SCP
Transportation Planning : Infrastructure Design
an RSK company

Castle Green Homes Ltd

Well Street, Buckley

Transport Assessment

220525

JUNE 2023

SCP GENERAL NOTES

Project No.: 220525-TA (0.0)

Title: Well Street, Buckley, Transport Assessment

Client: Castle Green Homes Ltd

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CONTENTS

APPENDICES

1 INTRODUCTION

General

1.1 Castle Green Homes Ltd seek planning permission for a residential development of 155 affordable dwellings on a plot of land located to the north-west of Well Street, Buckley.

1.2 The location of the site in relation to the wider highway network is shown on **Figure 1.1** below and the site boundary in relation to the local highway network is shown in red on **Figure 1.2** overleaf.

Figure 1.1 – Site Location – Wider Highway Network

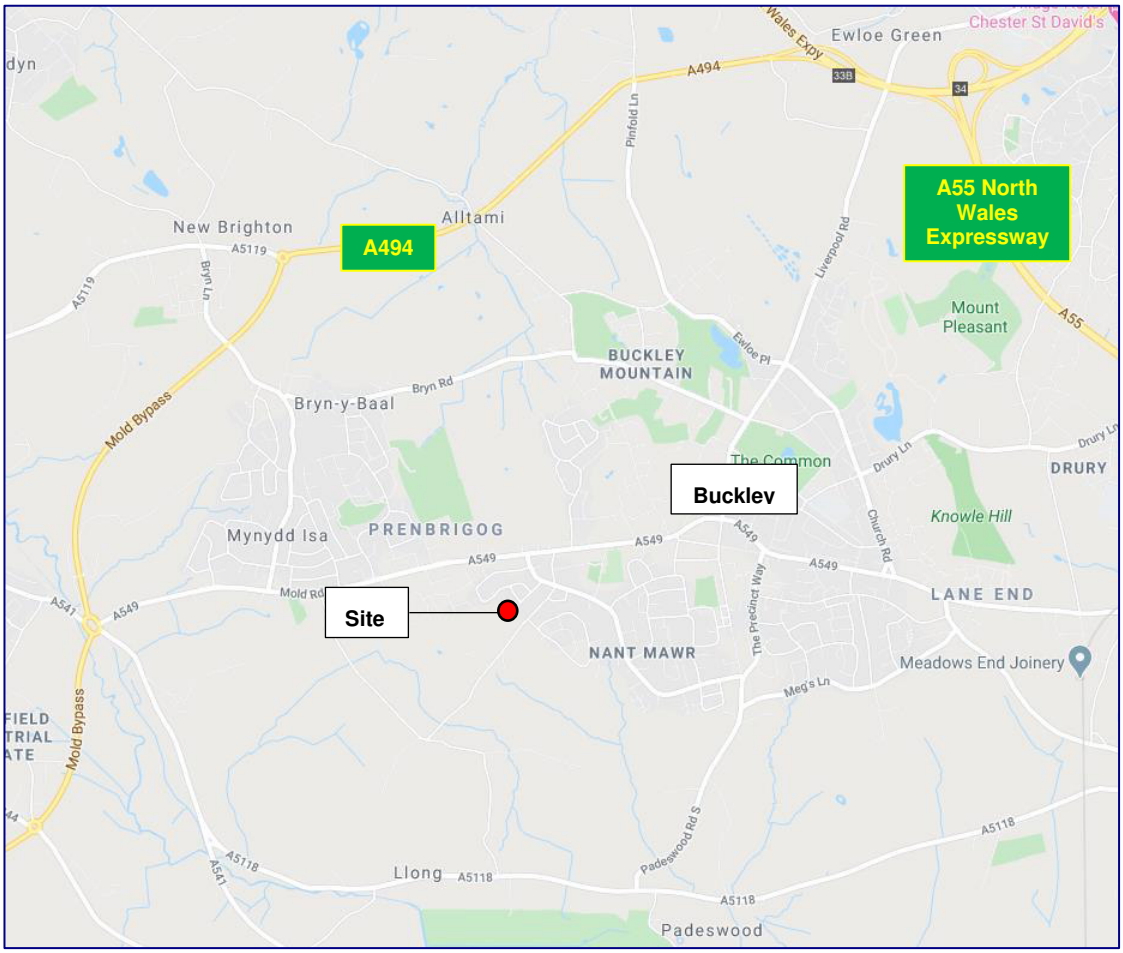


Figure 1.2 – Site Location Plan – Local View

1.3 SCP has been appointed by Castle Green Homes Ltd to prepare this Transport Assessment (TA) to accompany the planning application for the proposals.

1.4 This TA provides an assessment of the traffic and transport implications associated with the development proposals to inform Flintshire County Council (FCC), as local highway and planning authority, regarding the nature and magnitude of their impact.

Background

1.5 The application site is allocated in the Flintshire County Council Unitary Development Plan (UDP) under Policy HSG 1 New Housing Development Proposals. The County's UDP was intended to run from 2000-2015. The Council published its deposit Local Development Plan (LDP) in 2019 and that also proposes to continue the housing allocation. The UDP still represents the most recent adopted development plan. Policy HSG 1 (3) of the UDP identifies the application site is allocated for approximately 162 dwellings and therefore, the principle of residential development on the application site has already been deemed acceptable to FCC.

1.6 It is also understood that the application site has been recently assessed as part of a potential wider allocation site for the LDP and no issues from a highway capacity perspective were identified.

1.7 In 2021, the proposals at the application site were subject to a pre-application consultation (PAC) process in accordance with Article 1 of the Town and Country Planning (Development Management Procedure) (Wales) Order 2016.

1.8 A TA was submitted as part of this process which was reviewed by FCC who raised no objection to the application but requested that traffic surveys and detailed capacity assessments be undertaken at the key junctions in the vicinity of the site.

1.9 Following the PAC process, a planning application was submitted to FCC in February 2021 (LPA: Ref HD/CGS/062458) for the following:-

"Residential development of up to 140 dwellings, means of access, open space, sustainable drainage infrastructure and all other associated works (Outline application including access, with all other matters reserved.)"

1.10 The application was supported by a TA prepared by SCP Transport (dated October 2021) and included the detailed capacity assessments at key junctions in the vicinity of the site, as requested by FCC. The TA concluded that the proposed development would not have a significant impact on the surrounding highway network and that there was no transport related reason to withhold planning permission for the scheme.

1.11 At the time of writing this report, the planning application is yet to be determined, however the Highway Officer at FCC reviewed the TA and raised no objection to the scheme subject to a number of conditions. The comments are provided in **Appendix A** for reference.

1.12 This TA has been prepared to support the revised scheme. The scope of the assessment and highway elements are the scheme are broadly consistent with the previous except for the following:-

- The traffic surveys used in the capacity assessments for the previous TA were undertaken during the COVID19 pandemic and factored up based on historic traffic counts. The junctions within the agreed study area have been re-surveyed for the purpose of this updated TA; and
- The proposed main vehicular access along Well Street now takes the form of a priority control 4-arm mini roundabout, which provides highway safety benefits which are discussed later in this report.

Structure of Report

1.13 The structure of this report is as follows:

- Chapter 2 – summarises relevant national and local transport policies and evaluated a Transport Implementation Strategy;
- Chapter 3 – provides an appraisal of the existing conditions of the site including an appraisal of the local highway network, existing traffic conditions and road safety record;
- Chapter 4 – provides an appraisal of the development proposals including the proposed site access arrangements, servicing arrangements and car parking;
- Chapter 5 – presents a review of the accessibility of the site by walking, cycling and public transport modes;

- Chapter 6 – describes the future baseline traffic conditions on the local highway network in relation to committed development traffic flows and traffic growth;
- Chapter 7 – presents estimates of the trip generating potential of the scheme;
- Chapter 8 – sets out the methodologies for estimating the distribution of site traffic through the local highway network;
- Chapter 9 – presents an assessment of the impact of the development on the operational performance of the local highway network; and,
- Chapter 10 – provides the summary and conclusions to the above chapters.

2 POLICY CONTEXT AND TRANSPORT IMPLEMENTATION STRATEGY

Introduction

2.1 Technical Advice Note 18 (TAN 18) sets out the need for all TA supporting documents in Wales to include a Transport Implementation Strategy (TIS), which should include the following information in respect of each particular development proposal:

- Details of how the development and the TIS relate to transport planning policies and strategy. TIS's are intended to incorporate all the elements of a Travel Plan (TP) and to ensure that these are integrated with design elements of the new development;
- A set of objectives and targets relating to managing travel demand for the development;
- A framework for monitoring the objectives and targets, including the future modal split of transport to the development; and
- Details of measures proposed to improve access by public transport, walking and cycling to reduce the number and impacts of motorised journeys associated with the development.

2.2 This TIS section is therefore prepared having regard to the advice from TAN 18, as outlined above. It is considered that this TIS can be taken forward and used as a framework for a future detailed Travel Plan that can be secured as part of a planning condition, if considered necessary.

Policy Context - Planning Policy Wales (PPW)

2.3 In terms of the national transport policy that is relevant to the TIS, the latest 11th edition of PPW was published in February 2021 by the Welsh Government and sets out a framework for the Welsh planning authorities to prepare their development plans. Chapter 4 of PPW sets out the approach to Transport.

2.4 Paragraph 4.1.1 of PPW states that "*The planning system should enable people to access jobs and services through shorter, more efficient and sustainable journeys, by walking, cycling and public transport. By influencing the location, scale, density, mix of uses and design of new development, the planning system can improve choice in transport and secure accessibility in a way which supports sustainable development, increases physical activity, improves health and helps to tackle the causes of climate change and airborne pollution by:*

- *Enabling More Sustainable Travel Choices – measures to increase walking, cycling and public transport, reduce dependency on the car for daily travel;*
- *Network Management – measures to make best use of the available capacity, supported by targeted new infrastructure; and,*
- *Demand Management – the application of strategies and policies to reduce travel demand, specifically that of single-occupancy private vehicles".*

2.5 Paragraph 4.1.9-4.1.10 of PPW states that "*The Welsh Government is committed to reducing reliance on the private car and supporting a modal shift to walking, cycling and public transport. The planning system has a key role to play in reducing the need to travel and supporting sustainable transport, by facilitating developments which:*

- *are sited in the right locations, where they can be easily accessed by sustainable modes of travel and without the need for a car;*
- *are designed in a way which integrates them with existing land uses and neighbourhoods; and,*
- *make it possible for all short journeys within and beyond the development to be easily made by walking and cycling."*

2.6 With reference to the Active Travel (Wales) Act 2013, Paragraph 4.1.27 of PPW states that walking and cycling should be promoted for shorter journeys, particularly everyday journeys to work and education establishments or to other local services and facilities. "*The Active Travel Act requires local authorities to produce Integrated Network Maps, identifying the walking and cycling routes required to create fully integrated networks for walking and cycling to access work, education, services and facilities."*.

2.7 In reference to supporting documentation with planning applications, paragraph 4.1.55 of PPW states that *"Transport Assessments are an important mechanism for setting out the scale of anticipated impacts of a proposed development, or redevelopment, is likely to have. They assist in helping to anticipate the impacts of development so that they can be understood and catered for appropriately."*

TIS Objectives and Targets

2.8 The objectives of a TIS should benefit both the occupiers of a development and the wider community. The objectives will be set out in the following sections and form the basis for a TP for the development. Site specific objectives that are relevant to the proposed development are as follows:

- *Increase opportunities for residents;*
- *Reduce vehicle use in and around the site;*
- *Improve the image of the local area;*
- *Reduce the transport impact of the development upon the environment;*
- *Promote more sustainable ways of travelling; and,*
- *Support government policy to manage travel demand more effectively.*

2.9 In order to achieve the objective of reducing single occupancy vehicle travel, realistic short term annual targets for mode share will be set.

2.10 The proposed development is located in the Buckley Bistre West Ward. The 2011 UK Census shows that single occupancy travel to work by car mode is, on average; lower in the Buckley Bistre West Ward (74.8%) to Flintshire (76.2%) and higher than Wales (71.2%). The existing local single occupancy modal share percentage of 74.8% will therefore be the initial baseline target for the residential properties on the site. The following table shows the figures obtained from the Census data:-

Table 2.1 – Mode Share from Local, Regional and National Area (2011 Census)

Travel to Work (QS701EW) Census Statistics	Buckley Bistre West Ward	Flintshire County	Wales Country
All Usual Residents Aged 16 to 74 in Employment	2,150	74049	1363615
Work Mainly at or From Home	65	3,234	73140
Underground, Metro, Light Rail, Tram	0	45	1175
Train	14	676	27341
Bus, Minibus or Coach	102	2,951	62903
Taxi	9	343	6523
Motorcycle, Scooter or Moped	25	533	7694
Driving a Car or Van	1,559	53,927	918645
Passenger in a Car or Van	155	4,941	92727
Bicycle	24	1,311	19659
On Foot	189	5,676	145135
Other Method of Travel to Work	8	412	8673
Total Persons Travelling to Work	**2,085**	**70815**	**1290475**
Single Occupancy Car Journeys (%)	**74.8%**	**76.2%**	**71.2%**
Car Shares (%)	**7.4%**	**7.0%**	**7.1%**
Public Transport (%)	**5.6%**	**5.2%**	**7.1%**
Walking (%)	**9.1%**	**8.0%**	**11.2%**
Bicycle (%)	**1.2%**	**1.9%**	**1.5%**
Taxi (%)	**0.4%**	**0.5%**	**0.5%**
Motorcycle (%)	**1.2%**	**0.8%**	**0.6%**

2.11 If it is demonstrated (through surveys) that the level of single occupancy car travel from the proposed development is lower than the 74.8% local level, the initial short term targets will be reassessed in conjunction with the local authority to try and bring levels down even further.

2.12 In addition to the single occupancy car travel targets, if it is demonstrated (through surveys) that the level of public transport travel usage to / from the site is less than the 5.6% for the ward, the initial short term targets will be to increase the public transport travel to that level. Once public transport usage from the development is at 5.6%, the targets will be reassessed to try to increase public transport usage levels even further.

Achieving the TIS Objectives and the Monitoring Process

2.13 The objectives and monitoring of the TIS will substantially be achieved through the appointment of suitable Travel Plan Co-ordinator/s (TPC/s). The TPC role for the development would most commonly be overseen by a Management Company located on the site, although in time this role could evolve to be overseen by the residents of the site themselves. Appropriate start-up funding will be provided for the TPC/s to cover the administration costs involved.

2.14 Once appointed, the TPC/s will act as the main contact for the TIS and will be responsible for implementing the TIS measures, involving new residents, maintaining a database and monitoring the effects of implementation. A full set of duties and responsibilities of the TPC/s is set out in the sections below.

2.15 The TPC/s will inform the Local Planning Authority and the appropriate local public transport operators of their contact details. Similarly, the TPC/s will obtain the contact details of the owners and complete a 'Contact' form to provide easy reference when dealing with relevant matters.

2.16 The TPC/s will undertake an initial resident travel survey, within three months of 30% occupation of the site, to enable a resident travel database to be set up. The TPC/s will prepare and distribute a questionnaire to each resident, to collect the following details:

- *Postcode area of place of employment;*
- *Normal working hours;*
- *Mode of travel to work;*
- *Car ownership / usage;*
- *Reasons for not using public transport and other modes;*

2.17 The anticipated take-up of a car sharing scheme, the use of public transport or other non-car modes of travel to work; and,

2.18 Information relating to potential areas for sustainable travel improvement, upon which the TPC/s could act and draw up measures to improve the TIS.

2.19 On receipt of the completed questionnaires the TPC/s will set up a travel database within 3 months of completion of the travel survey.

2.20 The TPC/s will agree the annual targets with the LPA within 1 month of completion of the travel survey analysis. The initial travel survey results for the proportion of residents travelling by single occupancy vehicles should be recorded along with the agreed short-term annual targets.

2.21 The TPC/s will ensure that any changes to the TIS or any relevant information is passed on to residents on a biannual / annual basis in the form of leaflets.

2.22 The TPC/s will ensure that residents are provided with information to allow ease of use of the local public transport by providing up-to-date public transport route maps and timetable information in residential 'welcome packs', and updating by leaflet drop, as necessary. Contact details for local taxi firms will also be provided by the TPC/s.

2.23 The TPC/s will liaise regularly with local public transport operators to ensure that information remains valid. The TPC/s will provide details of the websites and telephone advice services, such as http://www.traveline.info/ to enable residents to obtain details on their individual journey requirements.

2.24 The TPC/s will also liaise with the local public transport operators and release survey data to the operators to identify travel demands and allow appropriate services to be provided. The TPC/s will check regularly to ensure that the information supplied to residents remains valid.

2.25 The TPC/s will encourage walking as a mode of travel to the site by implementing the following initiatives:

- *Raise awareness of the health benefits of walking through promotional material;*
- *Provide a map showing walking routes, indicating distances and times to the most common destinations near to the site; and,*
- *Ensure that footways on site are well maintained and lit and any defects reported to the highways authority on an annual/biannual basis.*

2.26 In conjunction with the pedestrian initiatives, the TPC/s will investigate the potential to set up a bicycle user group (BUG) to encourage residents to cycle to work.

2.27 The TPC/s will set up a car sharing scheme, utilising the online website www.liftshare.com, within 3 months of receiving the initial residents travel surveys. Residents will be contacted by the TPC/s to allow potential car sharers to register an interest and provide details of their journey to and from work along with their contact phone number and work location. The TPC/s will then identify suitable matches for residents that may be able to share their journeys to and from work or for shopping trips.

2.28 The TPC/s will make the new residents aware of the existence of the TIS by providing them with a copy of the TIS as part of a welcome pack as they move into their properties. The existence of the TIS would also be highlighted in promotional literature and advertising for the new dwellings.

2.29 The TPC/s will monitor travel patterns on an annual basis for the first five years of the occupation of the sites and then at suitable intervals as agreed by the Local Planning Authority. The monitoring of the plan is important for the following reasons:

- It will ensure that the Local Planning Authority can see that the aims and objectives of the TIS are being achieved;
- It justifies the commitment of the TPC/s and of other resources;
- It maintains support for the plan by reporting successes;
- It identifies any measures that are not working or problems with the approach of the Plan;
- It can be shared with other organisations to refine the development of the Plan.

2.30 Surveys will be used to monitor travel to and from the site. The surveys can be used to monitor the number of residents walking, cycling, using cars and using public transport. The results can then be compared with the mode share targets identified earlier in this framework TIS.

2.31 The TPC/s will develop the monitoring programme in conjunction with the Local Planning Authority to ensure that the monitoring procedures are appropriate. The TPC/s will maintain a monitoring table of progress to key TIS targets based on the results of the monitoring travel surveys. This table will be published and distributed by leaflet to residents on the site.

2.32 The TPC/s will make information on mode share available to the Local Planning Authority as part of the continuous monitoring process, subject to the provisions of the Data Protection Act.

2.33 The TPC/s will undertake an annual review of the TIS in conjunction with the Local Planning Authority. This review will be important in assessing the effectiveness of the measures implemented and to identify areas where modification may be necessary. In particular the following will be assessed:

- The level of car/non-car usage at the site;
- Comments received from residents.

2.34 When reviewing the effectiveness of the TIS, the following questions will be asked:

- Which areas offer the greatest potential for change/improvement?
- Was the initiative implemented by the target date?
- How well used is each scheme/initiative?
- How much did it cost to introduce?

2.35 The TPC/s will compare the mode share statistics obtained from the annual monitoring to the targets set for the development. The TPC/s will set revised realistic targets for modal shifts to non-car travel modes and investigate the effectiveness of the TIS initiatives being promoted in conjunction with the Local Planning Authority.

2.36 In light of the data collected from the monitoring process, the TPC/s will adapt the TIS to enable the revised agreed targets to be achieved and submit a review report to be agreed with the Local Planning Authority.

2.37 It is considered that the delivery of the TIS / TP can be secured by planning condition, as appropriate.

3 EXISTING CONDITIONS

Site Location

3.1 The proposed development site comprises an irregular shaped plot of land located to the north-west of Well Street, on the south-western edge of the well-established residential area of Buckley, as shown in **Figures 1.1** and **1.2** earlier.

3.2 The site comprises undeveloped agricultural land and is bounded by residential properties to the north-west and north-east, Well Street and farmland to the south-east and farmland to the south-west.

3.3 Public Right of Way (PROW) 410/54/10 runs to the west of the south-western site boundary, connecting Well Street and PROW 410/52/10 to PROW 410/48/10 and PROW 301/36/10, which runs through the development site along part of the north-western site boundary and connects the site to the A548 Mold Road, via Langford Crescent and Mayfield Drive, as shown in **Figure 1.2** earlier.

Local Highway Network

Well Street

3.4 Well Street fronts the south-eastern site boundary and connects the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road junction, to the north-east of the site, to Rose Lane to the south-west of the site. To the north-east of the site, Well Street serves several residential properties via a carriageway with a varying width of between circa 4.8m and 8.5m which benefits from regularly spaced street lighting columns and footways on both sides of the road.

3.5 To the south of the site Well Street becomes a rural single-track lane, however, it benefits from numerous passing places and widens on the approach to Rose Lane allowing sufficient room for two cars to access/egress Well Street simultaneously. Well Street is subject to a 30mph speed limit in the vicinity of the site, although the speed limit changes to the national speed limit approximately 50m south of the south-eastern corner of the site.

Daleside

3.6 Daleside fronts the north-eastern site boundary and is a residential cul-de-sac which provides access to Springfield Drive to the north-east of the site. Daleside has a carriageway with a varying width of between circa 5.5m and 5.7m which benefits from regularly spaced street lighting columns and footways on both sides of the road.

3.7 Daleside provides a turning head immediately to the north-east of the application site boundary which also provides access to the adjacent residential properties. Daleside is subject to a 30mph speed limit and benefits from Traffic Regulation Orders (TRO) including speed bumps.

Springfield Drive / Nant Mawr Road / Well Street / Stanley Road Junction

3.8 The Springfield Drive / Nant Mawr Road / Well Street / Stanley Road junction is a four-arm priority-controlled crossroad junction located approximately 230m north-east of the site. Springfield Drive and Nant Mawr Road form the major arms which provide a connection between the A549 Mold Road, to the north-west, and The Precinct Way / Padeswood Road South / Hillside Crescent junction to the south-east. Well Street forms the southern minor arm and Stanley Road forms the northern minor arm which is a one-way street (entry only from the junction) that connects to the A549 Mold Road to the north.

A549 Mold Road / Springfield Drive Junction

3.9 The A549 Mold Road / Springfield Drive junction is a three-arm priority-controlled junction located to the north-east of the site. The A549 Mold Road forms the major arms and connects the A494 Mold Bypass / A549 Mold Road / A451 / A451 Chester Road (Wylfa Roundabout), to the west, with Buckley town centre to the east.

Traffic Survey Data

3.10 The study area for this TA has been agreed with FCC as part of the previous scoping discussions and includes the following junctions:

- Springfield Drive / Nant Mawr Road / Well Street / Stanley Road;
- A549 Mold Road / Springfield Drive; and
- A549 Mold Road / Stanley Road

3.11 As part of the previous TA traffic surveys were undertaken during the COVID19 pandemic and factored up based on historic traffic counts. Whilst FCC had no issue with this approach, given that traffic flow levels are now back to a more representative level of typical peak hour traffic conditions, the junctions have been resurveyed.

3.12 The surveys were undertaken on Wednesday 14th June 2023 and are presented in **Appendix B**, with eh peak hour traffic flows shown diagrammatically on **Traffic Flow Figure 1**. The peak hours for the local highway network have been calculated as being between 08:15 and 09:15 and 17:45 to 18:45.

Road Safety

3.13 In order to identify critical locations on the network with a poor accident record, the personal injury accident data has been obtained from the online resource CrashMap for the most recently available 5-year period (approx.), ending 31st December 2021. The location and severity of any accidents within the study area during this period, are shown in **Figure 3.1** below.

Figure 3.1 – Accident Record

3.14 The analysis shows that there have been no accidents recorded in the immediate vicinity of the site during the 5-year study period, including on the entire length of Well Street or at the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road junction, although a total of three accidents were recorded in the study area during the 5-year study period.

3.15 One accident occurred approximately 50m south-east of the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road junction, in 2015, and the remaining two accidents both took place in the vicinity of the A549 Mold Road / Springfield Drive, in 2015 and 2017, with all three accidents resulting in 'slight' severity injuries.

3.16 The evidence presented above and illustrated in **Figure 3.1** suggests that the area in the vicinity of the site does not have any recurring highway safety problems that could be affected by the development proposals.

4 PROPOSED DEVELOPMENT

General

4.1 The development proposals consist of the construction of a residential development, comprising 155 affordable dwellings, on a plot of land located to the north-west of Well Street, Buckley. The proposed site layout plan is presented in **Appendix C**.

Proposed Site Access Arrangements

4.2 The primary vehicular access to the development will therefore be provided via a priority controlled mini roundabout along Well Street at the north-eastern corner of the site, as shown on drawing number SCP/220525/D02, presented in **Appendix D**.

4.3 The proposed roundabout has been designed in accordance with standards outlined in CD116 of the Design Manual for Roads and Bridges (DMRB). The site access of the roundabout will have a carriageway width of 5.5m and 2.0m wide footways provided on both sides of the carriageway. The south-eastern arm of the proposed roundabout will facilitate potential future development on land to the south-west of the application site.

4.4 The proposed roundabout will also provide benefits as it will form a gateway feature which will help differentiate between the rural and built-up areas along Well Street, whilst also providing a traffic calming feature.

4.5 Swept path analysis of a large refuse vehicle using the roundabout is shown on SCP/220525/ATR02, also presented in **Appendix D**.

4.6 The roundabout has also been designed to accommodate existing agricultural vehicles accessing the southern sections of Well Street.

4.7 The secondary vehicular access will be provided via an extension of Daleside as shown on the masterplan presented in **Appendix C**. The access will have a carriageway width of 5.5m and 2.0m wide footways provided on both sides of the carriageway.

4.8 Pedestrian and cycle access into the site will be provided at the same locations as the vehicular accesses. An additional pedestrian/cycle access will be provided onto Langford Crescent, via the passageway (PROW 301/36/10) to the north-west of the site, onto PROW 410/54/10 to the north-west corner of the site and onto Well Street at the south-eastern site boundary allowing for a highly permeable site.

4.9 It is anticipated that the existing PROW 301/36/10 which routes through the site, along part of the north-western site boundary, will be diverted under section 257 of the Town and Country Planning Act 1990, connecting the passageway between the site and Langford Crescent to PROW 410/54/10 to the west of the south-western site boundary, as shown on the site layout plan presented in **Appendix C**.

Internal Site Layout and Servicing

4.10 The internal site layout has been designed to accommodate the movements of a refuse vehicle, allowing a refuse vehicle to enter the site via the site access, turn within the site and exit in a forward gear. The swept path analysis is presented on the plans in **Appendix D.**

Parking

4.11 Local parking standards are set out in FCC's Local Planning Guidance Note 11. This specifies that each new residential dwelling with 4 or more bedrooms should feature a maximum of 3 spaces per dwelling, each dwelling with 2 or 3 bedrooms should feature 2 spaces and each dwelling with 1 bedroom should feature 1.5 spaces.

4.12 Ass shown on the site layout plan presented in **Appendix C**, the scheme provided a level of parking broadly in line with FCC's maximum parking standards.

5 ACCESSIBILITY

5.1 This Chapter presents a review of the accessibility of the site by walking, cycling and public transport modes.

5.2 The accessibility of the site by non-car modes has been assessed by comparison with the following threshold distances, as set out by Andrew Davies AM 'Minister for Economic Development and Transport' in his foreword to the 2003 *"Walking and Cycling Strategy for Wales"* document:

Table 4.1 – Walk / Cycle Distance Thresholds

Threshold Distance	Significance	Reference
1 mile	Walking can offer viable and attractive alternatives [to car trips]	Walking and Cycling Strategy for Wales
5 miles	Cycling can offer viable and attractive alternatives [to car trips]	Walking and Cycling Strategy for Wales

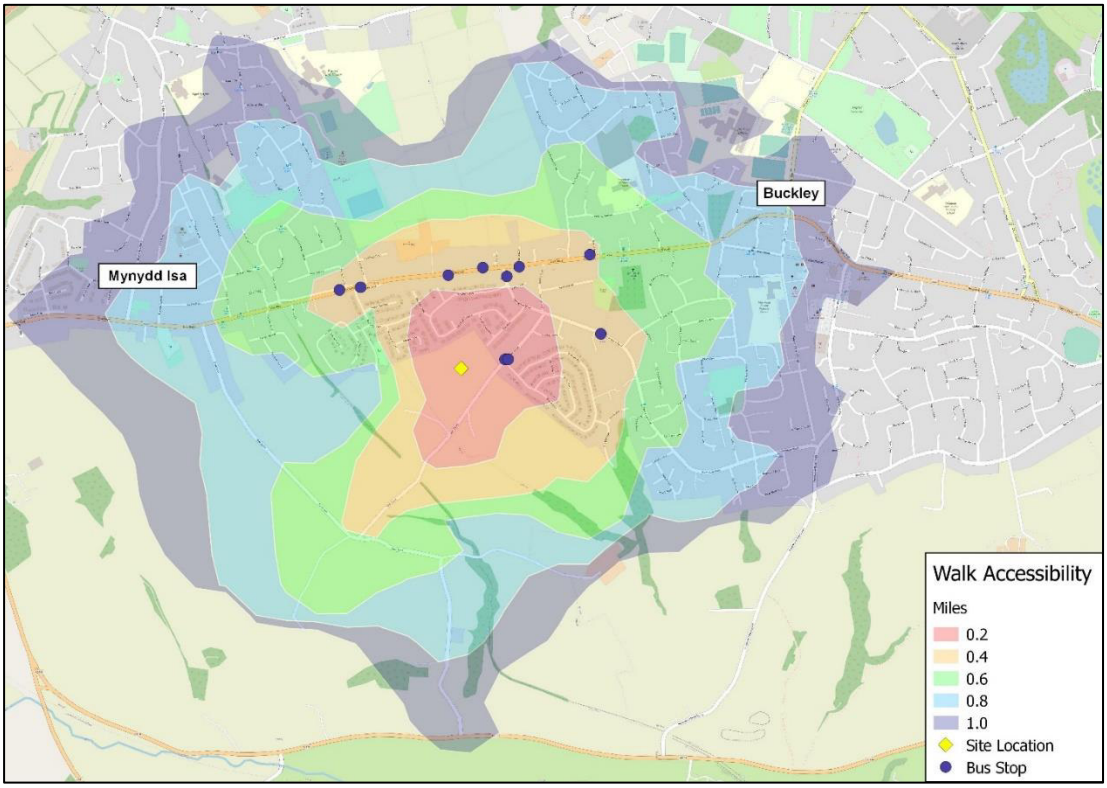
Pedestrian Accessibility

5.3 Pedestrian and cycle access into the site will be provided at the same location as the vehicular accesses. An additional pedestrian/cycle access will be provided onto Langford Crescent, via the passageway (PROW 301/36/10) to the north-west of the site, onto PROW 410/54/10 to the north-west corner of the site and onto Well Street at the south-eastern site boundary allowing for a highly permeable site.

5.4 The topography of the local area is generally flat and conducive to pedestrian trips and the roads in the vicinity of the site benefit from footpaths on both sides of the road as well as street lighting and natural surveillance from the existing residential properties that abut the main walking routes into Buckley.

5.5 The pedestrian accessibility of the development has been modelled using the Geographical Information System (GIS) software TRACC to produce isochrone mapping figures. The purpose of the isochrones is to demonstrate the areas within an acceptable walking distance of 1 mile of the site. The areas located within 1-mile walking distance of the site are shown below on **Figure 5.1.**

Figure 5.1 – Walk Accessibility



5.6 **Figure 5.1** demonstrates that the site is within acceptable walking distance of Mynydd Isa as well as Buckley town centre and the array of facilities the town of Buckley has to offer allowing walking to be a viable alternative to private car use for prospective residents.

5.7 **Table 5.2** below identifies a selection of key facilities located within the immediate vicinity of the site.

Table 5.2 – Local Facilities

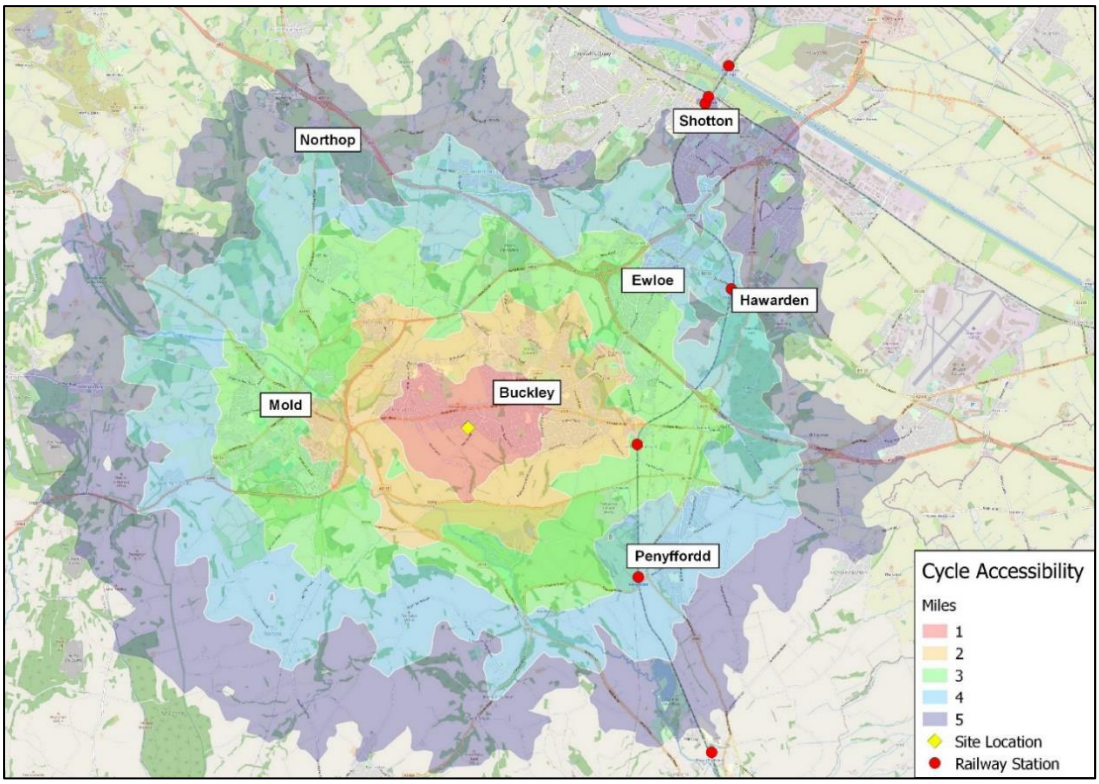
Facility	Details	Distance from the Development Site (miles)
Bus Stop	Well Street/A549 Mold Road/ Springfield Drive / Nant Mawr Road	0.1-0.3
Convenience Store	Spar, A549 Mod Road	0.4
Primary School	Southdown Primary School, Linderick Avenue	0.5
Convenience Store	Sainsburys Local, Mercia Drive	0.7
Primary School	Westwood Community Primary School, Tabernacle Street	0.7
Post Office	Buckley Post Office	0.8
Pharmacy	Rowlands Pharmacy, Brunswick Road	0.8
Library	Buckley Library, Padeswood Road North	0.8
Leisure Centre	Buckley Leisure Centre	0.9
Supermarket	Aldi, The Precinct Way	0.9
Secondary School	Elfed High School	0.9
Doctors	Buckley Medical Centre, B5127 Liverpool Road	1.0

Cycle Accessibility

5.8 The Walking and Cycling Strategy for Wales identifies that "*Cycling can offer viable and attractive alternatives*" for short trips and as a substitute for shorter car journeys.

5.9 TRACC software has been used to assess the accessibility of the development by bicycle from the site. Isochrones illustrating the areas which lie within 5 miles of the site can be seen on the **Figure 5.2** below.

Figure 5.2 – Cycle Accessibility



5.10 **Figure 5.2** demonstrates that, the nearby areas of Buckley, Penyffordd, Ewloe, Hawarden, Mold and Northop, amongst others, are all located within the 5-mile cycle catchment area from the development site. The topography of the area is generally conducive to cycling and as the application site is within an acceptable cycle distance of a range of areas and associated facilities, cycling is considered a viable alternative to private car use for prospective residents.

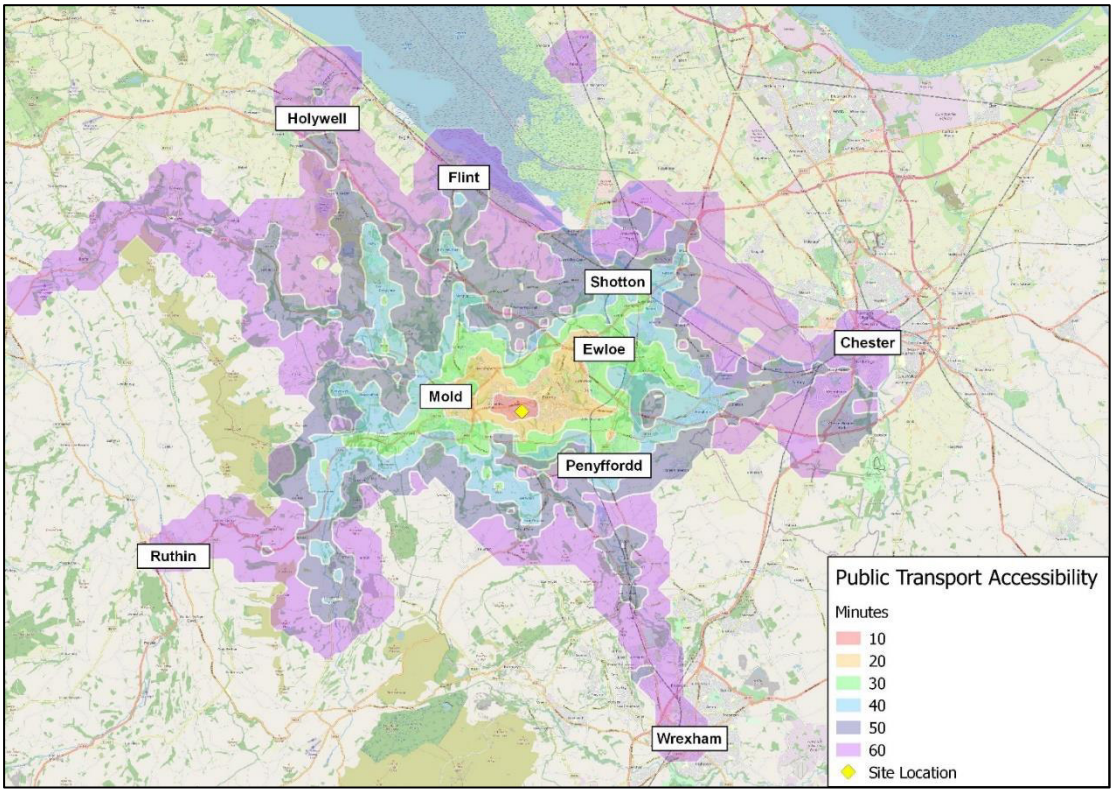
Public Transport

5.11 As shown on **Figure 5.1** earlier, there is a bus stop located on both sides of Well Street immediately to the north-east of the proposed site access. There are also several additional bus stops surrounding the site which are located within a 0.3-mile walk distance, on Nant Mawr Road, Springfield Drive and the A549 Mold Road. These bus stops are served by the number 4, 4S, X4, 5 and 29 buses which provide regular services, seven days a week (in combination), to numerous locations including Penymynydd, Mold, Chester, Hawarden, Ellesmere Port and Wrexham, amongst others. Therefore, prospective residents of the site will have access to bus services stopping close to the site which provide access to key destinations at a reasonable combined frequency.

5.12 In terms of rail services, Buckley Railway Station is located 2 miles east of the site and is therefore well within an acceptable cycling distance and benefits from cycle parking. Furthermore, bus service 29 stops less than 300m from Buckley Railway Station providing an alternative for prospective residents should they not wish to walk or cycle to the station. Buckley Railway Station offers an hourly direct service to Bidston, Hawarden, Shotton, Neston, Hope and Wrexham Central, amongst others.

5.13 The level of accessibility by public transport has been analysed using GIS TRACC software to assess the accessibility of the site and is shown on **Figure 5.3** overleaf. The figure illustrates the distance that can be travelled within 60 minutes by public transport to and from the site, which includes the time taken to walk to the bus stops.

Figure 5.3 – 60-minute Public Transport Accessibility



5.14 **Figure 5.3** demonstrates that the site is within a close proximity to a number of bus and railway links, serving both the local area and other destinations further afield. The figure shows that Buckley, Flint, Wrexham, Chester, Shotton, Holywell and Ruthin, amongst others, are in an acceptable 60-minute commute time.

Summary

5.15 Overall, the site is considered to be reasonably well located in terms of its accessibility by all the major non-car modes of transport. These findings demonstrate that future residents will not be wholly reliant on the private car to travel for employment, education, leisure and retail purposes.

6 FUTURE BASELINE TRAFFIC CONDITIONS

Introduction

6.1 This chapter describes the future baseline traffic conditions on the local highway network in relation to traffic growth and committed development traffic flows.

Traffic Growth

6.2 Capacity assessments are undertaken in the year which the application is anticipated to be submitted and 5-years hence. The anticipated year which the application is to be submitted is 2023 and the future assessment year is therefore 2028.

6.3 In order to quantify the level of background traffic growth that could occur on the local network, National Traffic Model (NTM) growth factors, modified by TEMPRO local growth factors, have been used for the Flintshire 014 Middle Super Output Area (MSOA) dataset.

6.4 The growth factors are summarised in **Table 6.1** below:-

Table 6.1 – Traffic Growth Factors

Period	AM Peak	PM Peak
2023 - 2028	1.0262	1.0263

6.5 The above growth factors are applied to the surveys traffic flow to obtain the 2028 growthed surveyed traffic flows, as shown in the **Traffic Flow Figure 2**.

Committed Development Traffic Flows

6.6 No committed development flows have been identified by SCP or referenced in FCC Highway's pre-application consultation response.

7 TRIP GENERATION

7.1 This Chapter provides an estimate of the vehicular, pedestrian, public transport and cycle trips likely to be generated by the proposed development.

7.2 In order to estimate the trip generating potential of the proposed development, average trip rates have been taken from the previous application (LPA Ref HD/CGS/062458) and are summarised in **Table 7.1** below.

Table 7.1 - Estimated Trip Rates (Per Dwelling) Associated with the Proposed Development

Mode	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicles	0.139	0.381	0.343	0.149
Cycles	0.011	0.020	0.016	0.008
Pedestrians	0.036	0.074	0.049	0.024
Pub. Trans.	0.001	0.036	0.015	0.005

7.3 The estimated trip generation associated with the proposed development is therefore as summarised in **Table 7.2** below.

Table 7.2 – Estimated Trip Generation – 155 Dwellings

Mode	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicles	22	59	53	23
Cycles	2	3	2	1
Pedestrians	6	11	8	4
Pub. Trans.	0	6	2	1

7.4 As mentioned previously, all of the proposed dwellings are affordable which are anticipated to have a lower car ownership that privately owned dwellings in standard residential developments. The use of trip rates from the previous application (which provided standard privately owned dwellings) is therefore considered robust.

8 TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Trip Distribution Methodology

8.1 The methodology used to estimate the trip distribution of the proposed development traffic routing through the local highway network is based on information from the 2011 Census.

8.2 Location of usual residence and place of work data from the national census for all "out-moves" from the W02000071: Flintshire 014 Middle Super Output Area (MSOA) have been obtained from Nomis for the purposes of determining a suitable and localised trip distribution model. It should be noted that a small proportion (up to approximately 10%) of development trips may route south along Well Street, however, given the proposed change in priority into the site to discourage vehicular use of the rural section of Well Street, as detailed earlier, and in order to allow for a robust assessment of the impact on the local highway network, it has been assumed that 100% of development traffic will route north for the purpose of this TA.

8.3 Out-moves provide an indication of the numbers and destinations (on a MSOA basis) of people who reside in the W02000071: Flintshire 014 MSOA and who work elsewhere.

8.4 This methodology has been adopted to distribute trips for the proposed site. The percentage distribution of vehicular trips generated by the proposed development is also presented diagrammatically in **Traffic Flow Figure 3 and 4**.

Traffic Assignment

8.5 The traffic assignment of the proposed scheme has been obtained by applying the relevant estimated trip distribution proportions to the relevant estimated traffic generation figures.

8.6 Given both of the proposed accesses are located along the north-eastern section of the site, a 50/50 distribution split has been applied to the site accesses.

8.7 The traffic assignment for the scheme is presented diagrammatically in **Traffic Flow Figure 5, 6 and 7**.

9 ANTICIPATED HIGHWAY IMPACT

Overview

9.1 This Chapter describes the impact of the additional trips generated by the proposed development on the operation of the local highway network.

9.2 As detailed earlier, the application site was considered in the Flintshire County Council UDP under Policy HSG 1 New Housing Development Proposals and has been allocated for approximately 162 dwellings. In addition, SCP understand that the application site has been assessed more recently as part of a potential wider allocation site for the LDP and no issues from a highway capacity perspective were identified. Notwithstanding this, capacity assessments have been undertaken at nearby junctions at the request of the Highway Officer at FCC in their pre-application consultation response.

9.3 As stated earlier, the study area for the TA includes the following junctions:-

- Proposed Mini-Roundabout Site Access;
- Springfield Drive / Nant Mawr Road / Well Street / Stanley Road;
- A549 Mold Road / Springfield Drive;
- A549 Mold Road / Stanley Road; and
- Springfield Drive / Daleside.

Assessment Methodology

9.4 Assessments of the priority-controlled junctions within the study area have been undertaken using Junctions 9 (PICADY) software. With the Junctions 9 models the results generated provide a Ratio to Flow capacity (RFC) along with an estimate of the likely traffic queues. RFC values between 0.00 and 0.85 are generally accepted as representing stable and acceptable operating conditions. Values between 0.85 and one and represents variable operation (i.e. possible queues building up at the junction during the period under consideration and increases in vehicular delay moving through the junction). RFC values in excess of one represents overloaded conditions (i.e. congested conditions).

9.5 The 2028 'with development' assessment traffic flows are the sum of the growthed traffic flows and the proposed development traffic flows, as shown on **Traffic Flow Figure 8**.

Proposed Mini-Roundabout Access

9.6 Junctions 9 ARCADY software has been used in the assessment of the proposed mini-roundabout access The ARCADY results are presented in **Appendix E** with the results summarised in **Table 9.1** below.

Table 9.1 – Springfield Drive / Nant Mawr Road / Well Street / Stanley Road Priority Crossroads – 2028 'With Development' PICADY Results

Movement	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Well Street (NE arm)	0.06	0.1	0.14	0.2
Potential Forthcoming Site Access	0.00	0.0	0.00	0.0
Well Street (SW arm)	0.11	0.1	0.09	0.1
Proposed Site Access	0.03	0.0	0.13	0.1

9.7 The above results clearly show that the proposed mini-roundabout site access will continue to operate well within its practical capacity in the future assessment year of 2028, with minimal queuing and delay.

Springfield Drive / Nant Mawr Road / Well Street / Stanley Road Priority Crossroads

9.8 Junctions 9 PICADY software has been used in the assessment of the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road priority crossroads. The PICADY results are presented in **Appendix F** with the results summarised in **Table 9.2** below.

Table 9.2 – Springfield Drive / Nant Mawr Road / Well Street / Stanley Road Priority Crossroads – 2028 'With Development' PICADY Results

Movement	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Well Street – Left/Ahead Turn	0.14	0.2	0.08	0.1
Well Street – Right/Ahead Turn	0.09	0.1	0.10	0.1
Nant Mawr Road – Left/Ahead/Right Turn	0.06	0.1	0.03	0.0
Stanley Road – Left/Ahead Turn	0.00	0.0	0.00	0.0
Stanley Road – Right/Ahead Turn	0.00	0.0	0.00	0.0
Springfield Drive – Left/Ahead/Right Turn	0.08	0.1	0.18	0.3

9.9 The above results clearly show that the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road priority crossroads will continue to operate well within its practical capacity in the future assessment year of 2028, with minimal queuing and delay.

A549 Mold Road / Springfield Drive Priority Junction

9.10 Junctions 9 PICADY software has been used in the assessment of the A549 Mold Road / Springfield Drive priority junction. The PICADY results are presented in **Appendix G** with the results summarised in **Table 9.3** below.

Table 9.3 – A549 Mold Road / Springfield Drive Priority Junction – 2028 'With Development' PICADY Results

Movement	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Springfield Drive - Right Turn	0.05	0.1	0.05	0.0
Springfield Drive - Left Turn	0.00	0.0	0.00	0.0
A549 Mold Road - Right Turn	0.04	0.1	0.07	0.1

9.11 The above results clearly show that the A549 Mold Road / Springfield Drive priority junction will continue to operate well within its practical capacity in the future assessment year of 2028, with minimal queuing and delay.

A549 Mold Road / Stanley Road Priority Junction

9.12 Junctions 9 PICADY software has been used in the assessment of the A549 Mold Road / Stanley Road priority junction. The PICADY results are presented in **Appendix H** with the results summarised in **Table 9.4** below.

Table 9.4 – A549 Mold Road / Stanley Road Priority Junction – 2028 'With Development' PICADY Results

Movement	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Stanley Road - Right Turn	0.01	0.0	0.02	0.0
Stanley Road - Left Turn	0.30	0.4	0.17	0.2
A549 Mold Road - Right Turn	0.00	0.0	0.00	0.0

9.13 The above results clearly show that the A549 Mold Road / Stanley Road priority junction will continue to operate well within its practical capacity in the future assessment year of 2028, with minimal queuing and delay.

Springfield Drive / Daleside Priority Junction

9.14 Junctions 9 PICADY software has been used in the assessment of the Springfield Drive / Daleside priority junction. The PICADY results are presented in **Appendix I** with the results summarised in **Table 9.5** below.

Table 9.5 – Springfield Drive / Daleside Priority Junction – 2028 'With Development' PICADY Results

Movement	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Springfield Drive - Right Turn	0.06	0.1	0.05	0.0
Springfield Drive - Left Turn	0.00	0.0	0.00	0.0
Daleside - Right Turn	0.04	0.1	0.07	0.1

9.15 The above results clearly show that the Springfield Drive / Daleside priority junction will continue to operate well within its practical capacity in the future assessment year of 2028, with minimal queuing and delay.

Sensitivity Assessments

9.16 As detailed previously, the trip distribution has been assigned 50/50 between the two site accesses. In order to provide a robust analysis and ensure the proposed site accesses have sufficient capacity, sensitivity assessments have been undertaken which assigns all of the traffic separately through the southern access (via the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road priority crossroads) and the northern access (via the Springfield Drive / Daleside priority junction).

Springfield Drive / Nant Mawr Road / Well Street / Stanley Road Priority Crossroads – Sensitivity Assessment

9.17 Junctions 9 PICADY software has been used in the assessment of the sensitivity assessment of the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road priority crossroads. The PICADY results are presented in **Appendix F** with the results summarised in **Table 9.6** below.

Table 9.6 – Springfield Drive / Nant Mawr Road / Well Street / Stanley Road Priority Crossroads – 2028 'With Development' PICADY Results – Sensitivity Assessment

Movement	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Well Street – Left/Ahead Turn	0.17	0.2	0.10	0.1
Well Street – Right/Ahead Turn	0.11	0.1	0.11	0.1
Nant Mawr Road – Left/Ahead/Right Turn	0.06	0.1	0.03	0.0
Stanley Road – Left/Ahead Turn	0.00	0.0	0.00	0.0
Stanley Road – Right/Ahead Turn	0.00	0.0	0.00	0.0
Springfield Drive – Left/Ahead/Right Turn	0.10	0.1	0.23	0.4

9.18 The above results clearly show that if all traffic were assigned via the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road priority crossroads, the crossroads will continue to operate well within its practical capacity in the future assessment year of 2028, with minimal queuing and delay.

Springfield Drive / Daleside Junction - Sensitivity Assessment

9.19 Junctions 9 PICADY software has been used in the sensitivity assessment of the Springfield Drive / Daleside priority junction. The PICADY results are presented in **Appendix I** with the results summarised in **Table 9.7** below.

Table 9.7 – Springfield Drive / Daleside Priority Junction – 2028 'With Development' PICADY Results – Sensitivity Assessment

Movement	AM		PM	
	RFC	Queue (PCU)	RFC	Queue (PCU)
Springfield Drive - Right Turn	0.00	0.0	0.03	0.0
Springfield Drive - Left Turn	0.00	0.0	0.00	0.0
Daleside - Right Turn	0.02	0.0	0.02	0.0

9.20 The above results clearly show that if all traffic were assigned via the Springfield Drive / Daleside priority junction, the junction will continue to operate well within its practical capacity in the future assessment year of 2028, with minimal queuing and delay.

10 SUMMARY AND CONCLUSIONS

10.1 Castle Green Homes Ltd seek planning permission for a residential development of 155 affordable dwellings on a plot of land located to the north-west of Well Street, Buckley.

10.2 An outline planning application for up to 14 dwellings was previously submitted on the site (LPA: Ref HD/CGS/062458). The application was supported by a TA prepared by SCP Transport (dated October 2021) and included the detailed capacity assessments at key junctions in the vicinity of the site, as requested by FCC.

10.3 At the time of writing this report, the outline planning application is yet to be determined, however the Highway Officer at FCC reviewed the TA and raised no objection to the scheme subject to a number of conditions. The comments are provided in **Appendix A** for reference.

10.4 This TA has been prepared to support the revised scheme. The scope of the assessment and highway elements are the scheme are broadly consistent with the previous except for the following:-

- The traffic surveys used in the capacity assessments for the previous TA were undertaken during the COVID19 pandemic and factored up based on historic traffic counts. The junctions within the agreed study area have been re-surveyed for the purpose of this updated TA; and
- The proposed main vehicular access along Well Street now takes the form of a priority control 4-arm mini roundabout.

10.5 The most recently available five-year road safety record of the local highway network surrounding the site has been examined and does not represent a material concern in the context of the development.

10.1 The primary vehicular access to the development will therefore be provided via a priority controlled 4-arm mini roundabout along Well Street at the north-eastern corner of the site. The proposed roundabout has been designed in accordance with standards outlined in CD116 of the Design Manual for Roads and Bridges.

10.2 The north-western (site access) arm will have a carriageway width of 5.5m and 2.0m wide footways provided on both sides of the carriageway. The south-eastern arm of the proposed roundabout will facilitate potential future development on land to the south-west of the application site. The proposed roundabout access arrangement will form a gateway feature along Well Street which will differentiate between the rural and built up areas whilst acting as a traffic calming for vehicles travelling along Well Street. The secondary vehicular access will be provided via an extension of Daleside. The access will have a carriageway width of 5.5m and 2.0m wide footways provided on both sides of the carriageway.

10.3 The accessibility of the site has been assessed by walk, cycle, and bus and train modes. Overall, the site is considered to be reasonably well located in terms of its accessibility by all the major non-car modes of transport. These findings demonstrate that future residents will not be wholly reliant on the private car to travel for employment, education, leisure and retail purposes.

10.4 The impact of the traffic arising from the scheme has been tested in detail at the following junctions as agreed with LCC:-

- Springfield Drive / Nant Mawr Road / Well Street / Stanley Road;
- A549 Mold Road / Springfield Drive;
- A549 Mold Road / Stanley Road; and
- Springfield Drive / Daleside.

10.5 The assessments show that at the majority of the junctions there is either sufficient spare capacity to accommodate the proposed development or the development will not have a material impact on the operation of these junctions. In addition, sensitivity assessments have been carried out at the Springfield Drive / Nant Mawr Road / Well Street / Stanley Road crossroads and the Springfield Drive / Daleside priority junction. The results clearly show that if all traffic were assigned via both junctions separately, the junctions will continue to operate well within their practical capacity in the future assessment year of 2028, with minimal queuing and delay.

10.6 Having regard to the above, it is concluded that there is no highway or transport related reason to withhold planning permission for the scheme and the proposed development is therefore recommended for approval.

S|C|P

APPENDIX A

FLINTSHIRE DEPARTMENTAL MEMORANDUM

From:	Highway Development Control Manager	**Your Ref:**	JZB/062458
To:	Environment and Planning Chief Officer	**My Ref:**	HD/CGS/062458
Date	11 June 2021	**Enc:**	

TOWN AND COUNTRY PLANNING ACT 1990

TOWN AND COUNTRY PLANNING (GENERAL DEVELOPMENT PROCEDURE) ORDER 1995

LOCATION:

PROPOSAL:

I refer to your consultation in respect of the above proposal.

The impact of this development site was scrutinized by the Inspector at the UDP public inquiry in 2007. At that time the Council employed a specialist highway consultant to gain an independent view of the impact of proposals; that consultant concluded that allocation as a residential development site was acceptable. The current application is supported by a similar detailed study which has taken into account changes in traffic generation patterns and changes to background flows since the previous 2007 assessments. The current assessment reaches similar conclusions to the initial one.

The following is an extract from the UDP Inspector's report; it can be seen that highway matters were closely examined and that resulting impacts were not considered to be too significant.

> 11.37.6**. Access/highways** to the site is potentially from Daleside, a cul-de-sac serving semi-detached houses and/or Well Street, a through road serving houses at its northern end. To the south Well Street narrows and takes on the character of a country lane until it links in with Rose Lane, a similar road running between the A549 and the A5118. Both Daleside and Well Street to the north have junctions with Springfield Drive/Nant Mawr Road. There is no doubt that development at Well Street would add to existing traffic. However, there is the potential to design the Well Street access to discourage traffic travelling south. Unless the road is physically closed I acknowledge that not all traffic would be discouraged from travelling south, but it would nevertheless reduce the amount of traffic. The nature of Well Street and Rose Lane mean that walkers and riders already have to be vigilant when using the lanes. Whilst the development may add to the number of vehicles, it would not fundamentally change the rural character of the lane.

11.37.7. A consequence of discouraging southbound trips would inevitably mean more traffic travelling north and using the Springfield Drive/Nant Mawr Road junctions. Whilst because of their width, alignment, pavements and lighting these are better able to accommodate more traffic, conditions are not ideal and I accept that bends, parking and the like affect road conditions. However, the access review of August 2007 and the traffic survey of September 2007 indicate that conditions are not such that the road system could not satisfactorily accommodate the anticipated growth in traffic from the development.

11.37.8. It is inevitable that traffic flows will vary depending on the season, day and time. I visited the locality of the site at different times and saw varying traffic conditions. However, nothing I have seen, read or heard convinces me that the local road system cannot accommodate the additional traffic which would be generated by the development. In this respect I have looked at the more distant junctions including with Mold Road. If there is an access from Daleside it will inevitably result in more vehicular movements, but it would only be domestic and traffic normally associated with housing areas. The situation would to my mind be no different to many other housing areas nor result in material harm to people's living conditions.

The highway Authority received the statutory pre-application from the applicant and minor amendments to the proposal were made as a result of comments returned at the time. Access details submitted with the application indicate a junction layout on Well Street that conforms to the Inspector's recommendation.

The provision of pedestrian/cycle linkages both within the site and linking to the external network require further consideration with the provision of appropriate lighting and the potential to replace existing stiles with gates. These improvements will however be covered by any future detailed application.

The imposition of a 20mph speed limit on certain streets within Buckley and Mynydd Isa is currently being considered; impending changes to highway legislation may also enable the installation of a "modal filter" to restrict the movement of vehicles on Well Street south of the access. Any permission should include a S106 agreement to the value of £14k to cover the cost of advertising and implementing future traffic regulation orders.

In addition to the S106 agreement; I recommend that any permission shall include the following conditions:

CONDITION(S) / REASONS

C1 No works associated with the proposed development of the site shall commence unless and until a detailed scheme for the realignment of Well Street and creation of a site access junction has been submitted to and approved by

the County Council. Such works shall become the subject of a Section 278 Agreement under the 1980 Highways Act prior to their implementation.

R1 To ensure the formation of a safe and satisfactory means of access to the site in the interests of maintaining highway safety and the free and safe movement of traffic on the adjoining highway

C2 The layout and design of the access from Daleside shall be in accordance with details to be submitted to and approved by the County Council prior to the commencement of any site works.

R2 To ensure the formation of a safe and satisfactory means of access to the site in the interests of maintaining highway safety and the free and safe movement of traffic on the adjoining highway.

C3 The forming and construction of the means of site accesses shall not commence unless and until the detailed design thereof has been submitted to and approved by the County Council.

R3 To ensure the formation of a safe and satisfactory means of access to the site in the interests of maintaining highway safety and in compliance with Section 184 of the 1980 Highways Act.

C4 The works associated with forming the means of site access shall be kerbed and completed to carriageway base course layer up to the internal tangent point of the entrance radii prior to the commencement of any other site building operations.

R4 To ensure the formation of a safe and satisfactory means of access to the site in the interests of maintaining highway safety and the free and safe movement of traffic on the adjoining highway.

C5 Facilities shall be provided and retained within the site for the parking and turning of vehicles in accordance with a scheme to be submitted to and approved by the County Council prior to the commencement of any site works. Such facilities being completed prior to the proposed development being brought into use.

R5 To ensure that adequate parking and maneuvering space is provided to serve the proposed development and to avoid the necessity for reversing movements into or from the highway in the interests of highway safety and maintaining the free flow of traffic on the adjoining highway.

C6 The front of the garage shall be set back a minimum distance of 5.5m behind the back of footway line or 7.3m from the edge of the carriageway in the case where the crossing of a grass service margin verge is involved.

R6 To provide for the parking of a vehicle clear of the highway whilst still being able to operate the garage doors.

C7 Facilities shall be provided and retained within the site for the parking / storage of bicycles in accordance with a scheme to be submitted to and approved by the County Council prior to the commencement of any site works. Such facilities being completed prior to the proposed development being brought into use.

R7 To ensure that adequate bicycle parking is provided to serve the proposed development in the interests of achieving sustainable transport targets and to ensure the delivery of a sustainable, coordinated and high quality form of development.

C8 The detailed layout, design, means of traffic calming and signing, surface water drainage, street lighting and construction of the internal estate roads shall be submitted to and approved by the County Council prior to the commencement of any site works.

R8 To ensure that the estate road system is constructed to a standard suitable for adoption.

C9 The gradient of the access from the edge of the existing carriageway and for a minimum distance of 10m shall be 1 in 24 and a maximum of 1 in 15 thereafter.

R9 To ensure the formation of a safe and satisfactory access in compliance with adoption standard.

C10 Positive means to prevent the run-off of surface water from any part of the site onto the highway shall be provided in accordance with details to be submitted to and approved by the County Council prior to the commencement of any site works.

R10 To prevent the accumulation of surface water on the highway in the interests of maintaining highway safety and to prevent damage to the highway surface or structure.

C11 No development shall take place, including site clearance works, until a Construction Traffic Management Plan has been submitted to, and approved in writing by, the Local Planning Authority (see attached note)

R11 To ensure the formation of a safe and satisfactory means of access to the site in the interests of maintaining highway safety and the free and safe movement of pedestrians and traffic on the adjoining highway.

C12 A Full Travel Plan and Transport Implementation Strategy (TIS) shall be submitted and approved in writing by the County Council prior to the first use of the development.

R12 To encourage the use of more sustainable forms of travel.

FLINTSHIRE DEPARTMENTAL MEMORANDUM

Notes to Applicant

1 The approved Construction Management Plan shall provide details of:

I. Contact names and numbers of personnel responsible for adherence and monitoring the plan
II. Contact name(s)/number(s) for any site related enquiries, including out of hours times
III. Anticipated duration of the works
IV. Typical working days and hours of the week
V. Proposed signage types and locations
VI. Position of any temporary gates – preferably set-back 12m to allow a delivery vehicle to park/wait
VII. The access and egress route with appropriate traffic monitoring in order to control traffic movements
VIII. Measures to avoid depositing mud, dust or other debris onto the highway by traffic movements
IX. The timing of deliveries and main construction traffic arrivals and departures to avoid periods such as school arrival/leaving times
X. Site notices informing construction workers and other site operatives of agreed working hours
XI. The parking of vehicles of site operatives and visitors
XII. Loading and unloading of plant and materials
XIII. Storage of plant and materials used in constructing the development
XIV. Measures to control the emissions of dust and dirt during construction
XV. A scheme for re-cycling/disposing of waste resulting from construction works.

2 A commuted sum will be payable as the proposed development is to include a street lighting system that is to be powered and maintained at public expense.

In addition please ensure that the standard highway Supplementary Notes are issued to the Applicant as part of any planning consent which may be granted with particular reference to Clauses 1, 2, 3, 4, 5 & 7.

Colin Simpson

For Highway Development
Control Manager

S|C|P

APPENDIX B

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: MOLD ROAD / SPRINGFIELD DRIVE

ARM: MOLD ROAD EAST

TIME / CLASS	LEFT TO SPRINGFIELD DRIVE								STRAIGHT TO MOLD ROAD WEST								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	4	2	0	0	0	6	0	0	38	11	0	0	0	49	55
7:45 - 8:00	0	0	6	1	0	0	0	7	1	0	56	10	0	0	1	68	75
8:00 - 8:15	0	0	3	0	0	0	0	3	0	0	45	5	0	0	1	51	54
8:15 - 8:30	0	0	8	0	0	0	0	8	0	0	57	9	3	0	2	71	79
HOURLY TOTAL	0	0	21	3	0	0	0	24	1	0	196	35	3	0	4	239	263
8:30 - 8:45	0	0	10	0	0	0	0	10	1	0	68	10	1	1	3	84	94
8:45 - 9:00	0	0	23	2	0	0	0	25	0	1	65	12	0	0	1	79	104
9:00 - 9:15	0	0	10	0	0	0	0	10	0	0	51	12	3	0	0	66	76
9:15 - 9:30	0	0	13	3	0	0	0	16	1	0	49	9	0	0	1	60	76
HOURLY TOTAL	0	0	56	5	0	0	0	61	2	1	233	43	4	1	5	289	350
PERIOD TOTAL	0	0	77	8	0	0	0	85	3	1	429	78	7	1	9	528	613
16:00 - 16:15	0	0	15	2	0	0	0	17	1	0	57	8	1	0	1	68	85
16:15 - 16:30	0	1	11	0	0	0	0	12	0	0	66	4	0	0	1	71	83
16:30 - 16:45	0	0	19	2	0	0	0	21	0	1	61	9	1	0	1	73	94
16:45 - 17:00	0	0	21	1	0	0	0	22	0	2	73	3	0	0	2	80	102
HOURLY TOTAL	0	1	66	5	0	0	0	72	1	3	257	24	2	0	5	292	364
17:00 - 17:15	0	1	20	3	0	0	0	24	0	2	77	5	0	0	0	84	108
17:15 - 17:30	0	0	19	1	0	0	0	20	0	2	81	2	0	0	1	86	106
17:30 - 17:45	0	0	22	0	0	0	0	22	0	0	72	1	0	0	2	75	97
17:45 - 18:00	0	0	18	1	0	0	0	19	0	1	59	5	0	0	1	66	85
HOURLY TOTAL	0	1	79	5	0	0	0	85	0	5	289	13	0	0	4	311	396
PERIOD TOTAL	0	2	145	10	0	0	0	157	1	8	546	37	2	0	9	603	760

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: MOLD ROAD / SPRINGFIELD DRIVE

ARM: SPRINGFIELD DRIVE

TIME / CLASS	LEFT TO MOLD ROAD WEST								RIGHT TO MOLD ROAD EAST								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	7	3	0	0	0	10	0	0	8	2	0	0	0	10	20
7:45 - 8:00	0	0	11	1	0	0	0	12	0	0	8	2	0	0	0	10	22
8:00 - 8:15	0	0	19	5	0	0	0	24	0	0	11	1	0	0	0	12	36
8:15 - 8:30	0	0	12	2	0	0	0	14	0	0	12	1	0	0	0	13	27
HOURLY TOTAL	0	0	49	11	0	0	0	60	0	0	39	6	0	0	0	45	105
8:30 - 8:45	0	0	18	3	0	0	0	21	0	0	10	1	0	0	0	11	32
8:45 - 9:00	0	0	13	0	0	0	0	13	0	0	8	1	0	0	0	9	22
9:00 - 9:15	0	0	12	1	0	0	0	13	0	0	9	0	0	0	0	9	22
9:15 - 9:30	0	0	9	3	0	0	0	12	0	0	6	1	0	0	0	7	19
HOURLY TOTAL	0	0	52	7	0	0	0	59	0	0	33	3	0	0	0	36	95
PERIOD TOTAL	0	0	101	18	0	0	0	119	0	0	72	9	0	0	0	81	200
16:00 - 16:15	0	0	10	3	0	0	0	13	0	0	4	1	0	0	0	5	18
16:15 - 16:30	0	0	13	3	0	0	0	16	0	0	9	0	0	0	0	9	25
16:30 - 16:45	0	1	19	1	0	0	0	21	0	0	3	1	0	0	0	4	25
16:45 - 17:00	0	0	12	2	0	0	0	14	0	0	11	2	0	0	0	13	27
HOURLY TOTAL	0	1	54	9	0	0	0	64	0	0	27	4	0	0	0	31	95
17:00 - 17:15	0	0	12	4	0	0	0	16	0	0	12	1	0	0	0	13	29
17:15 - 17:30	0	0	9	1	0	0	0	10	0	0	12	0	0	0	0	12	22
17:30 - 17:45	0	0	10	2	0	0	0	12	0	0	7	1	0	0	0	8	20
17:45 - 18:00	0	0	6	1	0	0	0	7	0	0	7	0	0	0	0	7	14
HOURLY TOTAL	0	0	37	8	0	0	0	45	0	0	38	2	0	0	0	40	85
PERIOD TOTAL	0	1	91	17	0	0	0	109	0	0	65	6	0	0	0	71	180

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: MOLD ROAD / SPRINGFIELD DRIVE

ARM: MOLD ROAD WEST

TIME / CLASS	STRAIGHT TO MOLD ROAD EAST								RIGHT TO SPRINGFIELD DRIVE								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	2	54	7	0	1	1	65	0	0	4	2	0	0	0	6	71
7:45 - 8:00	0	1	59	11	1	0	2	74	0	0	7	1	0	0	0	8	82
8:00 - 8:15	0	0	66	9	0	1	1	77	0	0	11	2	0	0	1	14	91
8:15 - 8:30	0	0	68	12	1	0	3	84	0	0	16	5	0	0	0	21	105
HOURLY TOTAL	0	3	247	39	2	2	7	300	0	0	38	10	0	0	1	49	349
8:30 - 8:45	0	2	83	8	2	0	2	97	0	0	9	4	0	0	0	13	110
8:45 - 9:00	0	1	77	10	0	0	0	88	0	0	17	1	0	1	0	19	107
9:00 - 9:15	0	0	79	9	0	1	3	92	0	0	18	1	1	0	0	20	112
9:15 - 9:30	3	1	81	9	0	0	1	95	0	0	18	3	0	0	0	21	116
HOURLY TOTAL	3	4	320	36	2	1	6	372	0	0	62	9	1	1	0	73	445
PERIOD TOTAL	3	7	567	75	4	3	13	672	0	0	100	19	1	1	1	122	794
16:00 - 16:15	0	1	38	8	1	0	0	48	0	0	8	2	0	0	0	10	58
16:15 - 16:30	0	0	33	5	0	1	2	41	0	0	14	2	0	0	0	16	57
16:30 - 16:45	0	1	41	3	1	1	1	48	0	0	12	0	0	0	0	12	60
16:45 - 17:00	0	2	49	6	2	0	2	61	0	0	19	4	0	0	0	23	84
HOURLY TOTAL	0	4	161	22	4	2	5	198	0	0	53	8	0	0	0	61	259
17:00 - 17:15	0	0	48	9	0	1	2	60	0	0	26	1	0	0	0	27	87
17:15 - 17:30	1	0	61	4	2	0	2	70	0	0	19	1	0	0	0	20	90
17:30 - 17:45	1	0	66	4	1	0	1	73	0	0	16	1	0	0	0	17	90
17:45 - 18:00	0	0	58	6	0	0	1	65	0	0	11	2	0	0	0	13	78
HOURLY TOTAL	2	0	233	23	3	1	6	268	0	0	72	5	0	0	0	77	345
PERIOD TOTAL	2	4	394	45	7	3	11	466	0	0	125	13	0	0	0	138	604

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: MOLD ROAD / STANLEY ROAD

ARM: MOLD ROAD EAST

TIME / CLASS	LEFT TO STANLEY ROAD								STRAIGHT TO MOLD ROAD WEST								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	40	11	0	0	0	51	51
7:45 - 8:00	0	0	0	0	0	0	0	0	1	0	58	10	0	0	1	70	70
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	47	6	0	0	1	54	54
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	62	9	3	0	2	76	76
HOURLY TOTAL	0	0	0	0	0	0	0	0	1	0	207	36	3	0	4	251	251
8:30 - 8:45	0	0	0	0	0	0	0	0	1	1	73	10	1	1	2	89	89
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	88	13	1	0	2	104	104
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	60	12	2	0	0	74	74
9:15 - 9:30	0	0	0	0	0	0	0	0	1	0	59	11	0	0	1	72	72
HOURLY TOTAL	0	0	0	0	0	0	0	0	2	1	280	46	4	1	5	339	339
PERIOD TOTAL	0	0	0	0	0	0	0	0	3	1	487	82	7	1	9	590	590
16:00 - 16:15	0	0	0	0	0	0	0	0	1	0	74	11	1	0	1	88	88
16:15 - 16:30	0	0	0	0	0	0	0	0	0	1	77	6	0	0	1	85	85
16:30 - 16:45	0	0	0	0	0	0	0	0	0	1	78	9	1	0	1	90	90
16:45 - 17:00	0	0	0	0	0	0	0	0	0	2	94	3	0	0	2	101	101
HOURLY TOTAL	0	0	0	0	0	0	0	0	1	4	323	29	2	0	5	364	364
17:00 - 17:15	0	0	0	0	0	0	0	0	0	2	95	7	0	0	0	104	104
17:15 - 17:30	0	0	0	0	0	0	0	0	0	2	93	2	0	0	1	98	98
17:30 - 17:45	0	0	0	0	0	0	0	0	0	1	94	2	0	0	1	98	98
17:45 - 18:00	0	0	0	0	0	0	0	0	0	1	74	5	0	0	2	82	82
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	6	356	16	0	0	4	382	382
PERIOD TOTAL	0	0	0	0	0	0	0	0	1	10	679	45	2	0	9	746	746

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: MOLD ROAD / STANLEY ROAD

ARM: STANLEY ROAD

TIME / CLASS	LEFT TO MOLD ROAD WEST								RIGHT TO MOLD ROAD EAST								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	0	1	0	0	0	1	0	0	14	3	0	0	0	17	18
7:45 - 8:00	0	0	3	2	0	0	0	5	0	0	21	2	0	0	0	23	28
8:00 - 8:15	0	0	4	0	0	0	0	4	0	0	20	0	0	0	0	20	24
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	21	2	0	0	0	23	23
HOURLY TOTAL	0	0	7	3	0	0	0	10	0	0	76	7	0	0	0	83	93
8:30 - 8:45	0	0	3	0	0	0	0	3	0	0	20	3	0	0	0	23	26
8:45 - 9:00	0	0	1	1	0	0	0	2	0	0	25	1	0	0	0	26	28
9:00 - 9:15	0	0	1	0	0	0	0	1	0	0	15	3	0	0	0	18	19
9:15 - 9:30	0	0	2	0	0	0	0	2	0	0	5	0	0	0	0	5	7
HOURLY TOTAL	0	0	7	1	0	0	0	8	0	0	65	7	0	0	0	72	80
PERIOD TOTAL	0	0	14	4	0	0	0	18	0	0	141	14	0	0	0	155	173
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	14	14
16:15 - 16:30	0	0	2	0	0	0	0	2	0	0	9	0	0	0	0	9	11
16:30 - 16:45	0	0	3	1	0	0	0	4	0	0	16	1	0	0	0	17	21
16:45 - 17:00	0	0	0	1	0	0	0	1	0	0	14	2	0	0	0	16	17
HOURLY TOTAL	0	0	5	2	0	0	0	7	0	0	52	4	0	0	0	56	63
17:00 - 17:15	0	0	4	0	0	0	0	4	0	0	11	0	0	0	0	11	15
17:15 - 17:30	0	0	4	1	0	0	0	5	0	1	10	1	0	0	0	12	17
17:30 - 17:45	0	0	1	0	0	0	0	1	0	0	15	1	0	0	0	16	17
17:45 - 18:00	0	0	3	0	0	0	0	3	0	0	12	0	0	0	0	12	15
HOURLY TOTAL	0	0	12	1	0	0	0	13	0	1	48	2	0	0	0	51	64
PERIOD TOTAL	0	0	17	3	0	0	0	20	0	1	100	6	0	0	0	107	127

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: MOLD ROAD / STANLEY ROAD

ARM: MOLD ROAD WEST

TIME / CLASS	STRAIGHT TO MOLD ROAD EAST								RIGHT TO STANLEY ROAD								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	2	60	9	0	1	1	73	0	0	0	0	0	0	0	0	73
7:45 - 8:00	0	1	67	13	1	0	2	84	0	0	0	0	0	0	0	0	84
8:00 - 8:15	0	0	80	11	0	1	2	94	0	0	0	0	0	0	0	0	94
8:15 - 8:30	0	0	83	13	1	0	2	99	0	0	0	0	0	0	0	0	99
HOURLY TOTAL	0	3	290	46	2	2	7	350	0	0	0	0	0	0	0	0	350
8:30 - 8:45	0	2	92	9	2	0	2	107	0	0	0	0	0	0	0	0	107
8:45 - 9:00	0	0	84	11	0	0	0	95	0	0	0	0	0	0	0	0	95
9:00 - 9:15	0	1	88	10	0	1	3	103	0	0	0	0	0	0	0	0	103
9:15 - 9:30	3	1	88	9	0	0	1	102	0	0	0	0	0	0	0	0	102
HOURLY TOTAL	3	4	352	39	2	1	6	407	0	0	0	0	0	0	0	0	407
PERIOD TOTAL	3	7	642	85	4	3	13	757	0	0	0	0	0	0	0	0	757
16:00 - 16:15	0	1	40	8	1	0	0	50	0	0	0	0	0	0	0	0	50
16:15 - 16:30	0	0	44	5	0	1	2	52	0	0	0	0	0	0	0	0	52
16:30 - 16:45	0	1	43	5	2	1	1	53	0	0	0	0	0	0	0	0	53
16:45 - 17:00	0	1	61	8	1	0	2	73	0	0	0	0	0	0	0	0	73
HOURLY TOTAL	0	3	188	26	4	2	5	228	0	0	0	0	0	0	0	0	228
17:00 - 17:15	0	1	67	11	0	1	2	82	0	0	0	0	0	0	0	0	82
17:15 - 17:30	0	0	73	4	2	0	2	81	0	0	0	0	0	0	0	0	81
17:30 - 17:45	1	0	73	5	1	0	0	80	0	0	0	0	0	0	0	0	80
17:45 - 18:00	0	0	63	7	0	0	2	72	0	0	0	0	0	0	0	0	72
HOURLY TOTAL	1	1	276	27	3	1	6	315	0	0	0	0	0	0	0	0	315
PERIOD TOTAL	1	4	464	53	7	3	11	543	0	0	0	0	0	0	0	0	543

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: SPRINGFIELD DRIVE / STANLEY ROAD / NANT MAWR ROAD / WELL STREET

ARM: SPRINGFIELD DRIVE

TIME / CLASS	LEFT TO STANLEY ROAD								STRAIGHT TO NANT MAWR ROAD								RIGHT TO WELL STREET								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	2	0	0	0	0	2	0	0	3	3	0	0	0	6	0	0	3	0	0	0	0	3	11
7:45 - 8:00	0	0	3	0	0	0	0	3	0	0	11	3	0	0	0	14	0	0	4	0	0	0	0	4	21
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	17	3	0	0	1	21	0	0	1	1	0	0	0	2	23
8:15 - 8:30	0	0	3	0	0	0	0	3	0	0	13	4	0	0	0	17	0	0	5	1	0	0	0	6	26
HOURLY TOTAL	0	0	8	0	0	0	0	8	0	0	44	13	0	0	1	58	0	0	13	2	0	0	0	15	81
8:30 - 8:45	0	0	3	0	0	0	0	3	0	0	11	4	0	0	0	15	0	0	5	0	0	0	0	5	23
8:45 - 9:00	0	0	5	2	0	0	0	7	0	0	24	0	0	1	0	25	0	0	6	1	0	0	0	7	39
9:00 - 9:15	0	0	0	1	0	0	0	1	0	0	16	2	1	0	0	19	0	0	9	0	0	0	0	9	29
9:15 - 9:30	0	0	1	1	0	0	0	2	0	0	11	3	0	0	0	14	0	0	13	1	0	0	0	14	30
HOURLY TOTAL	0	0	9	4	0	0	0	13	0	0	62	9	1	1	0	73	0	0	33	2	0	0	0	35	121
PERIOD TOTAL	0	0	17	4	0	0	0	21	0	0	106	22	1	1	1	131	0	0	46	4	0	0	0	50	202
16:00 - 16:15	0	0	2	0	0	0	0	2	0	0	8	2	0	0	0	10	0	1	10	2	0	0	0	13	25
16:15 - 16:30	0	0	2	0	0	0	0	2	0	0	11	2	0	0	0	13	0	0	15	0	0	0	0	15	30
16:30 - 16:45	0	0	5	0	0	0	0	5	0	0	15	0	0	0	0	15	0	0	7	2	0	0	0	9	29
16:45 - 17:00	0	0	1	1	0	0	0	2	0	0	23	3	0	0	0	26	0	0	13	1	0	0	0	14	42
HOURLY TOTAL	0	0	10	1	0	0	0	11	0	0	57	7	0	0	0	64	0	1	45	5	0	0	0	51	126
17:00 - 17:15	0	0	3	1	0	0	0	4	0	0	19	2	0	0	0	21	0	0	19	1	0	0	0	20	45
17:15 - 17:30	0	0	2	0	0	0	0	2	0	0	20	1	0	0	0	21	0	0	16	2	0	0	0	18	41
17:30 - 17:45	0	0	5	0	0	0	0	5	0	0	23	2	0	0	0	25	0	0	9	0	0	0	0	9	39
17:45 - 18:00	0	0	2	0	0	0	0	2	0	0	13	1	0	0	0	14	0	0	13	1	0	0	0	14	30
HOURLY TOTAL	0	0	12	1	0	0	0	13	0	0	75	6	0	0	0	81	0	0	57	4	0	0	0	61	155
PERIOD TOTAL	0	0	22	2	0	0	0	24	0	0	132	13	0	0	0	145	0	1	102	9	0	0	0	112	281

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: SPRINGFIELD DRIVE / STANLEY ROAD / NANT MAWR ROAD / WELL STREET

ARM: STANLEY ROAD

TIME / CLASS	LEFT TO NANT MAWR ROAD								STRAIGHT TO WELL STREET								RIGHT TO SPRINGFIELD DRIVE								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERIOD TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOURLY TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERIOD TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: SPRINGFIELD DRIVE / STANLEY ROAD / NANT MAWR ROAD / WELL STREET

ARM: NANT MAWR ROAD

TIME / CLASS	LEFT TO WELL STREET								STRAIGHT TO SPRINGFIELD DRIVE								RIGHT TO STANLEY ROAD								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	1	0	0	0	0	1	0	0	12	4	0	0	0	16	0	0	1	0	0	0	0	1	18
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	15	2	0	0	0	17	0	0	3	1	0	0	0	4	21
8:00 - 8:15	0	0	4	0	0	0	0	4	0	0	21	6	0	0	0	27	0	0	4	0	0	0	0	4	35
8:15 - 8:30	0	0	2	0	0	0	0	2	0	0	15	3	0	0	1	19	0	0	3	1	0	0	0	4	25
HOURLY TOTAL	0	0	7	0	0	0	0	7	0	0	63	15	0	0	1	79	0	0	11	2	0	0	0	13	99
8:30 - 8:45	0	0	1	0	0	0	0	1	0	0	20	1	0	0	0	21	0	0	9	0	0	0	0	9	31
8:45 - 9:00	0	0	0	1	0	0	0	1	0	0	17	1	0	0	0	18	0	0	15	1	0	0	0	16	35
9:00 - 9:15	0	0	3	0	0	0	0	3	0	0	17	0	0	0	0	17	0	0	1	0	0	0	0	1	21
9:15 - 9:30	0	0	5	0	0	0	0	5	0	0	12	4	0	0	0	16	0	0	1	0	0	0	0	1	22
HOURLY TOTAL	0	0	9	1	0	0	0	10	0	0	66	6	0	0	0	72	0	0	26	1	0	0	0	27	109
PERIOD TOTAL	0	0	16	1	0	0	0	17	0	0	129	21	0	0	1	151	0	0	37	3	0	0	0	40	208
16:00 - 16:15	0	0	2	0	0	0	0	2	0	0	13	2	0	0	0	15	0	0	4	1	0	0	0	5	22
16:15 - 16:30	0	0	5	1	0	0	0	6	0	0	16	4	0	0	1	21	0	0	4	0	0	0	0	4	31
16:30 - 16:45	0	0	3	0	0	0	0	3	0	0	19	1	0	0	0	20	0	0	2	0	0	0	0	2	25
16:45 - 17:00	0	0	4	0	0	0	0	4	0	0	12	2	0	0	0	14	0	0	4	1	0	0	0	5	23
HOURLY TOTAL	0	0	14	1	0	0	0	15	0	0	60	9	0	0	1	70	0	0	14	2	0	0	0	16	101
17:00 - 17:15	0	0	4	0	0	0	0	4	0	0	15	2	0	0	0	17	0	0	3	0	0	0	0	3	24
17:15 - 17:30	0	0	4	1	0	0	0	5	0	1	19	2	0	0	0	22	0	0	2	0	0	0	0	2	29
17:30 - 17:45	0	0	6	0	0	0	0	6	0	0	11	1	0	0	1	13	0	0	6	0	0	0	0	6	25
17:45 - 18:00	0	0	2	0	0	0	0	2	0	0	10	2	0	0	0	12	0	0	4	0	0	0	0	4	18
HOURLY TOTAL	0	0	16	1	0	0	0	17	0	1	55	7	0	0	1	64	0	0	15	0	0	0	0	15	96
PERIOD TOTAL	0	0	30	2	0	0	0	32	0	1	115	16	0	0	2	134	0	0	29	2	0	0	0	31	197

Manual Classified Turning Counts, Buckley

DATE: WEDNESDAY 14TH JUNE 2023

LOCATION: SPRINGFIELD DRIVE / STANLEY ROAD / NANT MAWR ROAD / WELL STREET

ARM: WELL STREET

TIME / CLASS	LEFT TO SPRINGFIELD DRIVE								STRAIGHT TO STANLEY ROAD								RIGHT TO NANT MAWR ROAD								TOTAL MOVEMENT FROM ARM
	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	PEDAL CYCLE	MOTOR CYCLE	CAR TAXI	LGV	OGV 1	OGV 2	BUS COACH	TOTAL	
7:30 - 7:45	0	0	2	0	0	0	0	2	0	0	11	3	0	0	0	14	0	0	5	0	0	0	0	5	21
7:45 - 8:00	0	0	2	1	0	0	0	3	0	0	17	2	0	0	0	19	0	0	2	1	0	0	0	3	25
8:00 - 8:15	0	0	4	0	0	0	0	4	0	0	19	2	0	0	0	21	0	0	5	1	0	0	0	6	31
8:15 - 8:30	0	0	7	0	0	0	0	7	0	0	12	1	0	0	0	13	0	0	9	1	0	0	0	10	30
HOURLY TOTAL	0	0	15	1	0	0	0	16	0	0	59	8	0	0	0	67	0	0	21	3	0	0	0	24	107
8:30 - 8:45	0	0	8	0	0	0	0	8	0	0	9	2	0	0	0	11	0	0	1	2	0	0	0	3	22
8:45 - 9:00	0	0	3	0	0	0	0	3	0	0	11	0	0	0	0	11	0	0	1	0	0	0	0	1	15
9:00 - 9:15	0	0	5	1	0	0	0	6	0	0	10	1	0	0	0	11	0	0	3	1	0	0	0	4	21
9:15 - 9:30	0	0	6	0	0	0	0	6	0	0	2	0	0	0	0	2	0	0	1	0	0	0	0	1	9
HOURLY TOTAL	0	0	22	1	0	0	0	23	0	0	32	3	0	0	0	35	0	0	6	3	0	0	0	9	67
PERIOD TOTAL	0	0	37	2	0	0	0	39	0	0	91	11	0	0	0	102	0	0	27	6	0	0	0	33	174
16:00 - 16:15	0	0	2	0	0	0	0	2	0	0	5	1	0	0	0	6	0	0	3	1	0	0	0	4	12
16:15 - 16:30	0	0	7	0	0	0	0	7	0	0	6	0	0	0	0	6	0	0	2	0	0	0	0	2	15
16:30 - 16:45	0	0	5	1	0	0	0	6	0	0	9	1	0	0	0	10	0	0	8	1	0	0	0	9	25
16:45 - 17:00	0	0	2	0	0	0	0	2	0	0	10	1	0	0	0	11	0	0	4	1	0	0	0	5	18
HOURLY TOTAL	0	0	16	1	0	0	0	17	0	0	30	3	0	0	0	33	0	0	17	3	0	0	0	20	70
17:00 - 17:15	0	0	6	1	0	0	0	7	0	0	7	0	0	0	0	7	1	0	3	1	0	0	0	5	19
17:15 - 17:30	0	0	4	1	0	0	0	5	0	0	12	1	0	0	0	13	0	0	5	1	0	0	0	6	24
17:30 - 17:45	0	1	1	0	0	0	0	2	0	0	5	0	0	0	0	5	0	0	3	0	0	0	0	3	10
17:45 - 18:00	0	0	3	0	0	0	0	3	0	0	6	0	0	0	0	6	0	0	6	0	0	0	0	6	15
HOURLY TOTAL	0	1	14	2	0	0	0	17	0	0	30	1	0	0	0	31	1	0	17	2	0	0	0	20	68
PERIOD TOTAL	0	1	30	3	0	0	0	34	0	0	60	4	0	0	0	64	1	0	34	5	0	0	0	40	138

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APPENDIX C

SCHEDULE OF ACCOMMODATION

HOUSETYPE	DESCRIPTION	SQFT	NUMBER	PERCENTAGE
Phase 1 - Affordable				
2P1B	1 Bed Walk Up Flat - Ground Floor	578 SQFT	8	12.90
2P1B	1 Bed Walk Up Flat - First Floor	648 SQFT	8	12.90
2B Bungalow	2 Bed, 1 Storey, Semi-Detached	620 SQFT	2	3.23
4P2B	2 Bed, 2 Storey, Semi-Detached	895 SQFT	16	25.81
5P3B	3 Bed, 2 Storey, Semi-Detached	1015 SQFT	18	29.03
Oxford	3 Bed, 2 Storey	1040 SQFT	5	8.06
Evesham	3 Bed, 2 Storey	1130 SQFT	4	6.45
Wanworth	4 Bed, 2 Storey	1344 SQFT	1	1.61
	Total	**54702**	**62**	**100.00**
Phase 2				
4P2B	2 Bed, 2 Storey, Semi-Detached	895 SQFT	12	12.90
5P3B	3 Bed, 2 Storey, Semi-Detached	1015 SQFT	32	34.41
Oxford	3 Bed, 2 Storey	1040 SQFT	17	18.28
Henley	3 Bed, 2 Storey	1040 SQFT	6	6.45
Evesham	3 Bed, 2 Storey	1130 SQFT	13	13.98
Wanworth	4 Bed, 2 Storey	1344 SQFT	13	13.98
	Total	**99302**	**93**	**100.00**
TOTAL		**154004 SQFT**	**155**	
Gross Site Area		13.2 Acres	5.34	Hectares
POS		2.22 Acres	0.90	Hectares
Existing Landscaping & Buffer		0.47 Acres	0.19	Hectares
Undevelopable: Entrance, Sinige Sided Road ETC		0.72 Acres	0.29	Hectares
NETT SITE AREA:		**9.79 ACRES**	**3.96**	**HECTARES**
Gross Density:		11.74 Units/Acre	29.02	Units/Hectare
NETT DENSITY:		**15.83 UNITS/ACRE**	**39.12**	**UNITS/HECTARE**
Gross Footage:		11666.97 SQFT/Acre	2678.34	SQM/Hectare
NETT FOOTAGE:		**15730.75 SQFT/ACRE**	**3611.25**	**SQM/HECTARE**

Key:

- Site Boundary
- 1.8m high boundary fence
- 1.8m high screen wall / fence
- Private Drive
- Indicative Landscaping. No landscaping to be withing 2x2m visibility splay to each drive - refer to landscaping design for exact details
- Number of parking spaces proposed to Semi-Detached and Detached Dwellings in accordance with LPA Parking Standards
- Parking space allocation to Frontage Parking Dwellings
- Existing retained hedges/landscaping
- * Affordable Housing

Rev:	Description:	Date:
A:	Access amended & Plots increased to 159	01/09/22
B:	Affordable provision amended to 40%	06/01/23
C:	Drainage basins updated	31/05/23

Castle Green,
Unit 20,
St. Asaph Business Park,
St Asaph,
Denbighshire. LL17 0LJ.
Tel. 01745 536677

Site: Land at Well Street, Buckley, Flintshire

Title: Proposed Site Plan

Scale: 1:500@A0

Date: 19.07.22

Ref: WLST-BUC-SP01

Rev: C

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APPENDIX D

VISIBILITY SPLAY TO THE RIGHT
MEASURED 1m INTO THE CARRIAGEWAY

ADDITIONAL REQUIREMENTS FOR THE 4TH ARM

1. RELOCATE GIVE-WAY MARKING
2. REMOVE KERBBUILD OUT

KEY

- ASSUMED HIGHWAY BOUNDARY
- PROPOSED KERB LINES
- PROPOSED DIMENSIONS (x.xm)
- PROPOSED ROAD MARKINGS
- 4.5m x 50m VISIBILITY TO THE RIGHT
- 40m SSD ON APPROACH TO THE ROUNDABOUT

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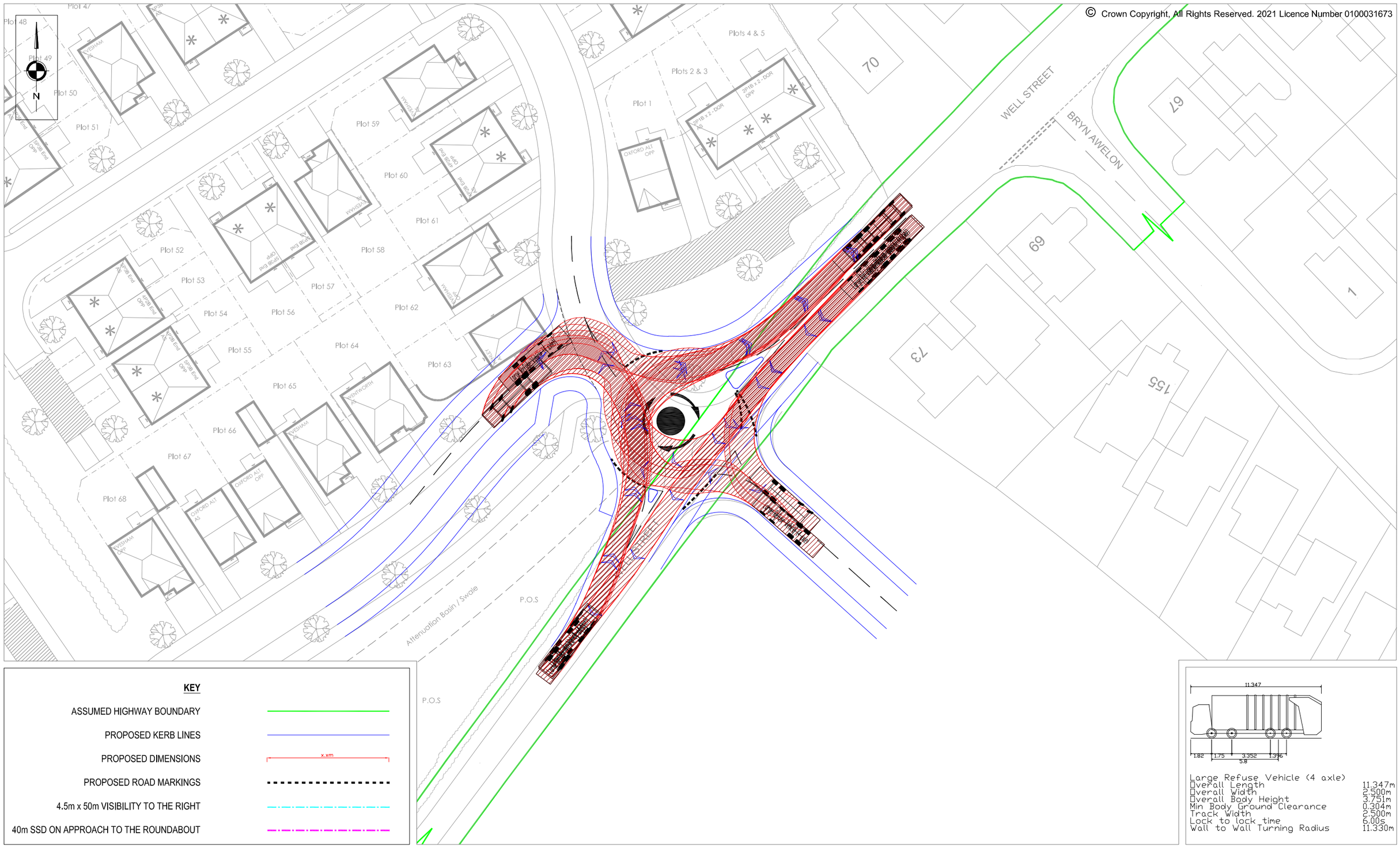
Transportation Planning : Infrastructure Design
Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client	-
Project Title	WELL STREET, BUCKLEY
Drawing Title	POTENTIAL 4 ARM MINI ROUNDABOUT ARRANGEMENT ON WELL STREET
Scale	1:500 @ A3
By	BA
Date	08.08.2022
Checked	PT
Approved/ Unapproved	-
Status	PLANNING

Rev	Description	Date	By
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–

Drawing No.	SCP/220525/D02
Revision	-



KEY

ASSUMED HIGHWAY BOUNDARY	
PROPOSED KERB LINES	
PROPOSED DIMENSIONS	x.xm
PROPOSED ROAD MARKINGS	
4.5m x 50m VISIBILITY TO THE RIGHT	
40m SSD ON APPROACH TO THE ROUNDABOUT	

Large Refuse Vehicle (4 axle)

Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.330m

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Transportation Planning : Infrastructure Design
Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client: -

Project Title: WELL STREET, BUCKLEY

Drawing Title: SWEPT PATH ANALYSIS - POTENTIAL 4 ARM MINI ROUNDABOUT ARRANGEMENT ON WELL STREET

Scale	1:500 @ A3
By	BA
Date	08.08.2022
Checked	PT
Approved/ Unapproved	-
Status	PLANNING

Rev	Description	Date	By
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–

Drawing No.: SCP/220525/ATR02

Revision: -

SEE DRAWING SCP/220525/ATR04 INSERT 1 FOR DETAIL

SEE DRAWING SCP/220525/ATR04 INSERT 2 FOR DETAIL

SEE DRAWING SCP/220525/ATR04 INSERT 3 FOR DETAIL

SEE DRAWING SCP/220525/ATR04 INSERT 4 FOR DETAIL

SEE DRAWING SCP/220525/ATR04 INSERT 5 FOR DETAIL

MONZA CLOSE

WELL STREET

Footpath Connection

Potential future access

Attenuation Basin / Swale

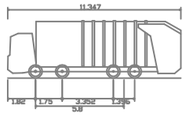
P.O.S

Ponds

Oakcroft

1.22m RH

NOTES



Large Refuse Vehicle (4 axle)

Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.330m

REVISIONS

REV	DESCRIPTION	DATE	BY
A	- SWEPT PATH ANALYSIS FOR - THE MOST RECENT CAD	26/06/23	LD

S|C|P
Transportation Planning : Infrastructure Design
Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:
CASTLE GREEN HOMES LTD

Project Title:
WELL STREET, BUCKLEY

Drawing Title:
SWEPT PATH ANALYSIS OF ALL INTERNAL TURNING LOCATIONS

Drawn By: LD	Date: 23/06/23
Checked: LB	Scale: 1:1000 @ A3
Status: PLANNING	Approved/Unapproved: -

Drawing No.	Rev.
SCP/220525/ATR03	A

INSERT 1

P.O.S

1

114

117

3

INSERT 2

INSERT 3

INSERT 4

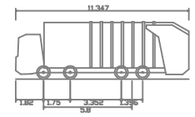
INSERT 5

56

56

N

NOTES



Large Refuse Vehicle (4 axle)	
Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.330m

REVISIONS

REV	DESCRIPTION	DATE	BY
A	- SWEPT PATH ANALYSIS FOR - THE MOST RECENT CAD	26/06/23	LD

S|C|P

Transportation Planning : Infrastructure Design

Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:

CASTLE GREEN HOMES LTD

Project Title:

WELL STREET, BUCKLEY

Drawing Title:

SWEPT PATH ANALYSIS OF ALL INTERNAL TURNING LOCATIONS

Drawn By:	Date:
LD	23/06/23
Checked:	**Scale:**
LB	CUSTOM
Status:	**Approved/Unapproved:**
PLANNING	-

Drawing No.	Rev.
SCP/220525/ATR04	A

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APPENDIX E

Junctions 9

ARCADY 9 - Roundabout Module

Filename: 220525 Well St_Site Access Rnbdbt_23.06.23..j9
Path: Z:\Job Library\2022\220525 - Well Street, Buckley\Traffic Data\Junction Assessments
Report generation date: 23/06/2023 16:54:10

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2028 Assess									
Arm 1	D1	0.1	4.38	0.06	A	D2	0.2	4.79	0.14	A
Arm 2		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Arm 3		0.1	4.37	0.11	A		0.1	4.32	0.09	A
Arm 4		0.0	3.79	0.03	A		0.1	4.15	0.13	A

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.

File summary

File Description

Title	Proposed Site Access Rndbt
Location	Buckley
Site number	220525
Date	23/06/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	RSKHELSBY\liam.bessell
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

Analysis Options

Mini-roundabout model	Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9			0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess	AM	ONE HOUR	08:00	09:30	15
D2	2028 Assess	PM	ONE HOUR	08:00	09:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assess, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rnbt Access	Mini-roundabout		1, 2, 3, 4	4.27	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	Well St (NE)	
2	Potential Future Access	
3	Well St (SW)	
4	Proposed Site Access	

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	3.80	3.00	4.70	2.0	5.00	9.00	0.0	
2	2.80	2.80	4.40	1.1	11.80	6.80	0.0	
3	2.00	2.00	3.90	14.0	16.70	14.50	0.0	
4	2.80	2.80	3.60	2.7	14.30	11.00	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.609	872
2	0.594	748
3	0.622	930
4	0.601	1043

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	46	100.000
2		✓	0	100.000
3		✓	90	100.000
4		✓	30	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	0	35	11
	2	0	0	0	0
	3	90	0	0	0
	4	30	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.06	4.38	0.1	A
2	0.00	0.00	0.0	A
3	0.11	4.37	0.1	A
4	0.03	3.79	0.0	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	35	0	872	0.040	34	0.0	4.299	A
2	0	34	728	0.000	0	0.0	0.000	A
3	68	8	925	0.073	67	0.1	4.197	A
4	23	67	1003	0.023	22	0.0	3.672	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	41	0	872	0.047	41	0.0	4.335	A
2	0	41	723	0.000	0	0.0	0.000	A
3	81	10	924	0.088	81	0.1	4.269	A
4	27	81	995	0.027	27	0.0	3.719	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	51	0	872	0.058	51	0.1	4.384	A
2	0	51	718	0.000	0	0.0	0.000	A
3	99	12	923	0.107	99	0.1	4.370	A
4	33	99	984	0.034	33	0.0	3.785	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	51	0	872	0.058	51	0.1	4.384	A
2	0	51	718	0.000	0	0.0	0.000	A
3	99	12	923	0.107	99	0.1	4.370	A
4	33	99	984	0.034	33	0.0	3.786	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	41	0	872	0.047	41	0.1	4.336	A
2	0	41	723	0.000	0	0.0	0.000	A
3	81	10	924	0.088	81	0.1	4.270	A
4	27	81	994	0.027	27	0.0	3.723	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	35	0	872	0.040	35	0.0	4.303	A
2	0	35	727	0.000	0	0.0	0.000	A
3	68	8	925	0.073	68	0.1	4.199	A
4	23	68	1002	0.023	23	0.0	3.676	A

2028 Assess, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rnbt Access	Mini-roundabout		1, 2, 3, 4	4.42	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028 Assess	PM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	109	100.000
2		✓	0	100.000
3		✓	71	100.000
4		✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	0	82	27
	2	0	0	0	0
	3	71	0	0	0
	4	117	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	0	0	0
	2	0	0	0	0
	3	0	0	0	0
	4	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.14	4.79	0.2	A
2	0.00	0.00	0.0	A
3	0.09	4.32	0.1	A
4	0.13	4.15	0.1	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	82	0	872	0.094	82	0.1	4.555	A
2	0	82	700	0.000	0	0.0	0.000	A
3	53	20	918	0.058	53	0.1	4.164	A
4	88	53	1011	0.087	88	0.1	3.896	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	98	0	872	0.112	98	0.1	4.653	A
2	0	98	690	0.000	0	0.0	0.000	A
3	64	24	915	0.070	64	0.1	4.228	A
4	105	64	1005	0.105	105	0.1	4.001	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	120	0	872	0.138	120	0.2	4.789	A
2	0	120	677	0.000	0	0.0	0.000	A
3	78	30	912	0.086	78	0.1	4.318	A
4	129	78	996	0.129	129	0.1	4.149	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	120	0	872	0.138	120	0.2	4.789	A
2	0	120	677	0.000	0	0.0	0.000	A
3	78	30	912	0.086	78	0.1	4.318	A
4	129	78	996	0.129	129	0.1	4.150	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	98	0	872	0.112	98	0.1	4.654	A
2	0	98	690	0.000	0	0.0	0.000	A
3	64	24	915	0.070	64	0.1	4.229	A
4	105	64	1005	0.105	105	0.1	4.004	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	82	0	872	0.094	82	0.1	4.562	A
2	0	82	699	0.000	0	0.0	0.000	A
3	53	20	918	0.058	54	0.1	4.166	A
4	88	54	1011	0.087	88	0.1	3.902	A

S|C|P

APPENDIX F

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

Filename: 220525 Well Street_Springfield Dr.Stanley Rd.Nant Mawr Rd.Well St_20.06.23.j9
Path: Z:\Job Library\2022\220525 - Well Street, Buckley\Traffic Data\Junction Assessments
Report generation date: 20/06/2023 15:41:55

»2028 Assess - 50/50% Dist, AM
»2028 Assess - 50/50% Dist, PM
»2028 Assess - 100% Dist S, AM
»2028 Assess - 100% Dist S, 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
	2028 Assess - 50/50% Dist													
Stream B-C-D	D1	0.2	6.83	0.14	A	3.59	261 % [Stream B-AD]	D2	0.1	6.77	0.08	A	3.78	246 % [Stream B-AD]
Stream B-A-D		0.1	7.46	0.09	A				0.1	8.75	0.10	A		
Stream A-B-C-D		0.1	6.00	0.06	A				0.0	5.99	0.03	A		
Stream D-A-B		0.0	0.00	0.00	A				0.0	0.00	0.00	A		
Stream D-B-C		0.0	0.00	0.00	A				0.0	0.00	0.00	A		
Stream C-A-B-D		0.1	6.01	0.08	A				0.3	6.61	0.18	A		
	2028 Assess - 100% Dist S													
Stream B-C-D	D3	0.2	7.11	0.17	A	4.05	208 % [Stream B-AD]	D4	0.1	7.00	0.10	A	4.35	192 % [Stream C-ABD]
Stream B-A-D		0.1	7.70	0.11	A				0.1	9.05	0.11	A		
Stream A-B-C-D		0.1	6.04	0.06	A				0.0	6.08	0.03	A		
Stream D-A-B		0.0	0.00	0.00	A				0.0	0.00	0.00	A		
Stream D-B-C		0.0	0.00	0.00	A				0.0	0.00	0.00	A		
Stream C-A-B-D		0.1	6.15	0.10	A				0.4	7.07	0.23	A		

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	Springfield Dr / Stanley Rd / Nant Mawr Rd/ Well St
Location	Buckley
Site number	200445
Date	28/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\Liam Bessell
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess - 50/50% Dist	AM	ONE HOUR	08:00	09:30	15
D2	2028 Assess - 50/50% Dist	PM	ONE HOUR	16:45	18:15	15
D3	2028 Assess - 100% Dist S	AM	ONE HOUR	08:00	09:30	15
D4	2028 Assess - 100% Dist S	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assess - 50/50% Dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Stanley Rd / Nant Mawr Rd/ Well St	Crossroads	Two-way		3.59	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	261	Stream B-AD

Arms

Arms

Arm	Name	Description	Arm type
A	Nant Mawr Rd		Major
B	Well St		Minor
C	Springfield Dr		Major
D	Stanley Rd		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	8.00			65.0	✓	0.00
C	8.00			63.0	✓	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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	4.10	3.30	3.00	3.00	✓	1.00	17	18
D	One lane plus flare	10.00	7.20	5.60	5.60	5.60	✓	3.00	27	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	612	-	-	-	-	-	-	0.216	0.309	0.216	-	-	-
B-A	590	0.098	0.248	0.248	-	-	-	0.156	0.355	-	0.248	0.248	0.124
B-C	679	0.095	0.240	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	525	0.087	0.221	0.221	-	-	-	0.139	0.316	0.139	-	-	-
B-D, offside lane	590	0.098	0.248	0.248	-	-	-	0.156	0.355	0.156	-	-	-
C-B	610	0.216	0.216	0.308	-	-	-	-	-	-	-	-	-
D-A	659	-	-	-	-	-	-	0.233	-	0.092	-	-	-
D-B, nearside lane	513	0.136	0.136	0.308	-	-	-	0.216	0.216	0.085	-	-	-
D-B, offside lane	513	0.136	0.136	0.308	-	-	-	0.216	0.216	0.085	-	-	-
D-C	513	-	0.136	0.308	0.108	0.216	0.216	0.216	0.216	0.085	-	-	-

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 Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess - 50/50% Dist	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	116	100.000
B		✓	119	100.000
C		✓	132	100.000
D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	7	78	31
	B	34	0	67	18
	C	80	38	0	14
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.14	6.83	0.2	A
B-AD	0.09	7.46	0.1	A
A-BCD	0.06	6.00	0.1	A
A-B				
A-C				
D-AB	0.00	0.00	0.0	A
D-BC	0.00	0.00	0.0	A
C-ABD	0.08	6.01	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	626	0.092	57	0.1	6.322	A
B-AD	32	549	0.058	32	0.1	6.955	A
A-BCD	26	631	0.041	26	0.1	5.951	A
A-B	5			5			
A-C	56			56			
D-AB	0	548	0.000	0	0.0	0.000	A
D-BC	0	469	0.000	0	0.0	0.000	A
C-ABD	33	637	0.051	32	0.1	5.953	A
C-D	10			10			
C-A	57			57			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	69	620	0.111	69	0.1	6.529	A
B-AD	38	541	0.071	38	0.1	7.161	A
A-BCD	32	634	0.050	32	0.1	5.972	A
A-B	6			6			
A-C	67			67			
D-AB	0	542	0.000	0	0.0	0.000	A
D-BC	0	461	0.000	0	0.0	0.000	A
C-ABD	40	642	0.062	40	0.1	5.974	A
C-D	12			12			
C-A	67			67			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	84	611	0.138	84	0.2	6.827	A
B-AD	47	529	0.088	47	0.1	7.459	A
A-BCD	40	640	0.063	40	0.1	6.001	A
A-B	7			7			
A-C	80			80			
D-AB	0	535	0.000	0	0.0	0.000	A
D-BC	0	449	0.000	0	0.0	0.000	A
C-ABD	50	650	0.078	50	0.1	6.005	A
C-D	14			14			
C-A	81			81			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	84	611	0.138	84	0.2	6.830	A
B-AD	47	529	0.088	47	0.1	7.460	A
A-BCD	40	640	0.063	40	0.1	6.002	A
A-B	7			7			
A-C	80			80			
D-AB	0	535	0.000	0	0.0	0.000	A
D-BC	0	449	0.000	0	0.0	0.000	A
C-ABD	50	650	0.078	50	0.1	6.009	A
C-D	14			14			
C-A	81			81			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	69	620	0.111	69	0.1	6.534	A
B-AD	38	541	0.071	38	0.1	7.167	A
A-BCD	32	634	0.050	32	0.1	5.975	A
A-B	6			6			
A-C	67			67			
D-AB	0	542	0.000	0	0.0	0.000	A
D-BC	0	461	0.000	0	0.0	0.000	A
C-ABD	40	642	0.062	40	0.1	5.978	A
C-D	12			12			
C-A	67			67			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	626	0.092	58	0.1	6.333	A
B-AD	32	549	0.058	32	0.1	6.967	A
A-BCD	26	631	0.041	26	0.1	5.958	A
A-B	5			5			
A-C	56			56			
D-AB	0	548	0.000	0	0.0	0.000	A
D-BC	0	469	0.000	0	0.0	0.000	A
C-ABD	33	637	0.051	33	0.1	5.960	A
C-D	10			10			
C-A	57			57			

2028 Assess - 50/50% Dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Stanley Rd / Nant Mawr Rd/ Well St	Crossroads	Two-way		3.78	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	246	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028 Assess - 50/50% Dist	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	104	100.000
B		✓	83	100.000
C		✓	197	100.000
D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	20	68	16
	B	19	0	19	45
	C	95	89	0	13
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.08	6.77	0.1	A
B-AD	0.10	8.75	0.1	A
A-BCD	0.03	5.99	0.0	A
A-B				
A-C				
D-AB	0.00	0.00	0.0	A
D-BC	0.00	0.00	0.0	A
C-ABD	0.18	6.61	0.3	A
C-D				
C-A				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	32	605	0.053	32	0.1	6.280	A
B-AD	31	478	0.064	30	0.1	8.033	A
A-BCD	13	618	0.022	13	0.0	5.952	A
A-B	14			14			
A-C	50			50			
D-AB	0	542	0.000	0	0.0	0.000	A
D-BC	0	465	0.000	0	0.0	0.000	A
C-ABD	77	647	0.119	76	0.2	6.301	A
C-D	9			9			
C-A	63			63			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	38	594	0.064	38	0.1	6.478	A
B-AD	37	469	0.078	37	0.1	8.325	A
A-BCD	16	620	0.027	16	0.0	5.967	A
A-B	17			17			
A-C	59			59			
D-AB	0	535	0.000	0	0.0	0.000	A
D-BC	0	455	0.000	0	0.0	0.000	A
C-ABD	94	654	0.144	94	0.2	6.425	A
C-D	10			10			
C-A	73			73			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	47	578	0.081	47	0.1	6.771	A
B-AD	45	456	0.098	44	0.1	8.744	A
A-BCD	21	622	0.034	21	0.0	5.987	A
A-B	21			21			
A-C	72			72			
D-AB	0	526	0.000	0	0.0	0.000	A
D-BC	0	442	0.000	0	0.0	0.000	A
C-ABD	120	665	0.180	119	0.3	6.605	A
C-D	12			12			
C-A	86			86			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	47	578	0.081	47	0.1	6.773	A
B-AD	45	456	0.098	45	0.1	8.749	A
A-BCD	21	622	0.034	21	0.0	5.991	A
A-B	21			21			
A-C	72			72			
D-AB	0	526	0.000	0	0.0	0.000	A
D-BC	0	442	0.000	0	0.0	0.000	A
C-ABD	120	665	0.180	120	0.3	6.609	A
C-D	12			12			
C-A	86			86			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	38	594	0.064	38	0.1	6.484	A
B-AD	37	469	0.078	37	0.1	8.332	A
A-BCD	17	620	0.027	17	0.0	5.972	A
A-B	17			17			
A-C	59			59			
D-AB	0	535	0.000	0	0.0	0.000	A
D-BC	0	455	0.000	0	0.0	0.000	A
C-ABD	94	654	0.144	94	0.2	6.436	A
C-D	10			10			
C-A	73			73			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	32	604	0.053	32	0.1	6.286	A
B-AD	31	478	0.064	31	0.1	8.051	A
A-BCD	13	618	0.022	14	0.0	5.955	A
A-B	14			14			
A-C	50			50			
D-AB	0	542	0.000	0	0.0	0.000	A
D-BC	0	465	0.000	0	0.0	0.000	A
C-ABD	77	647	0.119	77	0.2	6.320	A
C-D	9			9			
C-A	63			63			

2028 Assess - 100% Dist S, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Stanley Rd / Nant Mawr Rd/ Well St	Crossroads	Two-way		4.05	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	208	Stream B-AD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2028 Assess - 100% Dist S	AM	ONE HOUR	08:00	09:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	116	100.000
B		✓	148	100.000
C		✓	143	100.000
D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	7	78	31
	B	43	0	87	18
	C	80	49	0	14
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.17	7.11	0.2	A
B-AD	0.11	7.70	0.1	A
A-BCD	0.06	6.04	0.1	A
A-B				
A-C				
D-AB	0.00	0.00	0.0	A
D-BC	0.00	0.00	0.0	A
C-ABD	0.10	6.15	0.1	A
C-D				
C-A				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	629	0.116	72	0.1	6.460	A
B-AD	39	546	0.071	38	0.1	7.087	A
A-BCD	26	628	0.041	26	0.1	5.975	A
A-B	5			5			
A-C	56			56			
D-AB	0	547	0.000	0	0.0	0.000	A
D-BC	0	466	0.000	0	0.0	0.000	A
C-ABD	42	637	0.065	41	0.1	6.041	A
C-D	10			10			
C-A	56			56			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	87	622	0.140	87	0.2	6.720	A
B-AD	46	537	0.086	46	0.1	7.337	A
A-BCD	32	632	0.050	32	0.1	6.001	A
A-B	6			6			
A-C	67			67			
D-AB	0	541	0.000	0	0.0	0.000	A
D-BC	0	456	0.000	0	0.0	0.000	A
C-ABD	51	642	0.079	51	0.1	6.087	A
C-D	12			12			
C-A	66			66			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	107	613	0.174	106	0.2	7.108	A
B-AD	56	524	0.108	56	0.1	7.699	A
A-BCD	40	636	0.063	40	0.1	6.036	A
A-B	7			7			
A-C	80			80			
D-AB	0	533	0.000	0	0.0	0.000	A
D-BC	0	443	0.000	0	0.0	0.000	A
C-ABD	64	650	0.099	64	0.1	6.149	A
C-D	14			14			
C-A	79			79			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	107	613	0.174	107	0.2	7.111	A
B-AD	56	524	0.108	56	0.1	7.703	A
A-BCD	40	636	0.063	40	0.1	6.037	A
A-B	7			7			
A-C	80			80			
D-AB	0	533	0.000	0	0.0	0.000	A
D-BC	0	443	0.000	0	0.0	0.000	A
C-ABD	64	650	0.099	64	0.1	6.151	A
C-D	14			14			
C-A	79			79			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	87	622	0.140	87	0.2	6.731	A
B-AD	46	537	0.086	46	0.1	7.344	A
A-BCD	32	632	0.050	32	0.1	6.004	A
A-B	6			6			
A-C	67			67			
D-AB	0	541	0.000	0	0.0	0.000	A
D-BC	0	456	0.000	0	0.0	0.000	A
C-ABD	51	642	0.079	51	0.1	6.093	A
C-D	12			12			
C-A	66			66			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	629	0.116	73	0.1	6.478	A
B-AD	39	546	0.071	39	0.1	7.101	A
A-BCD	26	628	0.041	26	0.1	5.982	A
A-B	5			5			
A-C	56			56			
D-AB	0	547	0.000	0	0.0	0.000	A
D-BC	0	465	0.000	0	0.0	0.000	A
C-ABD	42	637	0.065	42	0.1	6.049	A
C-D	10			10			
C-A	56			56			

2028 Assess - 100% Dist S, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Stanley Rd / Nant Mawr Rd/ Well St	Crossroads	Two-way		4.35	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	192	Stream C-ABD

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2028 Assess - 100% Dist S	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	104	100.000
B		✓	95	100.000
C		✓	224	100.000
D		✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	20	68	16
	B	19	0	23	53
	C	95	116	0	13
	D	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	D	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.10	7.00	0.1	A
B-AD	0.11	9.05	0.1	A
A-BCD	0.03	6.08	0.0	A
A-B				
A-C				
D-AB	0.00	0.00	0.0	A
D-BC	0.00	0.00	0.0	A
C-ABD	0.23	7.07	0.4	A
C-D				
C-A				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	38	600	0.063	38	0.1	6.399	A
B-AD	34	472	0.071	33	0.1	8.203	A
A-BCD	14	612	0.022	13	0.0	6.011	A
A-B	14			14			
A-C	50			50			
D-AB	0	540	0.000	0	0.0	0.000	A
D-BC	0	460	0.000	0	0.0	0.000	A
C-ABD	100	647	0.154	99	0.2	6.559	A
C-D	8			8			
C-A	61			61			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	45	587	0.077	45	0.1	6.640	A
B-AD	40	461	0.087	40	0.1	8.546	A
A-BCD	17	613	0.027	16	0.0	6.038	A
A-B	17			17			
A-C	59			59			
D-AB	0	532	0.000	0	0.0	0.000	A
D-BC	0	449	0.000	0	0.0	0.000	A
C-ABD	122	654	0.187	122	0.3	6.763	A
C-D	9			9			
C-A	69			69			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	56	570	0.098	56	0.1	6.998	A
B-AD	49	446	0.109	49	0.1	9.046	A
A-BCD	21	613	0.034	21	0.0	6.074	A
A-B	21			21			
A-C	72			72			
D-AB	0	522	0.000	0	0.0	0.000	A
D-BC	0	434	0.000	0	0.0	0.000	A
C-ABD	155	665	0.234	155	0.4	7.064	A
C-D	11			11			
C-A	80			80			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	56	570	0.098	56	0.1	7.000	A
B-AD	49	446	0.109	49	0.1	9.052	A
A-BCD	21	613	0.034	21	0.0	6.076	A
A-B	21			21			
A-C	72			72			
D-AB	0	521	0.000	0	0.0	0.000	A
D-BC	0	434	0.000	0	0.0	0.000	A
C-ABD	155	665	0.234	155	0.4	7.072	A
C-D	11			11			
C-A	80			80			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	45	587	0.077	45	0.1	6.648	A
B-AD	40	461	0.087	40	0.1	8.555	A
A-BCD	17	612	0.027	17	0.0	6.044	A
A-B	17			17			
A-C	59			59			
D-AB	0	532	0.000	0	0.0	0.000	A
D-BC	0	449	0.000	0	0.0	0.000	A
C-ABD	122	654	0.187	123	0.3	6.776	A
C-D	9			9			
C-A	69			69			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	38	600	0.063	38	0.1	6.410	A
B-AD	34	472	0.071	34	0.1	8.223	A
A-BCD	14	612	0.022	14	0.0	6.015	A
A-B	14			14			
A-C	50			50			
D-AB	0	539	0.000	0	0.0	0.000	A
D-BC	0	459	0.000	0	0.0	0.000	A
C-ABD	100	647	0.154	100	0.2	6.583	A
C-D	8			8			
C-A	60			60			

S|C|P

APPENDIX G

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: 220525 Well Street_A549 Mold Rd.Springfield Dr_20.06.23.j9
Path: Z:\Job Library\2022\220525 - Well Street, Buckley\Traffic Data\Junction Assessments
Report generation date: 20/06/2023 15:16:22

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
	2028 Assess													
Stream B-C	D1	0.1	5.65	0.05	A	1.04	580 % [Stream C-AB]	D2	0.0	5.57	0.05	A	1.08	373 % [Stream C-AB]
Stream B-A		0.0	0.00	0.00	A				0.0	0.00	0.00	A		
Stream C-AB		0.1	5.42	0.04	A				0.1	5.28	0.07	A		

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	A549 Mold Rd.Springfield Dr
Location	Buckley
Site number	200445
Date	28/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\Liam Bessell
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess	AM	ONE HOUR	08:15	09:45	15
D2	2028 Assess	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assess, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A549 Mold Rd.Springfield Dr	T-Junction	Two-way		1.04	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	580	Stream C-AB

Arms

Arms

Arm	Name	Description	Arm type
A	A549 Mold Rd (E)		Major
B	Srpingfield Dr		Minor
C	A549 Mold Rd (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			100.0	✓	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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	5.20	3.40	3.40	3.40	✓	1.00	29	27

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	480	0.086	0.216	0.136	0.309
B-C	708	0.106	0.268	-	-
C-B	632	0.240	0.240	-	-

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 Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	115	100.000
B		✓	33	100.000
C		✓	162	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	115
	B	0	0	33
	C	142	20	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	5.65	0.1	A
B-A	0.00	0.00	0.0	A
C-AB	0.04	5.42	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	684	0.036	25	0.0	5.455	A
B-A	0	442	0.000	0	0.0	0.000	A
C-AB	18	682	0.026	18	0.0	5.422	A
C-A	104			104			
A-B	0			0			
A-C	87			87			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	680	0.044	30	0.0	5.535	A
B-A	0	435	0.000	0	0.0	0.000	A
C-AB	22	692	0.032	22	0.0	5.375	A
C-A	124			124			
A-B	0			0			
A-C	103			103			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	674	0.054	36	0.1	5.647	A
B-A	0	425	0.000	0	0.0	0.000	A
C-AB	28	706	0.040	28	0.1	5.316	A
C-A	150			150			
A-B	0			0			
A-C	127			127			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	674	0.054	36	0.1	5.647	A
B-A	0	425	0.000	0	0.0	0.000	A
C-AB	28	706	0.040	28	0.1	5.317	A
C-A	150			150			
A-B	0			0			
A-C	127			127			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	680	0.044	30	0.0	5.536	A
B-A	0	435	0.000	0	0.0	0.000	A
C-AB	22	692	0.032	22	0.0	5.376	A
C-A	124			124			
A-B	0			0			
A-C	103			103			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	684	0.036	25	0.0	5.459	A
B-A	0	442	0.000	0	0.0	0.000	A
C-AB	18	682	0.026	18	0.0	5.423	A
C-A	104			104			
A-B	0			0			
A-C	87			87			

2028 Assess, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A549 Mold Rd.Springfield Dr	T-Junction	Two-way		1.08	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	373	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028 Assess	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	104	100.000
B		✓	28	100.000
C		✓	239	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	104
	B	0	0	28
	C	205	34	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	5.57	0.0	A
B-A	0.00	0.00	0.0	A
C-AB	0.07	5.28	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	687	0.031	21	0.0	5.408	A
B-A	0	434	0.000	0	0.0	0.000	A
C-AB	33	715	0.046	32	0.1	5.274	A
C-A	147			147			
A-B	0			0			
A-C	78			78			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	683	0.037	25	0.0	5.475	A
B-A	0	425	0.000	0	0.0	0.000	A
C-AB	41	731	0.056	41	0.1	5.213	A
C-A	174			174			
A-B	0			0			
A-C	93			93			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	677	0.046	31	0.0	5.571	A
B-A	0	413	0.000	0	0.0	0.000	A
C-AB	54	754	0.071	53	0.1	5.138	A
C-A	210			210			
A-B	0			0			
A-C	115			115			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	677	0.046	31	0.0	5.571	A
B-A	0	413	0.000	0	0.0	0.000	A
C-AB	54	754	0.071	54	0.1	5.138	A
C-A	210			210			
A-B	0			0			
A-C	115			115			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	683	0.037	25	0.0	5.478	A
B-A	0	425	0.000	0	0.0	0.000	A
C-AB	41	731	0.056	41	0.1	5.216	A
C-A	174			174			
A-B	0			0			
A-C	93			93			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	687	0.031	21	0.0	5.408	A
B-A	0	434	0.000	0	0.0	0.000	A
C-AB	33	715	0.046	33	0.1	5.278	A
C-A	147			147			
A-B	0			0			
A-C	78			78			

S|C|P

APPENDIX H

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: 200455 Well Street_A549 Mold Rd.Stanley Rd_20.06.23.j9
Path: Z:\Job Library\2022\220525 - Well Street, Buckley\Traffic Data\Junction Assessments
Report generation date: 20/06/2023 14:29:24

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
	2028 Assess													
Stream B-C	D1	0.0	7.30	0.01	A	1.53	59 % [Stream B-A]	D2	0.0	7.38	0.02	A	0.88	89 % [Stream B-A]
Stream B-A		0.4	12.34	0.30	B				0.2	10.51	0.17	B		
Stream C-AB		0.0	0.00	0.00	A				0.0	0.00	0.00	A		

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	A549 Mold Rd.Stanley Rd
Location	Mold
Site number	200445
Date	28/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	200445
Enumerator	SCP\Liam Bessell
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess	AM	ONE HOUR	08:15	09:45	15
D2	2028 Assess	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assess, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A549 Mold Rd.Springfield Dr	T-Junction	Two-way		1.53	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	59	Stream B-A

Arms

Arms

Arm	Name	Description	Arm type
A	A549 Mold Rd (E)		Major
B	Stanley Rd		Minor
C	A549 Mold Rd (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			90.0	✓	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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	10.00	7.00	6.00	6.00	✓	3.00	28	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	614	0.109	0.276	0.174	0.395
B-C	642	0.096	0.243	-	-
C-B	626	0.237	0.237	-	-

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 Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	375	100.000
B		✓	118	100.000
C		✓	442	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	375
	B	112	0	6
	C	442	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.01	7.30	0.0	A
B-A	0.30	12.34	0.4	B
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	548	0.008	4	0.0	6.621	A
B-A	84	478	0.177	83	0.2	9.112	A
C-AB	0	559	0.000	0	0.0	0.000	A
C-A	333			333			
A-B	0			0			
A-C	282			282			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	528	0.010	5	0.0	6.882	A
B-A	101	451	0.223	100	0.3	10.249	B
C-AB	0	546	0.000	0	0.0	0.000	A
C-A	397			397			
A-B	0			0			
A-C	337			337			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	500	0.013	7	0.0	7.295	A
B-A	123	415	0.297	123	0.4	12.302	B
C-AB	0	528	0.000	0	0.0	0.000	A
C-A	487			487			
A-B	0			0			
A-C	413			413			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	500	0.013	7	0.0	7.298	A
B-A	123	415	0.297	123	0.4	12.343	B
C-AB	0	528	0.000	0	0.0	0.000	A
C-A	487			487			
A-B	0			0			
A-C	413			413			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	528	0.010	5	0.0	6.888	A
B-A	101	451	0.223	101	0.3	10.295	B
C-AB	0	546	0.000	0	0.0	0.000	A
C-A	397			397			
A-B	0			0			
A-C	337			337			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	5	548	0.008	5	0.0	6.628	A
B-A	84	478	0.177	85	0.2	9.164	A
C-AB	0	559	0.000	0	0.0	0.000	A
C-A	333			333			
A-B	0			0			
A-C	282			282			

2028 Assess, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A549 Mold Rd.Springfield Dr	T-Junction	Two-way		0.88	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	89	Stream B-A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028 Assess	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	446	100.000
B		✓	75	100.000
C		✓	339	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	446
	B	64	0	11
	C	339	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.02	7.38	0.0	A
B-A	0.17	10.51	0.2	B
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	546	0.015	8	0.0	6.689	A
B-A	48	476	0.101	48	0.1	8.389	A
C-AB	0	546	0.000	0	0.0	0.000	A
C-A	255			255			
A-B	0			0			
A-C	336			336			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	10	527	0.019	10	0.0	6.959	A
B-A	58	450	0.128	57	0.1	9.171	A
C-AB	0	531	0.000	0	0.0	0.000	A
C-A	305			305			
A-B	0			0			
A-C	401			401			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	500	0.024	12	0.0	7.374	A
B-A	70	413	0.171	70	0.2	10.494	B
C-AB	0	510	0.000	0	0.0	0.000	A
C-A	373			373			
A-B	0			0			
A-C	491			491			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	500	0.024	12	0.0	7.375	A
B-A	70	413	0.171	70	0.2	10.509	B
C-AB	0	510	0.000	0	0.0	0.000	A
C-A	373			373			
A-B	0			0			
A-C	491			491			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	10	527	0.019	10	0.0	6.961	A
B-A	58	450	0.128	58	0.1	9.189	A
C-AB	0	531	0.000	0	0.0	0.000	A
C-A	305			305			
A-B	0			0			
A-C	401			401			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	8	546	0.015	8	0.0	6.692	A
B-A	48	476	0.101	48	0.1	8.413	A
C-AB	0	546	0.000	0	0.0	0.000	A
C-A	255			255			
A-B	0			0			
A-C	336			336			

S|C|P

APPENDIX I

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

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

Filename: 220525 Well Street_Springfield Dr.Daleside_20.06.23...j9
Path: Z:\Job Library\2022\220525 - Well Street, Buckley\Traffic Data\Junction Assessments
Report generation date: 20/06/2023 15:43:08

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
	2028 Assess - 50/50 Dist													
Stream B-C	D1	0.1	5.91	0.06	A	1.06	582 % [Stream C-AB]	D2	0.0	5.83	0.05	A	1.10	374 % [Stream C-AB]
Stream B-A		0.0	0.00	0.00	A				0.0	0.00	0.00	A		
Stream C-AB		0.1	5.42	0.04	A				0.1	5.28	0.07	A		
	2028 Assess - 100% N													
Stream B-C	D3	0.0	0.00	0.00	A	0.24	801 % [Stream C-AB]	D4	0.0	5.71	0.03	A	0.50	644 % [Stream C-AB]
Stream B-A		0.0	0.00	0.00	A				0.0	0.00	0.00	A		
Stream C-AB		0.0	5.37	0.02	A				0.0	5.18	0.02	A		

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	Springfield Dr / Daleside
Location	Mold
Site number	200445
Date	28/09/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	200445
Enumerator	SCP\Liam Bessell
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess - 50/50 Dist	AM	ONE HOUR	08:15	09:45	15
D2	2028 Assess - 50/50 Dist	PM	ONE HOUR	16:45	18:15	15
D3	2028 Assess - 100% N	AM	ONE HOUR	08:15	09:45	15
D4	2028 Assess - 100% N	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assess - 50/50 Dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Daleside	T-Junction	Two-way		1.06	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	582	Stream C-AB

Arms

Arms

Arm	Name	Description	Arm type
A	Springfield Dr (SE)		Major
B	Daleside		Minor
C	Springfield Dr (NW)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00			100.0	✓	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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	4.00	3.30	3.10	3.00	✓	1.00	21	16

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	591	0.103	0.260	0.164	0.372
B-C	677	0.099	0.251	-	-
C-B	632	0.234	0.234	-	-

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 Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028 Assess - 50/50 Dist	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	115	100.000
B		✓	33	100.000
C		✓	162	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	115
	B	0	0	33
	C	142	20	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	5.91	0.1	A
B-A	0.00	0.00	0.0	A
C-AB	0.04	5.42	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	655	0.038	25	0.0	5.706	A
B-A	0	545	0.000	0	0.0	0.000	A
C-AB	18	682	0.026	18	0.0	5.418	A
C-A	104			104			
A-B	0			0			
A-C	87			87			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	651	0.046	30	0.0	5.791	A
B-A	0	536	0.000	0	0.0	0.000	A
C-AB	22	692	0.032	22	0.0	5.371	A
C-A	124			124			
A-B	0			0			
A-C	103			103			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	645	0.056	36	0.1	5.910	A
B-A	0	524	0.000	0	0.0	0.000	A
C-AB	28	706	0.040	28	0.1	5.309	A
C-A	150			150			
A-B	0			0			
A-C	127			127			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	645	0.056	36	0.1	5.910	A
B-A	0	524	0.000	0	0.0	0.000	A
C-AB	28	706	0.040	28	0.1	5.312	A
C-A	150			150			
A-B	0			0			
A-C	127			127			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	651	0.046	30	0.0	5.794	A
B-A	0	536	0.000	0	0.0	0.000	A
C-AB	22	692	0.032	22	0.0	5.372	A
C-A	124			124			
A-B	0			0			
A-C	103			103			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	655	0.038	25	0.0	5.708	A
B-A	0	545	0.000	0	0.0	0.000	A
C-AB	18	682	0.026	18	0.0	5.421	A
C-A	104			104			
A-B	0			0			
A-C	87			87			

2028 Assess - 50/50 Dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Daleside	T-Junction	Two-way		1.10	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	374	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028 Assess - 50/50 Dist	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	104	100.000
B		✓	28	100.000
C		✓	239	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	104
	B	0	0	28
	C	205	34	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	5.83	0.0	A
B-A	0.00	0.00	0.0	A
C-AB	0.07	5.28	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	658	0.032	21	0.0	5.653	A
B-A	0	536	0.000	0	0.0	0.000	A
C-AB	33	715	0.046	32	0.1	5.271	A
C-A	147			147			
A-B	0			0			
A-C	78			78			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	654	0.039	25	0.0	5.726	A
B-A	0	525	0.000	0	0.0	0.000	A
C-AB	41	732	0.056	41	0.1	5.210	A
C-A	174			174			
A-B	0			0			
A-C	93			93			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	648	0.048	31	0.0	5.828	A
B-A	0	510	0.000	0	0.0	0.000	A
C-AB	54	755	0.071	53	0.1	5.132	A
C-A	210			210			
A-B	0			0			
A-C	115			115			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	648	0.048	31	0.0	5.828	A
B-A	0	510	0.000	0	0.0	0.000	A
C-AB	54	755	0.071	54	0.1	5.134	A
C-A	210			210			
A-B	0			0			
A-C	115			115			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	25	654	0.039	25	0.0	5.729	A
B-A	0	525	0.000	0	0.0	0.000	A
C-AB	41	732	0.056	41	0.1	5.213	A
C-A	174			174			
A-B	0			0			
A-C	93			93			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	658	0.032	21	0.0	5.658	A
B-A	0	536	0.000	0	0.0	0.000	A
C-AB	33	715	0.046	33	0.1	5.277	A
C-A	147			147			
A-B	0			0			
A-C	78			78			

2028 Assess - 100% N, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Daleside	T-Junction	Two-way		0.24	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	801	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2028 Assess - 100% N	AM	ONE HOUR	08:15	09:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	106	100.000
B		✓	3	100.000
C		✓	140	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	106
	B	0	0	3
	C	131	9	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.00	0.00	0.0	A
B-A	0.00	0.00	0.0	A
C-AB	0.02	5.37	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	738	0.000	0	0.0	0.000	A
B-A	0	491	0.000	0	0.0	0.000	A
C-AB	8	678	0.012	8	0.0	5.370	A
C-A	97			97			
A-B	0			0			
A-C	80			80			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	734	0.000	0	0.0	0.000	A
B-A	0	484	0.000	0	0.0	0.000	A
C-AB	10	687	0.014	10	0.0	5.311	A
C-A	116			116			
A-B	0			0			
A-C	95			95			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	728	0.000	0	0.0	0.000	A
B-A	0	474	0.000	0	0.0	0.000	A
C-AB	12	700	0.018	12	0.0	5.233	A
C-A	142			142			
A-B	0			0			
A-C	117			117			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	728	0.000	0	0.0	0.000	A
B-A	0	474	0.000	0	0.0	0.000	A
C-AB	12	700	0.018	12	0.0	5.235	A
C-A	142			142			
A-B	0			0			
A-C	117			117			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	734	0.000	0	0.0	0.000	A
B-A	0	484	0.000	0	0.0	0.000	A
C-AB	10	687	0.014	10	0.0	5.312	A
C-A	116			116			
A-B	0			0			
A-C	95			95			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	738	0.000	0	0.0	0.000	A
B-A	0	491	0.000	0	0.0	0.000	A
C-AB	8	678	0.012	8	0.0	5.372	A
C-A	97			97			
A-B	0			0			
A-C	80			80			

2028 Assess - 100% N, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Springfield Dr / Daleside	T-Junction	Two-way		0.50	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	644	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2028 Assess - 100% N	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	101	100.000
B		✓	17	100.000
C		✓	187	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	0	101
	B	0	0	17
	C	179	8	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.03	5.71	0.0	A
B-A	0.00	0.00	0.0	A
C-AB	0.02	5.18	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	13	658	0.019	13	0.0	5.578	A
B-A	0	547	0.000	0	0.0	0.000	A
C-AB	7	703	0.011	7	0.0	5.176	A
C-A	133			133			
A-B	0			0			
A-C	76			76			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	654	0.023	15	0.0	5.632	A
B-A	0	538	0.000	0	0.0	0.000	A
C-AB	9	717	0.013	9	0.0	5.086	A
C-A	159			159			
A-B	0			0			
A-C	91			91			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	649	0.029	19	0.0	5.708	A
B-A	0	526	0.000	0	0.0	0.000	A
C-AB	12	737	0.016	12	0.0	4.968	A
C-A	194			194			
A-B	0			0			
A-C	111			111			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	19	649	0.029	19	0.0	5.708	A
B-A	0	526	0.000	0	0.0	0.000	A
C-AB	12	737	0.016	12	0.0	4.970	A
C-A	194			194			
A-B	0			0			
A-C	111			111			

17:45 - 18:00

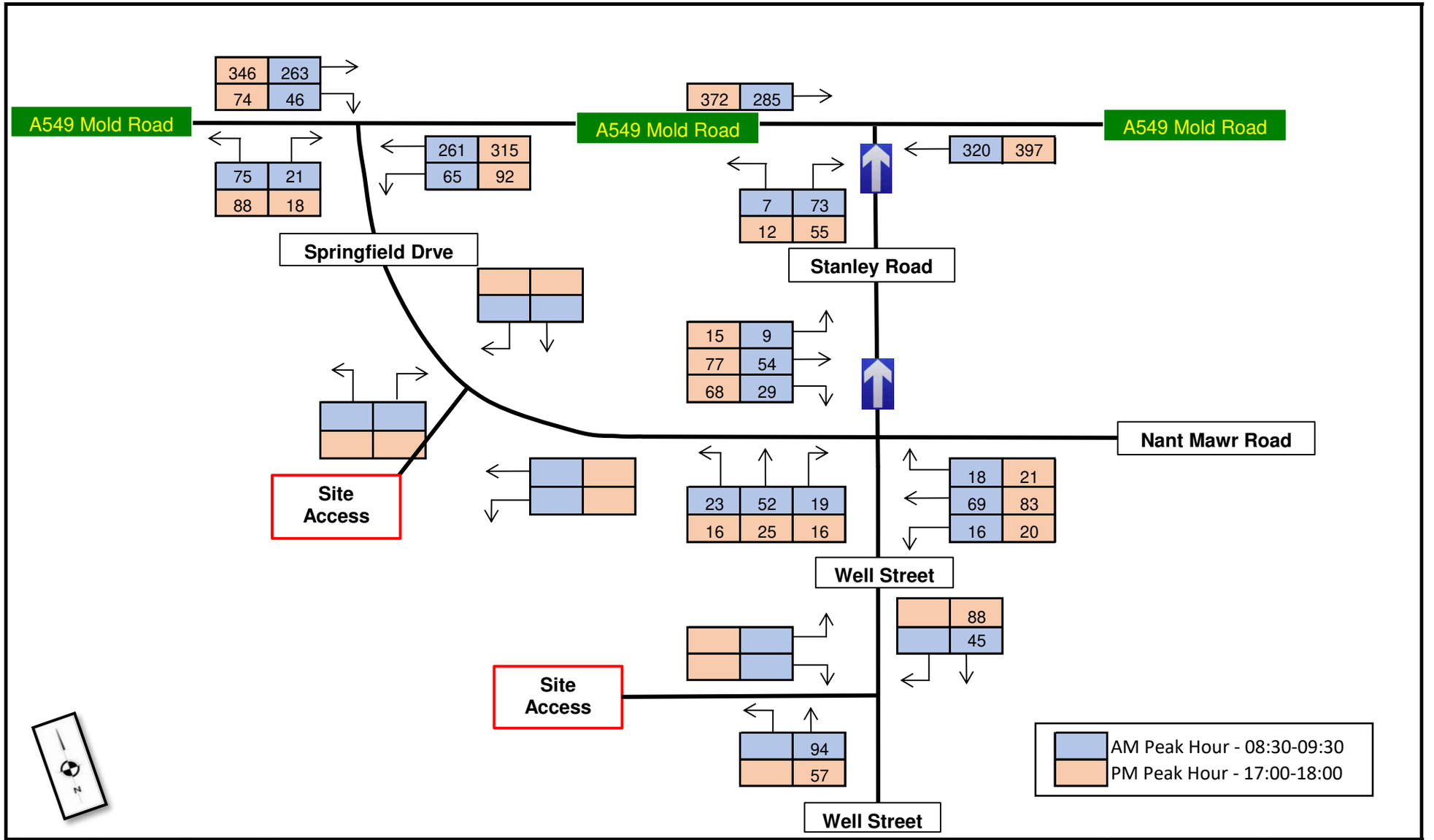
Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	654	0.023	15	0.0	5.632	A
B-A	0	538	0.000	0	0.0	0.000	A
C-AB	9	717	0.013	9	0.0	5.088	A
C-A	159			159			
A-B	0			0			
A-C	91			91			

18:00 - 18:15

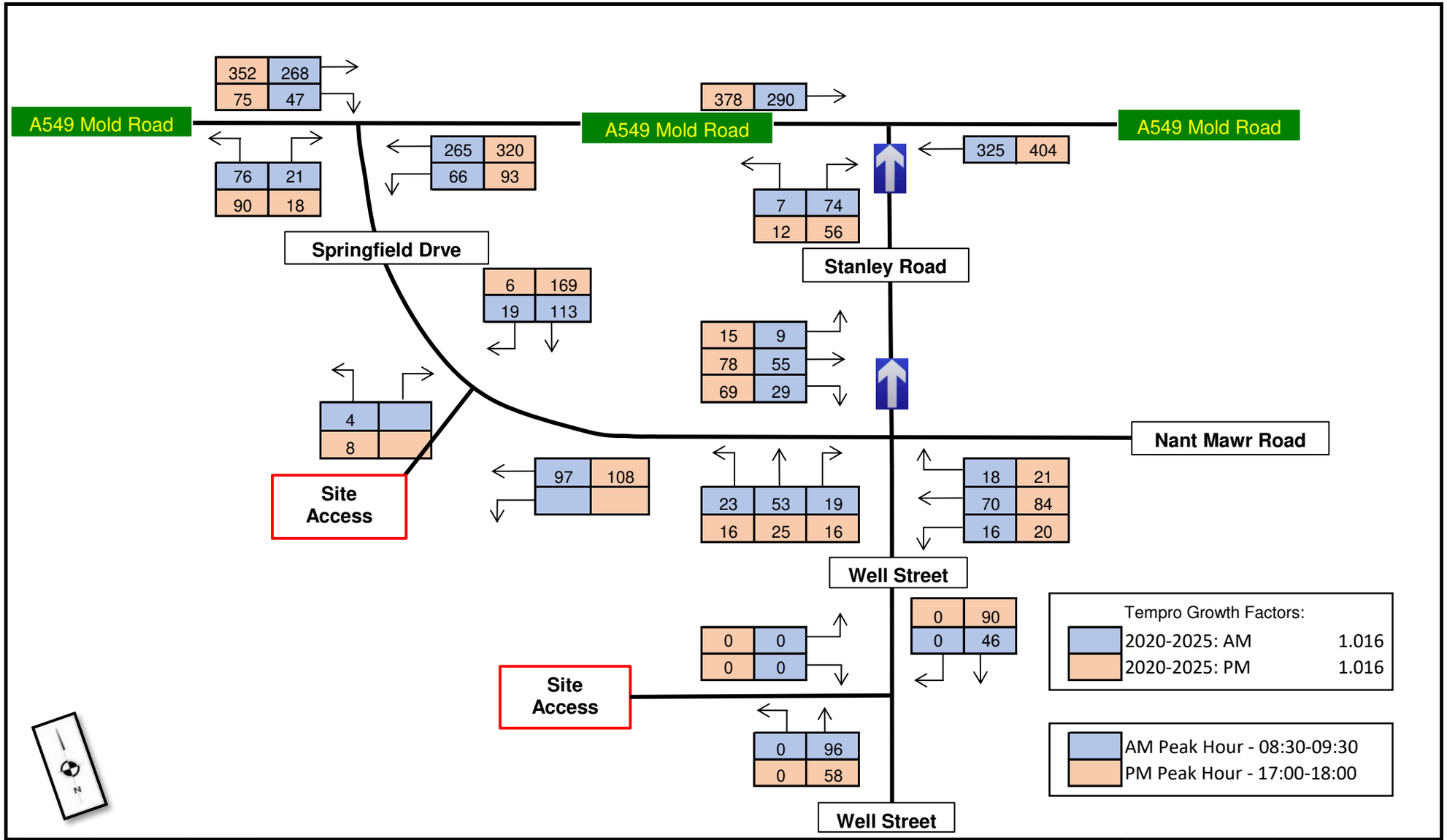
Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	13	658	0.019	13	0.0	5.580	A
B-A	0	547	0.000	0	0.0	0.000	A
C-AB	7	703	0.011	7	0.0	5.178	A
C-A	133			133			
A-B	0			0			
A-C	76			76			

S|C|P

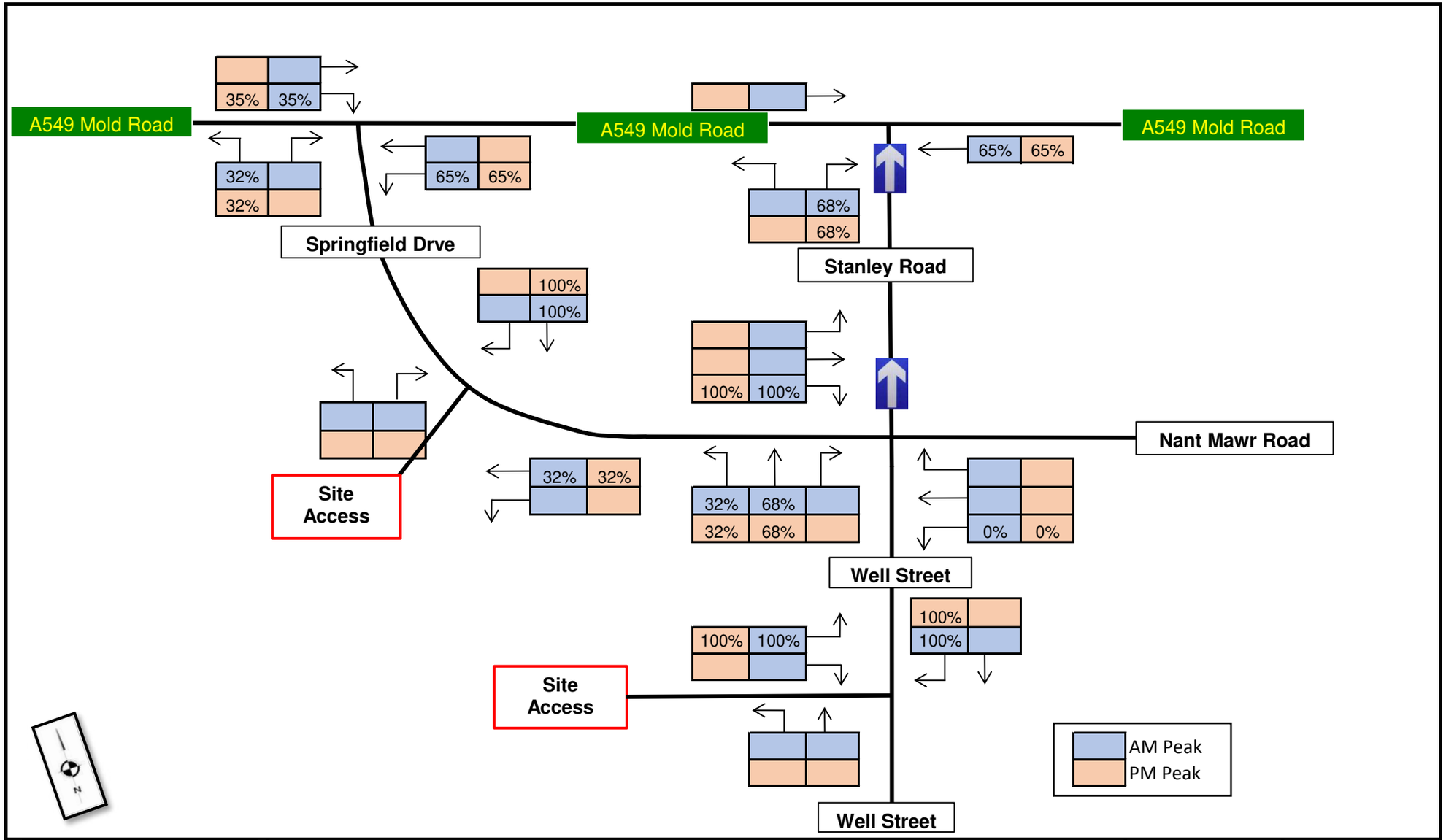
FIGURES



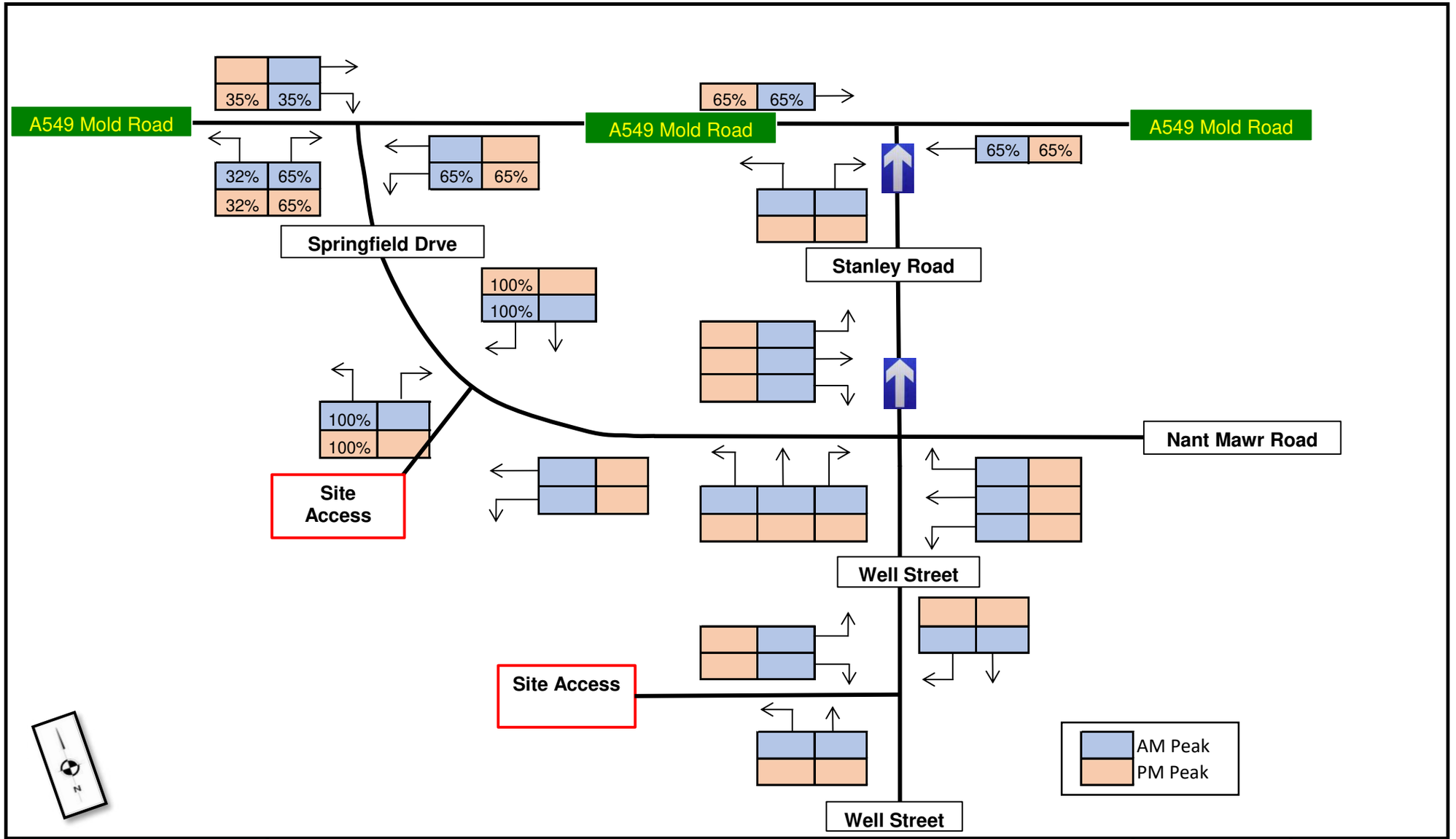
SCP Transportation Planning : Infrastructure Design	Survey Flows 2020 (PCU)	23/06/2023	Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley		Traffic Figure 1



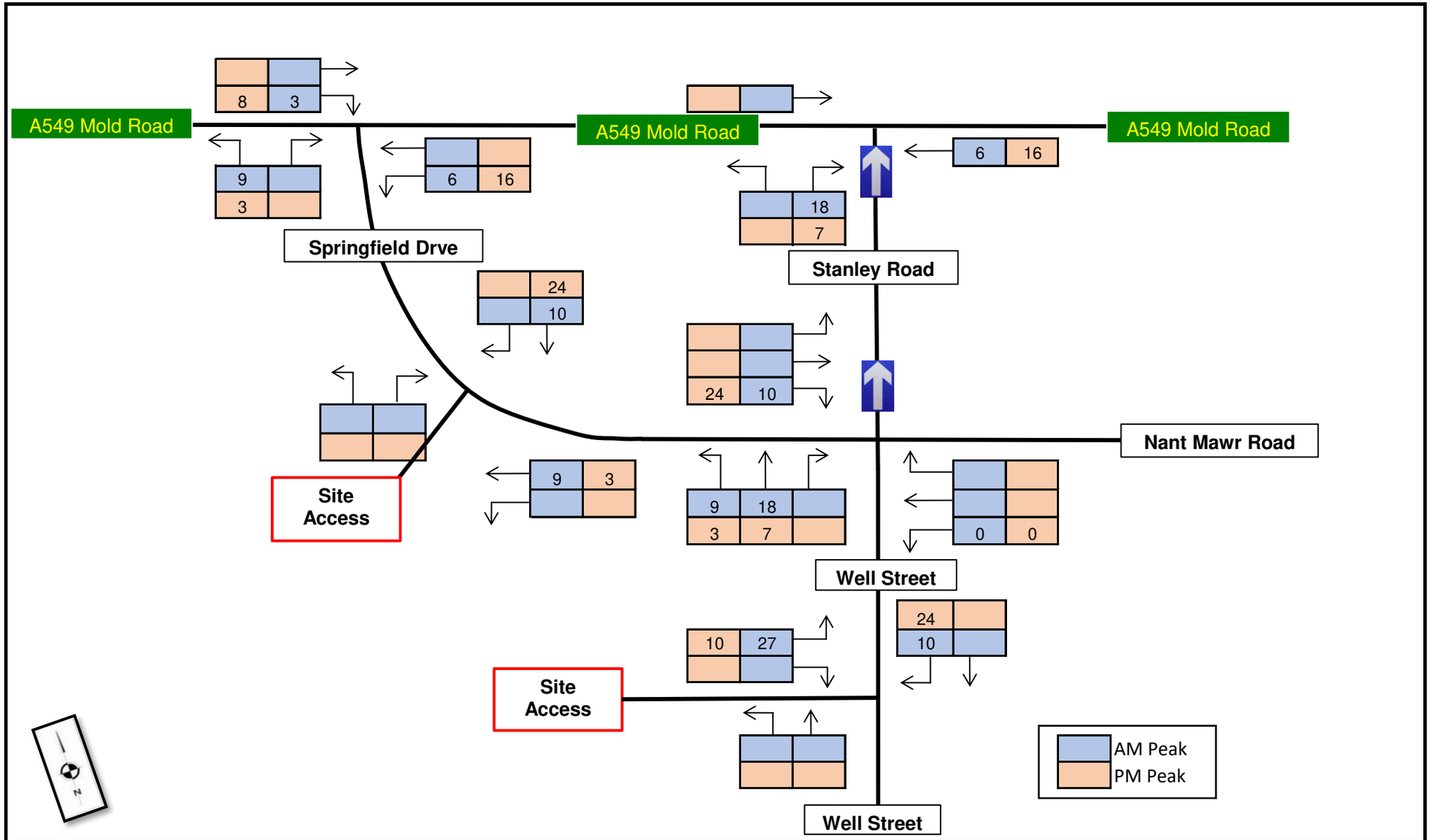
SCP Transportation Planning : Infrastructure Design	2025 Growthed Traffic Flows	23/06/2023	Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley		Traffic Figure 2



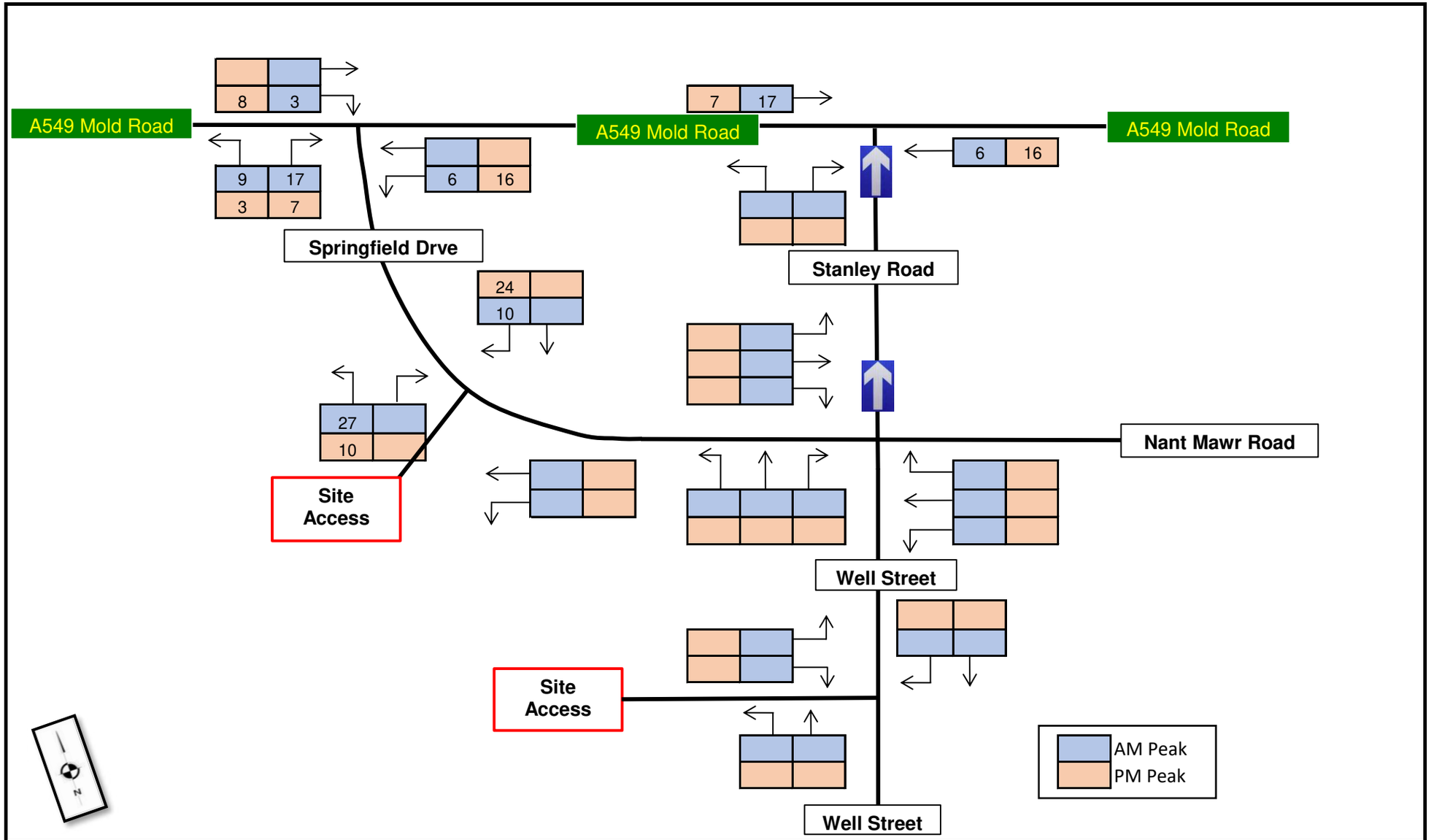
S C P Transportation Planning : Infrastructure Design	Traffic Distribution - Southern Access	23/06/2023	Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley		Traffic Figure 3



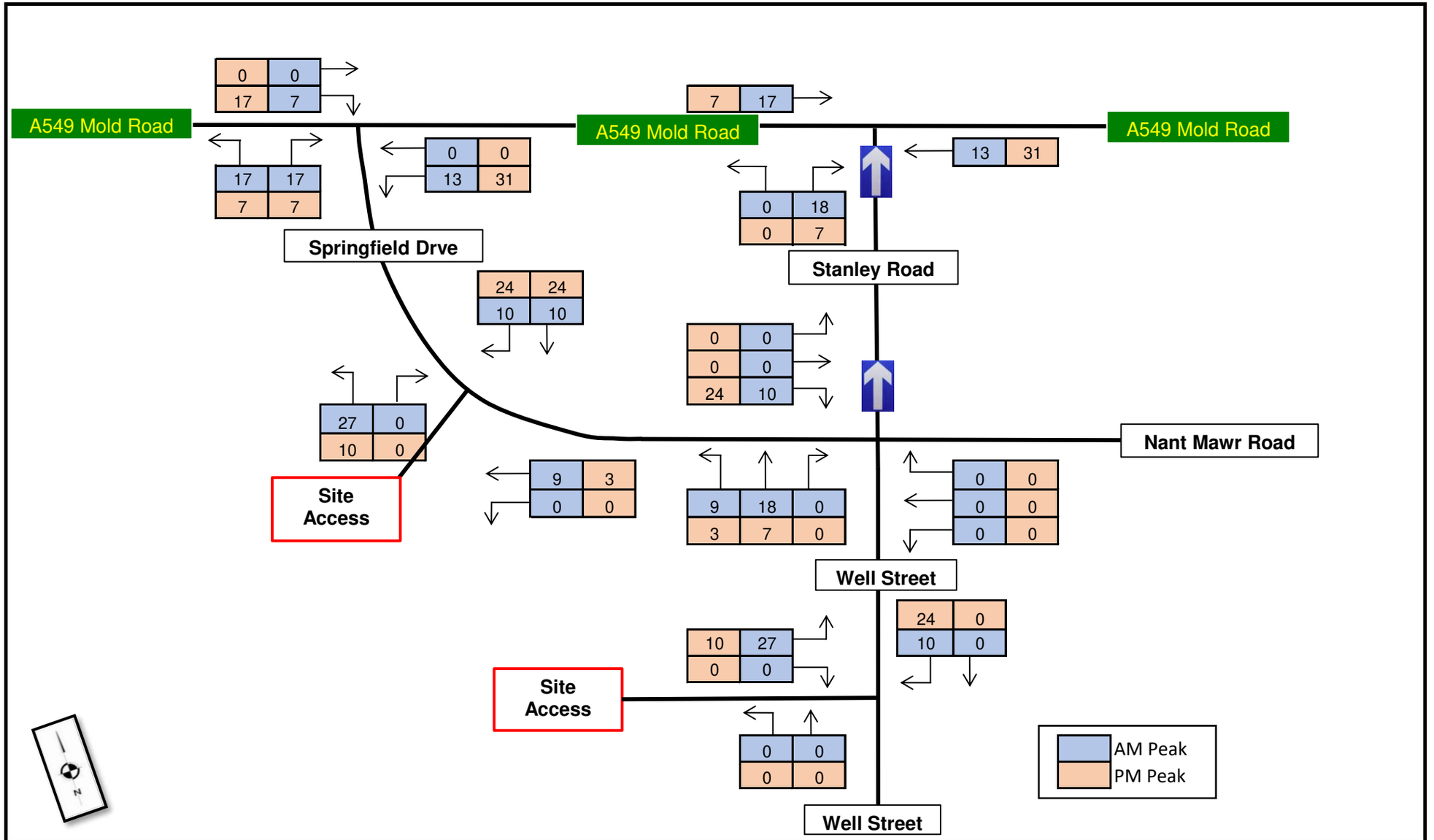
S C P Transportation Planning : Infrastructure Design	Traffic Distribution - Northern Access	23/06/2023	Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley		Traffic Figure 4



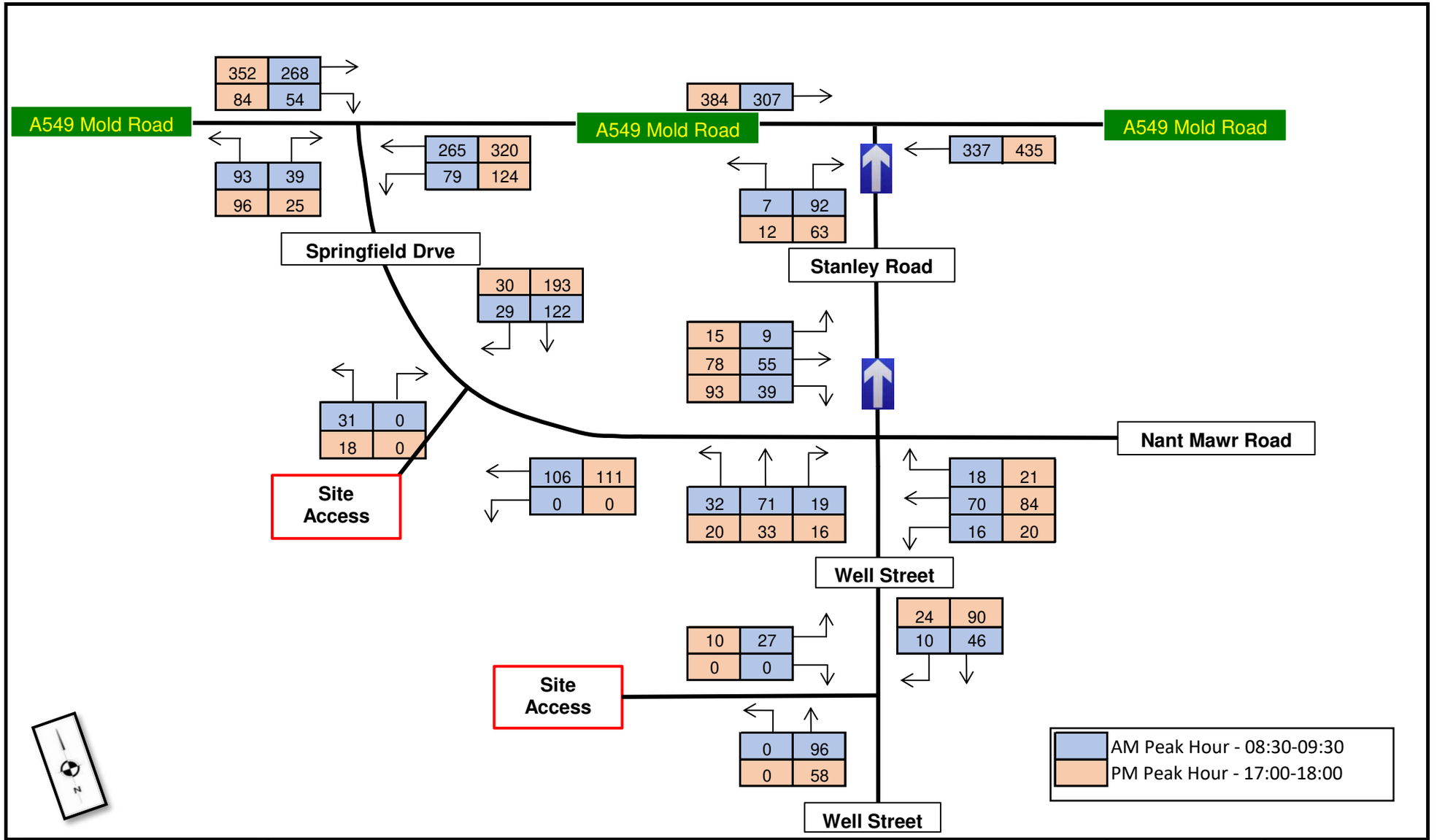
S C P Transportation Planning : Infrastructure Design	Traffic Assigment - Southern Access	23/06/2023	Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley		Traffic Figure 5



SCP Transportation Planning : Infrastructure Design	**Traffic Assigment - Northern Access**	**23/06/2023** Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley	**Traffic Figure 6**



S C P Transportation Planning : Infrastructure Design	**Traffic Assigment - Total**	**23/06/2023**	Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley		**Traffic Figure 7**



SCP Transportation Planning : Infrastructure Design	Assessment Traffic Flows 2025	23/06/2023	Job Number - SCP/220525
	Proposed Residential Development, Well Street, Buckley		Traffic Figure 8