TA01 - Transport Assessment

South Farm, Wickwar



B05313

Bloor Homes

MULTIDISCIPLINARY ENGINEERING CONSULTANTS

clarkebond

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Final

Land West of Sodbury Road, Wickwar

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1 Introduction

1.1 Background

This Transport Assessment (TA) has been prepared by Clarkebond on behalf of Bloor Homes to support an outline planning application with all matters reserved, except for access, for a residential development of up to 180 residential units, associated infrastructure and a farm shop of 500m². on land west of Sodbury Road, Wickwar.

The proposed development site is located within the south-western part of the village of Wickwar. The site is bounded by the B4060 (Sodbury Road) to the east; by Firth Lane to the south; by open agricultural land to the west; and by buildings associated with South Farm to the north. The proposed development layout is included at **Appendix A**.

The site location is shown in Figure 1.1

The proposed development site lies opposite two parcels of land which were recently granted planning consent. These are:

- Land south of Poplar Lane: 80 residential units PK16/4006/O, (Outline, granted 2017) and PK17/5966/RM (Reserved matters, granted 2018)
- Land south of Horwood Lane, Sodbury Road: 90 residential units PK17/4552/O (Outline, granted 2018) and P19/5258/RM (Reserved Matters, granted 2019)

The transport documents associated with these developments have provided data and scope to inform this TA.

1.2 Overview

This Transport Assessment has been prepared in accordance with relevant advice and guidance. It demonstrates that the site accords with national, regional and local transport policies.

Suitable access to the site can be achieved. It is proposed that the primary vehicular access to the site will be via two simple priority junctions off the B4060 Sodbury Road.

The site is accessible by sustainable modes of transport including walking, cycling, bus and rail. There is a good network of existing footways linking the site to the surrounding area and a range of local facilities are within acceptable walking and cycling distances.

Junction modelling shows that the level of traffic associated with the proposed development will not adversely affect the safe operation of the surrounding highway network for the proposed access junctions as well as the Sodbury Road/Amberley Way mini roundabout, junction capacity improvements are required at the junction of the High Street/The Downs/ Station Road.

It is concluded that the proposed development accords with national and local transport policy and there is no transport or highway reason why planning permission should not be granted.

1.3 Structure of Report

This Transport Assessment is set out as follows:

- Chapter 2 provides a summary of relevant national and local policy as well as Transport Assessment and other design guidance;
- Chapter 3 describes the existing highway and transport conditions surrounding the site including an assessment of the safety of the local highway network;
- Chapter 4 describes the proposed development including details of the access arrangements and the internal layout;
- Chapter 5 assesses the accessibility of the proposed development by sustainable transport modes;
- Chapter 6 details the trip generation and distribution associated with the proposed development;
- Chapter 7 describes the local network transport impact of the proposed development and the results of junction modelling;
- Chapter 8 outlines the mitigation measures that are proposed as part of the proposed development; and
- Chapter 9 provides a summary and conclusions.

1.4 Limitations

The information, views and conclusions drawn concerning the site are based, in part, on information supplied to Clarkebond by other parties. Clarkebond has proceeded in good faith on the assumption that this information is accurate. Clarkebond accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to Clarkebond from others.

2 Relevant Policy and Guidance

2.1 Introduction

This chapter describes the planning and transport policy and guidance relevant to the proposed development that has been referred to in the undertaking of this Transport Assessment. These are:

- National Planning Policy Framework (2019);
- NPPF Planning Practice Guidance: Travel Plans, Transport Assessments and Statements in Decision Taking (2014);
- West of England Joint Local Transport Plan 4
- South Gloucestershire Local Plan Core Strategy 2006-2027 (2013);
- New South Gloucestershire Local Plan 2018-2036;
- Transport Assessment Guidance; and
- Highways and Access Design Guidance.

2.2 National Planning Policy Framework (2021)

The National Planning Policy Framework (NPPF) was first published in March 2012 and replaced the previous national planning policies that were set out in the various Planning Policy Guidance Notes and Statements. Regarding transport, the NPPF replaced policy contained within PPG13 (Transport).

The NPPF was revised in February 2019 to include reforms previously announced through the Housing White Paper, the planning for the right homes in the right places consultation and the draft revised National Planning Policy Framework consultation.

The NPPF has been revised again in July 2021 to focus more on '*well-designed, beautiful and safe places.*' The document supports walking and cycling and wants to ensure that all large-scale development is supported by the necessary and required infrastructure and facilities to provide a genuine choice of transport modes, aiming to promote sustainable transport, whilst still recognising that opportunities vary between rural and urban areas.

The NPPF sets out a presumption in favour of sustainable development that recognises the importance of transport policies in facilitating sustainable development.

Paragraphs 104 and 105 set out the transport issues that should be considered at the earliest stages of planning:

Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- a) the potential impacts of development on transport networks can be addressed;
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;

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- d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.

The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.

Paragraph 110 sets out the transport requirements for allocations or applications:

In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- a) appropriate opportunities to promote sustainable transport modes can be or have been taken up, given the type of development and its location;
- b) safe and suitable access to the site can be achieved for all users; and
- c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

Paragraphs 111 and 112 state that developments should not be prevented on highways grounds unless the cumulative impacts are severe:

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

Within this context, applications for development should:

- a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second so far as possible to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- c) create places that are safe, secure and attractive which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

Paragraph 113 states the requirement for significant developments to produce Travel Plans and Transport Statements or Transport Assessments:

All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

2.3 NPPF Planning Practice Guidance: Travel Plans, Transport Assessments and Statements in Decision Taking (2014)

Transport Assessments (TAs) and Transport Statements (TSs) are seen as ways of assessing the potential impacts or developments. TAs are thorough assessments of the transport implications of development and TSs are a 'lighter touch' evaluation to be used where this would be more proportionate to the potential impact of the development.

Travel Plans, Transport Assessments and Statements can positively contribute to:

- Encouraging sustainable travel;
- Lessening traffic generation and its detrimental impacts;
- Reducing carbon emissions and climate impacts;
- Creating accessible, connected, inclusive communities;
- Improving health outcomes and quality of life;
- Improving road safety; and
- Reducing the need for new development to increase existing road capacity or provide new roads.

This planning practice guidance identifies when a TA or TS is required and recommends that local planning authorities take into account a number of considerations including local plan policies on TA and TS, scale of development and existing intensity of transport use.

In determining whether a travel plan is required local planning authorities are asked to take account of a number of relevant matters including any travel plan policies in the local plan, the scale of the development, the intensity of transport use and the availability of public transport.

Travel plans should identify the specific required outcomes, targets and measures and set out clear future monitoring and management arrangements. They should be scoped at pre-application stage and address all journeys from the proposed development.

Travel plans should benchmark travel data, provide travel forecasts and include proposals to reduce the need to travel as well as proposals for improved public transport services and walking and cycling facilities. They should be monitored until the objectives and targets are met.

• Identifying the transport and other infrastructure that needs to be provided in the right place and at the right time to support sustainable growth and to provide certainty for our communities and those that want to invest in our area.

The JSP does not replace the Local Plans of the four Local Authorities but intends to instead guide the four Local Authorities in the development of their own new Local Plans.

The JTS will also inform, and be informed by, the Joint Spatial Plan (JSP), and will therefore consider alternative spatial scenarios and facilitate work to identify a preferred spatial strategy.

The West of England Joint Transport Study Final Report was issued in October 2017.

2.4 West of England Joint Local Transport Plan 4

The Local Authorities of Bath and North East Somerset (B&NES), Bristol City Council (BCC), North Somerset Council (NSC) and South Gloucestershire Council (SGC) have prepared a Joint local Transport Plan 4 (JLTP4) which was adopted in March 2020. The JLTP4 is a statutory development plan document that provides the strategic overarching Transport Framework for the West of England until 2036. The JLTP4 identifies the key transport infrastructure required for the Strategic Development Locations.

The JLTP4 vision is 'Connecting people and places for a vibrant and inclusive West of England'.

The key objectives of the JTLP4 are to:

- Support sustainable and inclusive economic growth;
- Enable equality and improve accessibility;
- Address poor air quality and take action against climate change;
- Contribute to better health, wellbeing, safety and security; and
- Create better places.

The strategy for improving connectivity includes a focus on walking and cycling networks and active travel for local travel of up to Walking and Cycling. Well-connected public transport is also an important part of the strategy with mass and rapid transit supported by local bus and rail networks.

Connectivity within the West of England will support delivery of the JLTP4 objectives, by focussing on these main policies:

- W1: Provide more public transport options and improve service quality;
- W2: Provide for journeys where public transport is not an option;
- W3: Use, as appropriate, measures and technological advances to influence and better manage demand;
- W4: Improve resilience of the network, providing increased reliability; and
- W5: Enable business clustering and the efficient movement of freight.

2.5 South Gloucestershire Local Plan Core Strategy 2006-2027 (2013)

The South Gloucestershire Core Strategy is the key planning policy document for South Gloucestershire, setting out the location and type of development in the District. The Local Plan Core Strategy 2006-2027 supersedes the remaining 'saved' policies of the previous Local Plan 2006.

The objectives regarding *Managing Future Development* are:

• Concentrating the majority of new development to take advantage of existing services and facilities and higher levels of accessibility;

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- Locating development where it will provide the opportunity to minimise the need to travel and allow safe and convenient access to services by walking, cycling and public transport;
- Recognising and protecting the identity and heritage of existing communities;
- Promoting greater self-containment and enhancing the service centre role of the market towns of Thornbury, Yate and Chipping Sodbury;
- Supporting local housing needs and services in villages;
- Protecting the Green Belt and the countryside from inappropriate development;
- Providing a range of infrastructure, together with integration and access, in step with new development; and
- The Council will continually and positively work with communities, developers and infrastructure providers to ensure implementation of the plan is viable and not put at risk throughout the economic cycle as part of pursuing sustainable development.

Policy CS4A concerns Presumption in Favour of Sustainable Development and states that:

There is a presumption in favour of sustainable development. When considering proposals for sustainable development the Council will take a positive approach. It will work pro-actively with applicants to find solutions so that sustainable development can be approved wherever possible.

Planning applications that accord with the policies in this Plan will be approved without delay unless material considerations indicate otherwise.

Where there are no policies relevant to the application, or relevant policies are out of date at the time of making the decision, then the Council will grant permission unless material considerations indicate otherwise. Account will be taken of whether:

- 1. Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits when assessed against the policies in the National Planning Policy Framework and other policies in the Council's Local Plan, neighbourhood development plans, supporting supplementary planning documents and any emerging policy as it may be relevant; and
- 2. Specific policies in the National Planning Policy Framework, other policies in the Council's Local Plan, neighbourhood development plans, supporting supplementary planning documents and any emerging policy as it may be relevant, indicate that development should be restricted.

Policy CS6 concerns Infrastructure and Developer Contributions and states that:

The Council will work with partners to deliver infrastructure, services and community facilities to improve the sustainability of its communities. The Council will also continually and positively work with communities, developers and infrastructure providers to ensure implementation of the plan is viable and not put at risk throughout the economic cycle as part of pursuing sustainable development.

All new development of a sufficient scale that would add to the overall demand and impact on infrastructure will be required to provide:

- 1. Site specific measures to directly mitigate the impact of the development; and
- 2. Infrastructure, services and community facilities to mitigate its impacts on existing communities and provide for the needs arising from the development, including financial contributions towards their maintenance where appropriate.

Where necessary infrastructure, services and community facilities cannot be provided on-site (in kind), financial contributions will be sought and may be pooled to secure the necessary off-site infrastructure investment to mitigate the cumulative impact of development(s).



The objectives regarding Tackling Congestion and Improving Accessibility are:

- Reducing congestion and air pollution by improving accessibility by means other than the private car;
- Widely, improving and enhancing opportunities for walking, cycling and using public transport, and particularly to significant destinations, such as educational establishments, hospitals and employment areas; and
- Completing delivery of the Greater Bristol Bus Network and delivering the North Fringe to Hengrove Package, the link from Temple Meads - Emersons Green and the Greater Bristol Metro Project.

Policy CS7 concerns *Strategic Transport Infrastructure* and states that:

Priority will be given to the implementation of strategic infrastructure proposals that reduce congestion and improve accessibility by means other than the private car. In particular, the Council will work with its partners to deliver within the plan period the following key projects:

. . .

7. The Rural Package

. . .

The 'Rural Package' includes:

Safeguarding of 0.84ha of land at the former Charfield station and adjoining land to the south east for the provision of a passenger rail station and a car park/interchange.

Policy CS8 concerns Improving Accessibility and states that:

Priority will be given to providing the users of new development with a range of travel options other than the private car. The following principles will be applied in the consideration of planning applications and formulation of other Local Development Documents:

- 1. Accessibility. New development proposals which generate significant demand for travel will be more favourably considered the nearer they are located to existing and proposed public transport infrastructure and existing facilities and services. Developments which are car dependent or promote unsustainable travel behaviour will not be supported;
- 2. Off-site mitigation. All new development proposals of a sufficient scale will be required to contribute financially or in kind to the schemes set out in Policy CS7 and the Infrastructure Delivery Plan, as appropriate, and other physical off-site local transport improvements as may be necessary to make the scheme acceptable;
- 3. Provision and Promotion of sustainable travel options. All new development proposals of a sufficient scale will be encouraged to reduce greenhouse gas emissions, travel demand and support travel by means other than the private car, particularly to significant destinations such as educational establishments, hospitals, rail stations, bus interchanges and employment areas. This will be achieved through
 - the provision of, and integration of walking, cycling and public transport infrastructure into the local network
 - providing mixed use developments in appropriate locations
 - the active promotion of a Green Travel Plan approved by the Council
 - the provision of shower and changing facilities for use by staff in commercial and business premises

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- contributions to bus services, and other initiatives such as commuter and car clubs and community transport projects, as appropriate; and
- access to high speed broadband and installation of electrical sockets, storage and sufficient space in dwellings such that allows homeworking
- provision of facilities for charging plug-in or other ultra low emission vehicles.

The Council will expect early implementation of sustainable travel infrastructure and initiatives in the construction and occupation of major schemes; and

4. Parking and vehicular access for new development.

Car parking and vehicular site access should be well integrated and situated so it supports the street scene and does not compromise walking, cycling, public transport infrastructure and highway safety.

All new development proposals will also be required to provide safe & secure cycle parking facilities in accordance with the Council's standards.

2.6 New South Gloucestershire Local Plan 2018-2036

The new SGLP will be a development plan document (DPD) covering the whole of South Gloucestershire and the plan period will be 2018-2036. It will review, and eventually replace, existing local planning documents including the:

- South Gloucestershire Local Plan: Core Strategy- 2006-2027 (2013) and the
- South Gloucestershire Local Plan: Policies, Sites and Places Plan.

Part of the Local Plan's purpose will be to allocate sites for strategic development at locations identified in the Joint Spatial Plan (JSP), as well as to allocate new sites for non-strategic development.

A Local Plan consultation document was published for public consultation between 5 February 2018 and 30 April 2018. Consultation is now closed, and Phase 2 of the Plan will be produced late 2021.

2.7 Transport Assessment Guidance

The NPPF Planning Practice Guidance: Travel plans, transport assessments and statements in decision taking superseded the Department for Transport Guidance on Transport Assessment published in 2007. The DfT Guidance superseded the Chartered Institution of Highways and Transportation (CIHT) Traffic Impact Assessment Guidelines published in 1992. Although superseded, both of these previous guidance documents provide some detailed technical advice that is still relevant in carrying out Transport Assessments.

The CIHT prepared Guidelines for Planning for Public Transport in Developments in 1999. This provides relevant advice on examining public transport as part of development proposals.

2.8 Highway and Access Design Guidance

Manual for Streets 1 and 2 (MfS and MfS2)

The MfS provides the design guidance for development in residential areas, focussed upon function rather than absolute standards, allowing designers to approach highway and access provision in a less prescriptive manner. It is also based on a new set of technical and research reports considering in particular driver behaviour as it is affected by the travel environment, rather than allowing drivers to dominate the environment.

MfS2 is a 'companion guide' to the MfS that identifies how the principles of design set out in the MfS can be applied to other urban locations. It identifies the MfS as the starting point for all highway design affecting non-trunk roads, although its application on inter urban routes is less likely to provide acceptable arrangements.

Design Manual for Roads and Bridges (DMRB)

DMRB provides the design standards and guidance for highway arrangements for development outside built up areas. It is presented as a standard led set of Technical Advice (TA) and Technical Design (TD) documents and covers design of highways from minor County roads up to Motorways.

3 Existing Highway Conditions

3.1 Introduction

This chapter describes the existing transport and highway conditions in the local area surrounding the proposed development. It is divided into sub-sections that provide:

- A description of the local highway network;
- A summary of existing traffic flows on the local highway network;
- A review of traffic speeds on relevant roads and streets;
- A review of queues recorded at existing junctions;
- A review of existing junction performance; and
- A review of recorded Personal Injury Accidents on the highway network.

3.2 Local Highway Network

Wickwar lies on the B4060 which connects with Kingswood 4.7km to the north, and with Chipping Sodbury, 6.4km to the south. The village straddles this route which, in the vicinity of the proposed development site, is known as 'Sodbury Road', and is furnished with footways on both sides of the carriageway, where those on the eastern side are around 2m in width, whilst those on the western side are generally 1m wide. Sodbury Road is about 6.5m in width, is street lit, permits parking on both sides of the carriageway, and is subject to a 30mph speed limit.

Sodbury Road joins with Amberley Way at a three-armed mini-roundabout junction. Amberley Way is a small distributor road serving residential development to the east of Sodbury Road. As such, it is entirely residential in character, with footways on both sides of the carriageway and street lighting and is subject to a 30mph speed limit. Parking is permitted on both sides of the carriageway.

At its junction with Inglestone Road to the north of Amberley Way, Sodbury Road is known as 'High Street'. Here it passes through the village centre, linking with The Downs and Station Road to the north. The northern part of High Street is very narrow, mitigated by the provision of contraflow signals to permit northbound and southbound traffic to travel this route in turn. There are vehicle weight restrictions in place in this location.

Station Road represents a continuation of the B4059, whilst The Downs (B4060) forms the minor (western) arm of a simple priority junction.

Station Road continues with footways to the village limits, is streetlit, and permits parking on both sides of the carriageway. It is subject to a 30mph speed limit. The Downs is an unclassified road which joins with the M5 to the north. This route has a footway on its southern/western side and otherwise is furnished with sparse street lighting and is subject to a 30mph speed limit.

Junction 14 of the M5 lies approximately 8km to the north. The route to this junction is via the B4059.

3.3 Existing Link Traffic Flows

Manual turning movement surveys were undertaken on 22nd March 2016, as contained within the Horwood Lane TA. In the vicinity of the site, the link flows on Sodbury Road were calculated from the turning movements, the results are shown in **Table 3-1**, which shows the flows (in vehicles) past the proposed northern site access.

Table 3.1	Vehicle flows on B4060 at proposed porthern site access

Direction	AM Peak 08:00-09:00)	PM Peak (17:00-18:00)
Northbound (2016)	422	452
Southbound (2016)	521	488

3.4 Existing Junction Traffic Flows

To be consistent with the scope of the previous Transport Assessments (see sction 1.1) the following junctions in the vicinity of the site will be assessed as part of the Transport Assessment:

- Proposed northern site access priority junction;
- Proposed southern site access priority junction;
- Station Road/The downs/High Street priority junction; and
- Sodbury Road /Amberley Way mini-roundabout;

The Sodbury Road/Amberley Way junction was surveyed on Tuesday 22nd March 2016 during the am peak period of 07:00-10:00 and the pm peak period of 16:00-19:00 to support the TA for the Horwood Lane development. The am and pm network peak hours were found to be 08:00-09:00 and 17:00-18:00. The Station Road/The downs/High Street junction was surveyed on Tuesday 14th September 2021. The survey results are reproduced at **Appendix C**, whilst traffic flow diagrams at **Appendix D**.

3.5 Highway Safety Record

Recorded Personal Injury Collisions (PICs) for the five year period 01/10/2015 to 31/11/2020 have been assessed for the highway network of interest. The highway network of interest is defined by the three assessed junctions and their approaches as well as the two links which are contained by these junctions. These junctions and links are as follows:

- Junction The Downs/Station Road/High Street
- Junction B4060/Amberley Way Roundabout
- Junction B4060/Frith Lane
- Link High Street between the The Downs/Station Road/High Street junction and the B4060/Amberley Way roundabout
- Link B4060 between B4060/Amberley Way roundabout

PIAs are classed as Fatal, Serious or Slight and comprise of one or more casualties. A summary of PIAs by junction and link is provided by **Table 3.2**.

Reference	Description	Location	Casualties ¹			
Date	Date		Fa	Se	SI	
Link – High Stı roundabout	reet between the The Downs/Station Road/High	Street junction and the E	4060/A	mberle	y Way	
181804920 16:45 01/06/2018	Vehicle 1 was travelling northbound towards Wotton Under Edge on Wickwar High Street in a line of slow moving vehicles. Vehicle ahead stopped to let another vehicle turn out of Buthay Lane. Driver 1 stopped in the line of vehicles, but vehicle 2 travelling behind failed to stop and collided with the rear of vehicle 1.	B4060 High Street	0	0	5	
Junction – The	Junction – The Downs/Station Road/High Street					
181807204 17:15 24/10/2018	Vehicle 1 (cyclist) was northbound on B4060 Station Road when Vehicle 2 entered Station Road from B4059 The Downs, failing to stop for Rider 1. Vehicle 2 collided with Rider 1 knocking them from their bike.	The Downs/Station Road junction	0	1	0	
Junction – B40	60/Amberley Way Roundabout					
181807461 17:50 05/11/2018	Vehicle 1 turns right from the B4060 into Amberley Way but oncoming Vehicle 2 travelling southbound towards Yate failed to stop and collided with the nearside of Vehicle 1. (exact location unknown)	B4060/Amberley Way mini roundabout	0	0	2	
Junction – The Downs/Station Road/High Street						
191903420 14:30 22/02/2019	Vehicle 1 turned left from the access to Arnolds Field Estate onto B4059 The Downs and collided with nearside of Vehicle 2 which was travelling westbound away from Wickwar.	The Downs, on the approach to the junction with Station Road/High Street	0	0	1	
		Totals	0	1	8	
		iotais		0		

Table 3.2 Recorded Personal Injury Accidents (PIAs) 1st February 2015- 31st January 2020

A total of nine people have suffered personal injuries as a result of four recorded accidents on the highway network of interest during the specified time period. Of these accidents, there were eight slight casualties and one serious casualty. There were no fatal casualties.

One accident involved a cyclist, but no other collisions involving vulnerable road users have occurred.

No collision clusters - in which three or more collisions have occurred in the same location - have been identified, therefore it is reasonable to conclude that there are no highway features on the network in question which would give rise to collisions.

The collisions are spread across the local highway network. It is unlikely, therefore, that the traffic generated by the proposed development would have a material impact on the numbers of collisions on the local road network.

The accident records provided by SGC are included at Appendix E.

Notes: 1. Fa = Fatal, Se = Serious, SI = Slight

4 Proposed Development

4.1 Introduction

This chapter considers the proposed development addressing the following matters:

- The existing nature and use of the site and any existing access arrangements;
- The development proposals and the proposed layout;
- The proposed access arrangements; and
- The proposed car and cycle parking arrangements.

4.2 Existing Site Use

The proposed development site is currently an area of agricultural land used for grazing and crops. It is currently accessed from a field entrance from Sodbury Road.

4.3 Proposed Development

The application which this TA supports is for 180 residential units plus a farm shop of 500m GFA, as Phase 1 of a wider development.

The development will take access from two points on the B4060 Sodbury Road.

The proposed layout is included as **Appendix A**.

4.4 **Proposed Access**

Two accesses are proposed for the development. The first is situated about 40m south of the junction of Sodbury Road with Amberley Way, whilst the second will be situated approximately 100m from the junction of Sodbury Road with Frith Lane at the location of the current field access.

Both will take the form of a simple priority junction, with footways providing pedestrian access into and out of the site. These are shown as **Drawings B05313-SK04** and **B05313-SK05**,

Sufficient visibility has been achieved as shown in the aforementioned drawings. It is proposed to widen the footway adjacent to the northern access to provide adequate visibility, which is to be provided at 2.4 x 43m, commensurate with a 30mph speed limit.

4.5 **Proposed Parking Arrangements**

4.5.1 Car Parking

South Gloucestershire Council have published their parking standards within the Local Plan, Policies, Sites and Places, as Policy PSP16. The relevant parking standards are reproduceds in **Table 4.1**.

Table 4.1 South Gloucestershire Parking Standards						
Use	Per	Car Parking	Cycle Parking			
1-bed dwelling	Unit	1	1			
2-bed dwelling	Unit	1.5	2			
3-bed dwelling	Unit	2	2			
4-bed dwelling	Unit	2	2			
5+-bed dwelling	Unit	3	2			
Retail	100m ² GFA	To be confirmed	2 at entrance + 1/8 employees			

For 2-bed dwellings, car parking spaces should be rounded down. Cycle parking may be provided in garages of sufficient internal dimensions of 6 x 3m. Otherwise, cycle parking should be provided within secure, undercover spaces.

4.5.2 **Cycle Parking**

SGC Local Plan – Policies, Sites and Places Plan (2017) sets out that a minimum provision of one cycle parking space per dwelling is required for residential developments and that it needs to be accommodated in a garage (that can also store a car alongside the bicycle), or shed or a secure undercover storage area.

5 Accessibility

5.1 Introduction

This chapter describes the accessibility of the proposed development. It is divided into subsections that provide:

- A description of the local walking network;
- A description of the local cycling network;
- Details of national walking and cycling accessibility criteria;
- A review of local facilities that are within walking and cycling distance;
- The results of a pedestrian/ cycle route audit;
- Details of local bus services; and
- Details of local rail services.

5.2 Walking Network

The site is situated at the southern end of Wickwar village, thus the greatest demand from pedestrians and cyclists will be routes to and from the village centre. The most direct route is via Sodbury Road/High Street.

Sodbury Road as it passes the development features a footway on the western side of the road of varying lengths, narrowing to approximately 1.0m for some sections. There is a higher quality footway provided on the eastern side of the road that connects through the new developments to the east of Wickwar. Both routes can be followed northbound towards the town centre.

Section 106 funding has been made available for improvements in Wickwar village. A scheme has been designed to address issues raised in the past by the local Councillor, the Parish Council and residents. The scheme comprises several elements including:

- Zebra crossing north of Amberley Way;
- Extended 20mph zone through the High Street/Station Road, between Inglestone Road and Chase Lane;
- Series of speed tables on High Street/Station Road, between Inglestone Road and Chase Lane;
- Pedestrian refuge on High Street in vicinity of the Youth Club;
- Waiting restrictions on High Street between Inglestone Road and Back Lane;
- Junction improvements at High Street/Back Lane, and High Street/Buthay Lane, to improve visibility; and
- Footway build-outs at Station Road/The Downs/High Street, to provide safer crossings for pedestrians.

Land West of Sodbury Road, Wickwar

The scheme is designed to reduce vehicle speeds through Wickwar, and to provide safe crossing points where footways terminate such that pedestrians need to cross the road to take up their journey on the opposite side.

Parking restrictions are to improve visibility for pedestrians and drivers, and reducing speeds on the southbound approach to Station Road/Chase Lane junction will assist drivers exiting the side road.

Additionally, improvements will be funded by the developers of the Poplar Lane and Horwood Lane developments, as follows:

- A new foot/cycleway between Firth Lane and 'The Fence Yard' on Sodbury Road;
- Footway improvements between the Horwood site and the village centre, including across the frontage of the Citroen dealership;
- New bus stop; and
- Traffic calming measures on Sodbury Road.

5.3 Cycling Network

There are limited cycle facilities provided by the immediate street network with cyclists expected to use the carriageway of the roads. However, the provision of a new foot/cycleway along the frontage of both the Horwood Lane and Poplar Lane developments will provide some dedicated roadspace for cyclists.

The Avon Cycleway passes through Wickwar via The Downs and Station Road, linking Wickwar with Thornbury to the west and Chipping Sodbury to the south. This route offers a reasonable route for journeys to work in these locations.

5.4 Accessibility Criteria

When assessing the accessibility of a site for pedestrians an average walking speed of 1.4 m/s can be assumed, which equates to approximately 400 metres in 5 minutes, or 3 mph. *(CIHT Guidelines for Providing Journeys on Foot, 2000).* This document also contains a table of suggested walking distances for different purposes which are recreated by **Table 5.1**:

	Town Centres	Commuting / School	Elsewhere
Desirable	200m	500m	400m
Acceptable	400m	1000m	800m
Maximum	800m	2000m	1200m

Table 5.1 Suggested Walking Distances

Source: CIHT 'Guidelines for Providing for Journeys on Foot'

The desirable maximum walking distance to the nearest bus stop is considered to be 400m (*CIHT Guidelines for Planning for Public Transport in Developments, 1999*).



The DfT Manual for Streets (2007) describes the walkable neighbourhood as such:

Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800 m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and walking offers the greatest potential to replace short car trips, particularly those under 2 km. MfS encourages a reduction in the need to travel by car through the creation of mixed-use neighbourhoods with interconnected street patterns, where daily needs are within walking distance of most residents.

The CIHT notes that three quarters of journeys by all modes are less than five miles (8km) and half are less than two miles (3.2km). These are distances that can be cycled comfortably by a reasonably fit person. Based on an average cycling speed of 4.0m/s (14.4kph), 8 kilometres can be cycled in just over half an hour and 3.2 kilometres can be cycled in less than 15 minutes. It is also generally accepted that cycling has the potential to substitute for short car trips, particularly those less than 5km.

5.5 Walking and Cycling Distances and Times

There are a variety of local facilities within walking and cycling distance of the development site. These key facilities as well as their distances and walking and cycling times from the proposed development are shown by **Table 5.2**. Walking and cycling speeds have been taken from CIHT Guidance.

Land West of Sodbury Road, Wickwar

Facility	Distance (metres)	Walking time (minutes)	Cycling Time (minutes)
Public Transport			
New Bus Stop	100	1	1
Bus Stop – Poplar Lane	300	4	1
Education			
Alexander Hosea Primary School	1100	13	5
Brimsham Green School (Secondary)	5700		
Employment			
Charlton House Residential and Retirement Home	800	10	3
Everybody's Hairdressers	1000	12	4
AE Wilcox	1100	13	5
Alderley Plc	1400	17	6
Xblue Consulting Ltd	1400	17	6
Health			
North Yate Pharmacy	5100	-	-
Wellington Road Family Practice	5500	-	-
Leisure			
-Sport			
Wickwar Playing Fields	900	11	4
-Food and Drink			
Wickwar Social Club	1000	12	4
Wickwar Coffee Shop	1050	13	4
The Buthay Inn	1100	13	5
-Other			
Popplecot Flowers	650	8	3
Popplecot Pottery Studio	750	9	3
The Old Stables Guest House	750	9	3
Wickwar Congregational Church	950	11	4
Retail			
Waitrose	5500	-	-
Proposed Development			
Farm shop	250	3	1

Farm sh

Note: Assumes average walking speed of 1.4m/s (3.13mph) and average cycling speed of 4.0m/s (8.95mph). measurements taken from online journey planners.

SGC have published their own optimum walking and cycling distances to local amenities in their Local Plan: Policies, Sites and Places. These are reproduced in **Table 5.3** with details of how these relate to the proposed development.

Table 5.3 Appropriate waiking and cycling distances (SGC)				
Key Services and Facilities	Appropriate Walking and Cycling Distances (Metres)	Proposed Development (Metres)		
Retail (comparison) shops and services and/or Market towns and Town Centres (Defined in policy CS14 of Core Strategy)	1,200	5,500		
(Weekly) Superstore or supermarket		5,500		
(Day to Day) Smaller food (convenience) shops		4,600		
Local health services	800	5,500		
Pharmacy		5,100		
Dedicated community centres (defined by South Gloucestershire Council)	800	450		
Post Offices	800	4,900		
Public Houses	800	1,100		
Secondary School	3 miles	5,700		
Primary School	2 miles	1,100		
Major employers Designated town centres and safeguarded employment areas (defined in policy CS12 of Core Strategy)	2000	6,200		

Table 5.3	Appropriate walking and cycling distances (SGC)

Table 5.3 demonstrates that most of the criteria are not met, with the exception of the community centre and the primary school. The proposed development does include a farm shop that will provide retail facilities to the development.

Education

The National Travel Survey (NTS) 2016 identifies the modal split of trips to school made by school age children. For the 5-10 year old group (primary school pupils) it has been identified that 51% walk to school, 41% travel by car and just 5% travel by bus. For the 11-16 year old group (secondary school pupils) it has been identified that 39% walk to school, 26% travel by car and 27% travel by bus. Walking is the main mode of transport for trips under one mile for both primary and secondary school pupils, whereas for trips of over two miles the predominant mode of transport becomes the car for primary school children and the bus for secondary school children.

Alexander Hosea Primary School is the closest primary school to the proposed development, located approximately 1.1km away. Brimsham Green School is the closest secondary school, located in Yate to the south.

Employment

The modal split of commuter trips is set out by NTS 2016. Car travel is the predominant mode and accounts for 64% of all commuter trips whilst rail accounts for 7%, walking for 11%, bus for 8% with 10% for other modes. Commuting trips typically take longer than trips for other purposes with the average commuter trip taking 30 minutes.

There are a number of employment opportunities in Wickwar within walking and cycling distance of the proposed development site.

Health

Trips for personal business and escort account for 18% of all trips (NTS 2016). Personal business includes visits to services or medical consultations whilst escort trips are those made to accompany somebody else.

The closest pharmacy and doctors surgery are both located in Yate to the south.

Leisure

Leisure trips account for 32% of all trips with a higher proportion of all trips for leisure purposes on weekends than weekdays (NTS 2016). Just under half of all leisure trips are to visit friends whilst the remainder are for purposes such as entertainment, sport, holidays or day trips.

There is a good range of places to eat and drink within Wickwar. Wickwar Social Club, Wickwar Coffee Shop and The Buthay Inn are all located on Wickwar High Street approximately one kilometre walking distance to the north of the proposed development site.

Shopping

Shopping trips account for 19% of all trips with 64% of these being made by car, 25% by walking and 7% by bus (NTS 2016). The average person makes between 3-4 shopping trips per week.

The closest shop to the proposed development is located in Yate to the south, approximately 5.5km away. However, as part of the proposed development there will be a convenience store within the development site. This will therefore be the closest shop, located approximately 250m from the centre of the proposed development.

Summary

In summary, it is evident that there are a wide range of destinations and facilities within walking and cycling distance of the proposed development. Future residents of the proposed development can be expected to walk and cycle to these local facilities.

The 400m, 800m and 2km walking isochrones are shown by Figure 5.1.

The 3.2km and 5km cycling isochrones are shown by Figure 5.2.

5.6 Bus Services

The SGC Local Plan defines an appropriate public transport journey as a minimum, by:

- Individual or combined services, total journey time under 1 hour;
- At least 5 services a day during the week, 3 at weekends, to and from the destination; and
- During the week, one service arriving at the destination before 9am, and one leaving after 5pm.

There are a total of four bus services running through Wickwar two of which run regularly throughout the day. The existing bus services in the locality of the proposed site are summarised in **Table 5.4**.

Table 5.4 Summary of Existing Bus Services

Formico	Dav	First	Services per Day	Last	
Service	Day	Bus	(approximate frequency ^[1])	Bus	
84 – Stagecoach					
Vata Wattan under Edge	Weekday	06:35	8 (2 hrs)	19:35	
Gircular Clockwise	Saturday	06:35	8 (2 hrs)	19:35	
Circular Clockwise	Sunday		No Service		
85 – Stagecoach					
Vete Metter under Eder	Weekday	08:28	6 (2 hrs)	19:38	
Gircular Anti clockwice	Saturday	08:38	6 (2 hrs)	19:38	
Circular Anti-ciockwise	Sunday		No Service		
860 – Stagecoach (College S	ervice)				
Chinaina Cadhumu Cinanastan	Weekday	07:33	1 (Daily)	07:33	
College	Saturday		No Service		
College	Sunday		No Service		
S8 – Taylors Travel (School Service)					
Old Cadhumu Katharing Ladu	Weekday	07:10	1 (Daily)	07:10	
Barkalay School	Saturday		No Service		
Derkeley School	Sunday		No Service		

Notes: [1] Frequency may vary slightly through the day eg. during peak/ off-peak periods. * Bank holiday services may vary.

The 84 service operated by Stagecoach runs from Wotton-under-Edge through Charfield towards Cromhall then Wickwar before terminating in Yate. The 85 service starts in Yate before heading to Chipping Sodbury then Hawksbury Upton, Hillesley, and finally Wotton-under-Edge. The other services through the village serve education.

5.7 Rail Services

Yate Station is located approximately 7km walking distance to the south of the development. Yate Station offers direct trains northbound towards Gloucester and southbound towards Bristol Temple Meads.

A summary of rail services is shown in **Table 5.5**.

Table 5.5 Summary of Existing Rail Services

Service	Day	First Train	Services per Day (approximate frequency ^[1])	Last Train	
From Yate Station					
	Weekday	06:31	18 (60 mins)	22:36	
Northbound (towards Cam and	Saturday	06:43	16 (60 mins)	21:59	
Dudley)	Sunday	09:58	6 (2 hrs)	21:07	
	Weekday	06:31	17 (60 mins)	23:09	
Southbound (towards Bristol	Saturday	06:42	16 (60 mins)	22:27	
raikwayj	Sunday	09:39	7 (2 hrs)	22:49	

Notes: [1] Frequency may vary slightly through the day eg. during peak/ off-peak periods. * Bank holiday services may vary.

Land West of Sodbury Road, Wickwar

Direct rail services from Yate Station offer the following typical journey times to principal destinations, with reference to the published timetable. Variations in typical journey time depend on the time of day and number of calling points:

- Bristol Parkway = 9 mins
- Cam and Dursley = **14 mins**
- Bristol Temple Meads = 25 mins
- Gloucester = **32 mins**
- Cheltenham Spa = **45 mins**
- Bath Spa = 55 min
- Cardiff = 70 mins
- London Paddington = **120 min**

5.8 Summary

The site is accessible by sustainable modes of transport including walking, cycling, bus and rail. There is a good network of existing footways linking the site to the surrounding area and a wide range of local facilities are within acceptable walking and cycling distances.

6 Trip Generation and Distribution

6.1 Introduction

This chapter provides details of the anticipated travel behaviour of the future users of the proposed development with reference to existing travel patterns and trends. It is divided into sub-sections that provide:

- The anticipated modal split of trips originating from the proposed development;
- The anticipated car ownership levels at the proposed development;
- The anticipated trip distribution of the proposed development; and
- The anticipated trip generation of the proposed development.

6.2 Mode Shares

The 2011 Census 'QS703EW - Method of Travel to Work' data has been analysed for the one Output Area which includes the urban settlement of Wickwar in order to determine the likely modal split of commuter trips from the proposed development. The results are summarised by **Table 6.1**.

Made of Travel	2011 output areas: E02003092			
wode of fravel	Persons	Percentage	Adjusted	
Not in employment	1,896	32.1%	Discounted	
Works mainly at or from home	667	11.3%	Discounted	
Underground, metro, light rail or tram	3	0.1%	Added to Train	
Train	31	0.5%	1.0%	
Bus, minibus or coach	52	0.9%	1.6%	
Taxi or minicab	3	0.1%	0.1%	
Motorcycle, scooter or moped	34	0.6%	1.0%	
Driving a car or van	2,822	47.7%	84.3%	
Passenger in a car or van	161	2.7%	4.8%	
Bicycle	67	1.1%	2.0%	
On foot	156	2.6%	4.7%	
Other	19	0.3%	0.6%	
TOTAL	5,911	100.0%	100.0%	

Table 6.1 2011 Census 'QS703EW - Method of Travel to Work' – Wickwar Residents

As shown in **Table 6.1**, the figures have been adjusted to remove those people who are either not in employment or work mainly at or from home in order to show the modal split of those who do commute to work.

The adjusted figures show that 84.3% of those who commute to work do so driving a car or van which is higher than the national average for England & Wales which is 60.7%. The sustainable modes of travel which are on foot, cycling (including motorcycles) and public transport equate to 10.2% of all journeys to work when combined which is lower than the England & Wales national average of 32.7%.

Full details of the 2011 Census 'QS703EW - Method of Travel to Work' query are included at Appendix F.

6.3 Car Ownership

The 2011 census 'QS416EW - Car or Van Availability' data has been analysed for the one Output Areas which includes the urban settlement of Wickwar in order to determine the likely level of car ownership of residents of the proposed development. The results summarised by **Table 6.2**.

	2011 output areas: E02003092			
Number of Venicles	Count	Percentage		
No car or van	156	5.6%		
1 car or van	815	29.1%		
2 cars or vans	1,226	43.8%		
3 cars or vans	393	14.0%		
4 or more cars or vans	211	7.5%		
Total Households	2,801	100%		

Table 6.2 2011 Census 'QS416EW - Car or Van Availability' – Wickwar Residents

The level of car or van ownership in Wickwar is higher than the national average. The percentage of households without access to a car or van is 5.6% compared to 25.6% for England & Wales. Over half (65.3%) of households have access to two or more cars or vans which is significantly higher than the England & Wales national average (32.2%).

It is considered that Wickwar's rural setting is largely to account for its higher levels of car ownership and also its higher proportion of those who commute to work by car or van.

Full details of the 2011 Census 'QS416EW - Car or Van Availability' query are included at Appendix G.

6.4 Trip Distribution

Trip distribution for development-generated traffic has been acquired from the Horwood Lane TA which, in turn, was derived from the 2011 Census Journey to Work (Car Driver) database. The distribution so derived is as follows:

Northbound	44.3%
Southbound	55.7%

With reference to the proposed site layout, it is expected that the distribution at each of the accesses will be as shown in **Table 6.3**.

Table 6.3	Distribution at each of the site accesses					
		Northbound	Southbound			
Northern Acce	SS	22.15%	27.85%			
Southern Acce	SS	22.15%	27.85%			
Total		44.3%	55.7%			

6.5 Trip Generation

In order to determine the number of peak hour trips generated by the proposed development, the TRICS database was queried for both Residential - Private Houses and for Retail – Convenience Store according to the parameters as follows:

- All regions excluding Greater London and Greater Dublin
- Range: 100-650 units
- Monday to Thursday
- Suburban Area and Edge of Town

This query yielded the peak hour trip rates as summarised in **Table 6.4**, whilst the full TRICS results are contained at **Appendix H**.

	Trip rates				Trips				
	08:00-09:00		17:00-18:00		08:00-09:00		17:00-18:00		
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	
Private Houses	0.127	0.401	0.382	0.179	23	72	69	32	
Convenience store	8.459	7.428	10.935	10.248	42	37	55	51	
Total	-	-	-	-	65	109	123	83	

Table 6.4 Predicted trip rates and trips

These trips were assigned to the local highway network in accordance with the trip distribution north-south on Sodbury Road. Turning movements at the High Street/Station Road junction were assigned with reference to observed turning counts extracted from the Horwood Lane TA.

7 Transport Impact

7.1 Introduction

This chapter provides details of the assessment carried out of the impact of the proposed development traffic on the local highway network. It is divided into sub-sections that provide:

- The junctions to be assessed;
- The assessment years to be used for junction capacity analysis;
- The committed development to be included by junction capacity analysis;
- The development scenarios to be used by junction capacity analysis; and
- The results of junction capacity analysis.

7.2 Assessed Junctions

The following junctions in the vicinity of the site are to be assessed to provide a consistent scope with previous TAs:

- Northern site access priority junction
- Southern site access priority junction
- Sodbury Road/Amberley Way roundabout
- High Street/Station Road/The Downs priority junction

7.3 Assessment Years

Background traffic growth has been derived from TEMPRO 7.2b incorporating growth factors from the National Trip End Model (NTEM) for the area Gloucestershire 3, as shown in **Table 7.1**.

Table 7.1 TEMPro gr	TEMPro growth factors						
Years	AM Peak	PM Peak					
2016-2027	1.1526	1.1441					
2021-2027	1.0986	1.1019					

The TEMPro inputs and outputs are included as **Appendix B**.

7.4 Committed Development

The Horwood Lane and Poplar Lane developments have been considered as committed development and to be included in the junction assessments:

- PK16/4006/O Land south of Horwood Lane, Wickwar
- PK17/4552/O Land south of Poplar Lane, Wickwar

The trip generation associated with each of the above developments is shown at Appendix D.

7.5 **Development Scenarios**

The operation of the identified junctions has been assessed during the AM and PM peak hours, for the following scenarios:

- Assessment Year (2027) with no development;
- Assessment Year (2027) with Committed Development; and •
- Assessment Year (2027) with Committed and Proposed Development, •

Traffic flow diagrams for the above scenarios are contained at **Appendix D**.

7.6 Junction Capacity Analyses

Each junction has been assessed for its performance using TRL Junctions 9 software for priority junctions and roundabouts. The capacity assessment results are shown by each headed section below, whilst full analysis reports are contained at Appendix I.

Junction 01 : Northern Site Access 7.6.1

The performance of Northern site access/Sodbury Road priority T-junction has been assessed using the TRL Junctions 9 software's PICADY module using the DIRECT traffic profile type. The results are summarised by Table 7.1.

2027		еак (08:00-	09:00)	PIVI Peak (17:00-18:00)					
2027	Queue ¹	Delay ²	RFC ³	Queue ¹	Delay ²	RFC ³			
2027 Assessment Year 'with committed and proposed development'									
Left/right out of N Site Access	0.2	11.71	0.15	0.1	11.43	0.12			
Right into N Site Access	0.0	6.31	0.02	0.1	6.38	0.05			

Table 7.2 Proposed Northern Site Access Priority T-junction – Results of PICADY Modelling

Notes: 1. The maximum mean queue predicted by the model for any 15-minute time period.

2. The maximum mean delay per vehicle predicted by the model for any 15-minute time period.

3. The maximum RFC (Ratio of Flow to Capacity) predicted by the model for any 15-minute time period.

As shown in Table 7.2, the Northern Site Access priority T-junction is shown to operate with significant reserve capacity and with acceptable levels of queuing and delay for all scenarios.

7.6.2 Junction 02 – Southern Site Access

The performance of the Southern Site Access priority T-junction has been assessed using the TRL Junctions 9 software's PICADY module using the DIRECT traffic profile type. The results are summarised by **Table 7.3**.

Table 7.3 Southern Site Access Priority Junction – Results of PICADY Modelling

2027	AM Pe	eak (08:00-	09:00)	PM Peak (17:00-18:00)					
2027	Queue ¹	Delay ²	RFC ³	Queue ¹	Delay ²	RFC ³			
2027 Assessment Year 'with committed and proposed development'									
Left/right out of S Site Access	0.2	11.60	0.15	0.1	11.46	0.12			
Right into S Site Access	0.0	6.36	0.02	0.1	6.52	0.05			

Notes: 1. The maximum mean queue predicted by the model for any 15-minute time period.

2. The maximum mean delay per vehicle predicted by the model for any 15-minute time period.

3. The maximum RFC (Ratio of Flow to Capacity) predicted by the model for any 15-minute time period.

As shown in **Table 7.3**, the Southern Site Access priority junction is shown to operate with significant reserve capacity and with acceptable levels of queuing and delay for all scenarios.

7.6.3 Junction 03 - Sodbury Road/Amberley Way Mini-Roundabout

The performance of the Sodbury Road/Amberley Way mini roundabout has been assessed using the TRL Junctions 9 software's ARCADY module using the DIRECT traffic profile type. The results are summarised by **Table 7.4**.

2021	AM Pe	eak (08:00-	09:00)	PM Peak (17:00-18:00)				
2021	Queue ¹	Delay ²	RFC³	Queue ¹	Delay ²	RFC ³		
2021 Application Year 'with no d	evelopment'							
Sodbury Road N	1.1	7.94	0.52	0.9	7.07	0.46		
Amberley Way	0.1	7.58	0.10	0.0	6.53	0.04		
Sodbury Road S	0.8	7.24	0.46	0.9	7.37	0.48		
2027	AM Pe	eak (08:00-	09:00)	PM Peak (17:00-18:00)				
2027	Queue ¹	Delay ²	RFC ³	Queue ¹	Delay ²	RFC ³		
2027 Assessment Year 'with no d	levelopment'							
Sodbury Road N	1.5	9.55	0.60	1.1	8.09	0.53		
Amberley Way	0.1	8.55	0.12	0.0	7.03	0.04		
Sodbury Road S	1.1	8.36	0.53	1.2	8.49	0.55		
2027 Assessment Year 'with com	mitted develo	opment'						
Sodbury Road N	1.6	9.81	0.61	1.2	8.52	0.55		
Amberley Way	0.1	8.68	0.12	0.0	7.22	0.04		
Sodbury Road S	1.3	8.90	0.56	1.3	8.78	0.56		
2027 Assessment Year 'with committed and proposed development'								
Sodbury Road N	1.8	10.65	0.64	1.6	9.79	0.61		
Amberley Way	0.1	9.07	0.13	0.0	7.74	0.05		
Sodbury Road S	1.6	10.09	0.61	1.5	9.65	0.60		

Table 7.4 Sodbury Road/Amberley Way Mini-Roundabout – Results of ARCADY Modelling

Notes: 1. The maximum mean queue predicted by the model for any 15-minute time period.

2. The maximum mean delay per vehicle predicted by the model for any 15-minute time period.

3. The maximum RFC (Ratio of Flow to Capacity) predicted by the model for any 15-minute time period.

As shown in Table 7.4, the Sodbury Road/Amberley Way mini-roundabout is shown to operate with significant reserve capacity and with acceptable levels of queuing and delay for all scenarios. The impact of the proposed development on the performance of this junction is negligible and therefore no mitigation measures are proposed at this location.

7.6.4 Junction 04 – High Street/Station Road/The Downs Priority Junction

The performance of the High Street/Station Road/The Downs priority T-junction has been assessed using the TRL Junctions 9 software's PICADY module using the DIRECT traffic profile type. The results are summarised by **Table 7.5**.

2024	AM Pe	eak (08:00-	09:00)	PM Peak (17:00-18:00)			
2021	Queue ¹	Delay ²	RFC ³	Queue ¹	Delay ²	RFC ³	
2021 Application Year 'with no de	evelopment'						
Left out of The Downs	0.1	8.76	0.05	0.1	9.27	0.07	
Right out of The Downs	0.7	15.02	0.42	1.3	19.52	0.57	
Right turn into The Downs	0.1	6.14	0.07	0.1	6.45	0.06	
2027	AM Pe	eak (08:00-	09:00)	PM Pe	eak (17:00-:	18:00)	
2027	Queue ¹	Delay ²	RFC ³	Queue ¹	Delay ²	RFC ³	
2027 Assessment Year 'with no d	levelopment'						
Left out of The Downs	0.1	8.17	0.05	0.1	10.99	0.09	
Right out of The Downs	0.9	16.82	0.47	1.8	24.44	0.65	
Right turn into The Downs	0.1	6.05	0.08	0.1	6.27	0.06	
2027 Assessment Year 'with com	mitted develo	opment'					
Left out of The Downs	0.1	8.48	0.06	1.0	12.65	0.10	
Right out of The Downs	1.0	17.86	0.50	2.3	28.74	0.70	
Right turn into The Downs	0.1	6.09	0.08	0.1	6.28	0.06	
2027 Assessment Year 'with com	mitted and p	roposed deve	lopment'				
Left out of The Downs	0.1	9.48	0.06	0.2	22.72	0.16	
Right out of The Downs	1.3	21.12	0.57	4.3	47.55	0.82	
Right turn into The Downs	0.1	6.16	0.08	0.1	6.30	0.06	

Table 7.5 High Street/Station Road/The Downs Priority Junction – Results of PICADY Modelling

1. The maximum mean queue predicted by the model for any 15-minute time period.

2. The maximum mean delay per vehicle predicted by the model for any 15-minute time period.

3. The maximum RFC (Ratio of Flow to Capacity) predicted by the model for any 15-minute time period.

As shown in Table 7.5, the High Street/Station Road/The Downs Priority Junction is shown operate with significant reserve capacity and with acceptable levels of queuing and delay for all scenarios. The junction is shown to operate at capacity in the scenario 2027 'With Committed and Proposed Development'.
8 Mitigation

8.1 Introduction

This chapter describes the mitigation measures proposed for the development at South Farm, Wickwar.

8.2 Travel Plan

The travel plan is a key tool for exploiting the use of sustainable modes at the proposed development. The NPPF defines a Travel Plan as:

A long term management strategy for an organisation or site that seeks to deliver sustainable transport objectives through action and is articulated in a document that is regularly reviewed.

An appropriate Residential Travel Plan has been prepared and is set out in a separate document. The Residential Travel Plan comprises of the following sections:

- Introduction including details of the proposed development;
- Travel Plan Policy and Guidance providing a summary of relevant national and local policy and travel planning guidance;
- Site Accessibility and Local Services and Facilities describing the accessibility of the site to local facilities by different sustainable travel modes;
- Travel Plan Management setting out how the travel planning process will be managed at the development;
- Objectives, Targets and Indicators;
- Travel Plan Measures identifying the walking and cycling, public transport, car travel and marketing and promotion measures to be implemented at the development; and
- Implementation, Monitoring and Evaluation providing details on the implementation of the travel plan and how it will be monitored and reviewed and including the Action Plan.

9 Summary and Conclusions

9.1 Proposed Development

The proposed development will consist of up to 180 residential dwellings and associated infrastructure.

9.2 Policy and Guidance

This TA has been prepared in accordance with relevant advice and guidance. It demonstrates that the site accords with national, regional and local transport policies. The TA has been scoped with the highway authority South Gloucestershire Council (SGC).

Relevant national and local planning policy and guidance has been referenced in the preparation of this Transport Assessment.

9.3 Existing Highway Conditions

Wickwar is a village straddling the B4060 which runs through the village in an north-south direction.

Peak hour traffic flows on Sodbury Road are between 400 and 500 vehicles northbound, and generally above 500 vehicles southbound.

Collisions are spread across the local highway network. It is unlikely that the traffic generated by the proposed development would have a material impact on the numbers of collisions on the local road network.

9.4 Proposed Access Arrangements

The proposed access is via two simple priority junctions, one at the northern end of the site, and on at the southern end, both linking with Sodbury Road. It is envisaged that a loop arrangement will link the two.

9.5 Accessibility

The site is accessible by sustainable modes of transport including walking, cycling, bus and rail. There is a satisfactory network of existing footways linking the site to the village centre and to a wide range of local facilities that are within acceptable walking and cycling distances.

9.6 Trip Generation and Distributions

The proposed development is anticipated to generate 174 two-way vehicle trips and 207 two way vehicle trips in the AM and PM peak hours respectively.

The distribution at the site accesses was extracted from the Horwood Lane TA, which showed that, overall, 44.4% of traffic will distribute north, whilst the remainder will distribute south.

9.7 Transport Impact

It has been agreed with the highway authority SGC that the following junctions in the vicinity of the site are to be assessed:

- Northern site access priority junction
- Southern site access priority junction
- Sodbury Road/Amberley Way mini-roundabout
- High Street/Station Road/The Downs priority junction

The two site accesses and the Sodbury Road/Amberley Way mini-roundabout and the High Street/Station Road/The Downs priority junction are all shown to operate with significant reserve capacity in all scenarios.

9.8 **Proposed Mitigation**

A Travel Plan is proposed to encourage sustainable travel to and from the proposed development.

9.9 Conclusion

The proposed development accords with national and local transport policy and can be provided with suitable access and without detriment to the safe operation of the local transport network. As such it is considered that there is no reason why planning permission for the proposed development should not be granted on highway and transport grounds.

Figures



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# Appendices



Appendix A Illustrative Masterplan



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**Bloor Homes** 

PROJECT:

Land at Wickwar

Framework Masterplan

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South Gloud	estershire 003 (E02003092)	<ul> <li>Urban</li> <li>Rural</li> </ul>	<ul> <li>Motorway</li> <li>Trunk</li> <li>Principal</li> </ul>	<ul> <li>Region</li> <li>England</li> </ul>	
		O Al	O Minor	Calculate the adju local growth figu	sted
		Results			
Level	Area		Li	ocal Growth Figure	
E02003092	South Gloucestershire 003			1.1441	

elect data type		Results						
Growth factors								
) Future year minus base year ) Base year data								
) Future year data	*Italicised results indicate that there is a lower level of confidence in data presented at the zon	al level than when aggreg	ated to higher geographical levels					
Car Driver Combined Modes					Al D	rnoses		
rvel	Name			Origin				Destination
0.200.306.7	North Somerset 003			1.0617				1.0439
		NTM Traffic Growth Ca	iculations					
			7 💌					
		1: Select NTM	Dataset:					
		NTM Datas	et Description			From 2010	To 2040	
		NTM AF09	Dataset			2003	2035	
		NTM AF08	Jataset			2003	2025	
		2: Select Area	s to make up the geographic region	: 3. Select area type:	4. Select roa	d type:	5. Select which area	it serves:
		V North Som	erset 003 (E02003067)	0	Motorway		Region	
				Urban	O Trunk		C England	
				C Rural	Principal     O     Minute			
				IA 🥘	() Al		Calculate the adj	usted
		-		Results				
		Leve	Area		Local	Growth Figu	re	
		E02	003067 North Somerset 003			1.0968		
ect data type Growth factors Future year minus base year Base year data Future year data	"Italicised results indicate that there is a lower level of confidence in data presented at the zo	<u>Results</u>	sgated to higher geographical levels					
Car Driver Combined Modes								
rea Description rvel	Name			Origin	A	Purposes		Destinati
02003067	North Somerset 003			1.0515				1.0638
		NTM Traffic Growth Calo	Játions					
		NTM Dataset	Description			From	То	
		NTM AF 15 Da NTM AF 15 Da	laset			2010	2040	
		NTM AF08 Da	taset.			2003	2035	
						2000 04	e 1 - 1 - 1 - 1	
		Z: Select Areas	et 003 (E02003067)	3. select area type:	4. Select road	type: 5.	Select which area	n serves:
		iter nor or somer:	ar are fragment	O Urban	C Motorway		Region     England	
				O Rural	O Prindpal			
				al 💿	C Mnor		Calculate the adju	isted
					1000 100		local growth fig	ane l
		اسما	årea	Results	local	rowth Fig -		
		Level E0200	Area 3067 North Somerset 003	<u>Results</u>	Local (	Growth Figure	e	
		Level E0200	Area 3067 North Somerset 003	Results	Local (	Growth Figure	e	



Appendix C Traffic Survey Results

# Title: B4060 Sodbury Road, Amberley Way, Wickwar

Date: Tues 22nd March 2016

From To	Sodbury Sodbury	/ Road S / Road N		Sodbur Amber	y Road S ley Way		Amberl Sodbury	ey Way Road S		Amber Sodbur	ley Way y Road N		Sodbury Amber	y Road N ley Way		Sodbury Sodbury	Road N Road S		
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	
07:30 - 07:45	118	3	121	0	0	0	7	0	7	9	0	9	1	0	1	80	2	82	220
07:45 - 08:00	116	2	118	1	0	1	9	0	9	6	0	6	0	0	0	94	0	94	228
07:30-08:00 Total	234	5	239	1	0	1	16	0	16	15	0	15	1	0	1	174	2	176	
08:00 - 08:15	132	3	135	1	0	1	7	0	7	8	0	8	1	0	1	123	5	128	280
08:15 - 08:30	91	2	93	0	0	0	10	0	10	2	0	2	0	0	0	128	1	129	234
08:30 - 08:45	79	2	81	1	0	1	7	0	7	3	0	3	4	0	4	122	3	125	221
08:45 - 09:00	109	0	109	2	0	2	7	0	7	6	0	6	1	0	1	107	1	108	233
08:00-09:00 Total	411	7	418	4	0	4	31	0	31	19	0	19	6	0	6	480	10	490	
09:00 - 09:15	74	3	77	3	0	3	3	0	3	4	0	4	4	0	4	81	1	82	173
09:15 - 09:30	54	1	55	3	0	3	5	0	5	2	0	2	0	0	0	72	1	73	138
09:00-09:30 Total	128	4	132	6	0	6	8	0	8	6	0	6	4	0	4	153	2	155	
Total	773	16	789	11	0	11	55	0	55	40	0	40	11	0	11	807	14	821	
07:30 - 08:30	457	10	467	2	0	2	33	0	33	25	0	25	2	0	2	425	8	433	962
07:45 - 08:45	418	9	427	3	0	3	33	0	33	19	0	19	5	0	5	467	9	476	963
08:00 - 09:00	411	7	418	4	0	4	31	0	31	19	0	19	6	0	6	480	10	490	968
08:15 - 09:15	353	7	360	6	0	6	27	0	27	15	0	15	9	0	9	438	6	444	861
08:30 - 09:30	316	6	322	9	0	9	22	0	22	15	0	15	9	0	9	382	6	388	765

From To	Sodbury Sodbury	/ Road S / Road N		Sodbury Amber	/ Road S ley Way		Amberl Sodbury	ey Way Road S		Amber Sodbur	ley Way y Road N		Sodbury Amber	/ Road N ley Way		Sodbury Sodbury	Road N Road S		
	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	Light	Heavy	Total	
16:30 - 16:45	110	0	110	6	0	6	1	0	1	2	0	2	3	0	3	118	1	119	241
16:45 - 17:00	104	2	106	10	0	10	0	0	0	1	0	1	3	0	3	123	1	124	244
16:30-17:00 Total	214	2	216	16	0	16	1	0	1	3	0	3	6	0	6	241	2	243	
17:00 - 17:15	105	0	105	5	0	5	1	0	1	1	0	1	5	0	5	129	4	133	250
17:15 - 17:30	104	1	105	5	0	5	2	0	2	1	0	1	5	0	5	107	1	108	226
17:30 - 17:45	114	0	114	9	0	9	4	0	4	3	0	3	5	0	5	93	1	94	229
17:45 - 18:00	97	1	98	5	0	5	6	0	6	2	0	2	5	0	5	80	1	81	197
17:00-18:00 Total	420	2	422	24	0	24	13	0	13	7	0	7	20	0	20	409	7	416	
18:00 - 18:15	107	1	108	8	0	8	2	0	2	4	0	4	4	0	4	81	1	82	208
18:15 - 18:30	94	1	95	5	0	5	3	0	3	4	0	4	5	0	5	78	2	80	192
18:00-18:30 Total	201	2	203	13	0	13	5	0	5	8	0	8	9	0	9	159	3	162	
Total	835	6	841	53	0	53	19	0	19	18	0	18	35	0	35	809	12	821	
16:30 - 17:30	423	3	426	26	0	26	4	0	4	5	0	5	16	0	16	477	7	484	961
16:45 - 17:45	427	3	430	29	0	29	7	0	7	6	0	6	18	0	18	452	7	459	949
17:00 - 18:00	420	2	422	24	0	24	13	0	13	7	0	7	20	0	20	409	7	416	902
17:15 - 18:15	422	3	425	27	0	27	14	0	14	10	0	10	19	0	19	361	4	365	860
17:30 - 18:30	412	3	415	27	0	27	15	0	15	13	0	13	19	0	19	332	5	337	826

												Τι	SS483 esday 14 S 0700-1000	Wickwar Septembe & 1600-1	r 2021 900										
SEV Transportatio	e <b>rnsid</b> on Data C	e ollection											S	ite 1											
l l				Arm A	- Arm A							Arm A	- Arm B							Arm A	- Arm C				
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Arm Total
0700-0715	0	0	0	0	0	0	0	0	9	7	0	0	0	0	0	16	7	2	0	0	0	0	0	9	25
0730-0745	0	0	0	0	0	0	0	0	25	4	0	0	0	0	0	29	10	2	0	0	0	0	0	12	41
0745-0800	0	0	0	0	0	0	0	0	33	5	0	0	0	0	0	38	4	0	0	0	0	0	0	4	42
Hourly Total	0	0	0	0	0	0	0	0	91	21	0	0	0	1	0	113	26	4	0	0	0	0	0	30	143
0800-0815	0	0	0	0	0	0	0	0	37	4	0	0	0	2	0	43	3	0	0	0	0	0	0	3	46
0815-0830	0	0	0	0	0	0	0	0	60 31	3	2	0	1	0	0	65 40	9	0	0	0	0	0	0	9	74 48
0845-0900	0	0	0	0	0	0	0	0	36	7	2	0	1	0	0	46	7	2	0	0	1	1	0	11	57
Hourly Total	0	0	0	0	0	0	0	0	164	21	5	0	2	2	0	194	27	2	0	0	1	1	0	31	225
0900-0915	0	0	0	0	0	0	0	0	22	5	0	0	0	0	0	27	4	1	0	0	0	0	0	5	32
0915-0930	0	0	0	0	0	0	0	0	24	5	0	0	0	0	0	29	5	1	0	0	0	0	0	6	35
0945-1000	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	18	1	1	0	0	0	0	0	2	20
Hourly Total	0	0	0	0	0	0	0	0	88	14	0	0	0	0	0	102	13	4	0	0	0	0	0	17	119
3 Hour Totals (am)	0	0	0	0	0	0	0	0	343	56	5	0	2	3	0	409	66	10	0	0	1	1	0	78	487
1600-1615	0	0	0	0	0	0	0	0	41	2	0	0	0	0	0	43	6	0	1	0	1	0	0	8	51
1615-1630	0	0	0	0	0	0	0	0	43	6	1	0	0	0	0	50	6	4	1	0	0	0	0	11	61
1630-1645	0	0	0	0	0	0	0	0	30	3	0	0	0	0	0	33	3	2	0	0	0	0	0	3	38
Hourly Total	0	0	0	0	0	0	0	0	160	15	1	0	0	0	0	176	17	7	2	0	1	0	0	27	203
1700-1715	0	0	0	0	0	0	0	0	32	3	0	0	0	0	0	35	4	1	1	0	0	0	0	6	41
1715-1730	0	0	0	0	0	0	0	0	38	5	0	0	0	0	0	43	3	2	0	0	0	0	0	5	48
1730-1745	0	0	0	0	0	0	0	0	24	3	2	0	1	0	0	30 27	4	0	0	0	0	0	0	4	34
Hourly Total	0	0	0	0	0	0	0	0	118	14	2	0	1	0	0	135	20	4	1	0	0	1	0	26	161
1800-1815	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	24	8	1	0	0	0	0	0	9	33
1815-1830	0	0	0	0	0	0	0	0	25	3	0	0	0	0	0	28	2	0	0	0	0	0	0	2	30
1830-1845	0	0	0	0	0	0	0	0	20	2	0	0	1	0	0	23	3	0	0	0	0	0	1	4	27
Hourly Total	0	Ő	0	0	0	0	0	0	88	7	0	0	1	0	0	96	15	1	0	0	0	0	1	17	112
fiburiy fotal	U	U	Ū	Ū	Ū	Ū	Ū	Ū	88	,	Ū	Ū	1	v	Ū	50	15	-	Ū	Ū	Ū	U	-	17	115
3 Hour Totals (pm)	0	0	0	0	0	0	0	0	366	36	3	0	2	0	0	407	52	12	3	0	1	1	1	70	477
Day Total	0	0	0	0	0	0	0	0	709	92	8	0	4	3	0	816	118	22	3	0	2	2	1	148	964
				Arm B	- Arm A	-		· - · ·				Arm B	- Arm B	-	_					Arm B	- Arm C	-	-	_	
0700-0715 0715-0730	Car 14 43	LGV 2 3	0GV1 0	0GV2 0	<b>PSV</b> 0 0	0 0	PC 0 0	Total 16 46	<b>Car</b> 0 0	0 0	0GV1 0 0	0GV2 0	<b>PSV</b> 0 0	0 0	PC           0           0	Total 0 0	Car 42 42	6 14	0GV1 0 1	0GV2 1 0	0 0	0 0	PC 0 0	Total 49 57	Arm Total 65 103

0730-0745	36 51	4	0	0	0	0	0	40 62	0	0	0	0	0	0	0	0	55 49	11 10	2	0	0	0	0	68 63	108 125
Hourly Total	144	18	1	0	1	0	0	164	0	0	0	0	0	0	0	0	188	41	4	2	1	0	1	237	401
0800-0815	59	6	0	0	0	0	0	65	0	0	0	0	0	0	0	0	57	8	2	0	1	0	1	69	134
0815-0830	29	7	0	0	0	0	0	36	0	0	0	0	0	0	0	0	39	10	0	0	0	0	0	49	85
0830-0845	15	3	2	0	0	0	0	20	0	0	0	0	0	0	0	0	38	6	0	0	1	0	0	45	65
0845-0900	29	3	1	0	0	0	0	33	0	0	0	0	0	0	0	0	43	6	2	0	0	0	0	51	84
Hourly Total	132	19	3	0	0	0	0	154	0	0	0	0	0	0	0	0	177	30	4	0	2	0	1	214	368
0900-0915	17	4	1	0	0	0	0	22	0	0	0	0	0	0	0	0	23	7	0	0	0	0	0	30	52
0915-0930	10	3	1	0	0	0	1	23	0	0	0	0	0	0	0	0	37	7	2	0	0	0	0	39	57
0945-1000	13	3	0	0	0	0	0	21	0	0	0	0	0	0	0	0	15	4	1	0	0	0	0	20	41
Lleurlu Tetel	64	16	2	0	0	0	1	02		0	0	0	0	0	0	0	107	10	-		0	0	0	120	212
Houriy Totai	64	16	2	U	U	U	1	83	U	U	U	U	U	U	U	U	107	18	4	U	U	U	U	129	212
3 Hour Totals (am)	340	53	6	0	1	0	1	401	0	0	0	0	0	0	0	0	472	89	12	2	3	0	2	580	981
1600-1615	27	10	3	0	0	0	0	40	0	0	0	0	0	0	0	0	34	14	0	0	0	0	2	50	90
1615-1630	40	3	0	0	0	0	0	43	0	0	0	0	0	0	0	0	35	2	0	0	0	1	0	38	81
1630-1645	35	4	0	0	0	0	2	41	0	0	0	0	0	0	0	0	33	6	0	0	0	0	0	39	80
1645-1700	27	5	0	0	0	0	0	32	0	0	0	0	0	0	0	0	41	9	1	0	0	0	0	51	83
Hourly Total	129	22	3	0	0	0	2	156	0	0	0	0	0	0	0	0	143	31	1	0	0	1	2	178	334
1700-1715	27	3	0	0	0	1	0	31	0	0	0	0	0	0	0	0	42	6	0	0	0	3	0	51	82
1715-1730	32	2	0	0	0	0	0	34	0	0	0	0	0	0	0	0	45	7	1	0	0	0	0	53	87
1745-1800	31	5	0	0	0	1	0	39	0	0	0	0	0	0	0	0	42	3	0	0	0	0	0	45	82
Hourly Total	124	15	0	0	0	2	0	141	0	0	0	0	0	0	0	0	171	20	2	0	2	4	0	199	340
1800-1815	32	5	0	0	0	0	0	37	0	0	0	0	0	0	0	0	32	4	0	0	0	0	1	37	74
1815-1830	35	1	0	0	0	0	0	36	0	0	0	0	0	0	0	0	28	2	0	0	0	0	2	32	68
1830-1845	26	1	0	0	0	0	0	27	0	0	0	0	0	0	0	0	26	5	0	0	0	1	0	32	59
1845-1900	20	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	23	3	0	0	0	0	0	26	46
Hourly Total	113	7	0	0	0	0	0	120	0	0	0	0	0	0	0	0	109	14	0	0	0	1	3	127	247
3 Hour Totals (pm)	366	44	3	0	0	2	2	417	0	0	0	0	0	0	0	0	423	65	3	0	2	6	5	504	921
Day Total	706	97	9	0	1	2	3	818	0	0	0	0	0	0	0	0	895	154	15	2	5	6	7	1084	1902
I				Arm C	- Arm A							Arm C	- Arm B							Arm <u>C</u>	- Arm C				
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Arm Total
0700-0715	0	0	0	0	0	0	0	0	29	10	1	0	1	0	0	41	0	0	0	0	0	0	0	0	41
0715-0730	0	0	0	0	1	0	0	1	31	8	1	1	0	0	0	41	0	0	0	0	0	0	0	0	42
0745 0800	1	3	0	0	0	0	0	4	36	8	1	0	0	0	0	45	0	0	0	0	0	0	0	U	49
Hourly Total	1	3	0	0	1	0	0	5	124	37	5	1	1	1	0	169	0	0	0	0	0	0	0	0	42
0800-0815	1	2	0	0	0	0	0	3	37	12	0	0	0	0	0	49	0	0	0	0	0	0	0	0	52
0815-0830	6	1	1	1	0	0	0	9	32	2	1	0	1	0	0	36	0	0	0	0	0	0	0	0	45
0830-0845	5	0	0	0	0	0	0	5	39	9	0	0	0	0	0	48	0	0	0	0	0	0	0	0	53
0845-0900	3	2	1	0	0	0	0	6	32	9	2	0	0	0	0	43	0	0	0	0	0	0	0	0	49
Hourly Total	15	5	2	1	0	0	0	23	140	32	3	0	1	0	0	176	0	0	0	0	0	0	0	0	199

																									• <u> </u>
0900-0915	9	0	1	0	0	0	0	10	30	6	1	0	0	0	0	37	0	0	0	0	0	0	0	0	47
0915-0930	4	0	0	0	0	0	0	4	26	5	0	0	0	0	0	31	0	0	0	0	0	0	0	0	35
0930-0945	0	1	0	0	0	0	0	1	22	4	1	0	0	0	0	27	0	0	0	0	0	0	0	0	28
0945-1000	1	1	1	0	0	0	0	3	25	7	0	0	0	0	0	32	0	0	0	0	0	0	0	0	35
Hourly Total	14	2	2	0	0	0	0	18	103	22	2	0	0	0	0	127	0	0	0	0	0	0	0	0	145
3 Hour Totals (am)	30	10	4	1	1	0	0	46	367	91	10	1	2	1	0	472	0	0	0	0	0	0	0	0	518
1600-1615	7	0	0	0	0	0	0	7	43	12	1	0	1	0	0	57	0	0	0	0	0	0	0	0	64
1615-1630	7	0	0	0	0	0	0	7	57	11	0	0	0	1	0	69	0	0	0	0	0	0	0	0	76
1630-1645	6	3	0	0	0	0	0	9	40	9	1	0	0	0	0	50	0	0	0	0	0	0	0	0	59
1645-1700	12	1	0	0	0	0	0	13	54	6	0	0	1	1	0	62	0	0	0	0	0	0	0	0	75
Hourly Total	32	4	0	0	0	0	0	36	194	38	2	0	2	2	0	238	0	0	0	0	0	0	0	0	274
1700-1715	6	1	0	0	0	0	1	8	64	12	0	0	0	1	1	78	0	0	0	0	0	0	0	0	86
1715-1730	6	0	0	0	0	0	0	6	50	7	1	0	0	0	0	58	0	0	0	0	0	0	0	0	64
1730-1745	6	1	0	0	0	0	0	7	45	7	0	0	1	0	0	53	0	0	0	0	0	0	0	0	60
1/45-1800	6	U	U	U	U	U	1	1	49	5	U	U	0	0	U	54	0	U	0	0	U	0	U	0	61
Hourly Total	24	2	0	0	0	0	2	28	208	31	1	0	1	1	1	243	0	0	0	0	0	0	0	0	271
1800-1815	16	0	0	0	0	0	1	17	43	6	0	0	0	0	0	49	0	0	0	0	0	0	0	0	66
1815-1830	2	0	0	0	0	0	0	2	35	2	0	0	0	1	1	39	0	0	0	0	0	0	0	0	41
1830-1845	7	1	0	0	0	0	0	8	28	4	0	0	0	0	0	32	0	0	0	0	0	0	0	0	40
1845-1900	0	U	U	U	U	0	0	0	27	4	U	0	0	U	0	51	0	0	0	0	U	U	U	U	37
Hourly Total	31	1	0	0	0	0	1	33	133	16	0	0	0	1	1	151	0	0	0	0	0	0	0	0	184
3 Hour Totals (pm)	87	7	0	0	0	0	3	97	535	85	3	0	3	4	2	632	0	0	0	0	0	0	0	0	729
Day Total	117	17	4	1	1	0	3	143	902	176	13	1	5	5	2	1104	0	0	0	0	0	0	0	0	1247
				Origin	- Arm A							Origin	- Arm B							Origin	- Arm C				
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Arm Tota
0700-0715	16	9	0	0	0	0	0	25	56	8	0	1	0	0	0	65	29	10	1	0	1	0	0	41	131
0715-0730	29	5	0	0	0	1	0	35	85	17	1	0	0	0	0	103	31	8	1	1	1	0	0	42	180
0745-0800	37	5	0	0	0	0	0	41	100	19	2	1	2	0	1	108	28	11	2	0	0	1	0	43	209
Hourly Total	117	25	0	0	0	1	0	143	332	59	5	2	2	0	1	401	125	40	5	1	2	1	0	174	718
0800 0815			•	0	0	-	0	16	116	14	2	-	-	0	-	124	200	14	0	-	-	-	0	 	222
0815-0830	69	4	1	0	1		0	+0 74	68	14	0	0	0	0	0	85	30	3	2	1	1	0	0	45	232
0830-0845	39	7	2	0	0	0	0	48	53	9	2	0	1	0	0	65	44	9	0	0	0	0	0	53	166
0845-0900	43	9	2	0	2	1	0	57	72	9	3	0	0	0	0	84	35	11	3	0	0	0	0	49	190
Hourly Total	191	23	5	0	3	3	0	225	309	49	7	0	2	0	1	368	155	37	5	1	1	0	0	199	792
0900-0915	26	6	0	0	0	0	0	32	40	11	1	0	0	0	0	52	20	6	2	0	0	0	0	47	121
0915-0930	29	6	0	0	0	0	0	35	53	6	3	0	0	0	0	62	30	5	0	0	0	0	0	35	132
0930-0945	28	4	0	0	0	0	0	32	45	10	1	0	0	0	1	57	22	5	1	0	0	0	0	28	117
0945-1000	18	2	0	0	0	0	0	20	33	7	1	0	0	0	0	41	26	8	1	0	0	0	0	35	96
Hourly Total	101	18	0	o	0	0	0	119	171	34	6	0	0	0	1	212	117	24	4	0	0	0	0	145	476
	II		1	1	1	1	1	1]		1	1	1	1	1	I	<u> </u>	L	I	1	1	1	1	I	I	I
3 Hour Totals (am)	409	66	5	0	3	4	0	487	812	142	18	2	4	0	3	981	397	101	14	2	3	1	0	518	1986

1600-1615	47	2	1	0	1	0	0	51	61	24	3	0	0	0	2	90	50	12	1	0	1	0	0	64	205
1615-1630	49	10	2	0	0	0	0	61 52	75 68	5	0	0	0	1	0	81	64	11	0	0	0	1	0	76	218
1645-1700	33	5	0	0	0	0	0	38	68	10	1	0	0	0	0	83	66	7	0	0	1	1	0	75	192
Hourly Total	177	22	3	0	1	0	0	203	272	53	4	0	0	1	4	334	226	42	2	0	2	2	0	274	811
1700-1715	36	4	1	0	0	0	0	41	69	9	0	0	0	4	0	82	70	13	0	0	0	1	2	86	209
1715-1730	41	7	0	0	0	0	0	48	77	9	1	0	0	0	0	87	56	7	1	0	0	0	0	64	199
1730-1745	28	3	2	0	1	0	0	34	76	9	1	0	2	1	0	89	51	8	0	0	1	0	0	60	183
Hourly Total	138	18	3	0	1	1	0	161	73 295	35	2	0	2	6	0	340	232	33	1	0	1	1	3	271	772
1800-1815	32	10	0	0	0	0	0	33	64	9	0	0	0	0	1	74	59	6	0	0	0	0	1	66	173
1815-1830	27	3	0	0	0	0	0	30	63	3	0	0	0	0	2	68	37	2	0	0	0	1	1	41	139
1830-1845	23	2	0	0	1	0	1	27	52	6	0	0	0	1	0	59 46	35	5	0	0	0	0	0	40	126
Haush Tatal	102							112		24							35	47					•	3,	100
Hourly Total	103	8	0	0	1	0	1	113	222	21	0	0	0	1	3	247	164	17	0	0	0	1	2	184	544
3 Hour Totals (pm)	418	48	6	0	3	1	1	477	789	109	6	0	2	8	7	921	622	92	3	0	3	4	5	729	2127
Day Total	827	114	11	0	6	5	1	964	1601	251	24	2	6	8	10	1902	1019	193	17	2	6	5	5	1247	4113
				Destinatio	on - Arm A							Destinati	on - Arm B							Destinati	on - Arm C				
	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Car	LGV	OGV1	OGV2	PSV	MC	PC	Total	Arm Total
0700-0715	14	2	0	0	0	0		16	38	17		0	1	0	0		44					()	0	58	131
0715-0730	43	3	0	0	1	0	0	47	55	13	1	1	0	1	0	71	47	0 14	1	0	0	0	0	62	180
0715-0730 0730-0745	43 37	3 7	0	0	1 0	0	0	47	55 61	13 12	1 1	1 0	0	1 0	0	71 74	47 65	14 13	1 2	0	0	0	0	62 80	180 198
0715-0730 0730-0745 0745-0800	43 37 51	3 7 9	0 0 1	0 0 0	1 0 1	0	0 0 0	47 44 62	55 61 61	17 13 12 16	1 1 1 2	0 1 0 0	0 0 0	1 0 1	0 0 0	71 74 80	47 65 53	8 14 13 10	0 1 2 1	0 0 1	0 0 0 1	0 0 0	0 0 1	62 80 67	191 180 198 209
0715-0730 0730-0745 0745-0800 Hourly Total	43 37 51 <b>145</b>	3 7 9 <b>21</b>	0 0 1 1	0 0 0 0	1 0 1 <b>2</b>	0 0 0 0	0 0 0 0	47 44 62 169	55 61 61 <b>215</b>	17 13 12 16 58	1 1 2 5	1 0 0 1	0 0 0 1	1 0 1 2	0 0 0 0	37 71 74 80 282	47 65 53 214	8 14 13 10 <b>45</b>	1 2 1 4	0 0 1 2	0 0 1 1	0 0 0 0	0 0 1 1	62 80 67 267	191 180 198 209 718
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815	43 37 51 <b>145</b> 60	3 7 9 <b>21</b> 8	0 0 1 1 0	0 0 0 0 0	1 0 1 2 0	0 0 0 0 0	0 0 0 0 0	10 47 44 62 169 68	55 61 61 215	17 13 12 16 58 16	1 1 2 5 0	1 0 0 1 0	0 0 0 1	1 0 1 2 2	0 0 0 0 0	37 71 74 80 282 92	47 65 53 214 60	8 14 13 10 45 8	1 2 1 4 2	0 0 1 2 0	0 0 1 1 1	0 0 0 0 0	0 0 1 1 1	62 80 67 267 72	133 180 198 209 718 232
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845	43 37 51 <b>145</b> 60 35 20	3 7 9 <b>21</b> 8 8 3	0 0 1 1 0 1 2	0 0 0 0 0 1	1 0 1 2 0 0	0 0 0 0 0	0 0 0 0 0 0	16 47 44 62 169 68 45 25	55 61 61 215 74 92 70	17 13 12 16 58 16 5 16	1 1 2 5 0 2 2	1 0 0 1 0 0 0	0 0 0 1 0 2 0	1 0 1 2 0 0	0 0 0 0 0 0	37 71 74 80 282 92 101 88	47 65 53 <b>214</b> 60 48 46	0           14           13           10           45           8           10           6	1 2 1 4 2 0 0	1 0 1 2 0 0 0	0 0 1 1 1 0 1	0 0 0 0 0 0	0 0 1 1 1 0 0	62 80 67 267 72 58 53	133 180 198 209 718 232 204 166
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900	43 37 51 <b>145</b> 60 35 20 32	3 7 9 <b>21</b> 8 8 8 3 5	0 0 1 1 0 1 2 2	0 0 0 0 1 0 0	1 0 1 2 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	10           47           44           62           169           68           45           25           39	55 61 61 <b>215</b> 74 92 70 68	17 13 12 16 58 16 5 16 16	1 1 2 5 0 2 2 4	1 0 1 1 0 0 0 0 0	0 0 1 2 0 1	1 0 1 2 0 0 0	0 0 0 0 0 0 0 0 0	37 71 74 80 282 92 101 88 89	47 65 53 <b>214</b> 60 48 46 50	8           14           13           10           45           8           10           6           8	1 2 1 4 2 0 0 2	0 0 1 2 0 0 0 0 0	0 0 1 1 1 0 1 1 1 1	0 0 0 0 0 0 0 1	0 0 1 1 0 0 0 0	62 80 67 267 72 58 53 62	180 198 209 718 232 204 166 190
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total	43 37 51 145 60 35 20 32 147	3 7 9 21 8 8 3 5 24	0 0 1 1 1 2 2 5	0 0 0 0 1 0 0 0 1	1 0 1 2 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 0 0 0 0	10           47           44           62           169           68           45           25           39           177	55 61 61 215 74 92 70 68 <b>304</b>	17 13 12 16 58 16 5 16 16 16 53	1 1 2 5 0 2 2 4 8	1 0 1 0 0 0 0 0 0 0	0 0 0 1 2 0 1 3	1 0 1 2 0 0 0 0 2	0 0 0 0 0 0 0 0 0 0 0	37           71           74           80           282           92           101           88           89           370	47 65 53 <b>214</b> 60 48 46 50 <b>204</b>	8           14           13           10           45           8           10           6           8           32	1 2 1 4 2 0 0 0 2 4	0 0 1 2 0 0 0 0 0 0	0 0 1 1 0 1 1 0 1 1 3	0 0 0 0 0 0 0 1 1	0 0 1 1 0 0 0 1	62 80 67 267 72 58 53 62 245	131 180 198 209 718 232 204 166 190 792
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915	43 37 51 145 60 35 20 32 147 26	3 7 9 <b>21</b> 8 8 3 5 <b>24</b> 4	0 0 1 1 2 2 5 2	0 0 0 0 1 0 0 1 0 0 1 0	1 0 1 2 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 0 0 0 0 0 0 0 0 0	47 44 62 169 68 45 25 39 177 32	55 61 61 215 74 92 70 68 304 52	17 13 12 16 <b>58</b> 16 5 16 16 16 53 11	1 1 2 5 0 2 2 4 8 1	1 0 0 1 0 0 0 0 0 0 0 0	0 0 0 1 2 0 1 3 0	1 0 1 2 0 0 0 0 2 0 0	0 0 0 0 0 0 0 0 0 0 0 0	37 71 74 80 282 92 101 88 89 370 64	47 65 53 <b>214</b> 60 48 46 50 <b>204</b> 27	3         14         13         10         45         8         10         6         8         32         8	1 2 1 4 2 0 0 2 4 0	0 0 1 2 0 0 0 0 0 0 0 0	0 0 1 1 1 0 1 1 3 0	0 0 0 0 0 0 1 1 0	0 0 1 1 1 0 0 0 1 0	62 80 67 267 72 58 53 62 245 35	1331 180 198 209 718 232 204 166 190 792 131
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930	43 37 51 145 60 35 20 32 147 26 20 20	3 7 9 21 8 8 8 3 5 24 4 6	0 0 1 1 2 2 5 5 2 1 2	0 0 0 0 1 0 0 1 0 0 1 0 0 0	1 0 1 2 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 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	47 44 62 169 68 45 25 39 177 32 27	55 61 61 215 74 92 70 68 <b>304</b> 52 50	17 13 12 16 58 16 5 16 16 53 11 10 0	1 1 2 5 0 2 2 4 8 8 1 0 0	1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 2 0 1 3 0 0 0 0 0 0 0 0	1 0 1 2 0 0 0 0 2 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	37 71 74 80 282 92 101 88 89 370 64 64 60	47 65 53 <b>214</b> 60 48 46 50 <b>204</b> 27 42 27	8           10           45           8           10           6           8           32           8           1	1 2 1 4 2 0 0 2 4 0 2 4	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 0 1 1 3 0 0 0 0	0 0 0 0 0 0 1 1 1 0 0 0	0 0 1 1 0 0 0 1 0 0 0 1 0 0 0	62 80 67 267 72 58 53 62 245 245 35 45	133 180 198 209 718 232 204 166 190 792 131 132 132
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0945-1000	43 37 51 145 60 35 20 32 147 26 20 13 19	3 7 9 21 8 8 8 3 5 24 4 6 4 4	0 0 1 1 2 2 5 5 2 1 0 1	0 0 0 1 0 0 1 0 0 0 0 0 0 0	1 0 1 2 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 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 0 0	16           47           44           62           169           68           45           25           39           177           32           27           18           24	55 61 61 215 74 92 70 68 304 52 50 47 42	17 13 12 16 58 16 5 16 16 53 11 10 7 8	1 1 1 2 5 0 2 2 2 4 8 8 1 0 1 0 0	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 2 0 1 3 3 0 0 0 0 0 0	1 0 1 2 0 0 0 0 2 2 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 0 0 0	37           71           74           80           282           92           101           88           89           370           64           60           55           50	47 65 53 <b>214</b> 60 48 46 50 <b>204</b> 27 42 35 16	14           13           10           45           8           10           6           8           32           8           1           8           1           8           1           8           1           8           5	1 2 1 4 2 0 0 2 4 4 0 2 1 1	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 1 1 1 3 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0	0 0 1 1 0 0 0 1 1 0 0 0 0 0 0 0 0 0	62 80 67 267 72 58 53 62 245 35 45 44 22	130 180 198 209 718 232 204 166 190 792 131 132 117 96
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total	43 37 51 145 60 35 20 32 147 26 20 13 19 78	3 7 9 21 8 8 3 5 5 24 4 6 4 4 4 18	0 0 1 1 2 2 5 5 2 1 0 1 4	0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0	1 0 1 2 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 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 0 1 1 0 1	10         10           47         44           62         169           68         45           25         39           177         32           27         18           24         101	55 61 61 215 74 92 70 68 <b>304</b> 52 50 47 42 <b>191</b>	13 12 16 58 16 5 16 16 16 5 3 11 10 7 8 36	1 1 1 2 5 5 2 4 4 8 1 1 0 1 0 2 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 2 4 2 2 2 4 2 2 2 2 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 0 2 0 1 3 3 0 0 0 0 0 0 0 0 0 0	1 0 1 2 0 0 0 0 2 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 0 0 0 0 0	37           71           74           80           282           92           101           88           370           64           60           55           50           229	47           47           65           53           214           60           48           46           50           204           27           42           35           16           120	B           14           13           10           45           8           10           6           8           32           8           1           8           1           8           5           22	1 2 1 4 2 0 0 0 2 4 0 2 4 1 1 1 4	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 0 1 1 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	62 80 67 267 72 58 53 62 245 35 45 45 44 22 146	130 180 198 209 718 232 204 166 190 792 131 132 117 96 476
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total	43 37 51 145 60 35 20 32 147 26 20 13 19 78	3 7 9 21 8 8 8 3 5 24 4 6 4 4 4 18	0 0 1 1 2 2 5 5 2 1 0 1 4	0 0 0 1 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0	1 1 2 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 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 0 0 1 1 0 1	10         47           47         44           62         169           68         45           25         39           177         32           27         18           24         101	55 61 61 215 74 92 70 68 <b>304</b> 52 50 47 42 <b>191</b>	13 12 16 58 16 5 16 16 16 53 11 10 7 8 36	1 1 1 2 5 0 2 2 4 8 8 1 0 0 1 0 2 2 2 4 2 2 4 2 2 2 4 2 2 2 2 4 2 2 2 2 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 1 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 2 0 0 0 0 2 2 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 0 0 0 0	37           71           74           80           282           92           101           88           370           64           60           55           50           229	47 65 53 214 60 48 46 50 204 27 42 35 16 120	3         14         13         10         45         8         10         6         8         10         6         8         11         8         1         8         5         22	1 2 1 4 2 0 2 2 4 0 2 4 0 2 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 1 1 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0	62 80 67 267 72 58 53 62 245 35 45 44 22 146	130 180 198 209 718 232 204 166 190 792 131 132 117 96 476
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0935-0945-1000 Hourly Total 3 Hour Totals (am)	43 37 51 145 60 35 20 32 147 26 20 13 19 78 370	3 7 9 21 8 8 3 5 5 24 4 6 4 4 4 18	0 0 1 1 2 2 2 5 5 5 1 0 1 1 4	0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0	1 1 0 1 2 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 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1	10         47           47         44           62         169           68         45           25         39           177         32           27         18           24         101	50           55           61           61           215           74           92           70           68           304           52           50           47           42           191	13 13 12 16 58 16 5 16 16 16 53 11 10 7 8 36	1 1 1 2 5 0 2 2 4 8 8 1 0 1 0 2 2 4 8 1 0 1 5 1 1 1 1 2 2 2 4 4 8 1 1 1 1 2 2 2 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 2 0 1 3 3 0 0 0 0 0 0 0 0 0 0	1 0 1 2 0 0 0 0 2 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 0 0 0 0 0	37           71           74           80           282           92           101           88           89           370           64           60           55           50           229           331	47           65           53           214           60           48           46           50           204           27           42           35           16           120	3         14         13         10         45         8         10         6         8         32         8         1         8         1         8         5         22         99	1 2 1 4 2 0 0 2 4 0 2 1 1 1 4 12	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 0 1 1 1 3 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	62           80           67           267           72           58           53           62           245           35           45           44           22           146	130           138           198           209           718           232           204           166           190           792           131           132           117           96           4776
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total 3 Hour Totals (am) 1600-1615	43 37 51 145 60 35 20 32 147 26 20 13 19 78 370 34	3 7 9 21 8 8 3 5 5 24 4 6 4 4 4 4 18 5 5	0 0 1 1 2 2 2 5 5 5 1 0 1 1 4	0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1	1 1 0 1 2 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 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1	47 44 62 169 68 45 25 39 177 32 27 18 24 101	55           61           61           215           74           92           70           68           304           52           50           47           42           191           710	13 13 12 16 58 16 5 16 16 16 53 11 10 7 8 36 36 147	1 1 1 2 5 0 2 2 4 8 8 1 0 1 0 2 2 4 5 1 5 1 5 1 1 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 2 0 1 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 4	1 0 1 2 0 0 0 0 2 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 0 0 0 0 0	37           71           74           80           282           92           101           88           89           370           64           60           55           50           229           331           100	47 65 53 214 60 48 46 50 204 27 204 27 42 35 16 120 538	0         14         13         10         45         8         10         6         8         32         8         1         8         1         8         1         8         1         8         5         22         99         14	1 2 1 4 2 0 0 2 4 0 2 1 1 1 4 12 12 12 12 12	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 1 1 1 3 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0	62           80           67           267           72           58           53           62           245           35           45           44           22           146           658           58	132           198           209           718           232           204           166           190           792           131           132           117           96           4776
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total 3 Hour Totals (am) 1600-1615 1615-1630	43 37 51 145 60 35 20 32 147 26 20 13 19 78 370 34 47	3 7 9 21 8 8 3 5 24 4 4 6 4 4 4 4 18 6 6 5	0 0 1 1 2 2 5 5 5 1 0 1 1 4 10	0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 2 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 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1 1	47         47         44         62         169         68         45         25         39         177         32         27         18         24         101	55           61           61           215           74           92           70           68           304           52           50           47           42           191           710           84           100	13 13 12 16 58 16 5 16 16 16 53 11 10 7 8 36 36 147	1 1 1 1 2 5 0 2 2 4 8 8 1 0 1 0 2 4 8 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 2 0 1 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1           0           1           2           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	37           71           74           80           282           92           101           88           89           370           64           60           55           50           229           331           100           119	47           47           65           53           214           60           48           46           50           204           27           42           35           16           120           588           40           41	0         14         13         10         45         8         10         6         8         32         8         1         8         1         8         1         8         5         22         99         14         6	1 2 1 4 2 0 0 2 4 0 2 1 1 1 4 1 1 1 1 1	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 1 1 1 3 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0	0           0           1           1           0           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           2           0	62           80           67           267           72           58           53           62           245           35           45           44           22           146           58           58           49	132           198           209           718           232           204           166           190           792           131           132           117           96           4776           205           218
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total 3 Hour Totals (am) 1600-1615 1615-1630 1630-1645 1645-1700	43 37 51 145 60 35 20 32 147 26 20 13 19 78 370 34 47 41 39	3 7 9 21 8 8 8 3 5 24 4 6 4 4 4 4 18 6 8 8 8 8 8 3 5 5 24 10 10 3 7 7 6	0 0 1 1 2 2 2 5 5 1 1 0 1 1 4 10 3 0 0 0 0	0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 2 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 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1 1 0 0 2 2 0 0	47           47           44           62           169           68           45           25           39           177           32           27           18           24           101           447           50           45	55 61 61 215 74 92 70 68 <b>304</b> 52 50 47 42 <b>191</b> <b>710</b> <b>8</b> 4 100 86 84	13 13 12 16 58 16 5 16 16 53 11 10 7 8 36 147 14 17 13 9	1 1 1 1 2 5 0 2 4 8 1 0 1 0 1 0 2 1 5 1 1 1 0 0 2 2 4 1 0 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 1 2 0 1 1 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 2 0 0 0 0 2 2 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 0 0 0 0	37           71           74           80           282           92           101           88           89           370           64           60           55           50           229           :831           100           119           100           95	47 47 65 53 214 60 48 46 0 204 27 42 35 16 120 588 40 41 35 44	0         14         13         10         45         8         10         6         8         1         8         1         8         1         8         5         22         99         14         6         7         11	1 2 1 4 2 0 0 2 4 0 2 4 0 2 1 1 1 1 1 1 0 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 1 3 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0	0           0           1           1           0           0           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0	62           80           67           267           72           58           62           245           35           45           44           22           146           558           49           42           56	132 138 198 209 718 232 204 166 190 792 131 132 117 96 476 1986
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total 3 Hour Totals (am) 1600-1615 1615-1630 1630-1645 1645-1700 Hourly Total	43 37 51 145 60 35 20 32 147 26 20 13 19 78 370 34 47 41 39 161	3 7 9 21 8 8 3 5 24 4 6 4 4 4 18 6 5 24 5 24 6 4 10 3 7 6 26	0 0 1 1 2 2 5 5 5 2 1 0 1 1 4 10 3 0 0 0 0 3 3	0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 2 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 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 1 1 1 1	47           47           44           62           169           68           45           25           39           177           32           27           18           24           101	55           61           61           215           74           92           70           68           304           52           50           47           42           191           710           84           1000           86           84           354	13 13 12 16 58 16 5 16 16 16 16 16 16 53 11 10 7 8 36 36 147 14 17 13 9 53	1 1 1 1 2 5 0 2 4 8 1 0 1 0 1 0 2 4 8 1 0 1 1 0 2 1 1 1 1 0 3	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 1 1 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1           0           1           2           0           2           0           0           2           0           0           0           0           0           0           0           0           0           0           0           1           0           1           2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	37           71           74           80           282           92           101           88           370           64           60           55           50           229           331           100           119           100           95           414	47           65           53           214           60           48           46           50           204           27           42           35           16           120           588           40           41           35           44           160	0       0         14       13         10       45         8       10         6       8         32       8         1       8         5       22         99       14         6       7         11       38	1 1 2 1 4 2 0 0 2 4 0 2 1 1 1 1 1 0 1 1 3	2 0 0 0 1 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 1 1 1 1 1 3 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0	0           0           1           1           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           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	62           80           67           267           72           58           62           245           35           45           44           22           146           558           58           49           42           56           205	131           180           198           209           718           232           204           166           190           792           131           132           117           96           476           205           218           192           196           811
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total 1600-1615 1615-1630 1630-1645 1645-1700 Hourly Total 1700-1715	43 37 51 145 60 35 20 32 147 26 20 13 19 78 870 870 870 870 870 870 870	3 7 9 21 8 8 3 5 24 4 6 4 4 4 18 6 6 24 5 5 24 6 4 10 3 7 6 26 4	0 0 1 1 2 2 5 5 2 1 0 1 1 4 10 3 0 0 0 0 0 3 0 0 0 0	0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 2 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 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 1 1 1 1	47           47           44           62           169           68           45           25           39           177           32           27           18           24           101           427           50           50           45           192           39	55           61           61           215           74           92           70           68           304           52           50           47           42           191           710           84           1000           86           84           96	13 13 12 16 58 16 5 16 16 5 3 16 16 5 3 16 5 3 6 36 11 10 7 8 36 36 147 13 9 53 15	1 1 1 1 2 5 0 2 4 8 1 0 1 0 1 0 2 4 8 1 0 1 1 0 2 4 8 1 0 1 0 1 0 1 0 1 0 1 1 0 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 1 1 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1           0           1           2           0           2           0           0           2           0           0           0           0           0           0           0           0           0           0           0           1           0           1           2           1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	37           71           74           80           282           92           101           88           370           64           60           55           50           229           331           100           119           100           95           414           113	47 65 53 214 60 48 46 50 204 27 42 35 16 120 588 40 41 35 44 160 46	0         14         13         10         45         8         10         6         8         11         8         5         22         99         14         6         7         11         38         7	1 1 2 1 4 2 0 0 2 4 0 2 1 1 1 1 1 0 1 1 3 1 1	0           0           0           1           2           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           0           0           0           0	0 0 0 1 1 1 1 1 3 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0	0           0           1           1           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           0           2           0           0	62           80           67           267           72           58           62           245           35           45           44           22           146           558           58           49           42           56           57	131           180           198           209           718           232           204           166           190           792           131           132           117           96           476           205           218           192           196           811           209
0715-0730 0730-0745 0745-0800 Hourly Total 0800-0815 0815-0830 0830-0845 0845-0900 Hourly Total 0900-0915 0915-0930 0930-0945 0945-1000 Hourly Total 1600-1615 1615-1630 1663-1645 1645-1700 Hourly Total 1700-1715 1715-1730	43 37 51 145 60 35 20 32 147 26 20 13 19 78 370 34 47 41 39 161 33 38 80	3 7 9 21 8 8 3 5 24 4 6 4 4 4 18 6 5 5 24 4 6 3 7 6 6 26 4 2 2	0 0 1 1 2 2 5 5 2 1 1 0 1 1 4 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 1 2 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 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 1 0 0 1 1 0 0 2 0 0 2 1 0 0 0 2 1 0 0 0 0	47           47           44           62           169           68           45           25           39           177           32           27           18           24           101	55           61           61           215           74           92           70           68           304           52           50           47           42           191           710           84           100           86           84           354           96           88           60	13 13 12 16 58 16 5 16 16 53 11 10 7 8 36 147 14 17 13 9 53 15 12 10 15 12 10 10 10 10 10 10 10 10 10 10	1 1 1 1 1 2 5 0 2 4 8 1 0 1 0 1 0 2 4 8 8 1 0 1 0 2 2 4 8 8 1 0 2 2 4 8 8 1 0 0 2 2 4 8 8 1 0 0 2 2 4 8 8 1 0 0 2 2 4 8 8 1 0 0 2 2 4 8 8 1 0 0 2 2 4 8 8 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 1 1 3 3 0 0 0 0 0 0 0 0 0 0 0	1           0           1           2           0           2           0           0           2           0           0           0           0           0           0           0           0           1           0           1           0           1           0           1           0           0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	37           71           74           80           282           92           101           88           370           64           60           55           50           229           331           100           119           100           95           414           113           101           92	47 65 53 214 60 48 46 50 204 27 42 35 16 120 588 40 41 35 44 160 46 48 46 48 46 46 48 46 48 46 48 46 48 46 48 46 48 46 48 46 48 48 48 48 48 48 48 48 48 48	0         0           14         13           10         45           8         10           6         8           32         8           1         8           5         22           99         14           6         7           11         38           7         9           4         6	1 2 1 4 2 0 0 2 4 0 2 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0           0           0           1           2           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           0           0           0           0           0           0	0 0 0 1 1 1 1 1 1 1 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0	0         0           0         1           1         0           0         0           1         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           0         0	62           80           67           267           72           58           53           62           245           335           44           22           146           558           58           42           56           57           58           57           58           54	131           180           198           209           718           232           204           166           190           792           131           132           117           96           476           205           218           192           196           811           209           199           192

1745-1800	37	5	0	0	0	1	1	44	73	8	0	0	0	0	0	81	51	4	0	0	0	1	0	56	181
Hourly Total	148	17	0	0	0	2	2	169	326	45	3	0	2	1	1	378	191	24	3	0	2	5	0	225	772
1800-1815	48	5	0	0	0	0	1	54	67	6	0	0	0	0	0	73	40	5	0	0	0	0	1	46	173
1815-1830	37	1	0	0	0	0	0	38	60	5	0	0	0	1	1	67	30	2	0	0	0	0	2	34	139
1830-1845	33	2	0	0	0	0	0	35	48	6	0	0	1	0	0	55	29	5	0	0	0	1	1	36	126
1845-1900	26	0	0	0	0	0	0	26	46	6	0	0	0	0	0	52	25	3	0	0	0	0	0	28	106
Hourly Total	144	8	0	0	0	0	1	153	221	23	0	0	1	1	1	247	124	15	0	0	0	1	4	144	544
3 Hour Totals (pm)	453	51	3	0	0	2	5	514	901	121	6	0	5	4	2	1039	475	77	6	0	3	7	6	574	2127
Day Total	823	114	13	1	2	2	6	961	1611	268	21	1	9	8	2	1920	1013	176	18	2	7	8	8	1232	4113



Appendix D Traffic Flow Diagrams





4	$\uparrow$
0	452
0	3

Observed 2016	2016	DRAWING NUMBER	Appendix D	DRAWN BY	CWB
AM + PM PEAK HOUR		PROJECT NUMBER	B05313	CHECKED BY	DAK
WICKWAR		CLIENT	Bloor Homes	DATE	09.04.21

 $\Lambda$ 

The Downs

 $\leq$ 



Sodbury Road



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WING TITLE	Observed 2021	2021	DRAWING NUMBER	Appendix D	DRAWN BY	CWB
	AM + PM PEAK HOUR		PROJECT NUMBER	B05313	CHECKED BY	DAK
ECT	WICKWAR		CLIENT	Bloor Homes	DATE	28.0
						-

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09.21





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clarkebond



<b>Growth Factors</b>	AM Peak	PM Peak
2016-2027	1.1526	1.1441
2021-2027	1.0986	1.1019







DRAWING TITLE	Growthed - 2027	2027	DRAWING NUMBER	Appendix D	DRAWN BY	CWB
	AM + PM PEAK HOUR		PROJECT NUMBER	B05313	CHECKED BY	DAK
PROJECT	WICKWAR		CLIENT	Bloor Homes	DATE	09.04.21
-						

AM









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DJECT	WICKWAR		CLIENT	Bloor Homes	DATE	09.0
	AM + PM PEAK HOUR		PROJECT NUMBER	B05313	CHECKED BY	DAK
AWING TITLE	COMMITTED DEVELOPMENT	2027	DRAWING NUMBER	Appendix D	DRAWN BY	CWB

# ΡM



Sodbury Road

04.21



129 Cumberland Road, Bristol, BS1 6UY Tel: +44 (0) 117 929 2244 Email: bristol@clarkebond.com







AM + PM PEAK HOUR B05313 CHECKED BY DAK PROJECT WICKWAR CLIENT Bloor Homes DATE 09.0	DRAWING TITLE	BASELINE + COMMITTED DEVELOPMENT	2027	DRAWING NOWBER	Appendix D	DRAWN DI	CWB
PROJECT WICKWAR Bloor Homes DATE 09.0		AM + PM PEAK HOUR		PROJECT NUMBER	B05313	CHECKED BY	DAK
	PROJECT	WICKWAR		CLIENT	Bloor Homes	DATE	09.04

AM







129 Cumberland Road, Bristol, BS1 6UY Tel: +44 (0) 117 929 2244 Email: bristol@clarkebond.com

04.21



AM











129 Cumberland Road, Bristol, BS1 6UY Tel: +44 (0) 117 929 2244 Email: bristol@clarkebond.com











8.459

42

Arr

65

Total

7.428

37

Dep

109

15.887

79

Tot

174

A-road (secondary)
B-road
Unclassified road
No through road
Vehicles with HGV

E	PROPOSED DEVELOPMENT	2027	DRAWING NUMBER	Appendix D
	AM + PM PEAK HOUR		PROJECT NUMBER	B05313
	WICKWAR		CLIENT	Bloor Homes

				37
			,	18 23
Proposed D	evelopment	t Site		
Private Houses 180				$\leq \Lambda$
Convenience Store		5		
(100m2)				34 18
Private Hou	Ises	Tet		
0 382	0 179	0.561		
69	32	100.98		
Convenienc	e Store	100.50		
Arr	Dep	Tot		
10.935	10.248	21.183		
55	51	106		18
Total				23
Arr	Dep	Tot	1 (	v
123	83	207		

44 _____

30 7

 $\Lambda$ 

The Downs

 $\leq$ 

CWB ECKED BY DAK 06.09.21

**34 34** 

# PM











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 $\begin{array}{c} 0 \\ 0 \\ 23 \end{array} \xrightarrow{18} \\ \hline \end{array}$ Proposed Development Site Private Houses 180  $\leq$  $\uparrow$ **Convenience Store** 5 34 550 (100m2) 0 4 Private Houses Tot Arr Dep 0.561 0.382 0.179 69 32 101 Convenience Store Arr Dep Tot 10.935 10.248 21.183 0 <u>18</u> 55 51 106 0 23 Total Arr Dep Tot 123 83 207  $\leq$  $\Lambda$ 

E	BASELINE + COMMITTED DEVELOPMENT + PROPOSED DEVELOPMENT	2027	DRAWING NUMBER	Appendix D	DRAWN BY	CWB
	AM + PM PEAK HOUR		PROJECT NUMBER	B05313	CHECKED BY	DAK
	WICKWAR		CLIENT	Bloor Homes	DATE	09.04

0 31 3 332

The Downs

 $\leq$ 

196 228 0

 $\geq$ 
 ↓
 ↓

 534
 27

 4
 0

 $\mathbf{\Lambda}$ 

0

# PM





Sodbury Road

34 566 0

4



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4.21



Appendix E Collision Data

# EDR131 B4060 Wickwar Accident Date BETWEEN '01-Oct-2015' AND '30-Sep-2020'

181804920 LOCATION DESCRIPTION VEH 1 2	SLIGHT 372426 B4060 High Street at J V1 WAS TRAV N/B T OF SLOW MOVING V OF BUTHAY LANE. COLLIDED WITH TH ICLES Car Car	/188388 unction with B TOWARDS W VEHS. AN U/ D1 STOPPED IE REAR OF V DRIVER Female Male	01/06 Buthay COOTC (K VEI D INT 1 V1. 30 75	5/201 Lane DN U H AH HE L CAS 1 2 3 4 5	8 16:45 e, Wickwar NDER EDGE ON WIC IEAD STOPPED TO L INE OF VEHS, BUT V SUALTIES Driver/Rider Passenger Passenger Passenger Passenger Passenger	CKWAR HIGH S ET ANOTHER 2 TRAV BEHT SLIGHT SLIGHT SLIGHT SLIGHT SLIGHT	STREE VEH T ND FTS <b>VEH</b> 1 1 1 1 1	Γ IN A LINE URN OUT S AND SEX Female Female Male Male Male Male	AGE 30 31 64 34 33
181807204 LOCATION DESCRIPTION VEH 1 2	SERIOUS 372329 B4059 The Downs at J V1 (CYC) WAS N/B ( B4059 THE DOWN, F FROM THEIR BIKE. ICLES Pedal Cycle Car	/188687 unction with B DN B4060 ST AILING TO S <b>DRIVER</b> Male Female	24/10 34060 3 Ation Stop I 50 65	D/201 Statio N RO FOR CAS	8 17:15 on Road AD WHEN V1 ENTER R1. V1 COLLIDED W SUALTIES Driver/Rider	ED STATION TTH R1 KNCO SERIOUS	FROM KING 7 VEH 1	FROM THEM SEX Male	AGE 50
181807461LOCATIONDESCRIPTIONVEH12	SLIGHT 372511 B4060 Sodbury Road, V1 T/RIGHT FROM T FAILED TO STOP AN ICLES Car Car	/187883 at its Junction THE B4060 IN ID COLLIDEI <b>DRIVER</b> Female Not known	05/11 with A TO AN D WIT 44 20	I/201 Ambe MBE TH TI CAS 1 2	8 17:50 rley Way, Wickwar RLEY ROAD BUT O/0 HE N/S OF V1. (EXA0 SUALTIES Driver/Rider Passenger	C V2 TRAV S/E CT LOCATION SLIGHT SLIGHT	3 TOW/ UNKN VEH 1 1	ARDS YATE OWN) SEX Female Male	AGE 44 11
191903420 LOCATION DESCRIPTION VEH 1 2	SLIGHT 372218 Arnold Field Estate acc V1 TURNED LEFT FI AND COLLIDED WIT ICLES Car Car	/188671 cess, at its Junc ROM THE AC TH N/S OF V2 <b>DRIVER</b> Male Male	22/02 etion w CESS 2 WHI 30 73	2/201 vith E TO CH V CAS	9 14:30 34059 The Downs, Wicl ARNOLDS FIELD EST VAS TRAVELLING W SUALTIES Passenger	kwar FATE ONTO B4 //B AWAY FRC SLIGHT	4059 TH DM WIC <b>VEH</b> 1	HE DOWNS CKWAR. SEX Female	AGE 73


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stershire

Project

Council

#### Injury Collision Record 01/10/2015 to 30/09/2020* (*Provisional) Scale @ A3 NTS Drawn DS Date Checked Date Scheme Approved Date Dwg No. _ _

EDR131 B4060 Wickwar



Land West of Sodbury Road, Wickwar

Appendix F 2011 Census 'QS703EW - Method of Travel to Work'

# QS703EW - Method of Travel to Work (2001 specification)

ONS Crown Copyright Reserved [from Nomis on 11 March 2021]

population	All usual residents aged 16 to 74
units	Persons
area type	2011 super output areas - middle layer
area name	E02003092 : South Gloucestershire 003



Method of Travel to Work	2011	%	Adjusted	Adjusted %
All categories: Method of tra	5,911	100.0%	3,348	100.0%
Work mainly at or from hom	667	11.3%	Disco	ounted
Underground, metro, light ra	3	0.1%	Added	to Train
Train	31	0.5%	34	1.0%
Bus, minibus or coach	52	0.9%	52	1.6%
Taxi	3	0.1%	3	0.1%
Motorcycle, scooter or mope	34	0.6%	34	1.0%
Driving a car or van	2,822	47.7%	2,822	84.3%
Passenger in a car or van	161	2.7%	161	4.8%
Bicycle	67	1.1%	67	2.0%
On foot	156	2.6%	156	4.7%
Other method of travel to we	19	0.3%	19	0.6%
Not in employment	1,896	32.1%	Disco	unted

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

Land West of Sodbury Road, Wickwar

Appendix G 2011 Census 'QS416EW - Car or Van Availability'

# QS416EW - Car or van availability

ONS Crown Copyright Reserved [from Nomis on 11 March 2021]

population	All households; All cars or vans
units	Households
area type	2011 super output areas - middle layer
area name	E02003092 : South Gloucestershire 003
rural urban	Total



Care	2011 %		No. Cars or	
Cars	2011	76		vans
All categories: Car or van availa	2,801	100.0%		5290
No cars or vans in household	156	5.6%	0	0
1 car or van in household	815	29.1%	1	815
2 cars or vans in household	1,226	43.8%	2	2452
3 cars or vans in household	393	14.0%	3	1179
4 or more cars or vans in house	211	7.5%	4	844

Cars or vans per household 1.89

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.



Land West of Sodbury Road, Wickwar

**Appendix H TRICS Outputs** 

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

Calculation Reference: AUDIT-102301-210202-0212

Category	÷	A - HOUSES PRIVATELY OWNED
MULTÍ-MO	C	AL TOTAL VEHICLES

# Selected regions and areas:

02	SOU	TH EAST	
	ES	EAST SUSSEX	1 days
	HF	HERTFORDSHIRE	1 days
	KC	KENT	2 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	3 days
04	EAS	T ANGLIA	
	NF	NORFOLK	1 days
05	EAS	T MIDLANDS	
	DS	DERBYSHIRE	1 days
06	WES	T MIDLANDS	
	ST	STAFFORDSHIRE	1 days
07	YOR	KSHIRE & NORTH LINCOLNSHIRE	
	NE	NORTH EAST LINCOLNSHIRE	1 days
11	SCO	TLAND	
	FA	FALKIRK	1 days
13	MUN	ISTER	
	WA	WATERFORD	1 days
16	ULS	TER (REPUBLIC OF IRELAND)	
	DN	DONEGAL	1 days
17	ULS	TER (NORTHERN IRELAND)	
	AN	ANTRIM	2 days

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

#### **Primary Filtering selection:**

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

Parameter:	No of Dwellings
Actual Range:	146 to 432 (units: )
Range Selected by User:	100 to 650 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision: Selection by:

Include all surveys

Date Range: 01/01/12 to 08/10/20

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

Selected survey days:	
Monday	5 days
Tuesday	3 days
Wednesday	6 days
Thursday	3 days

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

Selected survey types:	
Manual count	17 days
Directional ATC Count	0 days

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

> 4 13

Selected Locations:	
Suburban Area (PPS6 Out of Centre)	
Edge of Town	

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

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

#### Secondary Filtering selection:

<u>Use Class:</u> C3

17 days

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

Population within 500m Range:	
All Surveys Included	
Population within 1 mile:	
1,001 to 5,000	1 days
5,001 to 10,000	4 days
10,001 to 15,000	8 days
20,001 to 25,000	4 days

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

Population within 5 miles:	
5,001 to 25,000	3 days
50,001 to 75,000	4 days
75,001 to 100,000	4 days
100,001 to 125,000	1 days
125,001 to 250,000	5 days

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

Car ownership within 5 miles:	
0.6 to 1.0	4 days
1.1 to 1.5	10 days
1.6 to 2.0	3 days

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

Travel Plan:	
Yes	6 days
No	11 days

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

PTAL Rating: No PTAL Present

17 days

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

### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL TOTAL VEHICLES Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS		[	DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.068	17	237	0.295	17	237	0.363
08:00 - 09:00	17	237	0.127	17	237	0.401	17	237	0.528
09:00 - 10:00	17	237	0.148	17	237	0.188	17	237	0.336
10:00 - 11:00	17	237	0.128	17	237	0.161	17	237	0.289
11:00 - 12:00	17	237	0.129	17	237	0.148	17	237	0.277
12:00 - 13:00	17	237	0.178	17	237	0.163	17	237	0.341
13:00 - 14:00	17	237	0.168	17	237	0.172	17	237	0.340
14:00 - 15:00	17	237	0.193	17	237	0.205	17	237	0.398
15:00 - 16:00	17	237	0.277	17	237	0.182	17	237	0.459
16:00 - 17:00	17	237	0.294	17	237	0.172	17	237	0.466
17:00 - 18:00	17	237	0.382	17	237	0.179	17	237	0.561
18:00 - 19:00	17	237	0.320	17	237	0.200	17	237	0.520
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.412		2.466				

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

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

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#### **Parameter summary**

Trip rate parameter range selected:	146 - 432 (units: )
Survey date date range:	01/01/12 - 08/10/20
Number of weekdays (Monday-Friday):	17
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

Licence No: 102301

### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL TAXIS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS			DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.002	17	237	0.002	17	237	0.004
08:00 - 09:00	17	237	0.004	17	237	0.004	17	237	0.008
09:00 - 10:00	17	237	0.003	17	237	0.002	17	237	0.005
10:00 - 11:00	17	237	0.002	17	237	0.002	17	237	0.004
11:00 - 12:00	17	237	0.003	17	237	0.003	17	237	0.006
12:00 - 13:00	17	237	0.003	17	237	0.003	17	237	0.006
13:00 - 14:00	17	237	0.003	17	237	0.002	17	237	0.005
14:00 - 15:00	17	237	0.003	17	237	0.003	17	237	0.006
15:00 - 16:00	17	237	0.005	17	237	0.004	17	237	0.009
16:00 - 17:00	17	237	0.004	17	237	0.005	17	237	0.009
17:00 - 18:00	17	237	0.001	17	237	0.001	17	237	0.002
18:00 - 19:00	17	237	0.002	17	237	0.003	17	237	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.035			0.034			0.069

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

### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL OGVS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS		[	DEPARTURES	5	TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00	17	237	0.001	17	237	0.001	17	237	0.002	
08:00 - 09:00	17	237	0.003	17	237	0.002	17	237	0.005	
09:00 - 10:00	17	237	0.003	17	237	0.002	17	237	0.005	
10:00 - 11:00	17	237	0.003	17	237	0.004	17	237	0.007	
11:00 - 12:00	17	237	0.001	17	237	0.001	17	237	0.002	
12:00 - 13:00	17	237	0.002	17	237	0.004	17	237	0.006	
13:00 - 14:00	17	237	0.002	17	237	0.001	17	237	0.003	
14:00 - 15:00	17	237	0.002	17	237	0.003	17	237	0.005	
15:00 - 16:00	17	237	0.002	17	237	0.003	17	237	0.005	
16:00 - 17:00	17	237	0.002	17	237	0.001	17	237	0.003	
17:00 - 18:00	17	237	0.001	17	237	0.001	17	237	0.002	
18:00 - 19:00	17	237	0.001	17	237	0.001	17	237	0.002	
19:00 - 20:00										
20:00 - 21:00										
21:00 - 22:00										
22:00 - 23:00										
23:00 - 24:00										
Total Rates:			0.023			0.024			0.047	

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

### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL PSVS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS		[	DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.001	17	237	0.001	17	237	0.002
08:00 - 09:00	17	237	0.002	17	237	0.002	17	237	0.004
09:00 - 10:00	17	237	0.001	17	237	0.001	17	237	0.002
10:00 - 11:00	17	237	0.001	17	237	0.001	17	237	0.002
11:00 - 12:00	17	237	0.000	17	237	0.000	17	237	0.000
12:00 - 13:00	17	237	0.000	17	237	0.000	17	237	0.000
13:00 - 14:00	17	237	0.001	17	237	0.001	17	237	0.002
14:00 - 15:00	17	237	0.001	17	237	0.001	17	237	0.002
15:00 - 16:00	17	237	0.002	17	237	0.002	17	237	0.004
16:00 - 17:00	17	237	0.000	17	237	0.000	17	237	0.000
17:00 - 18:00	17	237	0.001	17	237	0.001	17	237	0.002
18:00 - 19:00	17	237	0.000	17	237	0.000	17	237	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.010			0.020

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL CYCLISTS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS		[	DEPARTURES	5	TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00	17	237	0.003	17	237	0.006	17	237	0.009	
08:00 - 09:00	17	237	0.004	17	237	0.013	17	237	0.017	
09:00 - 10:00	17	237	0.001	17	237	0.002	17	237	0.003	
10:00 - 11:00	17	237	0.002	17	237	0.003	17	237	0.005	
11:00 - 12:00	17	237	0.002	17	237	0.003	17	237	0.005	
12:00 - 13:00	17	237	0.004	17	237	0.004	17	237	0.008	
13:00 - 14:00	17	237	0.002	17	237	0.002	17	237	0.004	
14:00 - 15:00	17	237	0.003	17	237	0.003	17	237	0.006	
15:00 - 16:00	17	237	0.006	17	237	0.004	17	237	0.010	
16:00 - 17:00	17	237	0.011	17	237	0.006	17	237	0.017	
17:00 - 18:00	17	237	0.010	17	237	0.006	17	237	0.016	
18:00 - 19:00	17	237	0.007	17	237	0.007	17	237	0.014	
19:00 - 20:00										
20:00 - 21:00										
21:00 - 22:00										
22:00 - 23:00										
23:00 - 24:00										
Total Rates:			0.055			0.059			0.114	

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL VEHICLE OCCUPANTS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS		[	DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.084	17	237	0.437	17	237	0.521
08:00 - 09:00	17	237	0.163	17	237	0.690	17	237	0.853
09:00 - 10:00	17	237	0.192	17	237	0.278	17	237	0.470
10:00 - 11:00	17	237	0.168	17	237	0.229	17	237	0.397
11:00 - 12:00	17	237	0.171	17	237	0.215	17	237	0.386
12:00 - 13:00	17	237	0.246	17	237	0.228	17	237	0.474
13:00 - 14:00	17	237	0.235	17	237	0.243	17	237	0.478
14:00 - 15:00	17	237	0.273	17	237	0.289	17	237	0.562
15:00 - 16:00	17	237	0.465	17	237	0.263	17	237	0.728
16:00 - 17:00	17	237	0.493	17	237	0.254	17	237	0.747
17:00 - 18:00	17	237	0.594	17	237	0.262	17	237	0.856
18:00 - 19:00	17	237	0.490	17	237	0.305	17	237	0.795
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.574			3.693			7.267

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL PEDESTRIANS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS			DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.013	17	237	0.024	17	237	0.037
08:00 - 09:00	17	237	0.022	17	237	0.050	17	237	0.072
09:00 - 10:00	17	237	0.020	17	237	0.028	17	237	0.048
10:00 - 11:00	17	237	0.021	17	237	0.026	17	237	0.047
11:00 - 12:00	17	237	0.020	17	237	0.021	17	237	0.041
12:00 - 13:00	17	237	0.025	17	237	0.016	17	237	0.041
13:00 - 14:00	17	237	0.022	17	237	0.024	17	237	0.046
14:00 - 15:00	17	237	0.027	17	237	0.031	17	237	0.058
15:00 - 16:00	17	237	0.045	17	237	0.030	17	237	0.075
16:00 - 17:00	17	237	0.048	17	237	0.024	17	237	0.072
17:00 - 18:00	17	237	0.035	17	237	0.022	17	237	0.057
18:00 - 19:00	17	237	0.030	17	237	0.040	17	237	0.070
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.328			0.336			0.664

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL BUS/TRAM PASSENGERS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS		[	DEPARTURES		TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.000	17	237	0.009	17	237	0.009
08:00 - 09:00	17	237	0.001	17	237	0.016	17	237	0.017
09:00 - 10:00	17	237	0.001	17	237	0.006	17	237	0.007
10:00 - 11:00	17	237	0.001	17	237	0.002	17	237	0.003
11:00 - 12:00	17	237	0.002	17	237	0.002	17	237	0.004
12:00 - 13:00	17	237	0.002	17	237	0.002	17	237	0.004
13:00 - 14:00	17	237	0.003	17	237	0.004	17	237	0.007
14:00 - 15:00	17	237	0.002	17	237	0.002	17	237	0.004
15:00 - 16:00	17	237	0.017	17	237	0.005	17	237	0.022
16:00 - 17:00	17	237	0.011	17	237	0.003	17	237	0.014
17:00 - 18:00	17	237	0.007	17	237	0.002	17	237	0.009
18:00 - 19:00	17	237	0.009	17	237	0.003	17	237	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.056			0.056			0.112

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL TOTAL RAIL PASSENGERS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

	ARRIVALS		DEPARTURES			TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.001	17	237	0.005	17	237	0.006
08:00 - 09:00	17	237	0.000	17	237	0.007	17	237	0.007
09:00 - 10:00	17	237	0.000	17	237	0.003	17	237	0.003
10:00 - 11:00	17	237	0.000	17	237	0.002	17	237	0.002
11:00 - 12:00	17	237	0.000	17	237	0.001	17	237	0.001
12:00 - 13:00	17	237	0.000	17	237	0.001	17	237	0.001
13:00 - 14:00	17	237	0.001	17	237	0.000	17	237	0.001
14:00 - 15:00	17	237	0.000	17	237	0.000	17	237	0.000
15:00 - 16:00	17	237	0.003	17	237	0.001	17	237	0.004
16:00 - 17:00	17	237	0.002	17	237	0.000	17	237	0.002
17:00 - 18:00	17	237	0.005	17	237	0.001	17	237	0.006
18:00 - 19:00	17	237	0.004	17	237	0.000	17	237	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Fotal Rates: 0.016 0.021 0.037									

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

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

Licence No: 102301

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL COACH PASSENGERS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

	ARRIVALS		DEPARTURES			TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.000	17	237	0.000	17	237	0.000
08:00 - 09:00	17	237	0.000	17	237	0.002	17	237	0.002
09:00 - 10:00	17	237	0.000	17	237	0.000	17	237	0.000
10:00 - 11:00	17	237	0.000	17	237	0.000	17	237	0.000
11:00 - 12:00	17	237	0.000	17	237	0.000	17	237	0.000
12:00 - 13:00	17	237	0.000	17	237	0.000	17	237	0.000
13:00 - 14:00	17	237	0.000	17	237	0.000	17	237	0.000
14:00 - 15:00	17	237	0.001	17	237	0.000	17	237	0.001
15:00 - 16:00	17	237	0.001	17	237	0.000	17	237	0.001
16:00 - 17:00	17	237	0.000	17	237	0.000	17	237	0.000
17:00 - 18:00	17	237	0.000	17	237	0.000	17	237	0.000
18:00 - 19:00	17	237	0.000	17	237	0.000	17	237	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	Total Rates: 0.002 0.002 0.004								

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL PUBLIC TRANSPORT USERS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.001	17	237	0.014	17	237	0.015
08:00 - 09:00	17	237	0.001	17	237	0.025	17	237	0.026
09:00 - 10:00	17	237	0.001	17	237	0.010	17	237	0.011
10:00 - 11:00	17	237	0.001	17	237	0.004	17	237	0.005
11:00 - 12:00	17	237	0.002	17	237	0.003	17	237	0.005
12:00 - 13:00	17	237	0.002	17	237	0.004	17	237	0.006
13:00 - 14:00	17	237	0.003	17	237	0.004	17	237	0.007
14:00 - 15:00	17	237	0.003	17	237	0.002	17	237	0.005
15:00 - 16:00	17	237	0.021	17	237	0.006	17	237	0.027
16:00 - 17:00	17	237	0.013	17	237	0.004	17	237	0.017
17:00 - 18:00	17	237	0.012	17	237	0.003	17	237	0.015
18:00 - 19:00	17	237	0.014	17	237	0.004	17	237	0.018
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	Total Rates: 0.074 0.083 0.157								

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL TOTAL PEOPLE Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.101	17	237	0.480	17	237	0.581
08:00 - 09:00	17	237	0.191	17	237	0.778	17	237	0.969
09:00 - 10:00	17	237	0.215	17	237	0.318	17	237	0.533
10:00 - 11:00	17	237	0.192	17	237	0.262	17	237	0.454
11:00 - 12:00	17	237	0.196	17	237	0.243	17	237	0.439
12:00 - 13:00	17	237	0.276	17	237	0.252	17	237	0.528
13:00 - 14:00	17	237	0.262	17	237	0.274	17	237	0.536
14:00 - 15:00	17	237	0.307	17	237	0.325	17	237	0.632
15:00 - 16:00	17	237	0.537	17	237	0.303	17	237	0.840
16:00 - 17:00	17	237	0.565	17	237	0.288	17	237	0.853
17:00 - 18:00	17	237	0.651	17	237	0.294	17	237	0.945
18:00 - 19:00	17	237	0.541	17	237	0.356	17	237	0.897
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	otal Rates: 4.034 4.173 8.207								

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

### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL CARS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.044	17	237	0.217	17	237	0.261
08:00 - 09:00	17	237	0.083	17	237	0.272	17	237	0.355
09:00 - 10:00	17	237	0.090	17	237	0.120	17	237	0.210
10:00 - 11:00	17	237	0.079	17	237	0.100	17	237	0.179
11:00 - 12:00	17	237	0.084	17	237	0.090	17	237	0.174
12:00 - 13:00	17	237	0.103	17	237	0.097	17	237	0.200
13:00 - 14:00	17	237	0.102	17	237	0.099	17	237	0.201
14:00 - 15:00	17	237	0.114	17	237	0.126	17	237	0.240
15:00 - 16:00	17	237	0.176	17	237	0.106	17	237	0.282
16:00 - 17:00	17	237	0.194	17	237	0.105	17	237	0.299
17:00 - 18:00	17	237	0.256	17	237	0.108	17	237	0.364
18:00 - 19:00	17	237	0.229	17	237	0.129	17	237	0.358
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	otal Rates: 1.554 1.569 3.123								

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

### TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL LGVS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

		ARRIVALS		1	DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00	17	237	0.013	17	237	0.022	17	237	0.035	
08:00 - 09:00	17	237	0.015	17	237	0.022	17	237	0.037	
09:00 - 10:00	17	237	0.021	17	237	0.020	17	237	0.041	
10:00 - 11:00	17	237	0.018	17	237	0.017	17	237	0.035	
11:00 - 12:00	17	237	0.014	17	237	0.019	17	237	0.033	
12:00 - 13:00	17	237	0.021	17	237	0.016	17	237	0.037	
13:00 - 14:00	17	237	0.018	17	237	0.021	17	237	0.039	
14:00 - 15:00	17	237	0.018	17	237	0.017	17	237	0.035	
15:00 - 16:00	17	237	0.020	17	237	0.019	17	237	0.039	
16:00 - 17:00	17	237	0.020	17	237	0.018	17	237	0.038	
17:00 - 18:00	17	237	0.027	17	237	0.015	17	237	0.042	
18:00 - 19:00	17	237	0.016	17	237	0.015	17	237	0.031	
19:00 - 20:00		L		 						
20:00 - 21:00										
21:00 - 22:00		L								
22:00 - 23:00		L		 						
23:00 - 24:00										
Total Rates: 0.221 0.221 0.442										

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

# TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED **MULTI-MODAL MOTOR CYCLES Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period**

	ARRIVALS		DEPARTURES			TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	17	237	0.000	17	237	0.002	17	237	0.002
08:00 - 09:00	17	237	0.000	17	237	0.002	17	237	0.002
09:00 - 10:00	17	237	0.000	17	237	0.001	17	237	0.001
10:00 - 11:00	17	237	0.000	17	237	0.000	17	237	0.000
11:00 - 12:00	17	237	0.000	17	237	0.001	17	237	0.001
12:00 - 13:00	17	237	0.000	17	237	0.000	17	237	0.000
13:00 - 14:00	17	237	0.001	17	237	0.001	17	237	0.002
14:00 - 15:00	17	237	0.002	17	237	0.001	17	237	0.003
15:00 - 16:00	17	237	0.001	17	237	0.001	17	237	0.002
16:00 - 17:00	17	237	0.002	17	237	0.002	17	237	0.004
17:00 - 18:00	17	237	0.002	17	237	0.001	17	237	0.003
18:00 - 19:00	17	237	0.001	17	237	0.001	17	237	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates: 0.009 0.013 0.022									

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

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

Licence No: 102301

Calculation Reference: AUDIT-102301-210202-0224

#### TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use Category MULTI-N	: 01 - RETAIL : 0 - CONVENIENCE STORE <b>10DAL TOTAL VEHICLES</b>	
Selected re	egions and areas:	

02	SOU	TH EAST	
	ES	EAST SUSSEX	1 days
07	YOR	KSHIRE & NORTH LINCOLNSHIRE	
	NY	NORTH YORKSHIRE	1 days
	WY	WEST YORKSHIRE	1 days
09	NOR	тн	
	DH	DURHAM	1 days

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

#### **Primary Filtering selection:**

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

Parameter:	Gross floor area
Actual Range:	280 to 469 (units: sqm)
Range Selected by User:	200 to 600 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision: Selection by:

Date Range: 01/01/12 to 25/09/19

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

Include all surveys

Selected survey days:	
Monday	2 days
Wednesday	1 days
Thursday	1 days

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

Selected survey types:	
Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:	
Suburban Area (PPS6 Out of Centre)	
Edge of Town	

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

<u>Selected Location Sub Categories:</u> Residential Zone

4

3 1

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

#### Secondary Filtering selection:

<u>Use Class:</u> A1

4 days

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

<u>Population within 500m Range:</u> All Surveys Included

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#### Secondary Filtering selection (Cont.):

Population within 1 mile:	
5,001 to 10,000	1 days
10,001 to 15,000	1 days
20,001 to 25,000	2 days

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

Population within 5 miles:	
5,001 to 25,000	1 days
75,001 to 100,000	1 days
100,001 to 125,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:	
0.6 to 1.0	2 days
1.1 to 1.5	2 days

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

Petrol filling station:	
Included in the survey count	0 days
Excluded from count or no filling station	4 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan: No

4 days

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

PTAL Rating: No PTAL Present

4 days

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

# TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL TOTAL VEHICLES Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

	ARRIVALS			[	DEPARTURES	5	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	3.077	2	293	3.077	2	293	6.154
07:00 - 08:00	4	364	6.809	4	364	6.602	4	364	13.411
08:00 - 09:00	4	364	8.459	4	364	7.428	4	364	15.887
09:00 - 10:00	4	364	5.640	4	364	5.777	4	364	11.417
10:00 - 11:00	4	364	6.602	4	364	6.259	4	364	12.861
11:00 - 12:00	4	364	6.327	4	364	6.465	4	364	12.792
12:00 - 13:00	4	364	8.597	4	364	7.703	4	364	16.300
13:00 - 14:00	4	364	6.121	4	364	5.846	4	364	11.967
14:00 - 15:00	4	364	6.878	4	364	6.946	4	364	13.824
15:00 - 16:00	4	364	8.391	4	364	9.010	4	364	17.401
16:00 - 17:00	4	364	9.078	4	364	8.322	4	364	17.400
17:00 - 18:00	4	364	10.935	4	364	10.248	4	364	21.183
18:00 - 19:00	4	364	11.279	4	364	12.105	4	364	23.384
19:00 - 20:00	4	364	7.221	4	364	8.184	4	364	15.405
20:00 - 21:00	4	364	4.058	4	364	4.814	4	364	8.872
21:00 - 22:00	4	364	2.476	4	364	2.545	4	364	5.021
22:00 - 23:00	1	469	1.919	1	469	2.559	1	469	4.478
23:00 - 24:00									
Total Rates:			113.867			113.890			227.757

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

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

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#### **Parameter summary**

Trip rate parameter range selected:	280 - 469 (units: sqm)
Survey date date range:	01/01/12 - 25/09/19
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

Licence No: 102301

### TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL TAXIS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

		ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00	2	293	0.000	2	293	0.000	2	293	0.000	
07:00 - 08:00	4	364	0.069	4	364	0.069	4	364	0.138	
08:00 - 09:00	4	364	0.138	4	364	0.138	4	364	0.276	
09:00 - 10:00	4	364	0.138	4	364	0.138	4	364	0.276	
10:00 - 11:00	4	364	0.138	4	364	0.138	4	364	0.276	
11:00 - 12:00	4	364	0.069	4	364	0.069	4	364	0.138	
12:00 - 13:00	4	364	0.275	4	364	0.275	4	364	0.550	
13:00 - 14:00	4	364	0.069	4	364	0.069	4	364	0.138	
14:00 - 15:00	4	364	0.069	4	364	0.000	4	364	0.069	
15:00 - 16:00	4	364	0.138	4	364	0.206	4	364	0.344	
16:00 - 17:00	4	364	0.206	4	364	0.138	4	364	0.344	
17:00 - 18:00	4	364	0.000	4	364	0.069	4	364	0.069	
18:00 - 19:00	4	364	0.000	4	364	0.000	4	364	0.000	
19:00 - 20:00	4	364	0.069	4	364	0.069	4	364	0.138	
20:00 - 21:00	4	364	0.000	4	364	0.000	4	364	0.000	
21:00 - 22:00	4	364	0.000	4	364	0.000	4	364	0.000	
22:00 - 23:00	1	469	0.000	1	469	0.000	1	469	0.000	
23:00 - 24:00										
Total Rates:			1.378			1.378			2.756	

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

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

Licence No: 102301

### TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE MULTI-MODAL OGVS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period

	ARRIVALS			[	DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00	2	293	0.000	2	293	0.000	2	293	0.000	
07:00 - 08:00	4	364	0.275	4	364	0.275	4	364	0.550	
08:00 - 09:00	4	364	0.413	4	364	0.275	4	364	0.688	
09:00 - 10:00	4	364	0.206	4	364	0.344	4	364	0.550	
10:00 - 11:00	4	364	0.138	4	364	0.138	4	364	0.276	
11:00 - 12:00	4	364	0.069	4	364	0.069	4	364	0.138	
12:00 - 13:00	4	364	0.069	4	364	0.069	4	364	0.138	
13:00 - 14:00	4	364	0.138	4	364	0.138	4	364	0.276	
14:00 - 15:00	4	364	0.000	4	364	0.000	4	364	0.000	
15:00 - 16:00	4	364	0.069	4	364	0.069	4	364	0.138	
16:00 - 17:00	4	364	0.000	4	364	0.000	4	364	0.000	
17:00 - 18:00	4	364	0.069	4	364	0.069	4	364	0.138	
18:00 - 19:00	4	364	0.000	4	364	0.000	4	364	0.000	
19:00 - 20:00	4	364	0.000	4	364	0.000	4	364	0.000	
20:00 - 21:00	4	364	0.000	4	364	0.000	4	364	0.000	
21:00 - 22:00	4	364	0.000	4	364	0.000	4	364	0.000	
22:00 - 23:00	1	469	0.000	1	469	0.000	1	469	0.000	
23:00 - 24:00										
Total Rates:			1.446			1.446			2.892	

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

### TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL CYCLISTS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	0.342	2	293	0.342	2	293	0.684
07:00 - 08:00	4	364	0.413	4	364	0.481	4	364	0.894
08:00 - 09:00	4	364	0.619	4	364	0.619	4	364	1.238
09:00 - 10:00	4	364	0.275	4	364	0.138	4	364	0.413
10:00 - 11:00	4	364	0.344	4	364	0.344	4	364	0.688
11:00 - 12:00	4	364	0.206	4	364	0.275	4	364	0.481
12:00 - 13:00	4	364	0.138	4	364	0.069	4	364	0.207
13:00 - 14:00	4	364	0.000	4	364	0.069	4	364	0.069
14:00 - 15:00	4	364	0.069	4	364	0.069	4	364	0.138
15:00 - 16:00	4	364	0.069	4	364	0.069	4	364	0.138
16:00 - 17:00	4	364	0.688	4	364	0.619	4	364	1.307
17:00 - 18:00	4	364	0.550	4	364	0.481	4	364	1.031
18:00 - 19:00	4	364	0.688	4	364	0.688	4	364	1.376
19:00 - 20:00	4	364	0.000	4	364	0.138	4	364	0.138
20:00 - 21:00	4	364	0.000	4	364	0.000	4	364	0.000
21:00 - 22:00	4	364	0.000	4	364	0.000	4	364	0.000
22:00 - 23:00	1	469	0.000	1	469	0.000	1	469	0.000
23:00 - 24:00									
Total Rates:			4.401			4.401			8.802

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

# TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL VEHICLE OCCUPANTS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

		ARRIVALS			DEPARTURES	5		TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	3.419	2	293	3.419	2	293	6.838
07:00 - 08:00	4	364	7.978	4	364	7.497	4	364	15.475
08:00 - 09:00	4	364	11.692	4	364	10.523	4	364	22.215
09:00 - 10:00	4	364	6.809	4	364	7.153	4	364	13.962
10:00 - 11:00	4	364	7.565	4	364	6.809	4	364	14.374
11:00 - 12:00	4	364	8.459	4	364	8.391	4	364	16.850
12:00 - 13:00	4	364	10.179	4	364	9.422	4	364	19.601
13:00 - 14:00	4	364	7.497	4	364	7.497	4	364	14.994
14:00 - 15:00	4	364	7.703	4	364	7.428	4	364	15.131
15:00 - 16:00	4	364	11.554	4	364	12.311	4	364	23.865
16:00 - 17:00	4	364	12.380	4	364	11.417	4	364	23.797
17:00 - 18:00	4	364	13.755	4	364	12.930	4	364	26.685
18:00 - 19:00	4	364	14.099	4	364	15.268	4	364	29.367
19:00 - 20:00	4	364	9.491	4	364	10.316	4	364	19.807
20:00 - 21:00	4	364	5.502	4	364	6.396	4	364	11.898
21:00 - 22:00	4	364	3.370	4	364	3.645	4	364	7.015
22:00 - 23:00	1	469	2.772	1	469	3.625	1	469	6.397
23:00 - 24:00									
Total Rates:			144.224			144.047			288.271

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

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

Licence No: 102301

# TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL PEDESTRIANS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

		ARRIVALS		[	DEPARTURES	5		TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	2.906	2	293	2.906	2	293	5.812
07:00 - 08:00	4	364	2.889	4	364	2.407	4	364	5.296
08:00 - 09:00	4	364	5.089	4	364	5.021	4	364	10.110
09:00 - 10:00	4	364	4.470	4	364	4.195	4	364	8.665
10:00 - 11:00	4	364	3.851	4	364	3.370	4	364	7.221
11:00 - 12:00	4	364	4.952	4	364	4.333	4	364	9.285
12:00 - 13:00	4	364	5.089	4	364	5.365	4	364	10.454
13:00 - 14:00	4	364	5.640	4	364	6.052	4	364	11.692
14:00 - 15:00	4	364	4.952	4	364	5.158	4	364	10.110
15:00 - 16:00	4	364	8.941	4	364	7.978	4	364	16.919
16:00 - 17:00	4	364	6.465	4	364	6.602	4	364	13.067
17:00 - 18:00	4	364	5.158	4	364	5.296	4	364	10.454
18:00 - 19:00	4	364	7.634	4	364	8.184	4	364	15.818
19:00 - 20:00	4	364	4.333	4	364	5.365	4	364	9.698
20:00 - 21:00	4	364	3.370	4	364	3.370	4	364	6.740
21:00 - 22:00	4	364	2.270	4	364	2.613	4	364	4.883
22:00 - 23:00	1	469	0.000	1	469	0.000	1	469	0.000
23:00 - 24:00									
Total Rates:			78.009			78.215			156.224

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

# TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL BUS/TRAM PASSENGERS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

	ARRIVALS				DEPARTURES		TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	0.000	2	293	0.000	2	293	0.000
07:00 - 08:00	4	364	0.069	4	364	0.138	4	364	0.207
08:00 - 09:00	4	364	0.000	4	364	0.069	4	364	0.069
09:00 - 10:00	4	364	0.069	4	364	0.206	4	364	0.275
10:00 - 11:00	4	364	0.069	4	364	0.000	4	364	0.069
11:00 - 12:00	4	364	0.275	4	364	0.069	4	364	0.344
12:00 - 13:00	4	364	0.138	4	364	0.069	4	364	0.207
13:00 - 14:00	4	364	0.413	4	364	0.275	4	364	0.688
14:00 - 15:00	4	364	0.275	4	364	0.069	4	364	0.344
15:00 - 16:00	4	364	0.138	4	364	0.138	4	364	0.276
16:00 - 17:00	4	364	0.206	4	364	0.069	4	364	0.275
17:00 - 18:00	4	364	0.138	4	364	0.069	4	364	0.207
18:00 - 19:00	4	364	0.069	4	364	0.069	4	364	0.138
19:00 - 20:00	4	364	0.000	4	364	0.000	4	364	0.000
20:00 - 21:00	4	364	0.000	4	364	0.000	4	364	0.000
21:00 - 22:00	4	364	0.000	4	364	0.000	4	364	0.000
22:00 - 23:00	1	469	0.000	1	469	0.000	1	469	0.000
23:00 - 24:00									
Total Rates:			1.859			1.240			3.099

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

# TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE MULTI-MODAL TOTAL RAIL PASSENGERS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	0.000	2	293	0.000	2	293	0.000
07:00 - 08:00	4	364	0.000	4	364	0.206	4	364	0.206
08:00 - 09:00	4	364	0.000	4	364	0.069	4	364	0.069
09:00 - 10:00	4	364	0.000	4	364	0.000	4	364	0.000
10:00 - 11:00	4	364	0.000	4	364	0.000	4	364	0.000
11:00 - 12:00	4	364	0.000	4	364	0.000	4	364	0.000
12:00 - 13:00	4	364	0.000	4	364	0.000	4	364	0.000
13:00 - 14:00	4	364	0.000	4	364	0.000	4	364	0.000
14:00 - 15:00	4	364	0.000	4	364	0.000	4	364	0.000
15:00 - 16:00	4	364	0.000	4	364	0.000	4	364	0.000
16:00 - 17:00	4	364	0.000	4	364	0.000	4	364	0.000
17:00 - 18:00	4	364	0.206	4	364	0.000	4	364	0.206
18:00 - 19:00	4	364	0.138	4	364	0.000	4	364	0.138
19:00 - 20:00	4	364	0.000	4	364	0.000	4	364	0.000
20:00 - 21:00	4	364	0.000	4	364	0.000	4	364	0.000
21:00 - 22:00	4	364	0.000	4	364	0.000	4	364	0.000
22:00 - 23:00	1	469	0.000	1	469	0.000	1	469	0.000
23:00 - 24:00									
Total Rates:			0.344			0.275			0.619

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

# TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL PUBLIC TRANSPORT USERS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	0.000	2	293	0.000	2	293	0.000
07:00 - 08:00	4	364	0.069	4	364	0.344	4	364	0.413
08:00 - 09:00	4	364	0.000	4	364	0.138	4	364	0.138
09:00 - 10:00	4	364	0.069	4	364	0.206	4	364	0.275
10:00 - 11:00	4	364	0.069	4	364	0.000	4	364	0.069
11:00 - 12:00	4	364	0.275	4	364	0.069	4	364	0.344
12:00 - 13:00	4	364	0.138	4	364	0.069	4	364	0.207
13:00 - 14:00	4	364	0.413	4	364	0.275	4	364	0.688
14:00 - 15:00	4	364	0.275	4	364	0.069	4	364	0.344
15:00 - 16:00	4	364	0.138	4	364	0.138	4	364	0.276
16:00 - 17:00	4	364	0.206	4	364	0.069	4	364	0.275
17:00 - 18:00	4	364	0.344	4	364	0.069	4	364	0.413
18:00 - 19:00	4	364	0.206	4	364	0.069	4	364	0.275
19:00 - 20:00	4	364	0.000	4	364	0.000	4	364	0.000
20:00 - 21:00	4	364	0.000	4	364	0.000	4	364	0.000
21:00 - 22:00	4	364	0.000	4	364	0.000	4	364	0.000
22:00 - 23:00	1	469	0.000	1	469	0.000	1	469	0.000
23:00 - 24:00									
Total Rates:			2.202			1.515			3.717

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

# TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE **MULTI-MODAL TOTAL PEOPLE Calculation factor: 100 sqm BOLD print indicates peak (busiest) period**

	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	293	6.667	2	293	6.667	2	293	13.334
07:00 - 08:00	4	364	11.348	4	364	10.729	4	364	22.077
08:00 - 09:00	4	364	17.400	4	364	16.300	4	364	33.700
09:00 - 10:00	4	364	11.623	4	364	11.692	4	364	23.315
10:00 - 11:00	4	364	11.829	4	364	10.523	4	364	22.352
11:00 - 12:00	4	364	13.893	4	364	13.067	4	364	26.960
12:00 - 13:00	4	364	15.543	4	364	14.924	4	364	30.467
13:00 - 14:00	4	364	13.549	4	364	13.893	4	364	27.442
14:00 - 15:00	4	364	12.999	4	364	12.724	4	364	25.723
15:00 - 16:00	4	364	20.702	4	364	20.495	4	364	41.197
16:00 - 17:00	4	364	19.739	4	364	18.707	4	364	38.446
17:00 - 18:00	4	364	19.807	4	364	18.776	4	364	38.583
18:00 - 19:00	4	364	22.627	4	364	24.209	4	364	46.836
19:00 - 20:00	4	364	13.824	4	364	15.818	4	364	29.642
20:00 - 21:00	4	364	8.872	4	364	9.766	4	364	18.638
21:00 - 22:00	4	364	5.640	4	364	6.259	4	364	11.899
22:00 - 23:00	1	469	2.772	1	469	3.625	1	469	6.397
23:00 - 24:00									
Total Rates:			228.834			228.174			457.008

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



Land West of Sodbury Road, Wickwar

Appendix I Junction Analysis Outputs


Junctions 9				
PICADY 9 - Priority Intersection Module				
Version: 9.5.0.6896 © Copyright TRL Limited, 2018				
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution				

Filename: Northern Access J01 (Direct-180).j9 Path: M:\BS1192\B05313-South Farm, Wickwar\01_WIP\RP_Report\Transport Planning\Modelling\Northern Access Report generation date: 29/09/21 09:16:09

»2027 Forecast, AM »2027 Forecast , PM

## Summary of junction performance

	AM			PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	2027 Forecast							
Stream B-AC	0.2	11.71	0.15	В	0.1	11.43	0.12	В
Stream C-AB	0.0	6.31	0.02	Α	0.1	6.38	0.05	А

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	Wickwar
Location	Northern Access
Site number	
Date	15/02/21
Version	
Status	(new file)
Identifier	J01
Client	Bloor Homes
Jobnumber	B05313
Enumerator	CLARKEBOND\matthew.knight
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	Veh	Veh	perHour	s	-Min	perMin

## **Analysis Options**

Calculate Queue Percentiles	Calculate residual capacity	<b>RFC</b> Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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 period length (min)	Time segment length (min)
D1	2027 Forecast	AM	DIRECT	07:45	09:15	90	15
D2	2027 Forecast	PM	DIRECT	16:15	17:45	90	15

## Analysis Set Details

ID	Network flow scaling factor (%)
<b>A1</b>	100.000



# 2027 Forecast, AM

## **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D1 - 2027 Forecast, AM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.57	А

## **Junction Network Options**

Driving side	Lighting
Left	Normal/unknown

## Arms

#### Arms

Arm	Name	Description	Arm type
Α	B4060 South		Major
в	Northern Access		Minor
С	B4060 North		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)
С	7.20			250.0	~	1.00

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

## **Minor Arm Geometry**

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
в	One lane	3.25	30	15

## Slope / Intercept / Capacity

#### **Priority Intersection Slopes and Intercepts**

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	507	0.087	0.221	0.139	0.316
1	B-C	649	0.094	0.238	-	-
1	C-B	719	0.264	0.264	-	-

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 period length (min)	Time segment length (min)
D1	2027 Forecast	AM	DIRECT	07:45	09:15	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
Α		~	100.000
в		~	100.000
С		~	100.000

## **Origin-Destination Data**

## Demand (Veh/hr)

	То					
		Α	В	c		
	Α	0	18	537		
From	в	30	0	24		
	С	625	14	0		

## Vehicle Mix

## Heavy Vehicle Percentages

		То					
From		Α	в	С			
	Α	0	0	2			
	в	0	0	0			
	С	2	0	0			

## Results

## **Results Summary for whole modelled period**

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.15	11.71	0.2	В
C-AB	0.02	6.31	0.0	A
C-A				
A-B				
A-C				



## Main Results for each time segment

## 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	361	0.149	53	0.2	11.656	В
C-AB	14	585	0.025	14	0.0	6.305	А
C-A	625			625			
A-B	18			18			
A-C	537			537			

## 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	361	0.149	54	0.2	11.707	В
C-AB	14	585	0.025	14	0.0	6.308	A
C-A	625			625			
A-B	18			18			
A-C	537			537			

## 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	361	0.149	54	0.2	11.707	В
C-AB	14	585	0.025	14	0.0	6.308	A
C-A	625			625			
A-B	18			18			
A-C	537			537			

## 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	361	0.149	54	0.2	11.707	В
C-AB	14	585	0.025	14	0.0	6.308	A
C-A	625			625			
A-B	18			18			
A-C	537			537			

## 08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	361	0.149	54	0.2	11.707	В
C-AB	14	585	0.025	14	0.0	6.308	A
C-A	625			625			
A-B	18			18			
A-C	537			537			

## 09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	361	0.149	54	0.2	11.707	В
C-AB	14	585	0.025	14	0.0	6.305	А
C-A	625			625			
A-B	18			18			
A-C	537			537			



# 2027 Forecast, PM

## **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D2 - 2027 Forecast , PM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.51	А

## **Junction Network Options**

Driving side	Lighting	
Left	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 period length (min)	Time segment length (min)
D2	2027 Forecast	PM	DIRECT	16:15	17:45	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
Α		~	100.000
в		✓	100.000
С		✓	100.000

## **Origin-Destination Data**

#### Demand (Veh/hr)

	То				
		Α	в	С	
<b>F</b>	Α	0	34	550	
From	в	23	0	18	
	С	608	27	0	

## Vehicle Mix

#### **Heavy Vehicle Percentages**

	То				
		Α	в	С	
<b>F</b>	Α	0	0	1	
From	в	0	0	0	
	С	1	0	0	



## Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.12	11.43	0.1	В
C-AB	0.05	6.38	0.1	A
C-A				
A-B				
A-C				

## Main Results for each time segment

## 16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	356	0.115	40	0.1	11.392	В
C-AB	28	593	0.048	28	0.1	6.376	A
C-A	607			607			
A-B	34			34			
A-C	550			550			

#### 16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	356	0.115	41	0.1	11.430	В
C-AB	28	593	0.048	28	0.1	6.381	А
C-A	607			607			
A-B	34			34			
A-C	550			550			

#### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	356	0.115	41	0.1	11.430	В
C-AB	28	593	0.048	28	0.1	6.381	А
C-A	607			607			
A-B	34			34			
A-C	550			550			

## 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	356	0.115	41	0.1	11.430	В
C-AB	28	593	0.048	28	0.1	6.378	А
C-A	607			607			
A-B	34			34			
A-C	550			550			



## 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	356	0.115	41	0.1	11.430	В
C-AB	28	593	0.048	28	0.1	6.378	A
C-A	607			607			
A-B	34			34			
A-C	550			550			

## 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	356	0.115	41	0.1	11.430	В
C-AB	28	593	0.048	28	0.1	6.378	А
C-A	607			607			
A-B	34			34			
A-C	550			550			



Junctions 9
PICADY 9 - Priority Intersection Module
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Filename: Southern Access J02 (Direct-180).j9 Path: M:\BS1192\B05313-South Farm, Wickwar\01_WIP\RP_Report\Transport Planning\Modelling\Southern Access Report generation date: 29/09/21 09:22:15

»2027 Forecast, AM »2027 Forecast, PM

## Summary of junction performance

	AM			PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
			20	027 Fo	orecast			
Stream B-AC	0.2	11.60	0.15	В	0.1	11.46	0.12	В
Stream C-AB	0.0	6.36	0.02	Α	0.1	6.52	0.05	А

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	Wickwar
Location	Southern Access
Site number	
Date	15/02/21
Version	
Status	(new file)
Identifier	J02
Client	Bloor Homes
Jobnumber	B05313
Enumerator	CLARKEBOND\matthew.knight
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	Veh	Veh	perHour	s	-Min	perMin

## **Analysis Options**

Calculate Queue Percentiles	Calculate Queue Percentiles Calculate residual capacity F		Average Delay threshold (s)	Queue threshold (PCU)
		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 period length (min)	Time segment length (min)
D1	2027 Forecast	AM	DIRECT	07:45	09:15	90	15
D2	2027 Forecast	PM	DIRECT	16:15	17:45	90	15

## Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000



# 2027 Forecast, AM

## **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D1 - 2027 Forecast, AM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.56	А

## **Junction Network Options**

Driving side	Lighting
Left	Normal/unknown

## Arms

#### Arms

Arm	Name	Description	Arm type
Α	B4060 South		Major
в	Southern Access		Minor
С	B4060 North		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 - B4060 North	6.10			250.0	~	1.00

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

## **Minor Arm Geometry**

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Southern Access	One lane	3.25	45	48

## Slope / Intercept / Capacity

#### **Priority Intersection Slopes and Intercepts**

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	529	0.096	0.242	0.152	0.346
1	B-C	671	0.102	0.259	-	-
1	C-B	719	0.277	0.277	-	-

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 period length (min)	Time segment length (min)
D1	2027 Forecast	AM	DIRECT	07:45	09:15	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - B4060 South		✓	100.000
B - Southern Access		~	100.000
C - B4060 North		✓	100.000

## **Origin-Destination Data**

## Demand (Veh/hr)

	То							
		A - B4060 South	B - Southern Access	C - B4060 North				
<b>F</b>	A - B4060 South	0	18	531				
From	B - Southern Access	30	0	24				
	C - B4060 North	641	14	0				

## Vehicle Mix

## Heavy Vehicle Percentages

	То							
		A - B4060 South	B - Southern Access	C - B4060 North				
-	A - B4060 South	0	0	2				
From	B - Southern Access	0	0	0				
	C - B4060 North	2	0	0				

## Results

## **Results Summary for whole modelled period**

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.15	11.60	0.2	В
C-AB	0.02	6.36	0.0	A
C-A				
A-B				
A-C				



## Main Results for each time segment

## 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	364	0.148	53	0.2	11.552	В
C-AB	14	580	0.025	14	0.0	6.364	А
C-A	641			641			
A-B	18			18			
A-C	531			531			

## 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	364	0.148	54	0.2	11.603	В
C-AB	14	580	0.025	14	0.0	6.364	А
C-A	641			641			
A-B	18			18			
A-C	531			531			

## 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	364	0.148	54	0.2	11.603	В
C-AB	14	580	0.025	14	0.0	6.364	A
C-A	641			641			
A-B	18			18			
A-C	531			531			

## 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	364	0.148	54	0.2	11.603	В
C-AB	14	580	0.025	14	0.0	6.364	A
C-A	641			641			
A-B	18			18			
A-C	531			531			

## 08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	364	0.148	54	0.2	11.603	В
C-AB	14	580	0.025	14	0.0	6.364	А
C-A	641			641			
A-B	18			18			
A-C	531			531			

## 09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	54	364	0.148	54	0.2	11.603	В
C-AB	14	580	0.025	14	0.0	6.364	A
C-A	641			641			
A-B	18			18			
A-C	531			531			



# 2027 Forecast, PM

## **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D2 - 2027 Forecast, PM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.51	А

## **Junction Network Options**

Driving side	Lighting
Left	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 period length (min)	Time segment length (min)
D2	2027 Forecast	PM	DIRECT	16:15	17:45	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - B4060 South		✓	100.000
B - Southern Access		✓	100.000
C - B4060 North		✓	100.000

## **Origin-Destination Data**

#### Demand (Veh/hr)

		То							
		A - B4060 South	B - Southern Access	C - B4060 North					
<b>F</b>	A - B4060 South	0	34	566					
From	B - Southern Access	23	0	18					
	C - B4060 North	604	27	0					

## Vehicle Mix

#### **Heavy Vehicle Percentages**

		1	Го	
From		A - B4060 South	B - Southern Access	C - B4060 North
	A - B4060 South	0	0	1
	B - Southern Access	0	0	0
	C - B4060 North	1	0	0



## Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.12	11.46	0.1	В
C-AB	0.05	6.52	0.1	A
C-A				
A-B				
A-C				

## Main Results for each time segment

## 16:15 - 16:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	hroughput (Veh/hr) End queue (Veh)		Unsignalised level of service	
B-AC	41	355	0.115	40	0.1	0.1 11.426		
C-AB	28	581	0.049	28	0.1	6.513	A	
C-A	603			603				
A-B	34			34				
A-C	566			566				

#### 16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	355	0.116	41	0.1	11.464	В
C-AB	28	581	0.049	28	0.1 6.519		А
C-A	603			603			
A-B	34			34			
A-C	566			566			

#### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh) Delay (s)		Unsignalised level of service
B-AC	41	355	0.116	41	0.1	11.464	В
C-AB	28	581	0.049	28	0.1	6.519	A
C-A	603			603			
A-B	34			34			
A-C	566			566			

## 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh) Delay (s)		Throughput (Veh/hr)         End queue (Veh)         Delay (s)         Ur lev		Unsignalised level of service
B-AC	41	355	0.116	41	0.1	11.464	В		
C-AB	28	581	0.049	28	0.1	6.516	А		
C-A	603			603					
A-B	34			34					
A-C	566			566					



## 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (Veh/hr) End queue (Veh) Delay (s)		Unsignalised level of service
B-AC	41	355	0.116	41	0.1	11.464	В
C-AB	28	581	0.049	28	0.1	6.516	A
C-A	603			603			
A-B	34			34			
A-C	566			566			

## 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	355	0.116	41 0.1 11.464		11.464	В
C-AB	28	581	0.049	28	0.1	6.516	А
C-A	603			603			
A-B	34			34			
A-C	566			566			



Junctions 9	
ARCADY 9 - Roundabout Module	
Version: 9.5.0.6896 © Copyright TRL Limited, 2018	
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**Filename:** J03-B4060,Amberley Way Mini Roundabout. (Direct-180).j9 **Path:** M:\BS1192\B05313-South Farm, Wickwar\01_WIP\RP_Report\Transport Planning\Modelling\B4060-Amberley Way Mini Roundabout

Report generation date: 28/09/21 15:48:25

## «2027 Growth+CD+PD, PM

»Junction Network »Arms »Traffic Demand »Origin-Destination Data »Vehicle Mix »Results

## Summary of junction performance

		AM				PM	PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS		
				2016	Base					
1 - Sodbury Road N	1.1	7.94	0.52	А	0.9	7.07	0.46	А		
2 - Amberley Way	0.1	7.58	0.10	Α	0.0	6.53	0.04	А		
3 - Sodbury Road S	0.8	7.24	0.46	А	0.9	7.37	0.48	А		
			2	027 G	Growth					
1 - Sodbury Road N	1.5	9.55	0.60	Α	1.1	8.09	0.53	А		
2 - Amberley Way	0.1	8.55	0.12	Α	0.0	7.03	0.04	А		
3 - Sodbury Road S	1.1	8.36	0.53	А	1.2	8.49	0.55	А		
			202	7 Gro	owth+CD					
1 - Sodbury Road N	1.6	9.81	0.61	А	1.2	8.52	0.55	A		
2 - Amberley Way	0.1	8.68	0.12	Α	0.0	7.22	0.04	А		
3 - Sodbury Road S	1.3	8.90	0.56	Α	1.3	8.78	0.56	А		
			2027	Grow	th+CD+PD					
1 - Sodbury Road N	1.8	10.65	0.64	В	1.6	9.79	0.61	А		
2 - Amberley Way	0.1	9.07	0.13	А	0.0	7.74	0.05	А		
3 - Sodbury Road S	1.6	10.09	0.61	В	1.5	9.65	0.60	А		

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	Wickwar
Location	Mini Roundabout-Amberley Way
Site number	
Date	17/03/21
Version	
Status	(new file)
Identifier	J03
Client	Bloor Homes
Jobnumber	B05313
Enumerator	CLARKEBOND\matthew.knight
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	Veh	Veh	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

## **Analysis Set Details**

ID	Network flow scaling factor (%)
A1	100.000

## **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D8	2027 Growth+CD+PD	PM	DIRECT	16:45	18:15	90	15



# 2027 Growth+CD+PD, PM

## **Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 98% of the total flow for the roundabout for one or more time segments]
Warning	Profile Type	D8 - 2027 Growth+CD+PD, PM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

## Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
J03	B4060/Amberley Way	Mini-roundabout		1, 2, 3	9.68	A

## **Junction Network Options**

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

## Arms

#### Arms

Arm	Name	Description
1	Sodbury Road N	
2	Amberley Way	
3	Sodbury Road S	

#### **Mini Roundabout Geometry**

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Sodbury Road N	3.50	3.30	3.90	5.0	11.70	9.30	0.0	✓
2 - Amberley Way	2.60	2.60	3.80	4.0	10.60	7.80	0.0	
3 - Sodbury Road S	3.40	3.20	3.80	3.0	15.00	14.10	0.0	✓

## Slope / Intercept / Capacity

## Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Sodbury Road N	0.508	971
2 - Amberley Way	0.599	824
3 - Sodbury Road S	0.516	944

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

## **Traffic Demand**

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



## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Sodbury Road N		✓	100.000
2 - Amberley Way		~	100.000
3 - Sodbury Road S		✓	100.000

## **Origin-Destination Data**

## Demand (Veh/hr)

	То							
		1 - Sodbury Road N	2 - Amberley Way	3 - Sodbury Road S				
From	1 - Sodbury Road N	0	23	553				
From	2 - Amberley Way	8	0	15				
	3 - Sodbury Road S	534	27	0				

## Vehicle Mix

#### Heavy Vehicle Percentages

	То							
		1 - Sodbury Road N	2 - Amberley Way	3 - Sodbury Road S				
-	1 - Sodbury Road N	0	0	1				
From	2 - Amberley Way	0	0	0				
	3 - Sodbury Road S	1	0	0				

## Results

## **Results Summary for whole modelled period**

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Sodbury Road N	0.61	9.79	1.6	А
2 - Amberley Way	0.05	7.74	0.0	A
3 - Sodbury Road S	0.60	9.65	1.5	А

## Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Sodbury Road N	576	27	944	0.610	570	1.5	9.481	А
2 - Amberley Way	23	547	492	0.047	23	0.0	7.674	А
3 - Sodbury Road S	561	8	934	0.601	555	1.5	9.367	А

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Sodbury Road N	576	27	944	0.610	576	1.5	9.783	А
2 - Amberley Way	23	553	488	0.047	23	0.0	7.738	A
3 - Sodbury Road S	561	8	934	0.601	561	1.5	9.647	A



## 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Sodbury Road N	576	27	944	0.610	576	1.6	9.786	А
2 - Amberley Way	23	553	488	0.047	23	0.0	7.738	А
3 - Sodbury Road S	561	8	934	0.601	561	1.5	9.650	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Sodbury Road N	576	27	944	0.610	576	1.6	9.788	A
2 - Amberley Way	23	553	488	0.047	23	0.0	7.738	А
3 - Sodbury Road S	561	8	934	0.601	561	1.5	9.652	A

## 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Sodbury Road N	576	27	944	0.610	576	1.6	9.788	A
2 - Amberley Way	23	553	488	0.047	23	0.0	7.738	А
3 - Sodbury Road S	561	8	934	0.601	561	1.5	9.652	A

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Sodbury Road N	576	27	944	0.610	576	1.6	9.790	A
2 - Amberley Way	23	553	488	0.047	23	0.0	7.738	А
3 - Sodbury Road S	561	8	934	0.601	561	1.5	9.654	A



# Junctions 9 PICADY 9 - Priority Intersection Module Version: 9.5.0.6896 © Copyright TRL Limited, 2018 For sales and distribution information, program advice and maintenance, contact TRL:<br/>+44 (0)1344 379777 Software@trl.co.uk www.trlsoftware.co.uk

Filename: J04-Station Road, The Downs, High Street (Direct-180) 2021 Survey.j9 Path: M:\BS1192\B05313-South Farm, Wickwar\01_WIP\RP_Report\Transport Planning\Modelling\Station Road-The Downs-High Street

Report generation date: 28/09/21 12:10:47

»2021 Base, AM
»2021 Base, PM
»2027 Growth, AM
»2027 Growth, PM
»2027 Growth+CD, AM
»2027 Growth+CD, PM
»2027 Growth+CD+PD, AM
»2027 Growth+CD+PD, PM

## Summary of junction performance

		AM				РМ		
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
				2021	Base			
Stream B-C	0.1	8.76	0.05	Α	0.1	9.27	0.07	A
Stream B-A	0.7	15.02	0.42	С	1.3	19.52	0.57	С
Stream C-AB	0.1	6.14	0.07	А	0.1	6.45	0.06	А
			2	027 0	Growth			
Stream B-C	0.1	8.17	0.05	Α	0.1	10.99	0.09	В
Stream B-A	0.9	16.82	0.47	С	1.8	24.44	0.65	С
Stream C-AB	0.1	6.05	0.08	Α	0.1	6.27	0.06	А
			202	7 Gro	owth+CD			
Stream B-C	0.1	8.48	0.06	Α	0.1	12.65	0.10	В
Stream B-A	1.0	17.86	0.50	С	2.3	28.74	0.70	D
Stream C-AB	0.1	6.09	0.08	Α	0.1	6.28	0.06	А
	2027 Growth+CD+PD							
Stream B-C	0.1	9.48	0.06	А	0.2	22.72	0.16	С
Stream B-A	1.3	21.12	0.57	С	4.3	47.55	0.82	Е
Stream C-AB	0.1	6.16	0.08	A	0.1	6.30	0.06	А

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	Wickwar
Location	Station Road-The Downs-High Street
Site number	
Date	22/03/21
Version	
Status	(new file)
Identifier	
Client	Bloor Homes
Jobnumber	B05313
Enumerator	CLARKEBOND\matthew.knight
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	Veh	Veh	perHour	s	-Min	perMin

## **Analysis Options**

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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 period length (min)	Time segment length (min)
D1	2021 Base	AM	DIRECT	07:45	09:15	90	15
D2	2021 Base	PM	DIRECT	16:45	18:15	90	15
D3	2027 Growth	AM	DIRECT	07:45	09:15	90	15
D4	2027 Growth	PM	DIRECT	16:45	18:15	90	15
D5	2027 Growth+CD	AM	DIRECT	07:45	09:15	90	15
D6	2027 Growth+CD	PM	DIRECT	16:45	18:15	90	15
D7	2027 Growth+CD+PD	AM	DIRECT	07:45	09:15	90	15
D8	2027 Growth+CD+PD	PM	DIRECT	16:45	18:15	90	15

## **Analysis Set Details**

ID	Network flow scaling factor (%)
A1	100.000



# 2021 Base, AM

## **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D1 - 2021 Base, AM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.96	А

## **Junction Network Options**

Driving side	Lighting
Left	Normal/unknown

## Arms

#### Arms

Arm	Name	Description	Arm type
Α	High Street		Major
в	The Downs		Minor
С	Station Road		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 - Station Road	6.00			32.0	~	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	Width at	Width at	Width at	Width at	Width at	Estimate flare	Flare length	Visibility to	Visibility to
	type	give-way (m)	5m (m)	10m (m)	15m (m)	20m (m)	length	(PCU)	left (m)	right (m)
B - The Downs	One lane plus flare	8.30	4.10	3.10	3.00	2.40		1.00	24	26

## Slope / Intercept / Capacity

## **Priority Intersection Slopes and Intercepts**

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	524	0.095	0.241	0.152	0.345
1	B-C	660	0.101	0.256	-	-
1	C-B	592	0.230	0.230	-	-

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 period length (min)	Time segment length (min)
D1	2021 Base	AM	DIRECT	07:45	09:15	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		✓	100.000
B - The Downs		~	100.000
C - Station Road		✓	100.000

## **Origin-Destination Data**

## Demand (Veh/hr)

		То						
		A - High Street	B - The Downs	C - Station Road				
-	A - High Street	0	214	154				
From	B - The Downs	176	0	23				
	C - Station Road	194	31	0				

## Vehicle Mix

## Heavy Vehicle Percentages

		То						
		A - High Street	B - The Downs	C - Station Road				
-	A - High Street	0	0	2				
From	B - The Downs	2	0	13				
	C - Station Road	4	3	0				

## Results

## **Results Summary for whole modelled period**

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.05	8.76	0.1	A
B-A	0.42	15.02	0.7	С
C-AB	0.07	6.14	0.1	А
C-A				
A-B				
A-C				



## Main Results for each time segment

## 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	437	0.053	23	0.1	8.696	А
B-A	176	416	0.423	173	0.7	14.672	В
C-AB	45	631	0.071	44	0.1	6.131	A
C-A	180			180			
A-B	214			214			
A-C	154			154			

## 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	434	0.053	23	0.1	8.760	А
B-A	176	416	0.423	176	0.7	15.010	С
C-AB	45	631	0.071	45	0.1	6.140	A
C-A	180			180			
A-B	214			214			
A-C	154			154			

#### 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	434	0.053	23	0.1	8.761	А
B-A	176	416	0.423	176	0.7	15.016	С
C-AB	45	631	0.071	45	0.1	6.143	A
C-A	180			180			
A-B	214			214			
A-C	154			154			

#### 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	434	0.053	23	0.1	8.761	А
B-A	176	416	0.423	176	0.7	15.016	С
C-AB	45	631	0.071	45	0.1	6.140	A
C-A	180			180			
A-B	214			214			
A-C	154			154			

## 08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	434	0.053	23	0.1	8.761	А
B-A	176	416	0.423	176	0.7	15.019	С
C-AB	45	631	0.071	45	0.1	6.143	А
C-A	180			180			
A-B	214			214			
<b>A</b> -C	154			154			



## 09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	434	0.053	23	0.1	8.761	А
B-A	176	416	0.423	176	0.7	15.019	С
C-AB	45	631	0.071	45	0.1	6.143	А
C-A	180			180			
ΑB	214			214			
A-C	154			154			



# 2021 Base, PM

## **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D2 - 2021 Base, PM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		6.78	А

## **Junction Network Options**

Driving side	Lighting
Left	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 period length (min)	Time segment length (min)
D2	2021 Base	PM	DIRECT	16:45	18:15	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		✓	100.000
B - The Downs		✓	100.000
C - Station Road		✓	100.000

## **Origin-Destination Data**

#### Demand (Veh/hr)

	То							
		A - High Street	B - The Downs	C - Station Road				
<b>F</b>	A - High Street	0	141	199				
From	B - The Downs	243	0	28				
	C - Station Road	135	26	0				

## **Vehicle Mix**

## **Heavy Vehicle Percentages**

		То							
		A - High Street	B - The Downs	C - Station Road					
<b>F</b>	A - High Street	0	0	0					
From	B - The Downs	1	0	0					
	C - Station Road	2	4	0					



## Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.07	9.27	0.1	A
B-A	0.57	19.52	1.3	С
C-AB	0.06	6.45	0.1	A
C-A				
A-B				
A-C				

## Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	28	424	0.066	28	0.1	9.088	А
B-A	243	427	0.569	238	1.3	18.552	С
C-AB	34	592	0.057	33	0.1	6.444	A
C-A	127			127			
A-B	141			141			
A-C	199			199			

## 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	28	417	0.067	28	0.1	9.265	А
B-A	243	427	0.569	243	1.3	19.486	С
C-AB	34	592	0.057	34	0.1	6.454	А
C-A	127			127			
A-B	141			141			
A-C	199			199			

#### 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	28	416	0.067	28	0.1	9.269	А
B-A	243	427	0.569	243	1.3	19.509	С
C-AB	34	592	0.057	34	0.1	6.451	А
C-A	127			127			
A-B	141			141			
A-C	199			199			

#### 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	28	416	0.067	28	0.1	9.270	A
B-A	243	427	0.569	243	1.3	19.518	С
C-AB	34	592	0.057	34	0.1	6.451	A
C-A	127			127			
A-B	141			141			
A-C	199			199			



## 17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	28	416	0.067	28	0.1	9.271	А
B-A	243	427	0.569	243	1.3	19.522	С
C-AB	34	592	0.057	34	0.1	6.451	А
C-A	127			127			
A-B	141			141			
A-C	199			199			

## 18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	28	416	0.067	28	0.1	9.271	А
B-A	243	427	0.569	243	1.3	19.524	С
C-AB	34	592	0.057	34	0.1	6.451	А
C-A	127			127			
A-B	141			141			
A-C	199			199			



# 2027 Growth, AM

## **Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Profile Type	D3 - 2027 Growth, AM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.33	А

## **Junction Network Options**

Driving side	Lighting		
Left	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 period length (min)	Time segment length (min)
D3	2027 Growth	AM	DIRECT	07:45	09:15	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		✓	100.000
B - The Downs		✓	100.000
C - Station Road		✓	100.000

## **Origin-Destination Data**

#### Demand (Veh/hr)

	То							
		A - High Street	B - The Downs	C - Station Road				
<b>F</b>	A - High Street	0	235	169				
From	B - The Downs	193	0	25				
	C - Station Road	213	34	0				

## **Vehicle Mix**

## **Heavy Vehicle Percentages**

	То							
		A - High Street	B - The Downs	C - Station Road				
From	A - High Street	0	2	3				
From	B - The Downs	2	0	0				
	C - Station Road	0	1	0				



## Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.05	8.17	0.1	A
B-A	0.47	16.82	0.9	С
C-AB	0.08	6.05	0.1	A
C-A				
A-B				
A-C				

## Main Results for each time segment

#### 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	470	0.053	25	0.1	8.086	A
B-A	193	407	0.474	190	0.9	16.302	С
C-AB	51	646	0.078	50	0.1	6.037	A
C-A	196			196			
A-B	235			235			
A-C	169			169			

## 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	466	0.054	25	0.1	8.168	А
B-A	193	407	0.474	193	0.9	16.809	С
C-AB	51	647	0.079	51	0.1	6.049	А
C-A	196			196			
A-B	235			235			
A-C	169			169			

#### 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	466	0.054	25	0.1	8.170	А
B-A	193	407	0.474	193	0.9	16.819	С
C-AB	51	647	0.079	51	0.1	6.047	А
C-A	196			196			
A-B	235			235			
A-C	169			169			

## 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	466	0.054	25	0.1	8.170	A
B-A	193	407	0.474	193	0.9	16.823	С
C-AB	51	647	0.079	51	0.1	6.049	A
C-A	196			196			
A-B	235			235			
A-C	169			169			



## 08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	466	0.054	25	0.1	8.170	А
B-A	193	407	0.474	193	0.9	16.824	С
C-AB	51	647	0.079	51	0.1	6.049	А
C-A	196			196			
A-B	235			235			
A-C	169			169			

## 09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	466	0.054	25	0.1	8.170	А
B-A	193	407	0.474	193	0.9	16.824	С
C-AB	51	647	0.079	51	0.1	6.047	А
C-A	196			196			
A-B	235			235			
A-C	169			169			



# 2027 Growth, PM

## **Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Profile Type	D4 - 2027 Growth, PM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		8.40	А

## **Junction Network Options**

Driving side	Lighting
Left	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 period length (min)	Time segment length (min)
D4	2027 Growth	PM	DIRECT	16:45	18:15	90	15

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

## **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		✓	100.000
B - The Downs		✓	100.000
C - Station Road		✓	100.000

## **Origin-Destination Data**

#### Demand (Veh/hr)

	То						
		A - High Street	B - The Downs	C - Station Road			
<b>F</b>	A - High Street	0	155	219			
From	B - The Downs	268	0	31			
	C - Station Road	149	29	0			

## **Vehicle Mix**

## **Heavy Vehicle Percentages**

		1	Го	
		A - High Street	B - The Downs	C - Station Road
From	A - High Street	0	2	1
	B - The Downs	2	0	0
	C - Station Road	0	0	0



## Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.09	10.99	0.1	В
B-A	0.65	24.44	1.8	С
C-AB	0.06	6.27	0.1	A
C-A				
A-B				
A-C				

## Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	371	0.084	31	0.1	10.578	В
B-A	268	415	0.645	261	1.7	22.496	С
C-AB	38	612	0.063	38	0.1	6.265	A
C-A	140			140			
A-B	155			155			
A-C	219			219			

## 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	359	0.086	31	0.1	10.968	В
B-A	268	415	0.646	268	1.8	24.329	С
C-AB	38	612	0.063	38	0.1	6.275	А
C-A	140			140			
A-B	155			155			
A-C	219			219			

#### 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	359	0.086	31	0.1	10.981	В
B-A	268	415	0.646	268	1.8	24.436	С
C-AB	38	612	0.063	38	0.1	6.275	А
C-A	140			140			
A-B	155			155			
A-C	219			219			

#### 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	359	0.086	31	0.1	10.986	В
B-A	268	415	0.646	268	1.8	24.423	С
C-AB	38	612	0.063	38	0.1	6.272	A
C-A	140			140			
A-B	155			155			
A-C	219			219			



## 17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	359	0.086	31	0.1	10.989	В
B-A	268	415	0.646	268	1.8	24.435	С
C-AB	38	612	0.063	38	0.1	6.275	А
C-A	140			140			
ΑB	155			155			
A-C	219			219			

## 18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	359	0.086	31	0.1	10.990	В
B-A	268	415	0.646	268	1.8	24.442	С
C-AB	38	612	0.063	38	0.1	6.275	А
C-A	140			140			
A-B	155			155			
A-C	219			219			


# 2027 Growth+CD, AM

### **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D5 - 2027 Growth+CD, AM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.57	А

### **Junction Network Options**

Driving side	Lighting		
Left	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 period length (min)	Time segment length (min)
D5	2027 Growth+CD	AM	DIRECT	07:45	09:15	90	15

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

### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		✓	100.000
B - The Downs		✓	100.000
C - Station Road		✓	100.000

## **Origin-Destination Data**

#### Demand (Veh/hr)

		То						
		A - High Street	B - The Downs	C - Station Road				
<b>F</b>	A - High Street	0	257	173				
From	B - The Downs	202	0	25				
	C - Station Road	215	34	0				

### Vehicle Mix

		1	Го	
		A - High Street	B - The Downs	C - Station Road
From	A - High Street	0	2	3
From	B - The Downs	2	0	0
	C - Station Road	0	1	0



### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.06	8.48	0.1	A
B-A	0.50	17.86	1.0	С
C-AB	0.08	6.09	0.1	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	455	0.055	25	0.1	8.370	А
B-A	202	404	0.500	198	1.0	17.214	С
C-AB	51	643	0.080	51	0.1	6.081	А
C-A	198			198			
A-B	257			257			
A-C	173			173			

### 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	450	0.056	25	0.1	8.474	А
B-A	202	404	0.501	202	1.0	17.840	С
C-AB	51	643	0.080	51	0.1	6.093	А
C-A	198			198			
A-B	257			257			
A-C	173			173			

#### 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	450	0.056	25	0.1	8.476	А
B-A	202	404	0.501	202	1.0	17.852	С
C-AB	51	643	0.080	51	0.1	6.090	А
C-A	198			198			
A-B	257			257			
A-C	173			173			

### 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	450	0.056	25	0.1	8.476	A
B-A	202	404	0.501	202	1.0	17.857	С
C-AB	51	643	0.080	51	0.1	6.093	A
C-A	198			198			
A-B	257			257			
A-C	173			173			



### 08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	450	0.056	25	0.1	8.477	А
B-A	202	404	0.501	202	1.0	17.859	С
C-AB	51	643	0.080	51	0.1	6.090	А
C-A	198			198			
ΑB	257			257			
A-C	173			173			

### 09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	450	0.056	25	0.1	8.477	А
B-A	202	404	0.501	202	1.0	17.859	С
C-AB	51	643	0.080	51	0.1	6.090	А
C-A	198			198			
A-B	257			257			
A-C	173			173			



# 2027 Growth+CD, PM

### **Data Errors and Warnings**

Severity	Area	ltem	Description
Warning	Profile Type	D6 - 2027 Growth+CD, PM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

## **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		10.07	В

### **Junction Network Options**

Driving side	Lighting
Left	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 period length (min)	Time segment length (min)
D6	2027 Growth+CD	PM	DIRECT	16:45	18:15	90	15

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

### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		✓	100.000
B - The Downs		✓	100.000
C - Station Road		✓	100.000

## **Origin-Destination Data**

#### Demand (Veh/hr)

	То					
		A - High Street	B - The Downs	C - Station Road		
<b>F</b>	A - High Street	0	166	221		
From	B - The Downs	288	0	31		
	C - Station Road	152	29	0		

### Vehicle Mix

	То				
		A - High Street	B - The Downs	C - Station Road	
<b>F</b>	A - High Street	0	2	1	
From	B - The Downs	2	0	0	
	C - Station Road	0	0	0	



### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.10	12.65	0.1	В
B-A	0.70	28.74	2.3	D
C-AB	0.06	6.28	0.1	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	332	0.093	31	0.1	11.910	В
B-A	288	413	0.697	280	2.1	25.592	D
C-AB	39	612	0.063	38	0.1	6.274	A
C-A	142			142			
A-B	166			166			
A-C	221			221			

### 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	317	0.098	31	0.1	12.599	В
B-A	288	413	0.697	288	2.2	28.489	D
C-AB	39	612	0.063	39	0.1	6.282	А
C-A	142			142			
A-B	166			166			
A-C	221			221			

#### 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	316	0.098	31	0.1	12.632	В
B-A	288	413	0.697	288	2.2	28.636	D
C-AB	39	612	0.063	39	0.1	6.285	А
C-A	142			142			
A-B	166			166			
A-C	221			221			

#### 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	316	0.098	31	0.1	12.644	В
B-A	288	413	0.697	288	2.2	28.690	D
C-AB	39	612	0.063	39	0.1	6.282	A
C-A	142			142			
A-B	166			166			
A-C	221			221			



### 17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	316	0.098	31	0.1	12.650	В
B-A	288	413	0.697	288	2.3	28.719	D
C-AB	39	612	0.063	39	0.1	6.285	А
C-A	142			142			
A-B	166			166			
A-C	221			221			

### 18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	315	0.098	31	0.1	12.654	В
B-A	288	413	0.697	288	2.3	28.735	D
C-AB	39	612	0.063	39	0.1	6.285	А
C-A	142			142			
A-B	166			166			
A-C	221			221			



# 2027 Growth+CD+PD, AM

### **Data Errors and Warnings**

Severity	Severity Area Item		Description
Warning	Profile Type	D7 - 2027 Growth+CD+PD, AM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

# **Junction Network**

#### Junctions

	Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
ſ	1	untitled	T-Junction	Two-way		5.42	А

### **Junction Network Options**

Driving side	Lighting
Left	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 period length (min)	Time segment length (min)
D7	2027 Growth+CD+PD	AM	DIRECT	07:45	09:15	90	15

#### Vehicle mix source PCU Factor for a HV (PCU)

HV Percentages	2.00
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### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		~	100.000
B - The Downs		~	100.000
C - Station Road		~	100.000

## **Origin-Destination Data**

### Demand (Veh/hr)

		То			
		A - High Street	B - The Downs	C - Station Road	
-	A - High Street	0	296	183	
From	B - The Downs	226	0	25	
	C - Station Road	221	34	0	

### **Vehicle Mix**

		То			
		A - High Street	B - The Downs	C - Station Road	
<b>F</b>	A - High Street	0	2	3	
From	B - The Downs	2	0	0	
	C - Station Road	0	1	0	



### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.06	9.48	0.1	A
B-A	0.57	21.12	1.3	С
C-AB	0.08	6.16	0.1	A
C-A				
A-B				
A-C				

### Main Results for each time segment

### 07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	413	0.061	25	0.1	9.275	A
B-A	226	397	0.570	221	1.3	19.983	С
C-AB	52	637	0.082	51	0.1	6.146	A
C-A	203			203			
A-B	296			296			
A-C	183			183			

#### 08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	405	0.062	25	0.1	9.470	А
B-A	226	396	0.570	226	1.3	21.072	С
C-AB	52	637	0.082	52	0.1	6.159	А
C-A	203			203			
A-B	296			296			
A-C	183			183			

### 08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	405	0.062	25	0.1	9.475	А
B-A	226	396	0.570	226	1.3	21.101	С
C-AB	52	637	0.082	52	0.1	6.159	А
C-A	203			203			
A-B	296			296			
A-C	183			183			

#### 08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	405	0.062	25	0.1	9.477	А
B-A	226	396	0.570	226	1.3	21.111	С
C-AB	52	637	0.082	52	0.1	6.161	A
C-A	203			203			
A-B	296			296			
A-C	183			183			



### 08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	405	0.062	25	0.1	9.478	А
B-A	226	396	0.570	226	1.3	21.117	С
C-AB	52	637	0.082	52	0.1	6.159	А
C-A	203			203			
ΑB	296			296			
A-C	183			183			

### 09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	405	0.062	25	0.1	9.478	А
B-A	226	396	0.570	226	1.3	21.119	С
C-AB	52	637	0.082	52	0.1	6.159	А
C-A	203			203			
A-B	296			296			
A-C	183			183			



# 2027 Growth+CD+PD, PM

### **Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Profile Type	D8 - 2027 Growth+CD+PD, PM	The DIRECT profile type is intended to be used for demand that varies over time. You are using it with the 'Use O-D data' option, but your O-D data does not vary over time. Are you sure this is correct?

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		17.16	С

### **Junction Network Options**

Driving side	Lighting
Left	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 period length (min)	Time segment length (min)
D8	2027 Growth+CD+PD	PM	DIRECT	16:45	18:15	90	15

#### Vehicle mix source PCU Factor for a HV (PCU)

HV Percentages 2
------------------

### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - High Street		~	100.000
B - The Downs		~	100.000
C - Station Road		✓	100.000

## **Origin-Destination Data**

### Demand (Veh/hr)

		То									
		A - High Street	B - The Downs	C - Station Road							
-	A - High Street	0	196	228							
From	B - The Downs	332	0	31							
	C - Station Road	162	29	0							

### **Vehicle Mix**

	То								
		A - High Street	B - The Downs	C - Station Road					
<b>F</b>	A - High Street	0	2	1					
From	B - The Downs	2	0	0					
	C - Station Road	0	0	0					



### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-C	0.16	22.72	0.2	С
B-A	0.82	47.55	4.3	E
C-AB	0.06	6.30	0.1	A
C-A				
A-B				
A-C				

### Main Results for each time segment

### 16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	230	0.135	30	0.2	18.012	С
B-A	332	407	0.816	318	3.6	36.180	E
C-AB	39	611	0.065	39	0.1	6.291	A
C-A	152			152			
A-B	196			196			
A-C	228			228			

### 17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	196	0.158	31	0.2	21.812	С
B-A	332	407	0.817	331	3.9	45.503	Е
C-AB	40	611	0.065	40	0.1	6.300	А
C-A	151			151			
A-B	196			196			
A-C	228			228			

#### 17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	192	0.161	31	0.2	22.314	С
B-A	332	407	0.817	331	4.1	46.622	E
C-AB	40	611	0.065	40	0.1	6.300	А
C-A	151			151			
A-B	196			196			
A-C	228			228			

### 17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	191	0.162	31	0.2	22.525	С
B-A	332	407	0.817	332	4.2	47.111	E
C-AB	40	611	0.065	40	0.1	6.302	A
C-A	151			151			
A-B	196			196			
A-C	228			228			



### 17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	190	0.163	31	0.2	22.645	С
B-A	332	407	0.817	332	4.2	47.377	Е
C-AB	40	611	0.065	40	0.1	6.302	А
C-A	151			151			
A-B	196			196			
A-C	228			228			

### 18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	189	0.164	31	0.2	22.718	С
B-A	332	407	0.817	332	4.3	47.549	Е
C-AB	40	611	0.065	40	0.1	6.302	А
C-A	151			151			
A-B	196			196			
A-C	228			228			



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