

Gleeson Homes

PROPOSED RESIDENTIAL DEVELOPMENT, CLEATOR MILLS, CLEATOR

06/11/2020	
VN201724	
Transport Assessment	
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Report control

Document:	Transport Assessment
Project:	Proposed Residential Development, Cleator Mills, Cleator
Client:	Gleeson Homes
Job number:	VN201724
File origin:	N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Docs\Reports\VN201724 Transport Assessment v2.docx

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Document checking

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Issue	Date	Status	Checked for issue
1 2 3	06.11.2020	V1	RW

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1 INTRODUCTION

Background

- 1.1 Vectos have been commissioned by Gleeson Homes to provide transport and highways advice to support a planning application for development of residential housing on land adjacent to the former Cleator Mills site in Cleator, Cumbria. The site lies within the jurisdiction of Cumbria County Council (CCC).
- 1.2 This report provides information on the traffic and transport planning aspects of the development proposals and forms supplementary information to assist in the determination of the planning application.

Development Site and Location

- 1.3 The location of the site is shown in **Plan 1**, with **Plan 2** then illustrating the site in a more local context.
- 1.4 The development site lies on the north eastern side of Cleator and approximately 1km directly to the south of Cleator Moor. The site also lies between Whitehaven to the north, and Egremont to the south. The site is presently unoccupied and comprises open scrubland. **Image 1.1** provides an aerial view of the site with the full extent of the application boundary in red.



Image 1.1: Site Location and Boundary

1.5 Vehicular access to the site is provided from the A5086 immediately to the north, whilst an access road which served the former Kangol factory, is situated adjacent along the eastern site boundary.

Proposed Development

- 1.6 The proposed site layout is provided as **Plan 3.**
- 1.7 The planning application proposes the construction of 115 units with vehicle access to the site from the A5086 Trumpet Terrace.
- 1.8 The development proposals are described in detail in **Section 4.**

Scope of Report

- 1.9 This Transport Statement has been prepared in accordance with guidance provided by the Department for Transport's (DfT) 'Travel Plans, Transport Assessment and Statements' (2014) document, as well as paying due notice to the DfT's now superseded 'Guidance on Transport Assessments' document.
- 1.10 The scope of the Transport Assessment has been discussed with highway officers from CCC at pre-application stage and has therefore informed the assessment undertaken within this Transport Assessment (TA). A copy of this correspondence is provided in **Appendix A**.
- 1.11 Following this introduction this report provides the following information:
 - Section 2 A review of pertinent national planning policy guidance;
 - Section 3 A description of baseline conditions;
 - Section 4 A review of the accessibility of the site by sustainable modes of travel;
 - Section 5 A description of the development proposals;
 - Section 6 An assessment of the traffic impact of the development; and
 - **Section 7 -** Report summary and conclusions.

2 TRANSPORT PLANNING CONSIDERATIONS

Introduction

2.1 This section of the report considers the national planning policy guidance which is pertinent in the context of the development proposals.

National Planning Policy

National Planning Policy Framework - NPPF (2019)

- 2.2 The main source of national policy regarding the transport planning aspects development can be found in the Department of Communities and Local Government 'National Planning Policy Framework' which was updated on 19 February 2019 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in March 2012 and revised in July 2018.
- 2.3 At the heart of the Framework is a presumption in favour of sustainable development. In accordance with national policy, it is considered that the development constitutes a sustainable form of development within walking and cycling distance of local residential development and public transport links.
- 2.4 As part of promoting sustainable transport, paragraph 108 of the revised NPPF states that in assessing applications for development, it should be ensured that:
 - i) appropriate opportunities to promote sustainable transport modes can be or have been taken up, given the type of development and its location;
 - ii) safe and suitable access to the site can be achieved for all users; and
 - iii) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.
- 2.5 Paragraph 109 goes on to state that 'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe'.

Local Planning Policy

Cumbria County Council Local Transport Plan (2011 - 2026)

2.6 The Local Transport Plan ('LTP3') is the statutory planning document that sets out the Council's vision, strategy and policies for transport, LTP3 covers the period April 2011 to March 2026. The vision for the LTP3 is:

"A transport system and highway network in Cumbria that is safe, reliable, available, accessible and affordable for all which supports the following local priorities:

- Safe, strong and inclusive communities;
- Health and well-being throughout life;

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- A sustainable and prosperous economy;
- Effective connections between people and places; and
- World class environmental quality and in doing so minimises carbon emissions."
- 2.7 With specific regard to Copeland District, in which the proposed site is located, the LTP3 notes the key priorities include supporting economic development and to improve the accessibility of the area. The provision of a residential development within the area meets these priorities, providing a footway along the southern side of Trumpet Terrace to facilitate pedestrian access the site and the wider area. The increase in residents would also provide an economic boost for the surrounding businesses within the Cleator and Cleator Moor areas.

Copeland Local Plan – Core Strategy & Development Management Policies (2013 – 2028) and Draft Local Plan (2018 – 2035)

2.8 The Copeland Local Plan (2018 – 2035) currently carries draft status and is not planned to be adopted until winter 2021. Therefore, the current Local Plan (2013 – 2028), which forms part of the Core Strategy & Development Management Policies, states that 'there is a need to target new development to existing centres as the most sustainable locations and to support population and economic growth'. Within that, the vision for Copeland is that:

By 2028, Copeland will be an economically and socially sustainable, well-connected and environmentally responsible place of choice

- 2.9 Policy SS1 states that The Council will work to make Copeland a more attractive place to build homes and to live in them, by;
 - Allocating housing sites to meet local needs in locations attractive to house builders and requiring new development to be designed and built to a high standard.
 - Promoting the renovation and improvement of the Borough's existing housing stock, and the enhancement of the surrounding residential environment, to meet local housing needs, particularly in Whitehaven, the three smaller towns, and Local Centres.

3 BASELINE CONDITIONS

Introduction

3.1 This section provides a review of the baseline conditions in the vicinity of the site, including a description of the location of the site and existing highway network, a review of personal injury accident data, and an appraisal of the site's accessibility by sustainable modes of travel.

Development Site and its Location

- 3.2 The application site is currently unoccupied and consists of open scrubland. Access is provided by a gate leading on to the A5086 Trumpet Terrace. As previously highlighted, the site lies on the north eastern side of Cleator and approximately 1km directly to the south of Cleator Moor.
- 3.3 A Park & Ride facility serving the Sellafield site is situated immediately to the east of the site boundary, which would be conveniently located should any of the workforce reside on the development site in the future.

Local Highway Network

- 3.4 The A5086 Trumpet Terrace lies in a northeast/southwest orientation to the site. The road if street-lit and features a 30mph speed limit which extends all the way to Wath Brow and Cleator Moor to the northeast and beyond the urbanised area of Cleator to the south west where it changes to a derestricted classification.
- 3.5 A continuous footway in provided on the northern side of the carriageway, with the site frontage the only break in a continuous footway link on the southern side of the road between Cleator Moor and Cleator.
- 3.6 The A5086 is a primary route which links the site to the A595 Egremont Bypass to the south, itself a primary distributor to Whitehaven, Cockermouth and the A66 to the north and Barrow-in-Furness to the south.
- 3.7 Approximately 1.4km to the south west of the site, the A5086 meets Dalzell Street which runs in an east/west orientation to the A595 where it forms a priority T-junction. Dalzell Street features a derestricted speed limit with no continuous footway due to its primarily rural surroundings. The A5086 continues south west for approximately 1.5km where it meets a 4-arm roundabout with the A595 and Howbank Road.

Highway Safety

- 3.8 A review of accident records for the highway network has been undertaken using data available on the Crashmap website. Crashmap uses data collected by the police about road traffic crashes occurring on British roads where someone is injured. This data is approved by the National Statistics Authority and reported on by the Department for Transport each year.
- 3.9 The Crashmap analysis has been undertaken for the extent of highway network considered in the traffic impact section of this report. The analysis has been undertaken for the latest 5-year period available, between 2015 and 2019, with the A5086 Trumpet Road/Frizington Road/Emmerdale Road Junction presented in **Figure 3.1**.



Figure 3.1: A5086/Ennerdale Road Crashmap Extract

- 3.10 The Crashmap data reveals that only two accidents have been recorded at the junction during the study period, however, one of these incidents was categorized as 'serious'.
- 3.11 Following a review of the accident report, it can be determined that the accident was the result of a car turning right into the path of an oncoming motorcycle. Given that visibility is good along the A5086 in both directions, and no other accidents of this type have been recorded, it is concluded that this is likely the result of driver error rather than any design deficiencies of the junction. The accident report is provided in **Appendix B**.
- 3.12 The length of the A5086 situated directly outside the site frontage, is assessed below in **Figure 3.2**.



Figure 3.2: A5086/Ennerdale Road Crashmap Extract

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- 3.13 It can be seen from the extract above that no accidents have been recorded along the A5086 adjacent to the site, with only 3 accidents reported along the A5086 on the map extract, all of which are classified as slight. There is also no evidence of accident clustering, and therefore it is considered that there is not an existing accident issue along this section of highway.
- 3.14 The A5086/Dalzell Street priority junction is assessed in **Figure 3.3.**



Figure 3.3: A5086/Dalzell Street Crashmap Extract

- 3.15 The Crashmap extract demonstrates that there have been 3 accidents recorded at, or in the immediate vicinity of the junction, two of which are classified as 'serious'. The accidents occurred at different times (June 2015 & September 2016) and it is also noted that both accidents took place under different conditions.
- 3.16 The attached accident reports, provided in **Appendix C**, demonstrates that the accident which occurred in 2015 was likely the result of a vehicle crossing the centre of the road and causing a head on collision. No other accidents have occurred under these circumstances, and with lane width maintained at 4m in both directions, there is no narrowing of the carriageway that would force vehicles into the centre of the road. As such, it is considered that the likely cause of this accident was driver error.
- 3.17 The accident in 2016 occurred as the result of a pedestrian crossing the road on the bend in the road adjacent to Dalzell Street, and colliding with an oncoming car. There are no pedestrian crossing facilities in this location, and important to note, no footway on the eastern side of the carriageway. Therefore, pedestrians should not be crossing close to the junction, and the occurrence of this accident should be viewed as an isolated incident rather than any safety deficiencies with the design of the junction.
- 3.18 In conclusion, whilst there have been 2 serious accident recorded at, or in close proximity to the A5086/Dalzell Street Junction, these have been demonstrated to be isolated incidents that do not suggest any design deficiency of the junction.



3.19 The A595/Dalzell Street priority junction is assessed in **Figure 3.4**.

Figure 3.4: A595/Dalzell Street Crashmap Extract

- 3.20 **Figure 3.4** demonstrates that no accidents have been recorded at the junction within the 5-year study period and consequently, there are no existing safety concerns to consider.
- 3.21 The A595/A5086/Howbank Road priority roundabout is assessed in **Figure 3.5**.



Figure 3.5: A595/A5086/Howbank Road Crashmap Extract

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- 3.22 **Figure 3.5** illustrates that a total of 8 accidents have been recorded at, or on the immediate approach to the roundabout within the study period. All of these accidents are classified as 'slight' and are spread out relatively evenly across the A595 and A5086 arms which experience the highest traffic flow.
- 3.23 Eight accidents over the 5-year study period results in an average at well below 2 accidents per year which is considered low for a junction of this type.

Highway Safety Conclusion

- 3.24 The local highway and junction safety review has demonstrated that there are no existing unusual accident patterns which suggest inherent design or layout issues that would be exacerbated by the development proposals.
- 3.25 No fatal accidents have been reported and a thorough review of those classified as serious has been undertaken. It was concluded that these accidents occurred under unusual circumstances due to erroneous behaviour on the behalf of drivers or pedestrians. Crucially, there was no evidence of these serious accidents being repeated.
- 3.26 Table 3.1 below captures all the accidents assessed within this section and organizes them by year.

Soverity	Year					
Seventy	2015	2016	2017	2019	2019	
Slight	1	2	6	2	2	
Serious	1	1	0	1	0	
Fatal	0	0	0	0	0	
Total	2	3	6	3	2	

Table 3.1: Accidents by Year

3.27 It is clear that, with the exception of 2017 when 6 (all slight) accidents were recorded, the assessed network experiences between 2 and 3 accidents and average per year. This is considered very low given the size of the network evaluated and crucially, the data suggests that the total number of accidents per year is not increasing.

4 SITE ACCESSIBILITY BY SUSTAINABLE MODES OF TRAVEL

Introduction

- 4.1 The 'Promoting Sustainable Transport' section of the National Planning Policy Framework states that opportunities to promote walking, cycling and public transport use should be identified and pursued.
- 4.2 This section of the report therefore considers the accessibility of the site by the following modes of transport:
 - Accessibility on foot.
 - Accessibility by cycle.

Access by Walking

- 4.3 The Institution of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot' (2000) contains suggested acceptable walking distances for pedestrians without mobility impairment for some common facilities. The guidelines suggest that an acceptable walking distance for commuting purposes is 1 kilometre, with a preferred maximum distance of 2 kilometres. Walking can also be promoted as part of a multi-modal journey, particularly with public transport.
- 4.4 The more recent CIHT document 'Planning for Walking' (2015) affirms this by stating that 80% of journeys shorter than a mile (approximately 1.6 kilometres) are made wholly on foot.
- 4.5 An analysis of the pedestrian catchment of the site has been completed to illustrate the site's 2-kilometre walking catchment which represents a journey of approximately 25 minutes. The pedestrian catchment plan is shown in **Plan 4**. This demonstrates that the site is accessible from all of Cleator and the majority of Cleator Moor.
- 4.6 Street lit pedestrian footways exist on both sides of Trumpet Terrace and Main Street with the exception of the site frontage. Uncontrolled pedestrian crossing points, comprising of dropped kerbs and tactile paving, are also provided at the majority of junctions with the A5086.
- 4.7 Once the site is redeveloped, a continuous pedestrian route would be provided along the southern side of the carriageway, allowing direct access with Cleator Moor to the north, and Cleator to the south.

Table 4.1: Local Amenities (Distances taken from site access location)

Facility	Name	Location	Distance from site
Primary School	Montreal C of E Primary School	Ennerdale Rd	1.2km
Nursery	Wright Start Nursery	Ennerdale Rd	1.2km
Bus Stop	Trumpet Terrace Bus Stops	Trumpet Terrace	170m
Post Office and Post Box	Cleator Moor Post Office	Leconfield St	2.5km
GP Surgery	Surgery Cleator Moor Medical Centre		2.2km
Convenience Store Wath Brow Convenience Store		Ennerdale Rd	1.1km
Supermarket Co-Op		Leconfield St	2.6km
Leisure	Cleator Moor Activity Centre		2.4km
Public House	The Brook	Trumpet Terrace	100m

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- 4.8 As **Table 4.1** demonstrates there are a range of social, educational, health, leisure and retail amenities within an acceptable walking distance of the site. Additional amenities are situated just outside the preferred 2km maximum walking distance; however, this is unlikely to be perceived as a significant barrier given the relatively rural location of the site. The majority of amenities listed are located within Cleator Moor which is connected to the site via continuous footways along Trumpet Terrace and Ennerdale Road. The site therefore provides an excellent opportunity for such trips to be undertaken on foot.
- 4.9 The network of footways in the vicinity of the site therefore provide pedestrians with safe access to the surrounding area and amenities listed in **Table 4.1**. It is therefore considered that the site provides an excellent opportunity for trips to be undertaken on foot.

Access by Bicycle

- 4.10 Cycling is becoming an increasingly popular mode of transport and is an effective mode for short trips. The DfT's Local Transport Note 2/08 'Cycle Infrastructure Design' (2008) states that many utility cycle journeys are under 3 miles (approximately 5 kilometres) although for commuters a trip distance of over 5 miles is not uncommon.
- 4.11 Consequently, cycling has the potential to replace short car journeys, particularly those under 5 kilometres. At a leisurely cycle speed of 10 miles per hour this would equate to a journey of around 25 minutes. Plan 5 highlights a 5-kilometre cycle catchment from the site. This would equate to a journey of around 25 minutes using a leisurely cycle speed of 12 kilometres per hour.
- 4.12 In addition to the 2km catchment, the 5-kilometre cycle catchment includes the majority of the Egremont along all of Bigrigg and Frizington and also arrives at the fringes of Whitehaven. An extract of the Sustrans cycle map is shown in **Figure 4.1** below.



Figure 4.1: Sustrans Cycle Map Extract

4.13 Whilst no cycle specific routes are highlighted along the A5086, **Figure 4.1** demonstrates that National Cycle Route 72 is accessible from Cleator and provides a mixture of on and off-road sections between Whitehaven and Egremont. It is therefore considered that journeys could realistically be made between the site and these two destinations by cycle.

Framework Travel Plan

- 4.14 To promote sustainable forms of travel the applicant will adopt a Framework Travel Plan, which provides a template for a formal Travel Plan to be prepared once the development has secured planning permission.
- 4.15 A copy of the Framework Travel Plan is included in **Appendix D.**

5 DEVELOPMENT PROPOSALS

Introduction

5.1 Section 5 of this report summarises the development proposals. The proposed site layout is provided as Plan3.

Built Development Proposals

5.2 The planning application proposes the development 115 dwellings and associated parking, areas of public open space and footpath links. The proposed development mix will comprise of 14 two-bedroom, 66 three-bedroom and 35 four-bedroom houses.

Site Access

- 5.3 Vehicle access to the development site will be provided from the A5086 Trumpet Terrace in the form of a new priority-controlled Junction and adopted access road (secondary street) which will serve 105 dwellings. The remaining 10 units will be accessed from two unadopted shared private accesses directly from the A5086 Trumpet Terrace.
- 5.4 The access forms a spine road through the development leading into multiple shared surface areas. The shared surface areas are separated from the asphalt access road by raised tables which will act as traffic calming measures to ensure low, 15 mph vehicle target speeds as highlighted in the Cumbria Development Design Guide.
- 5.5 The secondary street access will feature 2m wide footways on both sides of the carriageway which will extend across the site frontage enabling a connected pedestrian route on the southern side of Trumpet Terrace. The access road will measure 5.5m in width and feature a 6m radius leading on to the A5086.
- 5.6 Visibility splays of 2.4m x 43m are also achievable in accordance with Manual for Streets requirements for a 30mph road. **Drawing VN201724-D101** in **Appendix E** demonstrates the primary access junction in detail.
- 5.7 In order to ensure the development roads are appropriately accessible by service vehicle, an AutoTrack swept path analysis has been undertaken of a large, 11.2m long refuse truck. Drawing VN201724-TR100 in Appendix F demonstrates that turning manoeuvres can be achieved within all turning heads in the site. Bin collection points are provided in accessible locations (within 30m of all houses) on the shared surface access roads to allow appropriate access for collection. The 10 houses fronting the A5086 will be serviced from Trumpet Terrace, as refuse bins collection points are situated adjacent to the access points. Again, these collection points are located within 30m of all properties they serve.
- 5.8 An emergency access is also proposed at the south east corner of the site leading on to the old Cleator Mills access road which now serves the adjacent Park & Ride site. In addition, two footpath links will be provided at the southern boundary which will lead directly to the Cleator Mills office development which is served by Mill Street/Hilden Road. This will ensure convenient pedestrian connectivity to Cleator for residents situated within the southern part of the site.

Car Parking

5.9 Car parking will be provided in line with Cumbria County Council standards for C3 residential development which are outlined below. These standards are to be considered aims for development of this type.

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House Size Provision for Residents		Visitors	Disabled Parking			
2 Bedroom	2 spaces per unit	1 space per 5 units	1 space for every 10 grouped spaces			
3 & 4 Bedroom	2.5 spaces per unit	1 space per 5 units	1 space for every 10 grouped spaces			

Table 5.1: Cumbria Parking Standards

5.10 All resident parking will be provided within the curtilage of each property, whilst visitor parking is provided within marked bays on access roads and.

6 TRAFFIC IMPACT ASSESSMENT

Introduction

6.1 Section 6 of this report provides a traffic impact assessment of the development proposals. As previously described the methodology adopted in this assessment has been undertaken following pre-application consultation with CCC Highways Officers.

Baseline Traffic Flows

- 6.2 Baseline traffic flows for the local highway network have been obtained from traffic surveys which were undertaken by an independent data collection company on Thursday 10th and Tuesday 15th September 2020.
- 6.3 As agreed with highway officers at pre-application stage, the traffic surveys were undertaken at the following junctions:
 - A5086/B5295 Ennerdale Road priority junction;
 - A5086/Dalzell Street priority junction;
 - Dalzell Street/A595(T) priority junction; and
 - A5086/A595(T)/Howbank Road priority roundabout.
- 6.4 Upon review of the traffic surveys the following peak hours were identified for the study network:
 - Weekday AM peak: 08:00 09:00; and
 - Weekday PM peak: 16:00 17:00.
- 6.5 **Figures 1 & 2** presents the 2020 base peak hour flows for the weekday AM and PM peak hours. The survey flows are presented in passenger car units (PCU's). The raw traffic data is included as **Appendix G**.

Assessment Years

- 6.6 Department for Transport guidelines state that the traffic impact of development proposals should be considered for a scenario of ten years post registration of a planning application for roads classified as part of the Strategic Road Network (SRN) and five years for roads outside the SRN.
- 6.7 This equates to a 2025 future year for the A5086/Ennerdale Road and A5086/Dalzell Street Junctions and 2030 for the two A595 Junctions.
- 6.8 It is commonly accepted that the application of background traffic growth factors, together with committed development traffic and traffic relating to a proposed development, will invariably lead to the double counting of traffic flows. This is because such committed and proposed developments would be expected to be included within the TEMPro growth forecasts.

- 6.9 As such there is reasoned justification for not including background growth factors and committed development traffic flows.
- 6.10 Notwithstanding this, to provide a robust assessment future year traffic forecasts have been derived from the TEMPro v6.2 database for the Cleator Moor dataset (16UE2). The resultant future year traffic forecasts have been provided in **Table 6.1**.

Table 6.1: TEMPro forecasts

	AM peak hour	PM peak hour
2020 - 2025	1.0181	1.0207
2020 - 2030	1.0297	1.0351

6.11 The above growth factors have been applied to the 2020 surveyed traffic flows to derive the 2025/2030 Baseline traffic flows. These are presented in **Figures 3 & 4**.

Committed Developments

6.12 During pre-application discussions with the highway authority a number of committed developments have been identified. The following paragraphs summarise these developments, the source of the traffic flow information and also how these flows were applied to the assessment network.

Sellafield Park & Ride, Former Kangol Factory, Cleator Mills, Cleator (LPA Ref 4/18/2312/0F1)

- 6.13 The Sellafield Park & Ride facility comprises of a 600-space car park and is situated immediately to the east of the site which is accessed from the lane that extends along the eastern site boundary. TPS Transport Consultants produced a TA dated January 2019 to support the planning application. This TA assessed the traffic impact by using employee catchment information supplied by Sellafield Ltd to which NOMIS O/D travel to work data was added to understand the likely volume of trips per area.
- 6.14 Table 5.4 of the TA set out 8 key catchment areas (Cleator Moor, Cleator, Whitehaven (C), Lamplugh/Frizinghall/Moor Row, Whitehaven (E), Whitehaven (W), Cockermouth (W) & Cockermouth (E)) to which a percentage of trips was applied.
- 6.15 To ensure these trips were given appropriate consideration, each catchment area was assessed separately with trips assigned on the highway according to the quickest and most direct routes. Where more than one route is available, trips have been assigned proportionately based on the most likely route based on the location of the area. Network diagrams with the demonstrating the traffic movements for each catchment area are provided in **Figures 5-11** with a total provided in **Figure 12**.

B1 Office Conversion, Cleator Mills, Cleator

6.16 The office conversion site lies immediately to the south and shares access on to the A5086 with the Sellafield Park & Ride site. The development comprises of 1,858sqm of B1 Office space with associated parking. RWO Associates undertook a Transport Statement (TS) to assess the impact of the proposals, dated March 2014. It should be noted that the planning consent for this scheme has now elapsed and therefore technically should be considered a committed development. Nevertheless, the scheme has been considered to ensure a robust assessment should the site be developed in the near future.

- 6.17 Within the TS it was calculated that the development would generate 50 two-way trips in each of the weekday peak hours. As office developments generate very few departures in the AM peak and arrivals in the PM peak, all 50 trips were assumed to be arrivals in the morning with 50 departures in the evening peak. These trips were then assigned to the network based on existing directional flows calculated from the traffic surveys on Trumpet Terrace and then turning proportions calculated at subsequent junctions.
- 6.18 These turning proportions are provided in **Figures 13 & 14** with assigned traffic flows presented in **Figure 15**. A network diagram presenting a total of both committed development sites is provided in **Figure 16**.

Baseline 'Without Development' Traffic Flows

6.19 The committed development traffic flows have been added to the 2025/2030 Baseline flows to generate the AM and PM peak hour 2025/2030 Baseline 'Without Development' flows. These are presented in **Figure 17 & 18**.

Development Trip Forecasts

- 6.20 The planning application proposes the development of 115 residential units.
- 6.21 To determine the traffic generation of the proposals the TRICS database for the 'Residential/ Houses Privately Owned' range of sites has been interrogated, focussing on sites in comparable locations and surrounding population densities, as per the TRICS Good Practice Guidelines.
- 6.22 The resultant trip rates, are presented in **Table 6.2** below, together with the associated traffic generations. The full TRICS output files are provided in **Appendix H.**

C3 Residential Dwellings				All Vehicl	es	
	Peak	Trip Rate		Trips		
		Arr	Dep	Arr	Dep	Two-way
115 Units	АМ	0.141	0.415	16	48	64
	РМ	0.307	0.189	35	22	57

Table 6.2: TRICS Trip Rates and Trip Generation

6.23 As presented in **Table 6.2**, the development is forecast to generate a total of 64 two-way trips during the AM peak hour and 57 two-way trips during the PM peak hour.

Trip Distribution

6.24 The distribution of trips generated by the proposed development has been calculated based upon surveyed turning proportions at each of the junctions assessed. The resultant AM and PM trip distribution profiles are presented in **Figure 19 & 20**.

Proposed Development Trips

6.25 The trip distribution profile has been applied to the proposed development trips outlined in **Table 6.2**. the resultant development trips assigned across the study area are shown in **Figures 21 & 22**.



Baseline 'With Development' Traffic Flows

6.26 The proposed development traffic flows have been added to the 2025/2030 Baseline 'Without Development' flows to generate the AM and PM peak hour 2025/2030 Baseline 'With Development' traffic flows. These are presented in **Figures 23 & 24**.

Junction Capacity Assessments

- 6.27 As agreed with the highway authority, junction capacity assessments have been undertaken for the following locations.
 - The proposed Site Access Priority Junction;
 - A5086/B5295 Ennerdale Road priority junction;
 - A5086/Dalzell Street priority junction;
 - Dalzell Street/A595(T) priority junction; and
 - A5086/A595(T)/Howbank Road priority roundabout:
- 6.28 Junction capacity assessments have been undertaken for 2020 Baseline, 2025/2030 Baseline 'Without Development' and 2025/2030 Baseline 'With Development' traffic flow scenarios. The proposed site access junction with the A5086 Trumpet Terrace has also been assessed in the 2025/2030 Baseline 'With Development' traffic flow scenario.
- 6.29 The following junction capacity assessments have been undertaken using JUNCTIONS 8, which is the industry standard program for modelling priority-controlled junctions. Results for each arm of the junction are provided and comprise of queueing data, presented in Mean Max Queue (MMQ) figures for Passenger Car Units (PCU), and also a Ratio to Flow Capacity (RFC) value. An RFC value of below 0.85 typically demonstrates that a junction arm is operating within capacity and will not experience any significant queueing or delay.

Site Access Junction

6.30 The proposed site access junction with Trumpet Terrace has been modelled using the Baseline 'with development' traffic flows. The JUNCTIONS 8 modelling results are provided in **Table 6.3** with full modelling outputs for this junction provided in **Appendix I.**

Arm	AM Peak		PM Peak		
Alli	RFC	MMQ (PCU)	RFC	MMQ (PCU)	
2025/2030 Future Year Including Development Flows					
Site Access to Trumpet Terrace	0.12	0	0.06	0	
Trumpet Terrace R/T to Site Access	0.01	0	0.05	0	

Table 6.3: Site Access/A5086 Trumpet Terrace Modelling Results

Proposed Residential Development, Cleator Mills, Cleator

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6.31 The modelling results in **Table 6.3** demonstrate that the proposed site access junction will operate well within capacity with a maximum RFC of 0.12 and will not result in any material queueing either within the site, or for right turners on Trumpet Terrace.

A5086/B5295 Ennerdale Road Priority Junction

6.32 The A5086/B5295 Ennerdale Road priority junction has been modelled for all three traffic flow scenarios. The results are presented in **Table 6.4** with the full modelling outputs for this junction provided in **Appendix J.**

A	AM Peak		PM Peak			
	RFC	MMQ (PCU)	RFC	MMQ (PCU)		
2020 Survey Flows						
Ennerdale Road to A5086	0.21	0	0.29	0		
A5086 (N) to Ennerdale Rd	0.12	0	0.10	0		
2025/2030 Future Year Base Flows						
Ennerdale Road to A5086	0.42	1	0.37	1		
A5086 (N) to Ennerdale Rd	0.13	0	0.11	0		
2025/2030 Future Year Including Development Flows						
Ennerdale Road to A5086	0.43	1	0.38	1		
A5086 (N) to Ennerdale Rd	0.13	0	0.11	0		

Table 6.4: A5086/B5295 Ennerdale Road Modelling Results

- 6.33 The results presented in **Table 6.4** demonstrates that the A5086/B5295 Junction operates well within capacity under existing conditions, with minimal queueing and a peak RFC of 0.29. The inclusion of committed development and Tempro traffic results in a small uplift in RFC and queueing values, however the junction continues to operate well within capacity.
- 6.34 The addition of development related traffic is demonstrated to have a largely imperceptible impact upon the operation of the junction. All arms of the junction continue to operate within capacity, with development traffic resulting in only a minor uplift in peak RFC values from 0.42 to 0.43. The impact on queuing is forecast to be negligible in both peak hours.

A5086/Dalzell Street Junction

6.35 The A5086/B5295 Ennerdale Road priority junction has been modelled for all three traffic flow scenarios. The design of this junction is somewhat unusual in that it has separate approach and exit arms to/from the A5086 that effectively cater for traffic to and from the north and south. Junctions 8 does not allow a Junction of this layout to be modelled, and therefore the northern and southern arms have been modelled separately as they effectively operate independently with the A5086.

- 6.36 Consideration has been given to the impact of traffic from both arms converging on Dalzell Street, with traffic from the south required to give way to traffic from the northern arm. However, traffic flow is so low that no material queueing would occur, and it is considered not necessary to model this give-way interaction.
- 6.37 The modelling results are presented in **Tables 6.5 & 6.6** with the full modelling outputs for both junctions provided in **Appendix K.**

Arm	AM Peak		PM Peak		
	RFC	MMQ (PCU)	RFC	MMQ (PCU)	
2020 Survey Flows					
Dalzell St (N) to A5086	0.07	0	0.15	0	
A5086 (N) to Dalzell St	0.08	0	0.11	0	
2025/2030 Future Year Base Flows					
Dalzell St (N) to A5086	0.16	0	0.17	0	
A5086 (N) to Dalzell St	0.13	0	0.21	0	
2025/2030 Future Year Including Development Flows					
Dalzell St (N) to A5086	0.16	0	0.18	0	
A5086 (N) to Dalzell St	0.14	0	0.22	1	

Table 6.5: A5086/Dalzell Street (North Arm) Modelling Results

6.38 It should be noted that no results for the A5086 (S) to Dalzell Street movement are included as this movement is unopposed.

Table 6.6: A5086/Dalzell Street (South Arm) Modelling Results

Arm	AM Peak		PM Peak		
Ann	RFC	MMQ (PCU)	RFC	MMQ (PCU)	
2020 Survey Flows					
Dalzell St (S) to A5086	0.10	0	0.07	0	
2025/2030 Future Year Base Flows					
Dalzell St (S) to A5086	0.10	0	0.07	0	
2025/2030 Future Year Including Development Flows					
Dalzell St (S) to A5086	0.10	0	0.07	0	

Proposed Residential Development, Cleator Mills, Cleator

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- 6.39 The results in **Tables 6.5** & **6.6** demonstrate that both Dalzell Street Junctions operate well within capacity in both existing conditions along with the addition of committed development and background traffic flows with a peak RFC of 0.21 on the A5086 (N) to Dalzell St movement in the PM peak. Queueing is negligible on all arms.
- 6.40 The impact of development generated traffic flows is negligible with peak RFC increasing by 0.01 to 0.22 on the A5086 (N) to Dalzell St movement in the PM peak. As such, both junctions continue to operate well capacity.

Dalzell Street/A595 Junction

6.41 The Dalzell Street/A595 priority junction has been modelled for all three traffic flow scenarios. These are presented in **Table 6.7** with the full modelling outputs for this junction provided in **Appendix L.**

Arm	AM Peak		PM Peak			
	RFC	MMQ (PCU)	RFC	MMQ (PCU)		
2020 Survey Flows						
Dalzell St to A595	0.17	0	0.14	0		
A595 (S) to Dalzell St	0.01	0	0.02	0		
2025/2030 Future Year Base Flows						
Dalzell St to A595	0.27	0	0.35	1		
A595 (S) to Dalzell St	0.01	0	0.02	0		
2025/2030 Future Year Including Development Flows						
Dalzell St to A595	0.28	0	0.36	1		
A595 (S) to Dalzell St	0.01	0	0.02	0		

Table 6.7: Dalzell Street/A595 Modelling Results

- 6.42 The modelling results provided in **Table 6.7** demonstrate that, again, junctions within the locale of the proposed development operate well within capacity under existing conditions. The assumed uplift in background traffic flows which form the basis of the future year assessment, are again shown to have a small but significant impact as peak RFC values rise from 0.14 to 0.35 on the Dalzell St to A595 movement in the PM peak. The effect on queueing is negligible however, with a peak figure of 1 PCU.
- 6.43 With the addition of development generated traffic flows, the junction continues to operate well within capacity with an uplift of peak RFC of 0.01 to 0.36, again, on the Dalzell St to A595 movement in the PM peak. The impact upon queueing is negligible with a peak queue of 1 PCU on the same movement. This is the same as the future year base modelling scenario.

A5086/A595(T)/Howbank Road Priority Roundabout

6.44 The A5086/A595/Howbank Road priority roundabout has been modelled using the JUNCTIONS 8 package for all three traffic flow scenarios. These are presented in **Table 6.8** with the full modelling outputs for this junction provided in **Appendix M**.

Proposed Residential Development, Cleator Mills, Cleator

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Arm	AM Peak		PM Peak			
	RFC	MMQ (PCU)	RFC	MMQ (PCU)		
2020 Survey Flows						
A5086	0.32	0	0.26	0		
A595 Egremont Bypass	0.41	1	0.65	2		
Howbank Road	0.18	0	0.19	0		
A595 Clints Brow	0.39	1	0.46	1		
2025/2030 Future Year Base Flows						
A5086	0.33	0	0.29	0		
A595 Egremont Bypass	0.43	1	0.67	2		
Howbank Road	0.19	0	0.20	0		
A595 Clints Brow	0.40	1	0.48	1		
2025/2030 Future Year Including Development Flows						
A5086	0.34	1	0.30	0		
A595 Egremont Bypass	0.43	1	0.68	2		
Howbank Road	0.19	0	0.21	0		
A595 Clints Brow	0.40	1	0.48	1		

Table 6.8: A5086/A595(T)/Howbank Road Roundabout Modelling Results

- 6.45 Finally, **Table 6.8** demonstrates that the A5086/A595/Howbank Road Roundabout operates comfortably within capacity under current conditions. A peak RFC of 0.65 is reported on the A595 Egremont Bypass arm of the junction in the PM peak.
- 6.46 The Future Year Base modelling scenario shows the increase in background flows has a modest impact on the junction, with peak RFC increasing marginally to 0.67. Queueing remains unaltered when compared with the 2020 assessment.
- 6.47 The addition of development generated flows has a largely imperceptible impact on the operation of the junction with a maximum increase in RFC values of 0.01 with queueing figures unchanged.
- 6.48 In conclusion, the junction modelling undertaken has demonstrated that all assessed junctions currently operate well within capacity with minimal queueing and continue to do so within the future year assessments. The addition of development generated traffic is shown to have a very little impact to junction operation with no appreciable increase in queueing or individual approach arm capacity.

7 SUMMARY AND CONCLUSIONS

Introduction

- 7.1 Vectos have been commissioned by Gleeson Homes to provide transport and highways advice to support a planning application for a proposed residential development within a parcel of land immediately to the south of the A5086 Trumpet Terrace in Cleator.
- 7.2 The development proposals include the provision of 115 dwellings including areas of open space and parking. Access will be provided via Trumpet Terrace.
- 7.3 This Transport Assessment has been prepared in accordance with discussions held with Cumbria County Council highway officers at pre-application stage, and draws the following conclusions:
 - In accordance with planning policy guidance, which promotes sustainable development, the site has been demonstrated to be accessible on foot and by bicycle.
 - A review of historical collision data has demonstrated that there are no existing accident blackspots in the vicinity of the site. Based upon the findings of the traffic impact assessment it has been concluded that there is no reason to believe highway safety would be worsened as a result of the development proposals.
 - A robust traffic impact assessment of the proposed development has been undertaken. This has considered the traffic generation of the proposed development, along with background traffic growth and traffic related to a number of committed developments identified by The Council. Modelling has been carried out on 4 junctions on the local network.
 - The traffic impact assessment concluded that the proposed development would have a minimal impact upon the efficient and safe operation of the surrounding highway network.
 - It has demonstrated that car parking will be provided in accordance with the benchmark standards adopted by Cumbria County Council.

Transport Assessment Conclusions

- 7.4 The development site is in a sustainable location, would not have a detrimental impact upon either the operation or safety of the local highway network, provides an appropriate quantum of car parking, and can be safely serviced.
- 7.5 The National Planning Policy Framework states that "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe".
- 7.6 This report has demonstrated that the proposed development would have no impact upon highway safety and that the residual cumulative impacts of the proposed development would not be severe. Therefore, there are no reasons why the planning application should be refused on highway or transportation grounds.

Plans







Plan 3





Figures
















































Appendices

Appendix A

Pre-Application Correspondence

From: DM&LLFA West <<u>DMandLLFA_west@cumbria.gov.uk</u>>
Sent: 29 April 2019 10:51
To: Christopher Harrison <<u>Christopher.Harrison@copeland.gov.uk</u>>
Cc: Development Control <<u>Development.Control@copeland.gov.uk</u>>
Subject: RE: Pre-Application Advice. Residential Development. Land adjacent to Cleator Mills,
Cleator, Whitehaven.

Morning Chris,

Thank you for requesting Pre-Application advice for Residential Development at Cleator Mills.

Local Lead Flood Authority.

The development site shows a risk of substantial flooding and is designated as an Environment Agency Flood Zone 3 area, with this in mind it is unlikely that this area will be acceptable for residential development.

A full Flood Risk Assessment (FRA) will be required.

There is concern that whatever defences that maybe put in place to mitigate the extent of the flooding, this will ultimately move the flooding issues further downstream which must be taken into consideration.

Highways Response.

Given the size of the development we will require a Transport Assessment (TA) & Travel Plan (TP), the TA should take into consideration the impact and capacity of the local highway infrastructure including the A595(T), A5086 and B5295 a list of areas and junctions can be provided, consideration should be taken for the recent approval of a 600 space car park which will be adjacent to the proposed site and its potential impact this should considered as a committed development.

Visibility splays at the junction entrance to the A5086 should be included on the design plan and show that these can be achieved.

Access from the A5086 – new junction is within close proximity of two existing junctions; albeit both currently lightly used. The proposed development, in hand with the car park, would significantly increase the number of manoeuvres at this location on the A5086. This is a concern as the A5086 is highly trafficked; likely to be many vehicles turning in and out of the car park access at peak times. The junction could also be obscured by vehicles parking to attend the nearby church or public house, leading to frustration and possibly increase in collisions, possible highway improvements may mitigate this impact.

Surface & Foul drainage master plan needs to be supplied as are details of all service locations and build specifications for carriageway and footways to ensure that they are designed to an adoptable standard.

The current design has 6no cull-de sac's which limits permeability of pedestrian movement, small vehicles and forces large vehicles to reverse in tight areas and is not favourable for emergency vehicles, it is noted that the developer recognises the need for a secondary access to the development for an emergency vehicle.

All raised areas, shared spaces/carriageways and private driveways should be detailed on a plan

Plots 1 - 10 should face the A5086 this will create a sense of place and that of a street encouraging passing traffic to limit their speed being able to see a property frontage not just a close boarded fence, again possible highway improvements may mitigate this impact.

The following plots will require a bin storage area to allow refuse collection.

- 116 to 112
- 41 to 38
- 23 to 28

As there is no turning head at the top of the cull-de sac.

The bin store should be no more than 30m from the furthest dwelling and no more than 15m from the point at which the refuse collection vehicle has stopped to allow for collection. I would also note the refuse collection vehicle cannot reverse more than 12m.

Visibility splays at driveways should be considered where a boundary fence or visitor parking may obstruct the view of the vehicle driver, Plots 117, 17, 129, 34, 27 & 88 are examples of this, see FigV11 of CDDG

Visitor parking (VP) at plots 129 & 89, the bays end with a 90 degree kerbed edge this should be a 45 degree to aid parking manoeuvres, VP at Plot 89 should be revised as currently the bay overhangs into the private driveway of Plots 90 to 89 there is potential for collision.

Resident parking and visitor parking numbers should be outlined on the design plan, currently it is not clear if there is provision for parking on the driveways or within garages. The proposal that each dwelling would serve 2 spaces per dwelling is somewhat short of what is required, driveways should meet the required 6m x 3.2m minimum.

5+ bedroom = 3 spaces per unit 3 & 4 bedroom = 2.5 spaces per unit 2 bedroom = 2 spaces per unit

Visitor = 1 space for every 5 units.

The footpath link adj to Plot 92 should enter the estate opposite the proposed footway to enable crossing onto the footway via the shortest route.

Education, School Transport.

Having discussed this with G Innes, he is happy with his original comments relating to this site, which havel been submitted.

If you require any further information please get in touch.

Regards

Michael Robinson

Development Management Officer | Flood & Development Management Economy & Environment | Cumbria County Council | Parkhouse Building | Baron Way | Carlisle | CA6 4SJ

Mob: 07768141019 www.cumbria.gov.uk

http://www.cumbriastrategicfloodpartnership.org/index.html



Appendix B

A5086/Ennerdale Rd Accident Report

crashr	nap.co.uk	
Crash Date:	Wednesday, October 03, 2018 Time of Crash:	7:13:00 PM Crash Reference: 2018030337109
- Highest Injury Severity:	Serious Road Number:	A5086 Number of Casualties: 1
Highway Authority:	Cumbria	Number of Vehicles: 2
Local Authority:	Copeland Borough	OS Grid Reference: 302749 514582
Weather Description:	Fine without high winds	and
Road Surface Description:	Dry	A A A A A A A A A A A A A A A A A A A
Speed Limit:	30	CONTRACTOR A DECEMBER OF THE D
Light Conditions:	Darkness: street lights present and lit	the second secon
Carriageway Hazards:	None	One of the second se
Junction Detail:	T or staggered junction	
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres	Track
Road Type:	Single carriageway	
Junction Control:	Give way or uncontrolled	Tile server timeout: The tile
For more information about the dat To subscribe to unlimited reports us	ta please visit: <i>www.crashmap.co.uk/home/Faq</i> sing CrashMap Pro visit <i>www.crashmap.co.uk/Home/Pr</i> e	emium_Services
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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
ц	Car (excluding private hire)	4	Male	16 - 20	Vehicle is in the act of turning right	Front	Other	None	None
2	Motorcycle over 500cc	ц	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Other	None	None

Casualties

2	Vehicle Ref
1	Casualty Ref
Serious	Injury Severity
Driver or rider	Casualty Class
Male	Gender
26 - 35	Age Band
Unknown or other	Pedestrian Location
Unknown or other	Pedestrian Movement

For more information about the data please visit: www.crashmap.co.uk/home/Faq To subscribe to unlimited reports using CrashMap Pro visit www.crashmap.co.uk/Home/Premium_Services

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Appendix C

A5086/Dalzell St Accident Report

Crash Date:	Sunday, June 21, 2015	Time of Crash: 8:55:00 Pi	M Crash Reference: 20:	15030001527
Highest Injury Severity:	Serious	Road Number: A5086	Number of Casualties: 3	
Highway Authority:	Cumbria		Number of Vehicles: 2	
Local Authority:	Copeland District (B)		OS Grid Reference: 30:	1130 512980
Weather Description:	Fine without high winds			1
Road Surface Description:	Dry		Pd	/
Speed Limit:	60	_	ned.	
Light Conditions:	Daylight: regardless of presei	nce of streetlights	100 ATS 104	/
Carriageway Hazards:	None			- and
Junction Detail:	T or staggered junction		,	
Junction Pedestrian Crossing:	No physical crossing facility w	vithin 50 metres		
Road Type:	Single carriageway		Ben	
Junction Control:	Give way or uncontrolled			
For more information about the dat To subscribe to unlimited reports u	ta please visit: <i>иии.crashmap.c</i> Ising CrashMap Pro visit <i>иии.cr</i>	2uk/home/Faq ashmap.co.uk/Home/Premium_Se	rvices	
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ver Driver Age der Band	Vehicle Maneo	JUVIE	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
56 - 65	Vehicle is slowin	ig down or stopping	Front	Other	None	None
16 - 20	Vehicle proceedi carriageway, on	a left hand bend	Front	Other	None	None
sualty Class	Gender	Age Band F	^D edestrian Location		Pedestrian Mov	ement
ver or rider	Male	16 - 20 L	Jnknown or other		Unknown or other	,
nicle or pillion ssenger	Male	16 - 20	Jnknown or other		Unknown or other	
ver or rider	Male	56 - 65 l	Jnknown or other		Unknown or other	
	Ver Driver Age Ider Band 2 56 - 65 2 16 - 20 2 16 - 20 ver or rider hicle or pillion ssenger ver or rider	ver Driver Age Vehicle Maned der Band Vehicle Is slowin e 56 - 65 Vehicle is slowin e 16 - 20 Vehicle proceed ver or rider Vehicle proceed Vehicle proceed hicle or pillion Male ver or rider Male ver or rider Male	ver Driver Age Vehicle Maneouvre der Band Vehicle Is slowing down or stopping e 56 - 65 Vehicle is slowing down or stopping e 16 - 20 Vehicle proceeding normally along the carriageway, on a left hand bend ver or rider Male 16 - 20 If ale hicle or pillion senger Male 16 - 20 If ale wer or rider Male 56 - 65 If	ver derDriver Age BandVehicle Maneouvre ManeouvreFirst Point of Impacta56 - 65Vehicle is slowing down or stopping carriageway, on a left hand bendFront ronta16 - 20Vehicle proceeding normally along the carriageway, on a left hand bendFront rontsualty ClassGenderAge BandPedestrian Location Unknown or otherver or riderMale16 - 20Unknown or other Malever or riderMale16 - 20Unknown or otherver or riderMale16 - 20Unknown or other	ver Ide Driver Age Vehicle Maneouvre First Point of Impact Journey Impact a 56 - 65 Vehicle is slowing down or stopping Front Other a 16 - 20 Vehicle proceeding normally along the carriageway, on a left hand bend Front Other sualty Class Gender Age Band Pedestrian Location Other senger Male 16 - 20 Unknown or other Unknown or other	ver Driver Age Vehicle Maneouvre First Point of Impact Dourney Impact Hit Object - On Purpose a 56 - 65 Vehicle is slowing down or stopping Front Other None a 16 - 20 Vehicle proceeding normally along the carriageway, or a left hand bend Front Other None swalty Class Gender Age Band Pedestrian Location Pedestrian Mov ver or rider Male 16 - 20 Unknown or other Unknown or other Unknown or other Unknown or other ver or rider Male 16 - 20 Unknown or other Unknown or other Unknown or other Unknown or other

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crashr	nap.co.uk	
Crash Date:	Tuesday, September 20, 2016 Time of Crash: 3:54:0	00 PM Crash Reference: 2016030108271
Highest Injury Severity:	Serious Road Number: A5086	5 Number of Casualties: 1
Highway Authority:	Cumbria	Number of Vehicles: 1
Local Authority:	Copeland Borough	OS Grid Reference: 301143 513005
Weather Description:	Fine without high winds	A I I
Road Surface Description:	Dry	
Speed Limit:	60	Die seg
Light Conditions:	Daylight: regardless of presence of streetlights	paorits (parped
Carriageway Hazards:	None	
Junction Detail:	T or staggered junction	
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres	
Road Type:	Single carriageway	
Junction Control:	Give way or uncontrolled	
For more information about the dat To subscribe to unlimited reports us	a please visit: <i>www.crashmap.co.uk/home/Faq</i> sing CrashMap Pro visit <i>www.crashmap.co.uk/Home/Premium</i>	1_Services
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Vehicles involved

Vehicle V	Vehicle Type	Vehicle	Driver	Driver Age	Vehicle Maneouvre	First Point of	Journey	Hit Object - On	Hit Object - Off
	Car (excluding private hire)	6	Female	21 - 25	Vehicle proceeding normally along the carriageway, on a left hand bend	Front	Other	None	None

Casualties

1	Vehicle Ref Ca
1 Se	sualty Ref In
rious	jury Severity
Pedestrian	Casualty Class
Male	Gender
46 - 55	Age Band
In carriageway, crossing elsewhere	Pedestrian Location
Crossing from driver's nearside	Pedestrian Movement

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Appendix D

Framework Travel Plan



Gleeson Homes

PROPOSED RESIDENTIAL DEVELOPMENT, CLEATOR MILLS, CLEATOR

06/11/2020	
VN201724	
Framework Travel Plan	
vectos.co.uk	

Report control

Document:	Framework Travel Plan
Project:	Proposed Residential Development, Cleator Mills, Cleator
Client:	Gleeson Homes
Job number:	VN201724
File origin:	N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Docs\Reports\Framework Travel Plan V2.docx

Document checking

Primary Author:	Elliot Read	Initialled: ER	
Contributor:	James Whitton	Initialled: JW	
Review by:	Richard Whiting	Initialled: RW	
Issue	Date	Status	Checked for issue
1 2	06/11/2020	V1	RW
3 4			

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Plans

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Plan 4 Plan 5	-	2km Walking Catchment 5km Cycling Catchment

1 INTRODUCTION

Background

- 1.1 Vectos have been commissioned by Gleeson Homes to provide a Framework Travel Plan in support a planning application for residential development on the former Cleator Mills site in Cleator, Cumbria. The proposed development comprises the erection of 115 residential units. The site lies within the jurisdiction of Cumbria County Council who are the highway authority.
- 1.2 This document should be read in conjunction with the November 2020 Transport Assessment also prepared by Vectos.

Site Location

1.2.1 The development site lies on the north eastern side of Cleator and approximately 1km directly to the south of Cleator Moor. The site also lies between Whitehaven to the north, and Egremont to the south. The site is presently unoccupied and comprises open scrubland. Image 1.1 provides an aerial view of the site with the full extent of the application boundary in red. **Plan 1** identifies the site location in a wider context whilst **Plan 2** highlights the sit in a more local context.



Figure 1.1: Site Location



Development Proposals

- 1.3 The planning application proposes the development 115 dwellings and associated parking, areas of public open space and footpath links. The proposed development mix will comprise of 14 two-bedroom, 66 three-bedroom and 35 four-bedroom houses.
- 1.4 The proposed site layout is shown in **Plan 3.**
- 1.5 Vehicle access to the site is proposed from a new priority-controlled junction with the A5086 Trumpet Terrace.
- 1.6 Within the site the internal road layout has been designed to ensure vehicle speeds are kept below 20mph, with traffic calming and shared surface features provided. The intention is that this will act to create a pedestrian and cycle friendly environment.
- 1.7 The development will provide footways of 2 metres along both sides of the majority of the main access road, or where footways are absent off-line pedestrian links will instead be provided. The development therefore comprehensive serves pedestrian connections within the site.
- 1.8 To ensure pedestrian permeability between the site and surrounding area dedicated pedestrian accesses to the south leading on to Mill Street/Hilden Road are provided.
- 1.9 Cycle parking will be provided within the curtilage of each dwelling.

Framework Travel Plan

1.10 This document outlines the framework for the full Travel Plan which will be prepared and submitted to the Council for agreement prior to first occupation of the development.

Purpose of the Travel Plan

- 1.11 This Travel Plan aims to reduce the impacts of transport on the local environment and increase methods of access to the site. It will include measures to increase travel choice and reduce dependency on the car by way of the following:
 - Reducing the need for travel;
 - Reducing single-occupancy car travel; and
 - Encouraging the use of more sustainable travel choices, such as walking, cycling, public transport and car sharing.
- 1.12 A Residential Travel Plan can be thought of as a pyramid of measures. The plan is built from the bottom up, with decisions and actions at each level creating the conditions that provide the foundation for success at the next level up. A diagrammatical explanation of this is provided in **Figure 1.2**.



Figure 1.2: Residential Travel Plan Pyramid

- 1.13 A Residential Travel Plan addresses all types of trips to and from the development. It sets out the implementation, marketing, monitoring and review of a variety of travel measures to meet pre-agreed travel targets.
- 1.14 It is expected that trips occurring from the proposed residential development would include the following four predominant types:
 - Journeys to places of work;
 - Journeys to educational facilities, such as schools and higher education;
 - Journeys to health facilities, such as GP surgeries and hospital appointments; and
 - Journeys of a leisure and recreational nature to nearby amenities.
- 1.15 Travel Plans offer many benefits such as increasing safety and creating healthier environments for residents. The document is site-specific and takes into account the characteristics of the development such as its location, surrounding transport infrastructure and proximity to local facilities.
- 1.16 It is vital that it is not considered a static document, rather that it be flexible so that it can adapt to suit changes in the site's characteristics over time.

Travel Plan Aims

- 1.17 The main aim of the Travel Plan will be to ensure that the new development conforms to the principles of sustainable transport. To best achieve its potential benefits, a Travel Plan should involve the following:
 - The genuine and committed support of the Site Developer;
 - Address residents' needs for access to a full range of facilities of work, education, health, leisure, recreation and shopping;
 - Encourage good urban design principles which open up the permeability of the development for walking and cycling;
 - Combine physical measures of site design, infrastructure and new facilities with the behavioural measures of marketing, promotion and awareness-raising among residents; and
 - A designated Travel Plan Co-ordinator (TPC) appointed by the Site Developer before first occupation of the site who will be responsible for the development, implementation and day-to-day running of the Plan site-wide.
- 1.18 Experience has shown the following are a number of key elements to the successful implementation of a Residential Travel Plan:
 - Commitment in promoting and marketing the plan to prospective residents, and to all residents from first occupation;
 - Regular completion of travel surveys and auditing of travel patterns across the whole site;
 - The involvement of residents and the local community as appropriate; and
 - Identifying targets and monitoring the ongoing Travel Plan process.
- 1.19 In this document we describe the methods that Gleeson Homes will use to implement the Travel Plan.

2 TRAVEL PLANNING POLICY CONSIDERATIONS

Introduction

2.1 It will be ensured that the Residential Travel Plan will adhere to relevant planning policy. Considerations in regard to both national and local travel planning policy are now discussed.

National Policy Context

National Planning Policy Framework (NPPF)

2.2 The National Planning Policy Framework (February 2019) surrounds the notion of achieving sustainable development. The NPPF aims for plans to protect and exploit opportunities for the use of sustainable transport modes. Paragraph 111 of the NPPF states that:

"All developments that will generate significant amounts of movement should be required to provide a travel plan"

- 2.3 A Travel Plan is a long-term management strategy for a site that seeks to encourage more sustainable travel and to reduce single occupancy car use.
- 2.4 As traffic problems can arise from new developments, the Travel Plan will be best addressed through working in partnership with outside organisations which could be useful in developing elements of the plan.

Overarching Principles on Travel Plans, Transport Assessments and Statements (DCLG)

- 2.5 In March 2014 the Department for Communities and Local Government published guidance on the overarching principles on Travel Plans, Transport Assessments and Statements.
- 2.6 Within this guidance it is specified that a Travel Plan is a long-term management strategy for integrating proposals for sustainable travel into the planning process.
- 2.7 It is also detailed that a Travel Plan can positively contribute to a range of benefits, including the below:
 - Encouraging sustainable transport
 - Lessening traffic generation and its detrimental impacts
 - Reducing carbon emissions and climate impacts;
 - Creating accessible, connected and inclusive communities;
 - Improving health outcomes and quality of life;
 - Improving road safety; and
 - Reducing the need for new development to increase existing road capacity or provide new roads.

Local Policy Context

Cumbria County Council - Travel Plans and the Planning Process: Guidance for Developers

- 2.8 As the local highway authority, Cumbria County Council also seek Travel Plans through the planning process. It is stated that developers will be expected to submit a Residential Travel Plan in support of any application that exceeds 80 dwellings. As such, Cumbria County Council provide a guidance document entitled 'Travel Plans and the Planning Process: Guidance for Developers'.
- 2.9 Within Section 4 of this guidance document, it is stated that the essential elements of a Residential Travel Plan should be establishing the roles and responsibilities of the Travel Plan Coordinator, an assessment of the site, a strategy for undertaking travel surveys, the aims and objectives of the Travel Plan and the targets for modal shift.
- 2.10 It is also stated that proposed measures should be included, along with a strategy for marketing the Travel Plan and a means to monitoring its progress.
- 2.11 Within Appendix D of this guidance document is a list of potential sustainable transport measures. This list has been reviewed in context of the development proposals and suitable measures have been applied accordingly.

Good Practice Guidelines

2.12 The preparation and adoption of a Travel Plan is an important element in managing the demand for travel to all modern developments. The Department for Transport issued a guide on the preparation of such Travel Plans in April 2009 in a document entitled "Good Practice Guidelines – Delivering Travel Plans through the Planning Process".

3 ACCESSIBILITY BY SUSTAINABLE MODES OF TRAVEL

Introduction

- 3.1 Accessibility to good transport infrastructure has the potential to reduce the need to travel by single occupancy car and to encourage people to make sustainable transport choices to access jobs, local facilities and services.
- 3.2 This section considers the accessibility of the site by the following modes of transport:
 - Accessibility on foot;
 - Accessibility by cycle; and

Accessibility on Foot

- 3.3 The Institution of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot' (2000) contains suggested acceptable walking distances for pedestrians without mobility impairment for some common facilities. The guidelines suggest that an acceptable walking distance for commuting purposes is 1 kilometre, with a preferred maximum distance of 2 kilometres. Walking can also be promoted as part of a multi-modal journey, particularly with public transport.
- 3.4 The more recent CIHT document 'Planning for Walking' (2015) affirms this by stating that 80% of journeys shorter than a mile (approximately 1.6 kilometres) are made wholly on foot.
- 3.5 An analysis of the pedestrian catchment of the site has been completed to illustrate the site's 2-kilometre walking catchment which represents a journey of approximately 25 minutes. The pedestrian catchment plan is shown in **Plan 4**. This demonstrates that the site is accessible from all of Cleator and the majority of Cleator Moor.
- 3.6 Street lit pedestrian footways exist on both sides of Trumpet Terrace and Main Street with the exception of the site frontage. Uncontrolled pedestrian crossing points, comprising of dropped kerbs and tactile paving, are also provided at the majority of junctions with the A5086.
- 3.7 Once the site is redeveloped, a continuous pedestrian route would be provided along the southern side of the carriageway, allowing direct access with Cleator Moor to the north, and Cleator to the south.

Table 3.1: Local Amenities (Distances taken from site access location)

Facility	Name	Location	Distance from site
Primary School	Montreal C of E Primary School	Ennerdale Rd	1.2km
Nursery	Wright Start Nursery	Ennerdale Rd	1.2km
Bus Stop	Trumpet Terrace Bus Stops	Trumpet Terrace	170m
Post Office and Post Box	Cleator Moor Post Office	Leconfield St	2.5km
GP Surgery	Cleator Moor Medical Centre	Birks Rd	2.2km
Convenience Store	Wath Brow Convenience Store	Ennerdale Rd	1.1km
Supermarket	Co-Op	Leconfield St	2.6km
Leisure	Cleator Moor Activity Centre	Wyndham St	2.4km
Public House	The Brook	Trumpet Terrace	100m

- 3.8 As **Table 3.1** demonstrates there are a range of social, educational, health, leisure and retail amenities within an acceptable walking distance of the site. Additional amenities are situated just outside the preferred 2km maximum walking distance; however, this is unlikely to be perceived as a significant barrier given the relatively rural location of the site. The majority of amenities listed are located within Cleator Moor which is connected to the site via continuous footways along Trumpet Terrace and Ennerdale Road. The site therefore provides an excellent opportunity for such trips to be undertaken on foot.
- 3.9 The network of footways in the vicinity of the site therefore provide pedestrians with safe access to the surrounding area and amenities listed in **Table 3.1**. It is therefore considered that the site provides an excellent opportunity for trips to be undertaken on foot.

Accessibility by Cycle

- 3.10 Cycling is becoming an increasingly popular mode of transport and is an effective mode for short trips. The DfT's Local Transport Note 2/08 'Cycle Infrastructure Design' (2008) states that many utility cycle journeys are under 3 miles (approximately 5 kilometres) although for commuters a trip distance of over 5 miles is not uncommon.
- 3.11 Consequently, cycling has the potential to replace short car journeys, particularly those under 5 kilometres. At a leisurely cycle speed of 10 miles per hour this would equate to a journey of around 25 minutes. Plan 5 highlights a 5-kilometre cycle catchment from the site. This would equate to a journey of around 25 minutes using a leisurely cycle speed of 12 kilometres per hour.
- 3.12 In addition to the 2km catchment, the 5-kilometre cycle catchment includes the majority of the Egremont along all of Bigrigg and Frizington and also arrives at the fringes of Whitehaven. An extract of the Sustrans cycle map is shown in **Figure 3.1** below.



Figure 3.1: Sustrans Cycle Map Extract

3.13 Whilst no cycle specific routes are highlighted along the A5086, **Figure 3.1** demonstrates that National Cycle Route 72 is accessible from Cleator and provides a mixture of on and off-road sections between Whitehaven and Egremont. It is therefore considered that journeys could realistically be made between the site and these two destinations by cycle.

4 TRAVEL PLAN MANAGEMENT

Introduction

- 4.1 As the scheme progresses towards construction and promotion of the site for potential occupiers then a Travel Plan Co-ordinator (TPC) will be appointed by Gleeson Homes who will implement the measures and progress the Plan as the site develops.
- 4.2 Until the TPC is appointed responsibility for managing this Framework Travel Plan lies with:

James Whitton Senior Transport Planner, Vectos (North) Ltd James.whitton@vectos.co.uk 0161 228 1008

4.3 The Gleeson Homes representative commissioning this Framework Travel Plan is:

David Wright Senior Land Manager Gleeson Homes <u>dwright@mjgleeson.com</u>

4.4 The roles may evolve as the scheme moves from the Framework Plan to a Full Travel Plan and Cumbria CC would be advised accordingly.

Travel Plan Commitment

- 4.5 Gleeson Homes recognises that by developing a Travel Plan, sustainable travel patterns can be established from the outset and maintained over time, minimising the impact that the development has upon the local environment and ensuring that, as far as possible, all residents are able to make informed journey choices.
- 4.6 Gleeson Homes has adopted a corporate approach to Travel Plan implementation across many of their sites, to ensure promotion of sustainable travel is targeted and, ultimately, effective. This Framework Travel Plan is reflective of this wider approach.
- 4.7 Gleeson Homes commit themselves to implementing the measures contained within this Framework Travel Plan, monitoring the progress of the plan, amending it where necessary. To achieve this the necessary resources and funding will be made available to the TPC.

5 MEASURES TO REDUCE CAR USE

Introduction

- 5.1 The objectives of the Travel Plan will be supported by a series of physical and behavioural measures for the site. These are to encourage greater participation in cycling and walking for trips to and from the site, and to minimise the level of single occupancy private car trips.
- 5.2 Gleeson Homes have experience of delivering effective Travel Plans. At various sites they have appointed a TPC and developed a Travel Plan Website promoting journey planning, cycle route planning, public transport links etc. Examples of their Travel Planning initiatives are given in this section.
- 5.3 Gleeson Homes commit to keeping the Travel Plan Website, the Travel Pack information and community information boards up to date with a regular 3 monthly review. This commitment will pass to the TPC to be undertaken on an ongoing basis.

Plan Management

- 5.4 Effective management is essential if the car travel reduction measures are to be successfully implemented. Day-to-day operation and management of the plan will be carried out by the TPC who will promote, maintain, monitor and review it. The TPC will be the focal point and point of contact for all travel-related issues among residents and prospective residents.
- 5.5 Gleeson Homes will procure the services of the TPC for the site.
- 5.6 The role of the TPC will include (but not be limited to):
 - Preparation and distribution of travel information and marketing material;
 - Liaising with the sales team to ensure the sustainable travel credentials of the site are promoted from the outset;
 - Engaging with residents on site on travel and transport related issues;
 - Responding to travel issues/questions; and
 - Liaising with other interested parties, including the local authority.
- 5.7 The TPC will be guided by a Steering Group, the precise composition of which is to be determined but will ideally comprise of residents, representatives of Gleeson Homes, Copeland Borough Council and Cumbria County Council. A particular benefit of the Steering Group is early involvement of all local residents, which makes the Travel Plan more likely to be successful.
- 5.8 Once the site development is complete, Gleeson Homes may withdraw from the Steering Group, however it is intended that the Steering Group will continue for the duration of the Development. This group would have the responsibility to keep the travel information up to date on the community boards, the website and travel information guides.

Publicity and Promotion

- 5.9 One of the best times to influence travel patterns and habits is before they are established. For this reason, it is important that all prospective residents are made aware of the travel options available to them at the point at which they are considering moving to the development.
- 5.10 The sales team dealing with residential occupations will therefore be made fully aware of the Travel Plan and its aims and objectives. The sales office will be provided with copies of the travel information guide from first opening and will be provided with a briefing note detailing how these should be distributed. **Figure 5.1** shows an example of the travel information guide developed by Gleeson Homes for their Carlisle Street site in Swinton.



Figure 5.1: Example Travel Information Guide

- 5.11 The travel information guide will contain site-specific advice and information on the range of sustainable travel options available including a guide to local bus and rail services and the benefits of walking and cycling. It will include a map of local amenities and the offer of a personalised journey plan for each household.
- 5.12 The guide is also intended to be a means by which relevant online resources (such as journey planning facilities and car share schemes, for example) can be promoted to residents.
- 5.13 To this end Gleeson Homes will prepare a dedicated travel website for the development which will provide residents with details on alternative methods of travelling to the site, together with links to third party websites which can assist in informing travel choices. **Figure 5.2** provides an image of the website which was produced for Gleeson's Carlisle Park development. In this instance the website was also used to issue the residents travel survey.



Figure 5.2: Website Promotion

- 5.14 As part of the Travel Plan Personal Journey Planning will be offered to residents, presenting the travel options available, ranging from walking and cycling routes and local bus services. As per the example shown in Figure 5.2, this information can be most widely distributed through the developments travel planning website, however, the TPC will also be able to offer personal assistance should this be required.
- 5.15 A number of community notice boards will be installed on the development site. These will be available for use by the TPC to promote events within the site and the local community, show local footpath and cycle routes, advertise improvements to non-car modes, access to the site Travel Plan website, and to promote the Plan itself.
- 5.16 In order to provide longevity to the Travel Plan and to ensure residents are kept up to date with transportrelated activities at the site, a residents' newsletter will be prepared on an annual basis until full occupation. This will be a key tool for communicating sustainable travel options to subsequent residents who may not have purchased a house from new and will also provide the opportunity to give feedback to residents on the results of the annual monitoring surveys.



Measures to Encourage Walking

- 5.17 The travel information guide will promote the health, social and financial benefits of walking. This will include information on local walking routes and local or national walking initiatives that are held.
- 5.18 The website will also provide information on travelling on foot, including links which will identify routes and the benefits of walking. **Figure 5.3** provides an image of the 'travel of foot' page of the website produced for Gleeson Homes' Carlisle Park development.



Figure 5.3 Walking Promotion Webpage

5.19 To encourage walking trips, a comprehensive 2 metre pedestrian network will be provided within the site, with a number of access points provided to Kingmoor Road to ensure the site is permeable for those on foot.

Measures to Encourage Cycling

5.20 Cycling will be encouraged with information on cycle provision, cycle maintenance, training and cycle maps provided by the TPC. Personal journey planning advice will be provided to each household to discuss the range of cycling options available to key destinations. The development Travel Plan website will also provide key cycle information and links, an example of which is shown in **Figure 5.4**.

14



Figure 5.4: Cycling Promotion Webpage

- 5.21 Consideration will be given to a Bicycle User Group for the site, to co-ordinate with the Steering Group on cycle matters and to organise events.
- 5.22 In terms of physical measures the site itself will be designed for cycle friendly use, with the internal road design speed of 20mph which will be conducive with the creation of a cycle friendly environment.

Measures to Encourage Car Sharing

- 5.23 A number of trips may only be practically possible by car (such as long distance journeys, trips at night, and journeys to locations inaccessible by active travel or public transport). While the existence of such trips must be recognised, every effort should be made to promote more sustainable vehicular use.
- 5.24 Car sharing is when two or more people share a journey by car and travel together. It allows people to take advantage of the benefits of using the car, whilst at the same time reduces the overall number of vehicle trips made, and subsequently the impact on the environment. On a personal level, car sharing allows individuals to significantly reduce the cost of travelling by car.

Proposed Residential Development, Cleator Mills, Cleator N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Docs\Reports\Framework Travel Plan V2.docx 06/11/2020

- 5.25 A great deal of car sharing is arranged informally, however there are also organisations that provide the means to get in touch with other people looking to car share.
- 5.26 The TPC may also compile a database of residents who are interested in car sharing and can act as a point of contact to connect interested parties. The development website will also provide information on any local car sharing schemes which are in operation.

6 MONITORING OF SUCCESS

Introduction

- 6.1 When delivering a Travel Plan it is important to monitor its progress and success. One easy way of understanding the impact of the Plan is to consider the modal split of trips being made from the site. A monitoring strategy has been set out below, which details how the success of the Travel plan will be recorded and reported to the pertinent authorities.
- 6.2 To monitor the progress of the Travel Plan regularly surveys of resident's travel habits will be undertaken. The following survey pattern is envisaged:
 - A baseline survey to determine travel patterns once the occupation level passes 75 dwellings. The surveys will be used to validate the initial modal split targets;
 - A second survey of residents 12 months after the baseline during the same neutral month; and
 - Thereafter annually for 4 years.
- 6.3 The surveys will seek to identify any change in travel habits and will also be a means of identifying areas in which the TPC efforts can best be directed. The survey results and Travel Plan outcomes will be shared with Cumbria County Council's Travel Plan Officer.
- 6.4 The baseline and follow-up surveys will include the following:
 - A short survey will be distributed to all households during the same week to allow directly comparable data to be collected without seasonal effects. The survey should ask about the usual travel habits at the household, as well as providing an opportunity for residents to comment on improvements which would encourage them to use more sustainable travel modes. In order to encourage a high response rate, the survey will take no more than 2 minutes to complete and be advertised. The survey could also be made available via the development website.
 - Cycle and pedestrian counts on routes into the development and the use of cycle stands provided to determine if more residents are walking and cycling to / from the site.
 - Information will be shared with Cumbria County Council's Travel Plan Officer and the residents themselves, so they feel their time spent is valued and productive.
- 6.5 It is expected that the travel survey will be posted to each dwelling on the site and will then be collected 1 week from that date.
- 6.6 The results of the annual surveys will be presented in an annual Monitoring Report for submission to Cumbria County Council; this will review progress towards the mode share target, provide an update as to actions that have been implemented and identify any actions deemed necessary in the forthcoming year.
- 6.7 At the end of the initial 5-year period, a thorough assessment will be made on the success of the Residential Travel Plan against its targets. Thereafter the strategy for its continuation will be reviewed with Cumbria County Council.

Targets

- 6.8 Targets must be related to the Travel Plan objectives and follow the SMART (Specific, Measurable, Achievable, Realistic and Time bound) principles in order to allow effective monitoring of performance over time.
- 6.9 Preliminary mode share targets have been based upon journey to work data collected as part of the 2011 Census. This data has been extracted for the Cleator Moor South ward in which the site is located and used to derive typical modal splits (shown below for the 'Year of Occupation'), and then the subsequent modal split targets.

Table 6.1: Preliminary Travel Targets

Year	Car Driver/ Passenger	Public Transport	Walking	Cycling	Other (E.g. motorbike/ taxi)
Year of First Occupation	77%	8%	10%	3%	2%
1	74%	8%	12%	4%	2%
2	72%	9%	13%	4%	2%
3	70%	9%	13%	5%	3%
4	68%	10%	14%	5%	3%
5	67%	10%	15%	5%	3%

- 6.10 The targets are suggested as preliminary values and will be discussed and agreed with the relevant authorities during the planning process. Should the baseline surveys suggest very different modal splits to those agreed as part of the planning process then the agreed targets may be adjusted accordingly.
- 6.11 Should targets not be met or if there are site specific issues that limit or discourage the use of sustainable travel then the full Travel Plan will act to bring the travel patterns back on target. If that is the case, then the Travel Plan review would identify what pattern of travel behaviour requires improvement and to direct initiatives at that issue.

7 ACTION PLAN

7.1 **Table 7.1** below provides a Travel Plan Action Plan and timescales for implementation.

Table 7.1: Action Plan

Measure	Objective	Responsibility	Deadline
Framework Travel Plan	Prepare Framework Travel Plan	Vectos	Prior to Planning permission
Appoint TPC	Provide person responsible for Plan	Gleeson Homes	Prior to first occupation
Set up development website	Provide person responsible for Plan	Gleeson Homes	Prior to first occupation
Provide all new residents with travel information guide	Promotion of sustainable travel TPC		Prior to first occupation
Provide community notice board	Promotion of sustainable travel	Gleeson Homes	During construction
Provide pedestrian infrastructure	Promote walking	Gleeson Homes	During construction
Submit and agree Full Travel Plan	Promotion of sustainable travel	TPC	Prior to first occupation
Investigate potential for school walking initiatives	Promotion of sustainable travel	TPC	From first occupation
Carry out baseline travel survey	Determine baseline travel patterns	TPC	Once occupation exceeds 75 units
Commission follow up travel survey	mmission follow up Monitor Travel Plan vel survey progress towards TP targets		12 months after baseline survey (and then annually)
Prepare residents newsletter	Promotion of sustainable travel	TPC	Annually until full occupation
Produce Annual Progress Report for CCC	anual Tailor Travel Plan to site conditions and progress towards targets		1 month after first survey and annually thereafter

Plans







Plan 3





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Registered Office

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Appendix E

Proposed Access Design



Appendix F

Refuse Vehicle AutoTrack Swept Path Analysis



Appendix G

Traffic Count Data
SURVEY CONTROL

Client:	Vectos North
Client Contact:	Richard Whiting
Survey Location:	Cleator
Date(s) of Survey:	Thursday 10th September Tuesday 15th September 2020
Notes:	
On Site Supervisor:	Neil Harley/David Cheng
Data Checking:	David Cheng
Survey Reference:	2020 Cleator
Status:	Final
Date of Issue:	16th September 2020







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1630	8	0	46	2	67	1	18	1	20	2	15	2
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0730	65	1	25	-
0745	62	5	33	2
0800	52	7	20	0
0815	44	1	29	4
0830	49	1	39	2
0845	46	0	33	0
0060	44	0	29	2
0915	30	0	34	4
	A508	6 Trum	oet Terr	ace -
Time Beginning	ines	20 20	l Jepuel 20	
		~	Ĩ	_
	۲۸	Hν	۲۷	ΗV
1600	41	4	64	3
1615	44	2	81	2
1630	65	2	101	3
1645	65	2	72	5
1700	53	1	68	5
1715	69	0	80	1
1730	45	1	63	2
1745	45	1	52	0
1800	29	2	49	0
1815	38	0	31	2
1830	30	1	37	0
1845	42	0	34	1

			A50	86/Dalze	ell Stree	it - Thun	sday 10	th Sept	ember 2	020		
Time Beginning		6	-	0	-	-	-	2	-	3	-	4
	۲۷	Η	۲۷	۲	۲۷	Η	۲۷	۲	۲۷	H	۲۷	HV
0200	4	1	74	0	15	0	1	0	8	0	2	1
0715	9	0	70	0	19	۱	0	0	12	1	2	1
0730	9	0	80	0	33	4	3	0	15	0	4	0
0745	4	1	92	4	30	1	3	0	10	0	8	0
0800	10	2	06	3	47	9	9	0	10	0	8	0
0815	4	0	81	3	70	0	9	0	19	0	7	1
0830	8	0	60	0	48	0	7	0	11	0	14	1
0845	9	0	69	3	61	2	5	0	3	0	10	0
0060	7	1	61	3	39	1	9	0	9	0	15	0
0915	8	0	41	0	30	1	2	0	4	2	8	0
			A50:	86/Dalz∈	ell Stree	et - Thun	sday 10	th Sept	ember 2	020		
ime Beginning		6	1	0	1	1	1	2	•	3	ł	4
	۲۷	Η	۲۷	۲	۲۷	H	۲۷	H	۲۷	H	۲۷	ΗV
1600	2	0	78	1	116	0	27	0	3	0	13	0
1615	13	0	56	1	134	2	27	0	5	0	16	0
1630	12	0	81	4	102	1	13	0	6	0	22	0
1645	10	0	94	2	79	٢	11	0	6	٢	25	0
1700	4	0	81	1	100	0	6	0	8	1	21	0
1715	8	0	83	2	97	1	9	0	6	0	16	0
1730	10	1	55	1	84	1	11	0	5	0	15	0
1745	7	0	50	1	69	۱	3	0	7	0	17	0
1800	12	0	56	2	51	0	6	1	4	0	25	0
1815	6	0	37	3	42	0	2	0	11	0	7	0
1830	6	0	47	0	56	١	7	0	3	0	11	0
1845	5	0	40	0	39	0	2	0	5	0	10	0

							A5086	i/A595 E	Egremor	nt Bypas	s/Howb	ank Ro	ad/A595	i - Thur	sday 10t	h Septe	mber 20	20						
Time Beginning		5		9	-	7	Ť	~	15		20	E	21	F	22	╞	23	╞	24		25	╞	26	
	۲۷	ΗV	۲۷	H	۲۷	۲	۲۷	۲	۲۷	۲	۲۷	۲	۲۷	¥	۲۷	₹	۲۷	¥	۲۷	۲	۲V	۲	۲V	H۷
0200	3	0	7	0	70	2	16	0	45	5	3	0	4	0	1	0	10	0	3	3	203	10	0	0
0715	3	0	6	0	76	0	13	2	49	8	2	0	7	0	9	0	22	0	8	0	172	14	0	0
0£70	0	0	8	0	89	-	29	4	89	11	2	0	9	0	8	0	18	0	9	0	175	20	1	0
0745	5	0	15	0	80	0	27	2	92	6	10	0	10	0	7	0	23	0	10	0	156	œ	0	0
0080	2	0	9	0	92	5	49	с	119	13	14	0	13	0	10	-	32	0	14	3	143	13	0	-
0815	٦	0	26	-	80	4	59	0	130	8	30	0	5	0	14	0	48	0	22	-	117	13	0	0
0830	4	0	15	0	56	0	40	-	102	7	13	0	6	0	13	-	23	0	17	-	113	10	2	0
0845	2	١	15	0	54	Ļ	50	-	92	7	14	0	15	0	17	-	48	0	20	0	94	10	0	0
0060	5	2	8	-	59	2	38	-	06	5	17	0	12	0	7	0	24	0	17	0	83	17	0	0
0915	-	0	7	0	32	0	33	-	06	4	7	0	2	0	4	-	25	0	15	0	97	12	÷	0
							A5086	3/A595 E	Egremoi	nt Bypas	s/Howb	ank Ro	ad/A595	i - Thur	sday 10t	h Septe	mber 20	120						
Time Beginning	-	5	-	9	-	7	¥	~	ŝ	6	20		21		22		23		24		25	_	26	
	۲۷	ΗV	۲۷	H	۲۷	۲	۲۷	¥	۲۷	۲V	۲۷	۲	Z	₹	L	₹	۲	₹	۲۷	۲	۲۷	۲	۲۷	H۷
1600	5	0	16	0	62	-	133	0	172	6	16	0	6	-	26	0	32	0	15	0	110	2	2	0
1615	1	0	6	0	53	٢	131	-	168	5	17	0	11	0	13	٢	20	0	20	1	141	2	0	۲
1630	1	1	15	0	66	4	106	2	144	6	15	0	10	0	6	0	27	0	21	0	143	1	1	0
1645	0	٢	13	1	87	2	76	-	145	5	18	0	16	0	16	0	16	0	25	0	166	9	0	0
1700	0	1	14	0	75	-	92	0	177	5	22	0	15	0	15	0	19	-	21	0	127	4	2	0
1715	1	0	18	0	77	3	93	2	154	2	6	0	13	0	11	0	25	0	16	0	132	1	1	0
1730	0	0	18	-	52	-	83	0	152	2	18	0	16	0	11	-	20	0	23	0	125	1	1	0
1745	3	0	12	0	42	0	57	2	140	-	22	0	19	0	14	0	25	0	18	0	82	2	1	0
1800	2	0	12	-	45	0	52	0	141	3	20	0	6	0	7	0	28	0	12	0	77	2	1	0
1815	1	0	11	0	41	3	38	0	79	3	14	0	11	0	5	0	23	0	15	0	79	1	1	0
1830	1	0	8	0	40	٢	45	-	68	-	18	0	6	0	16	0	16	0	17	0	68	1	2	0
1845	-	0	10	0	34	0	36	0	63	З	19	0	9	0	9	0	18	0	29	0	48	2	1	0

			A55	5/Dalze	II Street	t - Thurs	sday 10t	h Septe	ember 2(120		
Time Beginning	2	7	2	8	2	<u>ត</u>	3	0	3	÷.	ŝ	2
	۲۷	ΗV	۲۷	ΗV	۲۷	٨٧	۲۷	Η	۲۷	H	۲۷	HV
0200	0	0	0	0	0	0	56	9	216	12	9	2
0715	2	0	0	0	0	0	74	6	165	12	1	-
0730	9	0	0	0	0	0	106	10	186	20	4	0
0745	3	2	0	0	١	0	116	6	157	6	9	0
0800	7	٢	0	0	0	0	143	14	165	16	5	0
0815	4	٢	1	0	2	0	175	10	131	10	9	-
0830	11	0	١	0	٢	0	128	10	135	13	12	-
0845	5	0	2	0	٢	0	142	7	108	7	8	0
0060	7	1	١	0	0	0	115	10	96	16	13	0
0915	7	0	0	0	1	0	121	2	114	14	8	1
			A59	5/Dalze	II Street	t - Thurs	sday 101	th Septe	ember 2(120		
Time Beginning	2	7	2	80	2	6	3	0	3	1	3	2
	۲۷	H۷	۲۷	Η	۲۷	HΛ	۲۷	H	LV	H	۲۷	HV
1600	2	0	0	0	0	0	199	8	126	2	8	0
1615	9	0	1	0	3	0	192	6	165	5	16	0
1630	8	0	0	0	1	0	163	9	166	1	18	0
1645	7	0	0	0	2	0	146	5	187	4	22	0
1700	1	0	0	0	2	0	199	9	147	3	15	0
1715	9	0	0	0	1	0	166	4	142	1	14	0
1730	7	0	0	0	1	0	185	3	151	1	14	0
1745	5	0	0	0	۱	0	175	4	104	1	20	0
1800	11	0	0	0	0	0	164	4	87	2	17	0
1815	6	0	3	0	٢	0	103	1	93	1	7	0
1830	9	0	0	0	1	0	89	1	83	1	8	0
1845	3	0	0	0	2	0	84	2	80	2	4	0

vectos.

Appendix H

TRICS Output Files

Vectos (North) Limited 3rd Floor, Oxford Place, 61 Oxford St Manchester

Page 1

Licence No: 715001

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use Category VEHICLE	: 03 - RESIDENTIAL : A - HOUSES PRIVATELY OWNED S
Selected re	gions and areas:
02 SOU	TH EAST

	KC	KENT	1 days
04	EAST	ANGLIA	
	NF	NORFOLK	3 days
	SF	SUFFOLK	1 days
06	WEST	MIDLANDS	
	SH	SHROPSHIRE	1 days
07	YORK	SHIRE & NORTH LINCOLNSHIRE	
	NE	NORTH EAST LINCOLNSHIRE	1 days
08	NORT	H WEST	
	CH	CHESHIRE	2 days
13	MUNS	TER	
	WA	WATERFORD	1 days
14	LEINS	STER	
	CC	CARLOW	1 days
15	GREA	TER DUBLIN	
	DL	DUBLIN	1 days

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

Primary Filtering selection:

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

Parameter:	No of Dwellings
Actual Range:	10 to 432 (units:)
Range Selected by User:	4 to 4334 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

<u>Public Transport Provision:</u> Selection by:

Include all surveys

Date Range: 01/01/12 to 19/11/19

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

Selected survey days:	
Monday	1 days
Tuesday	3 days
Wednesday	6 days
Thursday	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 manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

<u>Selected Locations:</u> Suburban Area (PPS6 Out of Centre) Edge of Town

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

<u>Selected Location Sub Categories:</u> Residential Zone No Sub Category 2 10

Licence No: 715001

Vectos (North) Limited 3rd Floor, Oxford Place, 61 Oxford St Manchester

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

Secondary Filtering selection:

<u>Use Class:</u> C3

12 days

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

Population within 1 mile:	
5,001 to 10,000	7 days
10,001 to 15,000	5 days

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

Population within 5 miles:	
25,001 to 50,000	5 days
50,001 to 75,000	7 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	5 days
1.1 to 1.5	7 days

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

<u>Travel Plan:</u>	
Yes	3 days
No	9 days

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

PTAL Rating: No PTAL Present

12 days

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

Vectos (North) Limited 3rd Floor, Oxford Place, 61 Oxford St Manchester

LIST OF SITES relevant to selection parameters

1	CC-03-A-01 R417 ANTHY ROAD CARLOW	DETACHED HOUSES		CARLOW
	Edge of Town Residential Zone Total No of Dwellings <i>Survey date:</i>	:: WEDNESDAY	23 25/05/16	Survey Type: MANUAL
2	CH-03-A-10 MEADOW DRIVE NORTHWICH BARNTON Edge of Town Residential Zone	SEMI-DETACHED & TE	RRACED	CHESHIRE
	I otal No of Dwellings	S: THESDAY	40 04/06/19	SURVEY TYPE: MANUAL
3	CH-03-A-11 LONDON ROAD NORTHWICH LEFTWICH Suburban Area (PPS6 Residential Zone	TOWN HOUSES	04,00,15	CHESHIRE
	Total No of Dwellings	:	24	
	Survey date:	THURSDAY	06/06/19	Survey Type: MANUAL
4	DL-03-A-10 P124	SEMI DETACHED & DE	TACHED	DUBLIN
5	MALAHIDE SAINT HELENS Edge of Town Residential Zone Total No of Dwellings <i>Survey date:</i> KC-03-A-07 RECULVER ROAD HERNE BAY	:: WEDNESDAY MIXED HOUSES	65 20/06/18	Survey Type: MANUAL KENT
6	Edge of Town Residential Zone Total No of Dwellings <i>Survey date:</i> NE-03-A-02 HANOVER WALK SCUNTHORPE	:: WEDNESDAY SEMI DETACHED & DE	288 <i>27/09/17</i> TACHED	Survey Type: MANUAL NORTH EAST LINCOLNSHIRE
7	Edge of Town No Sub Category Total No of Dwellings <i>Survey date:</i> NF-03-A-01 YARMOUTH ROAD CAISTER-ON-SEA	:: MONDAY SEMI DET. & BUNGALO	432 <i>12/05/14</i> DWS	Survey Type: MANUAL NORFOLK
8	Suburban Area (PPS6 Residential Zone Total No of Dwellings <i>Survey date:</i> NF-03-A-03 HALING WAY THETFORD	5 Out of Centre) :: TUESDAY DETACHED HOUSES	27 16/10/12	Survey Type: MANUAL NORFOLK
	Edge of Town Residential Zone Total No of Dwellings <i>Survey date:</i>	:: WEDNESDAY	10 16/09/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	NF-03-A-04 MIXED HOUSES NORTH WALSHAM ROAD NORTH WALSHAM		NORFOLK
10	Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: WEDNESDAY</i> SF-03-A-05 DETACHED HOUSES VALE LANE BURY ST EDMUNDS	70 18/09/19	Survey Type: MANUAL SUFFOLK
11	Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: WEDNESDAY</i> SH-03-A-05 SANDCROFT TELFORD	18 <i>09/09/15</i> RACED	Survey Type: MANUAL SHROPSHIRE
12	SUTTON HILL Edge of Town Residential Zone Total No of Dwellings: Survey date: THURSDAY WA-03-A-04 DETACHED MAYPARK LANE WATERFORD	54 24/10/13	Survey Type: MANUAL WATERFORD

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
HC-03-A-23	Flats/Apartments
NF-03-A-07	Flats/Apartments

Vectos (North) Limited 3rd Floor, Oxford Place, 61 Oxford St Manchester

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period

	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									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	12	111	0.056	12	111	0.252	12	111	0.308
08:00 - 09:00	12	111	0.141	12	111	0.415	12	111	0.556
09:00 - 10:00	12	111	0.149	12	111	0.169	12	111	0.318
10:00 - 11:00	12	111	0.134	12	111	0.165	12	111	0.299
11:00 - 12:00	12	111	0.134	12	111	0.181	12	111	0.315
12:00 - 13:00	12	111	0.204	12	111	0.186	12	111	0.390
13:00 - 14:00	12	111	0.172	12	111	0.173	12	111	0.345
14:00 - 15:00	12	111	0.247	12	111	0.224	12	111	0.471
15:00 - 16:00	12	111	0.318	12	111	0.212	12	111	0.530
16:00 - 17:00	12	111	0.307	12	111	0.189	12	111	0.496
17:00 - 18:00	12	111	0.367	12	111	0.175	12	111	0.542
18:00 - 19:00	12	111	0.303	12	111	0.222	12	111	0.525
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.532			2.563			5.095

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

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

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Parameter summary

Trip rate parameter range selected:	10 - 432 (units:)
Survey date date range:	01/01/12 - 19/11/19
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	11
Surveys manually removed from selection:	2

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

vectos.

Appendix I

Proposed Site Access Junction Modelling Output Files



Junctions 8 PICADY 8 - Priority Intersection Module Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2020 For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Trumpet Terrace - Site Access Junction.arc8 Path: N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Picady\Site Access Junc Report generation date: 05/11/2020 17:29:37

- » (Default Analysis Set) 2025 inc Dev, AM
- » (Default Analysis Set) 2025 inc Dev, PM

Summary of junction performance

	AM		РМ			
	Queue (PCU)	RFC	Queue (PCU)	RFC		
	A1 - 2025 inc Dev					
Stream B-AC	0.14	0.12	0.06	0.06		
Stream C-AB	0.01	0.01	0.07	0.05		
Stream C-A	-	-	-	-		
Stream A-B	-	-	-	-		
Stream A-C	-	-	-	-		

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

"D1 - 2025 inc Dev, AM " model duration: 07:45 - 09:15 "D2 - 2025 inc Dev, PM" model duration: 15:45 - 17:15

Run using Junctions 8.0.6.541 at 05/11/2020 17:29:37

File summary

Title	(untitled)
Location	
Site Number	
Date	23/10/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
(m)	Variations	Capacity	Type	Threshold	(s)	(PCU)
5.75			N/A	0.85	36.00	20.00



Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	S	-Min	perMin

(Default Analysis Set) - 2025 inc Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 inc Dev, AM	2025 inc Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.81	A

Junction Network Options

 Driving Side
 Lighting

 Left
 Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	Trumpet Terrace (E)		Major
В	В	Site Access		Minor
С	С	Trumpet Terrace (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.00		0.00		2.20	250.00	~	0.00

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



Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.75										13	13

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	476.048	0.083	0.210	0.132	0.299
1	B-C	616.299	0.090	0.228	-	-
1	C-B	718.741	0.266	0.266	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	
Α	ONE HOUR	✓	287.00	100.000	
в	ONE HOUR	~	48.00	100.000	
С	ONE HOUR	~	192.00	100.000	

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.000	10.000	277.000			
FIOIII	в	29.000	0.000	19.000			
	С	186.000	6.000	0.000			



Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
		A	В	С			
	Α	0.00	0.03	0.97			
FIOII	В	0.60	0.00	0.40			
	С	0.97	0.03	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	То						
		Α	В	С			
From	Α	1.000	1.000	1.000			
From	В	1.000	1.000	1.000			
	С	1.000	1.000	1.000			

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.0	0.0	0.0	
FIOIII	в	0.0	0.0	0.0	
	С	0.0	0.0	0.0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.12	9.45	0.14	А
C-AB	0.01	4.84	0.01	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	36.14	35.80	0.00	462.17	0.078	0.08	8.444	Α
C-AB	5.52	5.49	0.00	749.29	0.007	0.01	4.839	Α
C-A	139.03	139.03	0.00	-	-	-	-	-
A-B	7.53	7.53	0.00	-	-	-	-	-
A-C	208.54	208.54	0.00	-	-	-	-	-



Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	43.15	43.07	0.00	450.21	0.096	0.10	8.840	Α
C-AB	6.86	6.86	0.00	756.01	0.009	0.01	4.805	Α
C-A	165.74	165.74	0.00	-	-	-	-	-
A-B	8.99	8.99	0.00	-	-	-	-	-
A-C	249.02	249.02	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	52.85	52.72	0.00	433.62	0.122	0.14	9.448	А
C-AB	8.89	8.88	0.00	765.65	0.012	0.01	4.756	А
C-A	202.51	202.51	0.00	-	-	-	-	-
A-B	11.01	11.01	0.00	-	-	-	-	-
A-C	304.98	304.98	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	52.85	52.85	0.00	433.62	0.122	0.14	9.454	Α
C-AB	8.89	8.89	0.00	765.65	0.012	0.01	4.758	Α
C-A	202.51	202.51	0.00	-	-	-	-	-
A-B	11.01	11.01	0.00	-	-	-	-	-
A-C	304.98	304.98	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	43.15	43.27	0.00	450.21	0.096	0.11	8.849	А
C-AB	6.87	6.88	0.00	756.02	0.009	0.01	4.807	А
C-A	165.74	165.74	0.00	-	-	-	-	-
A-B	8.99	8.99	0.00	-	-	-	-	-
A-C	249.02	249.02	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	36.14	36.22	0.00	462.16	0.078	0.09	8.455	А
C-AB	5.52	5.53	0.00	749.29	0.007	0.01	4.841	А
C-A	139.02	139.02	0.00	-	-	-	-	-
A-B	7.53	7.53	0.00	-	-	-	-	-
A-C	208.54	208.54	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 inc Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	



Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 inc Dev, PM	2025 inc Dev	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.15	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	Trumpet Terrace (E)		Major
В	В	Site Access		Minor
С	С	Trumpet Terrace (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)Has right turn bay		Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.00		0.00		2.20	250.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.75										13	13

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	476.048	0.083	0.210	0.132	0.299
1	B-C	616.299	0.090	0.228	-	-
1	C-B	718.741	0.266	0.266	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.



Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	316.00	100.000
в	ONE HOUR	~	22.00	100.000
С	ONE HOUR	~	386.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	То							
From		Α	В	С				
	Α	0.000	15.000	301.000				
	В	9.000	0.000	13.000				
	С	365.000	21.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
From		Α	В	С			
	Α	0.00	0.05	0.95			
	В	0.41	0.00	0.59			
	С	0.95	0.05	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
From		Α	В	С				
	Α	1.000	1.000	1.000				
	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				



Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	в	С		
Erom	Α	0.0	0.0	0.0		
From	В	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	8.69	0.06	А
C-AB	0.05	4.48	0.07	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	16.56	16.42	0.00	474.68	0.035	0.04	7.853	А
C-AB	22.99	22.84	0.00	826.65	0.028	0.04	4.479	А
C-A	267.61	267.61	0.00	-	-	-	-	-
A-B	11.29	11.29	0.00	-	-	-	-	-
A-C	226.61	226.61	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.78	19.74	0.00	459.57	0.043	0.04	8.185	А
C-AB	29.49	29.45	0.00	848.23	0.035	0.05	4.396	А
C-A	317.51	317.51	0.00	-	-	-	-	-
A-B	13.48	13.48	0.00	-	-	-	-	-
A-C	270.59	270.59	0.00	-	-	-	-	-

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	24.22	24.17	0.00	438.40	0.055	0.06	8.689	А
C-AB	39.75	39.67	0.00	877.94	0.045	0.07	4.294	А
C-A	385.25	385.25	0.00	-	-	-	-	-
A-B	16.52	16.52	0.00	-	-	-	-	-
A-C	331.41	331.41	0.00	-	-	_	-	-



Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	24.22	24.22	0.00	438.39	0.055	0.06	8.691	Α
C-AB	39.77	39.77	0.00	877.97	0.045	0.07	4.295	Α
C-A	385.22	385.22	0.00	-	-	-	-	-
A-B	16.52	16.52	0.00	-	-	-	-	-
A-C	331.41	331.41	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr) RF		End Queue (PCU)	Delay (s)	LOS
B-AC	19.78	19.83	0.00	459.56	0.043	0.05	8.189	Α
C-AB	29.53	29.60	0.00	848.27	0.035	0.05	4.397	Α
C-A	317.48	317.48	0.00	-	-	-	-	-
A-B	13.48	13.48	0.00	-	-	-	-	-
A-C	270.59	270.59	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	16.56	16.60	0.00	474.65	0.035	0.04	7.861	Α
C-AB	23.04	23.09	0.00	826.69	0.028	0.04	4.480	А
C-A	267.56	267.56	0.00	-	-	-	-	-
A-B	11.29	11.29	0.00	-	-	-	-	-
A-C	226.61	226.61	0.00	-	-	-	-	-

vectos.

Appendix J

A5086/B5295 Ennerdale Rd Modelling Output Files



Junctions 8						
PICADY 8 - Priority Intersection Module						
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2020						
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk						
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution						

Filename: Ennerdale Rd-Frizington Rd Junc.arc8 Path: N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Picady\Ennerdale Rd-Frizington Rd Priority

Report generation date: 05/11/2020 17:33:07

- » (Default Analysis Set) 2020 Survey, AM
- » (Default Analysis Set) 2020 Survey, PM
- » (Default Analysis Set) 2025 Future Year (inc CD) Base, AM
- » (Default Analysis Set) 2025 Future Year (inc CD) Base, PM
- » (Default Analysis Set) 2025 Future Year (inc CD) & Dev, AM
- » (Default Analysis Set) 2025 Future Year (inc CD) & Dev, PM

Summary of junction performance

	AM		PM			
	Queue (PCU)	RFC	Queue (PCU)	RFC		
	A1	- 202	0 Survey			
Stream B-AC	0.26	0.21	0.40	0.29		
Stream C-AB	0.18	0.12	0.16	0.10		
Stream C-A	_	-	-	-		
Stream A-B	-	-	-	-		
Stream A-C	-	-	-	-		
	A1 - 2025 Fu	ture Y	ear (inc CD) &	Dev		
Stream B-AC	0.75	0.43	0.60	0.38		
Stream C-AB	0.23	0.13	0.20	0.11		
Stream C-A	-	-	-	-		
Stream A-B	-	-	-	-		
Stream A-C	-	-	-	-		
	A1 - 2025 Fu	iture \	Year (inc CD) B	ase		
Stream B-AC	0.71	0.42	0.57	0.37		
Stream C-AB	0.23	0.13	0.19	0.11		
Stream C-A	-	-	-	-		
Stream A-B	-	-	-	-		
Stream A-C	-	-	-	-		

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

- "D1 2020 Survey, AM " model duration: 07:45 09:15
- "D2 2020 Survey, PM" model duration: 15:45 17:15
- "D3 2025 Future Year (inc CD) Base, AM" model duration: 07:45 09:15
- "D4 2025 Future Year (inc CD) Base, PM" model duration: 15:45 17:15
- "D5 2025 Future Year (inc CD) & Dev, AM" model duration: 07:45 09:15
- "D6 2025 Future Year (inc CD) & Dev, PM" model duration: 15:45 17:15

Run using Junctions 8.0.6.541 at 05/11/2020 17:33:05



File summary

Title	(untitled)
Location	
Site Number	
Date	29/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
(m)	Variations	Capacity	Type	Threshold	(s)	(PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Survey, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, AM	2020 Survey	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.06	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	Frizington Rd (S)		Major
В	В	Ennerdale Rd		Minor
С	С	Frizington Rd (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	8.20		0.00		2.20	118.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	5.00										18	14

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.538	0.097	0.245	0.154	0.350
1	B-C	759.448	0.105	0.266	-	-
1	C-B	642.298	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	171.00	100.000
в	ONE HOUR	~	108.00	100.000
С	ONE HOUR	~	232.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	0.000	70.000	101.000				
FIOIII	В	68.000	0.000	40.000				
	С	175.000	57.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.00	0.41	0.59		
From	В	0.63	0.00	0.37		
	С	0.75	0.25	0.00		

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
From	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	в	С		
Erom	Α	0.0	0.0	0.0		
From	В	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC 0.21		8.06	0.26	А
C-AB 0.12		5.60	0.18	А
C-A -		-	-	-
А-В -		-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	81.31	80.67	0.00	590.32	0.138	0.16	7.055	А
C-AB	52.54	52.13	0.00	699.75	0.075	0.10	5.557	Α
C-A	122.12	122.12	0.00	-	-	-	-	-
A-B	52.70	52.70	0.00	-	-	-	-	-
A-C	76.04	76.04	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	97.09	96.93	0.00	580.02	0.167	0.20	7.450	А
C-AB	65.30	65.19	0.00	711.23	0.092	0.13	5.575	А
C-A	143.26	143.26	0.00	-	-	-	-	-
A-B	62.93	62.93	0.00	-	-	-	-	-
A-C	90.80	90.80	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	118.91	118.65	0.00	565.80	0.210	0.26	8.048	А
C-AB	85.36	85.17	0.00	728.32	0.117	0.18	5.600	А
C-A	170.08	170.08	0.00	-	-	-	-	-
A-B	77.07	77.07	0.00	-	-	-	-	-
A-C	111.20	111.20	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	118.91	118.90	0.00	565.75	0.210	0.26	8.056	А
C-AB	85.40	85.40	0.00	728.38	0.117	0.18	5.601	А
C-A	170.03	170.03	0.00	-	-	-	-	-
A-B	77.07	77.07	0.00	-	-	-	-	-
A-C	111.20	111.20	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	97.09	97.34	0.00	579.95	0.167	0.20	7.465	А
C-AB	65.36	65.54	0.00	711.31	0.092	0.14	5.580	А
C-A	143.21	143.21	0.00	-	-	-	-	-
A-B	62.93	62.93	0.00	-	-	-	-	-
A-C	90.80	90.80	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	81.31	81.48	0.00	590.19	0.138	0.16	7.078	А
C-AB	52.64	52.76	0.00	699.83	0.075	0.11	5.567	А
C-A	122.02	122.02	0.00	-	-	-	-	-
A-B	52.70	52.70	0.00	-	-	-	-	-
A-C	76.04	76.04	0.00	-	-	-	-	-



(Default Analysis Set) - 2020 Survey, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, FM	2020 Survey	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.25	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	Frizington Rd (S)		Major
В	В	Ennerdale Rd		Minor
С	С	Frizington Rd (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central Has right reserve (m) turn bay		Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	8.20		0.00		2.20	118.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	5.00										18	14



Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.538	0.097	0.245	0.154	0.350
1	B-C	759.448	0.105	0.266	-	-
1	C-B	642.298	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	335.00	100.000
в	ONE HOUR	~	143.00	100.000
С	ONE HOUR	~	234.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.000	89.000	246.000			
From	В	76.000	0.000	67.000			
	С	189.000	45.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.00	0.27	0.73			
From	в	0.53	0.00	0.47			
	С	0.81	0.19	0.00			



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	1.000	1.000	1.000			
From	в	1.000	1.000	1.000			
	С	1.000	1.000	1.000			

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.0	0.0	0.0			
From	в	0.0	0.0	0.0			
	С	0.0	0.0	0.0			

Results

Results Summary for whole modelled period

Stream Max RFC		Max Delay (s)	Max Queue (PCU)	Max LOS	
B-AC 0.29		9.32	0.40	А	
C-AB	0.10	5.70	0.16	А	
C-A	-	-	-	-	
A-B	-	-	-	-	
A-C -		-	-	-	

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	107.66	106.76	0.00	580.31	0.186	0.23	7.588	А
C-AB	42.52	42.16	0.00	680.99	0.062	0.09	5.633	А
C-A	133.65	133.65	0.00	-	-	-	-	-
А-В	67.00	67.00	0.00	-	-	-	-	-
A-C	185.20	185.20	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	128.55	128.29	0.00	564.93	0.228	0.29	8.239	А
C-AB	53.20	53.10	0.00	689.32	0.077	0.12	5.659	Α
C-A	157.16	157.16	0.00	-	-	-	-	-
A-B	80.01	80.01	0.00	-	-	-	-	-
A-C	221.15	221.15	0.00	-	-	-	-	-



Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	157.45	157.00	0.00	543.60	0.290	0.40	9.305	Α
C-AB	70.41	70.23	0.00	702.61	0.100	0.16	5.694	Α
C-A	187.23	187.23	0.00	-	-	-	-	-
A-B	97.99	97.99	0.00	-	-	-	-	-
A-C	270.85	270.85	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	157.45	157.43	0.00	543.56	0.290	0.40	9.323	А
C-AB	70.45	70.45	0.00	702.66	0.100	0.16	5.697	А
C-A	187.18	187.18	0.00	-	-	-	-	-
A-B	97.99	97.99	0.00	-	-	-	-	-
A-C	270.85	270.85	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	128.55	128.98	0.00	564.87	0.228	0.30	8.268	А
C-AB	53.26	53.43	0.00	689.40	0.077	0.12	5.666	А
C-A	157.10	157.10	0.00	-	-	-	-	-
A-B	80.01	80.01	0.00	-	-	-	-	-
A-C	221.15	221.15	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	107.66	107.93	0.00	580.21	0.186	0.23	7.626	А
C-AB	42.61	42.72	0.00	681.07	0.063	0.09	5.641	А
C-A	133.56	133.56	0.00	-	-	-	-	-
A-B	67.00	67.00	0.00	-	-	-	-	-
A-C	185.20	185.20	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (inc CD) Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (inc CD) Base, AM	2025 Future Year (inc CD) Base	AM		ONE HOUR	07:45	09:15	90	15		



Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.03	В

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	Frizington Rd (S)		Major
В	В	Ennerdale Rd		Minor
С	С	Frizington Rd (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	(m) Has kerbed central Width of kerber reserve		Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	8.20		0.00		2.20	118.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	5.00										18	14

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.538	0.097	0.245	0.154	0.350
1	B-C	759.448	0.105	0.266	-	-
1	C-B	642.298	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.


Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	224.00	100.000
В	ONE HOUR	~	196.00	100.000
С	ONEHOUR	~	310.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	0.000	104.000	120.000				
FIOIII	В	155.000	0.000	41.000				
	С	252.000	58.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

		То							
		Α	В	С					
From	Α	0.00	0.46	0.54					
FIOII	В	0.79	0.00	0.21					
	С	0.81	0.19	0.00					

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	1.000	1.000	1.000			
FIOIII	в	1.000	1.000	1.000			
	С	1.000	1.000	1.000			



Heavy Vehicle Percentages - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.0	0.0	0.0			
FIOIII	В	0.0	0.0	0.0			
	С	0.0	0.0	0.0			

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.42	12.03	0.71	В
C-AB	0.13	5.37	0.23	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	147.56	146.10	0.00	547.84	0.269	0.36	8.930	А
C-AB	58.23	57.74	0.00	729.11	0.080	0.12	5.361	А
C-A	175.15	175.15	0.00	-	-	-	-	-
A-B	78.30	78.30	0.00	-	-	-	-	-
A-C	90.34	90.34	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	176.20	175.72	0.00	534.00	0.330	0.48	10.033	В
C-AB	74.76	74.60	0.00	748.21	0.100	0.16	5.345	А
C-A	203.92	203.92	0.00	-	-	-	-	-
A-B	93.49	93.49	0.00	-	-	-	-	-
A-C	107.88	107.88	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.80	214.92	0.00	514.92	0.419	0.71	11.964	В
C-AB	99.37	99.12	0.00	773.35	0.128	0.23	5.343	Α
C-A	241.94	241.94	0.00	-	-	-	-	-
A-B	114.51	114.51	0.00	-	-	-	-	-
A-C	132.12	132.12	0.00	-	-	-	-	-



Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.80	215.77	0.00	514.86	0.419	0.71	12.031	В
C-AB	99.44	99.44	0.00	773.44	0.129	0.23	5.347	Α
C-A	241.87	241.87	0.00	-	-	-	-	-
A-B	114.51	114.51	0.00	-	-	-	-	-
A-C	132.12	132.12	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	176.20	177.05	0.00	533.90	0.330	0.50	10.114	В
C-AB	74.86	75.10	0.00	748.34	0.100	0.17	5.352	Α
C-A	203.83	203.83	0.00	-	-	-	-	-
A-B	93.49	93.49	0.00	-	-	-	-	-
A-C	107.88	107.88	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	147.56	148.07	0.00	547.66	0.269	0.37	9.020	А
C-AB	58.39	58.55	0.00	729.25	0.080	0.13	5.372	А
C-A	175.00	175.00	0.00	-	-	-	-	-
A-B	78.30	78.30	0.00	-	-	-	-	-
A-C	90.34	90.34	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (inc CD) Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (inc CD) Base, PM	2025 Future Year (inc CD) Base	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.83	А



Junction Network Options

Driving Side	Lighting				
Left	Normal/unknown				

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	Frizington Rd (S)		Major
В	В	Ennerdale Rd		Minor
С	С	Frizington Rd (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	8.20		0.00		2.20	118.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	5.00										18	14

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.538	0.097	0.245	0.154	0.350
1	B-C	759.448	0.105	0.266	-	-
1	C-B	642.298	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	484.00	100.000
В	ONE HOUR	~	166.00	100.000
С	ONE HOUR	~	251.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То							
		Α	В	С					
F	Α	0.000	165.000	319.000					
From	В	98.000	0.000	68.000					
	С	205.000	46.000	0.000					

Turning Proportions (PCU) - Junction 1 (for whole period)

		То								
From		Α	В	С						
	Α	0.00	0.34	0.66						
	В	0.59	0.00	0.41						
	С	0.82	0.18	0.00						

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
From	Α	1.000	1.000	1.000				
	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

		Т	o	
From		Α	В	С
	Α	0.0	0.0	0.0
	В	0.0	0.0	0.0
	С	0.0	0.0	0.0



Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.37	11.34	0.57	В
C-AB	0.11	5.94	0.19	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	124.97	123.81	0.00	547.74	0.228	0.29	8.470	Α
C-AB	44.69	44.29	0.00	665.88 0.06		0.10	5.790	Α
C-A	144.28	144.28	0.00	-	-	-	-	-
A-B	124.22	124.22	0.00	-	-	-	-	-
A-C	240.16	240.16	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr) RFC		End Queue (PCU)	Delay (s)	LOS
B-AC	149.23	148.84	0.00	527.82	0.283	0.39	9.489	Α
C-AB	56.36	56.23	0.00	671.79	0.084	0.13	5.851	Α
C-A	169.28	169.28	0.00	-	-	-	-	-
A-B	148.33	148.33	0.00	-	-	-	-	-
A-C	286.77	286.77	0.00	-	-	-	-	-

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	182.77	182.06	0.00	500.20	0.365	0.57	11.289	В
C-AB	75.68	75.45	0.00	682.40	0.111	0.19	5.935	А
C-A	200.68	200.68	0.00	-	-	-	-	-
A-B	181.67	181.67	0.00	-	-	-	-	-
A-C	351.23	351.23	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	182.77	182.75	0.00	500.15	0.365	0.57	11.340	В
C-AB	75.74	75.73	0.00	682.48	0.111	0.19	5.939	А
C-A	200.62	200.62	0.00	-	-	-	-	-
A-B	181.67	181.67	0.00	-	-	-	-	-
A-C	351.23	351.23	0.00	-	-	-	-	-



Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr) RFC		End Queue (PCU)	Delay (s)	LOS
B-AC	149.23	149.91	0.00	527.75	0.283	0.40	9.544	Α
C-AB	56.44	56.65	0.00	671.90 0.084		0.14	5.856	А
C-A	169.21	169.21	0.00	-	-	-	-	-
A-B	148.33	148.33	0.00	-	-	-	-	-
A-C	286.77	286.77	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr) RFC		End Queue (PCU)	Delay (s)	LOS
B-AC	124.97	125.38	0.00	547.61	0.228	0.30	8.535	Α
C-AB	44.80	44.93	0.00	665.97	0.067	0.10	5.801	Α
C-A	144.16	144.16	0.00	-	-	-	-	-
A-B	124.22	124.22	0.00	-	-	-	-	-
A-C	240.16	240.16	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (inc CD) & Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (inc CD) & Dev, AM	2025 Future Year (inc CD) & Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.32	В

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	Frizington Rd (S)		Major
В	В	Ennerdale Rd		Minor
С	С	Frizington Rd (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	8.20		0.00		2.20	118.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	5.00										18	14

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.538	0.097	0.245	0.154	0.350
1	B-C	759.448	0.105	0.266	-	-
1	C-B	642.298	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	254.00	100.000
В	ONE HOUR	~	198.00	100.000
С	ONE HOUR	~	317.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То							
		Α	В	С					
From	Α	0.000	116.000	138.000					
FIOII	в	157.000	0.000	41.000					
	С	259.000	58.000	0.000					

Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.00	0.46	0.54			
From	в	0.79	0.00	0.21			
	С	0.82	0.18	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
FIOIII	В	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	В	С		
From	Α	0.0	0.0	0.0		
From	В	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC 0.43		12.45	0.75	В
C-AB 0.13		5.38	0.23	А
C-A -		-	-	-
А-В -		-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	149.06	147.57	0.00	542.44	0.275	0.37	9.083	А
C-AB	58.79	58.29	0.00	727.97	0.081	0.13	5.374	А
C-A	179.86	179.86	0.00	-	-	-	-	-
A-B	87.33	87.33	0.00	-	-	-	-	-
A-C	103.89	103.89	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	178.00	177.49	0.00	527.60	0.337	0.50	10.266	В
C-AB	75.71	75.55	0.00	747.10	0.101	0.17	5.362	А
C-A	209.26	209.26	0.00	-	-	-	-	-
A-B	104.28	104.28	0.00	-	-	-	-	-
A-C	124.06	124.06	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	218.00	217.06	0.00	507.13	0.430	0.74	12.371	В
C-AB	100.99	100.73	0.00	772.23	0.131	0.23	5.363	Α
C-A	248.03	248.03	0.00	-	-	-	-	-
A-B	127.72	127.72	0.00	-	-	-	-	-
A-C	151.94	151.94	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	218.00	217.97	0.00	507.07	0.430	0.75	12.448	В
C-AB	101.07	101.06	0.00	772.32	0.131	0.23	5.369	А
C-A	247.96	247.96	0.00	-	-	-	-	-
A-B	127.72	127.72	0.00	-	-	-	-	-
A-C	151.94	151.94	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	178.00	178.91	0.00	527.50	0.337	0.52	10.355	В
C-AB	75.82	76.07	0.00	747.25	0.101	0.17	5.368	А
C-A	209.16	209.16	0.00	-	-	-	-	-
A-B	104.28	104.28	0.00	-	-	-	-	-
A-C	124.06	124.06	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	149.06	149.60	0.00	542.26	0.275	0.38	9.182	А
C-AB	58.95	59.12	0.00	728.11	0.081	0.13	5.384	А
C-A	179.70	179.70	0.00	-	-	-	-	-
A-B	87.33	87.33	0.00	-	-	-	-	-
A-C	103.89	103.89	0.00	-	-	-	-	-



(Default Analysis Set) - 2025 Future Year (inc CD) & Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (inc CD) & Dev, PM	2025 Future Year (inc CD) & Dev	FM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.09	В

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	Frizington Rd (S)		Major
В	В	Ennerdale Rd		Minor
С	С	Frizington Rd (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	8.20		0.00		2.20	118.00	 ✓ 	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	5.00										18	14



Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	588.538	0.097	0.245	0.154	0.350
1	B-C	759.448	0.105	0.266	-	-
1	C-B	642.298	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	494.00	100.000
в	ONE HOUR	~	170.00	100.000
С	ONE HOUR	~	261.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	0.000	168.000	326.000				
From	В	102.000	0.000	68.000				
	С	215.000	46.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То					
		A	В	С		
Erom	Α	0.00	0.34	0.66		
From	в	0.60	0.00	0.40		
	С	0.82	0.18	0.00		



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
From	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.0	0.0	0.0		
From	в	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream Max RFC		Max Delay (s)	Max Queue (PCU)	Max LOS	
B-AC	0.38	11.71	0.60	В	
C-AB	0.11	5.90	0.20	А	
C-A	-	-	-	-	
A-B	-	-	-	-	
A-C	-	-	-	-	

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	127.98	126.77	0.00	543.50	0.235	0.30	8.614	А
C-AB	45.23	44.82	0.00	669.41	0.068	0.10	5.762	А
C-A	151.26	151.26	0.00	-	-	-	-	-
A-B	126.48	126.48	0.00	-	-	-	-	-
A-C	245.43	245.43	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	152.83	152.42	0.00	523.04	0.292	0.41	9.702	А
C-AB	57.20	57.06	0.00	676.08	0.085	0.14	5.819	Α
C-A	177.44	177.44	0.00	-	-	-	-	-
A-B	151.03	151.03	0.00	-	-	-	-	-
A-C	293.07	293.07	0.00	-	-	-	-	-



Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	187.17	186.41	0.00	494.66	0.378	0.60	11.649	В
C-AB	77.19	76.96	0.00	688.02	0.112	0.20	5.896	Α
C-A	210.17	210.17	0.00	-	-	-	-	-
A-B	184.97	184.97	0.00	-	-	-	-	-
A-C	358.93	358.93	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	187.17	187.15	0.00	494.61	0.378	0.60	11.706	В
C-AB	77.26	77.25	0.00	688.10	0.112	0.20	5.898	Α
C-A	210.11	210.11	0.00	-	-	-	-	-
A-B	184.97	184.97	0.00	-	-	-	-	-
A-C	358.93	358.93	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	152.83	153.56	0.00	522.97	0.292	0.42	9.764	Α
C-AB	57.28	57.50	0.00	676.19	0.085	0.14	5.825	Α
C-A	177.36	177.36	0.00	-	-	-	-	-
A-B	151.03	151.03	0.00	-	-	-	-	-
A-C	293.07	293.07	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	127.98	128.41	0.00	543.37	0.236	0.31	8.684	Α
C-AB	45.36	45.49	0.00	669.52	0.068	0.10	5.771	Α
C-A	151.14	151.14	0.00	-	-	-	-	-
A-B	126.48	126.48	0.00	-	-	-	-	-
A-C	245.43	245.43	0.00	-	-	-	-	-

vectos.

Appendix K

A5086/Dalzell St Modelling Output Files



Junctions 8					
PICADY 8 - Priority Intersection Module					
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2020					
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk					
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Filename: A5086-Dalzell St Northern Approach Junc.arc8 Path: N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Picady\A5086-Dalzell St Report generation date: 05/11/2020 17:37:11

- » (Default Analysis Set) 2020 Survey, AM
- » (Default Analysis Set) 2020 Survey, PM
- » (Default Analysis Set) 2025 Future Year (Inc CD) Base, AM
- » (Default Analysis Set) 2025 Future Year (Inc CD) Base, PM
- » (Default Analysis Set) 2025 Future Year (Inc CD) & Dev, AM
- » (Default Analysis Set) 2025 Future Year (Inc CD) & Dev, PM

Summary of junction performance

	AM		PM						
	Queue (PCU)	RFC	Queue (PCU)	RFC					
	A1	- 202	0 Survey						
Stream B-AC	0.08	0.07	0.17	0.15					
Stream C-AB	0.15	0.08	0.24	0.11					
Stream C-A	-	-	-	-					
Stream A-B	Stream A-B -		-	-					
Stream A-C	-	-	-	-					
	A1 - 2025 Future Year (Inc CD) & Dev								
Stream B-AC	0.19	0.16	0.22	0.18					
Stream C-AB	0.29	0.14	0.51 0.2						
Stream C-A	-	-	-	-					
Stream A-B	-	-	-	-					
Stream A-C	-	-	-	-					
	A1 - 2025 Fu	ture \	/ear (Inc CD) B	ase					
Stream B-AC	0.19	0.16	0.21	0.17					
Stream C-AB	0.27	0.13	0.48	0.21					
Stream C-A	_	-	-	-					
Stream A-B	-	-	-	-					
Stream A-C	-	-	-	-					

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

- "D1 2020 Survey, AM " model duration: 07:45 09:15
- "D2 2020 Survey, PM" model duration: 15:45 17:15
- "D3 2025 Future Year (Inc CD) Base, AM" model duration: 07:45 09:15
- "D4 2025 Future Year (Inc CD) Base, PM" model duration: 15:45 17:15
- "D5 2025 Future Year (Inc CD) & Dev, AM" model duration: 07:45 09:15 "D6 - 2025 Future Year (Inc CD) & Dev, PM" model duration: 15:45 - 17:15

Run using Junctions 8.0.6.541 at 05/11/2020 17:37:09



File summary

Title	(untitled)
Location	
Site Number	
Date	30/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
(m)	Variations	Capacity	Type	Threshold	(s)	(PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Survey, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, AM	2020 Survey	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	5.61	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A5086 (S)		Major
В	В	Dalzell St (N)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.20		0.00		2.20	65.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										200	70

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	608.052	0.105	0.265	0.167	0.379
1	B-C	701.443	0.102	0.258	-	-
1	C-B	611.605	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	242.00	100.000
В	ONE HOUR	~	43.00	100.000
С	ONE HOUR	~	350.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.000	0.000	242.000	
FIOIII	В	0.000	0.000	43.000	
	С	318.000	32.000	0.000	

Turning Proportions (PCU) - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.00	0.00	1.00	
From	В	0.00	0.00	1.00	
	С	0.91	0.09	0.00	

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	1.000	1.000	1.000	
From	в	1.000	1.000	1.000	
	С	1.000	1.000	1.000	

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
From		Α	в	С	
	Α	0.0	0.0	0.0	
	В	0.0	0.0	0.0	
	С	0.0	0.0	0.0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.07	6.15	0.08	А
C-AB	0.08	5.17	0.15	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr) Capacity (PCU/		RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	32.37 32.17		0.00	654.51	0.049	0.05	5.783	А
C-AB	35.00	34.71	0.00	731.68	0.048	0.07	5.164	А
C-A	228.50	228.50	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	182.19	182.19	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	38.66	38.61	0.00	645.40	0.060	0.06	5.932	А
C-AB	44.84	44.74	0.00	755.12	0.059	0.10	5.070	А
C-A	269.81	269.81	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	217.55	217.55	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	AC 47.34 47.28		0.00	632.81	0.075	0.08	6.148	А
C-AB	62.60	62.41	0.00	793.21	0.079	0.14	4.927	А
C-A	322.75	322.75	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	266.45	266.45	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	AC 47.34 47.34		0.00	632.81	0.075	0.08	6.148	А
C-AB	62.67	62.66	0.00	793.29	0.079	0.15	4.931	А
C-A	322.69	322.69	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	266.45	266.45	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	AC 38.66 38.72		0.00	645.40	0.060	0.06	5.933	А
C-AB	44.91	45.10	0.00	755.22	0.059	0.10	5.072	А
C-A	269.73	269.73	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	217.55	217.55	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	RFC End Queue (PCU)		LOS
B-AC	C 32.37 32.42		0.00	654.51	0.049	0.05	5.788	А
C-AB	35.11	35.21	0.00	731.77	0.048	0.07	5.171	А
C-A	228.39	228.39	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	182.19	182.19	0.00	-	-	-	-	-



(Default Analysis Set) - 2020 Survey, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, FM	2020 Survey	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.18	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm Name		Description	Arm Type
Α	А	A5086 (S)		Major
В	В	Dalzell St (N)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.20		0.00		2.20	65.00	<	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										200	70



Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	608.052	0.105	0.265	0.167	0.379
1	B-C	701.443	0.102	0.258	-	-
1	C-B	611.605	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	439.00	100.000
в	ONE HOUR	~	76.00	100.000
С	ONE HOUR	~	476.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
From	Α	0.000	0.000	439.000				
From	В	0.000	0.000	76.000				
	С	439.000	37.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.00	0.00	1.00		
From	в	0.00	0.00	1.00		
	С	0.92	0.08	0.00		



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
From	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То						
		Α	В	С			
From	Α	0.0	0.0	0.0			
From	в	0.0	0.0	0.0			
	С	0.0	0.0	0.0			

Results

Results Summary for whole modelled period

Stream Max RFC		Max Delay (s)	Max Queue (PCU)	Max LOS	
B-AC	0.15	7.30	0.17	А	
C-AB	0.11	5.03	0.24	А	
C-A	-	-	-	-	
A-B	-	-	-	-	
A-C	-	-	-	-	

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	57.22	56.81	0.00	616.31	0.093	0.10	6.430	А
C-AB	46.80	46.40	0.00	762.79	0.061	0.10	5.025	Α
C-A	311.56	311.56	0.00	-	-	-	-	-
А-В	0.00	0.00	0.00	-	-	-	-	-
A-C	330.50	330.50	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	68.32	68.22	0.00	599.79	0.114	0.13	6.770	А
C-AB	64.76	64.56	0.00	800.76	0.081	0.15	4.891	А
C-A	363.15	363.15	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	394.65	394.65	0.00	-	-	-	-	-



Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	83.68	83.52	0.00	576.94	0.145	0.17	7.294	Α
C-AB	92.28	91.93	0.00	846.55	0.109	0.24	4.775	Α
C-A	431.80	431.80	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	483.35	483.35	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	83.68	83.67	0.00	576.94	0.145	0.17	7.297	Α
C-AB	92.43	92.42	0.00	846.72	0.109	0.24	4.779	Α
C-A	431.66	431.66	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	483.35	483.35	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	68.32	68.48	0.00	599.79	0.114	0.13	6.776	Α
C-AB	64.94	65.29	0.00	801.02	0.081	0.15	4.898	Α
C-A	362.97	362.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	394.65	394.65	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	57.22	57.32	0.00	616.31	0.093	0.10	6.440	Α
C-AB	47.02	47.22	0.00	762.98	0.062	0.10	5.034	Α
C-A	311.34	311.34	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	330.50	330.50	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (Inc CD) Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) Base, AM	2025 Future Year (Inc CD) Base	AM		ONE HOUR	07:45	09:15	90	15		



Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.09	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A5086 (S)		Major
В	В	Dalzell St (N)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.20		0.00		2.20	65.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										200	70

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	608.052	0.105	0.265	0.167	0.379
1	B-C	701.443	0.102	0.258	-	-
1	C-B	611.605	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.



Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	
Α	ONE HOUR	~	260.00	100.000	
В	ONE HOUR	~	90.00	100.000	
С	ONE HOUR	~	377.00	100.000	

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

			То	
		Α	В	С
F	Α	0.000	0.000	260.000
FIOIII	В	0.000	0.000	90.000
	С	324.000	53.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		То					
		A B		С			
From	Α	0.00	0.00	1.00			
From	В	0.00	0.00	1.00			
	С	0.86	0.14	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	1.000	1.000	1.000			
From	в	1.000	1.000	1.000			
	С	1.000	1.000	1.000			



Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.0	0.0	0.0		
FIOIII	в	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	6.81	0.19	А
C-AB	0.13	5.35	0.27	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	67.76	67.30	0.00	651.02	0.104	0.12	6.158	А
C-AB	58.43	57.87	0.00	731.99	0.080	0.14	5.340	Α
C-A	225.40	225.40	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	195.74	195.74	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	80.91	80.80	0.00	641.24	0.126	0.14	6.421	Α
C-AB	77.09	76.90	0.00	759.31	0.102	0.19	5.277	А
C-A	261.82	261.82	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	233.73	233.73	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	99.09	98.92	0.00	627.70	0.158	0.19	6.806	А
C-AB	105.14	104.82	0.00	794.22	0.132	0.27	5.225	А
C-A	309.95	309.95	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	286.27	286.27	0.00	-	-	-	-	-



Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	99.09	99.09	0.00	627.70	0.158	0.19	6.809	Α
C-AB	105.24	105.23	0.00	794.34	0.132	0.27	5.230	Α
C-A	309.84	309.84	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	286.27	286.27	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	80.91	81.07	0.00	641.24	0.126	0.15	6.427	Α
C-AB	77.23	77.54	0.00	759.52	0.102	0.19	5.285	Α
C-A	261.68	261.68	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	233.73	233.73	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	67.76	67.87	0.00	651.02	0.104	0.12	6.173	А
C-AB	58.65	58.85	0.00	732.18	0.080	0.14	5.351	А
C-A	225.18	225.18	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	195.74	195.74	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (Inc CD) Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) Base, PM	2025 Future Year (Inc CD) Base	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.57	А



Junction Network Options

Driving Side	Lighting			
Left	Normal/unknown			

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	A5086 (S)		Major
В	В	Dalzell St (N)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.20		0.00		2.20	65.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										200	70

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	608.052	0.105	0.265	0.167	0.379
1	B-C	701.443	0.102	0.258	-	-
1	C-B	611.605	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	448.00	100.000
в	ONE HOUR	~	90.00	100.000
С	ONEHOUR	~	428.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	То						
-	A		В	С			
	Α	0.000	0.000	448.000			
From	В	0.000	0.000	90.000			
	С	351.000	77.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
-		Α	В	С			
	Α	0.00	0.00	1.00			
FIOII	в	0.00	0.00	1.00			
	С	0.82	0.18	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

			То	
		Α	В	С
From	Α	1.000	1.000	1.000
	в	1.000	1.000	1.000
	С	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		То						
		Α	В	С				
From	Α	0.0	0.0	0.0				
	В	0.0	0.0	0.0				
	С	0.0	0.0	0.0				



Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.17	7.57	0.21	А
C-AB	0.21	5.91	0.48	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	67.76	67.27	0.00	614.56	0.110	0.12	6.572	Α
C-AB	91.12	90.22	0.00	720.94	0.126	0.23	5.706	Α
C-A	231.10	231.10	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	337.28	337.28	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	80.91	80.78	0.00	597.70	0.135	0.16	6.962	Α
C-AB	119.66	119.31	0.00	744.57	0.161	0.31	5.765	Α
C-A	265.10	265.10	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	402.74	402.74	0.00	-	-	-	-	-

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	99.09	98.89	0.00	574.39	0.173	0.21	7.567	А
C-AB	166.67	166.04	0.00	777.95	0.214	0.47	5.894	А
C-A	304.56	304.56	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	493.26	493.26	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	99.09	99.09	0.00	574.39	0.173	0.21	7.573	Α
C-AB	166.92	166.90	0.00	778.23	0.214	0.48	5.905	А
C-A	304.32	304.32	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	493.26	493.26	0.00	-	-	-	-	-



Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	80.91	81.11	0.00	597.70	0.135	0.16	6.973	Α
C-AB	119.96	120.57	0.00	744.99	0.161	0.32	5.782	Α
C-A	264.80	264.80	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	402.74	402.74	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	67.76	67.89	0.00	614.56	0.110	0.12	6.588	Α
C-AB	91.56	91.92	0.00	721.32	0.127	0.23	5.728	Α
C-A	230.66	230.66	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	337.28	337.28	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (Inc CD) & Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) & Dev, AM	2025 Future Year (Inc CD) & Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.07	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A5086 (S)		Major
В	В	Dalzell St (N)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.20		0.00		2.20	65.00	<	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										200	70

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	608.052	0.105	0.265	0.167	0.379
1	B-C	701.443	0.102	0.258	-	-
1	C-B	611.605	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	266.00	100.000
В	ONE HOUR	~	91.00	100.000
С	ONE HOUR	~	396.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.000	0.000	266.000		
FIOIII	в	0.000	0.000	91.000		
	С	341.000	55.000	0.000		

Turning Proportions (PCU) - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.00	0.00	1.00	
From	в	0.00	0.00	1.00	
	С	0.86	0.14	0.00	

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	1.000	1.000	1.000	
FIOIII	В	1.000	1.000	1.000	
	С	1.000	1.000	1.000	

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.0	0.0	0.0	
From	В	0.0	0.0	0.0	
	С	0.0	0.0	0.0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	6.85	0.19	А
C-AB	0.14	5.31	0.29	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	68.51	68.04	0.00	649.86	0.105	0.12	6.182	А
C-AB	63.07	62.47	0.00	742.10	0.085	0.15	5.296	А
C-A	235.06	235.06	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.26	200.26	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Pedestrian Demand (Ped/hr) Capacity (PCU/hr)		End Queue (PCU)	Delay (s)	LOS
B-AC	81.81	81.69	0.00	639.85	0.128	0.15	6.447	А
C-AB	81.95	81.75	0.00	768.71	0.107	0.20	5.243	А
C-A	274.05	274.05	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	239.13	239.13	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	C 100.19 100.02		0.00	626.00	0.160	0.19	6.843	А
C-AB	112.32	111.97	0.00	805.76	0.139	0.29	5.193	А
C-A	323.69	323.69	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	292.87	292.87	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr) Capacity (PCU/hr)		RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.19 100.19		0.00	626.00	0.160	0.19	6.845	А
C-AB	112.44	112.43	0.00	805.90	0.140	0.29	5.200	А
C-A	323.57	323.57	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	292.87	292.87	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	AC 81.81 81.97		0.00	639.85	0.128	0.15	6.454	Α
C-AB	82.11	82.44	0.00	768.93	0.107	0.21	5.251	А
C-A	273.89	273.89	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	239.13	239.13	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr) Capacity (PCU/hr)		RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	AC 68.51 68.63		0.00	649.86	0.105	0.12	6.196	А
C-AB	63.33	63.54	0.00	742.32	0.085	0.15	5.310	А
C-A	234.80	234.80	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.26	200.26	0.00	-	-	-	-	-



(Default Analysis Set) - 2025 Future Year (Inc CD) & Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) & Dev, PM	2025 Future Year (Inc CD) & Dev	FM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.63	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	A5086 (S)		Major
В	В	Dalzell St (N)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.20		0.00		2.20	65.00	 ✓ 	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										200	70


Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	608.052	0.105	0.265	0.167	0.379
1	B-C	701.443	0.102	0.258	-	-
1	C-B	611.605	0.225	0.225	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	466.00	100.000
в	ONE HOUR	~	93.00	100.000
С	ONE HOUR	~	441.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То					
F		Α	В	С			
	Α	0.000	0.000	466.000			
FIOII	в	0.000	0.000	93.000			
	С	362.000	79.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

	То					
		Α	В	С		
F	Α	0.00	0.00	1.00		
FIOIII	в	0.00	0.00	1.00		
	С	0.82	0.18	0.00		



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		Α	В	С			
F	Α	1.000	1.000	1.000			
FIOIII	в	1.000	1.000	1.000			
	С	1.000	1.000	1.000			

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.0	0.0	0.0	
FIOIII	в	0.0	0.0	0.0	
	С	0.0	0.0	0.0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.18	7.71	0.22	А
C-AB	0.22	5.94	0.51	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.02	69.50	0.00	611.07	0.115	0.13	6.642	А
C-AB	94.92	93.97	0.00	724.11	0.131	0.24	5.712	Α
C-A	237.09	237.09	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	350.83	350.83	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	83.61	83.47	0.00	593.53	0.141	0.16	7.056	А
C-AB	125.07	124.70	0.00	748.51	0.167	0.33	5.778	А
C-A	271.38	271.38	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	418.92	418.92	0.00	-	-	-	-	-



Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	102.39	102.18	0.00	569.28	0.180	0.22	7.704	А
C-AB	175.01	174.32	0.00	782.99	0.224	0.50	5.923	Α
C-A	310.54	310.54	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	513.08	513.08	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	102.39	102.39	0.00	569.28	0.180	0.22	7.710	Α
C-AB	175.28	175.26	0.00	783.29	0.224	0.51	5.939	Α
C-A	310.27	310.27	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	513.08	513.08	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	83.61	83.82	0.00	593.53	0.141	0.17	7.064	Α
C-AB	125.40	126.06	0.00	748.98	0.167	0.34	5.795	Α
C-A	271.05	271.05	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	418.92	418.92	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.02	70.16	0.00	611.07	0.115	0.13	6.658	А
C-AB	95.39	95.78	0.00	724.52	0.132	0.25	5.735	А
C-A	236.61	236.61	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	350.83	350.83	0.00	-	-	-	-	-



Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2020
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Filename: A5086-Dalzell St Southern Approach Junc.arc8 Path: N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Picady\A5086-Dalzell St Report generation date: 05/11/2020 17:40:26

- » (Default Analysis Set) 2020 Survey, AM
- » (Default Analysis Set) 2020 Survey, PM
- » (Default Analysis Set) 2025 Future Year (Inc CD) Base, AM
- » (Default Analysis Set) 2025 Future Year (Inc CD) Base, PM
- » (Default Analysis Set) 2025 Future Year (Inc CD) & Dev, AM
- » (Default Analysis Set) 2025 Future Year (Inc CD) & Dev, PM

Summary of junction performance

	AM		PM		
	Queue (PCU)	RFC	Queue (PCU)	RFC	
	A1	- 202	0 Survey		
Stream B-AC	0.11	0.10	0.07	0.07	
Stream C-AB	0.00	0.00	0.00	0.00	
Stream C-A	-	-	-	-	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	
	A1 - 2025 Fut	ture Y	ear (Inc CD) &	Dev	
Stream B-AC	0.11	0.10	0.07	0.07	
Stream C-AB	0.00	0.00	0.00	0.00	
Stream C-A	-	-	-	-	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	
	A1 - 2025 Fu	ture \	/ear (Inc CD) B	ase	
Stream B-AC	0.11	0.10	0.07	0.07	
Stream C-AB	0.00	0.00	0.00	0.00	
Stream C-A	-	-	-	-	
Stream A-B	_	-	-	-	
Stream A-C	-	-	-	-	

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

- "D1 2020 Survey, AM " model duration: 07:45 09:15
- "D2 2020 Survey, PM" model duration: 15:45 17:15
- "D3 2025 Future Year (Inc CD) Base, AM" model duration: 07:45 09:15
- "D4 2025 Future Year (Inc CD) Base, PM" model duration: 15:45 17:15
- "D5 2025 Future Year (Inc CD) & Dev, AM" model duration: 07:45 09:15 "D6 - 2025 Future Year (Inc CD) & Dev, PM" model duration: 15:45 - 17:15

Run using Junctions 8.0.6.541 at 05/11/2020 17:40:23



File summary

Title	(untitled)
Location	
Site Number	
Date	30/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
(m)	Variations	Capacity	Type	Threshold	(s)	(PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Survey, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, AM	2020 Survey	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.04	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	A5086 (S)		Major
В	В	Dalzell St (S)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.60		0.00		2.20	70.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										135	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	629.136	0.107	0.269	0.170	0.385
1	B-C	754.327	0.108	0.272	-	-
1	C-B	614.501	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	266.00	100.000
В	ONE HOUR	~	43.00	100.000
С	ONE HOUR	~	318.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	0.000	24.000	242.000			
FIOIII	В	43.000	0.000	0.000			
	С	318.000	0.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

		То				
		Α	В	С		
Erom	Α	0.00	0.09	0.91		
From	В	1.00	0.00	0.00		
	С	1.00	0.00	0.00		

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	1.000	1.000	1.000			
From	в	1.000	1.000	1.000			
	С	1.000	1.000	1.000			

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
		Α	в	С	
Erom	Α	0.0	0.0	0.0	
FIOII	в	0.0	0.0	0.0	
	С	0.0	0.0	0.0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	8.04	0.11	А
C-AB	0.00	0.00	0.00	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	32.37	32.12	0.00	537.53	0.060	0.06	7.120	Α
C-AB	0.00	0.00	0.00	570.14	0.000	0.00	0.000	А
C-A	239.41	239.41	0.00	-	-	-	-	-
A-B	18.07	18.07	0.00	-	-	-	-	-
A-C	182.19	182.19	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	38.66	38.59	0.00	519.75	0.074	0.08	7.482	А
C-AB	0.00	0.00	0.00	561.53	0.000	0.00	0.000	А
C-A	285.88	285.88	0.00	-	-	-	-	-
A-B	21.58	21.58	0.00	-	-	-	-	-
A-C	217.55	217.55	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	47.34	47.24	0.00	495.16	0.096	0.10	8.035	А
C-AB	0.00	0.00	0.00	549.63	0.000	0.00	0.000	А
C-A	350.12	350.12	0.00	-	-	-	-	-
A-B	26.42	26.42	0.00	-	-	-	-	-
A-C	266.45 266.45		0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	47.34	47.34	0.00	495.16	0.096	0.11	8.038	Α
C-AB	0.00	0.00	0.00	549.63	0.000	0.00	0.000	А
C-A	350.12	350.12	0.00	-	-	-	-	-
A-B	26.42	26.42	0.00	-	-	-	-	-
A-C	266.45	266.45	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	38.66 38.75		0.00	519.75	0.074	0.08	7.488	А
C-AB	B 0.00 0.00		0.00	561.53	0.000	0.00	0.000	А
C-A	285.88	285.88	0.00	-	-	-	-	-
A-B	21.58	21.58	0.00	-	-	-	-	-
A-C	217.55	217.55	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	32.37	32.44	0.00	537.53	0.060	0.06	7.127	А
C-AB	0.00 0.00		0.00	570.14	0.000	0.00	0.000	А
C-A	239.41	239.41	0.00	-	-	-	-	-
A-B	18.07	18.07	0.00	-	-	-	-	-
A-C	182.19	182.19	0.00	-	-	-	-	-



(Default Analysis Set) - 2020 Survey, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, FM	2020 Survey	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.47	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A5086 (S)		Major
В	В	Dalzell St (S)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed centralHas rightreserve (m)turn bay		Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.60		0.00		2.20	70.00	<	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										135	150



Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B	
1	B-A	629.136	0.107	0.269	0.170	0.385	
1	B-C	754.327	0.108	0.272	-	-	
1	C-B	614.501	0.222	0.222	-	-	

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	517.00	100.000
в	ONE HOUR	~	25.00	100.000
С	ONE HOUR	~	439.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
From	Α	0.000	78.000	439.000				
	в	25.000	0.000	0.000				
	С	439.000	0.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.00	0.15	0.85			
From	в	1.00	0.00	0.00			
	С	1.00	0.00	0.00			



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
From	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.0	0.0	0.0		
From	в	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.07	9.47	0.07	А
C-AB	0.00	0.00	0.00	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	18.82	18.66	0.00	477.78	0.039	0.04	7.838	Α
C-AB	0.00	0.00	0.00	528.28	0.000	0.00	0.000	Α
C-A	330.50	330.50	0.00	-	-	-	-	-
A-B	58.72	58.72	0.00	-	-	-	-	-
A-C	330.50	330.50	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	22.47	22.43	0.00	448.41	0.050	0.05	8.450	А
C-AB	0.00	0.00	0.00	511.55	0.000	0.00	0.000	Α
C-A	394.65	394.65	0.00	-	-	-	-	-
A-B	70.12	70.12	0.00	-	-	-	-	-
A-C	394.65	394.65	0.00	-	-	-	-	-



Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	27.53	27.45	0.00	407.79	0.068	0.07	9.463	А
C-AB	0.00	0.00	0.00	488.41	0.000	0.00	0.000	А
C-A	483.35	483.35	0.00	-	-	-	-	-
A-B	85.88	85.88	0.00	-	-	-	-	-
A-C	483.35	483.35	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	27.53	27.52	0.00	407.79	0.068	0.07	9.466	А
C-AB	0.00	0.00	0.00	488.41	0.000	0.00	0.000	А
C-A	483.35	483.35	0.00	-	-	-	-	-
A-B	85.88	85.88	0.00	-	-	-	-	-
A-C	483.35	483.35	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	22.47	22.55	0.00	448.41	0.050	0.05	8.454	Α
C-AB	0.00	0.00	0.00	511.55	0.000	0.00	0.000	Α
C-A	394.65	394.65	0.00	-	-	-	-	-
A-B	70.12	70.12	0.00	-	-	-	-	-
A-C	394.65	394.65	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	18.82	18.87	0.00	477.78	0.039	0.04	7.845	А
C-AB	0.00	0.00	0.00	528.28	0.000	0.00	0.000	А
C-A	330.50	330.50	0.00	-	-	-	-	-
A-B	58.72	58.72	0.00	-	-	-	-	-
A-C	330.50	330.50	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (Inc CD) Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) Base, AM	2025 Future Year (Inc CD) Base	AM		ONE HOUR	07:45	09:15	90	15		



Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.18	А

Junction Network Options

Driving Side	Lighting				
Left	Normal/unknown				

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A5086 (S)		Major
В	В	Dalzell St (S)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.60		0.00		2.20	70.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										135	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	629.136	0.107	0.269	0.170	0.385
1	B-C	754.327	0.108	0.272	-	-
1	C-B	614.501	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.



Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	284.00	100.000
В	ONE HOUR	~	44.00	100.000
С	ONE HOUR	~	324.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То							
		Α	В	С					
Erom	Α	0.000	24.000	260.000					
FIOIII	В	44.000	0.000	0.000					
	С	324.000	0.000	0.000					

Turning Proportions (PCU) - Junction 1 (for whole period)

		То								
From		Α	В	С						
	Α	0.00	0.08	0.92						
	В	1.00	0.00	0.00						
	С	1.00	0.00	0.00						

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То							
From		Α	В	С					
	Α	1.000	1.000	1.000					
	в	1.000	1.000	1.000					
	С	1.000	1.000	1.000					



Heavy Vehicle Percentages - Junction 1 (for whole period)

		То							
From		Α	В	С					
	Α	0.0	0.0	0.0					
	В	0.0	0.0	0.0					
	С	0.0	0.0	0.0					

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	8.18	0.11	А
C-AB 0.00		0.00	0.00	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	33.13	32.86	0.00	533.11	0.062	0.07	7.193	А
C-AB	0.00	0.00	0.00	567.14	0.000	0.00	0.000	А
C-A	243.92	243.92	0.00	-	-	-	-	-
A-B	18.07	18.07	0.00	-	-	-	-	-
A-C	195.74	195.74	0.00	-	-	_	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56	39.49	0.00	514.47	0.077	0.08	7.579	А
C-AB	0.00	0.00	0.00	557.95	0.000	0.00	0.000	А
C-A	291.27	291.27	0.00	-	-	-	-	-
A-B	21.58	21.58	0.00	-	-	-	-	-
A-C	233.73	233.73	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44	48.34	0.00	488.70	0.099	0.11	8.173	Α
C-AB	0.00	0.00	0.00	545.23	0.000	0.00	0.000	А
C-A	356.73	356.73	0.00	-	-	-	-	-
A-B	26.42	26.42	0.00	-	-	-	-	-
A-C	286.27	286.27	0.00	-	-	-	-	-



Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44	48.44	0.00	488.70	0.099	0.11	8.176	Α
C-AB	0.00	0.00	0.00	545.23 0.000		0.00	0.000	Α
C-A	356.73	356.73	0.00	-	-	-	-	-
A-B	26.42	26.42	0.00	-	-	-	-	-
A-C	286.27	286.27	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56	39.66	0.00	514.47 0.0		0.08	7.585	А
C-AB	0.00	0.00	0.00	557.95 0.000		0.00	0.000	Α
C-A	291.27	291.27	0.00	-	-	-	-	-
A-B	21.58	21.58	0.00	-	-	-	-	-
A-C	233.73	233.73	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr) RF		End Queue (PCU)	Delay (s)	LOS
B-AC	33.13	33.19	0.00	533.11	0.062	0.07	7.204	А
C-AB	0.00	0.00	0.00	567.14	0.000	0.00	0.000	А
C-A	243.92	243.92	0.00	-	-	-	-	-
A-B	18.07	18.07	0.00	-	-	-	-	-
A-C	195.74	195.74	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (Inc CD) Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) Base, PM	2025 Future Year (Inc CD) Base	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.17	А



Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A5086 (S)		Major
В	В	Dalzell St (S)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.60		0.00		2.20	70.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										135	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	629.136	0.107	0.269	0.170	0.385
1	B-C	754.327	0.108	0.272	-	-
1	C-B	614.501	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	528.00	100.000
В	ONE HOUR	~	26.00	100.000
С	ONEHOUR	✓	351.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
F rom	Α	0.000	80.000	448.000				
From	В	26.000	0.000	0.000				
	С	351.000	0.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.00	0.15	0.85		
From	В	1.00	0.00	0.00		
	С	1.00	0.00	0.00		

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	1.000	1.000	1.000		
From	в	1.000	1.000	1.000		
	С	1.000	1.000	1.000		

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.0	0.0	0.0	
From	В	0.0	0.0	0.0	
	С	0.0	0.0	0.0	



Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.07	9.17	0.07	А
C-AB	0.00	0.00	0.00	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.57	19.41	0.00	487.03	0.040	0.04	7.696	Α
C-AB	0.00	0.00	0.00	526.45	0.000	0.00	0.000	Α
C-A	264.25	264.25	0.00	-	-	-	-	-
A-B	60.23	60.23	0.00	-	-	-	-	-
A-C	337.28	337.28	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	23.37	23.33	0.00	459.45	0.051	0.05	8.253	Α
C-AB	0.00	0.00	0.00	509.36	0.000	0.00	0.000	Α
C-A	315.54	315.54	0.00	-	-	-	-	-
A-B	71.92	71.92	0.00	-	-	-	-	-
A-C	402.74	402.74	0.00	-	-	-	-	-

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	28.63	28.55	0.00	421.31	0.068	0.07	9.162	А
C-AB	0.00	0.00	0.00	485.72	0.000	0.00	0.000	А
C-A	386.46	386.46	0.00	-	-	-	-	-
A-B	88.08	88.08	0.00	-	-	-	-	-
A-C	493.26	493.26	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	28.63	28.63	0.00	421.31	0.068	0.07	9.167	Α
C-AB	0.00	0.00	0.00	485.72	0.000	0.00	0.000	А
C-A	386.46	386.46	0.00	-	-	-	-	-
A-B	88.08	88.08	0.00	-	-	-	-	-
A-C	493.26	493.26	0.00	-	-	-	-	-



Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	23.37	23.45	0.00	459.45	0.051	0.05	8.258	Α
C-AB	0.00	0.00	0.00	509.36	0.000	0.00	0.000	Α
C-A	315.54	315.54	0.00	-	-	-	-	-
A-B	71.92	71.92	0.00	-	-	-	-	-
A-C	402.74	402.74	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.57	19.62	0.00	487.03	0.040	0.04	7.704	Α
C-AB	0.00	0.00	0.00	526.45	0.000	0.00	0.000	Α
C-A	264.25	264.25	0.00	-	-	-	-	-
A-B	60.23	60.23	0.00	-	-	-	-	-
A-C	337.28	337.28	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Future Year (Inc CD) & Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) & Dev, AM	2025 Future Year (Inc CD) & Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.27	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	A5086 (S)		Major
В	В	Dalzell St (S)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.60		0.00		2.20	70.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										135	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	629.136	0.107	0.269	0.170	0.385
1	B-C	754.327	0.108	0.272	-	-
1	C-B	614.501	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	\checkmark

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	290.00	100.000
В	ONE HOUR	~	44.00	100.000
С	ONE HOUR	~	341.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	0.000	24.000	266.000			
From	в	44.000	0.000	0.000			
	С	341.000	0.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	0.00	0.08	0.92			
From	в	1.00	0.00	0.00			
	С	1.00	0.00	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	1.000	1.000	1.000			
From	В	1.000	1.000	1.000			
	С	1.000	1.000	1.000			

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.0	0.0	0.0	
From	В	0.0	0.0	0.0	
	С	0.0	0.0	0.0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	8.27	0.11	А
C-AB	0.00	0.00	0.00	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	33.13	32.86	0.00	529.72	0.063	0.07	7.242	А
C-AB	0.00	0.00	0.00	566.14	0.000	0.00	0.000	Α
C-A	256.72	256.72	0.00	-	-	-	-	-
A-B	18.07	18.07	0.00	-	-	-	-	-
A-C	200.26	200.26	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56	39.49	0.00	510.43	0.077	0.08	7.644	А
C-AB	0.00	0.00	0.00	556.75	0.000	0.00	0.000	А
C-A	306.55	306.55	0.00	-	-	-	-	-
A-B	21.58	21.58	0.00	-	-	-	-	-
A-C	239.13	239.13	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44 48.34		0.00	483.75	0.100	0.11	8.266	А
C-AB	0.00	0.00	0.00	543.77	0.000	0.00	0.000	А
C-A	375.45	375.45	0.00	-	-	-	-	-
A-B	26.42	26.42	0.00	-	-	-	-	-
A-C	292.87	292.87	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.44	48.44	0.00	483.75	0.100	0.11	8.269	А
C-AB	B 0.00 0.00		0.00	543.77	0.000	0.00	0.000	А
C-A	375.45	375.45	0.00	-	-	-	-	-
A-B	26.42	26.42	0.00	-	-	-	-	-
A-C	292.87	292.87	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.56 39.66		0.00	510.43	0.077	0.08	7.650	Α
C-AB	AB 0.00 0.00		0.00	556.75	0.000	0.00	0.000	А
C-A	306.55 306.55		0.00	-	-	-	-	-
A-B	21.58	21.58	0.00	-	-	-	-	-
A-C	239.13	239.13	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	33.13 33.20		0.00	529.72	0.063	0.07	7.253	Α
C-AB	AB 0.00 0.00		0.00	566.14	0.000	0.00	0.000	А
C-A	256.72	256.72	0.00	-	-	-	-	-
A-B	18.07	18.07	0.00	-	-	-	-	-
A-C	200.26	200.26	0.00	-	-	-	-	-



(Default Analysis Set) - 2025 Future Year (Inc CD) & Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2025 Future Year (Inc CD) & Dev, PM	2025 Future Year (Inc CD) & Dev	FM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.34	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	A5086 (S)		Major
В	В	Dalzell St (S)		Minor
С	С	A5086 N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central Has right reserve (m) turn bay		Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	7.60		0.00		2.20	70.00	 ✓ 	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	3.50										135	150



Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	629.136	0.107	0.269	0.170	0.385
1	B-C	754.327	0.108	0.272	-	-
1	C-B	614.501	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	546.00	100.000
в	ONE HOUR	~	26.00	100.000
С	ONE HOUR	~	362.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
From	Α	0.000	80.000	466.000				
FIOII	в	26.000	0.000	0.000				
	С	362.000	0.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.00	0.15	0.85			
From	в	1.00	0.00	0.00			
	С	1.00	0.00	0.00			



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		A		С				
Erom	Α	1.000	1.000	1.000				
From	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.0	0.0	0.0		
From	в	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.07	9.34	0.07	А
C-AB	0.00	0.00	0.00	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.57	19.41	0.00	481.97	0.041	0.04	7.780	А
C-AB	0.00	0.00	0.00	523.44	0.000	0.00	0.000	А
C-A	272.53	272.53	0.00	-	-	-	-	-
A-B	60.23	60.23	0.00	-	-	-	-	-
A-C	350.83	350.83	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	23.37	23.33	0.00	453.41	0.052	0.05	8.369	А
C-AB	0.00	0.00	0.00	505.77	0.000	0.00	0.000	Α
C-A	325.43	325.43	0.00	-	-	-	-	-
A-B	71.92	71.92	0.00	-	-	-	-	-
A-C	418.92	418.92	0.00	-	-	-	-	-



Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	28.63	28.55	0.00	413.92	0.069	0.07	9.339	А
C-AB	0.00	0.00	0.00	481.33	0.000	0.00	0.000	А
C-A	398.57	398.57	0.00	-	-	-	-	-
A-B	88.08	88.08	0.00	-	-	-	-	-
A-C	513.08	513.08	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	28.63	28.62	0.00	413.92	0.069	0.07	9.343	Α
C-AB	0.00	0.00	0.00	481.33	0.000	0.00	0.000	Α
C-A	398.57	398.57	0.00	-	-	-	-	-
A-B	88.08	88.08	0.00	-	-	-	-	-
A-C	513.08	513.08	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	23.37	23.45	0.00	453.41	0.052	0.05	8.375	Α
C-AB	0.00	0.00	0.00	505.77	0.000	0.00	0.000	Α
C-A	325.43	325.43	0.00	-	-	-	-	-
A-B	71.92	71.92	0.00	-	-	-	-	-
A-C	418.92	418.92	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	19.57	19.62	0.00	481.97	0.041	0.04	7.788	Α
C-AB	0.00	0.00	0.00	523.44	0.000	0.00	0.000	Α
C-A	272.53	272.53	0.00	-	-	-	-	-
A-B	60.23	60.23	0.00	-	-	-	-	-
A-C	350.83	350.83	0.00	-	-	-	-	-

vectos.

Appendix L

A595/Dalzell St Modelling Output Files



Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2020
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
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Filename: A595-Dalzell St.arc8 Path: N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Picady\A595-Dalzell St Report generation date: 05/11/2020 17:43:49

- » (Default Analysis Set) 2020 Survey, AM
- » (Default Analysis Set) 2020 Survey, PM
- » (Default Analysis Set) 2030 Future Year (inc CD) Base, AM
- » (Default Analysis Set) 2030 Future Year (inc CD) Base, PM
- » (Default Analysis Set) 2030 Future Year (inc CD) & Dev, AM
- » (Default Analysis Set) 2030 Future Year (inc CD) & Dev, PM

Summary of junction performance

	AM		PM					
	Queue (PCU)	RFC	Queue (PCU)	RFC				
	A1	- 202	0 Survey					
Stream B-AC	0.20	0.17	0.16	0.14				
Stream C-AB	0.02	0.01	0.03	0.02				
Stream C-A	-	-	-	-				
Stream A-B	-	-	-	-				
Stream A-C	-	-	-	-				
	A1 - 2030 Fu	A1 - 2030 Future Year (inc CD) & Dev						
Stream B-AC	0.39	0.28	0.54	0.36				
Stream C-AB	0.02	0.01	0.03	0.02				
Stream C-A	-	-	-	-				
Stream A-B	-	-	-	-				
Stream A-C	-	-	-	-				
	A1 - 2030 Fu	iture \	Year (inc CD) B	ase				
Stream B-AC	0.37	0.27	0.53	0.35				
Stream C-AB	0.02	0.01	0.03	0.02				
Stream C-A	-	-	-	-				
Stream A-B	-	-	-	-				
Stream A-C	-	-	-	-				

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

- "D1 2020 Survey, AM " model duration: 07:45 09:15
- "D2 2020 Survey, PM" model duration: 15:45 17:15
- "D3 2030 Future Year (inc CD) Base, AM" model duration: 07:45 09:15
- "D4 2030 Future Year (inc CD) Base, PM" model duration: 15:45 17:15
- "D5 2030 Future Year (inc CD) & Dev, AM" model duration: 07:45 09:15
- "D6 2030 Future Year (inc CD) & Dev, PM" model duration: 15:45 17:15

Run using Junctions 8.0.6.541 at 05/11/2020 17:43:47



File summary

Title	(untitled)
Location	
Site Number	
Date	29/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
(m)	Variations	Capacity	Type	Threshold	(s)	(PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Survey, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, AM	2020 Survey	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	15.91	С

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name Descriptio		Arm Type
Α	А	A595 (N)		Major
В	В	Dalzell St		Minor
С	С	A595 (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	6.00		0.00		2.20	120.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.40										16	22

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	463.960	0.085	0.214	0.134	0.305
1	B-C	599.474	0.092	0.232	-	-
1	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	666.00	100.000
в	ONE HOUR	~	35.00	100.000
С	ONE HOUR	~	674.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	0.000	35.000	631.000			
From	В	31.000	0.000	4.000			
	С	670.000	4.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

		То						
		Α	В	С				
F rom	Α	0.00	0.05	0.95				
From	в	0.89	0.00	0.11				
	С	0.99	0.01	0.00				

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
From	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То						
		Α	в	С			
Erom	Α	0.0	0.0	0.0			
FIOIII	в	0.0	0.0	0.0			
	С	0.0	0.0	0.0			

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.17	19.30	0.20	С
C-AB	0.01	4.23	0.02	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	26.35	25.98	0.00	305.57	0.086	0.09	12.859	В
C-AB	6.37	6.34	0.00	856.82	0.007	0.01	4.232	Α
C-A	501.05	501.05	0.00	-	-	-	-	-
A-B	26.35	26.35	0.00	-	-	-	-	-
A-C	475.05	475.05	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	31.46	31.32	0.00	271.92	0.116	0.13	14.953	В
C-AB	8.74	8.72	0.00	897.33	0.010	0.01	4.051	А
C-A	597.18	597.18	0.00	-	-	-	-	-
A-B	31.46	31.46	0.00	-	-	-	-	-
A-C	567.26	567.26	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	38.54	38.24	0.00	225.01	0.171	0.20	19.244	С
C-AB	12.85	12.83	0.00	951.13	0.014	0.02	3.835	А
C-A	729.23	729.23	0.00	-	-	-	-	-
A-B	38.54	38.54	0.00	-	-	-	-	-
A-C	694.74	694.74	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	38.54	38.53	0.00	225.01	0.171	0.20	19.300	С
C-AB	12.86	12.86	0.00	951.14	0.014	0.02	3.838	А
C-A	729.23	729.23	0.00	-	-	-	-	-
A-B	38.54	38.54	0.00	-	-	-	-	-
A-C	694.74	694.74	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	31.46	31.75	0.00	271.91	0.116	0.13	15.006	С
C-AB	8.74	8.76	0.00	897.34	0.010	0.01	4.052	А
C-A	597.17	597.17	0.00	-	-	-	-	-
A-B	31.46	31.46	0.00	-	-	-	-	-
A-C	567.26	567.26	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	26.35	26.50	0.00	305.56	0.086	0.10	12.909	В
C-AB	6.39	6.40	0.00	856.84	0.007	0.01	4.232	А
C-A	501.03	501.03	0.00	-	-	-	-	-
A-B	26.35	26.35	0.00	-	-	-	-	-
A-C	475.05	475.05	0.00	-	-	-	-	-



(Default Analysis Set) - 2020 Survey, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, FM	2020 Survey	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	14.49	В

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A595 (N)		Major
В	В	Dalzell St		Minor
С	С	A595 (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	6.00		0.00		2.20	120.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.40										16	22



Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	463.960	0.085	0.214	0.134	0.305
1	B-C	599.474	0.092	0.232	-	-
1	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	732.00	100.000
в	ONE HOUR	~	24.00	100.000
С	ONE HOUR	~	762.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То					
		Α	В	С			
From	Α	0.000	64.000	668.000			
FIOII	В	23.000	0.000	1.000			
	С	756.000	6.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

	То				
		Α	В	С	
Erom	Α	0.00	0.09	0.91	
From	в	0.96	0.00	0.04	
	С	0.99	0.01	0.00	



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То				
		Α	В	С		
Erom	Α	1.000	1.000	1.000		
FIOIII	в	1.000	1.000	1.000		
	С	1.000	1.000	1.000		

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То				
		Α	В	C	
From	Α	0.0	0.0	0.0	
From	в	0.0	0.0	0.0	
	С	0.0	0.0	0.0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.14	21.81	0.16	С
C-AB	0.02	4.11	0.03	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	18.07	17.80	0.00	279.57	0.065	0.07	13.738	В
C-AB	10.41	10.36	0.00	886.32	0.012	0.01	4.109	Α
C-A	563.26	563.26	0.00	-	-	-	-	-
А-В	48.18	48.18	0.00	-	-	-	-	-
A-C	502.91	502.91	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	21.58	21.46	0.00	242.67	0.089	0.10	16.266	С
C-AB	14.47	14.45	0.00	931.27	0.016	0.02	3.926	Α
C-A	670.55	670.55	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	600.52	600.52	0.00	-	-	-	-	-


Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	26.42	26.18	0.00	191.47	0.138	0.16	21.745	С
C-AB	21.68	21.64	0.00	990.20	0.022	0.03	3.716	Α
C-A	817.30	817.30	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	735.48	735.48	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	26.42	26.42	0.00	191.47	0.138	0.16	21.810	С
C-AB	21.69	21.69	0.00	990.22	0.022	0.03	3.716	Α
C-A	817.29	817.29	0.00	-	-	-	-	-
A-B	70.47	70.47	0.00	-	-	-	-	-
A-C	735.48	735.48	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	21.58	21.81	0.00	242.66	0.089	0.10	16.318	С
C-AB	14.49	14.52	0.00	931.30	0.016	0.02	3.928	А
C-A	670.53	670.53	0.00	-	-	-	-	-
A-B	57.53	57.53	0.00	-	-	-	-	-
A-C	600.52	600.52	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	18.07	18.19	0.00	279.56	0.065	0.07	13.781	В
C-AB	10.45	10.47	0.00	886.35	0.012	0.01	4.109	А
C-A	563.23	563.23	0.00	-	-	-	-	-
A-B	48.18	48.18	0.00	-	-	-	-	-
A-C	502.91	502.91	0.00	-	-	-	-	-

(Default Analysis Set) - 2030 Future Year (inc CD) Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) Base, AM	2030 Future Year (inc CD) Base	AM		ONE HOUR	07:45	09:15	90	15		



Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	20.37	С

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	A595 (N)		Major
В	В	Dalzell St		Minor
С	С	A595 (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)Has right turn bay		Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	6.00		0.00		2.20	120.00	~	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.40										16	22

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	463.960	0.085	0.214	0.134	0.305
1	B-C	599.474	0.092	0.232	-	-
1	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.



Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	723.00	100.000
В	ONE HOUR	~	52.00	100.000
С	ONEHOUR	~	694.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То					
		A B		С			
Erom	Α	0.000	73.000	650.000			
FIOIII	В	48.000	0.000	4.000			
	С	690.000	4.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

		То							
		Α	В	С					
From	Α	0.00	0.10	0.90					
From	В	0.92	0.00	0.08					
	С	0.99	0.01	0.00					

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		Α	В	С			
Erom	Α	1.000	1.000	1.000			
From	в	1.000	1.000	1.000			
	С	1.000	1.000	1.000			



Heavy Vehicle Percentages - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.0	0.0	0.0			
FIOIII	В	0.0	0.0	0.0			
	С	0.0	0.0	0.0			

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.27	23.65	0.37	С
C-AB	0.01	4.23	0.02	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.15	38.54	0.00	293.30	0.133	0.15	14.100	В
C-AB	6.56	6.52	0.00	858.05	0.008	0.01	4.227	А
C-A	515.92	515.92	0.00	-	-	-	-	-
A-B	54.96	54.96	0.00	-	-	-	-	-
A-C	489.35	489.35	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	46.75	46.49	0.00	258.20	0.181	0.22	16.983	С
C-AB	9.05	9.04	0.00	898.95	0.010	0.01	4.045	Α
C-A	614.84	614.84	0.00	-	-	-	-	-
A-B	65.63	65.63	0.00	-	-	-	-	-
A-C	584.34	584.34	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	57.25	56.66	0.00	209.38	0.273	0.36	23.481	С
C-AB	13.45	13.43	0.00	953.24	0.014	0.02	3.829	А
C-A	750.66	750.66	0.00	-	-	-	-	-
A-B	80.37	80.37	0.00	-	-	-	-	-
A-C	715.66	715.66	0.00	-	-	-	-	-



Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	57.25	57.23	0.00	209.37	0.273	0.37	23.650	С
C-AB	13.46	13.46	0.00	953.25	0.014	0.02	3.829	Α
C-A	750.65	750.65	0.00	-	-	-	-	-
A-B	80.37	80.37	0.00	-	-	-	-	-
A-C	715.66	715.66	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	46.75	47.32	0.00	258.19	0.181	0.23	17.117	С
C-AB	9.06	9.08	0.00	898.96	0.010	0.01	4.045	А
C-A	614.83	614.83	0.00	-	-	-	-	-
A-B	65.63	65.63	0.00	-	-	-	-	-
A-C	584.34	584.34	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	39.15	39.43	0.00	293.29	0.133	0.16	14.195	В
C-AB	6.58	6.59	0.00	858.06	0.008	0.01	4.227	Α
C-A	515.90	515.90	0.00	-	-	-	-	-
A-B	54.96	54.96	0.00	-	-	-	-	-
A-C	489.35	489.35	0.00	-	-	-	-	-

(Default Analysis Set) - 2030 Future Year (inc CD) Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) Base, PM	2030 Future Year (inc CD) Base	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	24.74	С



Junction Network Options

Driving Side	Lighting				
Left	Normal/unknown				

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	А	A595 (N)		Major
В	В	Dalzell St		Minor
С	С	A595 (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	6.00		0.00		2.20	120.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.40										16	22

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	463.960	0.085	0.214	0.134	0.305
1	B-C	599.474	0.092	0.232	-	-
1	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	767.00	100.000
В	ONE HOUR	~	57.00	100.000
С	ONE HOUR	~	789.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То							
		Α	В	С					
F rom	Α	0.000	76.000	691.000					
From	В	56.000	0.000	1.000					
	С	783.000	6.000	0.000					

Turning Proportions (PCU) - Junction 1 (for whole period)

		То							
From		Α	В	С					
	Α	0.00	0.10	0.90					
	В	0.98	0.00	0.02					
	С	0.99	0.01	0.00					

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

			То	
From		Α	В	С
	Α	1.000	1.000	1.000
	в	1.000	1.000	1.000
	С	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		Т	o		
From		Α	В	С	
	Α	0.0	0.0	0.0	
	В	0.0	0.0	0.0	
	С	0.0	0.0	0.0	



Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.35	31.11	0.53	D
C-AB	0.02	4.08	0.03	А
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr) R		End Queue (PCU)	Delay (s)	LOS
B-AC	42.91	42.17	0.00	269.48	0.159	0.19	15.788	С
C-AB	10.73	10.67	0.00	893.56 0.0		0.01	4.077	Α
C-A	583.27	583.27	0.00	-	-	-	-	-
A-B	57.22	57.22	0.00	-	-	-	-	-
A-C	520.22	520.22	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	51.24	50.88	0.00	231.24	0.222	0.28	19.917	С
C-AB	14.99	14.97	0.00	939.61	0.016	0.02	3.893	Α
C-A	694.30	694.30	0.00	-	-	-	-	-
A-B	68.32	68.32	0.00	-	-	-	-	-
A-C	621.19	621.19	0.00	-	-	-	-	-

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	62.76	61.80	0.00	178.31	0.352	0.52	30.645	D
C-AB	22.63	22.59	0.00	999.78	0.023	0.03	3.683	А
C-A	846.08	846.08	0.00	-	-	-	-	-
A-B	83.68	83.68	0.00	-	-	-	-	-
A-C	760.81	760.81	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr) RFC		End Queue (PCU)	Delay (s)	LOS
B-AC	62.76	62.71	0.00	178.30	0.352	0.53	31.106	D
C-AB	22.64	22.64	0.00	999.80	0.023	0.03	3.683	А
C-A	846.06	846.06	0.00	-	-	-	-	-
A-B	83.68	83.68	0.00	-	-	-	-	-
A-C	760.81	760.81	0.00	-	-	-	-	-



Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	51.24	52.19	0.00	231.24	0.222	0.29	20.210	С
C-AB	15.01	15.04	0.00	939.64	0.016	0.02	3.893	Α
C-A	694.29	694.29	0.00	-	-	-	-	-
A-B	68.32	68.32	0.00	-	-	-	-	-
A-C	621.19	621.19	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	42.91	43.31	0.00	269.46	0.159	0.19	15.946	С
C-AB	10.76	10.78	0.00	893.59 0.012		0.01	4.079	Α
C-A	583.24	583.24	0.00	-	-	-	-	-
A-B	57.22	57.22	0.00	-	-	-	-	-
A-C	520.22	520.22	0.00	-	-	-	-	-

(Default Analysis Set) - 2030 Future Year (inc CD) & Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) & Dev, AM	2030 Future Year (inc CD) & Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	20.81	С

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm Name		Description	Arm Type
Α	А	A595 (N)		Major
В	В	Dalzell St		Minor
С	С	A595 (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	6.00		0.00		2.20	120.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.40										16	22

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	463.960	0.085	0.214	0.134	0.305
1	B-C	599.474	0.092	0.232	-	-
1	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments. Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	~	723.00	100.000
В	ONE HOUR	~	54.00	100.000
С	ONE HOUR	~	694.00	100.000



Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.000	73.000	650.000			
FIOIII	в	50.000	0.000	4.000			
	С	690.000	4.000	0.000			

Turning Proportions (PCU) - Junction 1 (for whole period)

	То						
		Α	В	С			
Erom	Α	0.00	0.10	0.90			
From	в	0.93	0.00	0.07			
	С	0.99	0.01	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
From	В	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	В	С		
From	Α	0.0	0.0	0.0		
From	В	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC 0.28		24.05	0.39	С
C-AB 0.01		4.23	0.02	А
C-A -		-	-	-
А-В -		-	-	-
A-C	-	-	-	-



Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	40.65	40.02	0.00	292.95	0.139	0.16	14.198	В
C-AB	6.56	6.52	0.00	858.05	0.008	0.01	4.227	Α
C-A	515.92	515.92	0.00	-	-	-	-	-
A-B	54.96	54.96	0.00	-	-	-	-	-
A-C	489.35	489.35	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.54	48.27	0.00	257.85	0.188	0.23	17.154	С
C-AB	9.05	9.04	0.00	898.95	0.010	0.01	4.045	А
C-A	614.84	614.84	0.00	-	-	-	-	-
A-B	65.63	65.63	0.00	-	-	-	-	-
A-C	584.34	584.34	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	59.46	58.83	0.00	209.05	0.284	0.38	23.862	С
C-AB	13.45	13.43	0.00	953.24	0.014	0.02	3.829	Α
C-A	750.66	750.66	0.00	-	-	-	-	-
A-B	80.37	80.37	0.00	-	-	-	-	-
A-C	715.66	715.66	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	59.46	59.43	0.00	209.05	0.284	0.39	24.050	С
C-AB	13.46	13.46	0.00	953.25	0.014	0.02	3.829	А
C-A	750.65	750.65	0.00	-	-	-	-	-
A-B	80.37	80.37	0.00	-	-	-	-	-
A-C	715.66	715.66	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	48.54	49.16	0.00	257.85	0.188	0.24	17.301	С
C-AB	9.06	9.08	0.00	898.96	0.010	0.01	4.045	А
C-A	614.83	614.83	0.00	-	-	-	-	-
A-B	65.63	65.63	0.00	-	-	-	-	-
A-C	584.34	584.34	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	40.65	40.95	0.00	292.94	0.139	0.16	14.301	В
C-AB	6.58	6.59	0.00	858.06	0.008	0.01	4.227	А
C-A	515.90	515.90	0.00	-	-	-	-	-
A-B	54.96	54.96	0.00	-	-	-	-	-
A-C	489.35	489.35	0.00	-	-	-	-	-



(Default Analysis Set) - 2030 Future Year (inc CD) & Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) & Dev, PM	2030 Future Year (inc CD) & Dev	FM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	25.05	D

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
Α	Α	A595 (N)		Major
В	В	Dalzell St		Minor
С	С	A595 (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
С	6.00		0.00		2.20	120.00	 ✓ 	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
в	One lane	2.40										16	22



Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	463.960	0.085	0.214	0.134	0.305
1	B-C	599.474	0.092	0.232	-	-
1	C-B	643.457	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic 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
		~	~	HV Percentages	2.00				~	~

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
Α	ONE HOUR	✓	767.00	100.000
в	ONE HOUR	~	58.00	100.000
С	ONE HOUR	~	789.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То						
		Α	В	С				
From	Α	0.000	76.000	691.000				
From	В	57.000	0.000	1.000				
	С	783.000	6.000	0.000				

Turning Proportions (PCU) - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.00	0.10	0.90		
From	в	0.98	0.00	0.02		
	С	0.99	0.01	0.00		



Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То						
		Α	В	С				
Erom	Α	1.000	1.000	1.000				
From	в	1.000	1.000	1.000				
	С	1.000	1.000	1.000				

Heavy Vehicle Percentages - Junction 1 (for whole period)

	То					
		Α	В	С		
Erom	Α	0.0	0.0	0.0		
From	в	0.0	0.0	0.0		
	С	0.0	0.0	0.0		

Results

Results Summary for whole modelled period

Stream Max RF		Max Delay (s)	Max Queue (PCU)	Max LOS	
B-AC	0.36	31.41	0.54	D	
C-AB	0.02	4.08	0.03	А	
C-A	-	-	-	-	
A-B	-	-	-	-	
A-C	-	-	-	-	

Main Results for each time segment

Main results: (15:45-16:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	43.67	42.91	0.00	269.44	0.162	0.19	15.842	С
C-AB	10.73	10.67	0.00	893.56	0.012	0.01	4.077	Α
C-A	583.27	583.27	0.00	-	-	-	-	-
A-B	57.22	57.22	0.00	-	-	-	-	-
A-C	520.22	520.22	0.00	-	-	-	-	-

Main results: (16:00-16:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	52.14	51.76	0.00	231.21	0.226	0.28	20.021	С
C-AB	14.99	14.97	0.00	939.61	0.016	0.02	3.893	А
C-A	694.30	694.30	0.00	-	-	-	-	-
A-B	68.32	68.32	0.00	-	-	-	-	-
A-C	621.19	621.19	0.00	-	-	-	-	-



Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	63.86	62.87	0.00	178.28	0.358	0.53	30.927	D
C-AB	22.63	22.59	0.00	999.78	0.023	0.03	3.683	Α
C-A	846.08	846.08	0.00	-	-	-	-	-
A-B	83.68	83.68	0.00	-	-	-	-	-
A-C	760.81	760.81	0.00	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	63.86	63.81	0.00	178.27	0.358	0.54	31.411	D
C-AB	22.64	22.64	0.00	999.80	0.023	0.03	3.683	Α
C-A	846.06	846.06	0.00	-	-	-	-	-
A-B	83.68	83.68	0.00	-	-	-	-	-
A-C	760.81	760.81	0.00	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	52.14	53.12	0.00	231.20	0.226	0.30	20.321	С
C-AB	15.01	15.04	0.00	939.64	0.016	0.02	3.893	А
C-A	694.29	694.29	0.00	-	-	-	-	-
A-B	68.32	68.32	0.00	-	-	-	-	-
A-C	621.19	621.19	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	43.67	44.07	0.00	269.43	0.162	0.20	16.003	С
C-AB	10.76	10.78	0.00	893.59	0.012	0.01	4.079	Α
C-A	583.24	583.24	0.00	-	-	-	-	-
A-B	57.22	57.22	0.00	-	-	-	-	-
A-C	520.22	520.22	0.00	-	-	-	-	-

vectos.

Appendix M

A5086/A595/Howbank Rd Modelling Output Files



Junctions 8						
ARCADY 8 - Roundabout Module						
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2020						
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk						
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Filename: A595-A5086 Rnbt.arc8

Path: N:\Vectos Job Data\2020\VN201724 Cleator Mills, Cleator\Arcady\A595-A5086 Roundabout Report generation date: 05/11/2020 17:48:15

- » (Default Analysis Set) 2020 Survey, AM
- » (Default Analysis Set) 2020 Survey, PM
- » (Default Analysis Set) 2030 Future Year (inc CD) Base, AM
- » (Default Analysis Set) 2030 Future Year (inc CD) Base, PM
- » (Default Analysis Set) 2030 Future Year (inc CD) & Dev, AM
- » (Default Analysis Set) 2030 Future Year (inc CD) & Dev, PM

Summary of junction performance

	AM		РМ								
	Queue (PCU)	RFC	Queue (PCU)	RFC							
	A1	A1 - 2020 Survey									
Arm 1	0.46	0.32	0.36	0.26							
Arm 2	m 2 0.68 0.41		1.84	0.65							
Arm 3	m 3 0.22 0		0.23	0.19							
Arm 4	0.63 0.39		0.83	0.46							
	A1 - 2030 Future Year (inc CD) & Dev										
Arm 1	0.51	0.34	0.42	0.30							
Arm 2	0.75	0.43	2.13	0.68							
Arm 3	0.23	0.19	0.26	0.21							
Arm 4	0.68	0.40	0.92	0.48							
	A1 - 2030 Fu	iture \	Year (inc CD) B	ase							
Arm 1	0.49	0.33	0.41	0.29							
Arm 2	0.74	0.43	2.04	0.67							
Arm 3	0.23	0.19	0.25	0.20							
Arm 4	0.67	0.40	0.90	0.48							

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

- "D1 2020 Survey, AM " model duration: 07:45 09:15
- "D2 2020 Survey, PM" model duration: 15:45 17:15
- "D3 2030 Future Year (inc CD) Base, AM" model duration: 07:45 09:15
- "D4 2030 Future Year (inc CD) Base, PM" model duration: 15:45 17:15
- "D5 2030 Future Year (inc CD) & Dev, AM" model duration: 07:45 09:15 "D6 - 2030 Future Year (inc CD) & Dev, PM" model duration: 15:45 - 17:15

Run using Junctions 8.0.6.541 at 05/11/2020 17:48:12



File summary

Title	(untitled)
Location	
Site Number	
Date	29/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	james.whitton
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
(m)	Variations	Capacity	Type	Threshold	(s)	(PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2020 Survey, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, AM	2020 Survey	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4			3.15	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description
1	1	A5086	
2	2	A595 (S)	
3	3	Howbank Rd	
4	4	A595 (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half- width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.80	8.10	22.10	20.00	49.00	24.00	
2	6.50	8.40	4.20	15.80	49.00	34.00	
3	3.50	8.40	26.60	27.70	49.00	19.00	
4	5.00	8.30	11.60	13.30	49.00	22.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.675	1995.048
2		(calculated)	(calculated)	0.690	2145.448
3		(calculated)	(calculated)	0.704	2097.829
4		(calculated)	(calculated)	0.679	2044.786

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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	426.00	100.000
2	ONE HOUR	✓	750.00	100.000
3	ONE HOUR	~	253.00	100.000
4	ONE HOUR	✓	646.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То					
		1	2	3	4		
	1	0.000	361.000	57.000	8.000		
From	2	182.000	0.000	56.000	512.000		
	3	60.000	42.000	0.000	151.000		
	4	4.000	559.000	83.000	0.000		

Turning Proportions (PCU) - Junction 1 (for whole period)

		То					
		1	2	3	4		
	1	0.00	0.85	0.13	0.02		
From	2	0.24	0.00	0.07	0.68		
	3	0.24	0.17	0.00	0.60		
	4	0.01	0.87	0.13	0.00		

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		То					
		1	2	3	4		
	1	1.000	1.000	1.000	1.000		
From	2	1.000	1.000	1.000	1.000		
	3	1.000	1.000	1.000	1.000		
	4	1.000	1.000	1.000	1.000		

Heavy Vehicle Percentages - Junction 1 (for whole period)

		То			
		1	2	3	4
	1	0.0	0.0	0.0	0.0
From	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0



Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.32	3.54	0.46	А
2	0.41	2.98	0.68	А
3	0.18	2.82	0.22	А
4	0.39	3.21	0.63	А

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	320.72	319.75	513.51	0.00	1648.40	0.195	0.24	2.708	Α
2	564.64	563.14	111.10	0.00	2068.79	0.273	0.37	2.389	Α
3	190.47	189.98	527.10	0.00	1726.96	0.110	0.12	2.342	Α
4	486.34	484.97	213.25	0.00	1899.90	0.256	0.34	2.542	Α

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	382.97	382.65	614.46	0.00	1580.24	0.242	0.32	3.006	А
2	674.23	673.78	132.95	0.00	2053.72	0.328	0.49	2.609	А
3	227.44	227.30	630.66	0.00	1654.10	0.138	0.16	2.522	А
4	580.74	580.32	255.14	0.00	1871.43	0.310	0.45	2.788	А

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	469.03	468.48	752.33	0.00	1487.17	0.315	0.46	3.532	А
2	825.77	824.99	162.77	0.00	2033.14	0.406	0.68	2.978	Α
3	278.56	278.32	772.19	0.00	1554.52	0.179	0.22	2.820	Α
4	711.26	710.53	312.41	0.00	1832.52	0.388	0.63	3.207	Α

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	469.03	469.03	753.09	0.00	1486.66	0.316	0.46	3.536	А
2	825.77	825.76	162.95	0.00	2033.02	0.406	0.68	2.981	А
3	278.56	278.56	772.91	0.00	1554.01	0.179	0.22	2.821	А
4	711.26	711.25	312.69	0.00	1832.33	0.388	0.63	3.210	Α



Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	382.97	383.52	615.66	0.00	1579.44	0.242	0.32	3.013	А
2	674.23	675.00	133.23	0.00	2053.53	0.328	0.49	2.612	А
3	227.44	227.67	631.80	0.00	1653.29	0.138	0.16	2.527	А
4	580.74	581.46	255.59	0.00	1871.13	0.310	0.45	2.792	Α

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	320.72	321.03	515.40	0.00	1647.12	0.195	0.24	2.714	А
2	564.64	565.10	111.53	0.00	2068.50	0.273	0.38	2.394	Α
3	190.47	190.61	528.93	0.00	1725.67	0.110	0.12	2.346	А
4	486.34	486.77	213.98	0.00	1899.40	0.256	0.35	2.550	A

(Default Analysis Set) - 2020 Survey, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2020 Survey, FM	2020 Survey	FM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4			4.42	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description
1	1	A5086	
2	2	A595 (S)	
3	3	Howbank Rd	
4	4	A595 (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half- width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.80	8.10	22.10	20.00	49.00	24.00	
2	6.50	8.40	4.20	15.80	49.00	34.00	
3	3.50	8.40	26.60	27.70	49.00	19.00	
4	5.00	8.30	11.60	13.30	49.00	22.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.675	1995.048
2		(calculated)	(calculated)	0.690	2145.448
3		(calculated)	(calculated)	0.704	2097.829
4		(calculated)	(calculated)	0.679	2044.786

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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	350.00	100.000
2	ONE HOUR	~	1199.00	100.000
3	ONE HOUR	~	209.00	100.000
4	ONE HOUR	✓	670.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.000	284.000	55.000	11.000
From	2	454.000	0.000	66.000	679.000
	3	66.000	48.000	0.000	95.000
	4	5.000	582.000	83.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.00	0.81	0.16	0.03
From	2	0.38	0.00	0.06	0.57
	3	0.32	0.23	0.00	0.45
	4	0.01	0.87	0.12	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	1.000	1.000	1.000	1.000
From	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		То						
		1	2	3	4			
	1	0.0	0.0	0.0	0.0			
From	2	0.0	0.0	0.0	0.0			
	3	0.0	0.0	0.0	0.0			
	4	0.0	0.0	0.0	0.0			



Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.26	3.33	0.36	А
2	0.65	5.05	1.84	А
3	0.19	3.67	0.23	А
4	0.46	4.08	0.83	А

Main Results for each time segment

Main results: (15:45-16:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	263.50	262.73	535.08	0.00	1633.83	0.161	0.19	2.624	Α
2	902.67	899.59	111.83	0.00	2068.29	0.436	0.77	3.073	Α
3	157.35	156.88	858.33	0.00	1493.91	0.105	0.12	2.692	Α
4	504.41	502.81	426.20	0.00	1755.21	0.287	0.40	2.870	Α

Main results: (16:00-16:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	314.64	314.40	640.36	0.00	1562.76	0.201	0.25	2.883	Α
2	1077.88	1076.57	133.83	0.00	2053.11	0.525	1.10	3.681	А
3	187.89	187.73	1027.19	0.00	1375.10	0.137	0.16	3.031	Α
4	602.32	601.74	510.04	0.00	1698.25	0.355	0.55	3.281	Α

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	385.36	384.94	783.84	0.00	1465.90	0.263	0.35	3.330	А
2	1320.12	1317.21	163.83	0.00	2032.41	0.650	1.82	5.014	Α
3	230.11	229.81	1256.80	0.00	1213.54	0.190	0.23	3.659	Α
4	737.68	736.56	624.11	0.00	1620.74	0.455	0.83	4.066	Α

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	385.36	385.35	785.01	0.00	1465.11	0.263	0.36	3.333	А
2	1320.12	1320.07	164.05	0.00	2032.26	0.650	1.84	5.054	Α
3	230.11	230.11	1259.51	0.00	1211.63	0.190	0.23	3.666	Α
4	737.68	737.67	625.36	0.00	1619.89	0.455	0.83	4.080	Α



Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	314.64	315.05	642.15	0.00	1561.55	0.201	0.25	2.888	А
2	1077.88	1080.77	134.16	0.00	2052.88	0.525	1.11	3.716	Α
3	187.89	188.18	1031.18	0.00	1372.29	0.137	0.16	3.042	А
4	602.32	603.43	511.88	0.00	1696.99	0.355	0.55	3.294	Α

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Entry Flow (PCU/hr) Circulating Flow (PCU/hr) Pedestrian Demand (PCU/hr) Capacit (PCU/hr)		Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	263.50	263.74	537.41	0.00	1632.26	0.161	0.19	2.630	А
2	902.67	904.01	112.29	0.00	2067.97	0.437	0.78	3.095	Α
3	157.35	157.51	862.54	0.00	1490.95	0.106	0.12	2.701	А
4	504.41	505.00	428.22	0.00	1753.84	0.288	0.41	2.885	А

(Default Analysis Set) - 2030 Future Year (inc CD) Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) Base, AM	2030 Future Year (inc CD) Base	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4			3.25	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description
1	1	A5086	
2	2	A595 (S)	
3	3	Howbank Rd	
4	4	A595 (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half- width (m)	roach road half- E - Entry width width (m) (m)		half- E - Entry width I' - Effective flare R - Entry (m) length (m) (m)		R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.80	8.10	22.10	20.00	49.00	24.00			
2	6.50	8.40	4.20	15.80	49.00	34.00			
3	3.50	8.40	26.60	27.70	49.00	19.00			
4	5.00	8.30	11.60	13.30	49.00	22.00			

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.675	1995.048
2		(calculated)	(calculated)	0.690	2145.448
3		(calculated)	(calculated)	0.704	2097.829
4		(calculated)	(calculated)	0.679	2044.786

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
		✓	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	439.00	100.000
2	ONE HOUR	~	786.00	100.000
3	ONE HOUR	~	260.00	100.000
4	ONE HOUR	✓	665.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.000	372.000	59.000	8.000
From	2	201.000	0.000	58.000	527.000
	3	62.000	43.000	0.000	155.000
	4	4.000	576.000	85.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		То						
		1	2	3	4			
	1	0.00	0.85	0.13	0.02			
From	2	0.26	0.00	0.07	0.67			
	3	0.24	0.17	0.00	0.60			
	4	0.01	0.87	0.13	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	1.000	1.000	1.000	1.000
From	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.0	0.0	0.0	0.0
From	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0



Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.33	3.64	0.49	А
2	0.43	3.09	0.74	А
3	0.19	2.90	0.23	А
4	0.40	3.32	0.67	А

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	330.50	329.50	528.49	0.00	1638.28	0.202	0.25	2.750	Α
2	591.74	590.14	114.10	0.00	2066.73	0.286	0.40	2.436	Α
3	195.74	195.23	552.60	0.00	1709.02	0.115	0.13	2.378	Α
4	500.65	499.21	229.76	0.00	1888.68	0.265	0.36	2.589	Α

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	394.65	394.32	632.41	0.00	1568.13	0.252	0.33	3.067	Α
2	706.60	706.10	136.54	0.00	2051.24	0.344	0.52	2.676	А
3	233.73	233.58	661.19	0.00	1632.62	0.143	0.17	2.572	Α
4	597.82	597.37	274.90	0.00	1858.01	0.322	0.47	2.856	Α

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	483.35	482.74	774.28	0.00	1472.35	0.328	0.49	3.636	А
2	865.40	864.54	167.16	0.00	2030.11	0.426	0.74	3.087	А
3	286.27	286.01	809.54	0.00	1528.24	0.187	0.23	2.897	А
4	732.18	731.38	336.59	0.00	1816.09	0.403	0.67	3.317	А

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	483.35	483.34	775.11	0.00	1471.79	0.328	0.49	3.641	А
2	865.40	865.39	167.35	0.00	2029.98	0.426	0.74	3.090	Α
3	286.27	286.26	810.34	0.00	1527.67	0.187	0.23	2.899	Α
4	732.18	732.17	336.91	0.00	1815.88	0.403	0.67	3.321	Α



Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	394.65	395.25	633.71	0.00	1567.25	0.252	0.34	3.072	А
2	706.60	707.45	136.84	0.00	2051.04	0.345	0.53	2.680	А
3	233.73	233.98	662.45	0.00	1631.73	0.143	0.17	2.577	А
4	597.82	598.61	275.41	0.00	1857.66	0.322	0.48	2.860	Α

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	330.50	330.84	530.49	0.00	1636.93	0.202	0.25	2.756	А
2	591.74	592.24	114.54	0.00	2066.42	0.286	0.40	2.444	Α
3	195.74	195.89	554.57	0.00	1707.63	0.115	0.13	2.381	А
4	500.65	501.10	230.56	0.00	1888.13	0.265	0.36	2.597	A

(Default Analysis Set) - 2030 Future Year (inc CD) Base, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) Base, PM	2030 Future Year (inc CD) Base	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4			4.69	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description
1 1		A5086	
2 2		A595 (S)	
3 3		Howbank Rd	
4	4	A595 (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half- width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.80	8.10	22.10	20.00	49.00	24.00	
2	6.50	8.40	4.20	15.80	49.00	34.00	
3	3.50	8.40	26.60	27.70	49.00	19.00	
4	5.00	8.30	11.60	13.30	49.00	22.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.675	1995.048
2		(calculated)	(calculated)	0.690	2145.448
3		(calculated)	(calculated)	0.704	2097.829
4		(calculated)	(calculated)	0.679	2044.786

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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	381.00	100.000
2	ONE HOUR	✓	1241.00	100.000
3	ONE HOUR	~	216.00	100.000
4	ONE HOUR	✓	693.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То								
		1	2	3	4					
	1	0.000 313.000		57.000	11.000					
From	2	470.000	0.000	68.000	703.000					
	3	68.000	50.000	0.000	98.000					
	4	5.000	602.000	86.000	0.000					

Turning Proportions (PCU) - Junction 1 (for whole period)

		То							
		1	2	3	4				
	1	0.00	0.82	0.15	0.03				
From	2	0.38	0.00	0.05	0.57				
	3	0.31	0.23	0.00	0.45				
	4	0.01	0.87	0.12	0.00				

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	1.000	1.000	1.000	1.000
From	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.0	0.0	0.0	0.0
From	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0



Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.29	3.50	0.41	А
2	0.67	5.43	2.04	А
3	0.20	3.82	0.25	А
4	0.48	4.28	0.90	А

Main Results for each time segment

Main results: (15:45-16:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	286.84	285.98	553.80	0.00	1621.19	0.177	0.21	2.695	Α
2	934.29	931.01	115.58	0.00	2065.71	0.452	0.82	3.163	Α
3	162.62	162.12	888.25	0.00	1472.86	0.110	0.12	2.747	Α
4	521.73	520.03	441.16	0.00	1745.04	0.299	0.42	2.935	Α

Main results: (16:00-16:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	342.51	342.24	662.78	0.00	1547.63	0.221	0.28	2.986	А
2	1115.63	1114.18	138.32	0.00	2050.02	0.544	1.18	3.835	А
3	194.18	194.00	1063.01	0.00	1349.89	0.144	0.17	3.114	А
4	622.99	622.36	527.96	0.00	1686.07	0.369	0.58	3.382	А

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	419.49	419.00	811.23	0.00	1447.41	0.290	0.41	3.498	А
2	1366.37	1362.99	169.31	0.00	2028.63	0.674	2.03	5.383	А
3	237.82	237.49	1300.40	0.00	1182.86	0.201	0.25	3.808	Α
4	763.01	761.75	645.94	0.00	1605.91	0.475	0.90	4.258	Α

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	419.49	419.48	812.53	0.00	1446.53	0.290	0.41	3.504	А
2	1366.37	1366.29	169.55	0.00	2028.46	0.674	2.04	5.434	А
3	237.82	237.82	1303.54	0.00	1180.66	0.201	0.25	3.817	Α
4	763.01	762.99	647.37	0.00	1604.94	0.475	0.90	4.275	Α



Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	342.51	343.00	664.76	0.00	1546.29	0.222	0.29	2.994	А
2	1115.63	1118.99	138.68	0.00	2049.76	0.544	1.21	3.881	А
3	194.18	194.51	1067.58	0.00	1346.68	0.144	0.17	3.127	А
4	622.99	624.24	530.05	0.00	1684.65	0.370	0.59	3.398	Α

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	286.84	287.12	556.29	0.00	1619.52	0.177	0.22	2.701	А
2	934.29	935.79	116.07	0.00	2065.37	0.452	0.83	3.193	Α
3	162.62	162.79	892.80	0.00	1469.65	0.111	0.12	2.754	А
4	521.73	522.37	443.34	0.00	1743.56	0.299	0.43	2.948	А

(Default Analysis Set) - 2030 Future Year (inc CD) & Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) & Dev, AM	2030 Future Year (inc CD) & Dev	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4			3.28	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description
1	1	A5086	
2	2	A595 (S)	
3	3	Howbank Rd	
4	4	A595 (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half- width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.80	8.10	22.10	20.00	49.00	24.00	
2	6.50	8.40	4.20	15.80	49.00	34.00	
3	3.50	8.40	26.60	27.70	49.00	19.00	
4	5.00	8.30	11.60	13.30	49.00	22.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	irectly Entered slope Entered intercept (PCU/		Final Slope	Final Intercept (PCU/hr)	
1		(calculated)	(calculated)	0.675	1995.048	
2		(calculated)	(calculated)	0.690	2145.448	
3		(calculated)	(calculated)	0.704	2097.829	
4		(calculated)	(calculated)	0.679	2044.786	

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
		~	~	HV Percentages	2.00				~	~


Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	455.00	100.000
2	ONE HOUR	~	790.00	100.000
3	ONE HOUR	~	261.00	100.000
4	ONE HOUR	✓	665.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.000	386.000	61.000	8.000
From	2	205.000	0.000	58.000	527.000
	3	63.000	43.000	0.000	155.000
	4	4.000	576.000	85.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		То						
		1	2	3	4			
	1	0.00	0.85	0.13	0.02			
From	2	0.26	0.00	0.07	0.67			
	3	0.24	0.16	0.00	0.59			
	4	0.01	0.87	0.13	0.00			

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	1.000	1.000	1.000	1.000
From	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.0	0.0	0.0	0.0
From	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0



Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.34	3.71	0.51	А
2	0.43	3.11	0.75	А
3	0.19	2.91	0.23	А
4	0.40	3.33	0.68	А

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	342.55	341.49	528.49	0.00	1638.28	0.209	0.26	2.773	Α
2	594.75	593.14	115.60	0.00	2065.69	0.288	0.40	2.443	Α
3	196.49	195.98	555.60	0.00	1706.91	0.115	0.13	2.383	Α
4	500.65	499.21	233.51	0.00	1886.13	0.265	0.36	2.593	Α

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	409.04	408.68	632.41	0.00	1568.13	0.261	0.35	3.105	Α
2	710.19	709.69	138.33	0.00	2050.01	0.346	0.53	2.686	А
3	234.63	234.48	664.78	0.00	1630.09	0.144	0.17	2.579	Α
4	597.82	597.37	279.39	0.00	1854.96	0.322	0.47	2.863	Α

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	500.96	500.32	774.28	0.00	1472.36	0.340	0.51	3.702	А
2	869.81	868.93	169.36	0.00	2028.60	0.429	0.75	3.103	А
3	287.37	287.11	813.93	0.00	1525.14	0.188	0.23	2.907	Α
4	732.18	731.38	342.09	0.00	1812.36	0.404	0.67	3.329	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	500.96	500.96	775.11	0.00	1471.79	0.340	0.51	3.707	А
2	869.81	869.80	169.55	0.00	2028.46	0.429	0.75	3.106	Α
3	287.37	287.36	814.75	0.00	1524.57	0.188	0.23	2.909	Α
4	732.18	732.17	342.41	0.00	1812.14	0.404	0.68	3.332	Α



Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	409.04	409.67	633.71	0.00	1567.25	0.261	0.35	3.110	А
2	710.19	711.06	138.64	0.00	2049.79	0.346	0.53	2.690	А
3	234.63	234.89	666.06	0.00	1629.19	0.144	0.17	2.583	А
4	597.82	598.61	279.91	0.00	1854.60	0.322	0.48	2.867	Α

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	342.55	342.90	530.49	0.00	1636.93	0.209	0.27	2.784	А
2	594.75	595.26	116.05	0.00	2065.38	0.288	0.41	2.451	Α
3	196.49	196.65	557.59	0.00	1705.51	0.115	0.13	2.387	А
4	500.65	501.11	234.33	0.00	1885.57	0.266	0.36	2.600	А

(Default Analysis Set) - 2030 Future Year (inc CD) & Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2030 Future Year (inc CD) & Dev, PM	2030 Future Year (inc CD) & Dev	PM		ONE HOUR	15:45	17:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3,4			4.79	А

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



Arms

Arms

Arm	Arm	Name	Description
1	1	A5086	
2	2	A595 (S)	
3 3		Howbank Rd	
4	4	A595 (N)	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00
4	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half- width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.80	8.10	22.10	20.00	49.00	24.00	
2	6.50	8.40	4.20	15.80	49.00	34.00	
3	3.50	8.40	26.60	27.70	49.00	19.00	
4	5.00	8.30	11.60	13.30	49.00	22.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.675	1995.048
2		(calculated)	(calculated)	0.690	2145.448
3		(calculated)	(calculated)	0.704	2097.829
4		(calculated)	(calculated)	0.679	2044.786

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
		~	~	HV Percentages	2.00				~	~



Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	392.00	100.000
2	ONE HOUR	~	1256.00	100.000
3	ONE HOUR	~	219.00	100.000
4	ONE HOUR	✓	693.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		То								
		1	2	3	4					
	1	0.000 322.000		59.000	11.000					
From	2	485.000	0.000	68.000	703.000					
	3	71.000	50.000	0.000	98.000					
	4	5.000	602.000	86.000	0.000					

Turning Proportions (PCU) - Junction 1 (for whole period)

		То							
		1	2	3	4				
	1	0.00	0.82	0.15	0.03				
From	2	0.39	0.00	0.05	0.56				
	3	0.32	0.23	0.00	0.45				
	4	0.01	0.87	0.12	0.00				

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	1.000	1.000	1.000	1.000
From	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

			То		
		1	2	3	4
	1	0.0	0.0	0.0	0.0
From	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0



Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.30	3.55	0.42	А
2	0.68	5.59	2.13	А
3	0.21	3.88	0.26	А
4	0.48	4.34	0.92	А

Main Results for each time segment

Main results: (15:45-16:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	295.12	294.23	553.79	0.00	1621.20	0.182	0.22	2.712	А
2	945.58	942.22	117.07	0.00	2064.67	0.458	0.84	3.198	А
3	164.87	164.37	899.47	0.00	1464.96	0.113	0.13	2.768	А
4	521.73	520.02	454.65	0.00	1735.88	0.301	0.43	2.957	Α

Main results: (16:00-16:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	352.40	352.11	662.77	0.00	1547.63	0.228	0.29	3.011	Α
2	1129.12	1127.61	140.11	0.00	2048.78	0.551	1.22	3.901	А
3	196.88	196.70	1076.44	0.00	1340.44	0.147	0.17	3.147	Α
4	622.99	622.35	544.10	0.00	1675.10	0.372	0.59	3.418	Α

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	431.60	431.08	811.19	0.00	1447.44	0.298	0.42	3.540	А
2	1382.88	1379.32	171.51	0.00	2027.12	0.682	2.11	5.526	А
3	241.12	240.78	1316.74	0.00	1171.37	0.206	0.26	3.868	А
4	763.01	761.72	665.65	0.00	1592.51	0.479	0.91	4.320	Α

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	431.60	431.59	812.53	0.00	1446.53	0.298	0.42	3.546	А
2	1382.88	1382.80	171.76	0.00	2026.94	0.682	2.13	5.586	А
3	241.12	241.12	1320.05	0.00	1169.04	0.206	0.26	3.879	А
4	763.01	762.99	667.19	0.00	1591.47	0.479	0.92	4.345	Α



Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	352.40	352.91	664.80	0.00	1546.26	0.228	0.30	3.017	А
2	1129.12	1132.67	140.49	0.00	2048.52	0.551	1.24	3.945	А
3	196.88	197.22	1081.25	0.00	1337.06	0.147	0.17	3.161	А
4	622.99	624.27	546.34	0.00	1673.58	0.372	0.60	3.436	А

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	295.12	295.41	556.30	0.00	1619.51	0.182	0.22	2.721	А
2	945.58	947.14	117.58	0.00	2064.32	0.458	0.85	3.228	Α
3	164.87	165.06	904.15	0.00	1461.67	0.113	0.13	2.776	А
4	521.73	522.38	456.93	0.00	1734.33	0.301	0.43	2.973	А

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