/A
3	1	500.96	500.96	N/A	N/A
3	2	456.92	456.92	N/A	N/A
3	3	541.70	541.70	N/A	N/A
4	1	500.96	500.96	N/A	N/A
4	2	456.92	456.92	N/A	N/A
4	3	541.70	541.70	N/A	N/A
5	1	409.04	409.04	N/A	N/A
5	2	373.08	373.08	N/A	N/A
5	3	442.30	442.30	N/A	N/A
6	1	342.55	342.55	N/A	N/A
6	2	312.43	312.43	N/A	N/A
6	3	370.40	370.40	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	179.000	276.000
	2	209.000	2.000	204.000
	3	241.000	251.000	0.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.39	0.61
	2	0.50	0.00	0.49
	3	0.49	0.51	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.36	0.07	0.56	A	417.52	626.27	38.30	0.06	0.43	38.30	0.06	0.563	1543.113
2	0.31	0.06	0.46	A	380.81	571.22	31.55	0.06	0.35	31.56	0.06	0.561	1621.319
3	0.36	0.06	0.57	A	451.47	677.20	38.80	0.06	0.43	38.80	0.06	0.561	1621.319

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	342.55	85.64	341.30	337.64	189.82	0.00	1436.27	1174.35	0.239	0.00	0.31
2	312.43	78.11	311.39	324.09	207.03	0.00	1505.08	1221.37	0.208	0.00	0.26
3	370.40	92.60	369.13	360.10	158.32	0.00	1532.43	1272.67	0.242	0.00	0.32

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	409.04	102.26	408.67	404.21	227.25	0.00	1415.21	1174.35	0.289	0.31	0.40
2	373.08	93.27	372.78	388.02	247.89	0.00	1482.14	1221.37	0.252	0.26	0.33
3	442.30	110.57	441.93	431.14	189.53	0.00	1514.91	1272.67	0.292	0.32	0.41

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	500.96	125.24	500.33	494.91	278.24	0.00	1386.51	1174.35	0.361	0.40	0.56
2	456.92	114.23	456.43	475.07	303.50	0.00	1450.92	1221.37	0.315	0.33	0.46
3	541.70	135.43	541.08	527.87	232.07	0.00	1491.03	1272.67	0.363	0.41	0.57

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	500.96	125.24	500.96	495.45	278.55	0.00	1386.33	1174.35	0.361	0.56	0.56
2	456.92	114.23	456.92	475.63	303.88	0.00	1450.71	1221.37	0.315	0.46	0.46
3	541.70	135.43	541.69	528.48	232.31	0.00	1490.89	1272.67	0.363	0.57	0.57

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	409.04	102.26	409.66	405.09	227.76	0.00	1414.92	1174.35	0.289	0.56	0.41
2	373.08	93.27	373.56	388.92	248.49	0.00	1481.80	1221.37	0.252	0.46	0.34
3	442.30	110.57	442.91	432.12	189.93	0.00	1514.69	1272.67	0.292	0.57	0.41

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	342.55	85.64	342.92	339.12	190.67	0.00	1435.80	1174.35	0.239	0.41	0.31
2	312.43	78.11	312.73	325.57	208.02	0.00	1504.53	1221.37	0.208	0.34	0.26
3	370.40	92.60	370.78	361.74	159.00	0.00	1532.05	1272.67	0.242	0.41	0.32

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.58	0.31	0.055	A	A
2	3.84	0.26	0.050	A	A
3	4.67	0.31	0.052	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.97	0.40	0.060	A	A
2	4.95	0.33	0.054	A	A
3	6.06	0.40	0.056	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.26	0.55	0.068	A	A
2	6.74	0.45	0.060	A	A
3	8.35	0.56	0.063	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.45	0.56	0.068	A	A
2	6.87	0.46	0.060	A	A
3	8.52	0.57	0.063	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.24	0.42	0.060	A	A
2	5.15	0.34	0.054	A	A
3	6.33	0.42	0.056	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.79	0.32	0.055	A	A
2	4.00	0.27	0.050	A	A
3	4.87	0.32	0.052	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	342.55	1436.27	0.239	0.00	0.00	0.31	4.58	(0.02)	0.055
1	2	312.43	1505.08	0.208	0.00	0.00	0.26	3.84	(0.02)	0.050
1	3	370.40	1532.43	0.242	0.00	0.00	0.32	4.67	(0.02)	0.052
2	1	409.04	1415.21	0.289	0.00	0.31	0.40	5.97	(0.02)	0.060
2	2	373.08	1482.14	0.252	0.00	0.26	0.33	4.95	(0.02)	0.054
2	3	442.30	1514.91	0.292	0.00	0.32	0.41	6.06	(0.02)	0.056
3	1	500.96	1386.51	0.361	0.00	0.40	0.56	8.26	(0.02)	0.068
3	2	456.92	1450.92	0.315	0.00	0.33	0.46	6.74	(0.02)	0.060
3	3	541.70	1491.03	0.363	0.00	0.41	0.57	8.35	(0.02)	0.063
4	1	500.96	1386.33	0.361	0.00	0.56	0.56	8.45	(0.02)	0.068
4	2	456.92	1450.71	0.315	0.00	0.46	0.46	6.87	(0.02)	0.060
4	3	541.70	1490.89	0.363	0.00	0.57	0.57	8.52	(0.02)	0.063
5	1	409.04	1414.92	0.289	0.00	0.56	0.41	6.24	(0.02)	0.060
5	2	373.08	1481.80	0.252	0.00	0.46	0.34	5.15	(0.02)	0.054
5	3	442.30	1514.69	0.292	0.00	0.57	0.41	6.33	(0.02)	0.056
6	1	342.55	1435.80	0.239	0.00	0.41	0.31	4.79	(0.02)	0.055
6	2	312.43	1504.53	0.208	0.00	0.34	0.26	4.00	(0.02)	0.050
6	3	370.40	1532.05	0.242	0.00	0.41	0.32	4.87	(0.02)	0.052

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:41:31

« A1 - (Default Analysis Set) - D5 - 2027 With Dev, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

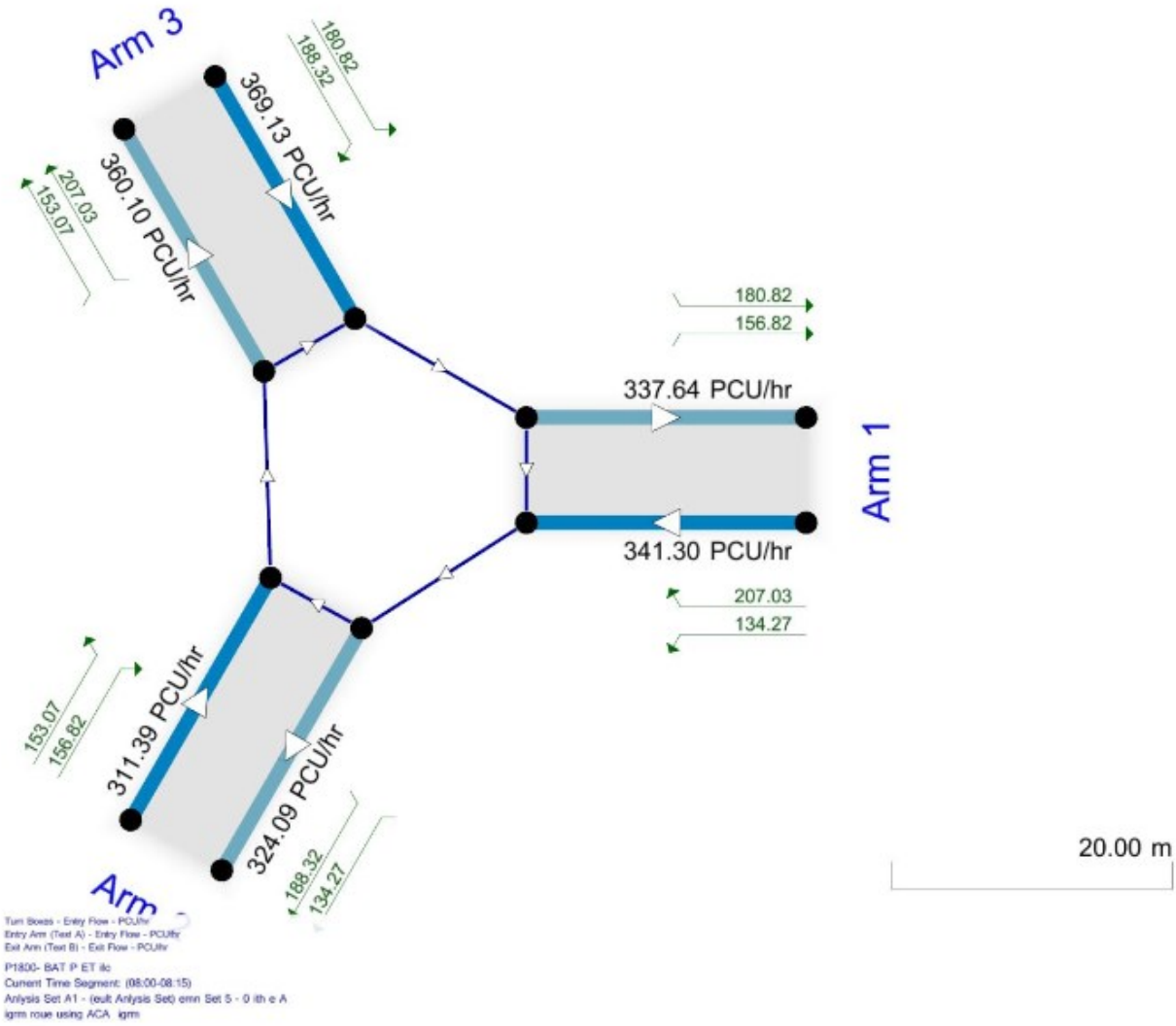
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D5 - 2027 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2027 With Dev, AM	2027 With Dev	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	488.00	100.000	N/A
2	ONE HOUR	Yes	423.00	100.000	N/A
3	ONE HOUR	Yes	498.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	367.39	367.39	N/A	N/A
1	2	318.46	318.46	N/A	N/A
1	3	374.92	374.92	N/A	N/A
2	1	438.70	438.70	N/A	N/A
2	2	380.27	380.27	N/A	N/A
2	3	447.69	447.69	N/A	N/A
3	1	537.30	537.30	N/A	N/A
3	2	465.73	465.73	N/A	N/A
3	3	548.31	548.31	N/A	N/A
4	1	537.30	537.30	N/A	N/A
4	2	465.73	465.73	N/A	N/A
4	3	548.31	548.31	N/A	N/A
5	1	438.70	438.70	N/A	N/A
5	2	380.27	380.27	N/A	N/A
5	3	447.69	447.69	N/A	N/A
6	1	367.39	367.39	N/A	N/A
6	2	318.46	318.46	N/A	N/A
6	3	374.92	374.92	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	192.000	296.000
	2	217.000	2.000	204.000
	3	247.000	251.000	0.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.39	0.61
	2	0.51	0.00	0.48
	3	0.50	0.50	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.39	0.07	0.63	A	447.80	671.70	42.45	0.06	0.47	42.46	0.06	0.563	1543.113
2	0.32	0.06	0.48	A	388.15	582.23	32.72	0.06	0.36	32.72	0.06	0.561	1621.319
3	0.37	0.06	0.58	A	456.97	685.46	39.65	0.06	0.44	39.65	0.06	0.561	1621.319

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	367.39	91.85	366.02	348.13	189.81	0.00	1436.28	1180.46	0.256	0.00	0.34
2	318.46	79.61	317.38	333.82	222.01	0.00	1496.67	1219.32	0.213	0.00	0.27
3	374.92	93.73	373.63	375.08	164.32	0.00	1529.06	1266.89	0.245	0.00	0.32

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	438.70	109.68	438.28	416.78	227.25	0.00	1415.21	1180.46	0.310	0.34	0.45
2	380.27	95.07	379.96	399.69	265.84	0.00	1472.06	1219.32	0.258	0.27	0.35
3	447.69	111.92	447.31	449.09	196.72	0.00	1510.87	1266.89	0.296	0.32	0.42

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	537.30	134.32	536.57	510.29	278.23	0.00	1386.51	1180.47	0.388	0.45	0.63
2	465.73	116.43	465.21	489.34	325.46	0.00	1438.59	1219.32	0.324	0.35	0.48
3	548.31	137.08	547.66	549.82	240.86	0.00	1486.09	1266.90	0.369	0.42	0.58

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	537.30	134.32	537.29	510.87	278.55	0.00	1386.33	1180.47	0.388	0.63	0.63
2	465.73	116.43	465.73	489.95	325.90	0.00	1438.35	1219.32	0.324	0.48	0.48
3	548.31	137.08	548.30	550.50	241.12	0.00	1485.94	1266.90	0.369	0.58	0.58

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	438.70	109.68	439.42	417.70	227.77	0.00	1414.92	1180.46	0.310	0.63	0.45
2	380.27	95.07	380.78	400.65	266.53	0.00	1471.68	1219.32	0.258	0.48	0.35
3	447.69	111.92	448.33	450.17	197.14	0.00	1510.64	1266.89	0.296	0.58	0.42

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	367.39	91.85	367.82	349.68	190.67	0.00	1435.80	1180.46	0.256	0.45	0.35
2	318.46	79.61	318.77	335.38	223.10	0.00	1496.06	1219.32	0.213	0.35	0.27
3	374.92	93.73	375.31	376.84	165.04	0.00	1528.66	1266.89	0.245	0.42	0.33

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.02	0.33	0.056	A	A
2	3.96	0.26	0.051	A	A
3	4.75	0.32	0.052	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.59	0.44	0.061	A	A
2	5.13	0.34	0.055	A	A
3	6.19	0.41	0.056	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.22	0.61	0.071	A	A
2	7.01	0.47	0.062	A	A
3	8.55	0.57	0.064	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.44	0.63	0.071	A	A
2	7.15	0.48	0.062	A	A
3	8.73	0.58	0.064	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.91	0.46	0.062	A	A
2	5.34	0.36	0.055	A	A
3	6.46	0.43	0.056	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.27	0.35	0.056	A	A
2	4.13	0.28	0.051	A	A
3	4.97	0.33	0.052	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	367.39	1436.28	0.256	0.00	0.00	0.34	5.02	(0.02)	0.056
1	2	318.46	1496.67	0.213	0.00	0.00	0.27	3.96	(0.02)	0.051
1	3	374.92	1529.06	0.245	0.00	0.00	0.32	4.75	(0.02)	0.052
2	1	438.70	1415.21	0.310	0.00	0.34	0.45	6.59	(0.02)	0.061
2	2	380.27	1472.06	0.258	0.00	0.27	0.35	5.13	(0.02)	0.055
2	3	447.69	1510.87	0.296	0.00	0.32	0.42	6.19	(0.02)	0.056
3	1	537.30	1386.51	0.388	0.00	0.45	0.63	9.22	(0.02)	0.071
3	2	465.73	1438.59	0.324	0.00	0.35	0.48	7.01	(0.02)	0.062
3	3	548.31	1486.09	0.369	0.00	0.42	0.58	8.55	(0.02)	0.064
4	1	537.30	1386.33	0.388	0.00	0.63	0.63	9.44	(0.02)	0.071
4	2	465.73	1438.35	0.324	0.00	0.48	0.48	7.15	(0.02)	0.062
4	3	548.31	1485.94	0.369	0.00	0.58	0.58	8.73	(0.02)	0.064
5	1	438.70	1414.92	0.310	0.00	0.63	0.45	6.91	(0.02)	0.062
5	2	380.27	1471.68	0.258	0.00	0.48	0.35	5.34	(0.02)	0.055
5	3	447.69	1510.64	0.296	0.00	0.58	0.42	6.46	(0.02)	0.056
6	1	367.39	1435.80	0.256	0.00	0.45	0.35	5.27	(0.02)	0.056
6	2	318.46	1496.06	0.213	0.00	0.35	0.27	4.13	(0.02)	0.051
6	3	374.92	1528.66	0.245	0.00	0.42	0.33	4.97	(0.02)	0.052

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:42:11

« A1 - (Default Analysis Set) - D6 - 2037 No Dev, AM
- » Roundabout Network
- » Arms
- » Traffic Flows
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- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

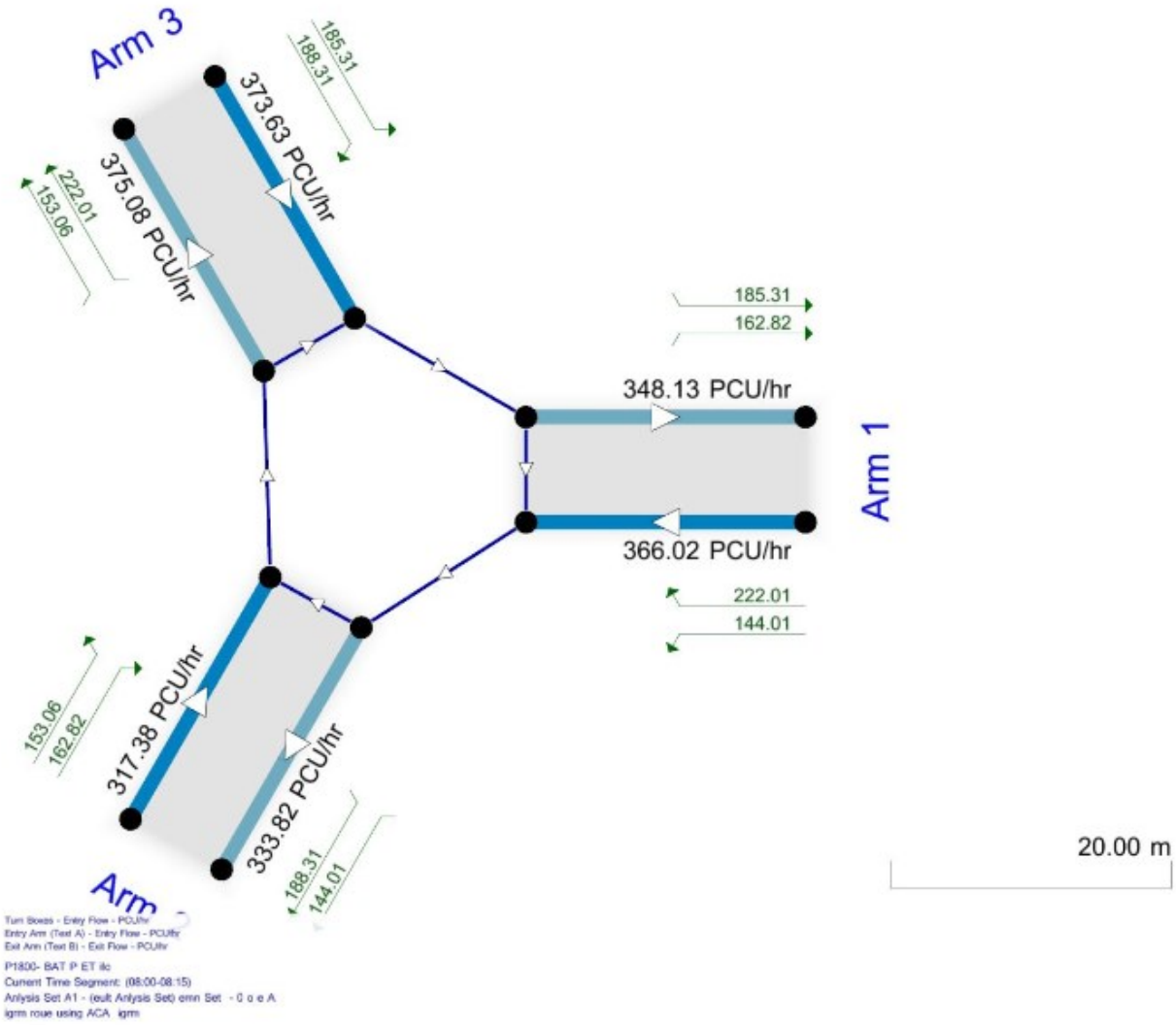
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D6 - 2037 No Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2037 No Dev, AM	2037 No Dev	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	488.00	100.000	N/A
2	ONE HOUR	Yes	448.00	100.000	N/A
3	ONE HOUR	Yes	532.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	367.39	367.39	N/A	N/A
1	2	337.28	337.28	N/A	N/A
1	3	400.52	400.52	N/A	N/A
2	1	438.70	438.70	N/A	N/A
2	2	402.74	402.74	N/A	N/A
2	3	478.26	478.26	N/A	N/A
3	1	537.30	537.30	N/A	N/A
3	2	493.26	493.26	N/A	N/A
3	3	585.74	585.74	N/A	N/A
4	1	537.30	537.30	N/A	N/A
4	2	493.26	493.26	N/A	N/A
4	3	585.74	585.74	N/A	N/A
5	1	438.70	438.70	N/A	N/A
5	2	402.74	402.74	N/A	N/A
5	3	478.26	478.26	N/A	N/A
6	1	367.39	367.39	N/A	N/A
6	2	337.28	337.28	N/A	N/A
6	3	400.52	400.52	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	192.000	296.000
	2	225.000	2.000	221.000
	3	260.000	272.000	0.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.39	0.61
	2	0.50	0.00	0.49
	3	0.49	0.51	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.39	0.07	0.64	A	447.80	671.70	42.97	0.06	0.48	42.97	0.06	0.563	1543.113
2	0.34	0.06	0.52	A	411.09	616.64	35.45	0.06	0.39	35.45	0.06	0.561	1621.319
3	0.40	0.07	0.65	A	488.17	732.26	43.93	0.06	0.49	43.94	0.06	0.561	1621.319

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	367.39	91.85	366.01	363.86	205.55	0.00	1427.42	1173.48	0.257	0.00	0.34
2	337.28	84.32	336.12	349.56	222.01	0.00	1496.68	1221.70	0.225	0.00	0.29
3	400.52	100.13	399.10	387.82	170.31	0.00	1525.70	1273.77	0.263	0.00	0.35

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	438.70	109.68	438.28	435.62	246.10	0.00	1404.60	1173.48	0.312	0.34	0.45
2	402.74	100.69	402.40	418.53	265.84	0.00	1472.07	1221.70	0.274	0.29	0.37
3	478.26	119.56	477.82	464.35	203.90	0.00	1506.84	1273.77	0.317	0.35	0.46

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	537.30	134.32	536.55	533.34	301.29	0.00	1373.53	1173.49	0.391	0.45	0.64
2	493.26	123.31	492.68	512.40	325.45	0.00	1438.60	1221.69	0.343	0.37	0.52
3	585.74	146.44	584.99	568.49	249.64	0.00	1481.16	1273.77	0.395	0.46	0.65

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	537.30	134.32	537.29	533.99	301.67	0.00	1373.32	1173.49	0.391	0.64	0.64
2	493.26	123.31	493.25	513.07	325.90	0.00	1438.35	1221.69	0.343	0.52	0.52
3	585.74	146.44	585.73	569.22	249.93	0.00	1481.00	1273.77	0.396	0.65	0.65

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	438.70	109.68	439.43	436.65	246.70	0.00	1404.26	1173.48	0.312	0.64	0.46
2	402.74	100.69	403.31	419.59	266.54	0.00	1471.67	1221.70	0.274	0.52	0.38
3	478.26	119.56	478.99	465.50	204.36	0.00	1506.59	1273.77	0.317	0.65	0.47

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	367.39	91.85	367.83	365.52	206.51	0.00	1426.88	1173.48	0.257	0.46	0.35
2	337.28	84.32	337.62	351.23	223.11	0.00	1496.06	1221.70	0.225	0.38	0.29
3	400.52	100.13	400.96	389.66	171.07	0.00	1525.27	1273.77	0.263	0.47	0.36

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.06	0.34	0.056	A	A
2	4.26	0.28	0.052	A	A
3	5.21	0.35	0.053	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.66	0.44	0.062	A	A
2	5.54	0.37	0.056	A	A
3	6.83	0.46	0.058	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.36	0.62	0.072	A	A
2	7.64	0.51	0.063	A	A
3	9.54	0.64	0.067	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.59	0.64	0.072	A	A
2	7.79	0.52	0.063	A	A
3	9.76	0.65	0.067	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.99	0.47	0.062	A	A
2	5.78	0.39	0.056	A	A
3	7.14	0.48	0.058	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.31	0.35	0.057	A	A
2	4.45	0.30	0.052	A	A
3	5.45	0.36	0.053	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	367.39	1427.42	0.257	0.00	0.00	0.34	5.06	(0.02)	0.056
1	2	337.28	1496.68	0.225	0.00	0.00	0.29	4.26	(0.02)	0.052
1	3	400.52	1525.70	0.263	0.00	0.00	0.35	5.21	(0.02)	0.053
2	1	438.70	1404.60	0.312	0.00	0.34	0.45	6.66	(0.02)	0.062
2	2	402.74	1472.07	0.274	0.00	0.29	0.37	5.54	(0.02)	0.056
2	3	478.26	1506.84	0.317	0.00	0.35	0.46	6.83	(0.02)	0.058
3	1	537.30	1373.53	0.391	0.00	0.45	0.64	9.36	(0.02)	0.072
3	2	493.26	1438.60	0.343	0.00	0.37	0.52	7.64	(0.02)	0.063
3	3	585.74	1481.16	0.395	0.00	0.46	0.65	9.54	(0.02)	0.067
4	1	537.30	1373.32	0.391	0.00	0.64	0.64	9.59	(0.02)	0.072
4	2	493.26	1438.35	0.343	0.00	0.52	0.52	7.79	(0.02)	0.063
4	3	585.74	1481.00	0.396	0.00	0.65	0.65	9.76	(0.02)	0.067
5	1	438.70	1404.26	0.312	0.00	0.64	0.46	6.99	(0.02)	0.062
5	2	402.74	1471.67	0.274	0.00	0.52	0.38	5.78	(0.02)	0.056
5	3	478.26	1506.59	0.317	0.00	0.65	0.47	7.14	(0.02)	0.058
6	1	367.39	1426.88	0.257	0.00	0.46	0.35	5.31	(0.02)	0.057
6	2	337.28	1496.06	0.225	0.00	0.38	0.29	4.45	(0.02)	0.052
6	3	400.52	1525.27	0.263	0.00	0.47	0.36	5.45	(0.02)	0.053

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:42:37

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- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

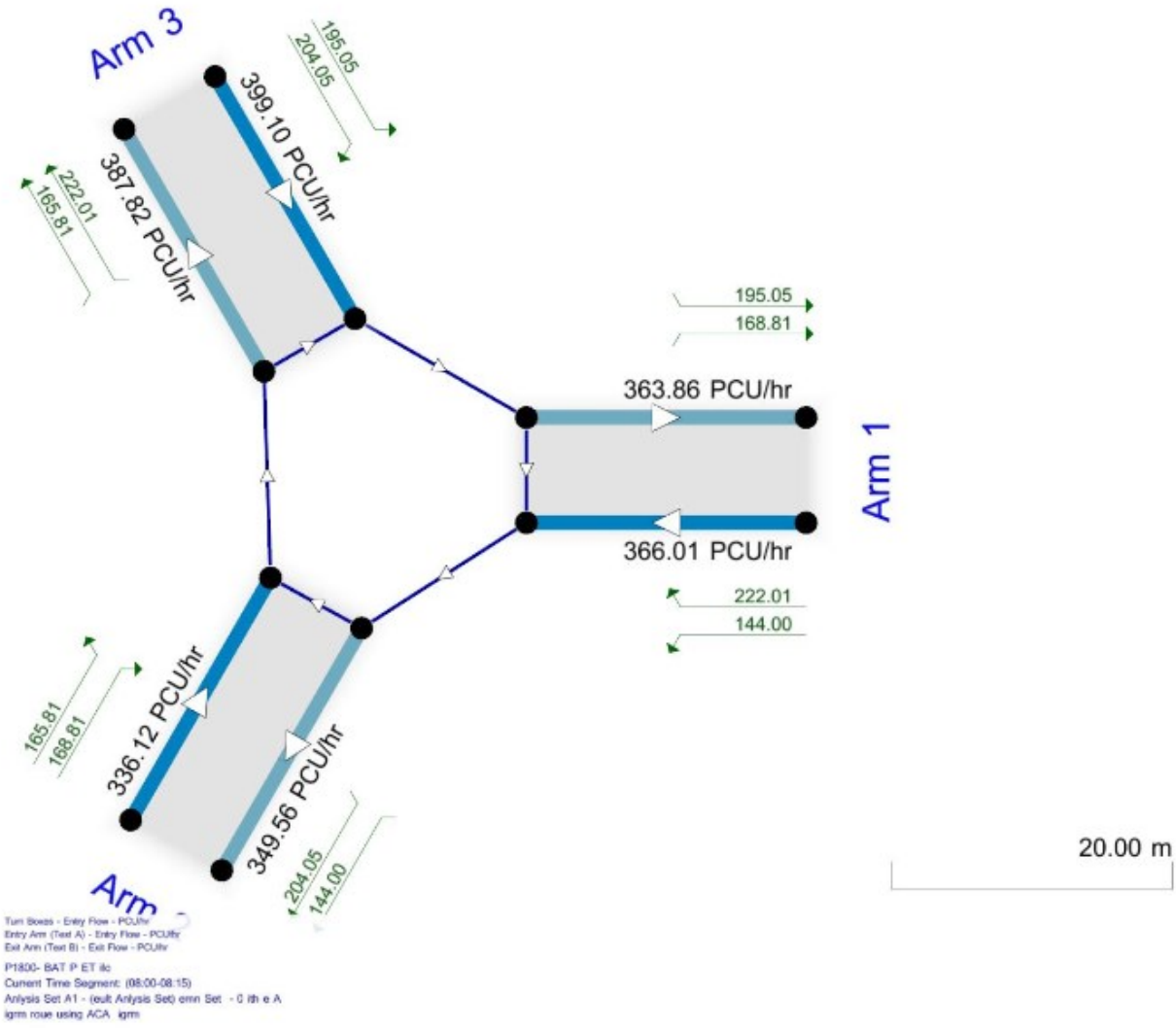
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D7 - 2037 With Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2037 With Dev, AM	2037 With Dev	AM			Yes			08:00	09:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	512.00	100.000	N/A
2	ONE HOUR	Yes	454.00	100.000	N/A
3	ONE HOUR	Yes	539.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	385.46	385.46	N/A	N/A
1	2	341.80	341.80	N/A	N/A
1	3	405.79	405.79	N/A	N/A
2	1	460.28	460.28	N/A	N/A
2	2	408.14	408.14	N/A	N/A
2	3	484.55	484.55	N/A	N/A
3	1	563.72	563.72	N/A	N/A
3	2	499.86	499.86	N/A	N/A
3	3	593.45	593.45	N/A	N/A
4	1	563.72	563.72	N/A	N/A
4	2	499.86	499.86	N/A	N/A
4	3	593.45	593.45	N/A	N/A
5	1	460.28	460.28	N/A	N/A
5	2	408.14	408.14	N/A	N/A
5	3	484.55	484.55	N/A	N/A
6	1	385.46	385.46	N/A	N/A
6	2	341.80	341.80	N/A	N/A
6	3	405.79	405.79	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	201.000	311.000
	2	231.000	2.000	221.000
	3	267.000	272.000	0.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.39	0.61
	2	0.51	0.00	0.49
	3	0.50	0.50	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.41	0.07	0.69	A	469.82	704.73	46.23	0.07	0.51	46.23	0.07	0.563	1543.113
2	0.35	0.06	0.54	A	416.60	624.90	36.41	0.06	0.40	36.42	0.06	0.561	1621.319
3	0.40	0.07	0.67	A	494.60	741.89	44.96	0.06	0.50	44.97	0.06	0.561	1621.319

Main Results

Main results: (08:00-08:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	385.46	96.37	383.99	373.60	205.55	0.00	1427.42	1179.35	0.270	0.00	0.37
2	341.80	85.45	340.61	356.29	233.24	0.00	1490.37	1219.13	0.229	0.00	0.30
3	405.79	101.45	404.34	399.05	174.81	0.00	1523.18	1270.04	0.266	0.00	0.36

Main results: (08:15-08:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	460.28	115.07	459.81	447.29	246.09	0.00	1404.60	1179.35	0.328	0.37	0.48
2	408.14	102.03	407.78	426.61	279.30	0.00	1464.51	1219.12	0.279	0.30	0.38
3	484.55	121.14	484.10	477.80	209.28	0.00	1503.82	1270.04	0.322	0.36	0.47

Main results: (08:30-08:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	563.72	140.93	562.90	547.62	301.29	0.00	1373.53	1179.35	0.410	0.48	0.69
2	499.86	124.97	499.26	522.27	341.92	0.00	1429.35	1219.12	0.350	0.38	0.53
3	593.45	148.36	592.68	584.95	256.23	0.00	1477.46	1270.04	0.402	0.47	0.67

Main results: (08:45-09:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	563.72	140.93	563.71	548.30	301.67	0.00	1373.32	1179.35	0.410	0.69	0.69
2	499.86	124.97	499.86	522.97	342.41	0.00	1429.08	1219.12	0.350	0.53	0.54
3	593.45	148.36	593.44	585.73	256.53	0.00	1477.29	1270.04	0.402	0.67	0.67

Main results: (09:00-09:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	460.28	115.07	461.09	448.37	246.71	0.00	1404.25	1179.35	0.328	0.69	0.49
2	408.14	102.03	408.73	427.72	280.08	0.00	1464.07	1219.12	0.279	0.54	0.39
3	484.55	121.14	485.31	479.04	209.77	0.00	1503.55	1270.04	0.322	0.67	0.48

Main results: (09:15-09:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	385.46	96.37	385.93	375.33	206.51	0.00	1426.88	1179.35	0.270	0.49	0.37
2	341.80	85.45	342.15	358.02	234.43	0.00	1489.70	1219.13	0.229	0.39	0.30
3	405.79	101.45	406.24	400.98	175.60	0.00	1522.73	1270.04	0.266	0.48	0.37

Queueing Delay Results

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.40	0.36	0.057	A	A
2	4.36	0.29	0.052	A	A
3	5.31	0.35	0.054	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.14	0.48	0.063	A	A
2	5.68	0.38	0.057	A	A
3	6.98	0.47	0.059	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.13	0.68	0.074	A	A
2	7.87	0.52	0.064	A	A
3	9.79	0.65	0.068	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.38	0.69	0.074	A	A
2	8.03	0.54	0.065	A	A
3	10.02	0.67	0.068	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.51	0.50	0.064	A	A
2	5.93	0.40	0.057	A	A
3	7.31	0.49	0.059	A	A

Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.67	0.38	0.058	A	A
2	4.55	0.30	0.052	A	A
3	5.56	0.37	0.054	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	385.46	1427.42	0.270	0.00	0.00	0.37	5.40	(0.02)	0.057
1	2	341.80	1490.37	0.229	0.00	0.00	0.30	4.36	(0.02)	0.052
1	3	405.79	1523.18	0.266	0.00	0.00	0.36	5.31	(0.02)	0.054
2	1	460.28	1404.60	0.328	0.00	0.37	0.48	7.14	(0.02)	0.063
2	2	408.14	1464.51	0.279	0.00	0.30	0.38	5.68	(0.02)	0.057
2	3	484.55	1503.82	0.322	0.00	0.36	0.47	6.98	(0.02)	0.059
3	1	563.72	1373.53	0.410	0.00	0.48	0.69	10.13	(0.02)	0.074
3	2	499.86	1429.35	0.350	0.00	0.38	0.53	7.87	(0.02)	0.064
3	3	593.45	1477.46	0.402	0.00	0.47	0.67	9.79	(0.02)	0.068
4	1	563.72	1373.32	0.410	0.00	0.69	0.69	10.38	(0.02)	0.074
4	2	499.86	1429.08	0.350	0.00	0.53	0.54	8.03	(0.02)	0.065
4	3	593.45	1477.29	0.402	0.00	0.67	0.67	10.02	(0.02)	0.068
5	1	460.28	1404.25	0.328	0.00	0.69	0.49	7.51	(0.02)	0.064
5	2	408.14	1464.07	0.279	0.00	0.54	0.39	5.93	(0.02)	0.057
5	3	484.55	1503.55	0.322	0.00	0.67	0.48	7.31	(0.02)	0.059
6	1	385.46	1426.88	0.270	0.00	0.49	0.37	5.67	(0.02)	0.058
6	2	341.80	1489.70	0.229	0.00	0.39	0.30	4.55	(0.02)	0.052
6	3	405.79	1522.73	0.266	0.00	0.48	0.37	5.56	(0.02)	0.054

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:43:04

« A1 - (Default Analysis Set) - D8 - 2019 Committed, PM
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- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

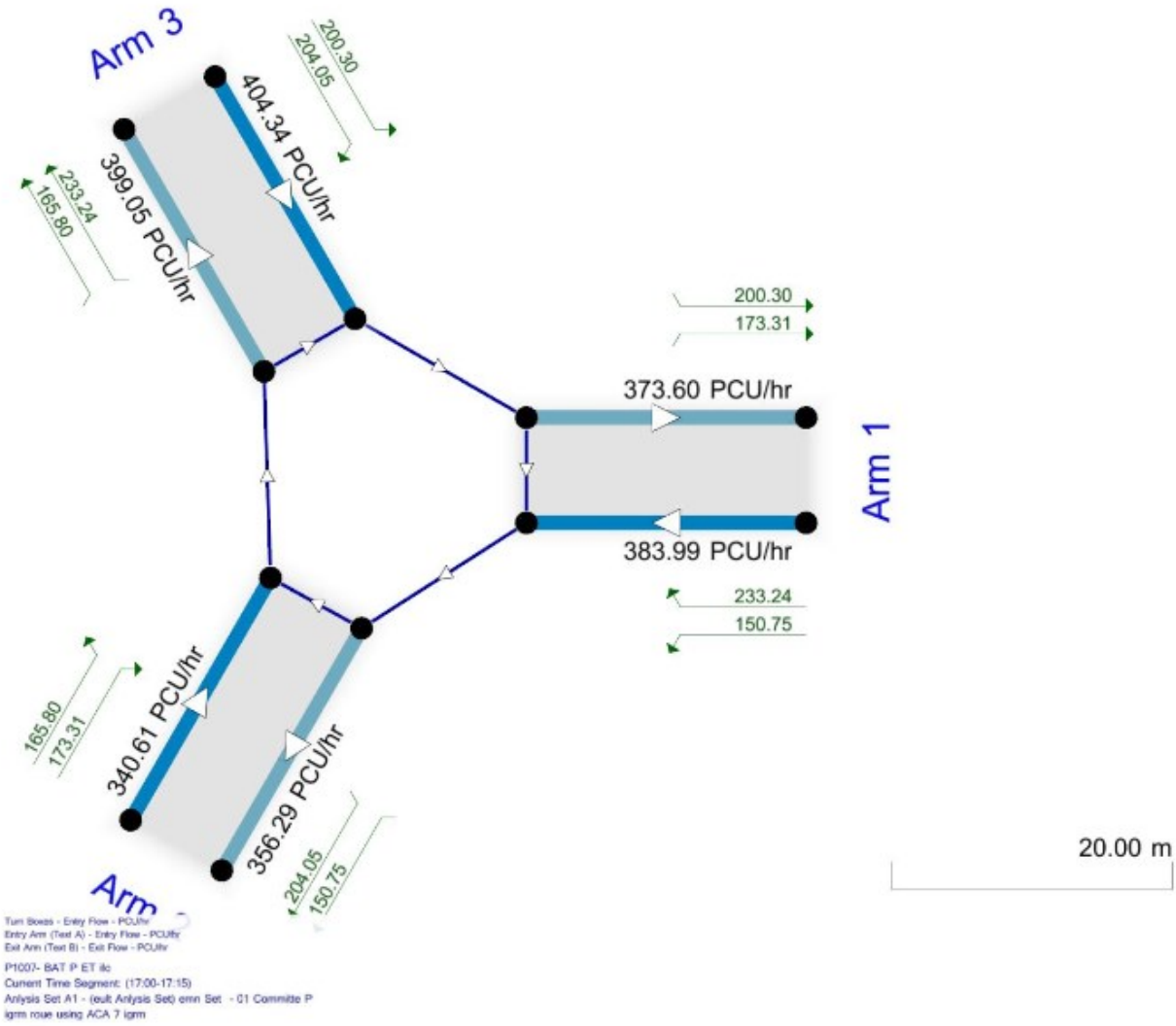
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D8 - 2019 Committed, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2019 Committed, PM	2019 Committed	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	361.00	100.000	N/A
2	ONE HOUR	Yes	522.00	100.000	N/A
3	ONE HOUR	Yes	570.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	271.78	271.78	N/A	N/A
1	2	392.99	392.99	N/A	N/A
1	3	429.13	429.13	N/A	N/A
2	1	324.53	324.53	N/A	N/A
2	2	469.27	469.27	N/A	N/A
2	3	512.42	512.42	N/A	N/A
3	1	397.47	397.47	N/A	N/A
3	2	574.73	574.73	N/A	N/A
3	3	627.58	627.58	N/A	N/A
4	1	397.47	397.47	N/A	N/A
4	2	574.73	574.73	N/A	N/A
4	3	627.58	627.58	N/A	N/A
5	1	324.53	324.53	N/A	N/A
5	2	469.27	469.27	N/A	N/A
5	3	512.42	512.42	N/A	N/A
6	1	271.78	271.78	N/A	N/A
6	2	392.99	392.99	N/A	N/A
6	3	429.13	429.13	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	181.000	180.000
	2	235.000	5.000	282.000
	3	321.000	246.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

	To

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.45	0.01	0.54
	3	0.56	0.43	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.29	0.06	0.40	A	331.26	496.89	27.84	0.06	0.31	27.84	0.06	0.563	1543.113
2	0.38	0.06	0.61	A	479.00	718.49	41.71	0.06	0.46	41.71	0.06	0.561	1621.319
3	0.43	0.07	0.74	A	523.04	784.56	49.23	0.06	0.55	49.24	0.06	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	271.78	67.94	270.85	417.09	190.53	0.00	1435.87	1218.60	0.189	0.00	0.23
2	392.99	98.25	391.63	324.08	137.30	0.00	1544.23	1276.37	0.254	0.00	0.34
3	429.13	107.28	427.56	348.87	180.06	0.00	1520.23	1291.85	0.282	0.00	0.39

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	324.53	81.13	324.28	499.37	228.12	0.00	1414.72	1218.60	0.229	0.23	0.30
2	469.27	117.32	468.86	388.01	164.38	0.00	1529.03	1276.37	0.307	0.34	0.44
3	512.42	128.10	511.92	417.68	215.57	0.00	1500.29	1291.85	0.342	0.39	0.52

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	397.47	99.37	397.05	611.36	279.27	0.00	1385.93	1218.60	0.287	0.30	0.40

2	574.73	143.68	574.05	475.05	201.28	0.00	1508.32	1276.37	0.381	0.44	0.61
3	627.58	156.90	626.70	511.39	263.93	0.00	1473.14	1291.85	0.426	0.52	0.74

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	397.47	99.37	397.46	612.16	279.65	0.00	1385.71	1218.60	0.287	0.40	0.40
2	574.73	143.68	574.72	475.63	201.48	0.00	1508.20	1276.37	0.381	0.61	0.61
3	627.58	156.90	627.57	511.97	264.24	0.00	1472.96	1291.85	0.426	0.74	0.74

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	324.53	81.13	324.94	500.63	228.73	0.00	1414.37	1218.60	0.229	0.40	0.30
2	469.27	117.32	469.94	388.95	164.72	0.00	1528.84	1276.37	0.307	0.61	0.45
3	512.42	128.10	513.29	418.60	216.06	0.00	1500.01	1291.85	0.342	0.74	0.52

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	271.78	67.94	272.04	419.06	191.45	0.00	1435.36	1218.60	0.189	0.30	0.23
2	392.99	98.25	393.40	325.58	137.90	0.00	1543.89	1276.37	0.255	0.45	0.34
3	429.13	107.28	429.63	350.43	180.87	0.00	1519.77	1291.85	0.282	0.52	0.40

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.42	0.23	0.051	A	A
2	5.00	0.33	0.052	A	A
3	5.74	0.38	0.055	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.38	0.29	0.055	A	A
2	6.51	0.43	0.057	A	A
3	7.60	0.51	0.061	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.90	0.39	0.061	A	A
2	9.00	0.60	0.064	A	A
3	10.80	0.72	0.071	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.01	0.40	0.061	A	A
2	9.19	0.61	0.064	A	A
3	11.07	0.74	0.071	A	A

Queueing Delay results: (18:00-18:15)

Queueing Delay results: (16:00-16:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.56	0.30	0.055	A	A
2	6.80	0.45	0.057	A	A
3	7.98	0.53	0.061	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.57	0.24	0.052	A	A
2	5.22	0.35	0.052	A	A
3	6.03	0.40	0.055	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	271.78	1435.87	0.189	0.00	0.00	0.23	3.42	(0.02)	0.051
1	2	392.99	1544.23	0.254	0.00	0.00	0.34	5.00	(0.02)	0.052
1	3	429.13	1520.23	0.282	0.00	0.00	0.39	5.74	(0.02)	0.055
2	1	324.53	1414.72	0.229	0.00	0.23	0.30	4.38	(0.02)	0.055
2	2	469.27	1529.03	0.307	0.00	0.34	0.44	6.51	(0.02)	0.057
2	3	512.42	1500.29	0.342	0.00	0.39	0.52	7.60	(0.02)	0.061
3	1	397.47	1385.93	0.287	0.00	0.30	0.40	5.90	(0.02)	0.061
3	2	574.73	1508.32	0.381	0.00	0.44	0.61	9.00	(0.02)	0.064
3	3	627.58	1473.14	0.426	0.00	0.52	0.74	10.80	(0.02)	0.071
4	1	397.47	1385.71	0.287	0.00	0.40	0.40	6.01	(0.02)	0.061
4	2	574.73	1508.20	0.381	0.00	0.61	0.61	9.19	(0.02)	0.064
4	3	627.58	1472.96	0.426	0.00	0.74	0.74	11.07	(0.02)	0.071
5	1	324.53	1414.37	0.229	0.00	0.40	0.30	4.56	(0.02)	0.055
5	2	469.27	1528.84	0.307	0.00	0.61	0.45	6.80	(0.02)	0.057
5	3	512.42	1500.01	0.342	0.00	0.74	0.52	7.98	(0.02)	0.061
6	1	271.78	1435.36	0.189	0.00	0.30	0.23	3.57	(0.02)	0.052
6	2	392.99	1543.89	0.255	0.00	0.45	0.34	5.22	(0.02)	0.052
6	3	429.13	1519.77	0.282	0.00	0.52	0.40	6.03	(0.02)	0.055

ARCADY 7

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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:45:52

« A1 - (Default Analysis Set) - D9 - 2022 No Dev, PM
- » Roundabout Network
- » Arms
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

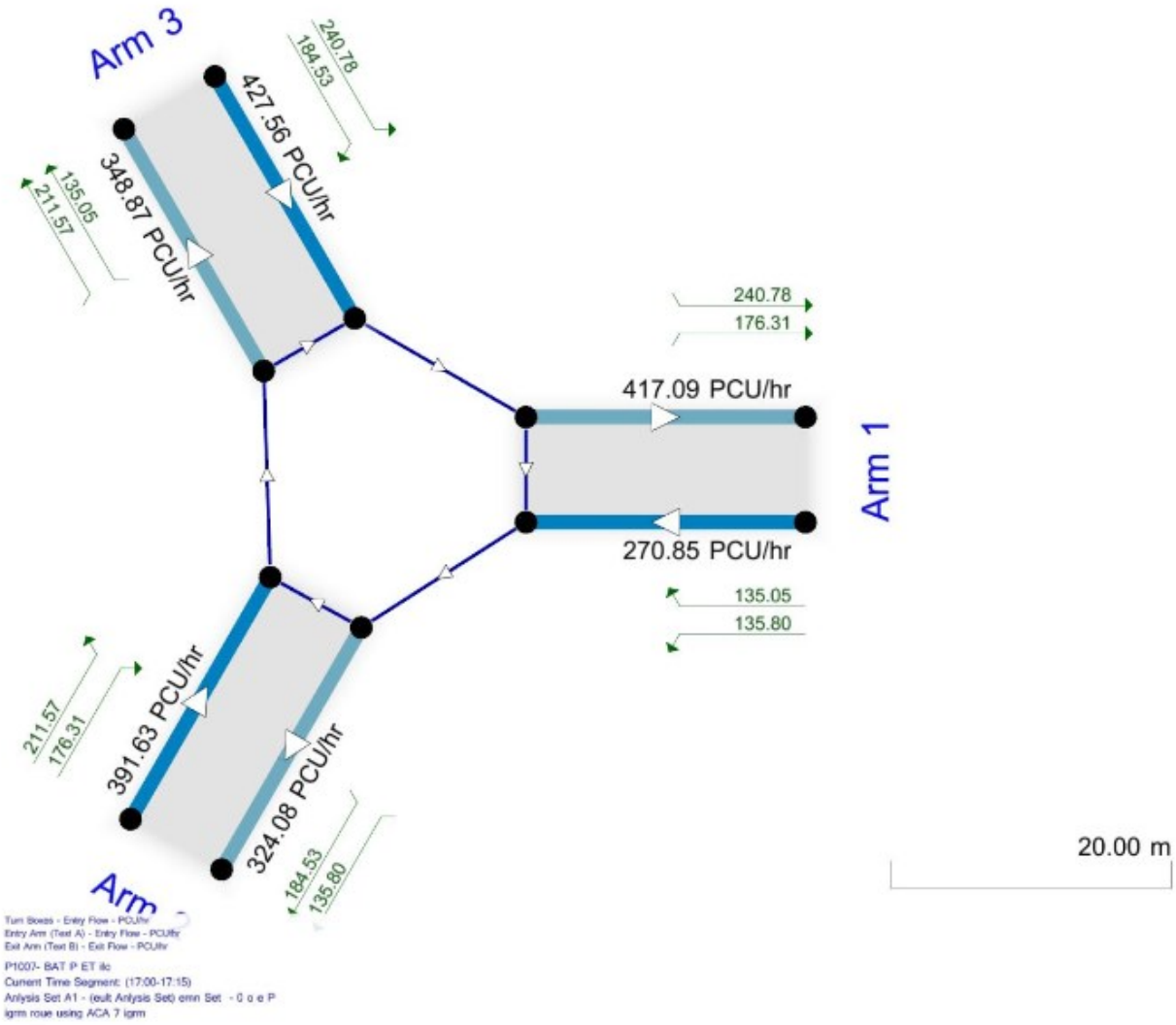
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D9 - 2022 No Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2022 No Dev, PM	2022 No Dev	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	373.00	100.000	N/A
2	ONE HOUR	Yes	537.00	100.000	N/A
3	ONE HOUR	Yes	587.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	280.81	280.81	N/A	N/A
1	2	404.28	404.28	N/A	N/A
1	3	441.92	441.92	N/A	N/A
2	1	335.32	335.32	N/A	N/A
2	2	482.75	482.75	N/A	N/A
2	3	527.70	527.70	N/A	N/A
3	1	410.68	410.68	N/A	N/A
3	2	591.25	591.25	N/A	N/A
3	3	646.30	646.30	N/A	N/A
4	1	410.68	410.68	N/A	N/A
4	2	591.25	591.25	N/A	N/A
4	3	646.30	646.30	N/A	N/A
5	1	335.32	335.32	N/A	N/A
5	2	482.75	482.75	N/A	N/A
5	3	527.70	527.70	N/A	N/A
6	1	280.81	280.81	N/A	N/A
6	2	404.28	404.28	N/A	N/A
6	3	441.92	441.92	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	186.000	187.000
	2	241.000	5.000	291.000
	3	330.000	254.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.45	0.01	0.54
	3	0.56	0.43	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.30	0.06	0.42	A	342.27	513.41	29.20	0.06	0.32	29.20	0.06	0.563	1543.113
2	0.39	0.07	0.65	A	492.76	739.14	43.68	0.06	0.49	43.68	0.06	0.561	1621.319
3	0.44	0.07	0.78	A	538.64	807.96	51.77	0.06	0.58	51.78	0.06	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	280.81	70.20	279.84	428.32	196.52	0.00	1432.50	1217.70	0.196	0.00	0.24
2	404.28	101.07	402.87	333.81	142.55	0.00	1541.29	1274.86	0.262	0.00	0.35
3	441.92	110.48	440.29	360.86	184.55	0.00	1517.70	1293.43	0.291	0.00	0.41

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	335.32	83.83	335.05	512.83	235.30	0.00	1410.68	1217.70	0.238	0.24	0.31
2	482.75	120.69	482.33	399.68	170.67	0.00	1525.50	1274.86	0.316	0.35	0.46
3	527.70	131.93	527.17	432.04	220.95	0.00	1497.27	1293.43	0.352	0.41	0.54

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	410.68	102.67	410.24	627.82	288.04	0.00	1380.99	1217.70	0.297	0.31	0.42
2	591.25	147.81	590.52	489.32	208.97	0.00	1504.00	1274.86	0.393	0.46	0.64
3	646.30	161.57	645.35	528.97	270.52	0.00	1469.44	1293.43	0.440	0.54	0.78

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	410.68	102.67	410.68	628.67	288.46	0.00	1380.75	1217.70	0.297	0.42	0.42
2	591.25	147.81	591.24	489.95	209.19	0.00	1503.87	1274.86	0.393	0.64	0.65
3	646.30	161.57	646.29	529.58	270.85	0.00	1469.25	1293.43	0.440	0.78	0.78

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	335.32	83.83	335.75	514.17	235.95	0.00	1410.31	1217.70	0.238	0.42	0.31
2	482.75	120.69	483.47	400.67	171.03	0.00	1525.30	1274.86	0.317	0.65	0.47
3	527.70	131.93	528.64	433.02	221.48	0.00	1496.97	1293.43	0.353	0.78	0.55

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	280.81	70.20	281.09	430.38	197.49	0.00	1431.96	1217.70	0.196	0.31	0.24
2	404.28	101.07	404.71	335.39	143.18	0.00	1540.93	1274.86	0.262	0.47	0.36
3	441.92	110.48	442.46	362.50	185.40	0.00	1517.23	1293.43	0.291	0.55	0.41

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.57	0.24	0.052	A	A
2	5.20	0.35	0.053	A	A
3	6.00	0.40	0.056	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.59	0.31	0.056	A	A
2	6.80	0.45	0.057	A	A
3	7.97	0.53	0.062	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.21	0.41	0.062	A	A
2	9.46	0.63	0.066	A	A
3	11.41	0.76	0.073	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.32	0.42	0.062	A	A
2	9.67	0.64	0.066	A	A
3	11.71	0.78	0.073	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.78	0.32	0.056	A	A
2	7.11	0.47	0.058	A	A
3	8.39	0.56	0.062	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.73	0.25	0.052	A	A
2	5.44	0.36	0.053	A	A
3	6.30	0.42	0.056	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	280.81	1432.50	0.196	0.00	0.00	0.24	3.57	(0.02)	0.052
1	2	404.28	1541.29	0.262	0.00	0.00	0.35	5.20	(0.02)	0.053
1	3	441.92	1517.70	0.291	0.00	0.00	0.41	6.00	(0.02)	0.056
2	1	335.32	1410.68	0.238	0.00	0.24	0.31	4.59	(0.02)	0.056
2	2	482.75	1525.50	0.316	0.00	0.35	0.46	6.80	(0.02)	0.057
2	3	527.70	1497.27	0.352	0.00	0.41	0.54	7.97	(0.02)	0.062
3	1	410.68	1380.99	0.297	0.00	0.31	0.42	6.21	(0.02)	0.062
3	2	591.25	1504.00	0.393	0.00	0.46	0.64	9.46	(0.02)	0.066
3	3	646.30	1469.44	0.440	0.00	0.54	0.78	11.41	(0.02)	0.073
4	1	410.68	1380.75	0.297	0.00	0.42	0.42	6.32	(0.02)	0.062
4	2	591.25	1503.87	0.393	0.00	0.64	0.65	9.67	(0.02)	0.066
4	3	646.30	1469.25	0.440	0.00	0.78	0.78	11.71	(0.02)	0.073
5	1	335.32	1410.31	0.238	0.00	0.42	0.31	4.78	(0.02)	0.056
5	2	482.75	1525.30	0.317	0.00	0.65	0.47	7.11	(0.02)	0.058
5	3	527.70	1496.97	0.353	0.00	0.78	0.55	8.39	(0.02)	0.062
6	1	280.81	1431.96	0.196	0.00	0.31	0.24	3.73	(0.02)	0.052
6	2	404.28	1540.93	0.262	0.00	0.47	0.36	5.44	(0.02)	0.053
6	3	441.92	1517.23	0.291	0.00	0.55	0.41	6.30	(0.02)	0.056

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:46:27

« A1 - (Default Analysis Set) - D10 - 2022 With Dev, PM
- » Roundabout Network
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Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

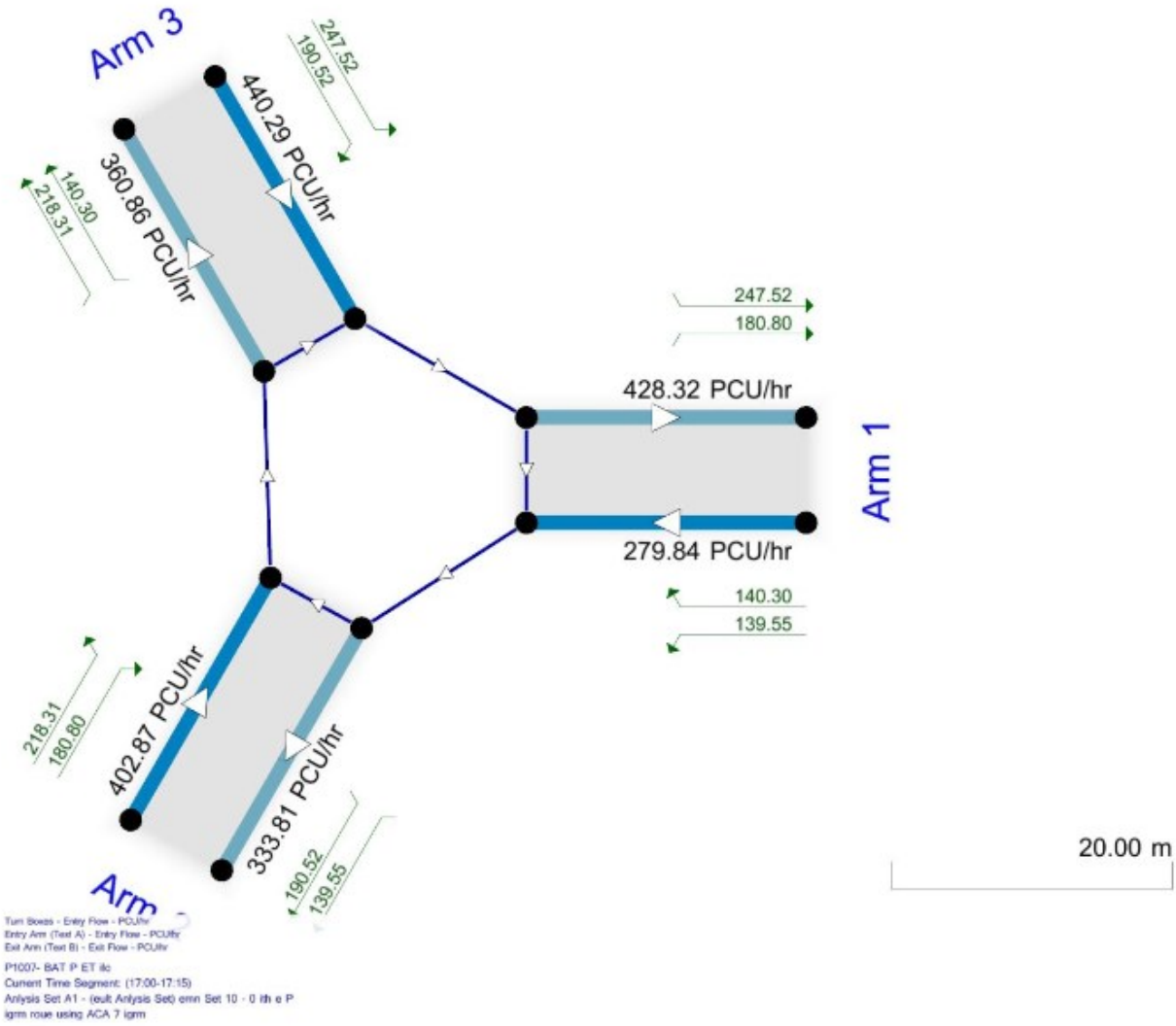
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D10 - 2022 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2022 With Dev, PM	2022 With Dev	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	403.00	100.000	N/A
2	ONE HOUR	Yes	557.00	100.000	N/A
3	ONE HOUR	Yes	614.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	303.40	303.40	N/A	N/A
1	2	419.34	419.34	N/A	N/A
1	3	462.25	462.25	N/A	N/A
2	1	362.29	362.29	N/A	N/A
2	2	500.73	500.73	N/A	N/A
2	3	551.97	551.97	N/A	N/A
3	1	443.71	443.71	N/A	N/A
3	2	613.27	613.27	N/A	N/A
3	3	676.03	676.03	N/A	N/A
4	1	443.71	443.71	N/A	N/A
4	2	613.27	613.27	N/A	N/A
4	3	676.03	676.03	N/A	N/A
5	1	362.29	362.29	N/A	N/A
5	2	500.73	500.73	N/A	N/A
5	3	551.97	551.97	N/A	N/A
6	1	303.40	303.40	N/A	N/A
6	2	419.34	419.34	N/A	N/A
6	3	462.25	462.25	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	202.000	201.000
	2	261.000	5.000	291.000
	3	357.000	254.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.47	0.01	0.52
	3	0.58	0.41	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.32	0.06	0.47	A	369.80	554.70	32.43	0.06	0.36	32.43	0.06	0.563	1543.113
2	0.41	0.07	0.69	A	511.11	766.67	46.54	0.06	0.52	46.54	0.06	0.561	1621.319
3	0.46	0.08	0.86	A	563.42	845.13	56.40	0.07	0.63	56.41	0.07	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	303.40	75.85	302.33	463.54	196.50	0.00	1432.51	1235.07	0.212	0.00	0.27
2	419.34	104.83	417.84	345.79	153.04	0.00	1535.40	1271.96	0.273	0.00	0.37
3	462.25	115.56	460.50	371.34	199.54	0.00	1509.29	1280.28	0.306	0.00	0.44

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	362.29	90.57	361.98	555.01	235.28	0.00	1410.68	1235.07	0.257	0.27	0.34
2	500.73	125.18	500.27	414.03	183.24	0.00	1518.44	1271.96	0.330	0.37	0.49
3	551.97	137.99	551.38	444.60	238.91	0.00	1487.19	1280.28	0.371	0.44	0.59

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	443.71	110.93	443.20	679.42	288.01	0.00	1381.01	1235.06	0.321	0.34	0.47
2	613.27	153.32	612.47	506.86	224.35	0.00	1495.36	1271.96	0.410	0.49	0.69
3	676.03	169.01	674.94	544.33	292.49	0.00	1457.10	1280.28	0.464	0.59	0.86

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	443.71	110.93	443.71	680.42	288.46	0.00	1380.75	1235.06	0.321	0.47	0.47
2	613.27	153.32	613.26	507.56	224.61	0.00	1495.22	1271.96	0.410	0.69	0.69
3	676.03	169.01	676.01	545.00	292.87	0.00	1456.89	1280.28	0.464	0.86	0.86

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	362.29	90.57	362.79	556.56	235.99	0.00	1410.29	1235.07	0.257	0.47	0.35
2	500.73	125.18	501.52	415.13	183.65	0.00	1518.21	1271.96	0.330	0.69	0.49
3	551.97	137.99	553.04	445.66	239.51	0.00	1486.85	1280.28	0.371	0.86	0.59

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	303.40	75.85	303.71	465.83	197.50	0.00	1431.95	1235.07	0.212	0.35	0.27
2	419.34	104.83	419.81	347.47	153.74	0.00	1535.00	1271.96	0.273	0.49	0.38
3	462.25	115.56	462.85	373.06	200.48	0.00	1508.76	1280.28	0.306	0.59	0.44

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.93	0.26	0.053	A	A
2	5.49	0.37	0.054	A	A
3	6.44	0.43	0.057	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.08	0.34	0.057	A	A
2	7.22	0.48	0.059	A	A
3	8.63	0.58	0.064	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.93	0.46	0.064	A	A
2	10.14	0.68	0.068	A	A
3	12.55	0.84	0.077	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.07	0.47	0.064	A	A
2	10.37	0.69	0.068	A	A
3	12.90	0.86	0.077	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.30	0.35	0.057	A	A
2	7.57	0.50	0.059	A	A
3	9.11	0.61	0.064	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.11	0.27	0.053	A	A
2	5.75	0.38	0.054	A	A
3	6.78	0.45	0.057	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	303.40	1432.51	0.212	0.00	0.00	0.27	3.93	(0.02)	0.053
1	2	419.34	1535.40	0.273	0.00	0.00	0.37	5.49	(0.02)	0.054
1	3	462.25	1509.29	0.306	0.00	0.00	0.44	6.44	(0.02)	0.057
2	1	362.29	1410.68	0.257	0.00	0.27	0.34	5.08	(0.02)	0.057
2	2	500.73	1518.44	0.330	0.00	0.37	0.49	7.22	(0.02)	0.059
2	3	551.97	1487.19	0.371	0.00	0.44	0.59	8.63	(0.02)	0.064
3	1	443.71	1381.01	0.321	0.00	0.34	0.47	6.93	(0.02)	0.064
3	2	613.27	1495.36	0.410	0.00	0.49	0.69	10.14	(0.02)	0.068
3	3	676.03	1457.10	0.464	0.00	0.59	0.86	12.55	(0.02)	0.077
4	1	443.71	1380.75	0.321	0.00	0.47	0.47	7.07	(0.02)	0.064
4	2	613.27	1495.22	0.410	0.00	0.69	0.69	10.37	(0.02)	0.068
4	3	676.03	1456.89	0.464	0.00	0.86	0.86	12.90	(0.02)	0.077
5	1	362.29	1410.29	0.257	0.00	0.47	0.35	5.30	(0.02)	0.057
5	2	500.73	1518.21	0.330	0.00	0.69	0.49	7.57	(0.02)	0.059
5	3	551.97	1486.85	0.371	0.00	0.86	0.59	9.11	(0.02)	0.064
6	1	303.40	1431.95	0.212	0.00	0.35	0.27	4.11	(0.02)	0.053
6	2	419.34	1535.00	0.273	0.00	0.49	0.38	5.75	(0.02)	0.054
6	3	462.25	1508.76	0.306	0.00	0.59	0.44	6.78	(0.02)	0.057

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:49:15

« A1 - (Default Analysis Set) - D11 - 2027 No Dev, PM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
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2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

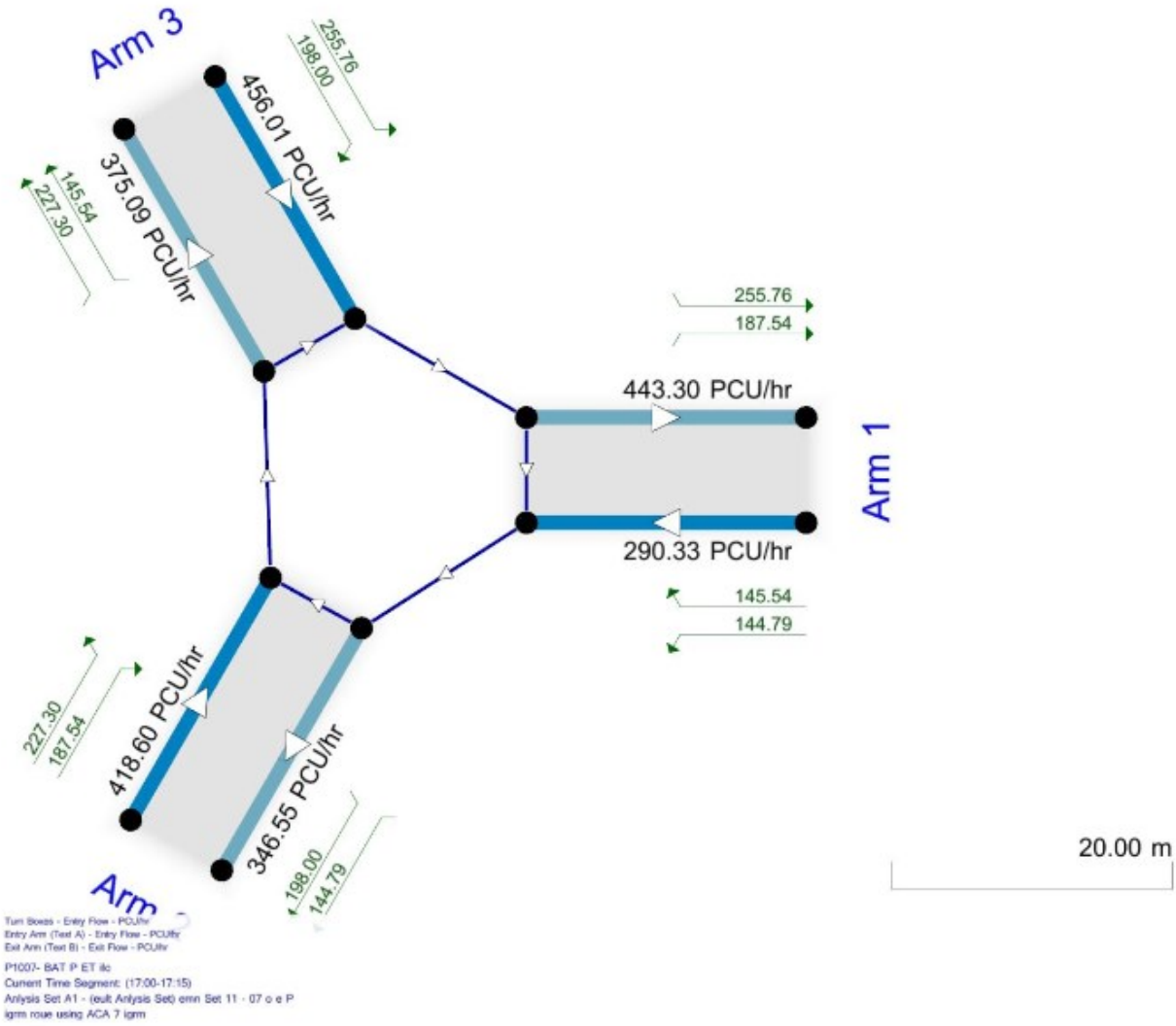
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D11 - 2027 No Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2027 No Dev, PM	2027 No Dev	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	387.00	100.000	N/A
2	ONE HOUR	Yes	558.00	100.000	N/A
3	ONE HOUR	Yes	608.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	291.35	291.35	N/A	N/A
1	2	420.09	420.09	N/A	N/A
1	3	457.73	457.73	N/A	N/A
2	1	347.91	347.91	N/A	N/A
2	2	501.63	501.63	N/A	N/A
2	3	546.58	546.58	N/A	N/A
3	1	426.09	426.09	N/A	N/A
3	2	614.37	614.37	N/A	N/A
3	3	669.42	669.42	N/A	N/A
4	1	426.09	426.09	N/A	N/A
4	2	614.37	614.37	N/A	N/A
4	3	669.42	669.42	N/A	N/A
5	1	347.91	347.91	N/A	N/A
5	2	501.63	501.63	N/A	N/A
5	3	546.58	546.58	N/A	N/A
6	1	291.35	291.35	N/A	N/A
6	2	420.09	420.09	N/A	N/A
6	3	457.73	457.73	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	193.000	194.000
	2	250.000	5.000	303.000
	3	341.000	264.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.45	0.01	0.54
	3	0.56	0.43	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.31	0.06	0.45	A	355.12	532.68	30.84	0.06	0.34	30.84	0.06	0.563	1543.113
2	0.41	0.07	0.69	A	512.03	768.05	46.49	0.06	0.52	46.49	0.06	0.561	1621.319
3	0.46	0.08	0.84	A	557.91	836.87	55.12	0.07	0.61	55.12	0.07	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	291.35	72.84	290.33	443.30	204.01	0.00	1428.29	1216.81	0.204	0.00	0.26
2	420.09	105.02	418.60	346.55	147.79	0.00	1538.34	1275.27	0.273	0.00	0.37
3	457.73	114.43	456.01	375.09	191.29	0.00	1513.92	1294.12	0.302	0.00	0.43

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	347.91	86.98	347.62	530.77	244.27	0.00	1405.63	1216.81	0.248	0.26	0.33
2	501.63	125.41	501.17	414.93	176.95	0.00	1521.97	1275.27	0.330	0.37	0.49
3	546.58	136.64	546.01	449.09	229.03	0.00	1492.73	1294.12	0.366	0.43	0.57

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	426.09	106.52	425.62	649.76	299.01	0.00	1374.81	1216.81	0.310	0.33	0.45
2	614.37	153.59	613.57	507.97	216.66	0.00	1499.68	1275.27	0.410	0.49	0.69
3	669.42	167.36	668.38	549.83	280.39	0.00	1463.89	1294.12	0.457	0.57	0.84

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	426.09	106.52	426.09	650.69	299.47	0.00	1374.56	1216.81	0.310	0.45	0.45
2	614.37	153.59	614.36	508.66	216.90	0.00	1499.54	1275.27	0.410	0.69	0.69
3	669.42	167.36	669.40	550.50	280.76	0.00	1463.69	1294.12	0.457	0.84	0.84

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	347.91	86.98	348.37	532.23	244.98	0.00	1405.23	1216.81	0.248	0.45	0.33
2	501.63	125.41	502.42	416.02	177.34	0.00	1521.75	1275.27	0.330	0.69	0.49
3	546.58	136.64	547.61	450.16	229.60	0.00	1492.41	1294.12	0.366	0.84	0.58

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	291.35	72.84	291.65	445.47	205.04	0.00	1427.71	1216.81	0.204	0.33	0.26
2	420.09	105.02	420.56	348.22	148.46	0.00	1537.97	1275.27	0.273	0.49	0.38
3	457.73	114.43	458.32	376.83	192.19	0.00	1513.42	1294.12	0.302	0.58	0.44

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.75	0.25	0.053	A	A
2	5.49	0.37	0.054	A	A
3	6.32	0.42	0.057	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.84	0.32	0.057	A	A
2	7.21	0.48	0.059	A	A
3	8.45	0.56	0.063	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.58	0.44	0.063	A	A
2	10.12	0.67	0.068	A	A
3	12.22	0.81	0.075	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.71	0.45	0.063	A	A
2	10.36	0.69	0.068	A	A
3	12.56	0.84	0.076	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.04	0.34	0.057	A	A
2	7.56	0.50	0.059	A	A
3	8.91	0.59	0.064	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.92	0.26	0.053	A	A
2	5.75	0.38	0.054	A	A
3	6.65	0.44	0.057	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	291.35	1428.29	0.204	0.00	0.00	0.26	3.75	(0.02)	0.053
1	2	420.09	1538.34	0.273	0.00	0.00	0.37	5.49	(0.02)	0.054
1	3	457.73	1513.92	0.302	0.00	0.00	0.43	6.32	(0.02)	0.057
2	1	347.91	1405.63	0.248	0.00	0.26	0.33	4.84	(0.02)	0.057
2	2	501.63	1521.97	0.330	0.00	0.37	0.49	7.21	(0.02)	0.059
2	3	546.58	1492.73	0.366	0.00	0.43	0.57	8.45	(0.02)	0.063
3	1	426.09	1374.81	0.310	0.00	0.33	0.45	6.58	(0.02)	0.063
3	2	614.37	1499.68	0.410	0.00	0.49	0.69	10.12	(0.02)	0.068
3	3	669.42	1463.89	0.457	0.00	0.57	0.84	12.22	(0.02)	0.075
4	1	426.09	1374.56	0.310	0.00	0.45	0.45	6.71	(0.02)	0.063
4	2	614.37	1499.54	0.410	0.00	0.69	0.69	10.36	(0.02)	0.068
4	3	669.42	1463.69	0.457	0.00	0.84	0.84	12.56	(0.02)	0.076
5	1	347.91	1405.23	0.248	0.00	0.45	0.33	5.04	(0.02)	0.057
5	2	501.63	1521.75	0.330	0.00	0.69	0.49	7.56	(0.02)	0.059
5	3	546.58	1492.41	0.366	0.00	0.84	0.58	8.91	(0.02)	0.064
6	1	291.35	1427.71	0.204	0.00	0.33	0.26	3.92	(0.02)	0.053
6	2	420.09	1537.97	0.273	0.00	0.49	0.38	5.75	(0.02)	0.054
6	3	457.73	1513.42	0.302	0.00	0.58	0.44	6.65	(0.02)	0.057

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:49:15

« A1 - (Default Analysis Set) - D11 - 2027 No Dev, PM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

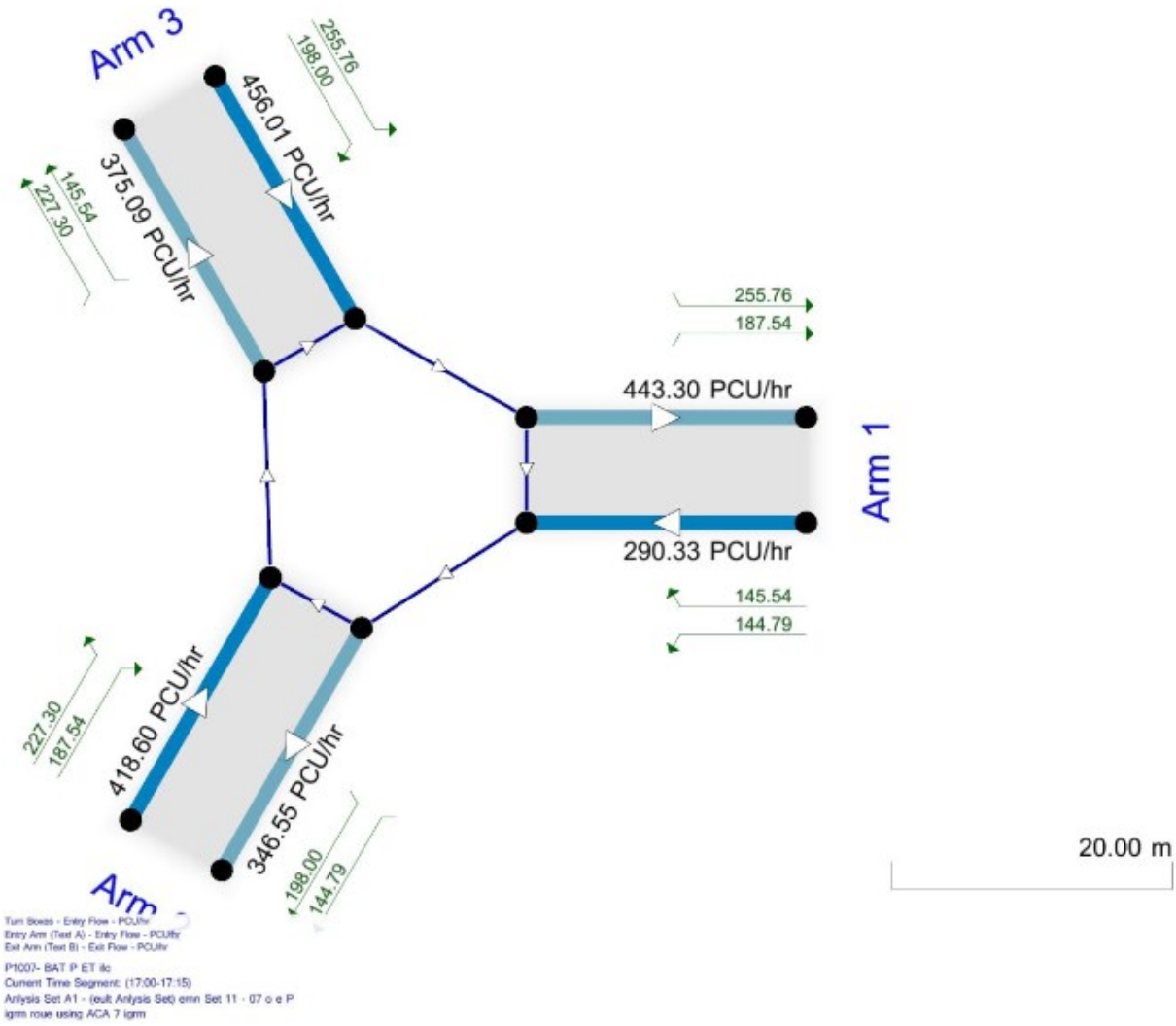
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D11 - 2027 No Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2027 No Dev, PM	2027 No Dev	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	387.00	100.000	N/A
2	ONE HOUR	Yes	558.00	100.000	N/A
3	ONE HOUR	Yes	608.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	291.35	291.35	N/A	N/A
1	2	420.09	420.09	N/A	N/A
1	3	457.73	457.73	N/A	N/A
2	1	347.91	347.91	N/A	N/A
2	2	501.63	501.63	N/A	N/A
2	3	546.58	546.58	N/A	N/A
3	1	426.09	426.09	N/A	N/A
3	2	614.37	614.37	N/A	N/A
3	3	669.42	669.42	N/A	N/A
4	1	426.09	426.09	N/A	N/A
4	2	614.37	614.37	N/A	N/A
4	3	669.42	669.42	N/A	N/A
5	1	347.91	347.91	N/A	N/A
5	2	501.63	501.63	N/A	N/A
5	3	546.58	546.58	N/A	N/A
6	1	291.35	291.35	N/A	N/A
6	2	420.09	420.09	N/A	N/A
6	3	457.73	457.73	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	193.000	194.000
	2	250.000	5.000	303.000
	3	341.000	264.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.45	0.01	0.54
	3	0.56	0.43	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.31	0.06	0.45	A	355.12	532.68	30.84	0.06	0.34	30.84	0.06	0.563	1543.113
2	0.41	0.07	0.69	A	512.03	768.05	46.49	0.06	0.52	46.49	0.06	0.561	1621.319
3	0.46	0.08	0.84	A	557.91	836.87	55.12	0.07	0.61	55.12	0.07	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	291.35	72.84	290.33	443.30	204.01	0.00	1428.29	1216.81	0.204	0.00	0.26
2	420.09	105.02	418.60	346.55	147.79	0.00	1538.34	1275.27	0.273	0.00	0.37
3	457.73	114.43	456.01	375.09	191.29	0.00	1513.92	1294.12	0.302	0.00	0.43

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	347.91	86.98	347.62	530.77	244.27	0.00	1405.63	1216.81	0.248	0.26	0.33
2	501.63	125.41	501.17	414.93	176.95	0.00	1521.97	1275.27	0.330	0.37	0.49
3	546.58	136.64	546.01	449.09	229.03	0.00	1492.73	1294.12	0.366	0.43	0.57

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	426.09	106.52	425.62	649.76	299.01	0.00	1374.81	1216.81	0.310	0.33	0.45
2	614.37	153.59	613.57	507.97	216.66	0.00	1499.68	1275.27	0.410	0.49	0.69
3	669.42	167.36	668.38	549.83	280.39	0.00	1463.89	1294.12	0.457	0.57	0.84

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	426.09	106.52	426.09	650.69	299.47	0.00	1374.56	1216.81	0.310	0.45	0.45
2	614.37	153.59	614.36	508.66	216.90	0.00	1499.54	1275.27	0.410	0.69	0.69
3	669.42	167.36	669.40	550.50	280.76	0.00	1463.69	1294.12	0.457	0.84	0.84

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	347.91	86.98	348.37	532.23	244.98	0.00	1405.23	1216.81	0.248	0.45	0.33
2	501.63	125.41	502.42	416.02	177.34	0.00	1521.75	1275.27	0.330	0.69	0.49
3	546.58	136.64	547.61	450.16	229.60	0.00	1492.41	1294.12	0.366	0.84	0.58

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	291.35	72.84	291.65	445.47	205.04	0.00	1427.71	1216.81	0.204	0.33	0.26
2	420.09	105.02	420.56	348.22	148.46	0.00	1537.97	1275.27	0.273	0.49	0.38
3	457.73	114.43	458.32	376.83	192.19	0.00	1513.42	1294.12	0.302	0.58	0.44

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.75	0.25	0.053	A	A
2	5.49	0.37	0.054	A	A
3	6.32	0.42	0.057	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.84	0.32	0.057	A	A
2	7.21	0.48	0.059	A	A
3	8.45	0.56	0.063	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.58	0.44	0.063	A	A
2	10.12	0.67	0.068	A	A
3	12.22	0.81	0.075	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.71	0.45	0.063	A	A
2	10.36	0.69	0.068	A	A
3	12.56	0.84	0.076	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.04	0.34	0.057	A	A
2	7.56	0.50	0.059	A	A
3	8.91	0.59	0.064	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.92	0.26	0.053	A	A
2	5.75	0.38	0.054	A	A
3	6.65	0.44	0.057	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	291.35	1428.29	0.204	0.00	0.00	0.26	3.75	(0.02)	0.053
1	2	420.09	1538.34	0.273	0.00	0.00	0.37	5.49	(0.02)	0.054
1	3	457.73	1513.92	0.302	0.00	0.00	0.43	6.32	(0.02)	0.057
2	1	347.91	1405.63	0.248	0.00	0.26	0.33	4.84	(0.02)	0.057
2	2	501.63	1521.97	0.330	0.00	0.37	0.49	7.21	(0.02)	0.059
2	3	546.58	1492.73	0.366	0.00	0.43	0.57	8.45	(0.02)	0.063
3	1	426.09	1374.81	0.310	0.00	0.33	0.45	6.58	(0.02)	0.063
3	2	614.37	1499.68	0.410	0.00	0.49	0.69	10.12	(0.02)	0.068
3	3	669.42	1463.89	0.457	0.00	0.57	0.84	12.22	(0.02)	0.075
4	1	426.09	1374.56	0.310	0.00	0.45	0.45	6.71	(0.02)	0.063
4	2	614.37	1499.54	0.410	0.00	0.69	0.69	10.36	(0.02)	0.068
4	3	669.42	1463.69	0.457	0.00	0.84	0.84	12.56	(0.02)	0.076
5	1	347.91	1405.23	0.248	0.00	0.45	0.33	5.04	(0.02)	0.057
5	2	501.63	1521.75	0.330	0.00	0.69	0.49	7.56	(0.02)	0.059
5	3	546.58	1492.41	0.366	0.00	0.84	0.58	8.91	(0.02)	0.064
6	1	291.35	1427.71	0.204	0.00	0.33	0.26	3.92	(0.02)	0.053
6	2	420.09	1537.97	0.273	0.00	0.49	0.38	5.75	(0.02)	0.054
6	3	457.73	1513.42	0.302	0.00	0.58	0.44	6.65	(0.02)	0.057

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:52:59

« A1 - (Default Analysis Set) - D12 - 2027 With Dev, PM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

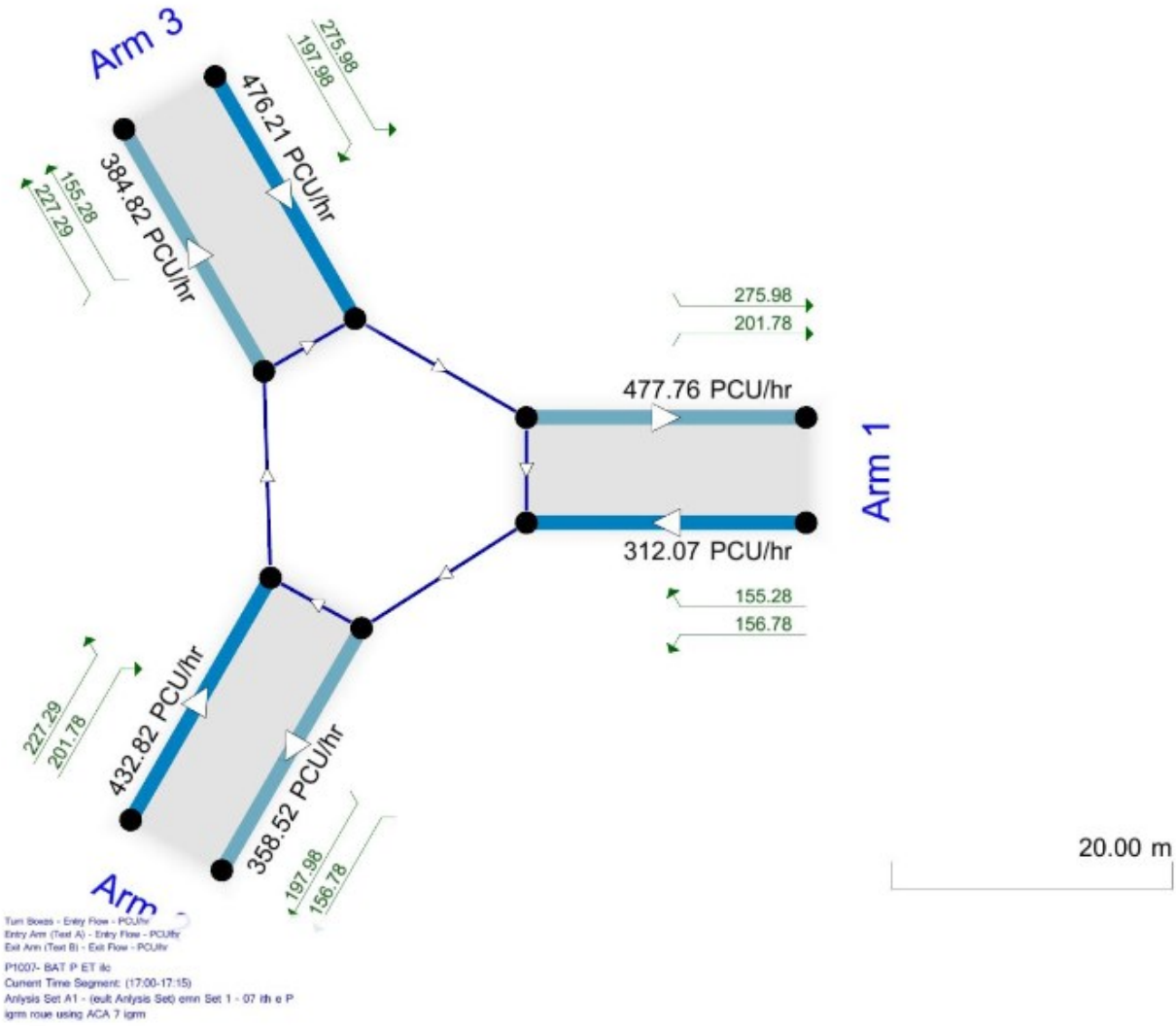
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D12 - 2027 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2027 With Dev, PM	2027 With Dev	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	416.00	100.000	N/A
2	ONE HOUR	Yes	577.00	100.000	N/A
3	ONE HOUR	Yes	635.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	313.19	313.19	N/A	N/A
1	2	434.40	434.40	N/A	N/A
1	3	478.06	478.06	N/A	N/A
2	1	373.98	373.98	N/A	N/A
2	2	518.71	518.71	N/A	N/A
2	3	570.85	570.85	N/A	N/A
3	1	458.02	458.02	N/A	N/A
3	2	635.29	635.29	N/A	N/A
3	3	699.15	699.15	N/A	N/A
4	1	458.02	458.02	N/A	N/A
4	2	635.29	635.29	N/A	N/A
4	3	699.15	699.15	N/A	N/A
5	1	373.98	373.98	N/A	N/A
5	2	518.71	518.71	N/A	N/A
5	3	570.85	570.85	N/A	N/A
6	1	313.19	313.19	N/A	N/A
6	2	434.40	434.40	N/A	N/A
6	3	478.06	478.06	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	209.000	207.000
	2	269.000	5.000	303.000
	3	368.000	264.000	3.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.47	0.01	0.53
	3	0.58	0.42	0.00

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.33	0.07	0.50	A	381.73	572.59	34.07	0.06	0.38	34.07	0.06	0.563	1543.113
2	0.43	0.07	0.74	A	529.47	794.20	49.34	0.06	0.55	49.34	0.06	0.561	1621.319
3	0.48	0.08	0.92	A	582.69	874.03	60.00	0.07	0.67	60.00	0.07	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	313.19	78.30	312.07	477.76	203.98	0.00	1428.30	1233.54	0.219	0.00	0.28
2	434.40	108.60	432.82	358.52	157.53	0.00	1532.87	1273.31	0.283	0.00	0.39
3	478.06	119.52	476.21	384.82	205.53	0.00	1505.92	1281.84	0.317	0.00	0.46

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	373.98	93.49	373.65	572.05	244.25	0.00	1405.64	1233.54	0.266	0.28	0.36
2	518.71	129.68	518.22	429.28	188.62	0.00	1515.42	1273.31	0.342	0.39	0.52
3	570.85	142.71	570.22	460.75	246.09	0.00	1483.16	1281.84	0.385	0.46	0.62

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	458.02	114.51	457.48	700.25	298.97	0.00	1374.84	1233.54	0.333	0.36	0.50
2	635.29	158.82	634.41	525.51	230.94	0.00	1491.66	1273.31	0.426	0.52	0.74
3	699.15	174.79	697.96	564.09	301.26	0.00	1452.18	1281.84	0.481	0.62	0.92

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	458.02	114.51	458.02	701.33	299.47	0.00	1374.56	1233.54	0.333	0.50	0.50
2	635.29	158.82	635.28	526.28	231.21	0.00	1491.51	1273.31	0.426	0.74	0.74
3	699.15	174.79	699.13	564.81	301.67	0.00	1451.95	1281.84	0.482	0.92	0.92

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	373.98	93.49	374.51	573.73	245.02	0.00	1405.20	1233.54	0.266	0.50	0.36
2	518.71	129.68	519.57	430.48	189.06	0.00	1515.18	1273.31	0.342	0.74	0.52
3	570.85	142.71	572.03	461.90	246.73	0.00	1482.80	1281.84	0.385	0.92	0.63

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	313.19	78.30	313.52	480.18	205.05	0.00	1427.70	1233.54	0.219	0.36	0.28
2	434.40	108.60	434.90	360.30	158.27	0.00	1532.46	1273.31	0.283	0.52	0.40
3	478.06	119.52	478.71	386.64	206.52	0.00	1505.37	1281.84	0.318	0.63	0.47

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.11	0.27	0.054	A	A
2	5.78	0.39	0.054	A	A
3	6.78	0.45	0.058	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.33	0.36	0.058	A	A
2	7.63	0.51	0.060	A	A
3	9.14	0.61	0.066	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.31	0.49	0.065	A	A
2	10.80	0.72	0.070	A	A
3	13.43	0.90	0.079	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.46	0.50	0.065	A	A
2	11.07	0.74	0.070	A	A
3	13.83	0.92	0.080	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.56	0.37	0.058	A	A
2	8.01	0.53	0.060	A	A
3	9.67	0.64	0.066	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.30	0.29	0.054	A	A
2	6.06	0.40	0.055	A	A
3	7.14	0.48	0.059	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	313.19	1428.30	0.219	0.00	0.00	0.28	4.11	(0.02)	0.054
1	2	434.40	1532.87	0.283	0.00	0.00	0.39	5.78	(0.02)	0.054
1	3	478.06	1505.92	0.317	0.00	0.00	0.46	6.78	(0.02)	0.058
2	1	373.98	1405.64	0.266	0.00	0.28	0.36	5.33	(0.02)	0.058
2	2	518.71	1515.42	0.342	0.00	0.39	0.52	7.63	(0.02)	0.060
2	3	570.85	1483.16	0.385	0.00	0.46	0.62	9.14	(0.02)	0.066
3	1	458.02	1374.84	0.333	0.00	0.36	0.50	7.31	(0.02)	0.065
3	2	635.29	1491.66	0.426	0.00	0.52	0.74	10.80	(0.02)	0.070
3	3	699.15	1452.18	0.481	0.00	0.62	0.92	13.43	(0.02)	0.079
4	1	458.02	1374.56	0.333	0.00	0.50	0.50	7.46	(0.02)	0.065
4	2	635.29	1491.51	0.426	0.00	0.74	0.74	11.07	(0.02)	0.070
4	3	699.15	1451.95	0.482	0.00	0.92	0.92	13.83	(0.02)	0.080
5	1	373.98	1405.20	0.266	0.00	0.50	0.36	5.56	(0.02)	0.058
5	2	518.71	1515.18	0.342	0.00	0.74	0.52	8.01	(0.02)	0.060
5	3	570.85	1482.80	0.385	0.00	0.92	0.63	9.67	(0.02)	0.066
6	1	313.19	1427.70	0.219	0.00	0.36	0.28	4.30	(0.02)	0.054
6	2	434.40	1532.46	0.283	0.00	0.52	0.40	6.06	(0.02)	0.055
6	3	478.06	1505.37	0.318	0.00	0.63	0.47	7.14	(0.02)	0.059

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:53:46

« A1 - (Default Analysis Set) - D13 - 2037 No Dev, PM
- » Roundabout Network
- » Arms
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- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

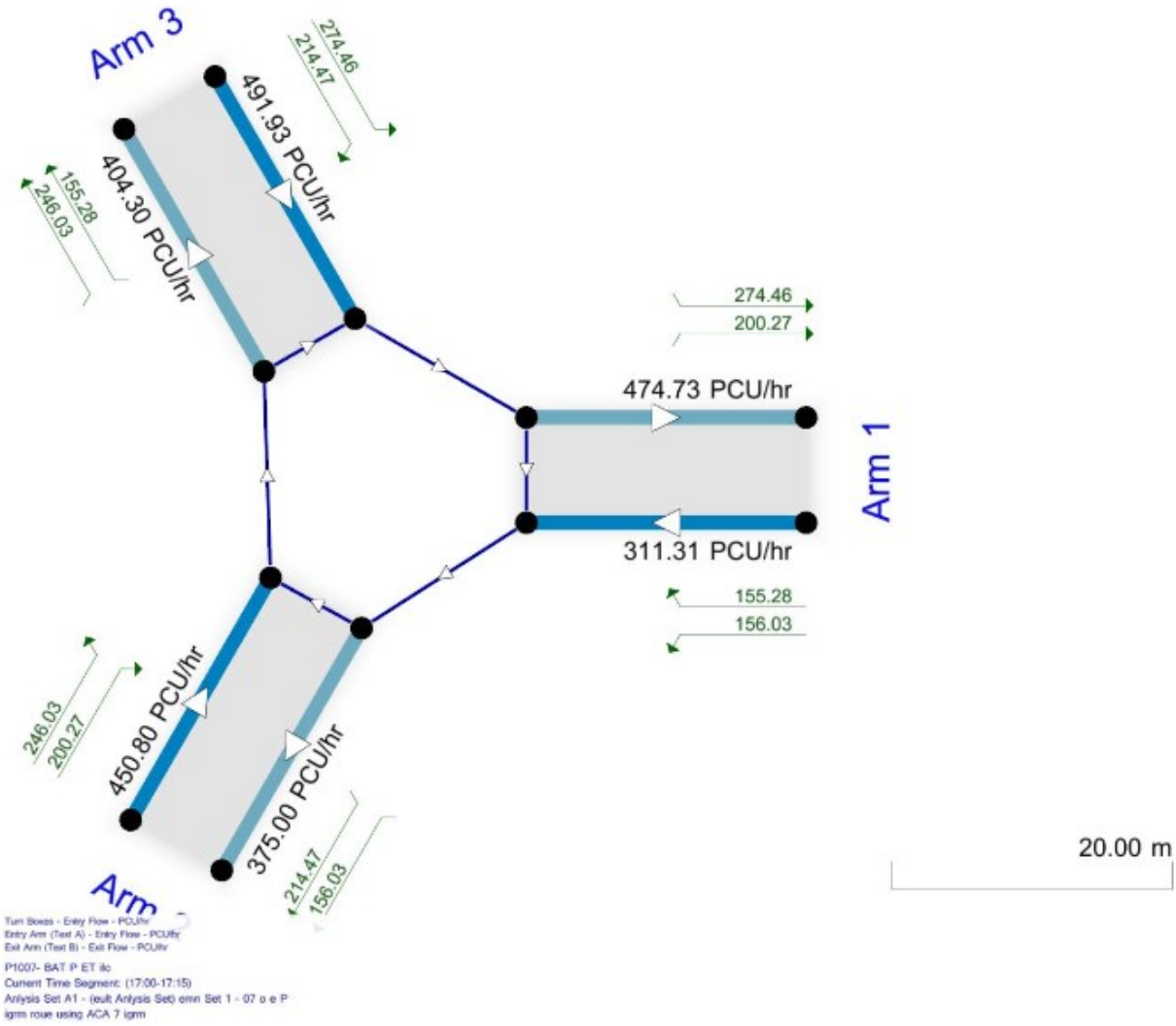
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D13 - 2037 No Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2037 No Dev, PM	2037 No Dev	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	415.00	100.000	N/A
2	ONE HOUR	Yes	601.00	100.000	N/A
3	ONE HOUR	Yes	656.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	312.43	312.43	N/A	N/A
1	2	452.46	452.46	N/A	N/A
1	3	493.87	493.87	N/A	N/A
2	1	373.08	373.08	N/A	N/A
2	2	540.29	540.29	N/A	N/A
2	3	589.73	589.73	N/A	N/A
3	1	456.92	456.92	N/A	N/A
3	2	661.71	661.71	N/A	N/A
3	3	722.27	722.27	N/A	N/A
4	1	456.92	456.92	N/A	N/A
4	2	661.71	661.71	N/A	N/A
4	3	722.27	722.27	N/A	N/A
5	1	373.08	373.08	N/A	N/A
5	2	540.29	540.29	N/A	N/A
5	3	589.73	589.73	N/A	N/A
6	1	312.43	312.43	N/A	N/A
6	2	452.46	452.46	N/A	N/A
6	3	493.87	493.87	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	208.000	207.000
	2	267.000	6.000	328.000
	3	366.000	286.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.44	0.01	0.55
	3	0.56	0.44	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.34	0.07	0.50	A	380.81	571.22	34.40	0.06	0.38	34.40	0.06	0.563	1543.113
2	0.44	0.07	0.79	A	551.49	827.23	52.70	0.06	0.59	52.70	0.06	0.561	1621.319
3	0.50	0.08	0.98	A	601.96	902.94	63.44	0.07	0.70	63.44	0.07	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	312.43	78.11	311.31	474.73	221.97	0.00	1418.18	1213.56	0.220	0.00	0.28
2	452.46	113.12	450.80	375.00	158.28	0.00	1532.46	1277.04	0.295	0.00	0.42
3	493.87	123.47	491.93	404.30	204.77	0.00	1506.35	1295.64	0.328	0.00	0.48

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	373.08	93.27	372.75	568.44	265.79	0.00	1393.51	1213.56	0.268	0.28	0.36
2	540.29	135.07	539.75	449.02	189.52	0.00	1514.92	1277.04	0.357	0.42	0.55
3	589.73	147.43	589.05	484.09	245.18	0.00	1483.67	1295.64	0.397	0.48	0.65

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	456.92	114.23	456.37	695.80	325.32	0.00	1360.01	1213.56	0.336	0.36	0.50
2	661.71	165.43	660.75	549.66	232.03	0.00	1491.05	1277.04	0.444	0.55	0.79
3	722.27	180.57	720.98	592.64	300.14	0.00	1452.81	1295.64	0.497	0.65	0.98

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	456.92	114.23	456.92	696.93	325.89	0.00	1359.68	1213.56	0.336	0.50	0.50
2	661.71	165.43	661.70	550.50	232.31	0.00	1490.89	1277.04	0.444	0.79	0.79
3	722.27	180.57	722.25	593.44	300.57	0.00	1452.57	1295.64	0.497	0.98	0.98

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	373.08	93.27	373.62	570.19	266.67	0.00	1393.02	1213.56	0.268	0.50	0.37
2	540.29	135.07	541.23	450.33	189.97	0.00	1514.67	1277.04	0.357	0.79	0.56
3	589.73	147.43	591.01	485.35	245.85	0.00	1483.29	1295.64	0.398	0.98	0.66

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	312.43	78.11	312.77	477.19	223.16	0.00	1417.51	1213.56	0.220	0.37	0.28
2	452.46	113.12	453.01	376.90	159.02	0.00	1532.04	1277.04	0.295	0.56	0.42
3	493.87	123.47	494.57	406.26	205.78	0.00	1505.79	1295.64	0.328	0.66	0.49

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.13	0.28	0.054	A	A
2	6.12	0.41	0.055	A	A
3	7.10	0.47	0.059	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.37	0.36	0.059	A	A
2	8.12	0.54	0.061	A	A
3	9.63	0.64	0.067	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.40	0.49	0.066	A	A
2	11.60	0.77	0.072	A	A
3	14.27	0.95	0.082	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.56	0.50	0.066	A	A
2	11.90	0.79	0.072	A	A
3	14.72	0.98	0.082	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.61	0.37	0.059	A	A
2	8.54	0.57	0.062	A	A
3	10.21	0.68	0.067	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.32	0.29	0.054	A	A
2	6.42	0.43	0.056	A	A
3	7.50	0.50	0.059	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	312.43	1418.18	0.220	0.00	0.00	0.28	4.13	(0.02)	0.054
1	2	452.46	1532.46	0.295	0.00	0.00	0.42	6.12	(0.02)	0.055
1	3	493.87	1506.35	0.328	0.00	0.00	0.48	7.10	(0.02)	0.059
2	1	373.08	1393.51	0.268	0.00	0.28	0.36	5.37	(0.02)	0.059
2	2	540.29	1514.92	0.357	0.00	0.42	0.55	8.12	(0.02)	0.061
2	3	589.73	1483.67	0.397	0.00	0.48	0.65	9.63	(0.02)	0.067
3	1	456.92	1360.01	0.336	0.00	0.36	0.50	7.40	(0.02)	0.066
3	2	661.71	1491.05	0.444	0.00	0.55	0.79	11.60	(0.02)	0.072
3	3	722.27	1452.81	0.497	0.00	0.65	0.98	14.27	(0.02)	0.082
4	1	456.92	1359.68	0.336	0.00	0.50	0.50	7.56	(0.02)	0.066
4	2	661.71	1490.89	0.444	0.00	0.79	0.79	11.90	(0.02)	0.072
4	3	722.27	1452.57	0.497	0.00	0.98	0.98	14.72	(0.02)	0.082
5	1	373.08	1393.02	0.268	0.00	0.50	0.37	5.61	(0.02)	0.059
5	2	540.29	1514.67	0.357	0.00	0.79	0.56	8.54	(0.02)	0.062
5	3	589.73	1483.29	0.398	0.00	0.98	0.66	10.21	(0.02)	0.067
6	1	312.43	1417.51	0.220	0.00	0.37	0.28	4.32	(0.02)	0.054
6	2	452.46	1532.04	0.295	0.00	0.56	0.42	6.42	(0.02)	0.056
6	3	493.87	1505.79	0.328	0.00	0.66	0.49	7.50	(0.02)	0.059

ARCADY 7

Version: 7.1.1.245 [9th June 2011]
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File: S:\02.Projects\2018 Projects\P180307- BRAYTON PK EXT., Kilcock\5.0 Calculations\5.3 Higways\Site 5 - R125 - R407 Roundabout\P180307 - BRAYTON PK EXT., Kilcock - Site 5_Rev2.arc7
Report generation date: 06/12/2019 11:54:23

« A1 - (Default Analysis Set) - D14 - 2037 With Dev, PM
- » Roundabout Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Direct/Resultant Flows
- » Turning Proportions
- » Vehicle Mix
- » Results
- » Overview: Standard Roundabout Geometry
- » Overview: Time Segment Results

Summary of roundabout performance

	AM				PM			
	Queue (PCU)	Delay (min)	RFC	LOS	Queue (PCU)	Delay (min)	RFC	LOS
	(Default Analysis Set) - 2019 Committed							
Arm 1	0.51	0.06	0.34	A	0.40	0.06	0.29	A
Arm 2	0.41	0.06	0.29	A	0.61	0.06	0.38	A
Arm 3	0.51	0.06	0.34	A	0.74	0.07	0.43	A
	(Default Analysis Set) - 2022 No Dev							
Arm 1	0.53	0.07	0.35	A	0.42	0.06	0.30	A
Arm 2	0.43	0.06	0.30	A	0.65	0.07	0.39	A
Arm 3	0.53	0.06	0.35	A	0.78	0.07	0.44	A
	(Default Analysis Set) - 2022 With Dev							
Arm 1	0.57	0.07	0.37	A	0.47	0.06	0.32	A
Arm 2	0.44	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.55	0.06	0.35	A	0.86	0.08	0.46	A
	(Default Analysis Set) - 2027 No Dev							
Arm 1	0.56	0.07	0.36	A	0.45	0.06	0.31	A
Arm 2	0.46	0.06	0.31	A	0.69	0.07	0.41	A
Arm 3	0.57	0.06	0.36	A	0.84	0.08	0.46	A
	(Default Analysis Set) - 2027 With Dev							
Arm 1	0.63	0.07	0.39	A	0.50	0.07	0.33	A
Arm 2	0.48	0.06	0.32	A	0.74	0.07	0.43	A
Arm 3	0.58	0.06	0.37	A	0.92	0.08	0.48	A
	(Default Analysis Set) - 2037 No Dev							
Arm 1	0.64	0.07	0.39	A	0.50	0.07	0.34	A
Arm 2	0.52	0.06	0.34	A	0.79	0.07	0.44	A
Arm 3	0.65	0.07	0.40	A	0.98	0.08	0.50	A
	(Default Analysis Set) - 2037 With Dev							
Arm 1	0.69	0.07	0.41	A	0.56	0.07	0.36	A

Arm 2	0.54	0.06	0.35	A	0.85	0.08	0.46	A
Arm 3	0.67	0.07	0.40	A	1.09	0.09	0.52	A

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

2019 Committed - AM runs from 08:00:00 to 09:30:00
2022 No Dev - AM runs from 08:00:00 to 09:30:00
2022 With Dev - AM runs from 08:00:00 to 09:30:00
2027 No Dev - AM runs from 08:00:00 to 09:30:00
2027 With Dev - AM runs from 08:00:00 to 09:30:00
2037 No Dev - AM runs from 08:00:00 to 09:30:00
2037 With Dev - AM runs from 08:00:00 to 09:30:00
2019 Committed - PM runs from 17:00:00 to 18:30:00
2022 No Dev - PM runs from 17:00:00 to 18:30:00
2022 With Dev - PM runs from 17:00:00 to 18:30:00
2027 No Dev - PM runs from 17:00:00 to 18:30:00
2027 With Dev - PM runs from 17:00:00 to 18:30:00
2037 No Dev - PM runs from 17:00:00 to 18:30:00
2037 With Dev - PM runs from 17:00:00 to 18:30:00

File summary

File Description

Title	P180307- BRAYTON PK EXT., Kilcock
Location	Site 5 - R125/R407 Roundabout
Site Number	
Date	02/07/2018
Version	Rev 1
Status	TTA
Identifier	
Client	Orivo Properties
Jobnumber	P180307
Enumerator	GPS\ronan.kearns
Description	

Analysis Options

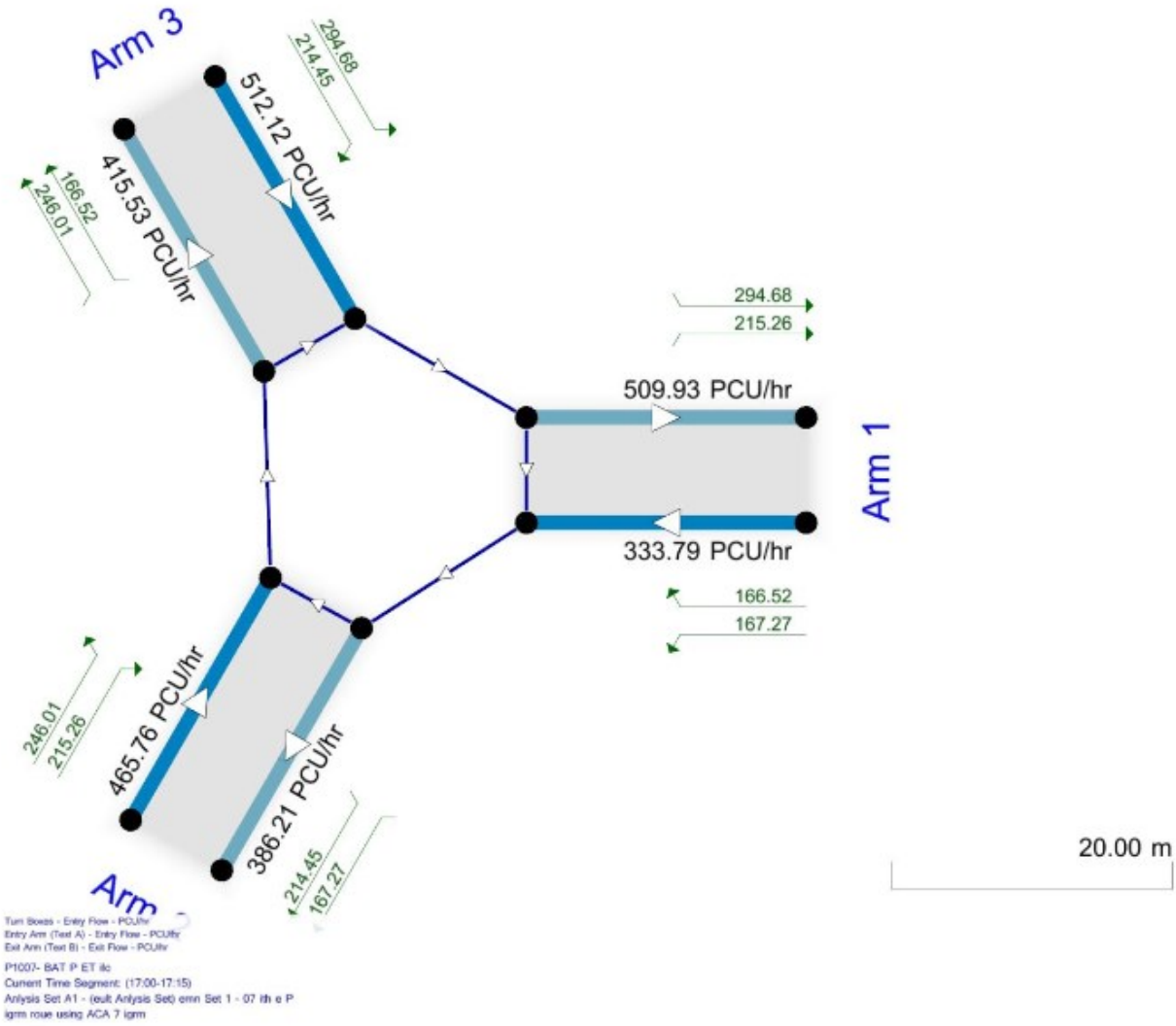
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - (Default Analysis Set) - D14 - 2037 With Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

2037 With Dev, PM	2037 With Dev	PM			Yes			17:00	18:30	90	15	ONE HOUR

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	1,2,3	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	(untitled)	
2	(untitled)	
3	(untitled)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	4.50	7.35	11.80	6.00	38.70	45.00	
2	5.20	7.50	20.00	10.00	38.70	80.00	
3	5.20	7.50	20.00	10.00	38.70	80.00	

Pedestrian Crossings

Arm	Crossing Type
1	None
2	None
3	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		((calculated))	((calculated))	0.563	1543.113
2		((calculated))	((calculated))	0.561	1621.319
3		((calculated))	((calculated))	0.561	1621.319

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

Traffic Flows

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
1	ONE HOUR	Yes	445.00	100.000	N/A
2	ONE HOUR	Yes	621.00	100.000	N/A
3	ONE HOUR	Yes	683.00	100.000	N/A

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	1	335.02	335.02	N/A	N/A
1	2	467.52	467.52	N/A	N/A
1	3	514.20	514.20	N/A	N/A
2	1	400.05	400.05	N/A	N/A
2	2	558.27	558.27	N/A	N/A
2	3	614.00	614.00	N/A	N/A
3	1	489.95	489.95	N/A	N/A
3	2	683.73	683.73	N/A	N/A
3	3	752.00	752.00	N/A	N/A
4	1	489.95	489.95	N/A	N/A
4	2	683.73	683.73	N/A	N/A
4	3	752.00	752.00	N/A	N/A
5	1	400.05	400.05	N/A	N/A
5	2	558.27	558.27	N/A	N/A
5	3	614.00	614.00	N/A	N/A
6	1	335.02	335.02	N/A	N/A
6	2	467.52	467.52	N/A	N/A
6	3	514.20	514.20	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	223.000	222.000
	2	287.000	6.000	328.000
	3	393.000	286.000	4.000

Turning Proportions (PCU) - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.46	0.01	0.53
	3	0.58	0.42	0.01

Vehicle Mix

Average PCU Per Vehicle - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		1	2	3
From	1	0.000	0.000	0.000
	2	0.000	0.000	0.000
	3	0.000	0.000	0.000

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
1	0.36	0.07	0.56	A	408.34	612.51	37.99	0.06	0.42	37.99	0.06	0.563	1543.113
2	0.46	0.08	0.85	A	569.84	854.76	56.10	0.07	0.62	56.10	0.07	0.561	1621.319
3	0.52	0.09	1.09	A	626.73	940.10	69.10	0.07	0.77	69.10	0.07	0.561	1621.319

Main Results

Main results: (17:00-17:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	335.02	83.75	333.79	509.93	221.95	0.00	1418.19	1229.30	0.236	0.00	0.31
2	467.52	116.88	465.76	386.21	169.52	0.00	1526.14	1272.78	0.306	0.00	0.44
3	514.20	128.55	512.12	415.53	219.76	0.00	1497.94	1284.16	0.343	0.00	0.52

Main results: (17:15-17:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	400.05	100.01	399.68	610.60	265.77	0.00	1393.52	1229.30	0.287	0.31	0.40
2	558.27	139.57	557.69	462.47	202.98	0.00	1507.36	1272.78	0.370	0.44	0.58
3	614.00	153.50	613.25	497.54	263.13	0.00	1473.59	1284.16	0.417	0.52	0.71

Main results: (17:30-17:45)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

1	489.95	122.49	489.32	747.35	325.26	0.00	1360.04	1229.30	0.360	0.40	0.56
2	683.73	170.93	682.68	566.08	248.51	0.00	1481.80	1272.78	0.461	0.58	0.85
3	752.00	188.00	750.51	609.08	322.10	0.00	1440.48	1284.16	0.522	0.71	1.08

Main results: (17:45-18:00)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	489.95	122.49	489.95	748.67	325.89	0.00	1359.69	1229.30	0.360	0.56	0.56
2	683.73	170.93	683.72	567.01	248.83	0.00	1481.62	1272.78	0.461	0.85	0.85
3	752.00	188.00	751.97	609.95	322.59	0.00	1440.20	1284.16	0.522	1.08	1.09

Main results: (18:00-18:15)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	400.05	100.01	400.67	612.63	266.73	0.00	1392.98	1229.30	0.287	0.56	0.41
2	558.27	139.57	559.31	463.91	203.49	0.00	1507.07	1272.78	0.370	0.85	0.59
3	614.00	153.50	615.47	498.91	263.89	0.00	1473.16	1284.16	0.417	1.09	0.72

Main results: (18:15-18:30)

Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
1	335.02	83.75	335.40	512.66	223.18	0.00	1417.50	1229.30	0.236	0.41	0.31
2	467.52	116.88	468.11	388.24	170.34	0.00	1525.69	1272.78	0.306	0.59	0.44
3	514.20	128.55	514.97	417.59	220.87	0.00	1497.32	1284.16	0.343	0.72	0.53

Queueing Delay Results

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.52	0.30	0.055	A	A
2	6.44	0.43	0.056	A	A
3	7.60	0.51	0.061	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.91	0.39	0.060	A	A
2	8.61	0.57	0.063	A	A
3	10.41	0.69	0.070	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.22	0.55	0.069	A	A
2	12.43	0.83	0.075	A	A
3	15.71	1.05	0.087	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.41	0.56	0.069	A	A
2	12.77	0.85	0.075	A	A
3	16.25	1.08	0.087	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.19	0.41	0.061	A	A
2	9.07	0.60	0.063	A	A
3	11.07	0.74	0.070	A	A

Queueing Delay results: (18:15-18:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.74	0.32	0.055	A	A
2	6.78	0.45	0.057	A	A
3	8.04	0.54	0.061	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
1	4.50	7.35	11.80	6.00	38.70	45.00		0.563	1543.113
2	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319
3	5.20	7.50	20.00	10.00	38.70	80.00		0.561	1621.319

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	1	335.02	1418.19	0.236	0.00	0.00	0.31	4.52	(0.02)	0.055
1	2	467.52	1526.14	0.306	0.00	0.00	0.44	6.44	(0.02)	0.056
1	3	514.20	1497.94	0.343	0.00	0.00	0.52	7.60	(0.02)	0.061
2	1	400.05	1393.52	0.287	0.00	0.31	0.40	5.91	(0.02)	0.060
2	2	558.27	1507.36	0.370	0.00	0.44	0.58	8.61	(0.02)	0.063
2	3	614.00	1473.59	0.417	0.00	0.52	0.71	10.41	(0.02)	0.070
3	1	489.95	1360.04	0.360	0.00	0.40	0.56	8.22	(0.02)	0.069
3	2	683.73	1481.80	0.461	0.00	0.58	0.85	12.43	(0.02)	0.075
3	3	752.00	1440.48	0.522	0.00	0.71	1.08	15.71	(0.02)	0.087
4	1	489.95	1359.69	0.360	0.00	0.56	0.56	8.41	(0.02)	0.069
4	2	683.73	1481.62	0.461	0.00	0.85	0.85	12.77	(0.02)	0.075
4	3	752.00	1440.20	0.522	0.00	1.08	1.09	16.25	(0.02)	0.087
5	1	400.05	1392.98	0.287	0.00	0.56	0.41	6.19	(0.02)	0.061
5	2	558.27	1507.07	0.370	0.00	0.85	0.59	9.07	(0.02)	0.063
5	3	614.00	1473.16	0.417	0.00	1.09	0.72	11.07	(0.02)	0.070
6	1	335.02	1417.50	0.236	0.00	0.41	0.31	4.74	(0.02)	0.055
6	2	467.52	1525.69	0.306	0.00	0.59	0.44	6.78	(0.02)	0.057
6	3	514.20	1497.32	0.343	0.00	0.72	0.53	8.04	(0.02)	0.061

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