

Client:
Richborough

Project:
**Land North of Pendle Road
Clitheroe**

Project No:
T25604
Report Title:
Transport Assessment Addendum

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Authorised by:	JP
Rev:	-
Date:	06/04/2026

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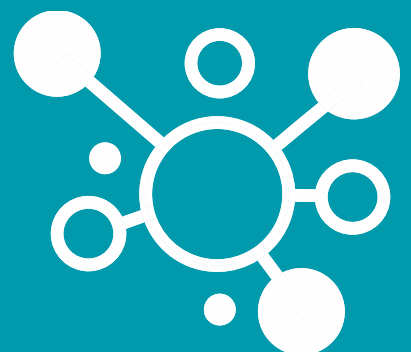


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1.0 Introduction

Background

- 1.1 Hub Transport Planning Ltd has been commissioned by Richborough to provide transport advice for a proposed residential development to the north of Pendle Road, Clitheroe.
- 1.2 This Transport Assessment Addendum (TAA) should be read in conjunction with the Transport Assessment and Travel Plan prepared to support this outline planning application (all matters reserved except access) for residential development of up to 200 new homes (Use Class C3) with vehicular access from Pendle Road. Similarly to the TA, a robust assessment of 215 dwellings has been used to maintain consistency in the comparison with data from the TA.
- 1.3 Specifically, this TAA has been prepared to address comments received from the Local Highway Authority (LHA). The application site is shown on **Figure 1.1**.

Structure of the Report

- 1.4 This report is intended to determine the relevant highway issues and indicate potential solutions, with reference to the impact of the proposed development site.
- 1.5 Following this introduction, the report is set out as follows:
 - Section 2.0 – LHA Comments;
 - Section 3.0 – Response to LHA Comments;
 - Section 4.0 – Updated Junction Capacity Analysis.

Limitations of the Report

- 1.6 This report has been undertaken at the request of Richborough, thus should not be entrusted to any third party without written permission from Hub Transport Planning Ltd. However, should any information contained within this report be used by any unauthorised third party, it is done so entirely at their own risk and shall not be the responsibility of Hub Transport Planning Ltd.
- 1.7 This report has been compiled using data from a number of external sources; these sources are considered to be trustworthy and therefore the data provided is considered to be accurate and relevant at the time of preparing this report.

2.0 LHA Comments

- 2.1 Lancashire County Council (LCC) as the local highway authority (LHA) has provided a response to the local planning authority (LPA) as the LHA. The response is included as **Appendix A** to this report.
- 2.2 LCC has raised the following points in their response:
- A contribution is requested for LCC's Travel Plan support service which would progress the Framework Travel Plan to a Full Travel Plan; the requested contribution is £12,000 plus a £250 per dwelling contribution towards a bus pass/travel voucher.
 - Bus stop improvements are requested for the northwest bound bus stop (reference 2500LAA16810) next to Claremont Avenue.
 - A contribution towards the future of LCC bus services is requested – the amount requested to be confirmed at a later date.
 - A zebra crossing is requested on Pendle Road to connect the site into the LCWIP route which passes through the Standen site opposite, along Centurion Way.
 - The pedestrian connection from the site to Pendle Road, to the proposed upgraded bus stop southeast of the Highmoor Playing Fields is requested to be provided as a shared use link for both pedestrians and cyclists.
 - In order to confirm that a footway is not necessary along the full frontage of the site, a detailed pedestrian and cycle linkage drawing is requested to ensure that appropriate desire lines are provided to bus stops, primary schools, and food convenience shops.
 - Due to the potential non-completion of the proposed mitigation by the Highmoor development at the Waterloo Road/Shawbridge Street roundabout, it is requested that this junction is remodelled and compared without the mitigation. The LHA notes that there is likely to be an alternative scheme which would offer additional benefits for users of sustainable modes travelling through. The alternative scheme would seek to secure enhancements to the bus stops on Shawbridge Street outside Lidl (northwest bound 2500IMG2327) and opposite no.38 (southeast bound 2500IMG2326) including the restriction of on-street parking on the mini-roundabout approaches and the provision of a signalised crossing on Waterloo Road to the north side of the Shawbridge Street junction.
 - The LHA has requests that a DMRB CD 116 checklist is provided for the site access roundabout, highlighting any departures from standard. Additionally, consideration should be given to shared cycle/footway at the junction and whether pedestrian/cycle crossing infrastructure could be included across the central islands of the roundabout.
 - The LHA has noted that existing speed limit of 40mph along the front of the site could be replaced by extending the 30mph section of Pendle Road leading out of Clitheroe. This would involve a length of 350m between the existing 30mph speed limit and the A59 roundabout.

3.0 Response to LHA Comments

Developer Contributions

- 3.1 The suggested £12,000 contribution to Travel Plan measures, the improved bus stop provision and the enhanced bus service is noted, and the principle of this is agreed; the contribution amount will be agreed with the LHA in due course.

Pendle Road Zebra Crossing

- 3.2 **Drawing T25604.004 rev A** shows an updated drawing of the western end of the site frontage on Pendle Road; this includes a shared pedestrian and cycle route along with a proposed parallel crossing.
- 3.3 Whilst the LHA initially requested that the pedestrian connection in the western corner of the site be upgraded to provide pedestrian and cycle access; we consider that the proposed connection to the southeast should be upgraded instead as this provides the more direct route to the existing pedestrian and cycle route on the southwest side of Pendle Road. It is also the more direct route to/from the residential areas of the development site.
- 3.4 This will allow residents of the site to access 'Primary Walking and Cycling Route 2' from the Ribble Valley LCWIP which connects Clitheroe Town Centre and the Standen Development site.
- 3.5 This will also allow residents travelling by cycle or by foot to safely access the other nearby LCWIP routes including 'Strategic Route 4', and 'Primary Walking and Cycling Routes 3 and 4'.

Pedestrian and Cycle Linkages

- 3.6 As set out above, **Drawing T25604.004 rev A** now proposes a shared pedestrian and cycle route, connecting to a new parallel pedestrian and cycle crossing of Pendle Road.
- 3.7 As discussed at the previous meeting, the impact of a fully compliant pedestrian route along the entire site frontage would result in significant hedgerow and tree removal.
- 3.8 In addition, the internal layout of the site will provide safe and suitable active travel routes within the development before connecting appropriately to the south side of Pendle Road.
- 3.9 In order to show the desire line connections that will be available without a route along the entire site frontage, **Appendix B** shows the walking and cycling linkages from the site, as requested by the LHA.

Waterloo Road/Shawbridge Street Mini-Roundabout

- 3.10 The LHA has requested that capacity analysis is provided for the existing roundabout junction without the proposed mitigation. The updated analysis is provided in **Section 4.0**.

DMRB CD 116 Checklist

- 3.11 The LHA have asked that the roundabout be checked against DMRB CD 116 standards for compliance.
- 3.12 A compliance checklist is provided below.

DMRB Clause	Clause Description	Compliance Check
3.5	Minimum value of ICE for a normal or compact roundabout shall be 28 metres	The ICD is 32m
3.6	The width of the circulatory carriageway for normal or compact roundabouts shall be between 1.0 and 1.2 times the maximum entry width, excluding any overrun area	The circulatory carriageway width is 5.4m and maximum entry width is 4.8m (from existing development on south side of Pendle Road)
3.6.7	At compact roundabouts, the width of the circulatory carriageway should not exceed 6 metres, so that it is not possible for two cars to pass one another	
3.7	The central island of normal and compact roundabouts shall be at least 4 metres in diameter	The central island is 19.2m
3.14	Lane widths at the give way line for normal and compact roundabouts shall be no less than 3 metres and no greater than 4.5 metres	The existing development access width is 4.8m, all amended approach arms are 4.5m width
3.19.1	The entry kerb radius should not be less than 10 metres	All entry kerb radii are above 10m
3.19.2	The entry kerb radius should not be greater than 100 metres	All entry kerb radii are below 100m
3.24	At compact roundabouts in urban areas, where the speed limit is 40mph or less within 100 metres of the give way line on any approach, the entry path radius shall not exceed 70 metres	The existing development access entry path radius is 94m; the other three approach arms are between 50m and 65m radius (those that have been amended as part of the junction upgrade)
3.28.11	At a compact roundabout, the exit width should be similar to the entry width	All exit widths are between 4.0m and 5.5m
3.29.5	At compact roundabouts the exit kerb radius should be equal to the largest entry radius	The largest exit radius is the existing northwestbound radius on Pendle Road, which is c.90m; as such a relaxation would be required for the four-arm junction
3.29.6	At a compact roundabout, the value of the exit kerb radius should be no less than 15 metres and no greater than 20 metres	The exit radius is greater than 20m for the northwestbound and southeastbound exits on Pendle Road; as such a relaxation would be required for the four-arm junction

3.13 On the basis of the design compliance check, no departures from standard are required for the junction; the only parameters that might require technical departures already exist at the junction.

Pedestrian and Cycle Access at the Site Access roundabout

- 3.14 **Drawing T25604.001 rev A** shows 3.5m wide shared pedestrian and cycle provision around the northeast and northwest sides of the roundabout, as requested by the LHA.
- 3.15 In addition, the eastern side of the junction now provides pedestrian crossing provision through the central splitter island; it isn't feasible to provide cycle crossing provision, on the basis that the available adopted highway extent on the southern side of the junction is c.2.0m in width. However, cycle access is provided from the southeast corner of the site and from the western end of the site to the route through to Centurion Way, using the parallel crossing (as requested by the LHA).
- 3.16 The updated swept path drawing is shown on **Drawing T25604.002 rev A**.

Speed Limit Amendment

- 3.17 The request for the amendment to the prevailing speed limit and the reduction to 30mph along the site frontage is noted and it is agreed that this is appropriate to be delivered via TRO as part of the S278 works.

4.0 Updated Junction Capacity Analysis

- 4.1 The traffic flows used for the updated capacity analysis are the same as those used in the TA that supports the application.
- 4.2 The junction has been assessed during the AM and PM peak hours for the following scenarios;
- 2025 Base
 - 2030 Base
 - 2030 Base + Committed Development
 - 2030 Base + Committed Development + Proposed Development

Existing Waterloo Road/Shawbridge Street Mini-Roundabout

- 4.3 The updated mini-roundabout analysis has been tested using the ARCADY module of Junctions 11. The full output files for the junction, showing geometry and capacity calculations, are shown in **Appendix C** and the results shown in **Table 2** below.

Table 1 – Waterloo Road/Shawbridge Street Mini-Roundabout

Approach	AM Peak			PM Peak		
	RFC	Queue	Delay (s)	RFC	Queue	Delay (s)
2025 Base						
A671 Waterloo Road (N)	0.93	10	49	0.93	10	49
Shawbridge Street	0.92	9	61	0.99	15	103
A671 Waterloo Road (S)	0.60	2	13	0.42	1	9
2030 Base						
A671 Waterloo Road (N)	0.99	18	82	0.99	19	81
Shawbridge Street	0.99	15	97	1.07	28	169
A671 Waterloo Road (S)	0.64	2	15	0.45	1	9
2030 Base + Committed Development						
A671 Waterloo Road (N)	1.09	48	187	1.11	53	198
Shawbridge Street	1.23	81	496	1.21	68	448
A671 Waterloo Road (S)	0.71	2	18	0.55	1	11
2030 Base + Committed Development + Proposed Development						
A671 Waterloo Road (N)	1.10	49	192	1.13	62	237
Shawbridge Street	1.25	88	535	1.23	75	489
A671 Waterloo Road (S)	0.71	2	18	0.57	1	11

- 4.4 The assessment results demonstrates that the Waterloo Road/Shawbridge Street mini-roundabout will operate beyond capacity, with significant delays and queuing on the Shawbridge Street and Waterloo Road (N) approach arm in the future year scenario without the proposed development traffic on the network.

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Land North of Pendle Road, Clitheroe

-
- 4.5 However, the impact of the proposed development is negligible, with only very minimal increases in the queues and delays on the Waterloo Road (N) and Shawbridge Street approaches to the junction.
- 4.6 On the basis of the updated assessment work, we consider that the proposed development could make a fair and reasonable contribution to the alternative improvement scheme at this junction, as noted in the LHA's consultation response.

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Figures



Legend

- Site Location
- 🚌 Bus Stop

Figure 1.1 - Site Location

 Richborough


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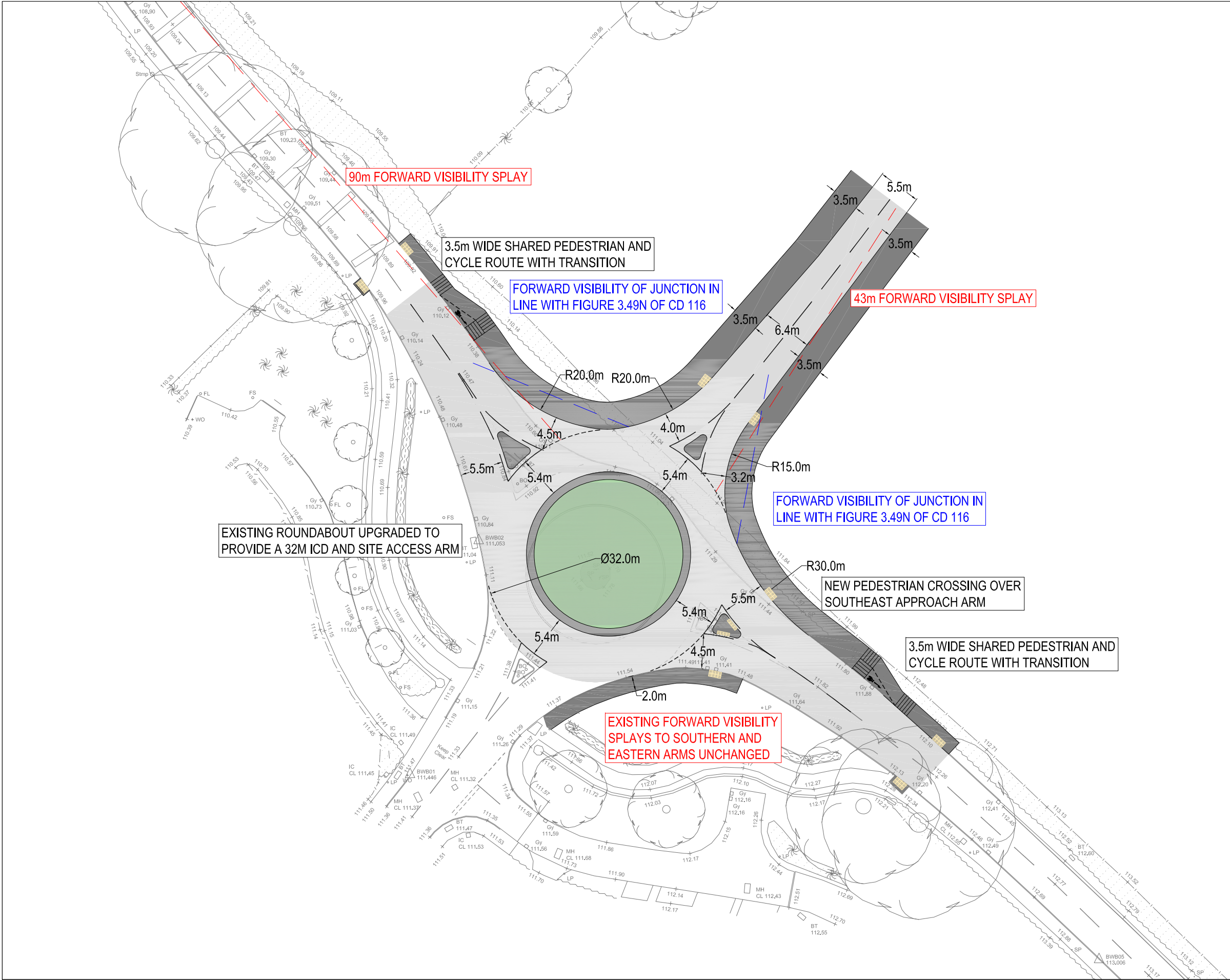


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Drawings



- 1. THIS DRAWING IS NOT TO BE SCALED FOR CONSTRUCTION PURPOSES.
- 2. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND LEVELS ON SITE.

A	DRAWING UPDATED FOLLOWING LHA COMMENTS	06.04.26	JP	GM
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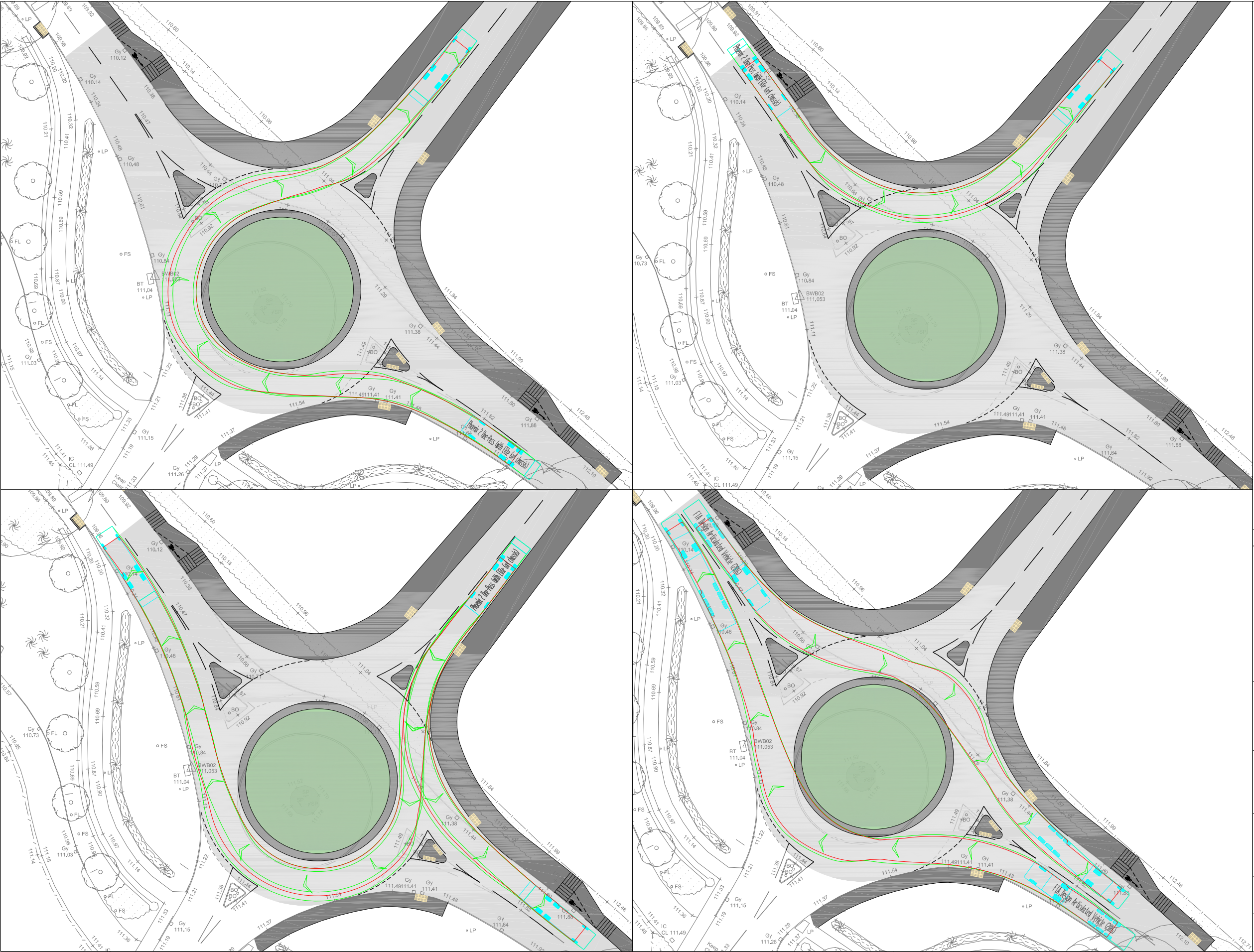
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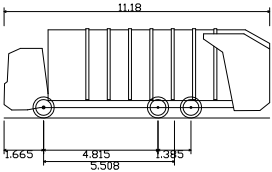
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PROPOSED SITE ACCESS
ROUNDBOUT

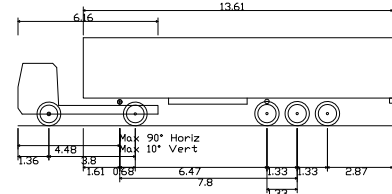
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PROJECT NO. T25604		DRAWING NO. 001		REV A



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Phoenix 2 One-Pass (with Elite 6x4 chassis)
Overall Length 11.180m
Overall Width 2.550m
Overall Body Height 2.760m
Min Body Ground Clearance 0.312m
Track Width 2.550m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 10.150m



FTA Design Articulated Vehicle (2016)
Overall Length 16.480m
Overall Width 2.550m
Overall Body Height 3.870m
Min Body Ground Clearance 0.515m
Max Track Width 2.470m
Lock to lock time 3.00s
Kerb to Kerb Turning Radius 6.600m

A	DRAWING UPDATED FOLLOWING LHA COMMENTS	06.04.26	JP	GM
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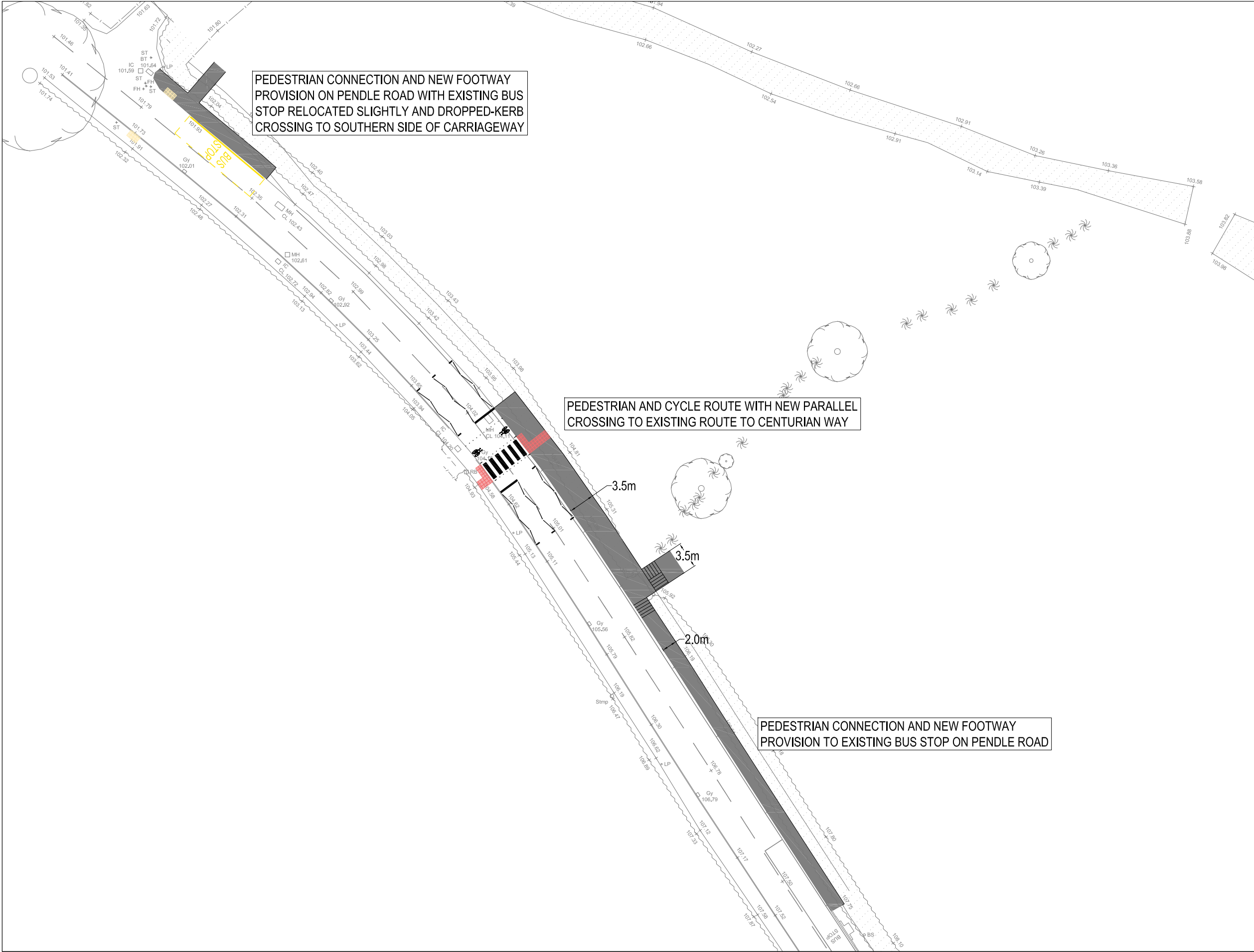
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PROJECT
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TITLE
SITE ACCESS REFUSE VEHICLE
AND HGV SWEPT PATH ANALYSIS

DRAWN JP	AUTHORISED GM	SCALE 1:500	SHEET SIZE A3	DATE 16.12.25
PROJECT NO. T25604		DRAWING NO. 002		REV A



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A	DRAWING UPDATED FOLLOWING LHA COMMENTS	06.04.26	JP	GM
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PROJECT
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TITLE
**ADDITIONAL PEDESTRIAN ACCESS
ONTO PENDLE ROAD**

DRAWN JP	AUTHORISED GM	SCALE 1:250	SHEET SIZE A3	DATE 16.12.25
PROJECT NO. T25604		DRAWING NO. 004		REV A

T25604

Land North of Pendle Road, Clitheroe

Appendix A

LHA Response

Ribble Valley Borough Council

Phone: 0300 123 6780

Email: developeras@lancashire.gov.uk

Your ref: 3.25.1006

Our ref: 3.25.1006

Date: 10th March 2026

App No: 3.2025.1006

Location: Land off Pendle Road Clitheroe

Proposal: Outline application for the erection of up to 200 dwellings and associated landscaping, childrens play area, sustainable urban drainage and other infrastructure with all matters reserved except access.

The submitted documents and plans including Hub Transport Planning Travel Plan and Transport Assessment dated 19.12.25, and separate drawings 'Emergency and ped/cycle access with fire tender swept path', 'Additional pedestrian access onto Pendle Road', 'Proposed site access roundabout', 'Site access refuse vehicle and HGV swept path analysis' and Pegasus Group 'Illustrative development framework plan' have been reviewed and the following comments are made.

Proposal

The application seeks permission to erect up to 200 new dwellings to the northeast side of Pendle Road with a new access on the roundabout at Pendle Road/Higher Standen Drive.

Sustainability

Travel Plan

A Framework Travel Plan is submitted with the application.

Lancashire County Council offer a Travel Plan support service whereby we oversee the progression from the Framework Travel Plan to the Full Travel Plan in line with agreed timescales and targets. To offer this service we would request a contribution of £12,000 based upon the number of units within a S106 agreement.

Linked to the Travel Plan we would seek to secure measures to support modal shift for residents at the site with contributions paid directly to each dwelling upon occupation of each dwelling (or group of dwellings – triggers to be later agreed in line with modal shift targets) within a S106 agreement should the modal shift targets not be met. The contribution of circa £250 per dwelling will fund a bus pass for a period of 3 months or a cycle voucher.

Lancashire County Council

PO Box 100, County Hall, Preston, PR1 0LD

Public Transport

Bus services 5 (Clitheroe – Chipping), 15 (Clitheroe – Accrington), 64 (Burnley – Clitheroe) run along Pendle Road with 2 x southeast bound bus stops on Pendle Road to the site frontage and 1 x northwest bound bus stop on Pendle Road. Service C4 (Clitheroe – Peel park circular) runs along Claremont Avenue. A service will be diverted along Higher Standen Drive to Littlemoor Road via a bus gate at the western side of the Standen Development at a later date not yet agreed.

The southeast bound bus stop on Pendle Road (reference 2500LAA16811) is proposed to be upgraded by the developer to quality bus stop standard, we would request that the northwest bound stop near Claremont Ave (reference 2500LAA16810) is also upgraded.

The southeast and northwest bound bus stops to both sides of Higher Standen Drive roundabout have already been upgraded (without shelters due to the footway width).

The bus services are all subsidised by Lancashire County Council and a contribution is requested to support the future of these services. The amount request will be submitted at a later date once calculated.

Pedestrian and cycle links

There is a Local Cycling and Walking Infrastructure Policy (LCWIP) for Ribble Valley published March 2024. Pendle Road is a key route between the site and Clitheroe Town Centre. Measures to support Pendle Road to be conducive to walking and cycling to support sustainable travel modes at the site are requested (detailed below).

There is a pedestrian/cycle link (emergency access included) from the site with a new section of footway and uncontrolled crossing proposed on Worston Road close to the Pendle Road junction.

There is a pedestrian only link from the site and a new section of footway, uncontrolled crossing and southeast bound quality bus stop (reference 2500LAA16811) proposed on Pendle Road to the southeast side of the Highmoor Playing Fields Clitheroe Wolves Football Club access.

We would request that this is provided as a shared link for pedestrians and cyclists and that a new zebra crossing on Pendle Road is provided to connect the site to the nearest primary and secondary schools and shop on the Higher Standen Drive estate via FP0301011, which is paved, and joins Centurion Way.

There is a pedestrian only link from the site and a new section of footway proposed to connect to the existing southeast bound quality bus stop (reference 2500LAA16809) on Pendle Road.

The highway safety benefits of providing a footway along the full frontage have been considered, particularly to reduce vehicle speeds along Pendle Road by providing a more urbanised street scene. A detailed pedestrian and cycle linkages drawing is requested to ensure that the desire lines off-site to bus stops, primary school and food convenience shop are provided to ensure a high quality connectivity.

Traffic Impact

There is committed development at:-

1. 3/2015/0895 - Standen site– Erection of 1040 new dwellings, retirement living, retail, service and community and new primary school. Phase 1 complete (227 dwellings), Phase 2 (67 dwellings) part complete, Phase 3 (98 dwellings) complete, Phase 4 (250 dwellings) not complete, 68 bed care home complete, primary school complete but not fully occupied, Phases Reserved matters for Phases 5 & 6 (265 dwellings) pending.
2. 3/2022/781 - Barrow Business Park - Outline application for the development of land north of Ribble Valley Enterprise Park to provide up to 23,959 sq m of new commercial/employment floorspace. Requesting consideration of access with all other matters reserved.
3. 3/2020/0601 - Highmoor Park - Outline planning application for the construction of up to 125 dwellings with public open space, landscaping and sustainable drainage system and vehicular access point from Highmoor Park. All matters reserved except for means of access. Approved – Reserved matters 124 dwellings 3/2026/0069 pending

Trip rates used for the Standen site have been replicated here with AM 0.148 arrivals, 0.453 departures, total 0.601 and PM 0.417 arrivals, 0.214 departures, total 0.631 have been used and they generate 129, 2-way trips in the AM peak and 136, 2-way trips in the PM peak.

Tempo is used to growth the traffic to 2030. Trips are distributed using 2011 Census data for 'Ribble Valley 002 MSOA.

ATC surveys in am and pm peaks were undertaken 11th-17th November 2025 at 7 sites (A59 x 4, Clitheroe Road, Pendle Road x 2) and turning counts on 11th November 2025 at the following 5 junctions.

1. A59/Pendle Road/Clitheroe Road – roundabout – The Arcady model demonstrates that the roundabout will operate within capacity in 2030 base plus committed and proposed development.
2. Pendle Road/Higher Standen Drive/Site access – roundabout - The Arcady model demonstrates that the roundabout will operate within capacity and minimal queues in 2030 base plus committed and proposed development.
3. Taylor Street/Shawbridge Street – priority junction – The Picady model demonstrates that the junction will operate within capacity.
4. A59/A671 Whalley Road – roundabout - The Arcady model demonstrates that the roundabout will operate with spare capacity in 2030 base plus committed and proposed development.
5. Shawbridge Street/Waterloo Road – mini-roundabout – The Arcady model includes the mitigation secured under the Highmoor application 2020/0601 and Waddow application 3/2019/0056 which includes flared entries and it demonstrates that the junction is predicted to operate beyond capacity with significant delays and queuing on Shawbridge Street at 2030 plus committed development.

We would request that junction numbered 5, above, be assessed and presented without the mitigation scheme secured under other permissions. This scheme is under consideration currently and there is likely to be an alternative scheme which would offer additional benefits for users of sustainable modes travelling through. The alternative scheme would seek to secure enhancements to the bus stops on Shawbridge Street outside Lidl (northwest bound 2500IMG2327) and opposite no.38 (southeast bound 2500IMG2326) including the restriction of on-street parking on the mini-roundabout approaches and the provision of a signalised crossing on Waterloo Road to the north side of the Shawbridge Street junction. We consider that this will support sustainable travel modes between the site and Clitheoroe Town Centre.

Construction traffic

The detailed design of the temporary access must be agreed at condition discharge stage and be implemented under an agreement with Lancashire County Council. The visibility splays, geometry and surface will be matters to agree with wheel washing and hard standing for operative parking and HGV turning to allow all vehicles to exit the site in forward gear.

Site Access

Pendle Road C553 is subject to a 40mph speed limit. A new 4th arm will be created on the roundabout at Pendle Road/Higher Standen Drive with an increase of ICD to 32m providing a compact roundabout to DMRB CD116. A checklist is requested to CD116 with departures and relaxations highlighted.

Tracking is provided for 16.48m long articulated vehicle and 11.18 refuse vehicle.

There is a discrepancy highlighted with the extent of the highway at the Higher Standen Drive roundabout which has been confirmed to include the verge adjacent to the roundabout. This may allow a design alteration to include pedestrian and cycle crossing infrastructure across the central islands at the roundabout. We would request that this is investigated.

We would request that the new footway to the northwest and southeast sides of the roundabout should be widened to 3.5m to provide a shared cycle/footway.

There is an emergency access on Worston Road proposed of 3.7m wide shared space and is tracked for 8.68m fire tender.

A 7-day ATC was undertaken on Pendle Road between the site access and the A59 (midway) with 85thiles recorded at EB 38.3mph (6479) and WB 37.4mph (4884). We would consider seeking to remove the section of 40mph which is 350m long between A59 roundabout national speed limit and 30mph Pendle Road. We would seek to secure this and investigate at detailed design S278 agreement stage.

New connections onto the highway drainage system in Pendle Road will not be permitted.

The formation of the new access and off-site highway works should be undertaken with a S278 agreement with Lancashire County Council.

Off-site highway works

To mitigate the impact of the development on the highway network the following off-site highway works are requested.

1. The upgrade/provision of 2 quality bus stops on Pendle Road (2500LAA16810 and 16811) to support all users to travel to/from site sustainably.
2. Provision of new footway/cycleway along Pendle Road to link into the bus stops and existing footway provision.
3. Reduction in speed limit on Pendle Road from 40mph to 30mph and associated traffic regulation orders with enhanced gateway features, and associated signing and lining to promote speed compliance on Pendle Road for highway safety.
4. New zebra crossing on Pendle Road close to Highmoor Park playing fields access.
5. New roundabout to DMRB CD116 on Pendle Road arms to link the footway/cycleway provision with shared footway/cycleway provision.
6. New pedestrian/cycle/emergency access on Worston Road with links to footway/cycleway existing network.

The off-site highway works will be constructed under a S278 agreement with Lancashire County Council and shall be constructed prior to first occupation.

Contributions

To mitigate the impact of the development on the highway network the following contributions are requested within a Section 106 agreement.

1. Travel Plan support £12,000.
2. Public Transport support for LCC subsidised bus services.£

Internal layout – reserved matter

Layout is a matter to be considered at a later date.

The first section of the estate road is proposed at 6.5m wide with 2m wide footways to both sides. We would request that a widened shared footway/cycleway is continued into the site on at least one side.

The estate roads and associated infrastructure should be built to adoptable standards and we would seek to formally adopt the roads under S38 Highways Act 1980.

Parking

Car parking should be provided for each dwelling with 1 car parking space for 1 bedroom, 2 spaces for 2-3 bedrooms and 3 spaces for 4+ bedrooms and with secure covered cycle parking. Garages should measure 3m by 6m internally to count as a

parking space. New dwellings are required to provide an electric vehicle charging point under Building Regulations.

Conclusion

Lancashire County Council acting as the Highway Authority would request that further information be submitted as requested above and we will provide an update on the Lancashire County Council bus service contribution request.

Kelly Holt
Highway Development Control Engineer
Highways and Transport
Lancashire County Council
www.lancashire.gov.uk

T25604

Land North of Pendle Road, Clitheroe

Appendix B

Walking and Cycling Linkages



Legend

Cycling Desire Lines

— Ribblesdale Primary School

— Tesco

● Site Location

Appendix B1 - Cycle Desire Lines

 Richborough


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0 250 500 m





Legend

Walking Desire Lines

-  Claremont Avenue WB Bus Stop
-  Higher Standen Drive EB Bus Stop
-  Primary School via Central Pedestrian Egress
-  Primary School via Site Access
-  Tesco
-  Site Location

Appendix B2 - Walking Desire Lines

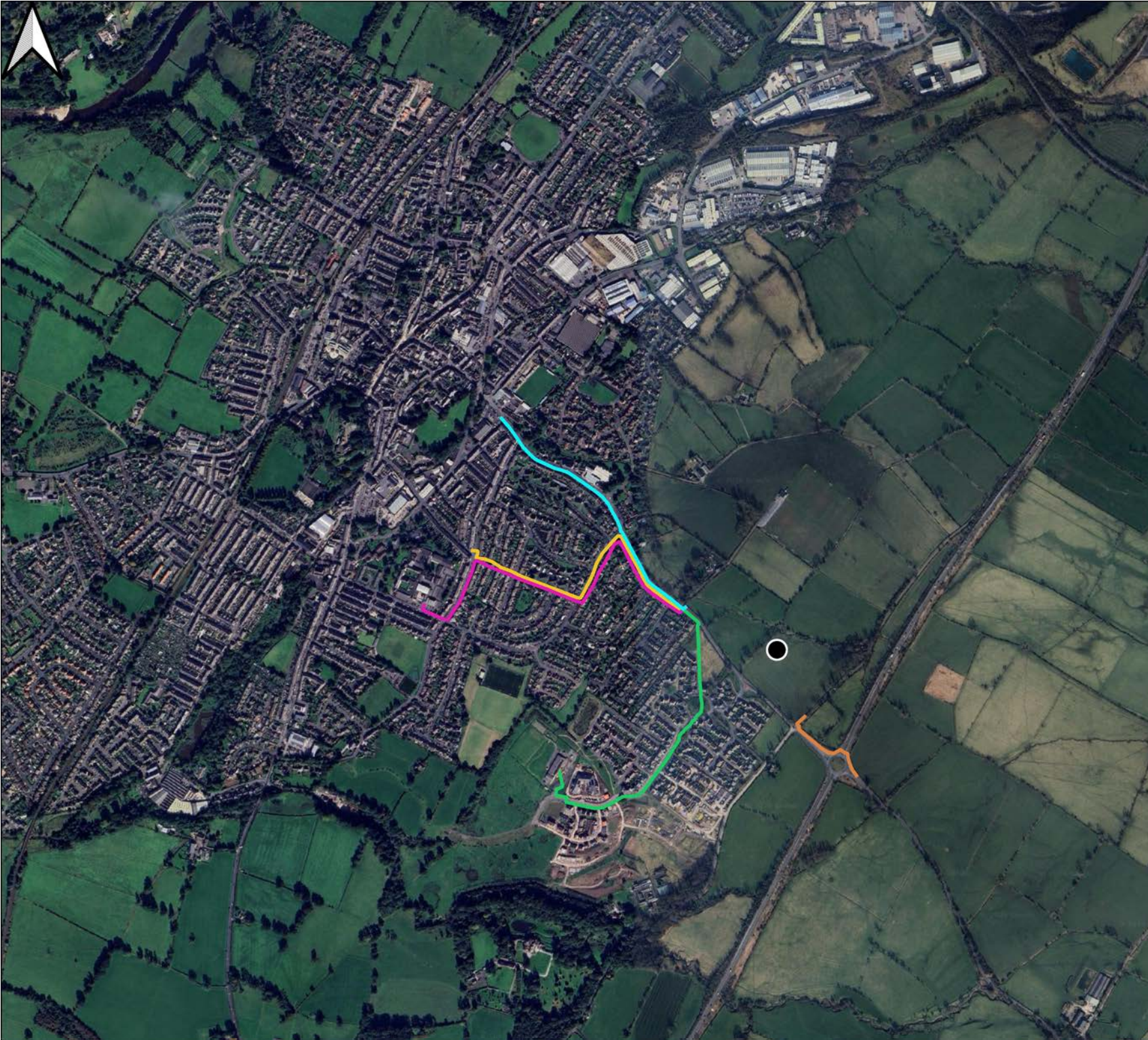
 Richborough


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0 250 500 m





Legend

Walking & Cycling Desire Lines

- LIDL
- Premier Convenience Store
- Primary School via NW Pedestrian Egress
- Ribblesdale High School
- Shared Use Path via Ped/Cycle Egress
- Site Location

Appendix C3 - Walk and Cycle Desire Lines

 Richborough


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0 250 500 m



T25604

Land North of Pendle Road, Clitheroe

Appendix C

Junctions 11 Output

Existing Waterloo Road/Shawbridge Street Mini-Roundabout

Junctions 11														
ARCADY 11 - Roundabout Module														
Version: 11.1.0.2307														
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution														

Filename: T25604 Unmitigated Waterloo Road - Shawbridge Street UPDATE.j11

Path: C:\Users\DanielBishop\Hub Transport Planning Ltd\Hub Transport Planning - General\Projects\T25604

Clitheroe\Modelling\Arcady

Report generation date: 09/03/2026 18:04:36

- »Unmitigated Layout - D1 - 2025 | Base | AM
- »Unmitigated Layout - D2 - 2025 | Base | PM
- »Unmitigated Layout - D3 - 2030 | Base | AM
- »Unmitigated Layout - D4 - 2030 | Base | PM
- »Unmitigated Layout - D5 - 2030 | Base + Committed | AM
- »Unmitigated Layout - D6 - 2030 | Base + Committed | PM
- »Unmitigated Layout - D7 - 2030 | Base + Committed + Development | AM
- »Unmitigated Layout - D8 - 2030 | Base + Committed + Development | PM

Summary of junction performance

	AM							PM						
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
	Unmitigated Layout - 2025 - Base													
1 - A671 Waterloo Road (N)	D1	9.8	49.37	0.93	E	44.34	-8 %	D2	10.1	48.58	0.93	E	58.90	-13 %
2 - Shawbridge Street		8.5	61.61	0.92	F		[2 - Shawbridge Street]		15.2	102.72	0.99	F		[2 - Shawbridge Street]
3 - A671 Waterloo Road (S)		1.5	13.03	0.60	B				0.7	8.50	0.42	A		
	Unmitigated Layout - 2030 - Base													
1 - A671 Waterloo Road (N)	D3	17.9	81.63	0.99	F	70.36	-13 %	D4	18.5	80.86	0.99	F	96.37	-18 %
2 - Shawbridge Street		14.8	97.48	0.99	F		[2 - Shawbridge Street]		28.1	168.81	1.07	F		[2 - Shawbridge Street]
3 - A671 Waterloo Road (S)		1.8	14.85	0.64	B				0.8	8.90	0.45	A		
	Unmitigated Layout - 2030 - Base + Committed													
1 - A671 Waterloo Road (N)	D5	47.6	186.55	1.09	F	252.52	-28 %	D6	52.6	198.31	1.11	F	244.73	-27 %
2 - Shawbridge Street		80.5	496.22	1.23	F		[2 - Shawbridge Street]		68.4	448.14	1.21	F		[2 - Shawbridge Street]
3 - A671 Waterloo Road (S)		2.4	17.79	0.71	C				1.2	10.70	0.55	B		
	Unmitigated Layout - 2030 - Base + Committed + Development													
1 - A671 Waterloo Road (N)	D7	49.1	191.60	1.10	F	269.10	-29 %	D8	61.6	236.72	1.13	F	275.25	-28 %
2 - Shawbridge Street		87.7	534.81	1.25	F		[2 - Shawbridge Street]		75.2	489.24	1.23	F		[2 - Shawbridge Street]
3 - A671 Waterloo Road (S)		2.4	17.94	0.71	C				1.3	11.23	0.57	B		

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

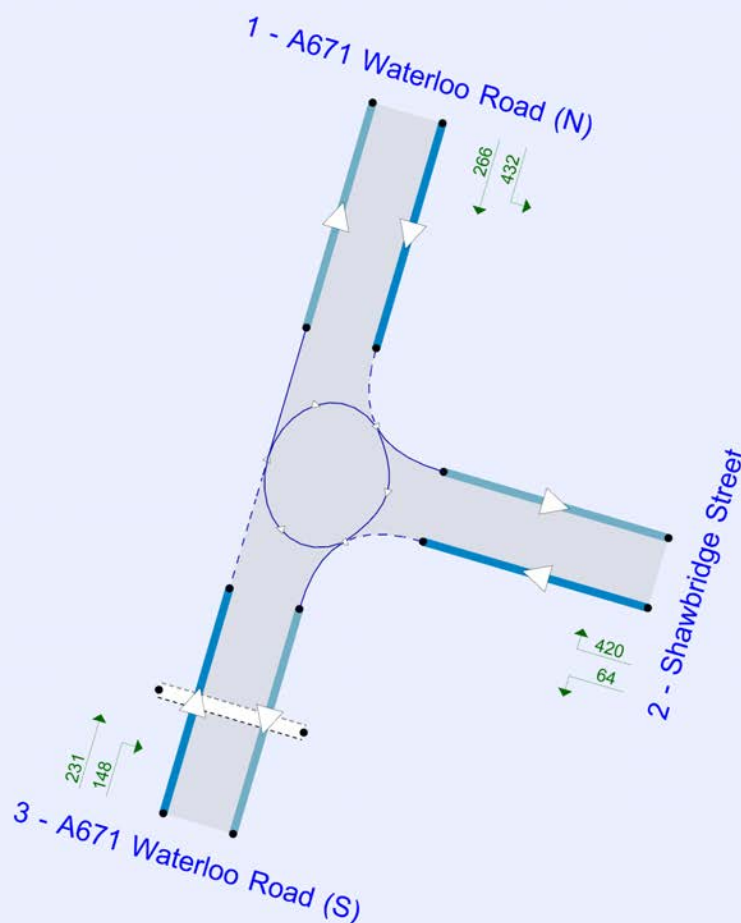
File summary

File Description

Title	Shawbridge St/Waterloo Rd
Location	Clitheroe
Site number	
Date	02/12/2025
Version	
Status	(new file)
Identifier	
Client	Richborough
Jobnumber	T25604
Enumerator	DanielBishop
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/hr)

The junction diagram reflects the last run of Junctions.

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
JUNCTIONS 9	5.75					✓	Delay	0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025	Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2025	Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2030	Base	AM	ONE HOUR	07:45	09:15	15	✓
D4	2030	Base	PM	ONE HOUR	16:45	18:15	15	✓
D5	2030	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓
D6	2030	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓
D7	2030	Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15	✓
D8	2030	Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Unmitigated Layout	✓	100.000	100.000

Unmitigated Layout - D1 - 2025 | Base | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	44.34	E

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-8	2 - Shawbridge Street	44.34	E

Arms

Arms

Arm	Name	Description
1	A671 Waterloo Road (N)	
2	Shawbridge Street	
3	A671 Waterloo Road (S)	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - A671 Waterloo Road (N)	3.30	3.30	3.30	0.0	13.20	5.50	0.0	
2 - Shawbridge Street	3.22	3.22	4.10	1.9	9.35	2.00	0.0	
3 - A671 Waterloo Road (S)	3.00	3.00	3.00	0.0	19.35	18.50	0.0	

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
3 - A671 Waterloo Road (S)	1.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A671 Waterloo Road (N)	0.602	926
2 - Shawbridge Street	0.612	756
3 - A671 Waterloo Road (S)	0.734	1044

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

Traffic Demand

Demand Set Details

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	698	100.000
2 - Shawbridge Street		ONE HOUR	✓	484	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	379	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	432	266
	2 - Shawbridge Street	420	0	64
	3 - A671 Waterloo Road (S)	231	148	0

Proportions

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0.00	0.62	0.38
	2 - Shawbridge Street	0.87	0.00	0.13
	3 - A671 Waterloo Road (S)	0.61	0.39	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	3	3
	2 - Shawbridge Street	3	0	6
	3 - A671 Waterloo Road (S)	3	2	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	1.000	1.030	1.030
	2 - Shawbridge Street	1.030	1.000	1.060
	3 - A671 Waterloo Road (S)	1.030	1.020	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
07:45-08:00	1 - A671 Waterloo Road (N)	525	525	
	2 - Shawbridge Street	364	364	
	3 - A671 Waterloo Road (S)	285	285	15.06
08:00-08:15	1 - A671 Waterloo Road (N)	627	627	
	2 - Shawbridge Street	435	435	
	3 - A671 Waterloo Road (S)	341	341	17.98
08:15-08:30	1 - A671 Waterloo Road (N)	769	769	
	2 - Shawbridge Street	533	533	
	3 - A671 Waterloo Road (S)	417	417	22.02
08:30-08:45	1 - A671 Waterloo Road (N)	769	769	
	2 - Shawbridge Street	533	533	
	3 - A671 Waterloo Road (S)	417	417	22.02
08:45-09:00	1 - A671 Waterloo Road (N)	627	627	
	2 - Shawbridge Street	435	435	
	3 - A671 Waterloo Road (S)	341	341	17.98
09:00-09:15	1 - A671 Waterloo Road (N)	525	525	
	2 - Shawbridge Street	364	364	
	3 - A671 Waterloo Road (S)	285	285	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	0.93	49.37	9.8	E	640	961
2 - Shawbridge Street	0.92	61.61	8.5	F	444	666
3 - A671 Waterloo Road (S)	0.60	13.03	1.5	B	348	522

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	525	131	111		859	0.612	519	484	0.0	1.6	10.718	B
2 - Shawbridge Street	364	91	198		635	0.574	359	432	0.0	1.3	13.246	B
3 - A671 Waterloo Road (S)	285	71	312	15.06	796	0.358	283	245	0.0	0.6	7.165	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	627	157	133		846	0.742	623	581	1.6	2.8	16.249	C
2 - Shawbridge Street	435	109	237		611	0.712	431	518	1.3	2.4	20.213	C
3 - A671 Waterloo Road (S)	341	85	374	17.98	756	0.451	340	294	0.6	0.8	8.857	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	769	192	162		828	0.928	746	699	2.8	8.3	37.617	E
2 - Shawbridge Street	533	133	284		582	0.916	515	624	2.4	7.0	45.881	E
3 - A671 Waterloo Road (S)	417	104	446	22.02	708	0.590	415	352	0.8	1.4	12.510	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	769	192	163		828	0.928	763	711	8.3	9.8	49.373	E
2 - Shawbridge Street	533	133	291		578	0.922	527	635	7.0	8.5	61.614	F
3 - A671 Waterloo Road (S)	417	104	457	22.02	700	0.596	417	360	1.4	1.5	13.026	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	627	157	134		845	0.742	654	606	9.8	3.2	21.642	C
2 - Shawbridge Street	435	109	249		604	0.721	457	539	8.5	2.9	28.534	D
3 - A671 Waterloo Road (S)	341	85	397	17.98	744	0.458	343	310	1.5	0.9	9.259	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	525	131	112		858	0.612	532	496	3.2	1.7	11.542	B
2 - Shawbridge Street	364	91	203		632	0.576	370	441	2.9	1.5	14.503	B
3 - A671 Waterloo Road (S)	285	71	321	15.06	796	0.358	287	252	0.9	0.6	7.270	A

Unmitigated Layout - D2 - 2025 | Base | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	58.90	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-13	2 - Shawbridge Street	58.90	F

Traffic Demand

Demand Set Details

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	725	100.000
2 - Shawbridge Street		ONE HOUR	✓	494	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	281	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0	413	312
2 - Shawbridge Street		378	0	116
3 - A671 Waterloo Road (S)		177	104	0

Proportions

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0.00	0.57	0.43
2 - Shawbridge Street		0.77	0.00	0.23
3 - A671 Waterloo Road (S)		0.63	0.37	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0	1	1
2 - Shawbridge Street		1	0	0
3 - A671 Waterloo Road (S)		0	0	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		1.000	1.010	1.010
2 - Shawbridge Street		1.010	1.000	1.000
3 - A671 Waterloo Road (S)		1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
16:45-17:00	1 - A671 Waterloo Road (N)	546	546	
	2 - Shawbridge Street	372	372	
	3 - A671 Waterloo Road (S)	212	212	15.06
17:00-17:15	1 - A671 Waterloo Road (N)	652	652	
	2 - Shawbridge Street	444	444	
	3 - A671 Waterloo Road (S)	253	253	17.98
17:15-17:30	1 - A671 Waterloo Road (N)	798	798	
	2 - Shawbridge Street	544	544	
	3 - A671 Waterloo Road (S)	309	309	22.02
17:30-17:45	1 - A671 Waterloo Road (N)	798	798	
	2 - Shawbridge Street	544	544	
	3 - A671 Waterloo Road (S)	309	309	22.02
17:45-18:00	1 - A671 Waterloo Road (N)	652	652	
	2 - Shawbridge Street	444	444	
	3 - A671 Waterloo Road (S)	253	253	17.98
18:00-18:15	1 - A671 Waterloo Road (N)	546	546	
	2 - Shawbridge Street	372	372	
	3 - A671 Waterloo Road (S)	212	212	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	0.93	48.58	10.1	E	665	998
2 - Shawbridge Street	0.99	102.72	15.2	F	453	680
3 - A671 Waterloo Road (S)	0.42	8.50	0.7	A	258	387

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	546	136	78		879	0.621	539	412	0.0	1.6	10.521	B
2 - Shawbridge Street	372	93	232		614	0.606	366	385	0.0	1.5	14.306	B
3 - A671 Waterloo Road (S)	212	53	280	15.06	817	0.259	210	318	0.0	0.3	5.917	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	652	163	93		870	0.749	647	494	1.6	2.8	15.962	C
2 - Shawbridge Street	444	111	278		586	0.758	439	462	1.5	2.9	23.771	C
3 - A671 Waterloo Road (S)	253	63	336	17.98	778	0.325	252	381	0.3	0.5	6.839	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	798	200	114		857	0.931	775	586	2.8	8.5	36.934	E
2 - Shawbridge Street	544	136	334		552	0.986	513	556	2.9	10.7	64.615	F
3 - A671 Waterloo Road (S)	309	77	392	22.02	738	0.419	308	454	0.5	0.7	8.371	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	798	200	114		857	0.932	792	597	8.5	10.1	48.579	E
2 - Shawbridge Street	544	136	341		547	0.994	526	566	10.7	15.2	102.715	F
3 - A671 Waterloo Road (S)	309	77	403	22.02	733	0.422	309	464	0.7	0.7	8.500	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	652	163	94		869	0.750	679	534	10.1	3.2	21.358	C
2 - Shawbridge Street	444	111	292		577	0.769	489	481	15.2	3.9	51.725	F
3 - A671 Waterloo Road (S)	253	63	374	17.98	754	0.335	253	407	0.7	0.5	7.207	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	546	136	79		879	0.621	552	425	3.2	1.7	11.335	B
2 - Shawbridge Street	372	93	238		611	0.609	381	393	3.9	1.6	16.344	C
3 - A671 Waterloo Road (S)	212	53	291	15.06	813	0.260	212	327	0.5	0.4	5.998	A

Unmitigated Layout - D3 - 2030 | Base | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	70.36	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-13	2 - Shawbridge Street	70.36	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2030	Base	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	738	100.000
2 - Shawbridge Street		ONE HOUR	✓	512	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	400	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0	457	281
2 - Shawbridge Street		444	0	68
3 - A671 Waterloo Road (S)		244	156	0

Proportions

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0.00	0.62	0.38
2 - Shawbridge Street		0.87	0.00	0.13
3 - A671 Waterloo Road (S)		0.61	0.39	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0	3	3
2 - Shawbridge Street		3	0	6
3 - A671 Waterloo Road (S)		3	2	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		1.000	1.030	1.030
2 - Shawbridge Street		1.030	1.000	1.060
3 - A671 Waterloo Road (S)		1.030	1.020	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
07:45-08:00	1 - A671 Waterloo Road (N)	556	556	
	2 - Shawbridge Street	385	385	
	3 - A671 Waterloo Road (S)	301	301	15.06
08:00-08:15	1 - A671 Waterloo Road (N)	663	663	
	2 - Shawbridge Street	460	460	
	3 - A671 Waterloo Road (S)	360	360	17.98
08:15-08:30	1 - A671 Waterloo Road (N)	813	813	
	2 - Shawbridge Street	564	564	
	3 - A671 Waterloo Road (S)	440	440	22.02
08:30-08:45	1 - A671 Waterloo Road (N)	813	813	
	2 - Shawbridge Street	564	564	
	3 - A671 Waterloo Road (S)	440	440	22.02
08:45-09:00	1 - A671 Waterloo Road (N)	663	663	
	2 - Shawbridge Street	460	460	
	3 - A671 Waterloo Road (S)	360	360	17.98
09:00-09:15	1 - A671 Waterloo Road (N)	556	556	
	2 - Shawbridge Street	385	385	
	3 - A671 Waterloo Road (S)	301	301	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	0.99	81.63	17.9	F	677	1016
2 - Shawbridge Street	0.99	97.48	14.8	F	470	705
3 - A671 Waterloo Road (S)	0.64	14.85	1.8	B	367	551

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	556	139	116		856	0.649	548	511	0.0	1.8	11.798	B
2 - Shawbridge Street	385	96	209		628	0.614	379	456	0.0	1.6	14.598	B
3 - A671 Waterloo Road (S)	301	75	329	15.06	785	0.384	299	259	0.0	0.6	7.563	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	663	166	140		842	0.788	657	613	1.8	3.5	19.361	C
2 - Shawbridge Street	460	115	250		603	0.763	455	546	1.6	3.0	24.134	C
3 - A671 Waterloo Road (S)	360	90	394	17.98	743	0.484	358	310	0.6	0.9	9.576	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	813	203	171		823	0.987	774	729	3.5	13.2	52.580	F
2 - Shawbridge Street	564	141	295		576	0.979	533	650	3.0	10.6	62.480	F
3 - A671 Waterloo Road (S)	440	110	462	22.02	697	0.632	437	365	0.9	1.7	14.089	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	813	203	172		822	0.988	794	743	13.2	17.9	81.627	F
2 - Shawbridge Street	564	141	302		571	0.987	547	663	10.6	14.8	97.484	F
3 - A671 Waterloo Road (S)	440	110	474	22.02	688	0.640	440	375	1.7	1.8	14.853	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	663	166	141		841	0.789	718	657	17.9	4.3	38.241	E
2 - Shawbridge Street	460	115	273		589	0.782	502	586	14.8	4.3	52.651	F
3 - A671 Waterloo Road (S)	360	90	436	17.98	717	0.501	362	340	1.8	1.1	10.498	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	556	139	118		855	0.650	565	528	4.3	2.0	13.185	B
2 - Shawbridge Street	385	96	215		624	0.617	396	468	4.3	1.7	16.937	C
3 - A671 Waterloo Road (S)	301	75	343	15.06	782	0.385	303	268	1.1	0.7	7.731	A

Unmitigated Layout - D4 - 2030 | Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 81% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	96.37	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-18	2 - Shawbridge Street	96.37	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2030	Base	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	767	100.000
2 - Shawbridge Street		ONE HOUR	✓	523	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	297	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	437	330
	2 - Shawbridge Street	400	0	123
	3 - A671 Waterloo Road (S)	187	110	0

Proportions

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0.00	0.57	0.43
	2 - Shawbridge Street	0.76	0.00	0.24
	3 - A671 Waterloo Road (S)	0.63	0.37	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	1	1
	2 - Shawbridge Street	1	0	0
	3 - A671 Waterloo Road (S)	0	0	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	1.000	1.010	1.010
	2 - Shawbridge Street	1.010	1.000	1.000
	3 - A671 Waterloo Road (S)	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
16:45-17:00	1 - A671 Waterloo Road (N)	577	577	
	2 - Shawbridge Street	394	394	
	3 - A671 Waterloo Road (S)	224	224	15.06
17:00-17:15	1 - A671 Waterloo Road (N)	690	690	
	2 - Shawbridge Street	470	470	
	3 - A671 Waterloo Road (S)	267	267	17.98
17:15-17:30	1 - A671 Waterloo Road (N)	844	844	
	2 - Shawbridge Street	576	576	
	3 - A671 Waterloo Road (S)	327	327	22.02
17:30-17:45	1 - A671 Waterloo Road (N)	844	844	
	2 - Shawbridge Street	576	576	
	3 - A671 Waterloo Road (S)	327	327	22.02
17:45-18:00	1 - A671 Waterloo Road (N)	690	690	
	2 - Shawbridge Street	470	470	
	3 - A671 Waterloo Road (S)	267	267	17.98
18:00-18:15	1 - A671 Waterloo Road (N)	577	577	
	2 - Shawbridge Street	394	394	
	3 - A671 Waterloo Road (S)	224	224	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	0.99	80.86	18.5	F	704	1056
2 - Shawbridge Street	1.07	168.81	28.1	F	480	720
3 - A671 Waterloo Road (S)	0.45	8.90	0.8	A	273	409

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	577	144	82		876	0.659	570	436	0.0	1.9	11.603	B
2 - Shawbridge Street	394	98	245		606	0.650	387	407	0.0	1.8	16.063	C
3 - A671 Waterloo Road (S)	224	56	296	15.06	806	0.277	222	336	0.0	0.4	6.145	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	690	172	99		866	0.796	683	521	1.9	3.6	19.086	C
2 - Shawbridge Street	470	118	294		576	0.816	462	488	1.8	3.8	29.742	D
3 - A671 Waterloo Road (S)	267	67	353	17.98	766	0.349	266	402	0.4	0.5	7.195	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	844	211	121		853	0.990	804	605	3.6	13.6	51.836	F
2 - Shawbridge Street	576	144	346		544	1.058	523	579	3.8	17.1	91.054	F
3 - A671 Waterloo Road (S)	327	82	400	22.02	734	0.446	326	469	0.5	0.8	8.809	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	844	211	121		853	0.990	825	613	13.6	18.5	80.857	F
2 - Shawbridge Street	576	144	355		539	1.069	532	591	17.1	28.1	168.808	F
3 - A671 Waterloo Road (S)	327	82	407	22.02	731	0.447	327	480	0.8	0.8	8.898	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	690	172	99		866	0.796	746	582	18.5	4.5	38.507	E
2 - Shawbridge Street	470	118	321		560	0.840	541	524	28.1	10.4	136.276	F
3 - A671 Waterloo Road (S)	267	67	414	17.98	727	0.367	268	448	0.8	0.6	7.849	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	577	144	83		876	0.659	587	468	4.5	2.0	12.992	B
2 - Shawbridge Street	394	98	253		601	0.655	427	418	10.4	2.0	24.377	C
3 - A671 Waterloo Road (S)	224	56	327	15.06	789	0.284	224	353	0.6	0.4	6.391	A

Unmitigated Layout - D5 - 2030 | Base + Committed | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	252.52	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-28	2 - Shawbridge Street	252.52	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2030	Base + Committed	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	779	100.000
2 - Shawbridge Street		ONE HOUR	✓	653	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	459	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	498	281
	2 - Shawbridge Street	495	0	158
	3 - A671 Waterloo Road (S)	244	215	0

Proportions

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0.00	0.64	0.36
	2 - Shawbridge Street	0.76	0.00	0.24
	3 - A671 Waterloo Road (S)	0.53	0.47	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0	3	3
2 - Shawbridge Street		3	0	3
3 - A671 Waterloo Road (S)		3	1	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		1.000	1.030	1.030
2 - Shawbridge Street		1.030	1.000	1.030
3 - A671 Waterloo Road (S)		1.030	1.010	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
07:45-08:00	1 - A671 Waterloo Road (N)	586	586	
	2 - Shawbridge Street	492	492	
	3 - A671 Waterloo Road (S)	346	346	15.06
08:00-08:15	1 - A671 Waterloo Road (N)	700	700	
	2 - Shawbridge Street	587	587	
	3 - A671 Waterloo Road (S)	413	413	17.98
08:15-08:30	1 - A671 Waterloo Road (N)	858	858	
	2 - Shawbridge Street	719	719	
	3 - A671 Waterloo Road (S)	505	505	22.02
08:30-08:45	1 - A671 Waterloo Road (N)	858	858	
	2 - Shawbridge Street	719	719	
	3 - A671 Waterloo Road (S)	505	505	22.02
08:45-09:00	1 - A671 Waterloo Road (N)	700	700	
	2 - Shawbridge Street	587	587	
	3 - A671 Waterloo Road (S)	413	413	17.98
09:00-09:15	1 - A671 Waterloo Road (N)	586	586	
	2 - Shawbridge Street	492	492	
	3 - A671 Waterloo Road (S)	346	346	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	1.09	186.55	47.6	F	715	1072
2 - Shawbridge Street	1.23	496.22	80.5	F	599	899
3 - A671 Waterloo Road (S)	0.71	17.79	2.4	C	421	632

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	586	147	160		829	0.707	577	545	0.0	2.4	14.218	B
2 - Shawbridge Street	492	123	208		629	0.782	478	529	0.0	3.3	23.032	C
3 - A671 Waterloo Road (S)	346	86	363	15.06	762	0.454	342	324	0.0	0.8	8.689	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	700	175	192		810	0.865	688	642	2.4	5.4	27.911	D
2 - Shawbridge Street	587	147	248		604	0.972	559	632	3.3	10.4	59.498	F
3 - A671 Waterloo Road (S)	413	103	424	17.98	726	0.569	411	383	0.8	1.3	11.595	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	858	214	235		785	1.093	767	708	5.4	28.0	94.075	F
2 - Shawbridge Street	719	180	277		587	1.225	582	725	10.4	44.5	186.739	F
3 - A671 Waterloo Road (S)	505	126	441	22.02	711	0.710	501	418	1.3	2.4	17.132	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	858	214	237		783	1.095	779	711	28.0	47.6	186.552	F
2 - Shawbridge Street	719	180	281		584	1.231	583	735	44.5	78.4	392.485	F
3 - A671 Waterloo Road (S)	505	126	442	22.02	711	0.711	505	422	2.4	2.4	17.791	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	700	175	195		808	0.866	791	660	47.6	24.9	168.586	F
2 - Shawbridge Street	587	147	285		581	1.010	579	701	78.4	80.5	496.224	F
3 - A671 Waterloo Road (S)	413	103	439	17.98	715	0.577	417	425	2.4	1.4	12.476	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	586	147	163		828	0.708	675	639	24.9	2.7	36.594	E
2 - Shawbridge Street	492	123	244		607	0.810	599	594	80.5	53.6	404.996	F
3 - A671 Waterloo Road (S)	346	86	454	15.06	705	0.490	347	389	1.4	1.0	10.321	B

Unmitigated Layout - D6 - 2030 | Base + Committed | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	244.73	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-27	2 - Shawbridge Street	244.73	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2030	Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	807	100.000
2 - Shawbridge Street		ONE HOUR	✓	611	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	371	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	477	330
	2 - Shawbridge Street	434	0	177
	3 - A671 Waterloo Road (S)	187	184	0

Proportions

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0.00	0.59	0.41
	2 - Shawbridge Street	0.71	0.00	0.29
	3 - A671 Waterloo Road (S)	0.50	0.50	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		0	1	1
2 - Shawbridge Street		1	0	0
3 - A671 Waterloo Road (S)		0	0	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
1 - A671 Waterloo Road (N)		1.000	1.010	1.010
2 - Shawbridge Street		1.010	1.000	1.000
3 - A671 Waterloo Road (S)		1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
16:45-17:00	1 - A671 Waterloo Road (N)	608	608	
	2 - Shawbridge Street	460	460	
	3 - A671 Waterloo Road (S)	279	279	15.06
17:00-17:15	1 - A671 Waterloo Road (N)	725	725	
	2 - Shawbridge Street	549	549	
	3 - A671 Waterloo Road (S)	334	334	17.98
17:15-17:30	1 - A671 Waterloo Road (N)	889	889	
	2 - Shawbridge Street	673	673	
	3 - A671 Waterloo Road (S)	408	408	22.02
17:30-17:45	1 - A671 Waterloo Road (N)	889	889	
	2 - Shawbridge Street	673	673	
	3 - A671 Waterloo Road (S)	408	408	22.02
17:45-18:00	1 - A671 Waterloo Road (N)	725	725	
	2 - Shawbridge Street	549	549	
	3 - A671 Waterloo Road (S)	334	334	17.98
18:00-18:15	1 - A671 Waterloo Road (N)	608	608	
	2 - Shawbridge Street	460	460	
	3 - A671 Waterloo Road (S)	279	279	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	1.11	198.31	52.6	F	741	1111
2 - Shawbridge Street	1.21	448.14	68.4	F	561	841
3 - A671 Waterloo Road (S)	0.55	10.70	1.2	B	340	511

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	608	152	137		843	0.721	598	458	0.0	2.5	14.303	B
2 - Shawbridge Street	460	115	244		606	0.758	449	491	0.0	2.9	21.633	C
3 - A671 Waterloo Road (S)	279	70	319	15.06	791	0.353	277	374	0.0	0.5	6.975	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	725	181	165		827	0.878	712	541	2.5	5.8	28.812	D
2 - Shawbridge Street	549	137	291		578	0.951	526	586	2.9	8.7	54.065	F
3 - A671 Waterloo Road (S)	334	83	374	17.98	755	0.442	333	444	0.5	0.8	8.500	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	889	222	202		804	1.105	789	598	5.8	30.6	98.249	F
2 - Shawbridge Street	673	168	323		559	1.204	553	668	8.7	38.5	171.485	F
3 - A671 Waterloo Road (S)	408	102	393	22.02	745	0.548	407	483	0.8	1.2	10.593	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	889	222	203		804	1.105	800	600	30.6	52.6	198.311	F
2 - Shawbridge Street	673	168	327		556	1.210	555	676	38.5	68.0	359.531	F
3 - A671 Waterloo Road (S)	408	102	394	22.02	745	0.549	408	488	1.2	1.2	10.703	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	725	181	166		826	0.879	810	558	52.6	31.4	189.323	F
2 - Shawbridge Street	549	137	331		553	0.993	548	645	68.0	68.4	448.135	F
3 - A671 Waterloo Road (S)	334	83	389	17.98	750	0.445	335	490	1.2	0.8	8.710	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	608	152	139		842	0.721	722	544	31.4	2.9	51.216	F
2 - Shawbridge Street	460	115	295		575	0.799	567	566	68.4	41.6	351.836	F
3 - A671 Waterloo Road (S)	279	70	403	15.06	738	0.379	280	459	0.8	0.6	7.884	A

Unmitigated Layout - D7 - 2030 | Base + Committed + Development | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	269.10	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-29	2 - Shawbridge Street	269.10	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2030	Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	782	100.000
2 - Shawbridge Street		ONE HOUR	✓	662	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	459	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
From	1 - A671 Waterloo Road (N)	0	501	281
	2 - Shawbridge Street	504	0	158
	3 - A671 Waterloo Road (S)	244	215	0

Proportions

	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
From	1 - A671 Waterloo Road (N)	0.00	0.64	0.36
	2 - Shawbridge Street	0.76	0.00	0.24
	3 - A671 Waterloo Road (S)	0.53	0.47	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	3	3
	2 - Shawbridge Street	3	0	3
	3 - A671 Waterloo Road (S)	3	1	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	1.000	1.030	1.030
	2 - Shawbridge Street	1.030	1.000	1.030
	3 - A671 Waterloo Road (S)	1.030	1.010	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
07:45-08:00	1 - A671 Waterloo Road (N)	589	589	
	2 - Shawbridge Street	498	498	
	3 - A671 Waterloo Road (S)	346	346	15.06
08:00-08:15	1 - A671 Waterloo Road (N)	703	703	
	2 - Shawbridge Street	595	595	
	3 - A671 Waterloo Road (S)	413	413	17.98
08:15-08:30	1 - A671 Waterloo Road (N)	861	861	
	2 - Shawbridge Street	729	729	
	3 - A671 Waterloo Road (S)	505	505	22.02
08:30-08:45	1 - A671 Waterloo Road (N)	861	861	
	2 - Shawbridge Street	729	729	
	3 - A671 Waterloo Road (S)	505	505	22.02
08:45-09:00	1 - A671 Waterloo Road (N)	703	703	
	2 - Shawbridge Street	595	595	
	3 - A671 Waterloo Road (S)	413	413	17.98
09:00-09:15	1 - A671 Waterloo Road (N)	589	589	
	2 - Shawbridge Street	498	498	
	3 - A671 Waterloo Road (S)	346	346	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	1.10	191.60	49.1	F	718	1076
2 - Shawbridge Street	1.25	534.81	87.7	F	607	911
3 - A671 Waterloo Road (S)	0.71	17.94	2.4	C	421	632

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	589	147	160		829	0.710	579	551	0.0	2.4	14.329	B
2 - Shawbridge Street	498	125	208		629	0.793	485	531	0.0	3.5	23.862	C
3 - A671 Waterloo Road (S)	346	86	369	15.06	757	0.456	342	324	0.0	0.8	8.779	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	703	176	192		810	0.868	691	647	2.4	5.5	28.360	D
2 - Shawbridge Street	595	149	248		604	0.985	563	635	3.5	11.4	63.581	F
3 - A671 Waterloo Road (S)	413	103	429	17.98	722	0.572	411	383	0.8	1.3	11.735	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	861	215	235		785	1.097	768	711	5.5	28.8	96.030	F
2 - Shawbridge Street	729	182	276		587	1.241	583	727	11.4	47.7	199.105	F
3 - A671 Waterloo Road (S)	505	126	444	22.02	709	0.712	501	415	1.3	2.4	17.291	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	861	215	237		783	1.099	779	713	28.8	49.1	191.598	F
2 - Shawbridge Street	729	182	280		585	1.247	584	736	47.7	83.9	418.628	F
3 - A671 Waterloo Road (S)	505	126	445	22.02	709	0.713	505	419	2.4	2.4	17.941	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	703	176	195		808	0.870	792	663	49.1	27.0	176.272	F
2 - Shawbridge Street	595	149	285		582	1.023	580	702	83.9	87.7	534.807	F
3 - A671 Waterloo Road (S)	413	103	442	17.98	713	0.579	417	423	2.4	1.4	12.568	B

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	589	147	163		828	0.711	686	640	27.0	2.8	40.942	E
2 - Shawbridge Street	498	125	246		605	0.823	598	602	87.7	62.7	454.259	F
3 - A671 Waterloo Road (S)	346	86	455	15.06	704	0.491	347	389	1.4	1.0	10.349	B

Unmitigated Layout - D8 - 2030 | Base + Committed + Development | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Shawbridge St/Waterloo Rd	Mini-roundabout		1, 2, 3	275.25	F

Junction Network

Driving side	Lighting	Road surface	In London	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	Normal/unknown		-28	2 - Shawbridge Street	275.25	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2030	Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A671 Waterloo Road (N)		ONE HOUR	✓	815	100.000
2 - Shawbridge Street		ONE HOUR	✓	623	100.000
3 - A671 Waterloo Road (S)		ONE HOUR	✓	386	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
1 - A671 Waterloo Road (N)		
2 - Shawbridge Street		
3 - A671 Waterloo Road (S)	[ONEHOUR]	20.00

Origin-Destination Data

Demand (PCU/hr)

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	485	330
	2 - Shawbridge Street	438	0	185
	3 - A671 Waterloo Road (S)	187	199	0

Proportions

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0.00	0.60	0.40
	2 - Shawbridge Street	0.70	0.00	0.30
	3 - A671 Waterloo Road (S)	0.48	0.52	0.00

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	0	1	1
	2 - Shawbridge Street	1	0	0
	3 - A671 Waterloo Road (S)	0	0	0

Average PCU Per Veh

From	To			
		1 - A671 Waterloo Road (N)	2 - Shawbridge Street	3 - A671 Waterloo Road (S)
	1 - A671 Waterloo Road (N)	1.000	1.010	1.010
	2 - Shawbridge Street	1.010	1.000	1.000
	3 - A671 Waterloo Road (S)	1.000	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
16:45-17:00	1 - A671 Waterloo Road (N)	614	614	
	2 - Shawbridge Street	469	469	
	3 - A671 Waterloo Road (S)	291	291	15.06
17:00-17:15	1 - A671 Waterloo Road (N)	733	733	
	2 - Shawbridge Street	560	560	
	3 - A671 Waterloo Road (S)	347	347	17.98
17:15-17:30	1 - A671 Waterloo Road (N)	897	897	
	2 - Shawbridge Street	686	686	
	3 - A671 Waterloo Road (S)	425	425	22.02
17:30-17:45	1 - A671 Waterloo Road (N)	897	897	
	2 - Shawbridge Street	686	686	
	3 - A671 Waterloo Road (S)	425	425	22.02
17:45-18:00	1 - A671 Waterloo Road (N)	733	733	
	2 - Shawbridge Street	560	560	
	3 - A671 Waterloo Road (S)	347	347	17.98
18:00-18:15	1 - A671 Waterloo Road (N)	614	614	
	2 - Shawbridge Street	469	469	
	3 - A671 Waterloo Road (S)	291	291	15.06

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A671 Waterloo Road (N)	1.13	236.72	61.6	F	748	1122
2 - Shawbridge Street	1.23	489.24	75.2	F	572	858
3 - A671 Waterloo Road (S)	0.57	11.23	1.3	B	354	531

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	614	153	149		836	0.734	603	461	0.0	2.6	14.991	B
2 - Shawbridge Street	469	117	244		607	0.773	457	508	0.0	3.1	22.652	C
3 - A671 Waterloo Road (S)	291	73	321	15.06	790	0.368	288	380	0.0	0.6	7.148	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	733	183	178		818	0.895	717	542	2.6	6.5	31.744	D
2 - Shawbridge Street	560	140	290		578	0.968	533	605	3.1	9.8	58.960	F
3 - A671 Waterloo Road (S)	347	87	375	17.98	755	0.460	346	449	0.6	0.8	8.776	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	897	224	218		794	1.129	783	597	6.5	35.1	110.875	F
2 - Shawbridge Street	686	171	317		562	1.220	558	684	9.8	41.9	184.201	F
3 - A671 Waterloo Road (S)	425	106	392	22.02	746	0.570	423	483	0.8	1.3	11.085	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	897	224	219		794	1.130	792	599	35.1	61.6	230.191	F
2 - Shawbridge Street	686	171	321		560	1.225	559	690	41.9	73.6	385.169	F
3 - A671 Waterloo Road (S)	425	106	393	22.02	745	0.570	425	487	1.3	1.3	11.229	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	733	183	180		818	0.896	804	558	61.6	43.6	236.717	F
2 - Shawbridge Street	560	140	326		557	1.006	554	658	73.6	75.2	489.241	F
3 - A671 Waterloo Road (S)	347	87	389	17.98	750	0.463	349	490	1.3	0.9	9.011	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - A671 Waterloo Road (N)	614	153	150		835	0.735	775	533	43.6	3.3	93.801	F
2 - Shawbridge Street	469	117	314		564	0.831	557	611	75.2	53.3	417.368	F
3 - A671 Waterloo Road (S)	291	73	391	15.06	746	0.389	292	479	0.9	0.6	7.929	A