

BARTONS ROAD, HAVANT

TRANSPORT ASSESSMENT

September 2022

Fortitudo Ltd

MIXED USE DEVELOPMENT
BARTONS ROAD
HAVANT

TRANSPORT ASSESSMENT

CONTROLLED DOCUMENT

Document No:	106.0019/TA/6		
Status:	Original	*Copy No:*	-

	Name	*Signature*	*Date*
Prepared by:	Alex Stephenson	[redacted]	July 2020
Checked by:	Rob Hardyman		July 2020
Approved by:	Paul Basham		July 2020

Revision Record					
Rev.	*Date*	*By*	*Summary of Changes*	*Chkd*	*Aprvd*
2	27.07.20	AS	Updated floor areas and cycle parking numbers	RH	RH
3	23.10.20	AS	New layout	RH	RH
4	21.12.20	AS	Updated impact assessment and access strategy	RH	PB
5	18.01.21	AS	Revised number of units	RH	RH
6	16.09.21	AS	Drive Thru units removed	RH	RH
7	29.09.21	AS	Updated Road Safety Audit	RH	RH
8	08.09.22	AS	Revised layout and updated drawing pack to reflect	AS	AS

Disclaimer

This document has been prepared in accordance with the scope of Paul Basham Associates Ltd's appointment with its client and is subject to the terms of that appointment. It is addressed to and for the sole use and reliance of Paul Basham Associates clients. Paul Basham Associates accepts no liability for any use of this document other than by its client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part), use or rely on the contents of this document, without the prior written permission of a Director of Paul Basham Associates. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document are not to be construed as providing legal, business or tax advice or opinion.

© Paul Basham Associates Limited 2018

fortitudo

paulbasham associates

Fortitudo Ltd
266 Sandbanks Road
Lilliput
Poole
BH14 8HA

The Bothy,
Cams Hall Estate,
Fareham,
Hampshire,
PO16 8UT

MIXED USE DEVELOPMENT
BARTONS ROAD
HAVANT
TRANSPORT ASSESSMENT

Contents

1. INTRODUCTION AND PLANNING STATUS 3
2. PLANNING POLICY 5
3. EXISTING CONDITIONS 8
4. SITE ACCESSIBILITY 12
5. PROPOSED DEVELOPMENT 16
6. PROPOSED ACCESS ARRANGEMENTS 18
7. ROAD SAFETY AUDIT 22
8. TRANSPORT IMPACT 27
9. COMPARISON OF SCENARIOS 37
10. SUMMARY AND CONCLUSION 39

Figures

Figure 1: Site Location Plan
Figure 2: Collision Plot from Crashmap
Figure 3: Havant Cycle Map

Tables

Table 1: Proximity of Local Amenities
Table 2: Summary of Local Bus Services
Table 3: Residential Car Parking Standards
Table 4: 2011 Census Local Car Ownership Data
Table 5: Residential Cycle Parking Standards
Table 6: Proposed Development Trip Generation
Table 7: B2149 Petersfield Road/ Bartons Road Junction Modelling (Existing Layout)
Table 8: B2149 Petersfield Road/ Bartons Road Junction Modelling (Proposed Layout)
Table 9: Bartons Road/ Site Access Junction Modelling (Proposed Layout)
Table 10: Proposed Development Trip Generation
Table 11: Comparison of Existing Scenario with Proposed Scenario

Appendices

Appendix A – Hampshire Constabulary Collision Data
Appendix B – Proposed Development Site Layout
Appendix C – Car Ownership Census Data
Appendix D – Site Layout Tracking
Appendix E – Proposed Access Arrangements
Appendix F – Proposed Access Tracking
Appendix G – Road Safety Audit Brief
Appendix H – Road Safety Audit Results
Appendix I – Department for Transport Traffic Data
Appendix J – Hampshire County Council's Agreement Email
Appendix K – Traffic Flows Diagrams
Appendix L – Full TRICS Reports
Appendix M – Journey to Work Census Data
Appendix N – Modelling Results

1. INTRODUCTION AND PLANNING STATUS

Introduction

1.1 This Transport Assessment (TA) has been prepared by Paul Basham Associates on behalf of Fortitudo Ltd to support a planning application for a mixed-use development comprising 175 apartments at the site of the former Scottish and Southern Energy (SSE) offices on Bartons Road, Havant.

1.2 The site is located within Havant Borough in Hampshire County consequently the Planning Authority is Havant Borough Council (HBC) and the Highway Authority is Hampshire County Council (HCC).

1.3 The site is allocated for development by the Havant Borough Local Plan Allocations DPD and covers approximately 4.4 hectares in total and is located approximately 2km north of Havant Town Centre. The site location is identified by Figure 1.



Figure 1: Site Location Plan

Planning Status

1.4 The planning application for the proposed development was validated in October 2020.

1.5 The development proposal was originally for two drive-thru units as well as the proposed apartments, with these drive-thru units located on the northern part of the site.

1.6 Extensive post-submission discussions have taken place with HCC regarding the transport implications of the proposed development including particularly the impact of the traffic generated by the two drive-thru units in terms of the total number of vehicle movements generated and by the type of vehicle movements generated.

1.7 The development proposals now do not include the two drive-thru units with the proposed development now entirely residential. The impact of this change in transport terms is that the proposed development is now anticipated to generate significantly fewer vehicle movements and now does not generate any articulated HGV movements.

1.8 The reduced trip generation has implications principally on the capacity of the Petersfield Road/ Bartons Road signalled junction which is improved. The removal of HGV trips has implications principally for the design of the access junction which is now not required to be as wide as previously proposed.

1.9 This TA has been comprehensively updated (Revision 6) in order to assess the impact of the revised development proposals. This TA concludes that there is no transport reason not to permit the proposed development.

2. PLANNING POLICY

National Planning Policy Framework (NPPF)

2.1 The National Planning Policy Framework NPPF acts as the central guidance for development planning, replacing all previous national planning policy guidance. The following NPPF paragraphs are relevant to this TA.

2.2 NPPF Paragraph 104 states the following with regards to Transport issues:

> 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.
> c) Opportunities to promote walking, cycling and public transport use are identified and pursued;
> 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.

2.3 NPPF Paragraph 105 concerns development being focused on locations that are deemed or can be made sustainable and states:

> 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.

2.4 NPPF Paragraph 111 concerns refusal of development and states:

> 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.

2.5 NPPF Paragraph 113 concerns the documents required to support a planning application and states:

> 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.

Havant Borough Core Strategy 2011

2.6 Strategic Core Strategy Policy CS20 sets out the Borough's policy on Transport and Access, stating development will be permitted that:

> Is consistent with and contributes to the implementation of the 'Reduce, Manage and Invest' strategy.
> Does not increase congestion and promotes better use of existing transport networks.
> Improves accessibility to goods, services and employment and promotes equality in the transport system.
> Provides transport management measures to ensure the safe and efficient operation of the strategic and local road network.
> Ensures that highway design responds positively to the characteristics of the area and delivers a high quality public realm for all users.
> Maintains or improves the range of transport modes accessible to the users of the development site with specific emphasis on public transport, especially high quality/frequency buses and includes walking and cycling where appropriate.

2.7 The Core Strategy also sets out the following Development Management Policies which are considered relevant to the proposed development.

DM11 Planning for More Sustainable Travel

2.8 The council will seek to ensure that every opportunity is taken to increase integration of sustainable travel modes and availability of non-motorised modes by appropriate measures including:

> Securing on-site and/or off-site interventions that promote integrated travel and access by non-motorised modes.
> Requiring safe and secure vehicular and cycle parking and turning facilities to adopted standards.
> Securing appropriate improvements to public and community transport (including infrastructure requirements) in accordance with the Hampshire Local Transport Plan and (where applicable) the relevant sub-regional transport strategy.
> Proposals for reducing opportunities for informal parking in the area surrounding the development where this would impact on the capacity, operation and safety of the local highway network and/or the amenity of the locality.
> Ensuring that new developments are located and designed at the outset to encourage lower vehicle speeds and safe, permeable, inclusive layouts that integrate with existing pedestrian, cycle and public transport routes. This will facilitate and encourage short distance trips by cycle and walking, including to public transport interchanges.

DM12 Mitigating the Impacts of Travel

2.9 New developments will be required to mitigate their travel impact, including the environmental impacts of travel (such as noise, air and visual pollution) and impacts on amenity, health and climate change by ensuring that, where relevant, the following criteria are met:

Adequate provision is made for integrated and improved transport infrastructure or appropriate mitigation measures, through direct improvements and S106 contributions in accordance with the Hampshire County Council Transport Contributions Policy.

The submission of a transport assessment and travel plan alongside any planning application on proposals for major development or where a proposal is likely to have significant transport implications.

The submission of a transport statement must accompany planning applications to explain changes to travel demand.

A bond is provided which will be used to mitigate negative travel impacts of the development, should the travel plan fail to achieve its targets. This bond will be held by the relevant local transport authority.

In relation to outline planning applications, a framework for the preparation of travel assessments and travel plans will be submitted with the planning application proposals.

DM13 Car and Cycle Parking on Residential Development

2.10 Residential development will only be permitted where it provides car parking and cycle storage in accordance with the standards set out in the Residential Car Parking and Cycle Provision Supplementary Planning Document.

Havant Borough Local Plan (Allocations) 2014

2.11 The Havant Borough Core Local Plan (Allocations) 2014 document sets out the residential allocations and designations for the SSE Offices site, identifying the proposed development site as appropriate for residential development (site refence: L145) via Policy LP1. No highways constraints for the site are identified however the following opportunities are:

Existing transport provision, bus routes within walking distance of the site;

Existing Accessibility to Local Services/Facilities, within walking distance of district centre with shops, services and bus routes available to large centres with further shops and services;

A landmark residential building reflecting the scale of the existing building on the site could be achieved;

New homes including affordable housing; and

Making use of redundant commercial land in a predominantly residential area.

Havant Borough Local Plan 2036

2.12 This proposed development site is located in a prominent position on the corner of Petersfield Road and Bartons Road and is featured in the Havant Borough Local Plan 2036 Pre-submission draft as an allocation for residential development (H36).

3. EXISTING CONDITIONS

Existing Site

3.1 The proposed development site is brownfield land having previously accommodated the SSE regional headquarters including associated infrastructure such as access roads, parking and landscaping. The site has now been cleared following the demolition of the former SSE building under prior approval (reference: APP/16/00940) in 2016.

3.2 The site is located to the south of Bartons Road, east of Petersfield Road, north of Martin Road, and west of Havant and Waterlooville Football Club.

Local Road Network

Bartons Road

3.3 Bartons Road is c.6.5m wide single carriageway road subject to a 30mph speed limit and connects Petersfield Road (B2149) to the west to Comley Hill (B2148) to the east. Barton Road is flanked to the north and south by c.2.0m wide footways, the southern of which is set back from the carriageway with a c.3.0m grass verge. A view of Bartons Road looking west towards the site is shown by Photograph 1.



Photograph 1: Bartons Road Looking West Towards Site

Petersfield Road (B2149)

3.4 Petersfield Road is a dual carriageway subject to a 40mph speed limit and connects Havant Town Centre in the south to Junction 2 of the A3 in the north. The Petersfield Road/Bartons Road junction is located c.85m west of the site access and is a signalised all movement junction. Within the proposed development site's vicinity, the B2149 provides a shared footway/ cycleway along its eastern side with a footway along its western side. A view of Petersfield Road looking north from the Bartons Road junction is shown by Photograph 2.



Photograph 2: Petersfield Road Looking North from Bartons Road Junction

Martins Road

3.5 Martins Road is c.5.0m wide single carriageway road subject to a 30mph speed limit and connects Bartons Road to the north to St Albans Road to the south. Martins Road provides c.2.0m wide footways on both sides.

Traffic Flows

Manual Turning Counts

3.6 Manual turning counts have been undertaken at both the Petersfield Road/ Bartons Road signalled junction, and the Bartons Road/ Knightwood Avenue priority junction. These turning counts were undertaken on both a weekday and a Saturday to provide baseline 2020 traffic flows on the road network immediately adjacent to the site. These traffic flows are discussed at length later in the report.

Collision Data

3.7 The highway safety record of the local highway network has been reviewed for the most recent five years (01/09/2015-31/08/2020) for which records are available from Hampshire Constabulary.

3.8 A plot of the collisions which have occurred on the highway network in the vicinity of the site are shown by Figure 2 with 'slight' collisions shown by blue circles and 'serious' collisions shown by grey squares.

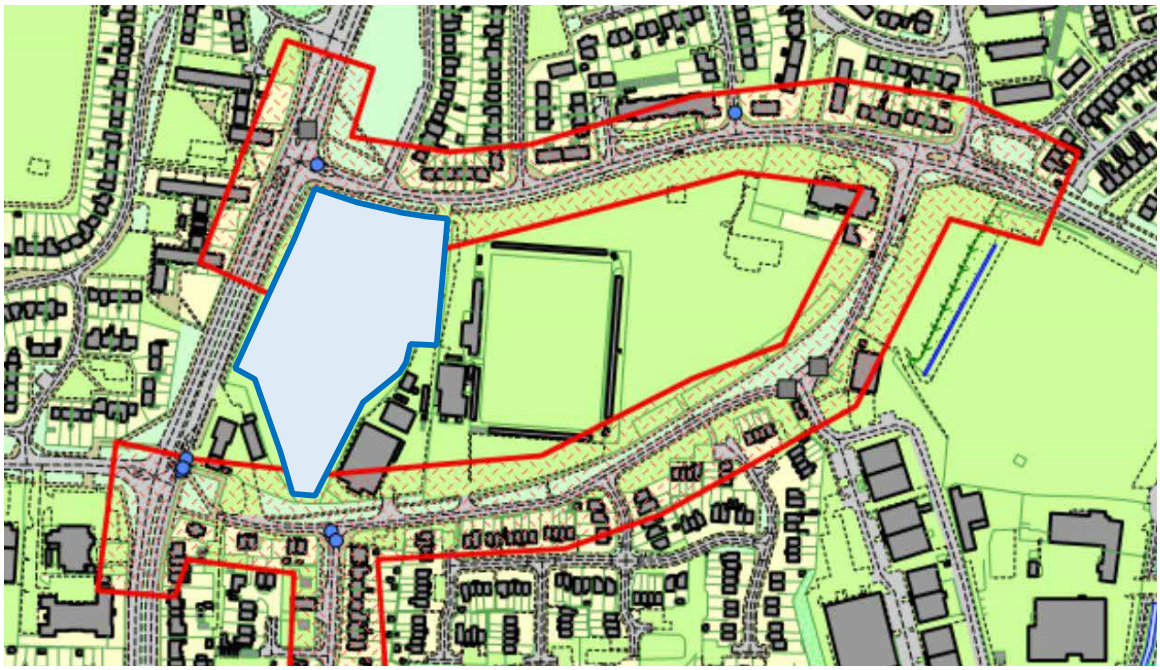


Figure 2: Collision Plot from Crashmap

3.9 There has been one serious collision and one slight collision at the Petersfield Road/ Bartons Road junction. The serious collision involved a car colliding with a pedal cycle which was crossing Petersfield Road while the slight collision involved a car colliding with street furniture.

3.10 There have been two slight collisions at the Martin Road/ St Albans Road junction. Both of these collisions involved a car turning across the path of a pedal cycle.

3.11 Given the five-year time period and the volume of traffic on the assessed roads and junctions, it is not considered that there is sufficient clustering of collisions to suggest any inherent safety issues with the local highway arrangement.

3.12 Collision data has also been obtained for St Albans Road heading south from Martin Road including the Crossland Drive/ Martin Road junction and also the New Lane/ Crossland Road junction. However, given that the proposed development does not include a vehicular access to Martin Road, and consequently very few trips are distributed in this direction, this data does not require assessment.

3.13 Full collision data from Hampshire Constabulary is included at Appendix A.

4. SITE ACCESSIBILITY

Pedestrian Infrastructure

4.1 The site benefits from a good level of pedestrian infrastructure in its vicinity. To the north of the site pedestrian crossings are provided at the Petersfield Road/ Bartons Road junction connecting to Billy Lawn Avenue, while to the south of the site a subway is provided underneath Petersfield Road connecting Martin Road to Stockheath Road. This existing infrastructure is shown by Photograph 3 and Photograph 4.



Photograph 3: Petersfield Road Pedestrian Crossing



Photograph 4: Petersfield Road Subway

Cycle Infrastructure

4.2 The site also benefits from a good level of cycle infrastructure including National Cycle Network (NCN) Route 22 which runs adjacent to its western perimeter and provides a direct link between the site and Havant Town Centre via stretches of dedicated off-street cycleways and quieter roads. Once completed the route will link London to Portsmouth. Examples of the NCN Route 22 adjacent to the site is demonstrated in Photographs 5 and Photograph 6.



Photograph 5: Route NCN 22 Northbound



Photograph 6: Route NCN 22 Southbound

4.3 A map of local cycle routes is shown by Figure 3.

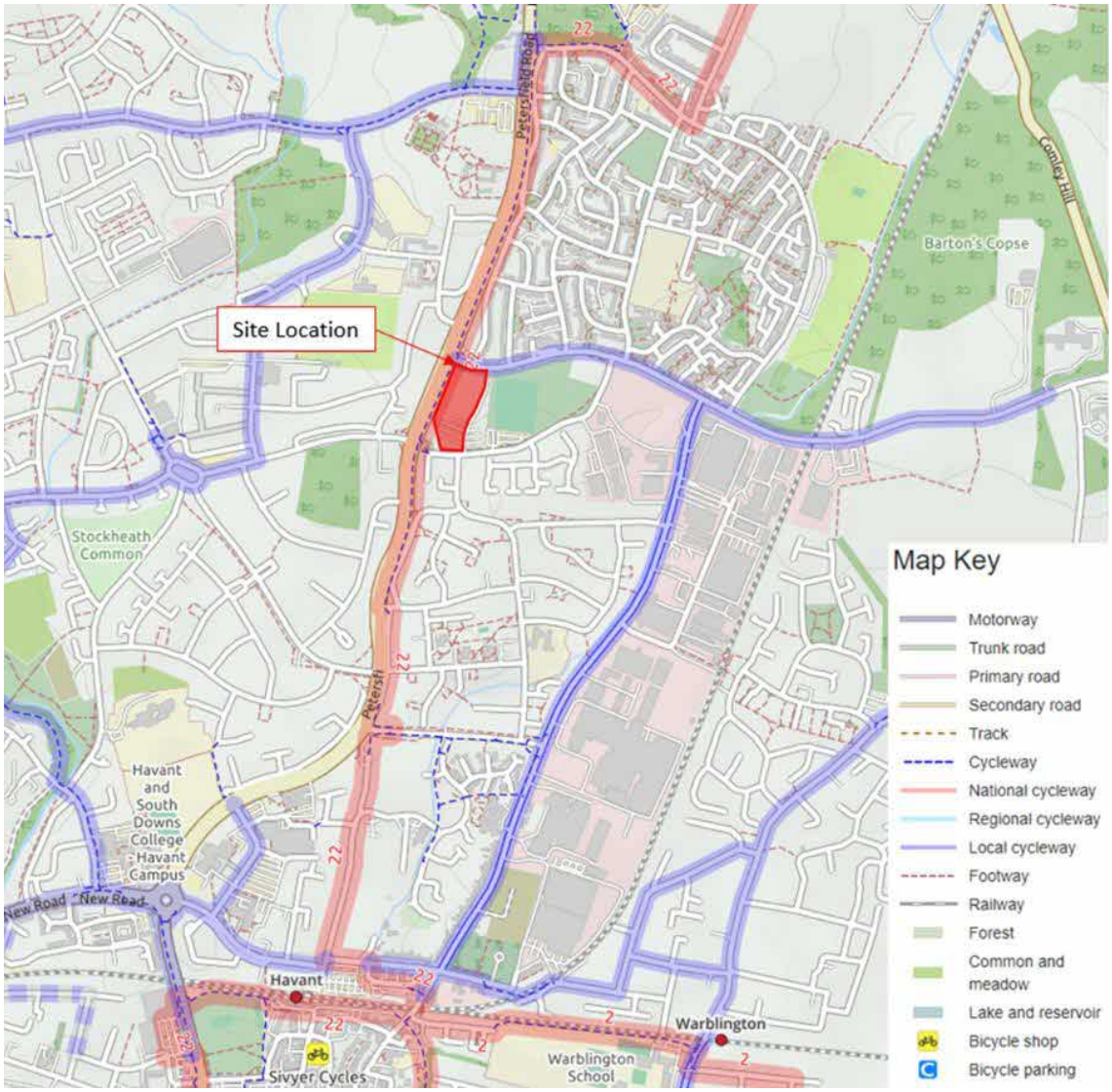


Figure 3: Havant Cycle Map

Infrastructure Improvements

4.4 It is understood that improvement schemes are being delivered along Bartons Road to the east of the site. These improvement schemes principally involve providing a 3.0m shared cycle/ footway along the side of Bartons Road. The improvement schemes currently end where they meet Martin Road where the 3.0m shared cycle/ footway on the south side of Bartons Road terminates.

4.5 These walking and cycling improvements will improve the accessibility of the site to/ from the east.

Accessibility Criteria

4.6 Based on data contained within the National Travel Survey and design guidance contained in the Design Manual for Roads and Bridges, the following distances are considered suitable for walking and cycling:

1.6km – a distance where most people will walk – the National Travel Survey identifies that for journeys less than one mile, circa 81% will be made on foot

3.2km – a distance where walking is a realistic alternative to car use and where some people are still prepared to walk – the National Travel Survey identifies that for journeys between one and two miles, circa 30% will be made on foot

8km – national design guidance in the Design Manual for Roads and Bridges (DMRB) identifies that this is a distance where cycling is used for accessing destinations including educational facilities, shops and places of work although cycling can be used for much longer journeys

Walking and Cycling Distances

4.7 The proposed development site is located c.2km north of Havant Town Centre with the site's proximity to existing local amenities and pedestrian and cycle networks presenting an excellent opportunity to encourage the use of sustainable transport. A summary of the proximity of local amenities from the proposed development site is shown by Table 1.

Amenity	Distance	Walking Time (minutes)	Cycle Time (minutes)
Bus Stops (Forestside Avenue)	150m	2	NA
Public House	400m	5	2
Local Supermarket	450m	6	2
Bus Stops (Liam Close)	450m	6	2
Primary School	550m	7	2
Local Centre (Leigh Park)	700m	9	3
Supermarket	700m	9	3
Pharmacy	850m	10	3
Community Centre	900m	11	3
Dentist	950m	12	3
Library	950m	12	3
Secondary School	1.1km	15	6
Doctors Surgery	1.6km	19	6
Leisure Centre	1.6km	19	6
Train Station (Havant)	1.9km	24	8
Town Centre (Havant)	2.0km	26	8

Table 1: Proximity of Local Amenities

4.8 The site is evidently in an accessible location. With many local amenities only a short walk or cycle away the site provides a good opportunity to promote sustainable travel. Leigh Park Local Centre, in particular, provides a range of facilities and is situated c.700m west (9-minute walk/ 3-minute cycle) from the site.

Bus Services

4.9 The site is well located for bus accessibility with the 'Liam Close' bus stops located c.200m walking distance from the site on St Albans Road. Frequent bus services to/from Havant and Portsmouth are accessed at these bus stops, connecting the site to Havant Town Centre, Havant Railway Station and destinations within Portsmouth.

4.10 A summary of local bus services is shown by Table 2.

Service	Route	Frequency		
		Monday - Friday	Saturday	Sunday
20	Havant - Portsmouth - The Hard	30 minutes	30 minutes	No service
21	Havant – Portsmouth	10 minutes	10 minutes	20 minutes
621	Havant Bus Station - Portsmouth College	08:49	No service	No service

Table 2: Summary of Local Bus Services

Rail Services

4.11 Havant Railway Station is located 1.9km south (8-minute cycle/ 10-minute bus) of the proposed development site. The station is equipped with 92 cycle storage spaces, a manned ticket office, customer help points and CCTV.

4.12 Havant Railway Station provides direct access to destinations including Portsmouth Harbour, Southampton Central, Brighton, London Waterloo and London Victoria. A journey to Portsmouth Harbour operates 4/5 times an hour and takes approximately 15 minutes. Trains to London Waterloo typically operate 3 times an hour and take approximately 80 minutes. Trains to Southampton Central, Brighton and London Victoria typically operate twice an hour and take approximately 40, 65 and 105 minutes respectively.

Accessibility Summary

4.13 The site is considered to be accessible by walking, cycling and public transport and therefore provides the choice of car-free and sustainable travel options for both residents and visitors.

5. PROPOSED DEVELOPMENT

Schedule and Layout

5.1 The proposed mixed-use development comprises 175 apartments and the proposed accommodation schedule is as follows:

111 one-bed apartments
64 two-bed apartments

5.2 The proposed development represents an intensification of the site in relation to the previous/ permitted office use however it is noted that the site previously accommodated a 2,250sqm office utilising the existing arrangement of Bartons Road for access.

5.3 The proposed development layout is included at Appendix B.

Parking - Apartments

Car Parking

5.4 The Havant Borough Council Parking SPD (July 2016) details the requirements for residential car parking. The standards for unallocated parking are set out in Table 3.

Bedrooms per Dwelling	Requirement	Number of Units	Required Provision
1	0.9 spaces	111	100
2	1.3 spaces	64	83
Total		175	183

Table 3: Residential Car Parking Standards

5.5 The 2011 Census 'LC4415EW – Accommodation type by car or van availability' data has been analysed for the three super output area – lower layers which contain and surround the site in order to determine the likely level of car ownership of future residents of the proposed development for the 'Flat, maisonette, apartment, caravan or other mobile or temporary structure' accommodation category. The results are shown by Table 4.

Number of Cars or Vans	Households	%	Cars or Vans
No cars or vans in household	218	60.2%	0
1 car or van in household	135	37.3%	135
2 or more cars or vans in household	9	2.5%	18
TOTAL	362	100%	153

Table 4: 2011 Census Local Car Ownership Data

5.6 The 2011 Census data shows that 60.2% of local people who live in apartments do not own a car. The average car ownership can be calculated as 0.42 per apartment.

5.7 Census data is included at Appendix C.

5.8 The apartments will be provided with 182 car parking spaces at an approximate ratio of one parking space per apartment. This is in line with local standards while considerably in excess of local car ownership rates for this accommodation type. Therefore, the provision is considered appropriate.

Cycle Parking

5.9 The Havant Borough Council Residential Parking SPD (July 2016) also details the requirements for residential cycle parking. The standards for unallocated parking are set out in Table 5.

Bedrooms per Dwelling	Requirement	Number of Units	Required Provision
1	1 space	111	111
2	2 spaces	64	128
Total		175	239

Table 5: Residential Cycle Parking Standards

5.10 The proposed development will provide 245 cycle parking spaces, in excess of parking standards.

Servicing Arrangements

5.11 Adequate bin storage is provided within each block by ground floor bin stores. These bin stores will be collected privately.

5.12 Fire tender access to all dwellings can be achieved within 45m of the highway and would not require emergency vehicles to reverse more than 20m, in line with Building Regulation requirements.

5.13 Tracking drawings of the proposed development layout which demonstrate that it can be accessed appropriately by the relevant vehicles, are included at Appendix D.

6. PROPOSED ACCESS ARRANGEMENTS

6.1 The proposed development includes an improvement scheme for Bartons Road with drawings of this improvement scheme included at Appendix E.

6.2 Each element of the improvement scheme is discussed in detail below.

Proposed Vehicular Access Arrangements

Site Access

6.3 The proposed development will be accessed from Bartons Road in the same location as the existing simple priority junction access. This existing junction, which served the former Scottish and Southern Energy (SSE) offices, will be upgraded to a ghost-island right turn lane junction to ensure that vehicles turning right into the site do not block eastbound traffic on Bartons Road.

6.4 The right turn lane will be approximately 18m in length which provides storage for three cars. This storage capacity comfortably exceeds the anticipated level of queuing at the junction as demonstrated by the junction modelling included later in this report.

6.5 The provision of a right turn lane to serve the site, with capacity to accommodate all right-turning vehicles, represents a significant improvement over the existing arrangements which provides no right turn lane and where right-turning vehicles block eastbound traffic.

Havant and Waterlooville FC

6.6 The minor rear access to Havant and Waterlooville Football Club will be relocated to approximately 7m south of the southern kerbline which is more than twice the separation currently provided. The proposed location would also mean that the access would not cross the cycle/ footway on the south side of Bartons Road thereby removing the existing conflict between vehicles and pedestrians.

6.7 The Football Club have been approached and have confirmed that the rear access is used by players on match days only and therefore use of the rear access is limited to a small number of events per week, with players arriving and departing during approximately the same periods.

6.8 The traffic flows associated with the Football Club are low, are existing, and do not create conflict. These access arrangements are also being significantly improved.

Knightwood Avenue

6.9 The existing right-turn demand from Bartons Road to Knightwood Avenue will be accommodated within a dedicated right turn lane. The storage space for vehicles turning right into Knightwood Avenue will be sufficient for three vehicles, which will comfortably accommodate the low existing demand for this movement, which will not increase as a result of the proposed development.

6.10 There is currently no storage for vehicles turning right into Knightwood Avenue therefore the provision of a right turn facility represents a significant improvement. Where currently a right-turning vehicle would block westbound traffic on Bartons Road, westbound vehicles will now not be impeded.

Petersfield Road

6.11 The Bartons Road approach to the Petersfield Road signalled junction will be altered. The 'long lane' has been switched such that the left-turn lane is the long lane, and the right-turn lane is the 'short lane' with this arrangement better reflecting the turning proportions of traffic approaching the junction on Bartons Road.

6.12 The signal head on the Petersfield Road northern approach will be replaced by one which provides a separate left turn. This will allow left turning vehicles to run independently of vehicles moving straight ahead and provides a significant performance benefit which partly mitigates the impact of the addition of the signalised crossing points, as discussed in the following section.

Proposed Pedestrian and Cycle Access Arrangements

Bartons Road Crossing Points

6.13 Signalised crossing provision for pedestrians and cyclists is proposed across Bartons Road at the Petersfield Road signalled junction. The pedestrian crossing point would be provided by upgrading the existing unsignalised crossing to a Toucan crossing point, which would also accommodate east-north cycle movement, while the main cycle crossing point would be provided by a separate signal-controlled cycle facility adjacent to the Toucan crossing to its west.

6.14 The proposed signalled crossing provision has been determined and designed according to the best practice guidance set out by Local Transport Note 1/20 which relates to cycle infrastructure design.

6.15 The provision of a signal-controlled cycle crossing point, on the desire line of the existing cycle demand associated with NCN Route 22, represents a substantial improvement to a strategic cycle route and assists in segregating cycle and pedestrian traffic in the vicinity of Bartons Road. It is understood that Sustrans have identified a crossing improvement scheme at this location and the proposed scheme is consistent with Sustrans' aspirations.

6.16 The provision of both signal-controlled crossing points represents a significant commitment and contribution towards sustainable transport, for the benefit to both future users of the proposed development, but also for the benefit of existing users of the local sustainable transport network.

Bartons Road Cycle Provision

6.17 The existing footway on the south side of Bartons Road will be widened to 3.0m and will be designated as a shared cycle/ pedestrian route. This provision is consistent with the 3.0m cycle/ footway secured from the approved mixed-use development at the Former Colt International site (APP/18/00244) and completes the gap in provision between Martin Road and Petersfield Road.

6.18 The proposed 3.0m cycle/ footway will connect the crossing point over Martin Road secured from the Former Colt International site to NCN Route 22 which runs to the east of Petersfield Road. Provision of this 3.0m cycle/ footway will mean that cyclists are no longer forced to transition onto and then off the carriageway of Bartons Road which is particularly undesirable on the Bartons Road approach to the Petersfield Road signalled junction.

6.19 The proposed 3.0m cycle/ footway involves widening of the existing footway for a distance of approximately 380m which is a further significant commitment and contribution towards sustainable transport. The 3.0m cycle route will provide benefit to both future users of the proposed development and existing users of the local sustainable transport network.

Martins Road Access

6.20 The proposed development will also provide a secondary cycle and pedestrian access to Martin Road which will be provided by a 2.0m footway which connects to existing provision on the north side of Martin Road, and by a 3.0m cycle/ footway which connects to the carriageway of Martins Road.

Internal Layout

6.21 The internal layout will provide a 2.0m footway from Bartons Road to Martin Road, along the eastern boundary of the site. This route will be open to users of the proposed development as well as to the general public and therefore increases the permeability of the local walking network.

6.22 The proposed development will also provide an on-carriageway cycle route from Bartons Road to Martin Road which will increase the permeability of the local cycling network.

Walking, Cycling and Horse-Riding Assessment and Review

6.23 All four issues raised by the WCHAR have been addressed including:

1. Provision of a footway on existing desire line on north side of Martin Road
2. Provision of a formal crossing point with kerb buildout on Knightwood Avenue
3. Provision of a shared cycle/ footway on south side of Bartons Road
4. Provision of signalised pedestrian and cycle crossing points over Bartons Road

6.24 The WCHAR identified all issues with the existing pedestrian and cycle infrastructure in the vicinity of the site which could be considered to prohibit safe and suitable access being achieved for pedestrians and cyclists. As all of these issues will be addressed as part of the proposed development, it is reasonably concluded that the proposed development will provide safe and suitable access for pedestrians and cyclists.

Vehicle Tracking

6.25 The site is expected to be accessed by one refuse vehicle per week for the proposed apartments, as well as periodical panel vans for deliveries. Consequently, the site access has been tracked for a refuse vehicle and for a panel van.

6.26 All tracking drawings are included at Appendix F.

7. ROAD SAFETY AUDIT

Summary

7.1 A Stage 1 Road Safety Audit (RSA) has been conducted by M&S Traffic Ltd on the proposed access arrangements and transport improvements. The RSA Brief provided to M&S Traffic Ltd contained all the relevant information to allow the RSA to be carried out. The RSA Brief is included at Appendix G.

7.2 The RSA has identified a number of perceived issues with the proposed improvement scheme. The results of the RSA are included at Appendix H.

7.3 A summary of the issues raised by the RSA are shown by Table 3.

Number	Problem	Recommendation	Response
3.1.1	Lack of detail regarding carriageway surfacing	High friction surfacing should be provided	High friction surfacing will be provided with full details provided at the detailed design stage
3.1.2	Lack of detail regarding drainage	Drainage details should be provided	Drainage details will be provided at the detailed design stage
3.1.3	Lack of detail regarding surfacing of cycle routes	High friction surfacing should be provided	High friction surfacing will be provided with full details provided at the detailed design stage
3.3.1	The stagger distance between junctions is too short and presents potential visibility concerns	The stagger distance should be 50m	DMRB does not apply to Bartons Road and the junctions in question are existing, as confirmed by HCC
3.4.1	Potential lack of visibility at pedestrian crossing due to hedgerow growth	The hedgerow should be regularly cut back	The hedgerow should be regularly cut back as required as part of HCC's maintenance programme
3.4.2	An existing parking bay could obscure visibility to the north	The parking bay should be removed	This is an existing crossing point which is being improved and removal of parking bays would not be a proportional response
3.5.1	Lack of detail regarding lighting	Lighting details should be provided	Lighting details will be provided at the detailed design stage

Table 3: Summary of RSA Issues and Designer's Response

7.4 The items coloured green are all accepted and will be addressed at the detailed design stage. The items coloured red are discussed in detail below.

Problem 3.3.1

7.5 The description of Problem 3.3.1 is as below:

> Location: Proposed access junction with Bartons Road.
>
> Summary: Left / right stagger could lead to side swipe collisions or rear end shunt collisions.
>
> A staggered junction is proposed between the access road and Knightswood Avenue. This is a 'left / right' stagger, with side road centre lines scaled at approximately 37m apart on a posted 30mph road. Vehicles waiting to right turn into one side road could obstruct the visibility to the left out of the opposite side road such that an exiting vehicle could pull out into the path of an unseen main road vehicle, which could lead to side impact collisions or rear end shunts.
>
> RECOMMENDATION
> It is recommended that in accordance with CD 123 para 2.24 a minimum stagger distance of 50m, to ensure safe operation should be the preferred arrangement; however, this may be unachievable in this instance.

7.6 It is noted in the response from HCC dated 13th July 2021 that no formal decision regarding this issue has been reached. Our response on this point is set out below.

Traffic Flows

7.7 It is identified within the Road Safety Audit that vehicles waiting to turn right either into the proposed site access or Knightwood Avenue could limit the visibility for vehicles from the opposing junction wishing to turn right. This issue is therefore present when a vehicle is waiting to turn right into Knightwood Avenue as this would potentially block the visibility for drivers waiting to turn right out of the site access. This issue is also present for vehicles waiting to right out of Knightwood Avenue, with vehicles waiting to turn right into the site potentially obscuring visibility. The total surveyed traffic flows for each of these movements is shown by Table 4.

Survey Day/Time	Total Vehicles Turning Right into Knightwood Avenue	Total Vehicles Turning Right out of Knightwood Avenue
Thursday 08:00-09:00	4	22
Thursday 17:00-18:00	6	14
Saturday 12:30-13:30	6	27

Table 4: Traffic Movements

7.8 These traffic flows demonstrate that during the peak hours a maximum of one vehicle every 10-minutes will turn right into Knightwood Avenue and therefore potentially impact upon the visibility for vehicles turning right out of the site. This therefore is an infrequent occurrence throughout the peak hours and if a driver emerging from the site access were to be concerned about right-turning traffic at Knightwood Avenue blocking their visibility they could wait for that vehicle to complete their turn into the junction and therefore clear the visibility splay.

7.9 Based on the modelling undertaken for this junction, vehicles turning right into Knightwood Avenue would be subject to a 1.7 second delay. It is therefore considered that drivers turning right out of the proposed site access would wait this very short period until their visibility was cleared.

7.10 With regards to vehicles turning right out of Knightwood Avenue this equates to a maximum of one vehicle every two-minutes whose visibility could be obscured by right-turners into the site access. Similar to the above situation, based on the junction modelling, vehicles turning right out of Knightwood Avenue would only have to wait 8.5 seconds whilst a vehicle turns right into the proposed site access. Again, it is not reasonable to assume that a driver would wait this short amount of time before deciding to emerge from the junction should visibility be obscured.

7.11 Therefore, based on the low traffic flows and the short period where visibility would be obscured, it is not considered that right-turning vehicles on Bartons Road would cause a safety issue for vehicles turning right out of either the proposed site access or Knightwood Avenue.

Traffic Speeds

7.12 Automatic Traffic Counts were undertaken either side of the proposed site access. A summary of the 85th percentile traffic speeds is shown by Table 5.

Location	Eastbound 85th Percentile Speed	Westbound 85th Percentile Speed
East of Site Access	32.5mph	32.8mph
West of Site Access	29.5mph	29.0mph

Table 5: Automatic Traffic Counts – 85th Percentile Speeds

7.13 Based on the 85th percentile speeds and assuming a car length of 6.0m, the length of time a vehicle would be obscured, even just partially, by a vehicle waiting to turn right is set out below:

Eastbound vehicle passing Knightwood Avenue right-turn lane – 0.45 seconds
Westbound vehicle passing site access right-turn lane – 0.41 seconds

7.14 The timings identified above are significantly below the two second driver reaction time used in Manual for Streets (paragraph 7.5.4) and below the Highway Code reaction time of 0.67 seconds. It is therefore a very short period where a vehicle will be obscured (even just partially) by a right-turning vehicle and well within the reaction times identified within the nationally recognised guidance. The time for which the vehicle would be fully obscured will be significantly less than the times identified above, therefore drivers emerging from the site access will either see a vehicle as it starts to pass a right-turning vehicle or as it emerges from the other side.

7.15 Instances where visibility is blocked momentarily occurs at any priority junction, as traffic travelling in the primary direction past the junction would block clear visibility to those vehicles travelling in the secondary direction to the left of the junction. This is an acceptable occurrence at all junctions and therefore it is not considered that this represents a safety issue in this instance.

Left/ Right Stagger Junctions

7.16 The arrangement of the site access in relation to the junction of Knightwood Avenue on Bartons Road, operated with traffic from the former SSE building. This arrangement would also occur for any development which would come forward on this site accessed from Bartons Road, as the proposed access location is the only feasible location along Bartons Road.

7.17 This issue would therefore apply to any development on this site, which is allocated in the Havant Local Plan and has been identified as suitable for development.

7.18 The Road Safety Audit team have confirmed that this 'issue' would apply to any left/ right stagger junction where the spacing between the minor roads is less than the visibility splay required from each. This is regardless of traffic volumes.

Problem 3.4.1

7.19 The description of Problem 3.4.1 is as below:

> Location: Northern kerbline, at the proposed pedestrian refuge crossing point.
>
> Summary: Operation of signalised could lead to rear end shunts or vehicle to pedestrian collisions.
>
> Whilst pedestrian intervisibity appeared adequate there was scope for the visibility splay to the east to be improved and obstructed should the hedge line continue to grow. Restricted visibility could lead to vehicle to pedestrian collisions or rear end shunt collisions.
>
> RECOMMENDATION
> It is recommended that the hedge should be cut back and that a regular maintenance programme to retain the visibility splay should be employed.

7.20 The hedgerow will be cut back to the edge of the highway boundary when the scheme is implemented and maintained thereafter by HCC as part of their maintenance programme.

Problem 3.4.2

7.21 The description of Problem 3.4.2 is as below:

> Location: Proposed crossing point in Knightwood Avenue.
>
> Summary: Lack of visibility could lead vehicle to pedestrian collisions or rear end shunt collisions.
>
> The crossing point immediately follows a parking bay, where parked vehicles could restrict intervisibility Restricted restrict visibility could lead to vehicle to pedestrian collisions or rear end shunt collisions.
>
> RECOMMENDATION
> It is recommended that parking bays should be removed to provide an adequate visibility splay.

7.22 As discussed earlier in this report, this improvement was identified by the Walking, Cycling & Horse-Riding Assessment and Review (WCHAR). This improvement will be delivered by the proposed development in spite of this crossing point not being on a key pedestrian desire line to the proposed development.

7.23 The visibility at this crossing point has been improved from the existing situation with the removal of some parking spaces. There have been no collisions resulting in personal injury recorded at this location and the improvement scheme can only be considered to provide a betterment.

7.24 Traffic flows on Knightwood Avenue are also very low, with a maximum of 36 southbound vehicles recorded in any peak hour. Furthermore, southbound vehicles on Knightwood Avenue travel in the offside lane therefore even if a pedestrian were to enter the carriageway while a southbound vehicle was approaching, intervisibility would be achieved between the pedestrian and the vehicle prior to the pedestrian reaching any collision point. In this situation either the pedestrian or the vehicle would give way to the other.

7.25 The proposed kerb buildout, the proposed dropped kerbs and the proposed tactile paving can only be considered to represent an improvement to this crossing point. It is not considered proportional to remove additional parking bays on the west side of Knightwood Avenue.

8. TRANSPORT IMPACT

Traffic Counts

Weekday

8.1 Due to the difficulty in obtaining traffic counts during the pandemic in early/mid 2020 when the application was first submitted, it was agreed with HCC that weekday baseline traffic flows would be provided by the Transport Assessment for 'Land West of Havant Crematorium' (Planning ref: APP/19/0007) which included a traffic count at the Petersfield Road/ Bartons Road signalled junction. This traffic count was conducted on Thursday 15th March 2018.

8.2 The Havant Crematorium flows have been used to provide a baseline against which to assess the impact of the proposed development for the weekday AM and PM peak hours.

Saturday

8.3 Notwithstanding that the proposed development is now entirely residential, and residential development is not ordinarily required to assess its transport impact on Saturday, a Saturday assessment has been undertaken for consistency with previous reports.

8.4 The baseline Saturday flows have been derived from traffic counts undertaken at the Petersfield Road/ Bartons Road signalled junction on Saturday 19th December 2020 however HCC have expressed concern that these traffic counts, undertaken during a period where some Covid-19 restrictions were in place, are not fully representative of what traffic flows might have been on a typical Saturday prior to the pandemic.

8.5 At a meeting with HCC on the 10th February it was suggested that HCC may be able to provide traffic flows at Petersfield Road/ Bartons Road junction, both from prior to Covid and during Covid, in order to calculate a factor with which to adjust the Saturday 19th December 2020 flows. However, it has since transpired that HCC do not hold any data which would allow this factor to be calculated. As such, a national dataset provided by the Department for Transport has been used instead.

8.6 The national dataset provides data for traffic flows on Great Britain's roads through the Covid-19 pandemic, for all modes. The traffic data is set out for each day as percentages compared to an equivalent day in the first week of February 2020. For Saturday the 19th December 2020 this data shows that motor vehicle traffic on Great Britain's roads was 90% compared to the Saturday during the first week of February. Consequently, the traffic count undertaken at the Petersfield Road/ Bartons Road junction will be factored by 111% to provide an estimation of pre-Covid traffic flows.

8.7 It is accepted that this dataset is for Great Britain and may not be fully representative of traffic flows on Petersfield Road/ Bartons Road, however in the absence of local data it is considered that this methodology is appropriate and robust.

8.8 The traffic flow data from the Department for Transport is included at Appendix I.

8.9 The email chain demonstrating HCC's agreement on the application of a 111% factor to the Saturday traffic flows is included at Appendix J.

Knightwood Avenue

8.10 Throughout the course of the application HCC have been concerned that the modelling for the signalled junction did not make provision for the nearby Bartons Road/ Knightwood Avenue priority junction, and the site access priority junction ('the priority junctions'). Meanwhile Paul Basham Associates maintained that the priority junctions would not have an impact on the signalled junction due to their arrangements, the volume of traffic on Knightwood Avenue, and based on the modelling already conducted on the site access junction. Nevertheless, in order to resolve this impasse, traffic surveys were carried out at the Knightwood Avenue junction during the following periods:

Saturday 22nd May 2021 11:30-14:30
Thursday 27th May 2021 07:00-10:00
Thursday 27th May 2021 16:00-19:00

8.11 These survey periods are based on the network peak hours, as derived from the signalled junction traffic flows, and including an hour either side of the network peak hours.

8.12 During the network Saturday peak hour of 12:30-13:30, a total of 68 vehicle movements were recorded into or out of Knightwood Avenue of which the majority were left-in or right-out movements. The right-in movement, which is the only movement which could impact the Petersfield Road/ Bartons Road signalled junction, recorded only six vehicle movements which equates to one every ten minutes.

8.13 During the AM and PM peak hours, of 08:00-09:00 and 17:00-18:00 respectively, a similarly small number of movements were recorded into or out of Knightwood Avenue. This includes the right-in movement which experienced only four vehicle movements in the AM peak hour and only six vehicle movements in the PM peak hour.

Traffic Flows

8.14 All traffic flow diagrams, including baseline traffic flows, are included at Appendix K.

TEMPro Growth Factors

8.15 To provide traffic flows in the 2020 baseline year and the 2025 assessment year the following growth factors have been calculated using TEMPro:

2018-2020 Weekday AM Peak = 1.0317
2018-2020 Weekday PM Peak = 1.0288
2018-2025 Weekday AM Peak = 1.1099
2018-2025 Weekday PM Peak = 1.1033
2020-2025 Saturday Peak = 1.0725

8.16 These TEMPro factors assume an approximate 1.5% growth in background traffic per year. These TEMPro factors have been calculated without consideration for any permanent changes to travel behaviour that may be brought about by Covid-19. At the time of writing travel behaviour in the UK is in a state of flux and it is considered likely that future travel demand will be lower than that projected by the TEMPro factors due principally to an increase in tendency to work from home.

8.17 However, the long-term impact of Covid-19 is still not clear, and projections of what future travel behaviours may look like is beyond the scope of this report. Consequently, the TEMPro factors will be used to forecast future baseline traffic flows, however these baseline traffic flows should be considered to represent a robust forecast.

8.18 It should also be noted that TEMPRO traffic growth rates already account for local committed developments and therefore an element of 'double-counting' of the traffic generated by these developments exists within the scenarios tested. Nevertheless, local committed development has been specifically considered to provide an even more robust assessment.

Committed Development

8.19 The same committed developments that were considered by the Havant Crematorium TA, as well as Havant Crematorium itself, have been considered in this assessment:

Linden Homes Development Site (90% occupied)
Land South of Bartons Road (0% occupied)
Land West of Havant Crematorium (0% occupied)

8.20 It should be noted that the same level of occupation as used by the Havant Crematorium TA has been used in this assessment which represents a worst case.

Proposed Development Trip Generation

8.21 To calculate the trip generation of the proposed development, the TRICS database has been used to calculate trip generation from similar sites with appropriate parameters selected based on scale and location. The following category has been used:

Proposed apartments – 'RESIDENTIAL - FLATS PRIVATELY OWNED'

8.22 Full TRICS output data is included at Appendix L.

8.23 The calculated trip generation of the proposed development is detailed in Table 6.

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)			Sat Peak (12:30-13:30)		
	Arr	Dep	Tot	Arr	Dep	Tot	Arr	Dep	Tot
Proposed Residential									
Trip Rates (per unit)	0.066	0.197	0.263	0.170	0.101	0.271	0.1115	0.1415	0.253
Trip Generation (175 units)	12	34	46	30	18	47	20	25	44

Table 6: Proposed Development Trip Generation

8.24 The proposed apartments will generate approximately 50 trips in the weekday AM peak, 52 trips in the weekday PM peak and 48 trips in the Saturday peak.

Proposed Development Trip Distribution

8.25 The trips generated by the proposed development have been distributed according to 2011 Census journey to work data and full details of this assessment are included at Appendix M.

Assessment Scenarios

8.26 The impact of the proposed development on both the Petersfield Road/ Bartons Road signalled junction, and the Bartons Road/ Site Access priority junction, has been assessed for the following scenarios:

2025 Assessment Year
2025 Assessment Year + Committed Development
2025 Assessment Year + Committed Development + Proposed Development

8.27 The junctions have both been assessed in the weekday AM and PM peak hours as well as the Saturday peak hour.

Model Development

8.28 Following the Bartons Road/ Knightswood Avenue traffic counts, the standalone signalled junction model has been updated to also include the Bartons Road/ Knightswood Avenue priority junction and the site access priority junction.

8.29 This network model has been developed in consultation with JCT, the developers and providers of the LinSig modelling software.

8.30 Throughout the application process the model for the Petersfield Road/ Bartons Road signalled junction has also been developed responding to comments made by HCC periodically, including comments as recent as September 2021 which were themselves informed by an independent review by Atkins.

8.31 The model has therefore been robustly assessed and developed with the involvement of several parties and can be considered to provide accurate calculations regarding junction performance.

8.32 The priority junctions were first modelled in accordance with the coefficients identified by JCT for non-signalised junctions, however following discussions with HCC the coefficients from the Junctions 9 model have now been used for the site access junction.

Modelling

8.33 The modelling results for each junction are presented in the following sections.

8.34 Full modelling outputs are included at Appendix N.

Petersfield Road/ Bartons Road Signalled Junction – Existing Layout

8.35 The existing layout of the Petersfield Road/ Bartons Road signalled junction has been modelled using LinSig junction modelling software. The results of the modelling of the Petersfield Road/ Bartons Road junction are shown by Table 7Error! Reference source not found..

Scenario	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)			Sat Peak (12:30-13:30)		
	Queue[1]	Delay[2]	Sat %[3]	Queue[1]	Delay[2]	Sat %[3]	Queue[1]	Delay[2]	Sat %[3]
Forecast 2025 Assessment Year									
Petersfield Rd North	14.8	31.9	77.3	10.5	38.3	71.9	11.6	37.6	74.4
Bartons Road	8.8	30.0	70.3	11.4	23.4	73.2	13.1	23.2	70.0
Petersfield Rd South	11.4	24.2	76.0	10.6	20.2	71.7	13.0	18.8	75.2
Forecast 2025 Assessment Year + Committed Development									
Petersfield Rd North	14.9	32.2	77.9	15.7	34.9	81.0	15.0	32.4	78.3
Bartons Road	10.7	33.2	77.8	9.5	31.0	74.3	10.1	32.4	76.0
Petersfield Rd South	11.9	25.4	78.2	12.7	25.8	79.6	12.4	26.4	80.0
Forecast 2025 Assessment Year + Committed Development + Proposed Development									
Petersfield Rd North	15.5	34.4	80.3	15.9	35.3	81.6	15.7	34.7	80.7
Bartons Road	10.8	29.6	72.2	10.1	31.7	76.0	10.7	32.9	78.3
Petersfield Rd South	12.3	26.3	79.6	13.8	28.2	83.1	12.7	25.8	79.6

Table 7: B2149 Petersfield Road/ Bartons Road Junction Modelling (Existing Layout)

Notes:
1. The mean maximum queue predicted by the model across all cycles for the whole time period.
2. The mean delay per PCU (Passenger Car Unit) predicted by the model for the whole time period.
3. The Degree of Saturation predicted by the model for the time period.

8.36 The modelling results demonstrate that the trip generation associated with the proposed development can be accommodated by the existing arrangement and signal timings of the Petersfield Road/ Bartons Road signalled junction without any capacity improvements being required.

8.37 Nonetheless, the proposed improvement scheme described earlier in the report does include changes to the Bartons Road approach to the junction. The 'long lane' has been switched such that the left-turn lane is the long lane, and the right-turn lane is the 'short lane' with this arrangement better reflecting the turning proportions of traffic approaching the junction on Bartons Road. The proposed improvement scheme also includes the introduction of an additional signal head on the Petersfield Road northern approach to allow the left turn movement to operate independently of the straight-ahead movement. Both of these changes improve the performance of the junction.

8.38 The proposed improvement scheme also includes the introduction of signalised pedestrian and cycle crossing points over the Bartons Road approach. This change worsens the performance of the junction but is proposed as it provides benefit for pedestrians and cyclists.

Petersfield Road/ Bartons Road Signalled Junction – Proposed Layout

8.39 Modelling results of the improvement scheme, including the signalised crossings, are shown by Table 8.

Scenario	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)			Sat Peak (12:30-13:30)		
	Queue[1]	Delay[2]	Sat %[3]	Queue[1]	Delay[2]	Sat %[3]	Queue[1]	Delay[2]	Sat %[3]
Forecast 2025 Assessment Year + Committed Development + Proposed Development									
Petersfield Rd North	16.3	38.1	84.3	11.9	45.5	81.2	12.7	43.2	80.8
Bartons Road	12.6	36.5	81.2	14.5	29.6	83.8	15.3	25.6	76.0
Petersfield Rd South	13.7	31.6	85.7	13.2	24.1	81.4	14.6	20.9	80.2

Table 8: B2149 Petersfield Road/ Bartons Road Junction Modelling (Proposed Layout)

Notes:
1. The mean maximum queue predicted by the model across all cycles for the whole time period.
2. The mean delay per PCU (Passenger Car Unit) predicted by the model for the whole time period.
3. The Degree of Saturation predicted by the model for the time period.

8.40 The modelling results demonstrate that the proposed improvement scheme provides sufficient capacity for the anticipated vehicular demand during the peak hours.

8.41 Furthermore, the reduction in capacity of the junction between Table 7 and Table 8 is attributable entirely to the proposed improvement scheme, including particularly the introduction of the signalised crossing points. A judgement must therefore be made regarding whether the slight forecast increase in delay to drivers during the peak hours is worth the provision of the signalised crossing points which will significantly improve the pedestrian and cycle environment.

8.42 In any case, the Petersfield Road/ Bartons Road signalled junction can accommodate the traffic associated with the proposed development, without exceeding capacity, both with or without the proposed improvement scheme.

8.43 The modelling results assume that the pedestrian/ cycle phase would be called an average of once every two cycles, as discussed previously with HCC. To account for this, 'bonus green' has been added to the phase immediately following the pedestrian/ cycle phase.

8.44 The pedestrian and cycle phases (Phases G and H) are included within Stage 4 which is then followed by Stage 1 during which the left turn from Petersfield Road north commences (Phase F). The minimum green time for the pedestrian and cycle phases is 6s and the intergreen time for Phases G and H giving way to Phase F is 13s. This means that a total of 19s delay is incurred to the start of Phase F each time the pedestrian/ cycle crossing is called. Consequently, to account for the fact that the pedestrian/ cycle phase is anticipated to be called approximately once every two cycles, a 9s bonus green has been added to the start of Phase F.

8.45 It is also worth noting that no adjustment has been made in this modelling exercise to account for the anticipated modal shift to walking and cycling as a result of the proposed improvements to the local walking and cycling environment. These improvements are substantial and would inevitably lead to fewer car journeys, and more walking and cycling journeys.

Bartons Road/ Site Access Priority Junction

8.46 The Bartons Road/ Site Access priority junction has been modelled using Junctions 9 junction modelling software using the geometric inputs associated with the site access strategy outlined earlier in this report. The results of the modelling of the Bartons Road/ Site Access junction are shown by Table 9.

Scenario	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)			Sat Peak (12:30-13:30)		
	Queue[1]	Delay[2]	RFC[3]	Queue[1]	Delay[2]	RFC[3]	Queue[1]	Delay[2]	RFC[3]
Forecast/ Recorded 2020 Baseline Year									
Site Access	0.1	9.27	0.09	0.1	10.39	0.06	0.1	10.70	0.08
Bartons Road	0.0	7.22	0.02	0.1	8.46	0.06	0.0	8.25	0.04

Table 9: Bartons Road/ Site Access Junction Modelling (Proposed Layout)

Notes: 1. The mean maximum queue predicted by the model for the whole time period.
2. The mean delay per PCU (Passenger Car Unit) predicted by the model for the whole time period.
3. The Ratio of Flow to Capacity predicted by the model for the time period.

8.47 The modelling results demonstrate that the trip generation associated with the proposed development can be accommodated by the proposed improvement to the existing access junction. The anticipated queues in the right turn lane are 0.0 in the AM peak hour, 0.1 in the PM peak hour, and 0.0 in the Saturday peak hour.

Interaction Between Junctions

8.48 The Bartons Road/ Site Access junction provides a right turn lane with space for three vehicles, ensuring that vehicles waiting to turn right into the site from Bartons Road will not hold up eastbound traffic on Bartons Road. The right turn lane provides sufficient storage for the anticipated queues. The junction also provides yellow box hatching to ensure that westbound vehicles on Bartons Road will not block right turn movements to the site.

8.49 The Bartons Road/ Knightwood Avenue junction also now provides a right turn lane which is currently not provided, and this right turn lane provides storage capacity for two vehicles. This ensures that vehicles waiting to turn right into Knightwood Avenue from Bartons Road will not hold up westbound traffic on Bartons Road as they would currently.

8.50 Despite the provision of right turn lanes for both priority junctions which ensures that right turning vehicles will not hold up through traffic on Bartons Road, these priority junctions have been included in a LinSig network alongside the Petersfield Road/ Bartons Road signalled junction, as requested by HCC due to concerns related to potential interaction between junctions. The 'slope' and 'intercept' parameters from the Junctions 9 model for the site access have been used within the LinSig model also to provide the most accurate assessment possible of queuing at the site access junction.

8.51 This LinSig model suggests that the right turn lane at the site access can be anticipated to experience queues of 0.3 in the AM peak hour, 0.2 in the PM peak hour, and 0.3 in the Saturday peak hour. The reason for the difference in these values to those predicted by Junctions 9 is unclear, however the worst-case queues predicted by LinSig are 0.3 vehicles which is comfortably less than the storage provided by the right turn lane.

8.52 It is worth noting that the modelling results for the signalled junction are unchanged by the addition of the adjacent priority junctions and are unchanged by the slight change in parameters of the site access junction to match the Junctions 9 model. This exercise has therefore demonstrated that there is no interaction between the signalled and priority junctions. This lack of interaction is consistent with the low number of right turning vehicles at each priority junction.

8.53 The number of right turning vehicles into Knightwood Avenue is 4 in the AM peak hour, 6 in the PM peak hour, and 6 in the Saturday peak hour. This amounts to a worst case of approximately one right turning vehicle every ten minutes which would comfortably be accommodated by a right turn lane with storage space for two vehicles.

8.54 The number of right turning vehicles into the site access is 10 in the AM peak hour, 26 in the PM peak hour, and 17 in the Saturday peak hour. This amounts to a worst case of one right turning vehicle every two minutes. Given that the right turn lane can accommodate three vehicles it is highly unlikely that queuing would regularly exceed the right turn lane, let alone extend as far back at the signalled junction.

8.55 Furthermore, the previous office use is estimated to have generated 31 right turning vehicles in the AM peak hour, which is a greater number than the worst-case generation of the proposed development, despite this previous use not having been provided with a right turn lane. The proposed development can therefore only be seen to represent an improvement in terms of right turn provision.

8.56 In summary, there is no evidence that the performance of the Petersfield Road/ Bartons Road signalled junction is affected by the site access or Knightwood Avenue priority junctions, which are both existing, which both experience low numbers of right turning vehicles, and which are both being improved with the provision of right turn lanes.

9. COMPARISON OF SCENARIOS

Existing Scenario

9.1 The site currently benefits from a permitted office use and the site previously accommodated the Former Scottish and Southern Energy offices. This permitted use could be accessed from the simple priority junction arrangement to Bartons Road. The permitted office land use, accessed from a simple priority junction, represents the existing scenario.

9.2 To estimate the trip generation of the proposed development, the TRICS database has been used to calculate trip generation from similar sites with appropriate parameters selected based on scale and location. The category 'EMPLOYMENT – OFFICE' has been used.

Local Plan Scenario

9.3 The site is proposed for allocation for "around 80 dwellings" within the emerging Havant Borough Local Plan which has been undergoing examination since February 2021. The development of the site to provide 80 dwellings represents an alternative development scenario.

9.4 To estimate the trip generation of the proposed allocation, the TRICS database has been used to calculate trip generation from similar sites with appropriate parameters selected based on scale and location. The category 'RESIDENTIAL – HOUSES PRIVATELY OWNED' has been used.

Proposed Scenario

9.5 The proposed development is for 175 apartments and the associated trip generation has been set out earlier in this report.

Comparison of Scenarios

A comparison of the existing, Local Plan, and proposed scenarios, in terms of their respective trip generations, is shown by Table 10.

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr	Dep	Tot	Arr	Dep	Tot
Existing Office Trip Generation						
Trip Rates (per 100 sqm)	1.648	0.145	1.793	0.206	1.425	1.631
Trip Generation (2,250 sqm)	37	3	40	5	32	37
Emerging Local Plan Allocation Generation						
Trip Rates (per house)	0.134	0.411	0.545	0.387	0.187	0.574
Trip Generation (80 houses)	11	33	44	31	15	46
Proposed Development						
Trip Rates (per flat)	0.066	0.197	0.263	0.170	0.101	0.271
Trip Generation (175 flats)	12	34	46	30	18	47

Table 10: Proposed Development Trip Generation

9.6 The existing development/ permitted use is estimated to have generated 40 trips in the AM peak hour and 37 trips in the PM peak hour.

9.7 The proposed allocation of the site for 80 dwellings would be estimated to be likely to generate 44 trips in the AM peak hour and 47 trips in the PM peak hour.

9.8 The actual proposed development is anticipated to generate 46 trips in the AM peak hour and 47 trips in the PM peak hour.

9.9 The trip generation of the proposed development is broadly comparable to the permitted office use and is also broadly comparable to the proposed allocated use.

Comparison of Existing and Proposed Scenarios

9.10 The existing scenario has been compared with the proposed scenario and this comparison is summarised by Table 11.

Issue	Existing Scenario	Proposed Scenario
Vehicular Environment		
Traffic flows	Unchanged	Broadly comparable/ minor increase
Modelling of site access	Junction within capacity	Junction within capacity
Modelling of signalled junction	Junction within capacity	Junction within capacity
Lane allocations at signalled junction	Do not appropriately reflect flows	Do appropriately reflect flows
Knightwood Avenue	No right turn lane	Right turn lane provided
Site access	No right turn lane	Right turn lane provided
Havant and Waterlooville FC	Conflict with pedestrians	No conflict with pedestrians
Cycle and Pedestrian Environment		
Cycle provision on Bartons Road	Cyclists on carriageway	Shared cycle/ pedestrian route
Cycle crossing provision	Unsignalised crossing	Signalised crossing
Pedestrian crossing provision	Unsignalised crossing	Signalised crossing and refuge island
Knightwood Avenue	Kerb buildout missing	Missing kerb buildout provided
Martin Road	Section of footway missing	Missing section of footway provided
Internal site layout	No through route	Through route provided

Table 11: Comparison of Existing Scenario with Proposed Scenario

9.11 The items coloured red reflect an unfavourable comparison while the items coloured green represent a favourable comparison. Compared to the existing scenario it is clear that the proposed scenario represents a significant improvement both to the vehicular, and the pedestrian and cycle environment in the vicinity of the site.

10. SUMMARY AND CONCLUSION

10.1 This Transport Assessment (TA) has been prepared by Paul Basham Associates on behalf of Fortitudo Ltd to support a planning application for a mixed-use development comprising 175 apartments at the site of the former Scottish and Southern Energy (SSE) offices on Bartons Road, Havant.

10.2 The site is allocated for development by the Havant Borough Local Plan Allocations DPD. The planning application for the proposed development was validated in October 2020 and the development proposal at this point included two drive-thru units as well as the proposed apartments.

10.3 The development proposals now do not include the two drive-thru units with the proposed development now entirely residential. The impact of this change in transport terms is that the proposed development is now anticipated to generate significantly fewer vehicle movements and now does not generate any HGV movements. The reduced trip generation has implications principally on the capacity of the Petersfield Road/ Bartons Road signalled junction which is improved. The removal of HGV trips has implications principally for the design of the access junction which is now not required to be as wide as previously proposed. This TA has been comprehensively updated (Revision 6) in order to assess the impact of the revised development proposals.

10.4 The site is well located for sustainable transport with a wide range of facilities located within walking and cycling distance and high-quality pedestrian and cycle facilities in the vicinity including National Cycle Network Route 22 which provides a direct link between the site and Havant Town Centre. The site also benefits from regular bus services to Portsmouth and Havant including Havant railway station which provides services to Portsmouth Harbour, Southampton Central, Brighton, London Waterloo and London Victoria.

10.5 The proposed development will be accessed from Bartons Road in the same location as the existing simple priority junction access which will be upgraded to a ghost-island right turn lane junction. The junction upgrade will also include a new pedestrian island on Bartons Road to facilitate crossing movements and upgrading of the existing footway on the south side of Bartons Road to a 3.0m shared cycle/ footway to connect the site to National Cycle Network Route 22. The proposed development will also provide signalised pedestrian and cycle crossing points at the Petersfield Road junction and a secondary cycle and pedestrian access to Martin Road.

10.6 The access arrangements represent a significant improvement on the existing situation and considerably improve the local walking and cycling conditions for both users of the proposed development and the wider public.

10.7 The apartments will be provided with 182 car parking spaces at an approximate ratio of one parking space per apartment. This is in line with local standards while considerably in excess of local car ownership rates for this accommodation type. The proposed development will provide 245 cycle parking spaces, in excess of parking standards.

10.8 A comprehensive assessment has been undertaken to understand the impact of traffic generated by the proposed development on both the Petersfield Road/ Bartons Road signalled junction and the Bartons Road/ Site Access priority junction. This assessment includes modelling of the weekday AM and PM peak hours as well as the Saturday peak hour, to ensure the busiest periods for trip generation of the proposed development are considered.

10.9 The traffic impact assessment has demonstrated that the trip generation associated with the proposed development can be accommodated by the existing arrangement and signal timings of the Petersfield Road/ Bartons Road signalled junction without any capacity improvements being required. Nonetheless, the access strategy for the proposed development does include significant improvements to the Petersfield Road/ Bartons Road signalled junction.

10.10 The traffic impact assessment has also demonstrated that the proposed access junction improvement would provide safe and suitable access to the proposed development without impacting the operation or performance of the Petersfield Road/ Bartons Road signalled junction.

10.11 This report demonstrates that the proposed development will not result in an unacceptable or severe impact upon the operation of the local highway network. In fact, the proposed development would lead to a significant improvement in the transport conditions in the vicinity of the site when compared to the existing scenario. It is therefore considered that there is no transport reason why the proposed development should not be permitted.

Appendix A

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

Notes:

Selected Polygon:AW ST ALBANS ROAD HAVANT BACS/SR/1220/131

150391920 11/11/2015 Time 0700 Vehicles 1 Casualties 1 Serious
E:472462 N: 107994 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lighting unknown Fine without high winds
Special Conditions at Site None Carriageway Hazards: Any animal in carriageway (except r
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Travelling too fast for conditions	Vehicle 1	Possible
2nd:	Poor turn or manoevre	Vehicle 1	Possible
3rd:	Sudden braking	Vehicle 1	Possible
4th:	Swerved	Vehicle 1	Possible
5th:	Inexperienced or learner driver/rider	Vehicle 1	Very Likely
6th:	Animal or object in carriageway	Vehicle 1	Possible

VEH 1 (M/CYCLE) TRAVELLING NE ALONG MARTIN ROAD AROUND LEFT HAND BEND WHEN RIDER STATES THEY SWERVED TO AVOID A CAT CAUSING VEH TO LOSE CONTROL AND LEAVE THE ROAD TO THE OFFSIDE COLLIDING WITH METAL RAILINGS.
Occurred on MARTIN ROAD OUTSIDE NEST INDUSTRIAL ESTATE, HAVANT, HAMPSHIRE

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Going ahead left bend
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: Wall or fence
O/S Age of Driver 23 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 23 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

160328225 31/08/2016 Time 2100 Vehicles 2 Casualties 1 Serious
E: 472138 N: 108144 First Road: B 2149 Road Type Dual carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Automatic traffic signal Unclassified
Crossing: Control None Facilities: Ped. phase at traffic signal junction Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Cyclist entering road from pavement	Vehicle 2	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

VEH 2 (P/CYCLE) TRAVELLING W FROM BARTONS ROAD CROSSES JUNCTION WITH B2149 PETERFIELD RD WHEN LIGHTS FOR SOUTHBOUND TRAFFIC CHANGED TO GREEN, VEH 1 (CAR) DID NOT SEE VEH 2 PROCEEDS AND COLLIDES INTO SIDE OF VEH 2.
Occurred on B2149 PETERSFIELD ROAD AT JUNCTION WITHBARTONS ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 62 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 62 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44170281006 21/07/2017 Time 1603 Vehicles 2 Casualties 1 Slight
E: 472061 N: 107936 First Road: B 2149 Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Automatic traffic signal Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 2	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 2	Possible
3rd:			
4th:			
5th:			
6th:			

VEH 2 (TAXI) TRAVELLING S ALONG B2149 PETERSFIELD ROAD COLLIDES WITH THE REAR OF VEH 1 (CAR) SLOWING IN TRAFFIC TRAVELLING IN THE SAME DIRECTION
Occurred on B2149 PETERSFIELD ROAD AT JUNC TION WITH STOCKHEAD ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Stopping
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 70 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 70 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Taxi/Private hire car Stopping
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44170447713 17/11/2017 Time 0821 Vehicles 2 Casualties 1 Slight
E: 472364 N: 107208 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoevre	Vehicle 2	Very Likely
2nd:	Failed to look properly	Vehicle 2	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH1 (P/CYCLE) TRAVELLING NE ON NEW LANE IS CORSSING JUNCTION WITH CROSSLAND DRIVE AND IS HIT BY VEH2 (VAN) PULLING OUT OF CROSSLAND DRIVE KNOCKING OFF RIDER AND CAUSING MINOR INJURY.
Occurred on NEW LANE AT JUNCTION WITH CROSSLAND DRIVE, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Pedal Cycle Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 29 Female
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 29 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: No

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Turning left
Vehicle movement from W to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Male
Not hit and run Breath test Negative
Left hand drive: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44180021695 17/01/2018 Time 1825 Vehicles 1 Casualties 1 Serious
E:472442 N: 107980 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None

Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Dazzling headlights	Vehicle 1	Possible
2nd:	Exceeding speed limit	Vehicle 1	Possible
3rd:	Swerved	Vehicle 1	Very Likely
4th:	Loss of control	Vehicle 1	Very Likely
5th:			
6th:			

VEH1 (CAR) TRAVELLING SW ON MARTIN ROAD LOSES CONTROL GOING AROUND R/H BEND AND LEAVES THE CARRIAGEWAY OFFSIDE AND COLLIDES WITH A TREE. DRIVER SUFFERS SERIOUS INJURY.
Occurred on MARTIN ROAD OUTSIDE BUSINESS PARK, WEST LEIGH, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead right bend
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: Tree
O/S Age of Driver 50 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 50 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44180106825 22/03/2018 Time 1010 Vehicles 2 Casualties 1 Slight
E: 472058 N: 107928 First Road: B 2149 Road Type Dual carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Automatic traffic signal Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 2	Possible
2nd:	Careless/Reckless/In a hurry	Vehicle 2	Possible
3rd:	Failed to judge other persons path or speed	Vehicle 2	
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING S ALONG PETERSFIELD ROAD PULLS OFF AFTER HAVING BEEN STOPPED AT TRAFFIC LIGHTS. VEH2 (CAR) PULLS OFF BEHIND VEH1 BUT ACCELARATES TOO QUICKLY AND DRIVES INTO THE REAR OF VEH1.
Occurred on B2149, PETERSFIELD ROAD, AT JUNCTION WITH STOCKHEATH ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Car Starting
Vehicle movement from NE to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 47 Female
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 47 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Starting
Vehicle movement from NE to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Male
Not hit and run Breath test Negative
Left hand drive: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44180136817 13/04/2018 Time 1545 Vehicles 2 Casualties 1 Serious
E: 472308 N: 107547 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Pri Drive Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 2	Possible
2nd:	Failed to judge other persons path or speed	Vehicle 1	Possible
3rd:	Poor turn or manoevre	Vehicle 2	
4th:			
5th:			
6th:			

VEH2 (CAR) TRAVELLING NW ALONG ST ALBANS ROAD TURNS RIGHT INTO ROAD LEADING TO GARAGES, FAILING TO GIVE WAY TO VEH1 (P/CYCLE) TRAVELLING S ALONG ST ALBANS ROAD.
Occurred on ST ALBANS ROAD, AT JUNCTION WITH ENTRACE TO GARAGES BEHIND NO.62, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Pedal Cycle Going ahead other
Vehicle movement from NW to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 49 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 49 Female Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

Vehicle Reference 2 Car Turning right
Vehicle movement from S to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 32 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44180238378 26/06/2018 Time 0537 Vehicles 2 Casualties 1 Slight
E: 472153 N: 107890 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (BUS) TRAVELLING N ALONG ST ALBANS ROAD, TURNS RIGHT ONTO MARTIN ROAD AND COLLIDES WTIH VEH2 (P/CYCLE) TRAVELLING W ALONG MARTIN ROAD.
Occurred on MARTIN ROAD AT JUNCTION WITH ST ALBANS ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Bus or coach Turning right
Vehicle movement from S to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 50 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 47 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 47 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not known

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44180284199 27/07/2018 Time 1018 Vehicles 1 Casualties 1 Slight
E: 472358 N: 107208 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Disability or illness, mental or physical	Casualty 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (TAXI) TRAVELLING E ALONG CROSSLANDS DRIVE GOES TO TURN RIGHT ONTO NEW LANE WHEN CAS1 (PEDESTRIAN) RUNS ACROSS THEIR PATH TRAVELLING N.
Occurred on CROSSLAND DRIVE, AT JUNCTION WITH NEW LANE, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Taxi/Private hire car Turning right
Vehicle movement from W to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 20 Female Pedestrian Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

In carr elsewhere N bound

Driver's offside

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

Notes:

44180314134 19/08/2018 Time 1329 Vehicles 3 Casualties 1 Slight
E: 472409 N: 108155 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Illness or disability, mental or physical	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING E ALONG BARTONS ROAD TURNS LEFT INTO FORESTSIDE AVENUE AND COLLIDES WITH VEH2 (CAR) PARKED AND UNATTENDED ON THE OFFSIDE, PUSHING IT FORWARD INTO VEH3 CAR) PARKED AND UNATTENDED ON THE OFFSIDE. VEH1 MOUNTS VEH2.
Occurred on FORESTSIDE AVENUE, AT JUNCTION WITH BARTONS ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Car Turning left
Vehicle movement from SW to N No tow / articulation Leaving the main road
On main carriageway Overturned
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 64 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 64 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Parked
Vehicle movement from Park to Parked No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Not requested
Left hand drive: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

Notes:

Vehicle Reference 3 Car Parked
Vehicle movement from Park to Parked No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Not requested
Left hand drive: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44180335077 04/09/2018 Time 1811 Vehicles 2 Casualties 1 Slight
E: 472156 N: 107884 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by alcohol	Vehicle 1	Very Likely
2nd:	Cyclist entering road from pavement	Vehicle 2	Very Likely
3rd:	Failed to look properly	Vehicle 2	
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING W ALONG MARTIN ROAD TURNS LEFT ONTO ST ALBANS ROAD AT THE SAME TIME AS VEH2 (P/CYCLE) CROSSES ST ALBANS ROAD TRAVELLING W AND THE TWO COLLIDE IN THE ROAD.
Occurred on ST ALBANS ROAD AT JUNCTION WITH MARTIN ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Car Turning left
Vehicle movement from E to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 33 Male
Not hit and run Breath test Positive
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from NE to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 36 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 36 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44180361369 25/09/2018 Time 0713 Vehicles 2 Casualties 1 Serious
E:472369 N: 107205 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Possible
3rd:	Dazzling sun	Vehicle 1	
4th:			
5th:			
6th:			

VEH1 (VAN) TRAVELLING E ALONG CROSSLAND DRIVE TURNS RIGHT ONTO NEW LANE, FAILING TO NOTICE VEH2 (M/CYCLE) THAT IS TURNING RIGHT TO TRAVEL W ON CROSSLAND DRIVE.
Occurred on CROSSLAND DRIVE AT JUNCTION WITH NEW LANE, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Turning right
Vehicle movement from W to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 67 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Motor Cycle over 50 cc and up to 125cc Turning right
Vehicle movement from N to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 40 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 40 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44190025868 22/01/2019 Time 0905 Vehicles 2 Casualties 1 Slight
E: 472059 N: 107930 First Road: B 2149 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Automatic traffic signal Unclassified
Crossing: Control None Facilities: Ped. phase at traffic signal junction Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH1 (M/CYCLE) TRAVELLING S ALONG B2149 PETERSFIELD ROAD APPROACHES VEH2 (CAR) IN FRONT, HELD AT ATS. VEH1 BRAKES HARD, AND LOSES CONTROL, SKIDDING NTO THE REAR OF VEH2.
Occurred on B2149 PETERSFIELD ROAD AT JUNCTION WITH STOCKHEATH ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Stopping
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 19 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 19 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead but held up
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 56 Female
Not hit and run Breath test Negative
Left hand drive: No

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44190147029 29/04/2019 Time 1540 Vehicles 1 Casualties 1 Slight
E: 472324 N: 107320 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Casualty 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

CAS1 (PEDESTRIAN) CROSSED ST ALBAN'S ROAD TRAVELLING W INTO THE PATH OF VEH1 (CAR) TRAVELLING S ALONG ST ALBAN'S ROAD.
Occurred on ST ALBANS ROAD AT JUNCTION WITH KYOTO WALK, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 39 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 5 Male Pedestrian Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

In carr elsewhere W bound

Driver's nearside

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44190166309 14/05/2019 Time 2218 Vehicles 1 Casualties 1 Slight
E: 472144 N: 108122 First Road: B 2149 Road Type 2
Speed limit: 30 Junction Detail: T & Stag Jct Automatic traffic signal Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by alcohol	Vehicle 1	Very Likely
2nd:	Exceeding speed limit	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEH1 (CAR) TRAVELLING NE ALONG B2149 PETERSFIELD ROAD TURNED RIGHT INTO BARTONS ROAD AND CRASHED INTO SOME ROAD FURNISHINGS ON BARTONS ROAD, INLCUDING A TRAFFIC LIGHT.
Occurred on B2149 PETERSFIELD ROAD AT JUNCTION WITH BARTONS ROAD, HAVANT, HAMPSHIRE.

Vehicle Reference 1 Car Turning right
Vehicle movement from SW to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road Bollard / Refuge Off road: None
Did not leave carr Age of Driver 36 Male
Hit and run Breath test Failed to provide
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 36 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection: **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

44190217900 24/06/2019 Time 1645 Vehicles 2 Casualties 2 Serious
E: 472371 N: 107205 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEH 1 (M/CYCLE) TRAVELLING SW ALONG NEW LANE, RIDER FAILS TO VEH 2 (CAR) STATIONARY AND WAITING TO TURN RIGHT ONTO CROSSLAND DRIVE AND COLLIDES WITH REAR NEARSIDE OF VEH 2.
Occurred on NEW LANE AT JUNCTION WITH CROSSLAND DRIVE , HAVANT, HAMPSHIRE.

Vehicle Reference 1 Motor Cycle over 50 cc and up to 125cc Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 59 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 59 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Waiting to turn right
Vehicle movement from NE to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 25 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 25 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Accidents between dates **01/09/2015** **and** **31/08/2020** (60) months

Selection:

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Stats Requests - OLD ("AW ST ALBANS ROAD HAVANT BACS/SR/1220/131")

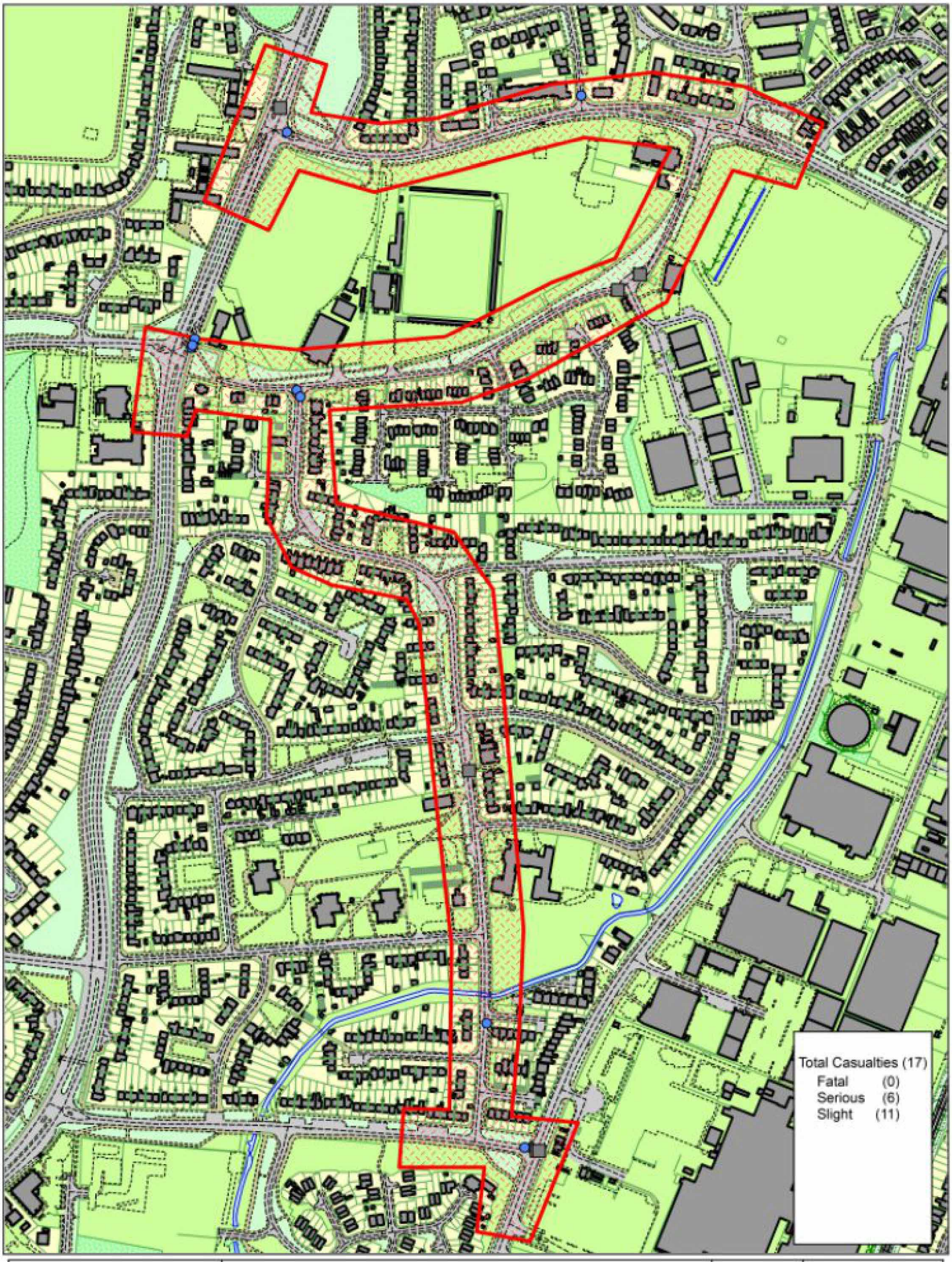
Notes:

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	1	6	7
2-wheeled motor vehicles	0	3	1	4
Pedal cycles	0	2	3	5
Horses & other	0	0	0	0
Total	0	6	10	16

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	1	5	6
Passenger	0	0	0	0
Motorcycle rider	0	3	1	4
Cyclist	0	2	3	5
Pedestrian	0	0	2	2
Other	0	0	0	0
Total	0	6	11	17



HAMPSHIRE CONSTABULARY

St Albans Road, Bartons Road and Martin Road, Havant

SCALE	1 : 4500
DATE	04/01/2021
DRAWING No.	
DRAWN BY	

Appendix B

Appendix C

LC4415EW - Accommodation type by car or van availability by number of usual residents aged 17 or over in household

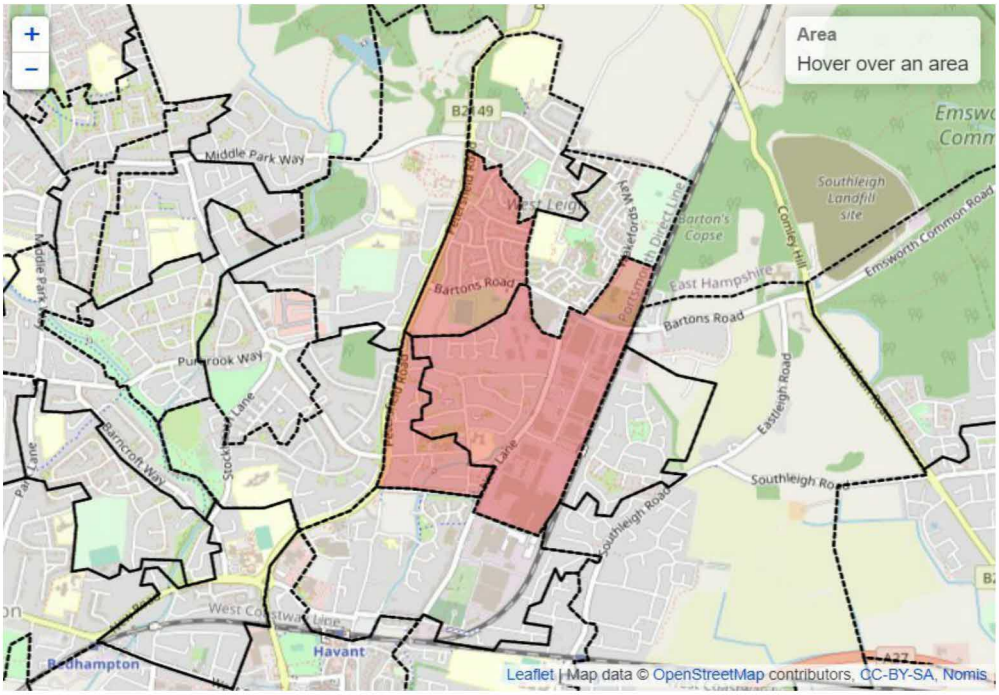
ONS Crown Copyright Reserved [from Nomis on 24 June 2020]

Population:	All households
Units:	Households
Date:	2011
Accomodation type:	Flat, maisonette, apartment, caravan or other mobile or temporary structure

Query Details

Households within:

2011 Super Output Area - Lower Layer : Havant 009A, Havant 009D, Havant 009E

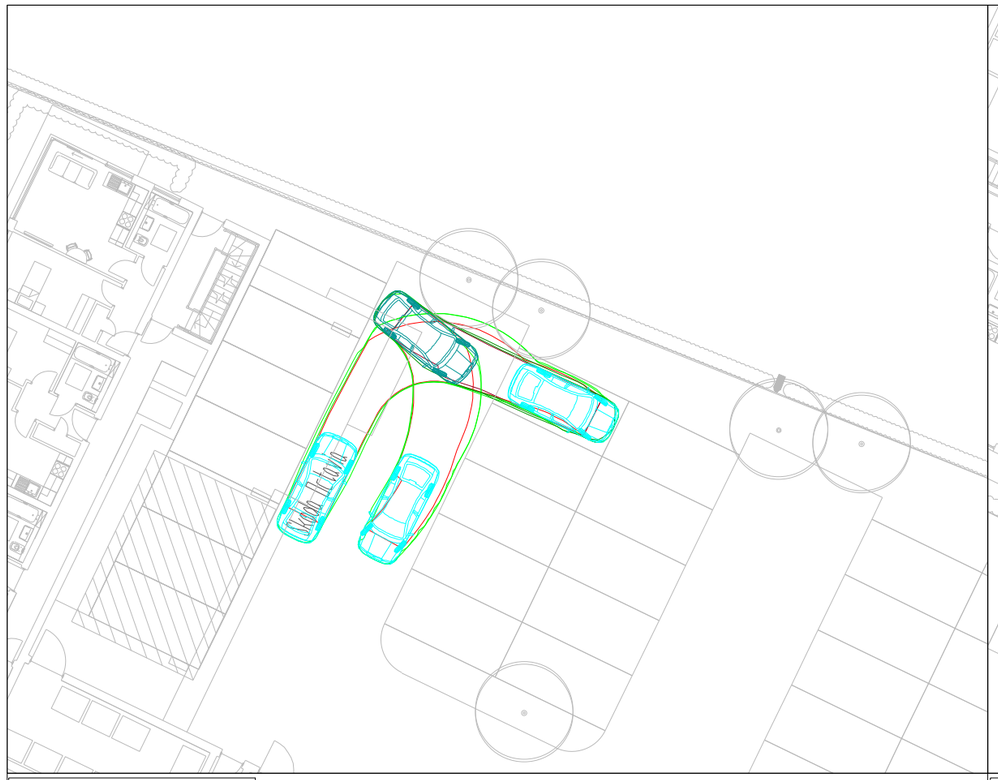


Car or Van Availability of Households

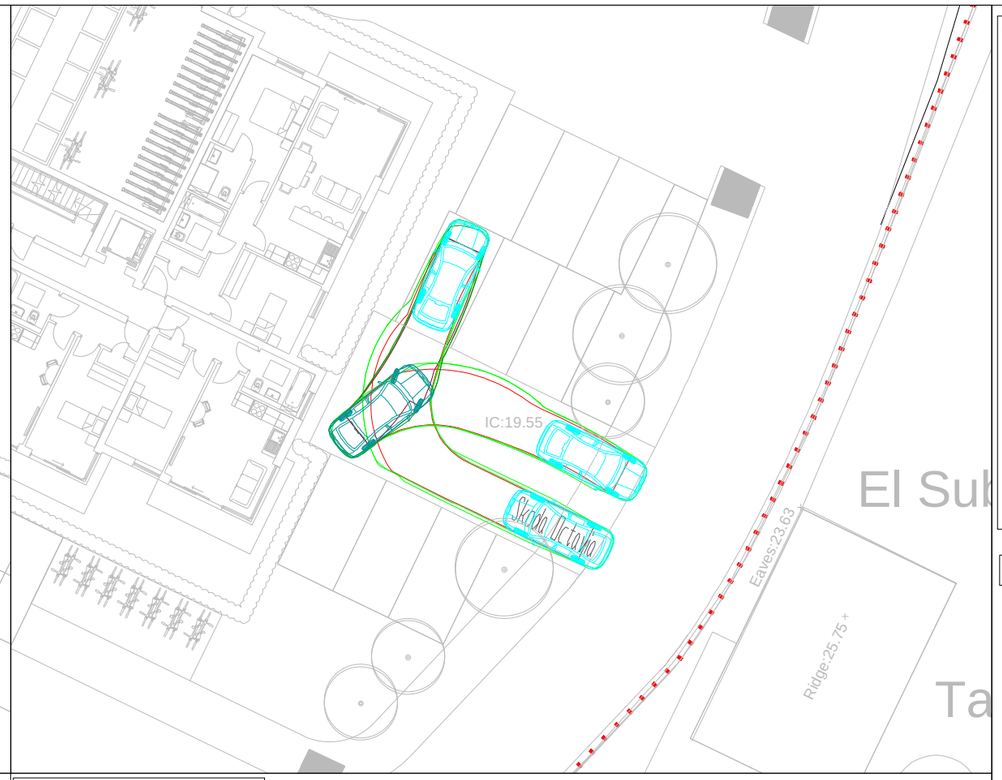
Number of Cars or Vans	Households	%	Cars or Vans
No cars or vans in household	218	60.2%	0
1 car or van in household	135	37.3%	135
2 or more cars or vans in household	9	2.5%	18
TOTAL	**362**	**100%**	**153**

Average Cars or Vans per Household: **0.42**

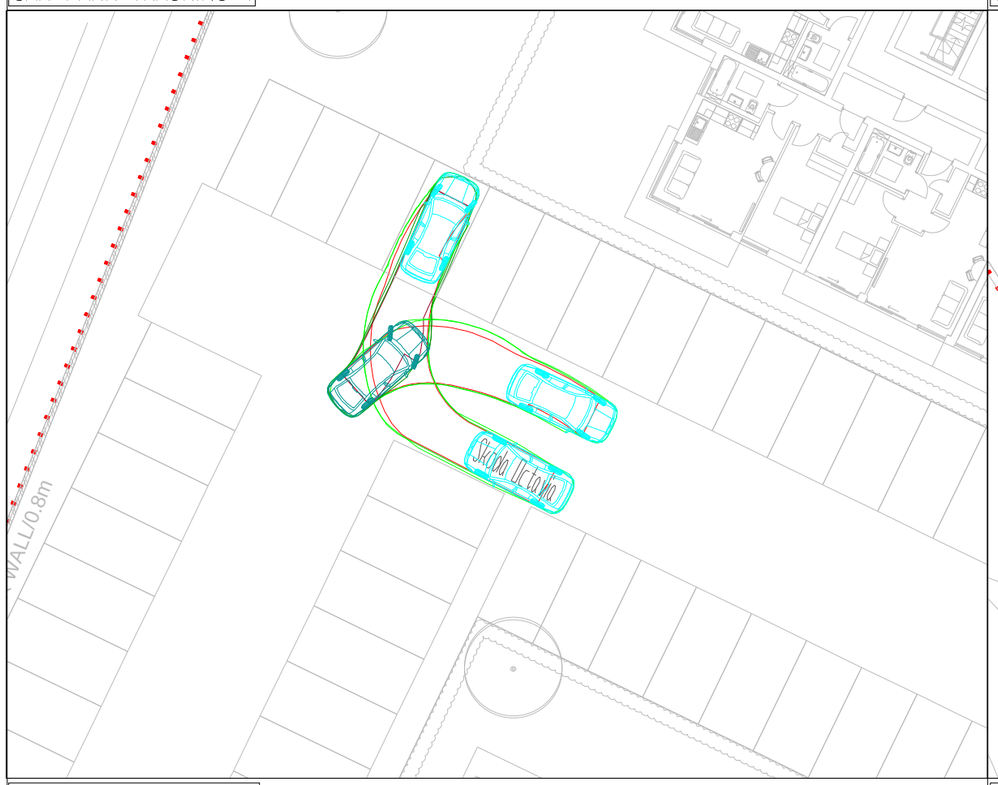
Appendix D



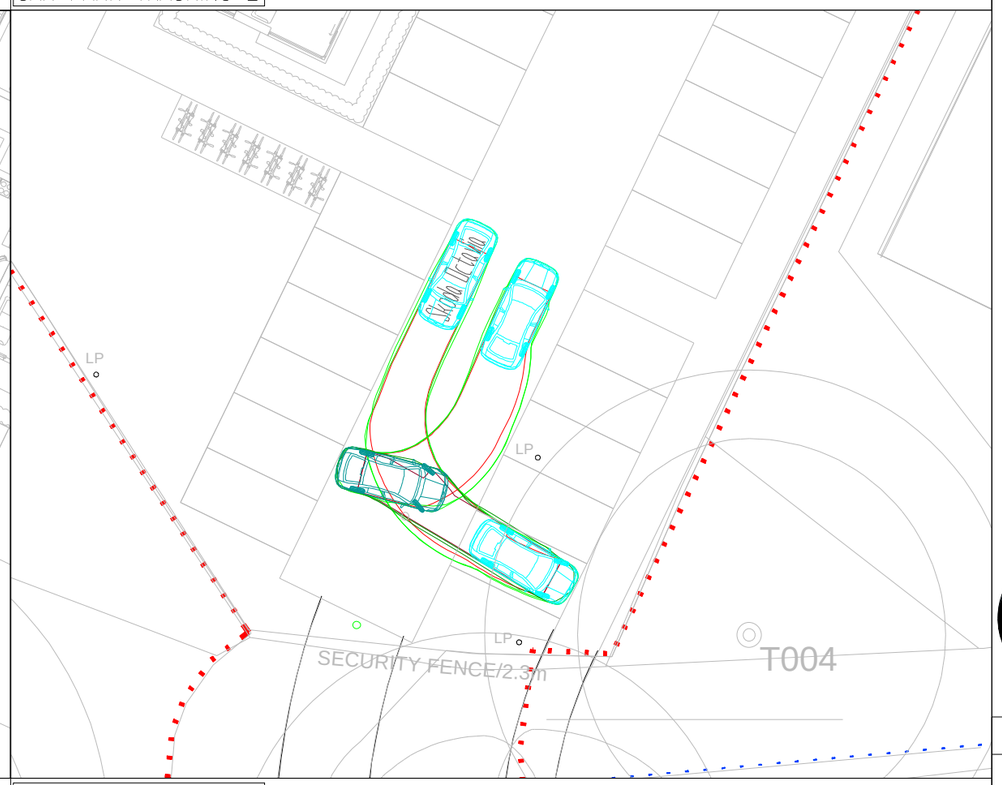
CAR PARK TRACKING 1



CAR PARK TRACKING 2



CAR PARK TRACKING 3

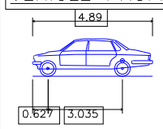


CAR PARK TRACKING 4

GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

VEHICLE PROFILE



Large Family Car	
Overall Length	4.890m
Overall Width	1.940m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5.900m

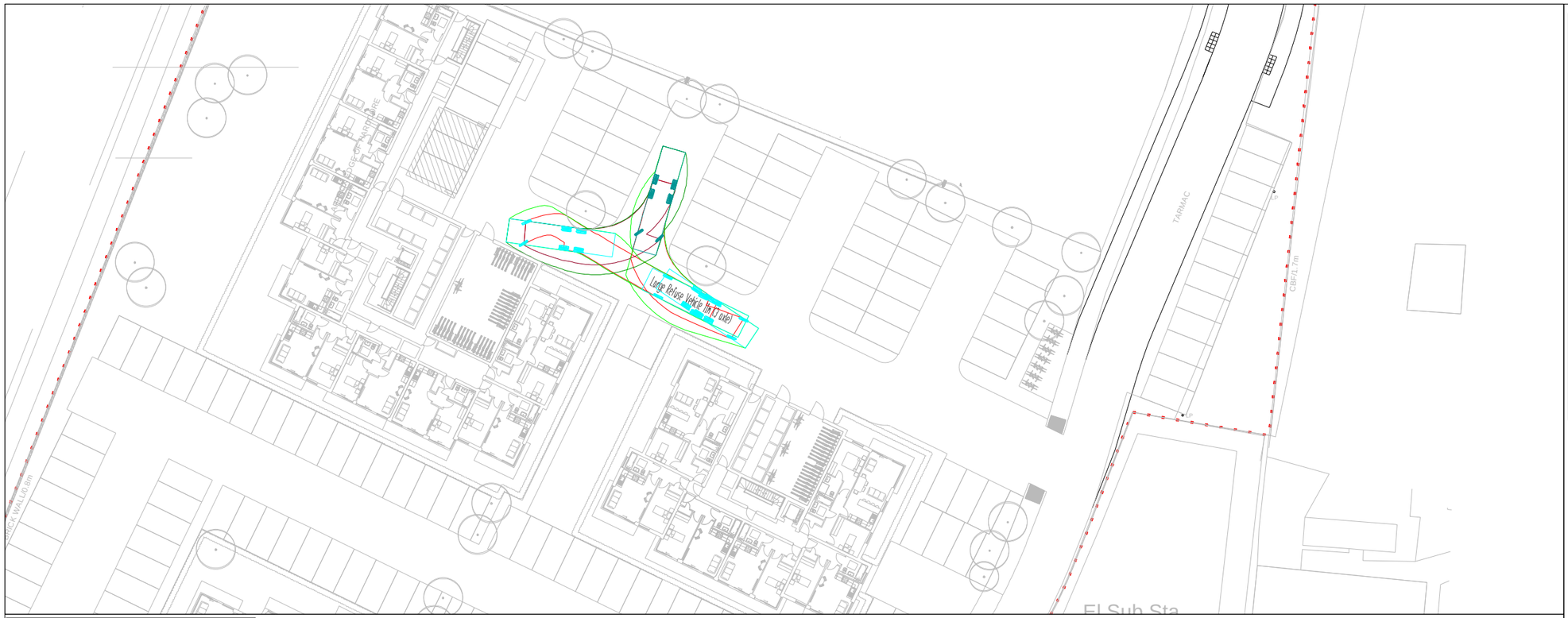
NORTH

Rev	Description	Date	By	Chkd
B	NEW LAYOUT	07.09.22	AST	AST
A	NEW LAYOUT	18.01.21	AST	RH

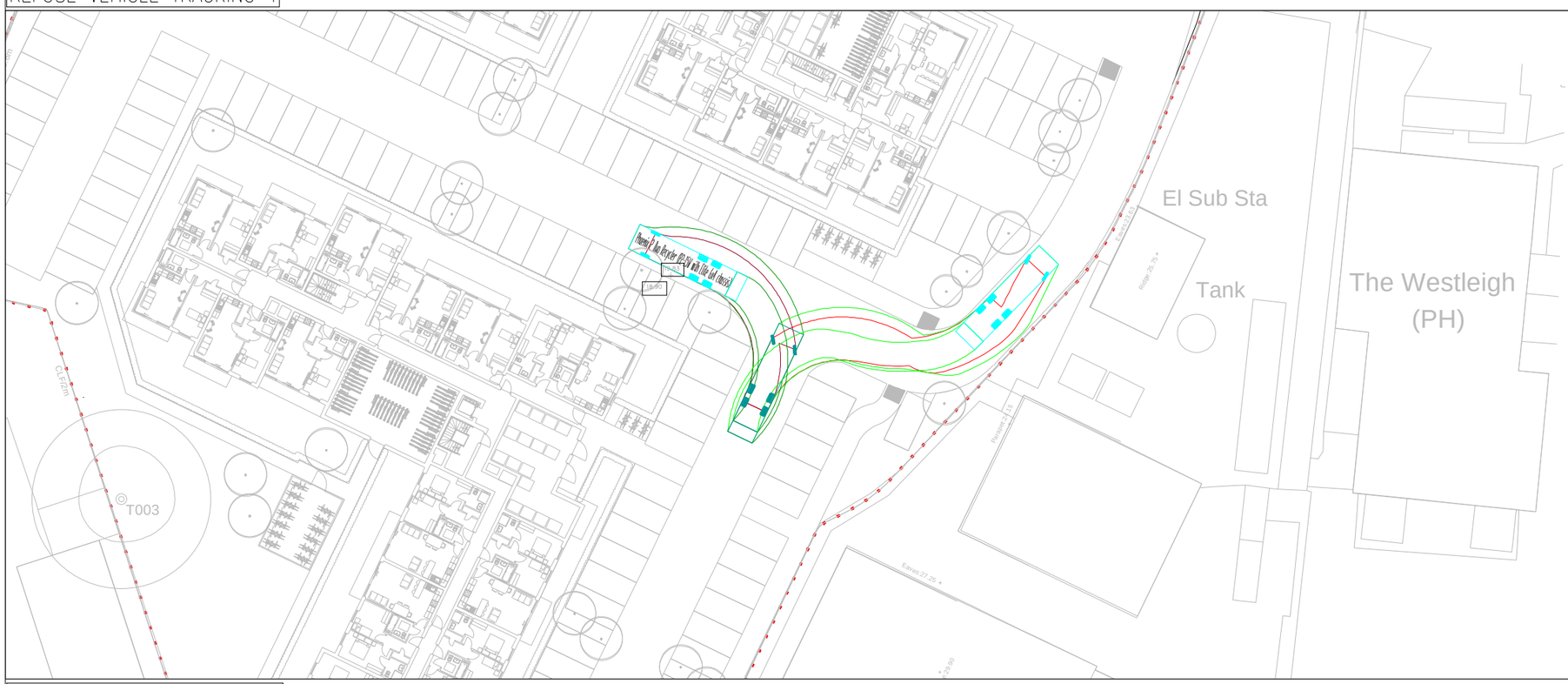
Project Name: BARTONS ROAD, HAVANT	Title: PRIVATE CAR TRACKING	paul basham associates	Client: fortitudo	Checked By: RH	Checked Date: 21.12.20
Project Phase: PRELIMINARY				Drawn By: MW	Drawn Date: 21.12.20

Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Scale	Client Drawing No.	PBA Drawing No.	Revision
1:250 (AT A3 SIZE)	-	106.0019.003	B



REFUSE VEHICLE TRACKING 1

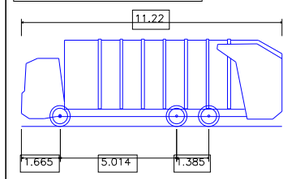


REFUSE VEHICLE TRACKING 2

GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

VEHICLE PROFILE



Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)	
Overall Length	11.220m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.550m

NORTH

Rev	Description	Date	By	Chkd
B	NEW LAYOUT	07.09.22	AST	AST
A	NEW LAYOUT	18.01.21	AST	RH

Project Name: BARTONS ROAD, HAVANT	Title: RESIDENTIAL - REFUSE VEHICLE TRACKING	paul basham associates	Client: fortitudo	Checked By: RH	Checked Date: 21.12.20
Project Phase: PRELIMINARY				Drawn By: MW	Drawn Date: 21.12.20

Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Scale		Client Drawing No.	PBA Drawing No.	Revision
1:500	(AT A3 SIZE)	-	106.0019.004	B



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

NORTH

Rev	Description	Date	By	Chkd
C	REVISED LAYOUT	07.09.22	AST	AST
B	REVISED LAYOUT	08.07.22	AST	AST
A	REVISED LAYOUT	19.05.22	AST	AST

Project Name
BARTONS ROAD, HAVANT

Project Phase
PRELIMINARY

Title
LAYOUT ASSESSMENT DIMENSIONS

paul basham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Client
fortitudo

Checked By	Checked Date	Scale	
RH	26.04.22	NTS	(AT A3 SIZE)
Drawn By	**Drawn Date**	**Client Drawing No.**	**PBA Drawing No.** / **Revision**
AST	26.04.22	-	106.0019.300 / C



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

NORTH

Rev	Description	Date	By	Chkd
C	REVISED LAYOUT	07.09.22	AST	AST
B	REVISED LAYOUT	08.07.22	AST	AST
A	REVISED LAYOUT	19.05.22	AST	AST

Project Name: BARTONS ROAD, HAVANT

Project Phase: PRELIMINARY

Title: LAYOUT ASSESSMENT TRACKING

paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Client: fortitudo

Checked By	Checked Date	Scale	
RH	26.04.22	NTS	(AT A3 SIZE)
Drawn By	**Drawn Date**	**Client Drawing No.**	**PBA Drawing No.** / **Revision**
AST	26.04.22	-	106.0019.301 / C



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

NORTH

Rev	Description	Date	By	Chkd
C	REVISED LAYOUT	07.09.22	AST	AST
B	REVISED LAYOUT	08.07.22	AST	AST
A	REVISED LAYOUT	19.05.22	AST	AST

Project Name: BARTONS ROAD, HAVANT	Title: LAYOUT ASSESSMENT FORWARD VISIBILITY	paulbasham associates	Client: fortitudo	Checked By: RH
Project Phase: PRELIMINARY				Drawn By: AST

Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Checked Date	Drawn Date	Scale	Client Drawing No.	PBA Drawing No.	Revision
26.04.22	26.04.22	NTS (AT A3 SIZE)	-	106.0019.302	C



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

NORTH

Rev	Description	Date	By	Chkd
D	REVISED LAYOUT	07.09.22	AST	AST
C	REVISED LAYOUT	08.07.22	AST	AST
B	SET BACKS REVISED	20.06.22	AST	AST
A	REVISED LAYOUT	19.05.22	AST	AST

Project Name: BARTONS ROAD, HAVANT

Project Phase: PRELIMINARY

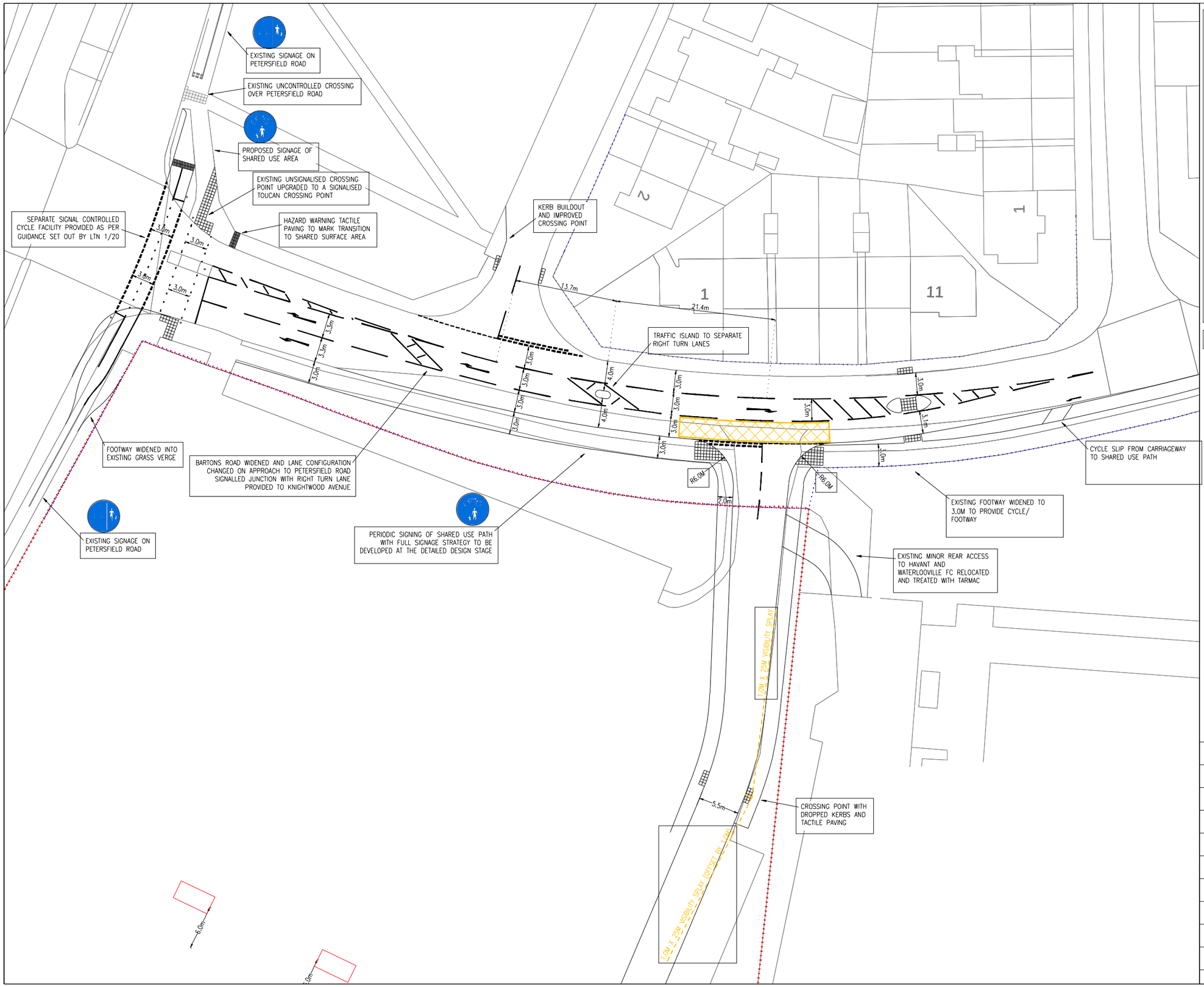
Title: LAYOUT ASSESSMENT PEDESTRIAN VISIBILITY

paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Client: fortitudo

Checked By	Checked Date	Scale	
RH	26.04.22	NTS	(AT A3 SIZE)
Drawn By	**Drawn Date**	**Client Drawing No.**	**PBA Drawing No.** / **Revision**
AST	26.04.22	-	106.0019.303 / D

Appendix E



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

KEY

HIGHWAY BOUNDARY

NORTH

Rev	Description	Date	By	Chkd
J	KNIGHTWOOD AVE KERB BUILDOUT ALTERED	22.09.21	AST	AST
I	ACCESS ROAD NARROWED	15.09.21	AST	RH
H	KERB BUILDOUT + VISIBILITY SPLAYS ADDED	22.07.21	AST	RH
G	SLIGHT CHANGES FOLL. HCC COMMENTS	10.06.21	AST	RH
F	ACCESS KERBS REALIGNED + SIGNS ADDED	20.05.21	AST	RH
E	WESTBOUND ALIGNMENT EASED	18.05.21	AST	RH
D	CHANGES TO ACCOMMODATE TRACKING	27.04.21	AST	RH
C	CYCLE/ FOOTWAY REALIGNED	16.04.21	AST	RH
B	REVISED TO REFLECT RSA COMMENTS	12.04.21	AST	RH
A	REVISED TO REFLECT HCC COMMENTS	01.04.21	AST	RH

Project Name: BARTONS ROAD, HAVANT

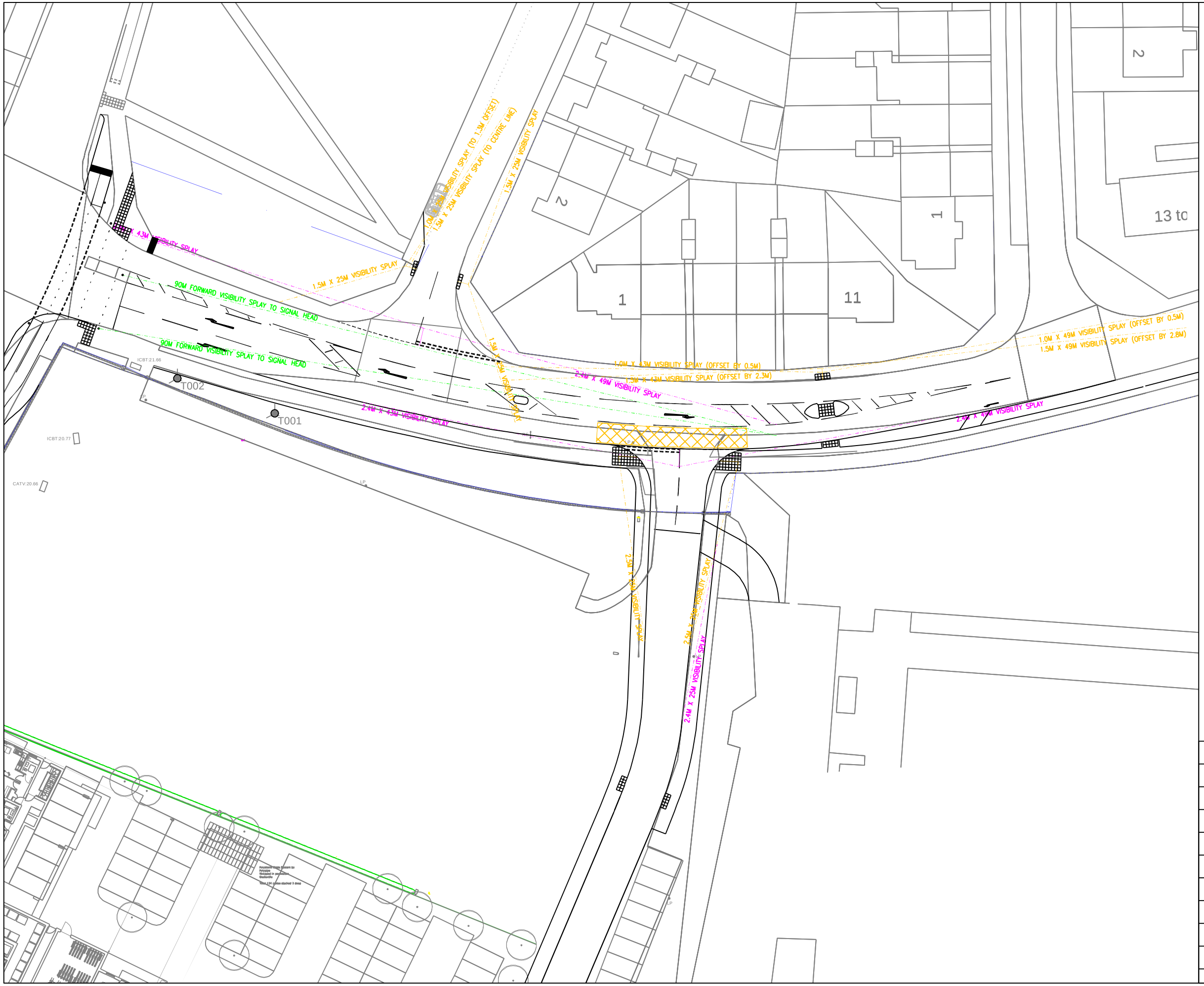
Project Phase: PRELIMINARY

Title: PROPOSED BARTONS ROAD IMPROVEMENTS WESTERN SECTION GENERAL ARRANGEMENT

paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Client: fortitudo

Checked By	Checked Date	Scale	
RH	18.01.21	1:500	(AT A3 SIZE)
Drawn By	**Drawn Date**	**Client Drawing No.**	**PBA Drawing No.** / **Revision**
AST	08.01.21	-	106.0019.007 / J



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

KEY

..... – HIGHWAY BOUNDARY

NORTH

Rev	Description	Date	By	Chkd
J	ADDITIONAL VISIBILITY SPLAYS ADDED	08.07.22	AST	AST
I	KNIGHTWOOD AVE KERB BUILDOUT ALTERED	22.09.21	AST	AST
H	ACCESS ROAD NARROWED	15.09.21	AST	RH
G	KERB BUILDOUT + VISIBILITY SPLAYS ADDED	22.07.21	AST	RH
F	SLIGHT CHANGES FOLL. HCC COMMENTS	10.06.21	AST	RH
E	ACCESS KERBS REALIGNED + SIGNS ADDED	20.05.21	AST	RH
D	CHANGES TO ACCOMMODATE TRACKING	27.04.21	AST	RH
C	CYCLE/ FOOTWAY REALIGNED	16.04.21	AST	RH
B	REVISED TO REFLECT RSA COMMENTS	12.04.21	AST	RH
A	REVISED TO REFLECT HCC COMMENTS	01.04.21	AST	RH

Project Name: BARTONS ROAD, HAVANT

Project Phase: PRELIMINARY

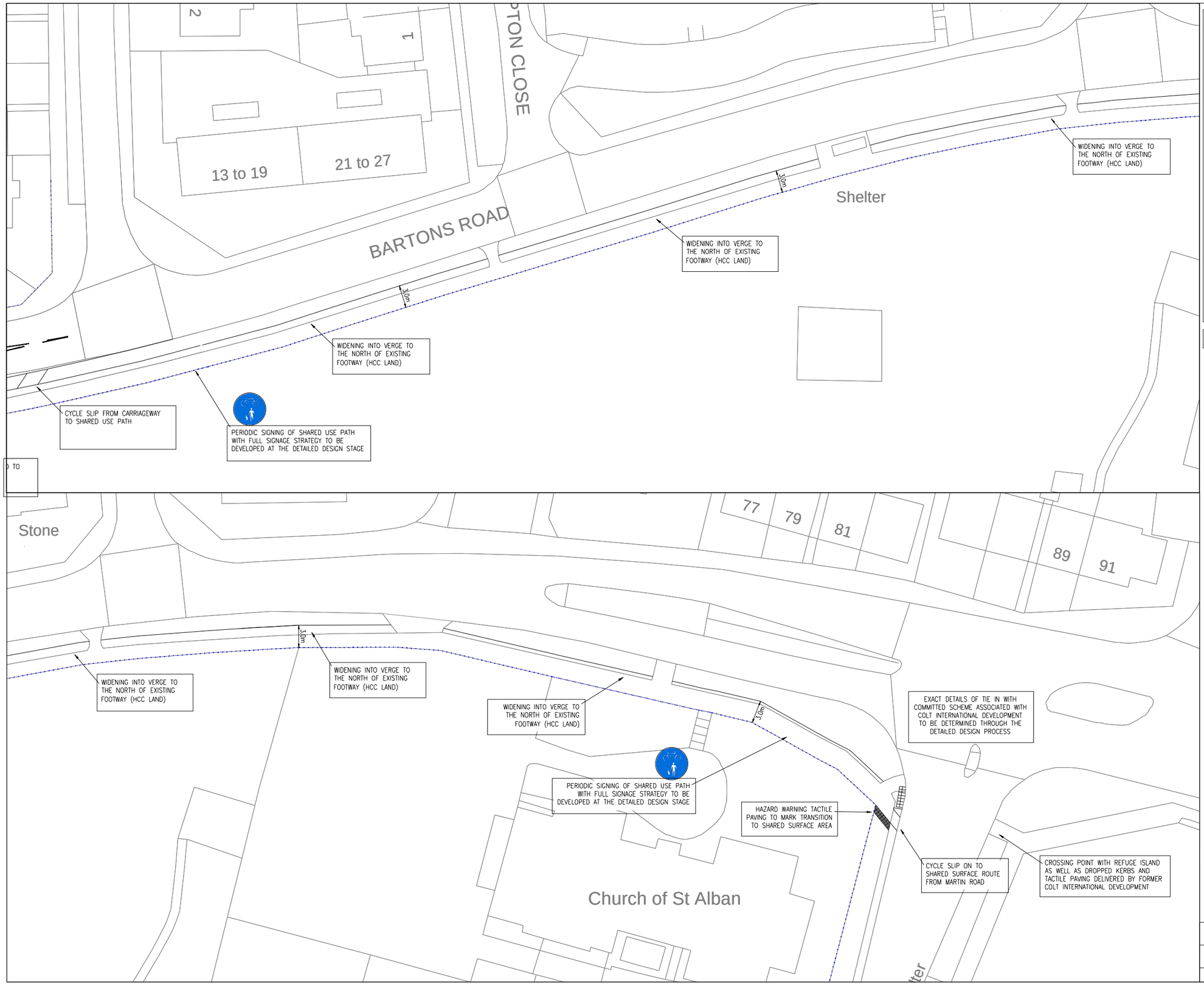
Title: PROPOSED BARTONS ROAD IMPROVEMENTS WESTERN SECTION VISIBILITY

paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Client: fortitudo

Checked By	Checked Date	Scale	
RH	18.01.21	1:500	(AT A3 SIZE)

Drawn By	Drawn Date	Client Drawing No.	PBA Drawing No.	Revision
AST	08.01.21	-	106.0019.008	J



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

KEY

..... – HIGHWAY BOUNDARY

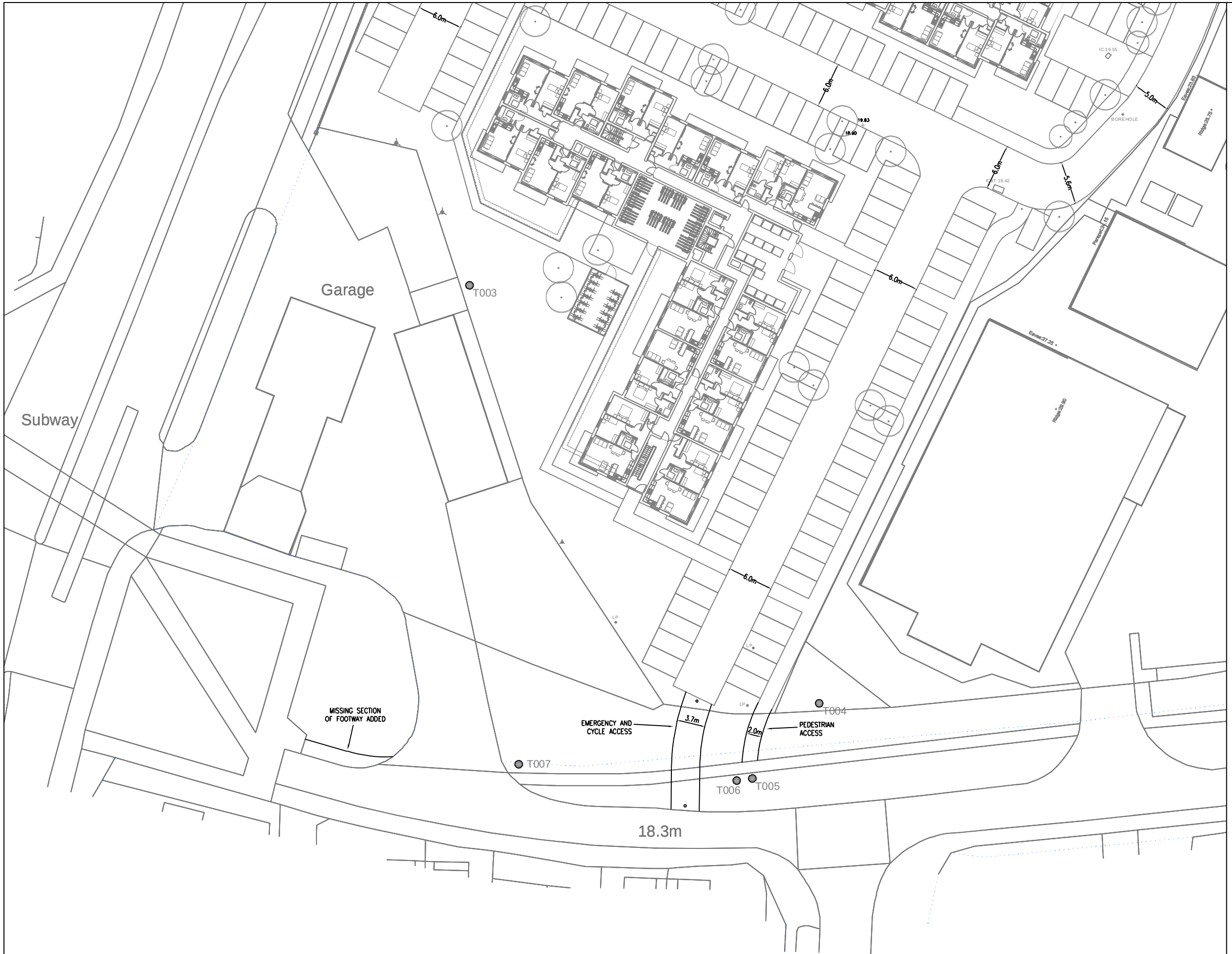
NORTH

Rev	Description	Date	By	Chkd
B	SIGNAGE ADDED	20.05.21	AST	RH
A	CYCLE/ FOOTWAY REALIGNED	16.04.21	AST	RH

Project Name: BARTONS ROAD, HAVANT	Title: PROPOSED BARTONS ROAD IMPROVEMENTS MIDDLE AND EASTERN SECTIONS GENERAL ARRANGEMENT	paulbasham associates	Client: fortitudo	Checked By: RH
Project Phase: PRELIMINARY				Drawn By: AST

Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Checked Date	Scale			
18.01.21	1:500			(AT A3 SIZE)
Drawn Date	**Client Drawing No.**	**PBA Drawing No.**	**Revision**	
08.01.21	-	106.0019.009	B	



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

KEY

..... – HIGHWAY BOUNDARY

NORTH

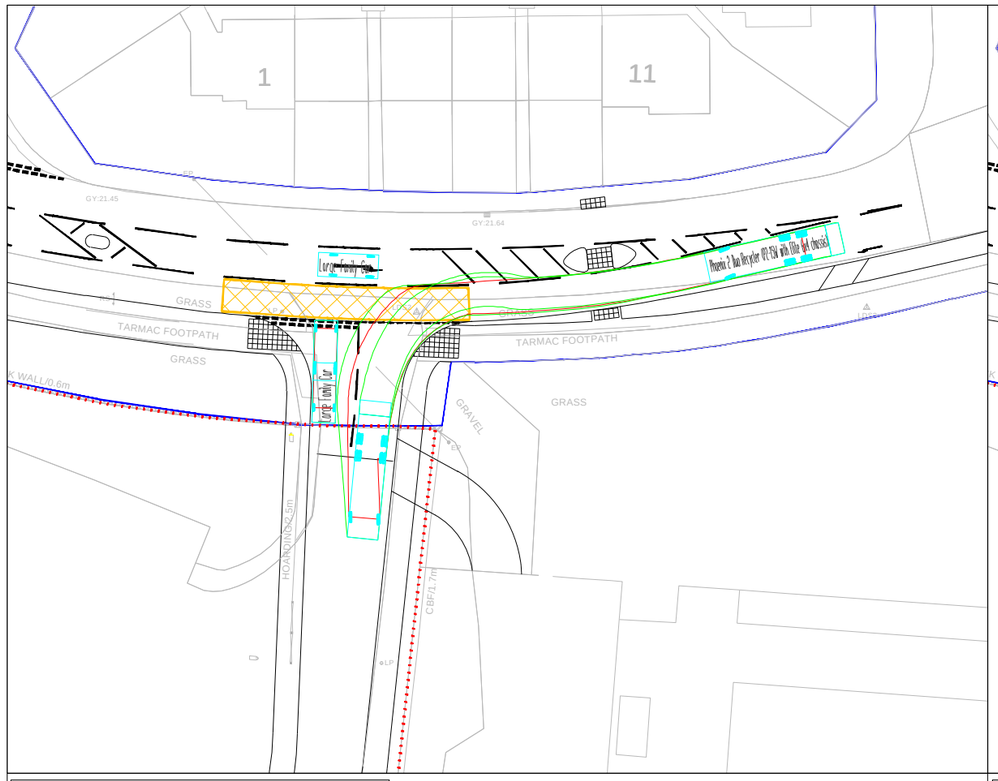
Rev	Description	Date	By	Chkd
A	REVISED LAYOUT	19.05.22	AST	AST

Project Name: BARTONS ROAD, HAVANT	Title: PROPOSED MARTIN ROAD IMPROVEMENTS EMERGENCY / CYCLE / PEDESTRIAN ACCESS GENERAL ARRANGEMENT	Client: fortitudo	Checked By: RH	Checked Date: 16.04.21
Project Phase: PRELIMINARY			Drawn By: AST	Drawn Date: 16.04.21

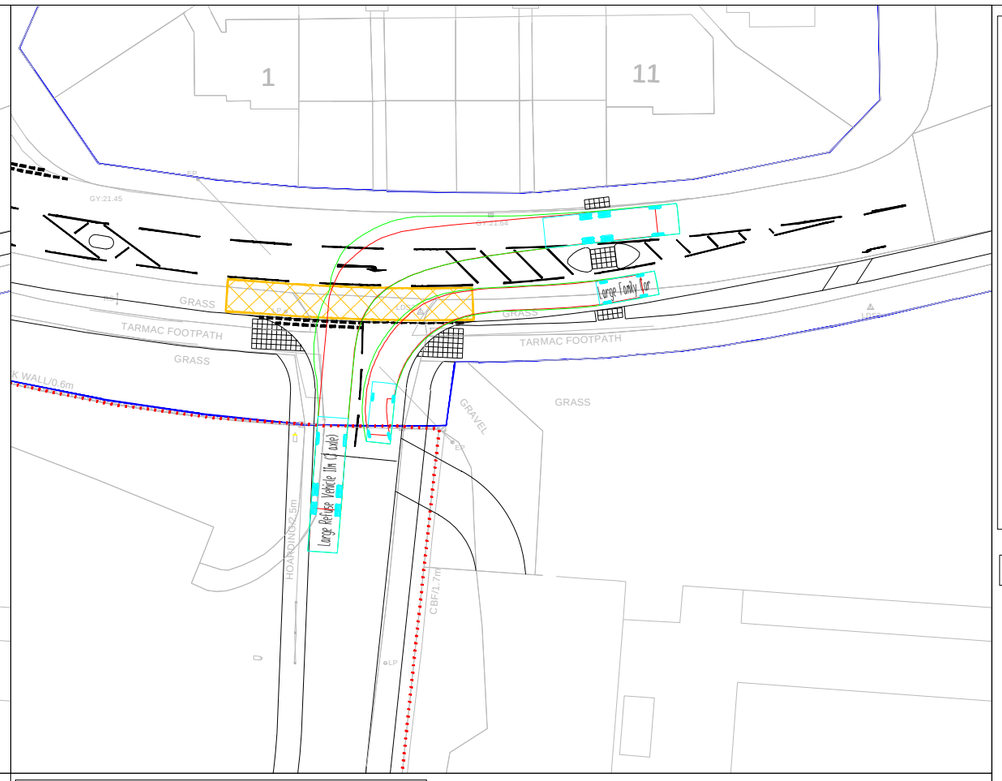
paul basham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Scale	Client Drawing No.	PBA Drawing No.	Revision
1:500 (AT A3 SIZE)	-	106.0019.010	A

Appendix F



LARGE REFUSE VEHICLE – LEFT IN

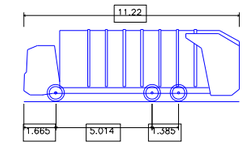


LARGE REFUSE VEHICLE – RIGHT OUT

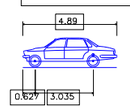
GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

VEHICLE PROFILE



Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)	
Overall Length	11.220m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.550m



Large Family Car	
Overall Length	4.890m
Overall Width	1.940m
Overall Body Height	1.522m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5.900m

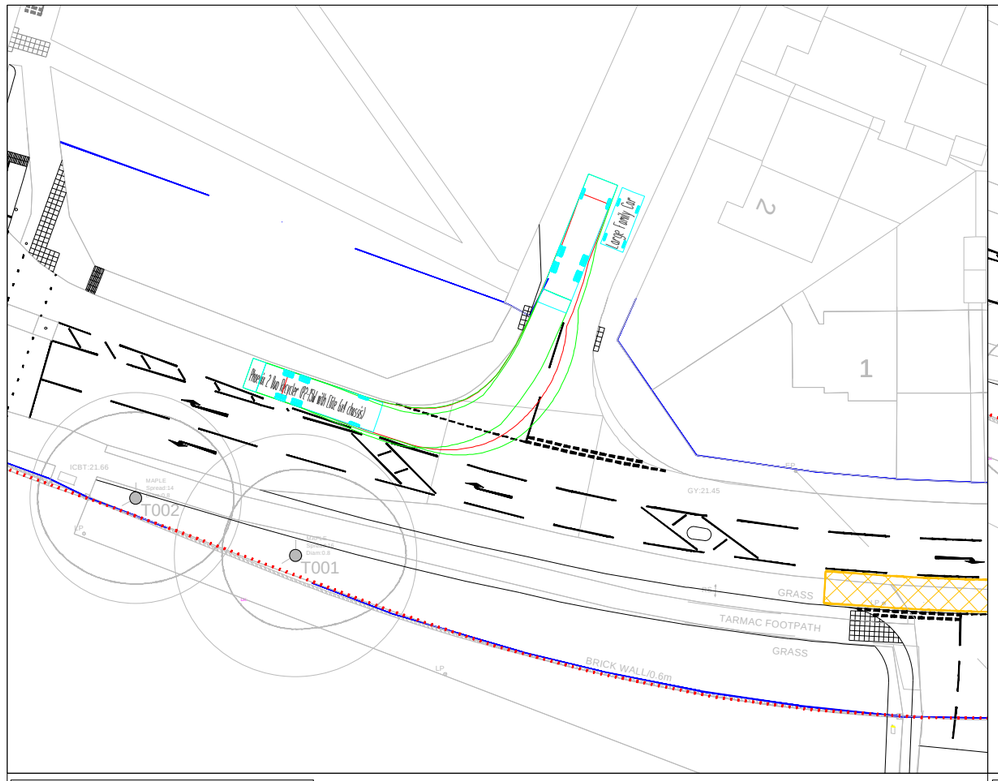
NORTH

TRACKING UNDERTAKEN AT 10MPH SPEED.

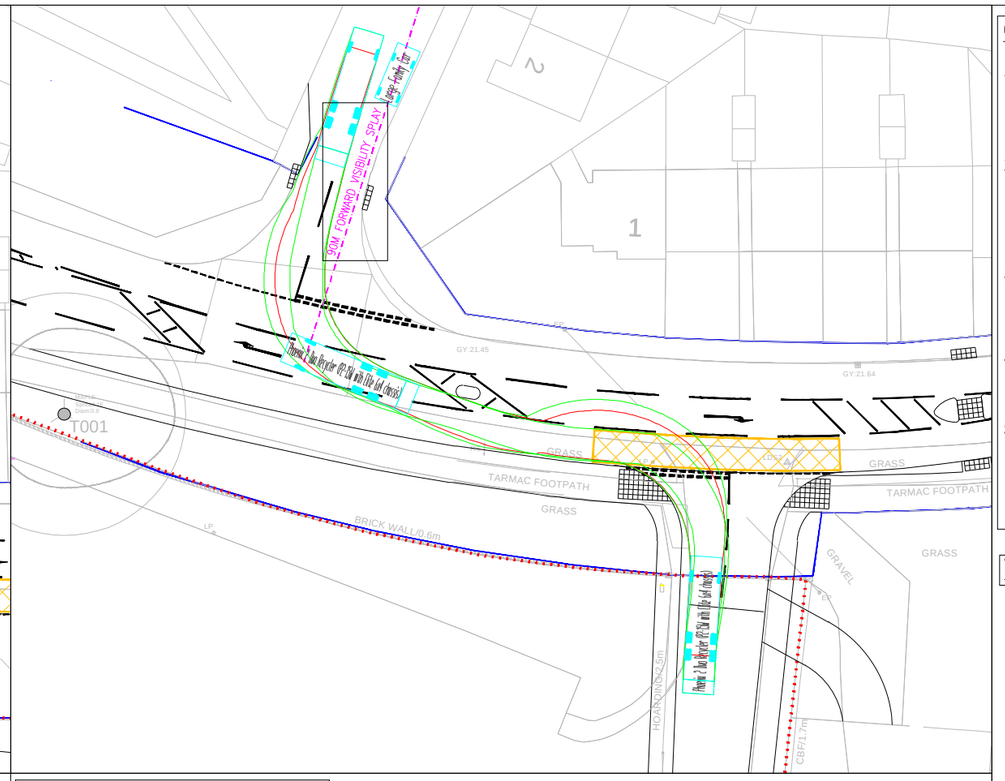
Rev	Description	Date	By	Chkd
F	NOTATION ADDED	08.07.22	AST	AST
E	UPDATED VEHICLES	22.04.22	BT	AST
D	ACCESS ROAD NARROWED	15.09.21	AST	RH
C	ROADMARKINGS AMENDED	10.06.21	AST	RH
B	KERBLINES AND ROADMARKINGS AMENDED	20.05.21	AST	RH
A	NEW GENERAL ARRANGEMENT	27.04.21	AST	RH

Project Name: BARTONS ROAD, HAVANT	Title: PROPOSED BARTONS ROAD IMPROVEMENTS SITE ACCESS TRACKING REFUSE VEHICLE	paul basham associates	Client: fortitudo	Checked By: RH	Checked Date: 12.04.21	Scale: 1:500 (AT A3 SIZE)
Project Phase: PRELIMINARY				Drawn By: AST	Drawn Date: 12.04.21	Client Drawing No.: -	PBA Drawing No.: 106.0019.100	Revision: F

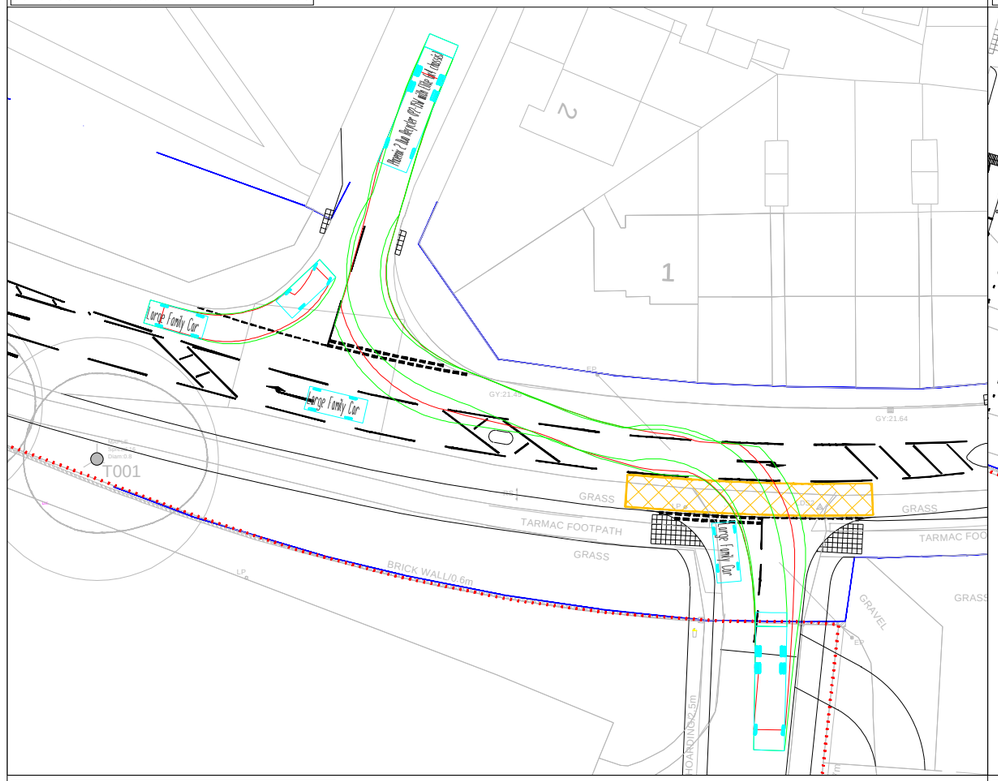
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com



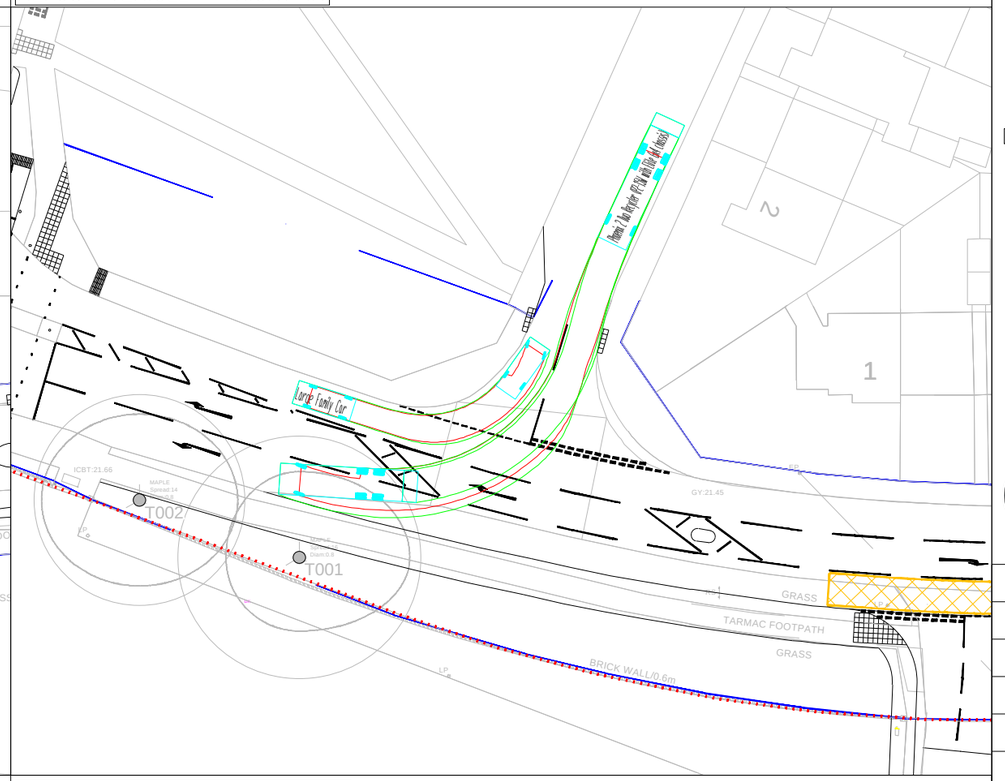
REFUSE VEHICLE – LEFT IN



REFUSE VEHICLE – RIGHT IN



REFUSE VEHICLE – LEFT OUT

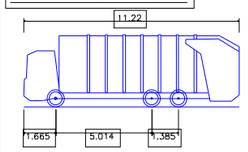


REFUSE VEHICLE – RIGHT OUT

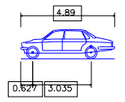
GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

VEHICLE PROFILE



Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)	
Overall Length	11.220m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.550m



Large Family Car	
Overall Length	4.890m
Overall Width	1.940m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Curb to Curb Turning Radius	5.900m

NORTH

TRACKING UNDERTAKEN AT 10MPH SPEED.

Rev	Description	Date	By	Chkd
F	NOTATION ADDED	08.07.22	AST	AST
E	UPDATED VEHICLES	22.04.22	BT	AST
D	ACCESS ROAD NARROWED	15.09.21	AST	RH
C	ROADMARKINGS AMENDED	10.06.21	AST	RH
B	KERBLINES AND ROADMARKINGS AMENDED	20.05.21	AST	RH
A	NEW GENERAL ARRANGEMENT	27.04.21	AST	RH

Project Name: BARTONS ROAD, HAVANT

Project Phase: PRELIMINARY

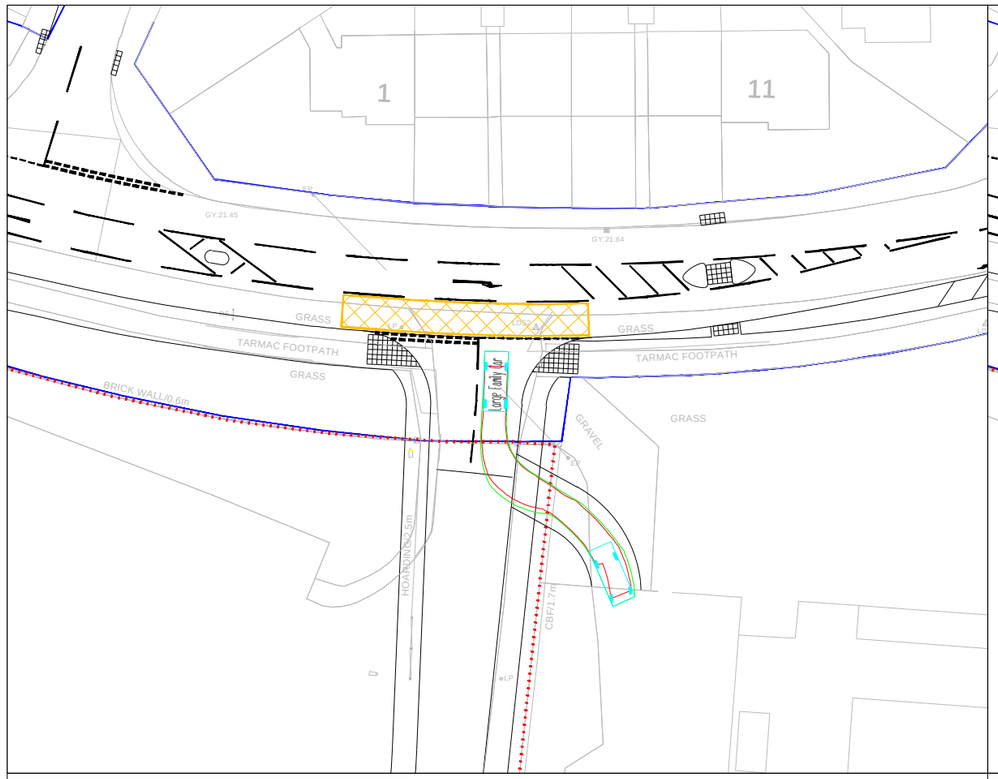
Title: PROPOSED BARTONS ROAD IMPROVEMENTS
KNIGHTWOOD AVENUE TRACKING
REFUSE VEHICLE AND CAR

paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

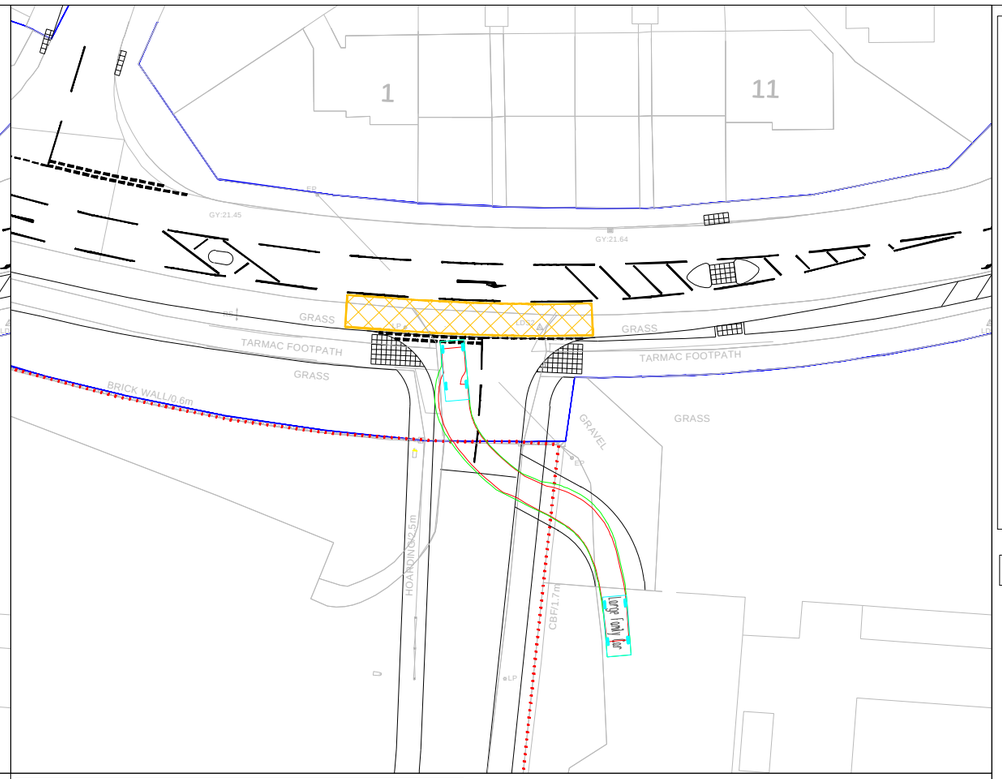
Client: fortitudo

Checked By	Checked Date	Scale	
RH	12.04.21	1:500	(AT A3 SIZE)

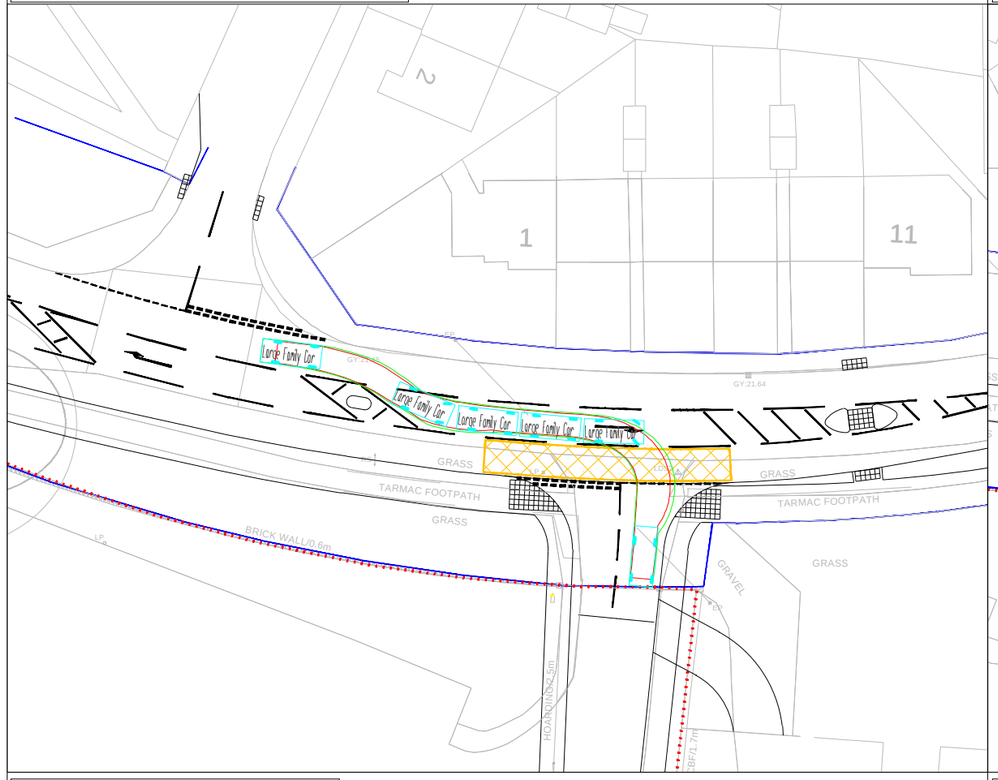
Drawn By	Drawn Date	Client Drawing No.	PBA Drawing No.	Revision
AST	12.04.21	-	106.0019.101	F



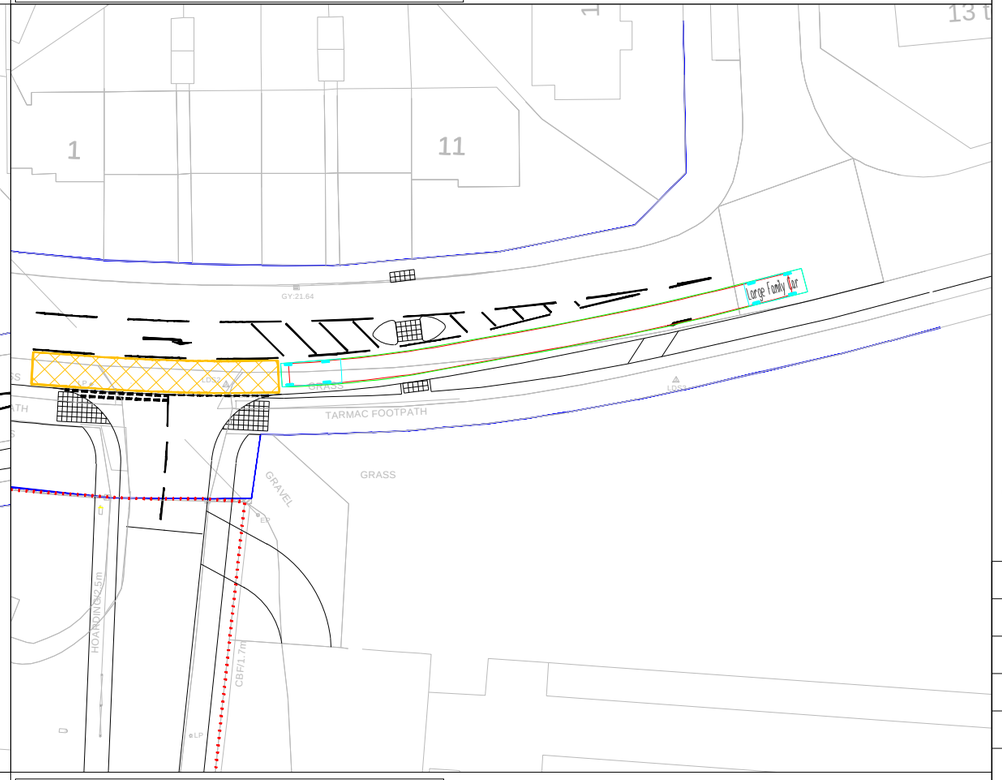
CAR – ARRIVING TO FOOTBALL CLUB



CAR – DEPARTING FROM FOOTBALL CLUB



CAR – RIGHT TURN INTO SITE

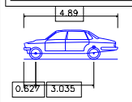


CAR – WESTBOUND ON BARTONS ROAD

GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

VEHICLE PROFILE



Large Family Car	
Overall Length	4.890m
Overall Width	1.940m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock-to-lock time	4.00s
Curb-to-Curb Turning Radius	5.900m

NORTH

TRACKING UNDERTAKEN AT 10MPH SPEED.

Rev	Description	Date	By	Chkd
F	NOTATION ADDED	08.07.22	AST	AST
E	UPDATED VEHICLES	21.04.22	BT	AST
D	ACCESS ROAD NARROWED	15.09.21	AST	RH
C	ROADMARKINGS AMENDED	10.06.21	AST	RH
B	KERBLINES AND ROADMARKINGS AMENDED	20.05.21	AST	RH
A	NEW GENERAL ARRANGEMENT	27.04.21	AST	RH

Project Name: BARTONS ROAD, HAVANT

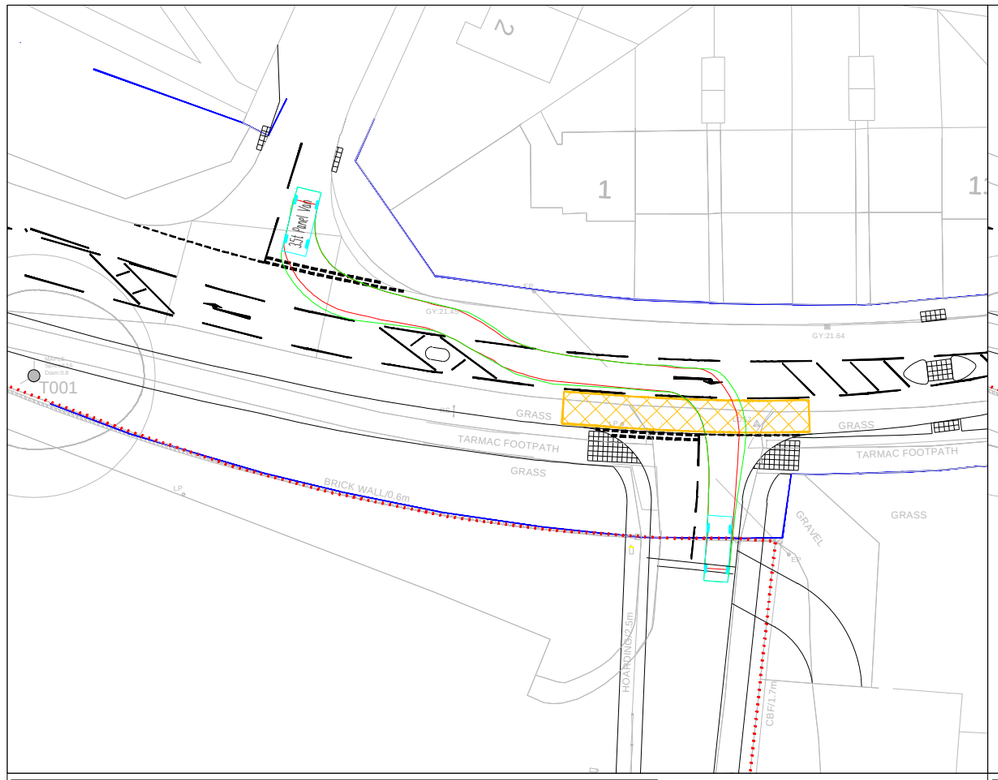
Project Phase: PRELIMINARY

Title: PROPOSED BARTONS ROAD IMPROVEMENTS
FOOTBALL CLUB TRACKING
CAR

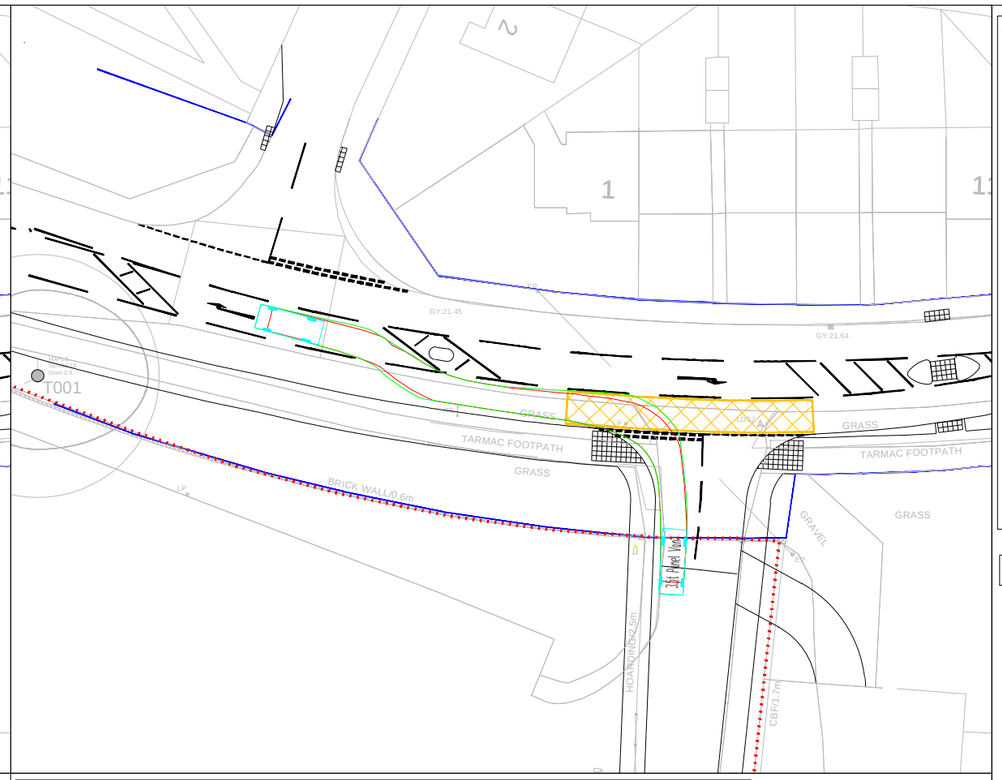
paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Client: fortitudo

Checked By	Checked Date	Scale	
RH	12.04.21	1:500	(AT A3 SIZE)
Drawn By	**Drawn Date**	**Client Drawing No.**	**PBA Drawing No.** / **Revision**
AST	12.04.21	-	106.0019.102 / F



PANEL VAN (3.5T) – LEFT RIGHT STAGGER TO SITE ACCESS

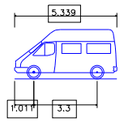


PANEL VAN (3.5T) – LEFT RIGHT STAGGER TO KNIGHTWOOD AVENUE

GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

VEHICLE PROFILE



3.5t Panel Van	
Overall Length	5.339m
Overall Width	1.986m
Overall Body Height	2.565m
Min Body Ground Clearance	0.338m
Track Width	1.986m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.400m

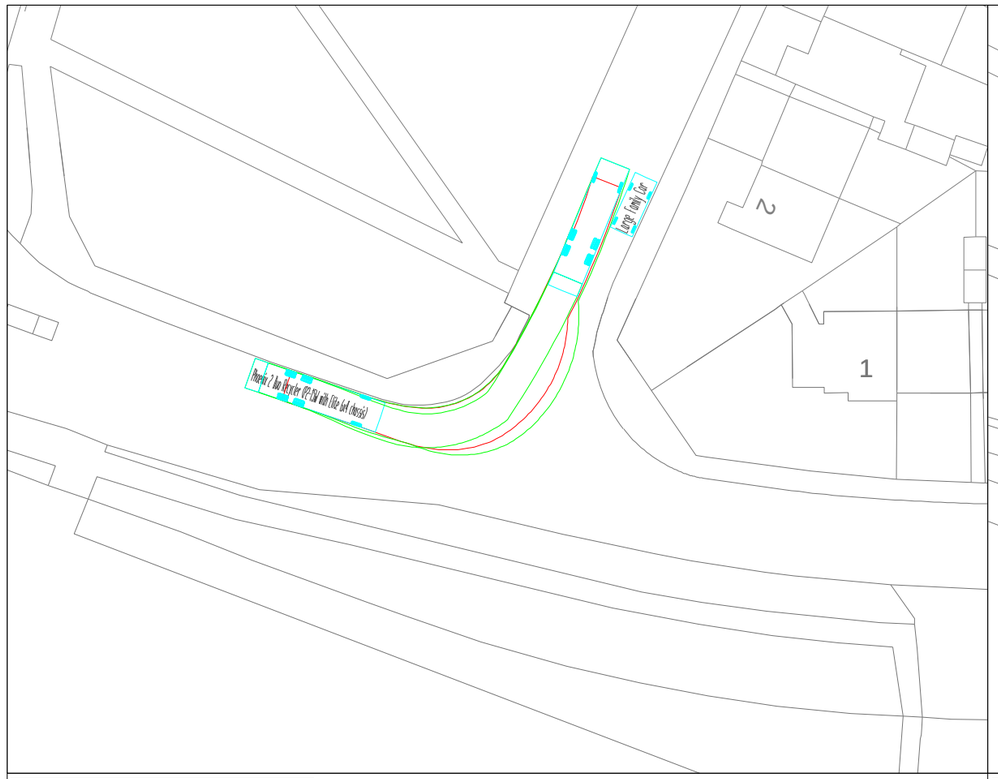
NORTH

TRACKING UNDERTAKEN AT 10MPH SPEED.

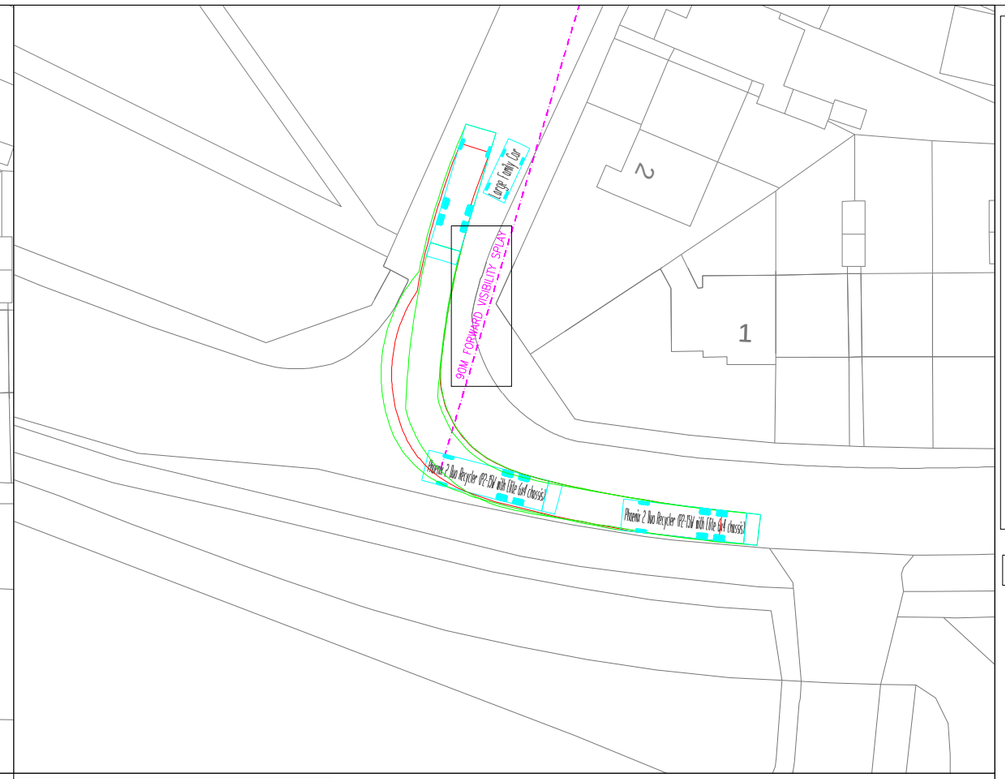
Rev	Description	Date	By	Chkd
E	NOTATION ADDED	08.07.22	AST	AST
D	UPDATED VEHICLES	22.04.22	BT	AST
C	ACCESS ROAD NARROWED	15.09.21	AST	RH
B	ROADMARKINGS AMENDED	10.06.21	AST	RH
A	KERBLINES AND ROADMARKINGS AMENDED	20.05.21	AST	RH

Project Name: BARTONS ROAD, HAVANT	Title: PROPOSED BARTONS ROAD IMPROVEMENTS TRACKING PANTECHNICON	paul basham associates	Client: fortitudo	Checked By: RH	Checked Date: 27.04.21	Scale: 1:500 (AT A3 SIZE)
Project Phase: PRELIMINARY				Drawn By: AST	Drawn Date: 27.04.21	Client Drawing No.: -	PBA Drawing No.: 106.0019.103	Revision: E

Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com



REFUSE VEHICLE – LEFT IN



REFUSE VEHICLE – RIGHT IN

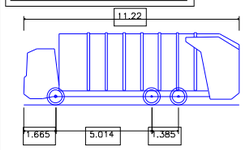
REFUSE VEHICLE – LEFT OUT

REFUSE VEHICLE – RIGHT OUT

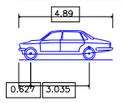
GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

VEHICLE PROFILE



Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)	
Overall Length	11.220m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.550m



Large Family Car	
Overall Length	4.890m
Overall Width	1.940m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Curb to Curb Turning Radius	5.900m

KEY

– HIGHWAY BOUNDARY

NORTH

Rev	Description	Date	By	Chkd
A	UPDATED VEHICLES	21.04.22	BT	AST

Project Name: BARTONS ROAD, HAVANT	Title: EXISTING BARTONS ROAD ARRANGEMENT KNIGHTWOOD AVENUE TRACKING REFUSE VEHICLE AND CAR	Client: fortitudo	Checked By: RH	Checked Date: 21.05.21
Project Phase: PRELIMINARY			Drawn By: AST	Drawn Date: 21.05.21

paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Scale	Client Drawing No.	PBA Drawing No.	Revision
1:500 (AT A3 SIZE)	-	106.0019.104	A

Appendix G

ROAD SAFETY AUDIT BRIEF (GG119)

Table C.1 Project Summary	
Date:	22.09.21
Document Reference:	106.0019.RSAB/4
Prepared by:	Paul Basham Associates
On behalf of:	Fortitudo

Authorisation Sheet	
Project:	106.0019 Bartons Road, Havant
Report Title:	Stage 1 Road Safety Audit Brief
Prepared By	
Name:	Alex Stephenson
Signed:	[redacted]
Organisation:	Paul Basham Associates
Date:	22.09.21

I approve the RSA Brief and instruct the RSA to take place on behalf of the overseeing organisation	
Name:	
Signed:	
Organisation:	
Date:	

ROAD SAFETY AUDIT BRIEF (GG119)

Table C.2. General Details

Highway Scheme Name and Road Number:	Bartons Road			
Type of scheme: (Description of highway works)	Widening of carriageway to provide right turn lane facilities for existing junction and widen approach to signalled junction			
RSA Stage:	1			

Overseeing Organisation Details:	Design Organisation Details:
M&S Traffic Ltd	Alex Stephenson Paul Basham Associates Regus Castlemead Lower Castle Street Bristol BS1 3AG a.stephenson@paulbashamassociates.com
Police Contact Details:	Maintaining Agent Contact Details:
	Hampshire County Council
RSA Team Membership:	
Martin Morris	Bryan Shawyer
Terms of Reference:	

Table C.3 Scheme Details

General:
Widening of carriageway to provide right turn lane facilities for existing junction, widen approach to signalled junction and provision of a parallel cycle crossing.
Design Standards applied to the Scheme Design:
MfS

ROAD SAFETY AUDIT BRIEF (GG119)

Design Speeds:
30mph
Speed Limits:
30mph on Bartons Road, 40mph on Petersfield Road
Existing Traffic Flows/Queues:
Attached
Forecast Traffic Flows:
Attached
Pedestrian, cyclist and equestrian desire lines:
There is a National Cycle Network Route along the east side of Petersfield Road and a planned cycle/ pedestrian route along the south side of Bartons Road.
Environmental Constraints:
-

Table C.4 Locality	
Description of Locality:	Predominantly residential uses surrounding the site, with a proposed development of 175 apartment blocks to the south as well as an existing football club.
Map:	
General Description:	The improvement works are associated with the development of the site to the south of Bartons Road and to the east of Petersfield Road from office block to flats.
Relevant Factors which may affect Road Safety:	NA

ROAD SAFETY AUDIT BRIEF (GG119)

Table C.5 Analysis:	
Collision Data Analysis:	There has been one serious collision and one slight collision at the Petersfield Road/ Bartons Road junction. The serious collision involved a car colliding with a pedal cycle which was crossing Petersfield Road while the slight collision involved a car colliding with street furniture.
Collision Data Image:	
Departures from Standards:	The right turn lanes for the site access and for Knightwood Avenue are shorter than as prescribed by DMRB however the principles set out by MfS should apply for Bartons Road not DMRB. There has been no departure from MfS standards.
Summary of previous Road Safety Audit Stage reports, road safety audit response reports and evidence of agreed actions:	This is the fourth Stage 1 RSA carried out on this scheme with the design of the scheme having evolved slightly each time, in part in response to issues raised by the previous RSAs. Hampshire County Council have requested that previous RSAs are referenced as appropriate.
Strategic Decisions:	NA

List of Included Documents:

Reference Number	Revision	Title	Date:
106.0019/TF	-	Traffic Flows	September 2021
-	-	Modelling Results	September 2021

ROAD SAFETY AUDIT BRIEF (GG119)

List of Included Drawings:

Drawing Number	Revision	Title
106.0019.007	J	Western Section GA
106.0019.008	I	Western Section Visibility
106.0019.009	B	Eastern Section GA
106.0019.100	D	Tracking Site Access
106.0019.101	D	Tracking Knightwood Avenue
106.0019.102	D	Tracking Car
106.0019.103	C	Tracking Panel Van

Table C.6 Checklist

Site Location Plan	Y	Scale layout plans	Y
Departures and relaxations from standards	Y	Construction/typical details	NA
Previous RSA Report	Y	Previous RSA response reports and evidence of agreed actions	Y
Collision data and collision data analysis	Y	Road traffic collision plot	Y
Traffic signal staging	Y	Traffic counts	Y
Speed surveys	Y	Pedestrian, cyclist and horse riding desire lines and volumes	Y
Walking, cycling and horse-riding assessment	NA	Items outside the scope of the RSA/strategic decisions	NA
Other factors that may impact road safety	Y	Design speeds/speed limits	Y
Design standards used	Y	Adjacent land uses	Y

Appendix H

M & S Traffic

Road Safety Audit Stage 1

Bartons Road

Havant

Hampshire

Date: 27th July 2021

Report produced for: Paul Basham Associates

Report produced by: M & S Traffic

DOCUMENT CONTROL SHEET

M&S Traffic has prepared this report in accordance with the instructions from Paul Basham Associates. M&S Traffic shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Project Title Bartons Road, Havant.

Report Title Road Safety Audit Stage 1

Revision

Status Final

Audit Reference PBA/21/106.0019/1R/MM

Record of Issue

Document Ref PBA/21/106.0019/1/MM	Prepared by: (Name)	Checked by: (Name)	Approved by (Signature)	Date Approved
Revision - C	Martin Morris	Bryan Shawyer	[redacted]	29th September 2021
Designers Response				
Authority Response				

Distribution

Organisation	Contact	Copies
Paul Basham Associates	Alex Stephenson	-

CONTENTS

Document Control Sheet		2
Contents		3
1	Introduction	4
2	Safety issues raised at previous Audits	6
3	Items raised at the Stage 1 Audit	7
4	Issues identified during the Stage 1 Audit that are outside the terms of reference	11
5	Auditors Statement	12

Appendix A……. List of drawings

Appendix B……. Comment Location Drawing

Appendix C……. Road Safety Audit Decision Log

Appendix D……. Design Organisation Statement

Appendix E……. Overseeing Organisation Statement

1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit carried out on Section 278 works associated with the two drive through units off Bartons Road, Havant, Hampshire, including:

The provision of a priority junction access on Bartons Road.
Carriageway widening to provide a longer two-lane approach to the signalised junction with the B2149.
The provision of a pedestrian refuge and crossings points.
The provision of right turn lanes into Knightswood Ave and the development.
The provision of a parallel cycle crossing facility.
The provision extension of a shared use cycleway/footway.

The Audit was requested by the design organisation, Paul Basham Associates, Regus Castlemead, Office 326, Lower Castle Street, Bristol, BS1 3AG on behalf of Hampshire County Council, as the Highway Authority.

1.2 The Audit Team membership was as follows:

Martin Morris, PGD, MCIHT, MSoRSA – Audit Team Leader
Highways England Approved RSA Certificate of Competency

Bryan Shawyer B.Eng. (Hons), MSc, MCIHT, MSoRSA– Audit Team Member
Highways England Approved RSA Certificate of Competency

1.3 The audit was undertaken following the principles of GG 119 and TG18, The Design Manual for Roads and Bridges. The documents available at the time the report was compiled are detailed in Appendix A.

1.4 The Audit took place at the Gillingham offices of M&S Traffic in May 2021 and comprised an examination of the documents provided as listed in Appendix A, plus a joint visit to the site of the proposed scheme during the on the 17th April 2021 between 17:00 and 17:30. Weather conditions at the time were overcast with rain and the road surface was wet. Traffic flows were moderate and free flow speeds were low. Low level pedestrian movements and no cycle movements were observed during the site visit. Note that the site visit was undertaken during the Covid 19 restriction period.

1.5 The report has been compiled, only with regards to the safety implications for road users of the layout presented in the supplied drawings. It has not been examined or verified for compliance with any other standards or criteria. This safety audit does not perform any “Technical Check” function on these proposals. It is assumed that the Project Sponsor is satisfied that such a “Technical Check” has been successfully completed prior to requesting this safety audit.

1.6 The auditors have been informed of the following Departure from Standard, mentioned in the Road Safety Audit Brief, “The right turn lanes for the site access and for Knightwood Avenue are shorter than as prescribed by DMRB however the principles set out by MfS should apply for Bartons Road not DMRB”.

1.7 All comments and recommendations are referenced to the detailed drawings and the locations have been detailed relating to the plans supplied with the audit brief, Appendix B.

2 SAFETY ISSUES RAISED AT PREVIOUS AUDITS

2.1 The scheme was subject to a Stage 1 Road Safety Audit in April 2021 with subsequent revisions this being revision 4 by M&S Traffic, where comments 3.1.1, 3.1.2, 3.1.3, 3.3.1, 3.3.2, 3.4.1 and 3.5.1 remain outstanding. These items are referred to again in 3.1.1, 3.1.2, 3.1.3, 3.3.1, 3.4.1 and 3.5.1 of this report.

3 ITEMS RAISED AT THE STAGE 1 AUDIT

3.1 General

3.1.1 PROBLEM

Location: Bartons Road approach to the traffic signals.

Summary: Inappropriate surfacing could lead to vehicle to pedestrian / cyclist collisions or rear end shunts.

The proposals do not include the introduction of anti-skid surfacing or a surface with a high Polished Stone Value (PSV) on the approaches to the stop line. Surfacing with an inadequate PSV could lead to vehicles not being able to stop, leading to possible vehicle to pedestrian / cyclist collisions or rear end shunts.

RECOMMENDATION

It is recommended that high friction surfacing should be used on both approach lanes to the traffic signals.

3.1.2 PROBLEM

Location: The scheme.

Summary: Ponding of surface water could lead to loss of control collisions.

The carriageway is being widened and new kerblines are being introduced, where no details of carriageway drainage or carriageway vertical profiles and horizontal profiles have been provided for assessment. Ponding on the carriageway or water moving across the carriageway at junctions could lead to loss of control collisions.

RECOMMENDATION

It is recommended that drainage details should be provided for assessment or that the carriageway should be shaped so that the highway drains.

3.1.3 PROBLEM

Location: Proposed unsegregated footway / cycleway.

Summary: Insufficient construction details could lead to overshoot at junctions or cyclist loss of control collisions.

No details of the PSV of the unsegregated cycleway / footway surface were provided for assessment. Surfacing with an insufficient PSV could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.

RECOMMENDATION

It is recommended that the PSV of the unsegregated footway / cycleway surface material should be a minimum of 55PSV.

3.2 Local Alignment

3.2.1 No comment.

3.3 Junctions

3.3.1 **PROBLEM**

Location: Proposed access junction with Bartons Road.

Summary: Left / right stagger could lead to side swipe collisions or rear end shunt collisions.

A staggered junction is proposed between the access road and Knightswood Avenue. This is a 'left / right' stagger, with side road centre lines scaled at approximately 37m apart on a posted 30mph road. Vehicles waiting to right turn into one side road could obstruct the visibility to the left out of the opposite side road such that an exiting vehicle could pull out into the path of an unseen main road vehicle, which could lead to side impact collisions or rear end shunts.

RECOMMENDATION

It is recommended that in accordance with CD 123 para 2.24 a minimum stagger distance of 50m, to ensure safe operation should be the preferred arrangement; however, this may be unachievable in this instance.

3.4 Non-Motorised User Provision

3.4.1 **PROBLEM**

Location: Northern kerbline, at the proposed pedestrian refuge crossing point.

Summary: Lack of visibility could lead vehicle to pedestrian collisions or rear end shunt collisions.

Whilst pedestrian intervisibility appeared adequate there was scope for the visibility splay to the east to be improved and obstructed should the hedge line continue to grow – see figure 1 overleaf. Restricted restrict visibility could lead to vehicle to pedestrian collisions or rear end shunt collisions.



Figure 1: Hedge could restrict intervisibilty splay.

RECOMMENDATION

It is recommended that the hedge should be cut back and that a regular maintenance programme to retain the visibility splay should be employed.

3.4.2 **PROBLEM**

Location: Proposed crossing point in Knightwood Avenue.

Summary: Lack of visibility could lead vehicle to pedestrian collisions or rear end shunt collisions.

The crossing point immediately follows a parking bay, where parked vehicles could restrict intervisibility Restricted restrict visibility could lead to vehicle to pedestrian collisions or rear end shunt collisions.

RECOMMENDATION

It is recommended that parking bays should be removed to provide an adequate visibility splay.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 **PROBLEM**

Location: The scheme.

Summary: Insufficient lighting compromise road safety.

Lamp columns are present in the proposed widening area where no details of relocation have been supplied for assessment. A lack of lighting or dark areas could compromise road safety.

RECOMMENDATION

It is recommended that lighting details should be supplied at Stage 2 Safety Audit.

4 ISSUES IDENTIFIED DURING THE AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

4.1 Any issues that the Audit Team wish to bring to the attention of the Client Organisation, which are not covered by the road safety implications of this audit have been included in the following section. These issues could include maintenance items, operational issues, or poor existing provision. It should be understood however, that in raising these issues, the Audit Team do not warrant that a full review of the existing highway environment has been undertaken beyond the scope of the audit.

4.2 The Audit Team had no issues to raise within this section.

5 AUDITOR TEAM STATEMENT

5.1 We certify that this audit has been carried out following the principles of GG 119 and TG18

Audit Team Leader

Martin Morris
PGD, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency
M & S Traffic Ltd
Aeolus House
32 Hamelin Road
Gillingham
Kent ME7 3EX

Signed: [redacted]

Date: 28/09/2021

Audit Team Member

Bryan Shawyer
BEng (Hons), MSc, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency
M & S Traffic Ltd
Aeolus House
32 Hamelin Road
Gillingham
Kent ME7 3EX

Signed: [redacted]

Date: 28/09/2021

APPENDIX A

List of drawings and documentation submitted for auditing:

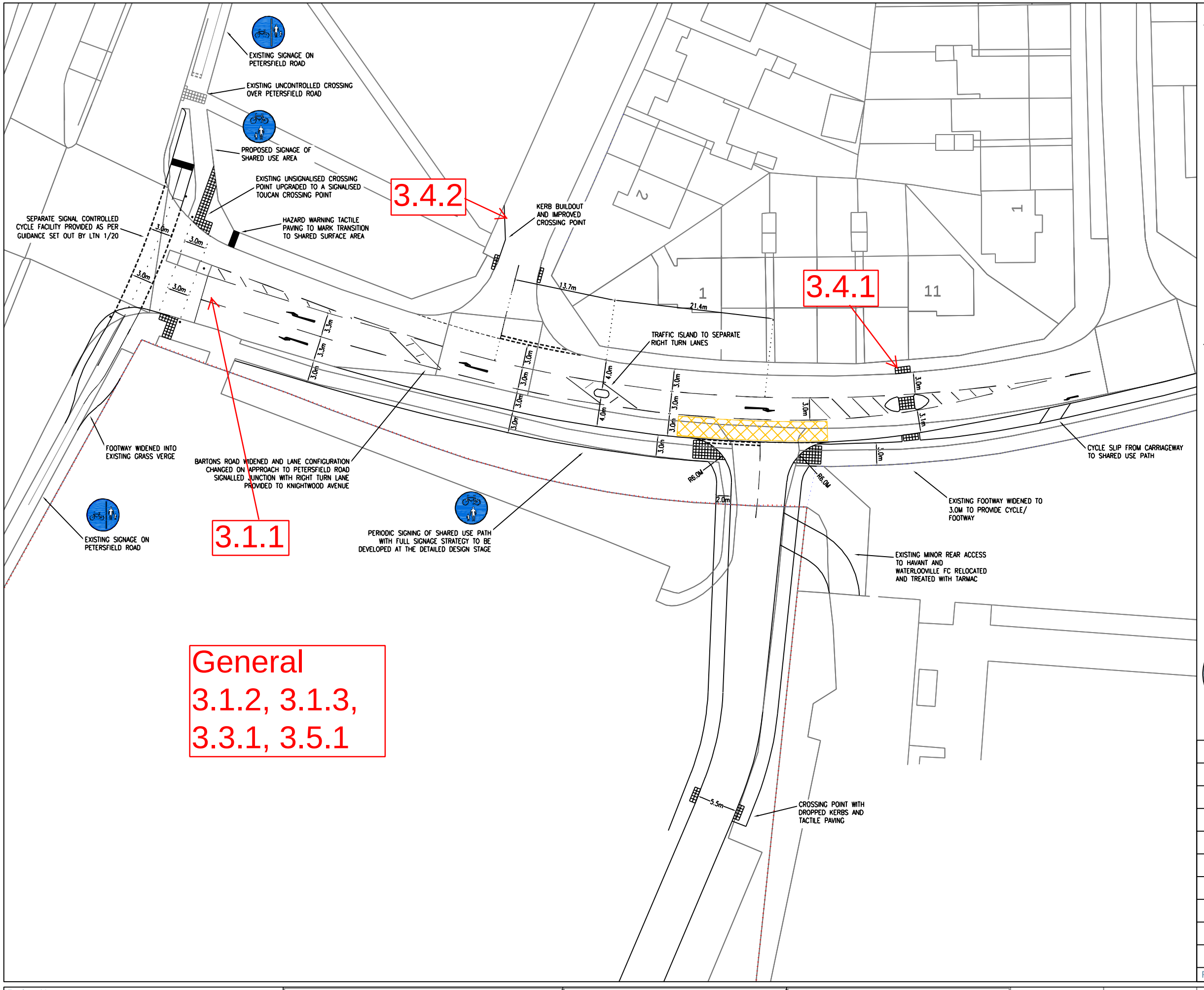
Drawing Number	**Title**
106.0019.008 I	VISIBILITY
106.0019.007 J	GENERAL ARRANGEMENT
106.0019.009 B	GENERAL ARRANGEMENT
106.0019.100 D	SITE ACCESS TRACKING REFUSE VEHICLE
106.0019.101D	KNIGHTWOOD AVENUE TRACKING REFUSE VEHICLE AND CAR
106.0019.102D	FOOTBALL CLUB TRACKING CAR
106.0019.103C	TRACKING PANTECHNICON

Supporting Documentation:

Stage 1 Road Safety Audits M&S Traffic April and July 2021.
Road Safety Audit Brief September 2021 Paul Basham Associates.

APPENDIX B

Plan attached showing the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).



General
3.1.2, 3.1.3,
3.3.1, 3.5.1

GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE VIEWED IN COMBINATION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SERVICES AND SPECIALIST DRAWINGS AND SPECIFICATION.
2. ANY VARIATIONS OR DISCREPANCIES BETWEEN THESE DRAWINGS IN TERMS OF DIMENSIONS OR DETAILS SHOULD BE DRAWN TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER FOR CLARIFICATION.
3. PAUL BASHAM ASSOCIATES ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES – THIS MUST BE TREATED AS INDICATIVE ONLY.
4. ALL DIMENSIONS AND LEVELS ARE IN METRES. DO NOT SCALE THIS DRAWING, PRINT, PLOT OR DISK.
5. THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION IF THE PROJECT PHASE IN THE TITLE FRAME BELOW IS SHOWN AS "CONSTRUCTION". PAUL BASHAM ASSOCIATES TAKE NO RESPONSIBILITY FOR CONSTRUCTION WORKS UNDERTAKEN TO DRAWINGS WHICH ARE NOT MARKED UNDER THIS PHASE.

KEY

..... – HIGHWAY BOUNDARY

NORTH

Rev	Description	Date	By	Chkd
J	KNIGHTWOOD AVE KERB BUILDOUT ALTERED	22.09.21	AST	AST
I	ACCESS ROAD NARROWED	15.09.21	AST	RH
H	KERB BUILDOUT + VISIBILITY SPLAYS ADDED	22.07.21	AST	RH
G	SLIGHT CHANGES FOLL. HCC COMMENTS	10.06.21	AST	RH
F	ACCESS KERBS REALIGNED + SIGNS ADDED	20.05.21	AST	RH
E	WESTBOUND ALIGNMENT EASED	18.05.21	AST	RH
D	CHANGES TO ACCOMMODATE TRACKING	27.04.21	AST	RH
C	CYCLE/ FOOTWAY REALIGNED	16.04.21	AST	RH
B	REVISED TO REFLECT RSA COMMENTS	12.04.21	AST	RH
A	REVISED TO REFLECT HCC COMMENTS	01.04.21	AST	RH

Project Name: BARTONS ROAD, HAVANT

Project Phase: PRELIMINARY

Title: PROPOSED BARTONS ROAD IMPROVEMENTS
WESTERN SECTION
GENERAL ARRANGEMENT

paulbasham associates
Paul Basham Associates Ltd
Regus Castlemead, Lower Castle Street, Bristol, BS1 3AG
01179 175810
info@paulbashamassociates.com www.paulbashamassociates.com

Client: fortitudo

Checked By	Checked Date	Scale	
RH	18.01.21	1:500	(AT A3 SIZE)
Drawn By	**Drawn Date**	**Client Drawing No.**	**PBA Drawing No.** / **Revision**
AST	08.01.21	-	106.0019.007 / J

APPENDIX C: Road Safety Audit Decision Log.

Auditors: Martin Morris (Team Leader) and Bryan Shawyer (Team Member).

Scheme: Stage 1 RSA Bartons Road, Havant.

Date Audit Completed: 29th September 2021

This response is to a Stage 1 Road Safety Audit to the design standard detailed within GG 119 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges, as detailed by the Highways Agency.

RSA Problem	RSA Recommendation	Design Organisation response)	Overseeing Organisation response	Agreed RSA action
3.1.1 The proposals do not include the introduction of anti-skid surfacing or a surface with a high Polished Stone Value (PSV) on the approaches to the stop line. Surfacing with an inadequate PSV could lead to vehicles not being able to stop, leading to possible vehicle to pedestrian / cyclist collisions or rear end shunts.	It is recommended that high friction surfacing should be used on both approach lanes to the traffic signals.			
3.1.2 The carriageway is being widened and new kerblines are being introduced, where no details of carriageway drainage or carriageway vertical profiles and horizontal profiles have been provided for assessment. Ponding on the carriageway or water	It is recommended that drainage details should be provided for assessment or that the carriageway should be shaped so that the highway drains.			

moving across the carriageway at junctions could lead to loss of control collisions.				
3.1.3 No details of the PSV of the unsegregated cycleway / footway surface were provided for assessment. Surfacing with an insufficient PSV could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.	It is recommended that the PSV of the unsegregated footway / cycleway surface material should be a minimum of 55PSV.			
3.3.1 A staggered junction is proposed between the access road and Knightswood Avenue. This is a 'left / right' stagger, with side road centre lines scaled at approximately 37m apart on a posted 30mph road. Vehicles waiting to right turn into one side road could obstruct the visibility to the left out of the opposite side road such that an exiting vehicle could pull out into the path of an unseen main road vehicle, which could lead to side impact collisions or rear end shunts.	It is recommended that in accordance with CD 123 para 2.24 a minimum stagger distance of 50m, to ensure safe operation should be the preferred arrangement; however, this may be unachievable in this instance.			
3.4.1 Whilst pedestrian intervisibility appeared adequate there was scope	It is recommended that the hedge should be cut back and that a regular			

for the visibility splay to the east to be improved and obstructed should the hedge line continue to grow – see figure 1. Restricted restrict visibility could lead to vehicle to pedestrian collisions or rear end shunt collisions.	maintenance programme to retain the visibility splay should be employed.			
3.4.2 The crossing point immediately follows a parking bay, where parked vehicles could restrict intervisibility Restricted restrict visibility could lead to vehicle to pedestrian collisions or rear end shunt collisions.	It is recommended that parking bays should be removed to provide an adequate visibility splay.			
3.5.1 Lamp columns are present in the proposed widening area where no details of relocation have been supplied for assessment. A lack of lighting or dark areas could compromise road safety.	It is recommended that lighting details should be supplied at Stage 2 Safety Audit.			

APPENDIX D: DESIGN ORGANISATION STATEMENT

PROJECT NAME: Stage 1 RSA Bartons Road, Havant. **.**	
On behalf of the Design Organisation I certify that: **1) The actions identified in response to the problems raised in this RSA have been discussed and agreed with the Overseeing Organisation**	
Name	
Signed	
Position	
Organisation	**Paul Basham Associates Ltd**
Date	

APPENDIX E: OVERSEEING ORGANISATION STATEMENT

PROJECT NAME: Stage 1 RSA Bartons Road, Havant.	
On behalf of the Overseeing Organisation I certify that: **1) The actions identified in response to the problems raised in this RSA have been discussed and agreed with the Design Organisation; and** **2) The agreed RSA actions will be progressed.**	
Name	
Signed	
Position	
Organisation	
Date	

Appendix I

Department for Transport statistics

https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	**Cars**[2]	**Light Commercial Vehicles**[2]	**Heavy Goods Vehicles**[2]	**All motor vehicles**[2]	**National Rail**[3,4]	**Transport for London Tube**[5]	**Transport for London Bus**[5,7]	**Bus (excl. London)**[6,8,9]	**Cycling**[10,11]
01/03/2020	103%	111%	108%	104%	97%	104%	102%	..	..
02/03/2020	102%	106%	103%	103%	94%	95%	97%	..	..
03/03/2020	101%	105%	102%	102%	95%	95%	96%	..	..
04/03/2020	101%	104%	103%	101%	95%	95%	97%	..	..
05/03/2020	100%	103%	102%	100%	97%	92%	92%	..	..
06/03/2020	102%	103%	102%	102%	99%	92%	96%	..	..
07/03/2020	101%	109%	108%	102%	99%	91%	93%	..	..
08/03/2020	105%	113%	112%	106%	99%	87%	95%	..	89%
09/03/2020	101%	107%	104%	103%	100%	90%	95%	102%	105%
10/03/2020	99%	105%	103%	101%	99%	89%	97%	102%	82%
11/03/2020	99%	104%	103%	100%	98%	86%	93%	98%	118%
12/03/2020	98%	102%	102%	99%	96%	81%	92%	98%	120%
13/03/2020	98%	100%	102%	98%	92%	72%	87%	94%	99%
14/03/2020	93%	102%	108%	95%	89%	61%	83%	85%	127%
15/03/2020	94%	105%	112%	96%	85%	54%	74%	85%	93%
16/03/2020	96%	103%	104%	98%	78%	60%	79%	88%	104%
17/03/2020	86%	95%	103%	89%	69%	44%	70%	77%	77%
18/03/2020	80%	90%	100%	83%	59%	35%	65%	62%	93%
19/03/2020	79%	88%	100%	82%	51%	30%	59%	58%	91%
20/03/2020	78%	85%	98%	81%	43%	24%	52%	53%	82%
21/03/2020	70%	79%	102%	73%	37%	13%	39%	40%	118%
22/03/2020	66%	73%	101%	69%	33%	11%	32%	35%	126%
23/03/2020	64%	77%	97%	69%	25%	15%	31%	27%	86%
24/03/2020	44%	56%	84%	49%	20%	9%	22%	17%	85%
25/03/2020	37%	47%	77%	42%	16%	7%	19%	14%	128%
26/03/2020	35%	43%	72%	39%	13%	6%	18%	13%	132%
27/03/2020	35%	42%	69%	38%	10%	6%	18%	14%	106%
28/03/2020	27%	34%	71%	30%	9%	4%	17%	12%	125%
29/03/2020	23%	29%	72%	25%	8%	4%	16%	13%	83%
30/03/2020	33%	41%	64%	36%	6%	6%	17%	12%	72%
31/03/2020	32%	40%	62%	36%	5%	5%	17%	12%	96%
01/04/2020	32%	39%	61%	35%	5%	5%	16%	11%	111%
02/04/2020	32%	38%	60%	35%	5%	5%	16%	11%	110%
03/04/2020	34%	40%	60%	36%	5%	5%	16%	12%	112%
04/04/2020	28%	35%	66%	31%	5%	4%	17%	11%	200%
05/04/2020	25%	31%	70%	27%	5%	4%	17%	12%	225%
06/04/2020	34%	42%	61%	37%	5%	5%	18%	11%	105%
07/04/2020	33%	41%	60%	36%	5%	5%	18%	11%	137%
08/04/2020	34%	42%	62%	37%	5%	5%	17%	10%	155%
09/04/2020	36%	43%	61%	39%	5%	5%	18%	12%	168%
10/04/2020	27%	27%	33%	27%	4%	4%	17%	12%	179%
11/04/2020	29%	35%	55%	31%	4%	4%	16%	10%	288%
12/04/2020	22%	27%	50%	24%	4%	4%	14%	10%	248%
13/04/2020	23%	22%	25%	23%	4%	5%	18%	12%	121%
14/04/2020	35%	44%	60%	38%	4%	5%	19%	12%	134%
15/04/2020	34%	44%	63%	38%	4%	5%	18%	10%	194%
16/04/2020	34%	42%	63%	38%	4%	5%	18%	11%	203%
17/04/2020	35%	43%	63%	39%	5%	5%	18%	11%	101%
18/04/2020	31%	38%	71%	33%	5%	4%	16%	11%	143%
19/04/2020	29%	36%	73%	32%	5%	4%	..	13%	321%
20/04/2020	38%	48%	65%	41%	6%	5%	..	12%	139%
21/04/2020	37%	47%	64%	41%	5%	5%	..	11%	150%
22/04/2020	37%	47%	65%	41%	5%	5%	..	11%	201%

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	Cars[2]	Light Commercial Vehicles[2]	Heavy Goods Vehicles[2]	All motor vehicles[2]	National Rail[3,4]	Transport for London Tube[5]	Transport for London Bus[5,7]	Bus (excl. London)[6,8,9]	Cycling[10,11]
23/04/2020	37%	46%	64%	41%	5%	5%	..	11%	220%
24/04/2020	39%	46%	65%	42%	4%	5%	..	12%	188%
25/04/2020	35%	43%	71%	38%	4%	4%	..	12%	292%
26/04/2020	32%	40%	75%	35%	4%	3%	..	13%	341%
27/04/2020	40%	51%	68%	44%	4%	5%	..	12%	158%
28/04/2020	38%	48%	67%	42%	4%	5%	..	11%	49%
29/04/2020	38%	49%	68%	42%	4%	5%	..	11%	112%
30/04/2020	39%	48%	67%	42%	4%	5%	..	11%	97%
01/05/2020	40%	50%	66%	44%	4%	5%	..	12%	123%
02/05/2020	38%	47%	72%	40%	4%	4%	..	12%	308%
03/05/2020	34%	42%	76%	36%	4%	4%	..	13%	257%
04/05/2020	42%	55%	70%	46%	5%	6%	..	12%	155%
05/05/2020	42%	54%	71%	46%	5%	6%	..	12%	131%
06/05/2020	43%	55%	73%	47%	5%	5%	..	12%	227%
07/05/2020	45%	56%	71%	49%	5%	5%	..	13%	225%
08/05/2020	33%	33%	35%	34%	5%	7%	..	..	237%
09/05/2020	39%	46%	65%	41%	5%	5%	..	13%	384%
10/05/2020	35%	44%	77%	37%	5%	4%	..	13%	150%
11/05/2020	45%	58%	74%	49%	5%	6%	..	12%	100%
12/05/2020	45%	59%	75%	50%	5%	6%	..	13%	144%
13/05/2020	48%	61%	76%	53%	5%	6%	..	12%	152%
14/05/2020	50%	60%	75%	54%	5%	6%	..	13%	210%
15/05/2020	51%	61%	74%	55%	6%	6%	..	13%	174%
16/05/2020	52%	64%	80%	56%	6%	5%	..	13%	316%
17/05/2020	50%	63%	84%	54%	6%	6%	..	15%	311%
18/05/2020	53%	67%	79%	58%	6%	8%	..	14%	164%
19/05/2020	54%	67%	79%	58%	7%	7%	..	14%	168%
20/05/2020	56%	67%	80%	60%	7%	7%	..	13%	231%
21/05/2020	54%	66%	80%	59%	7%	7%	..	13%	224%
22/05/2020	56%	67%	79%	59%	7%	8%	..	14%	121%
23/05/2020	55%	68%	84%	58%	7%	6%	..	14%	161%
24/05/2020	55%	67%	80%	58%	7%	6%	..	16%	263%
25/05/2020	50%	46%	34%	50%	7%	9%	..	19%	283%
26/05/2020	59%	73%	81%	63%	7%	9%	..	15%	166%
27/05/2020	59%	72%	84%	63%	7%	8%	..	14%	225%
28/05/2020	59%	71%	83%	64%	7%	9%	..	14%	235%
29/05/2020	62%	72%	83%	66%	8%	9%	..	15%	197%
30/05/2020	66%	77%	92%	69%	8%	8%	..	16%	322%
31/05/2020	67%	79%	94%	71%	8%	9%	..	19%	321%
01/06/2020	65%	78%	87%	69%	8%	10%	..	17%	183%
02/06/2020	65%	78%	84%	69%	9%	10%	..	18%	183%
03/06/2020	59%	74%	85%	63%	10%	10%	..	16%	119%
04/06/2020	60%	73%	85%	64%	10%	10%	..	17%	169%
05/06/2020	62%	74%	85%	66%	11%	10%	..	17%	114%
06/06/2020	63%	76%	90%	66%	11%	10%	..	16%	125%
07/06/2020	63%	76%	93%	66%	12%	11%	..	19%	222%
08/06/2020	63%	78%	87%	68%	13%	11%	..	18%	164%
09/06/2020	64%	79%	88%	69%	13%	11%	25%	19%	169%
10/06/2020	61%	77%	88%	66%	12%	11%	25%	17%	125%
11/06/2020	61%	75%	88%	66%	12%	11%	26%	17%	124%
12/06/2020	64%	76%	87%	67%	12%	11%	26%	18%	113%
13/06/2020	73%	85%	93%	76%	13%	12%	31%	19%	286%
14/06/2020	74%	86%	97%	77%	12%	11%	30%	21%	304%
15/06/2020	70%	84%	92%	74%	12%	14%	32%	21%	168%
16/06/2020	68%	82%	91%	72%	13%	13%	31%	21%	145%

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	Cars[2]	Light Commercial Vehicles[2]	Heavy Goods Vehicles[2]	All motor vehicles[2]	National Rail[3,4]	Transport for London Tube[5]	Transport for London Bus[5,7]	Bus (excl. London)[6,8,9]	Cycling[10,11]
17/06/2020	67%	81%	92%	72%	13%	13%	30%	20%	167%
18/06/2020	65%	79%	89%	69%	14%	13%	29%	19%	95%
19/06/2020	70%	82%	90%	74%	14%	14%	29%	21%	118%
20/06/2020	83%	93%	97%	86%	15%	15%	36%	24%	286%
21/06/2020	81%	90%	95%	83%	15%	13%	34%	24%	186%
22/06/2020	72%	87%	93%	77%	15%	16%	34%	23%	179%
23/06/2020	74%	87%	94%	78%	15%	15%	34%	23%	180%
24/06/2020	76%	88%	94%	80%	16%	15%	34%	22%	201%
25/06/2020	76%	86%	92%	80%	16%	15%	34%	23%	243%
26/06/2020	74%	84%	91%	78%	17%	16%	35%	22%	147%
27/06/2020	75%	88%	97%	78%	16%	15%	36%	23%	127%
28/06/2020	76%	90%	99%	79%	17%	16%	36%	26%	180%
29/06/2020	72%	88%	96%	77%	16%	16%	33%	24%	93%
30/06/2020	73%	88%	96%	77%	17%	16%	32%	26%	125%
01/07/2020	73%	88%	97%	78%	16%	16%	33%	24%	155%
02/07/2020	73%	86%	96%	77%	16%	16%	33%	25%	155%
03/07/2020	75%	87%	96%	79%	17%	17%	35%	25%	114%
04/07/2020	82%	95%	101%	84%	17%	18%	39%	29%	178%
05/07/2020	84%	98%	105%	87%	18%	21%	40%	32%	176%
06/07/2020	79%	93%	97%	83%	19%	19%	37%	29%	138%
07/07/2020	76%	91%	97%	80%	19%	19%	37%	29%	109%
08/07/2020	75%	89%	97%	79%	20%	19%	36%	28%	100%
09/07/2020	76%	89%	96%	80%	21%	19%	37%	28%	112%
10/07/2020	83%	93%	96%	86%	21%	21%	39%	30%	133%
11/07/2020	90%	101%	104%	93%	22%	24%	45%	34%	232%
12/07/2020	95%	108%	111%	99%	22%	24%	45%	37%	253%
13/07/2020	80%	94%	98%	84%	23%	21%	41%	31%	110%
14/07/2020	79%	93%	98%	83%	23%	20%	40%	32%	125%
15/07/2020	79%	93%	98%	83%	24%	21%	40%	31%	127%
16/07/2020	81%	92%	98%	85%	25%	21%	42%	32%	164%
17/07/2020	86%	94%	97%	89%	25%	24%	44%	33%	134%
18/07/2020	91%	103%	104%	94%	26%	29%	50%	37%	186%
19/07/2020	95%	108%	111%	98%	26%	24%	43%	41%	195%
20/07/2020	85%	97%	99%	88%	27%	23%	45%	33%	144%
21/07/2020	83%	95%	98%	87%	27%	23%	45%	34%	133%
22/07/2020	82%	94%	98%	85%	27%	24%	46%	32%	151%
23/07/2020	81%	91%	95%	84%	28%	25%	49%	33%	137%
24/07/2020	88%	96%	97%	90%	28%	25%	49%	35%	130%
25/07/2020	90%	102%	105%	92%	28%	28%	51%	38%	116%
26/07/2020	96%	111%	112%	100%	29%	28%	50%	44%	207%
27/07/2020	80%	93%	96%	83%	29%	24%	46%	31%	66%
28/07/2020	82%	95%	97%	86%	29%	25%	50%	37%	114%
29/07/2020	84%	94%	96%	87%	29%	25%	49%	35%	159%
30/07/2020	86%	94%	96%	88%	29%	26%	49%	36%	175%
31/07/2020	92%	97%	95%	93%	30%	27%	50%	37%	124%
01/08/2020	97%	107%	106%	99%	31%	32%	54%	42%	189%
02/08/2020	99%	114%	114%	103%	31%	29%	54%	47%	188%
03/08/2020	88%	98%	97%	90%	32%	27%	51%	37%	125%
04/08/2020	83%	95%	98%	87%	32%	27%	50%	37%	105%
05/08/2020	84%	96%	98%	87%	33%	28%	51%	37%	120%
06/08/2020	85%	93%	96%	88%	33%	27%	49%	37%	157%
07/08/2020	89%	96%	96%	91%	33%	28%	50%	37%	126%
08/08/2020	98%	108%	108%	101%	34%	32%	54%	45%	202%
09/08/2020	101%	115%	116%	105%	34%	31%	51%	49%	189%
10/08/2020	90%	100%	100%	93%	35%	28%	53%	39%	122%

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	Cars[2]	Light Commercial Vehicles[2]	Heavy Goods Vehicles[2]	All motor vehicles[2]	National Rail[3,4]	Transport for London Tube[5]	Transport for London Bus[5,7]	Bus (excl. London)[6,8,9]	Cycling[10,11]
11/08/2020	86%	97%	99%	89%	34%	28%	49%	40%	119%
12/08/2020	86%	97%	99%	89%	35%	28%	53%	38%	129%
13/08/2020	85%	94%	98%	88%	34%	26%	48%	38%	125%
14/08/2020	89%	97%	98%	92%	34%	29%	53%	39%	96%
15/08/2020	96%	107%	107%	98%	33%	33%	54%	46%	135%
16/08/2020	95%	110%	115%	98%	33%	32%	54%	48%	132%
17/08/2020	88%	100%	100%	91%	33%	30%	53%	41%	102%
18/08/2020	86%	98%	99%	89%	33%	30%	54%	43%	108%
19/08/2020	84%	95%	97%	87%	33%	30%	51%	39%	82%
20/08/2020	89%	98%	98%	92%	34%	31%	55%	43%	184%
21/08/2020	89%	96%	95%	91%	34%	32%	54%	39%	62%
22/08/2020	97%	109%	108%	99%	35%	36%	59%	48%	143%
23/08/2020	99%	115%	116%	103%	36%	35%	58%	51%	167%
24/08/2020	92%	102%	99%	94%	40%	32%	57%	45%	114%
25/08/2020	82%	93%	95%	85%	38%	35%	56%	38%	44%
26/08/2020	90%	100%	99%	93%	38%	36%	58%	44%	121%
27/08/2020	87%	96%	98%	89%	38%	32%	53%	41%	94%
28/08/2020	92%	98%	97%	93%	38%	34%	55%	43%	66%
29/08/2020	98%	109%	107%	101%	38%	42%	61%	53%	133%
30/08/2020	102%	116%	107%	105%	38%	39%	59%	59%	178%
31/08/2020	86%	74%	46%	82%	32%[12]	45%	69%	54%	132%
01/09/2020	91%	101%	99%	94%	35%[12]	33%	55%	49%	115%
02/09/2020	87%	98%	103%	90%	36%[12]	35%	52%	44%	107%
03/09/2020	87%	97%	102%	90%	37%[12]	33%	53%	48%	126%
04/09/2020	93%	101%	102%	95%	38%[12]	36%	56%	50%	106%
05/09/2020	100%	113%	116%	103%	38%[12]	42%	61%	54%	175%
06/09/2020	101%	117%	120%	104%	39%[12]	41%	58%	56%	177%
07/09/2020	90%	103%	104%	94%	43%	34%	58%	54%	99%
08/09/2020	88%	101%	104%	92%	43%	34%	58%	57%	111%
09/09/2020	89%	102%	104%	93%	43%	35%	58%	55%	142%
10/09/2020	89%	100%	102%	92%	42%	36%	58%	57%	143%
11/09/2020	94%	103%	103%	96%	42%	37%	59%	55%	99%
12/09/2020	98%	112%	113%	101%	41%	40%	59%	54%	168%
13/09/2020	103%	121%	123%	107%	41%	40%	58%	58%	195%
14/09/2020	93%	105%	105%	97%	40%	35%	58%	58%	122%
15/09/2020	89%	102%	102%	93%	40%	34%	57%	59%	117%
16/09/2020	89%	102%	105%	93%	40%	36%	58%	56%	133%
17/09/2020	90%	100%	103%	93%	39%	35%	58%	58%	154%
18/09/2020	95%	103%	103%	97%	39%	36%	59%	57%	119%
19/09/2020	99%	114%	114%	102%	39%	42%	58%	55%	167%
20/09/2020	102%	121%	125%	106%	39%	40%	61%	59%	182%
21/09/2020	92%	105%	106%	96%	39%	35%	58%	59%	125%
22/09/2020	88%	102%	104%	92%	39%	35%	59%	60%	122%
23/09/2020	85%	100%	105%	89%	38%	34%	57%	54%	81%
24/09/2020	86%	100%	104%	90%	38%	34%	57%	56%	116%
25/09/2020	91%	102%	103%	94%	37%	36%	58%	56%	87%
26/09/2020	95%	110%	116%	98%	37%	42%	57%	54%	123%
27/09/2020	96%	114%	124%	100%	36%	41%	57%	58%	137%
28/09/2020	89%	104%	107%	93%	35%	34%	57%	57%	114%
29/09/2020	87%	101%	105%	91%	34%	34%	58%	61%	104%
30/09/2020	84%	100%	105%	88%	33%	34%	57%	55%	86%
01/10/2020	86%	98%	105%	89%	34%	34%	58%	60%	129%
02/10/2020	87%	99%	102%	90%	34%	34%	55%	55%	60%
03/10/2020	85%	100%	111%	87%	33%	39%	54%	47%	60%
04/10/2020	86%	102%	116%	89%	33%	37%	52%	55%	70%

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	Cars[2]	Light Commercial Vehicles[2]	Heavy Goods Vehicles[2]	All motor vehicles[2]	National Rail[3,4]	Transport for London Tube[5]	Transport for London Bus[5,7]	Bus (excl. London)[6,8,9]	Cycling[10,11]
05/10/2020	86%	103%	106%	91%	34%	33%	59%	59%	95%
06/10/2020	84%	100%	105%	88%	35%	34%	58%	60%	84%
07/10/2020	86%	101%	106%	90%	36%	35%	59%	58%	127%
08/10/2020	84%	98%	104%	88%	35%	34%	57%	57%	109%
09/10/2020	88%	100%	104%	91%	36%	36%	60%	57%	95%
10/10/2020	91%	107%	114%	94%	36%	43%	61%	53%	126%
11/10/2020	94%	113%	122%	98%	36%	41%	61%	58%	166%
12/10/2020	85%	102%	106%	89%	36%	33%	59%	56%	79%
13/10/2020	83%	100%	105%	88%	37%	34%	57%	58%	117%
14/10/2020	84%	99%	106%	88%	36%	35%	59%	56%	142%
15/10/2020	84%	99%	104%	88%	36%	36%	59%	57%	115%
16/10/2020	88%	100%	104%	91%	36%	38%	60%	56%	102%
17/10/2020	88%	106%	114%	92%	35%	37%	57%	52%	138%
18/10/2020	88%	108%	124%	93%	35%	39%	56%	55%	154%
19/10/2020	85%	102%	107%	89%	34%	32%	57%	56%	92%
20/10/2020	83%	99%	105%	87%	34%	32%	55%	58%	76%
21/10/2020	80%	97%	105%	85%	34%	32%	53%	52%	62%
22/10/2020	84%	97%	106%	88%	34%	33%	57%	56%	106%
23/10/2020	86%	98%	104%	90%	33%	34%	56%	53%	74%
24/10/2020	84%	103%	114%	88%	33%	37%	57%	47%	83%
25/10/2020	87%	105%	118%	91%	33%	41%	58%	55%	126%
26/10/2020	83%	98%	105%	87%	32%	33%	57%	45%	74%
27/10/2020	79%	95%	103%	83%	32%	33%	52%	44%	50%
28/10/2020	81%	96%	104%	85%	31%	34%	55%	44%	81%
29/10/2020	78%	92%	102%	82%	31%	34%	55%	42%	69%
30/10/2020	83%	93%	101%	86%	31%	36%	57%	47%	75%
31/10/2020	83%	99%	109%	86%	31%	39%	59%	47%	79%
01/11/2020	86%	106%	115%	89%	32%	40%	59%	54%	83%
02/11/2020	87%	104%	107%	92%	33%	37%	60%	59%	70%
03/11/2020	88%	103%	106%	92%	34%	40%	62%	63%	70%
04/11/2020	92%	107%	107%	96%	35%	43%	64%	62%	110%
05/11/2020	67%	86%	104%	73%	34%	23%	47%	44%	106%
06/11/2020	67%	84%	104%	72%	32%	22%	47%	43%	95%
07/11/2020	61%	78%	110%	65%	30%	17%	40%	31%	172%
08/11/2020	57%	72%	109%	60%	28%	16%	36%	32%	118%
09/11/2020	70%	90%	106%	76%	27%	23%	49%	48%	76%
10/11/2020	70%	89%	104%	76%	25%	23%	49%	49%	78%
11/11/2020	69%	89%	105%	75%	23%	23%	47%	46%	95%
12/11/2020	70%	86%	103%	76%	23%	22%	48%	48%	111%
13/11/2020	71%	86%	103%	76%	24%	23%	49%	46%	89%
14/11/2020	61%	77%	106%	65%	24%	18%	38%	32%	72%
15/11/2020	60%	76%	108%	63%	24%	19%	37%	35%	91%
16/11/2020	71%	92%	106%	78%	23%	24%	49%	48%	82%
17/11/2020	71%	90%	104%	77%	23%	24%	49%	49%	80%
18/11/2020	70%	89%	105%	76%	23%	23%	48%	45%	77%
19/11/2020	71%	88%	104%	77%	23%	23%	48%	48%	99%
20/11/2020	71%	88%	105%	76%	23%	23%	48%	45%	67%
21/11/2020	63%	81%	111%	68%	23%	18%	42%	33%	130%
22/11/2020	64%	81%	114%	68%	23%	19%	41%	36%	174%
23/11/2020	72%	93%	107%	78%	23%	24%	49%	48%	78%
24/11/2020	71%	91%	106%	77%	23%	24%	49%	49%	73%
25/11/2020	70%	89%	106%	76%	23%	23%	48%	46%	80%
26/11/2020	71%	88%	106%	76%	23%	23%	48%	47%	107%
27/11/2020	72%	88%	106%	77%	23%	23%	47%	45%	76%
28/11/2020	65%	83%	117%	69%	23%	19%	42%	35%	112%

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	Cars[2]	Light Commercial Vehicles[2]	Heavy Goods Vehicles[2]	All motor vehicles[2]	National Rail[3,4]	Transport for London Tube[5]	Transport for London Bus[5,7]	Bus (excl. London)[6,8,9]	Cycling[10,11]
29/11/2020	64%	81%	120%	68%	23%	19%	39%	37%	134%
30/11/2020	73%	95%	109%	80%	23%	25%	49%	49%	66%
01/12/2020	73%	93%	107%	79%	24%	25%	51%	52%	77%
02/12/2020	77%	96%	106%	83%	25%	30%	56%	55%	94%
03/12/2020	78%	95%	105%	82%	26%	31%	54%	54%	63%
04/12/2020	79%	95%	105%	84%	27%	34%	58%	53%	73%
05/12/2020	81%	101%	120%	85%	29%	40%	58%	50%	108%
06/12/2020	78%	99%	125%	82%	30%	38%	55%	51%	83%
07/12/2020	82%	102%	110%	87%	31%	32%	56%	58%	72%
08/12/2020	80%	99%	109%	86%	32%	33%	58%	57%	68%
09/12/2020	80%	99%	109%	86%	32%	34%	56%	55%	86%
10/12/2020	80%	97%	107%	85%	33%	34%	58%	56%	87%
11/12/2020	82%	98%	108%	87%	33%	36%	58%	55%	77%
12/12/2020	84%	103%	121%	88%	33%	43%	59%	52%	112%
13/12/2020	76%	96%	123%	80%	33%	37%	54%	49%	51%
14/12/2020	83%	102%	111%	89%	33%	35%	57%	57%	77%
15/12/2020	83%	101%	109%	88%	33%	38%	60%	58%	77%
16/12/2020	80%	98%	109%	85%	32%	29%	52%	51%	76%
17/12/2020	82%	98%	109%	87%	32%	29%	54%	56%	104%
18/12/2020	81%	94%	107%	85%	31%	29%	52%	49%	59%
19/12/2020	87%	103%	128%	90%	30%	32%	54%	52%	97%
20/12/2020	80%	97%	136%	83%	29%	19%	41%	53%	121%
21/12/2020	78%	91%	100%	81%	27%	22%	43%	42%	50%
22/12/2020	78%	89%	94%	81%	27%	21%	44%	43%	65%
23/12/2020	78%	85%	80%	80%	23%	20%	44%	38%	50%
24/12/2020	70%	63%	41%	67%	22%	22%	46%	29%	83%
25/12/2020	36%	24%	3%	32%	21%	..	..	..	27%
26/12/2020	43%	41%	28%	42%	20%	9%	26%	..	72%
27/12/2020	58%	68%	85%	60%	20%	14%	35%	37%	93%
28/12/2020	48%	44%	31%	46%	17%	25%	50%	..	55%
29/12/2020	53%	55%	52%	53%	16%	17%	40%	28%	50%
30/12/2020	58%	59%	55%	58%	14%	18%	42%	28%	68%
31/12/2020	50%	48%	37%	48%	12%	17%	42%	22%	53%
01/01/2021	29%	23%	10%	27%	12%	12%	38%	..	38%
02/01/2021	52%	59%	65%	53%	11%	15%	34%	25%	85%
03/01/2021	55%	68%	90%	57%	12%	19%	37%	31%	86%
04/01/2021	60%	77%	80%	65%	13%	19%	36%	29%	64%
05/01/2021	56%	74%	87%	61%	14%	17%	33%	26%	54%
06/01/2021	54%	73%	90%	60%	13%	17%	32%	24%	69%
07/01/2021	53%	71%	90%	59%	13%	16%	32%	24%	59%
08/01/2021	52%	70%	90%	58%	14%	16%	31%	24%	47%
09/01/2021	48%	65%	96%	52%	14%	14%	33%	23%	87%
10/01/2021	46%	61%	97%	50%	14%	14%	32%	25%	95%
11/01/2021	56%	79%	97%	63%	14%	16%	32%	26%	70%
12/01/2021	55%	76%	96%	62%	14%	16%	31%	26%	60%
13/01/2021	54%	75%	96%	61%	14%	15%	30%	24%	63%
14/01/2021	50%	69%	91%	56%	14%	15%	30%	21%	41%
15/01/2021	54%	71%	91%	59%	14%	16%	32%	25%	58%
16/01/2021	47%	62%	93%	51%	14%	12%	31%	22%	66%
17/01/2021	48%	63%	96%	52%	14%	14%	34%	27%	152%
18/01/2021	57%	79%	98%	63%	14%	16%	32%	27%	82%
19/01/2021	55%	76%	96%	61%	14%	15%	31%	26%	51%
20/01/2021	53%	74%	95%	60%	14%	15%	31%	23%	50%
21/01/2021	54%	74%	93%	61%	14%	15%	32%	25%	82%
22/01/2021	57%	75%	94%	63%	14%	16%	33%	27%	87%

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	Cars[2]	Light Commercial Vehicles[2]	Heavy Goods Vehicles[2]	All motor vehicles[2]	National Rail[3,4]	Transport for London Tube[5]	Transport for London Bus[5,7]	Bus (excl. London)[6,8,9]	Cycling[10,11]
23/01/2021	52%	70%	96%	56%	14%	13%	34%	24%	117%
24/01/2021	41%	59%	95%	45%	14%	12%	30%	25%	43%
25/01/2021	54%	77%	94%	61%	14%	17%	33%	26%	44%
26/01/2021	55%	77%	96%	62%	14%	16%	31%	26%	40%
27/01/2021	57%	78%	97%	63%	14%	16%	32%	26%	84%
28/01/2021	56%	76%	95%	63%	14%	16%	33%	26%	85%
29/01/2021	59%	77%	94%	65%	14%	16%	33%	27%	74%
30/01/2021	53%	71%	96%	57%	14%	14%	32%	24%	72%
31/01/2021	52%	68%	99%	55%	14%	15%	35%	27%	104%
01/02/2021	59%	81%	98%	66%	13%	17%	34%	28%	63%
02/02/2021	54%	75%	95%	61%	13%	17%	33%	24%	46%
03/02/2021	57%	78%	98%	64%	14%	17%	33%	26%	84%
04/02/2021	58%	77%	96%	64%	14%	16%	33%	27%	90%
05/02/2021	60%	78%	97%	66%	14%	17%	35%	28%	87%
06/02/2021	56%	74%	99%	60%	14%	15%	35%	25%	121%
07/02/2021	48%	65%	98%	52%	14%	18%	39%	26%	60%
08/02/2021	54%	77%	95%	61%	15%	17%	32%	25%	42%
09/02/2021	53%	75%	93%	59%	15%	17%	31%	26%	37%
10/02/2021	55%	77%	95%	62%	15%	17%	33%	26%	54%
11/02/2021	58%	78%	95%	64%	15%	17%	34%	27%	47%
12/02/2021	61%	79%	96%	67%	16%	18%	34%	27%	41%
13/02/2021	58%	77%	101%	62%	16%	18%	39%	25%	60%
14/02/2021	52%	68%	99%	55%	16%	18%	39%	26%	61%
15/02/2021	61%	83%	100%	68%	16%	18%	38%	28%	90%
16/02/2021	60%	82%	99%	67%	17%	18%	37%	28%	59%
17/02/2021	60%	82%	99%	67%	17%	18%	38%	26%	78%
18/02/2021	60%	80%	99%	66%	17%	18%	39%	27%	91%
19/02/2021	61%	78%	97%	66%	17%	18%	39%	27%	66%
20/02/2021	59%	77%	101%	63%	16%	20%	39%	27%	132%
21/02/2021	58%	75%	103%	62%	16%	19%	38%	30%	165%
22/02/2021	63%	86%	102%	70%	16%	19%	34%	30%	75%
23/02/2021	62%	84%	100%	69%	16%	19%	35%	30%	71%
24/02/2021	63%	84%	101%	69%	16%	19%	35%	28%	87%
25/02/2021	64%	83%	101%	70%	16%	18%	36%	30%	113%
26/02/2021	68%	85%	100%	73%	14%	20%	39%	32%	117%
27/02/2021	66%	83%	106%	70%	17%	21%	44%	31%	204%
28/02/2021	65%	81%	106%	69%	17%	18%	39%	34%	198%
01/03/2021	66%	89%	104%	73%	17%	20%	36%	31%	81%
02/03/2021	65%	87%	102%	72%	17%	19%	35%	31%	76%
03/03/2021	64%	86%	103%	71%	17%	19%	35%	29%	80%
04/03/2021	64%	84%	102%	70%	18%	18%	35%	30%	90%
05/03/2021	68%	85%	102%	73%	19%	20%	37%	31%	87%
06/03/2021	66%	86%	108%	70%	19%	19%	38%	31%	152%
07/03/2021	64%	82%	108%	68%	20%	18%	40%	33%	168%
08/03/2021	70%	93%	105%	77%	22%	22%	43%	38%	87%
09/03/2021	70%	91%	102%	76%	23%	23%	47%	42%	107%
10/03/2021	67%	89%	103%	74%	24%	22%	44%	38%	68%
11/03/2021	68%	88%	100%	74%	24%	22%	47%	41%	79%
12/03/2021	73%	91%	102%	78%	24%	23%	48%	42%	84%
13/03/2021	71%	90%	109%	75%	25%	19%	43%	32%	98%
14/03/2021	73%	88%	105%	76%	24%	18%	41%	34%	117%
15/03/2021	72%	94%	105%	78%	25%	24%	48%	46%	89%
16/03/2021	71%	92%	104%	77%	25%	23%	48%	46%	76%
17/03/2021	71%	92%	104%	77%	25%	24%	49%	44%	112%
18/03/2021	71%	89%	103%	76%	25%	23%	48%	45%	103%

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	Cars[2]	Light Commercial Vehicles[2]	Heavy Goods Vehicles[2]	All motor vehicles[2]	National Rail[3,4]	Transport for London Tube[5]	Transport for London Bus[5,7]	Bus (excl. London)[6,8,9]	Cycling[10,11]
19/03/2021	73%	90%	101%	78%	25%	24%	49%	44%	88%
20/03/2021	68%	86%	107%	72%	25%	19%	40%	34%	163%
21/03/2021	66%	83%	106%	70%	25%	20%	40%	35%	180%
22/03/2021	73%	95%	106%	80%	25%	25%	49%	47%	99%
23/03/2021	72%	94%	105%	78%	25%	24%	49%	47%	82%
24/03/2021	73%	94%	105%	79%	25%	24%	48%	44%	100%
25/03/2021	73%	92%	105%	79%	26%	24%	48%	45%	111%
26/03/2021	75%	92%	105%	80%	25%	23%	48%	43%	62%
27/03/2021	73%	92%	113%	77%	25%	22%	43%	35%	169%
28/03/2021	65%	82%	110%	69%	25%	20%	40%	33%	95%
29/03/2021	78%	99%	108%	84%	r24%	26%	50%	42%	100%
30/03/2021	81%	99%	108%	87%	r25%	28%	53%	45%	121%
31/03/2021	81%	99%	110%	86%	r25%	27%	50%	42%	129%
01/04/2021	r83%	r99%	r104%	88%	r25%	26%	54%	43%	104%
02/04/2021	69%	66%	52%	68%	r29%	28%	48%	35%	100%
03/04/2021	82%	r95%	r85%	r84%	r30%	25%	46%	35%	137%
04/04/2021	78%	88%	r75%	80%	r30%	30%	47%	34%	153%
05/04/2021	63%	57%	37%	60%	r30%	27%	46%	33%	60%
06/04/2021	75%	95%	98%	80%	p24%[4]	25%	47%	36%	58%
07/04/2021	75%	94%	102%	80%	p24%[4]	26%	43%	33%	76%
08/04/2021	74%	92%	103%	80%	p23%[4]	25%	46%	34%	96%
09/04/2021	76%	92%	104%	80%	p24%[4]	26%	47%	34%	77%
10/04/2021	79%	99%	116%	83%	p24%[4]	24%	44%	34%	..
11/04/2021	81%	102%	114%	85%	p26%[4]	27%	45%	38%	..
12/04/2021	86%	105%	106%	91%	p30%[4]	34%	60%	51%	..

Notes:

Easter and Christmas Period - users should note that the percentages of normal use for road traffic, bus use outside London and cycling are comparing to baselines early in 2020 (as set out in footnotes below) - not to the equivalent Easter/Christmas period last year. Therefore rates, especially for the Easter Friday and Monday, and the 25th - 28th December period will look much lower than normal as they are not adjusted for the seasonal change. Whereas Rail/TFL is comparing to the equivalent rolling week/most equivalent day from 2019. For TFL therefore, this does not show the underlying significant reduction in trips made over the Easter/Christmas and bank holiday period as it is comparing to a similarly reduced figure for the equivalent day in 2019.

.. Not available (see relevant notes for reason)

r Revised from previous edition

p Provisional

[a] We have published information on the data sources and methodology used to generate each of these headline measures:
https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic

[1] Although daily data is being reported, direct comparisons of change should not be made between weekdays and weekends/bank holidays. For public transport, there are typically different levels of service/timetable in place on weekends and bank holidays than on weekdays; and for road traffic , there is a different profile on weekend days compared to weekdays.

[2] Percentage of the equivalent day in the first week of February 2020.

[3] Percentage of the equivalent week in the previous year up to w/c 8 Feb 2021; from w/c 15 Feb 2021 this reverted to the percentage of the equivalent week

[4] National Rail data is subject to revisions up to a week after initial publication. The latest days data would be an underestimate of the final result as the raw ticket sales data matures. Since the publication on 16th September, we have applied an adjustment to the latest weeks data to attempt to account for this average upward revision which would occur as the data matures. The period should still be treated as provisional, but revisions should be smaller than they have been to date. Contrary to this, the adjustment can occasionally be an overestimate. For example the value for Monday 11 January was originally published as 17%, but the actual turnout seven days later was 13%. This revision therefore depicts the revision based on complete outturn journeys data, rather than a downward trend in usage.

[5] Percentage of the equivalent day in the previous year (reverted to 2019 comparison on 1 March 2021)

[6] Percentage of the equivalent day of the third week of January 2020.

[7] Data on TfL Buses is not available from Sunday 19th April to 8th June due to the change in boarding policy:
https://tfl.gov.uk/info-for/media/press-releases/2020/april/tfl-introduces-middle-door-only-boarding-across-the-london-bus-network
Fare collection was re-enabled for 406 routes on 9 June. By 4 July this had expanded to all but 18 routes. This data may be subject to under-reporting due to non-compliance with fare collection.

Use of transport modes: Great Britain, since 1 March 2020[a]

Figures are percentages of an equivalent day or week.

Percentage

Date[1] (weekends and bank holidays in grey)	**Cars**[2]	**Light Commercial Vehicles**[2]	**Heavy Goods Vehicles**[2]	**All motor vehicles**[2]	**National Rail**[3,4]	**Transport for London Tube**[5]	**Transport for London Bus**[5,7]	**Bus (excl. London)**[6,8,9]	**Cycling**[10,11]

[8] Data on Buses (excl. London) has been adjusted to compare against typical usage on bank holidays, whereas all other data sources have not.

[9] Data on Buses (excl. London) is not available on 8th May, 25th , 26th, 28th December 2020 and 1st January 2021.

[10] Percentage of the equivalent day in the first week of March.

[11] Cycling data covers England only. The data source is now available at a lag of 3 days rather than 1 from 11/9/20 so the data will be 2 days behind the other indicators going forward. Cycling levels have been historically lower in colder, wetter months, which may influence lower cycle usage over the winter period compared to the March baseline.

[12] National Rail data for the period 31st August to 6th September is an underestimate of the real rate of rail usage in this period. This is due to the fact that the rolling weekly average for the days in this period includes the Bank Holiday Monday on 31st August but the equivalent period from the previous year which it is being compared to did not include a Bank Holiday.

Contact	*Email*	*Telephone*		
Motor vehicles	roadtraff.stats@dft.gov.uk	020 7944 3095	Last updated:	14 April 2021
National Rail	rail.stats@dft.gov.uk	020 7944 2419	Next update:	21 April 2021
Transport for London Tube and Bus	cm.analytics@dft.gov.uk			
Buses (excl. London)	bus.statistics@dft.gov.uk	020 7944 3077		
Cycling	subnational.stats@dft.gov.uk	020 7944 3077		
Any other queries	transport.statistics@dft.gov.uk	020 7944 4847		
Media enquiries		020 7944 4292		

Appendix J

Alex Stephenson

From: Alex Stephenson
Sent: 09 April 2021 14:01
To: Kester, Michael; Drury, Holly
Cc: Hirst, Chris; Derrick, Roger; Lamont, Scott; Rob Hardyman
Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Thanks both,

If we're in agreement that an 11% uplift would be appropriate based on national data which appears to be provide a worst case compared to the available local data, then we will do that.

Kind Regards

Alex Stephenson
Principal Transport Planner
BEng (Hons)

paulbasham associates

PLEASE NOTE OUR BRISTOL OFFICE NUMBER HAS NOW CHANGED TO: 0117 2390 766

Bristol Office
t +44 (0) 117 239 0766
p Regus Castlemead, Office 326, Lower Castle Street, Bristol, BS1 3AG
w www.paulbashamassociates.com

Fareham | Oxford | Bristol | Cambridge



From: Kester, Michael <michael.kester@hants.gov.uk>
Sent: 09 April 2021 08:56
To: Drury, Holly <holly.drury@hants.gov.uk>
Cc: Hirst, Chris <Chris.Hirst@hants.gov.uk>; Derrick, Roger <Roger.Derrick2@hants.gov.uk>; Lamont, Scott <Scott.Lamont@hants.gov.uk>; Rob Hardyman <r.hardyman@paulbashamassociates.com>; Alex Stephenson <a.stephenson@paulbashamassociates.com>
Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Holly,

24hr traffic flows across the Hampshire sites monitored for w/c 14/12/2020 were at 88.7% of those for w/c 17/02/2020. For the junction of B2149 Park Road South / Solent Road, Havant traffic levels were slightly higher at 96% when comparing flows between 1000 – 1600hrs on 14/12/2020 to those for the same time period on 22/02/2020 but this may be due to traffic heading to Tesco and the shops at Solent Retail Park. I think what Alex says below makes sense regarding upscaling the data for the Bartons Road junction.

Regards

Mike Kester EngTech FIHE
Traffic Signals Engineer
Intelligent Transport Systems Group
Hampshire Highways
Hampshire County Council
Office tel: 0370 779 7322
Mobile tel: 07739 050680

Economy, Transport and Environment
Moving and shaping a prospering and sustainable Hampshire

Making a difference | Working together | Ambitious to improve | Commitment to quality

From: [redacted]
Sent: [redacted]
To: [redacted]
Cc: [redacted]
<[redacted]
Subject: Re: Bartons Road jct Petersfield Road, Havant - Traffic data

Mike how does this compare against the solent Road signals for that time period. As thats just down the road I would consider that a robust assumption of traffic levels at the time.

Kind regards

Holly

Get Outlook for Android

[redacted]
Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Hi Mike,

Thanks for your response and for checking.

Holly – regarding our planning application, in the absence of local data we can use to conduct a pre-Covid Saturday sensitivity test at the Petersfield Road/ Bartons Road junction, we propose using this national dataset instead: https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic

The dataset suggests that the number of motor vehicles on UK roads on Saturday 19th December 2020 was 90% compared to an equivalent day in February 2020. As such the Saturday 19th December count which we have will be factored by 1.11 to provide pre-Covid flows.

We appreciate that this dataset is national however it is the most accurate available and we consider that the factor is robust. If you would like us to use a different methodology please do let us know at your earliest convenience.

Kind Regards

Alex Stephenson
Principal Transport Planner
BEng (Hons)

paulbasham associates

PLEASE NOTE OUR BRISTOL OFFICE NUMBER HAS NOW CHANGED TO: 0117 2390 766

Bristol Office

t +44 (0) 117 239 0766

p Regus Castlemead, Office 326, Lower Castle Street, Bristol, BS1 3AG

w www.paulbashamassociates.com

Fareham | Oxford | Bristol | Cambridge



From: Kester, Michael <michael.kester@hants.gov.uk>
Sent: 08 April 2021 10:29
To: Alex Stephenson <a.stephenson@paulbashamassociates.com>
Cc: Drury, Holly <holly.drury@hants.gov.uk>; Hirst, Chris <Chris.Hirst@hants.gov.uk>; Derrick, Roger <Roger.Derrick2@hants.gov.uk>; Lamont, Scott <Scott.Lamont@hants.gov.uk>; Rob Hardyman <r.hardyman@paulbashamassociates.com>
Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Alex,

It appears that these loops have been recut at some point and have not been re-validated for counting vehicles therefore unfortunately I do not hold any count data for this site.

Regards

Mike Kester EngTech FIHE
Traffic Signals Engineer
Intelligent Transport Systems Group
Hampshire Highways
Hampshire County Council
Office tel: 0370 779 7322
Mobile tel: 07739 050680

Economy, Transport and Environment
Moving and shaping a prospering and sustainable Hampshire

Making a difference | Working together | Ambitious to improve | Commitment to quality

[redacted]

Subject: FW: Bartons Road jct Petersfield Road, Havant - Traffic data

Hi Mike,

Thanks for sending these through, much appreciated.

However, we note your concern regarding the turning proportions on the Bartons Road approach to the junction and we also have concerns of our own. Our main concern is that these counts indicate a total demand across the three arms of between 8,000-10,000 per peak hour, including demands on single lanes in excess of 2,000 per hour which should not be possible. By contrast the traffic count we commissioned on Saturday 13th December 2020 suggested a peak hourly demand of 1,869 vehicles across all arms. Our weekday surveys, conducted in 2017 and growthed to provide 2020 flows, suggest peak hourly demands of 1,823 and 1,964 for the AM and PM peak hours respectively. These traffic flow diagrams are attached.

Therefore the 8,000-10,000 hourly demand suggested by the attached spreadsheet appears to grossly overstate the actual demand at the junction which is in the region of 1,800-2,000. Do you know the reason why this may be the case and is there any chance of traffic data being available that would give us an accurate idea of Saturday demand at the junction pre-Covid?

You'll be aware that the reason we're after this data is so that we can calculate a factor which we can apply to our Saturday 13th December count, to conduct a pre-Covid modelling sensitivity test at the Petersfield Road/ Bartons Road signalled junction. If it transpires that no accurate data is available at the junction to allow us to do this, is there any other data which might be able to help? For instance an ATC in the locality which includes data from Saturday 13th December and from a pre-Covid Saturday.

I hope you don't mind me copying in Holly as well as Chris, Roger and Scott who we are working with on our planning application.

Happy to chat over the phone if it helps.

Kind Regards

Alex Stephenson
Principal Transport Planner
BEng (Hons)

paulbasham associates

PLEASE NOTE OUR BRISTOL OFFICE NUMBER HAS NOW CHANGED TO: 0117 2390 766

Bristol Office

t +44 (0) 117 239 0766

p Regus Castlemead, Office 326, Lower Castle Street, Bristol, BS1 3AG
w www.paulbashamassociates.com

Fareham | Oxford | Bristol | Cambridge



From: Kester, Michael <michael.kester@hants.gov.uk>
Sent: 01 April 2021 14:19
To: Alex Stephenson <a.stephenson@paulbashamassociates.com>
Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Alex,

I've looked on our system and I am not happy that the counts for Bartons Road are correct (the difference between total flow and right turning vehicles looks suspect) as such I have attached a spreadsheet with count available for both the 18th January 2020 as requested and also the 1st February 2020 as well as .zip files with the raw data.

As the data is suspect on Bartons Road I shall not pass this for invoicing.

Regards

Mike Kester EngTech FIHE
Traffic Signals Engineer
Intelligent Transport Systems Group
Hampshire Highways
Hampshire County Council
Office tel: 0370 779 7322
Mobile tel: 07739 050680

Economy, Transport and Environment
Moving and shaping a prospering and sustainable Hampshire

Making a difference | Working together | Ambitious to improve | Commitment to quality

[redacted]

Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Hi Mike,

Thanks again for offering these.

If you could confirm that there were no school holidays or other events which would mean that the 18th January 2020 count could be considered anything other than normal, then we'd like to have this count please, for £150 + VAT.

We are Paul Basham Associates and our invoicing address is:
The Bothy,
Cams Hall Estate,
Fareham,
Hampshire,
PO16 8UT

Our accounts team can be reached on:
01329 711000

Our accounts email address is:
accounts@paulbashamassociates.com

Our purchase order number is:
7696

Let me know if you need anything else.

Kind Regards

Alex Stephenson
Principal Transport Planner
BEng (Hons)

paulbasham associates

PLEASE NOTE OUR BRISTOL OFFICE NUMBER HAS NOW CHANGED TO: 0117 2390 766

Bristol Office
t +44 (0) 117 239 0766
p Regus Castlemead, Office 326, Lower Castle Street, Bristol, BS1 3AG
w www.paulbashamassociates.com

Fareham | Oxford | Bristol | Cambridge



From: Kester, Michael <michael.kester@hants.gov.uk>
Sent: 30 March 2021 15:41

[redacted]
Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Alex,

I have data available for each Saturday from 18/01/2020 until the end of February 2020 for the interpeak periods.

Regards

Mike Kester EngTech FIHE
Traffic Signals Engineer
Intelligent Transport Systems Group
Hampshire Highways
Hampshire County Council
Office tel: 0370 779 7322
Mobile tel: 07739 050680

Economy, Transport and Environment
Moving and shaping a prospering and sustainable Hampshire

Making a difference | Working together | Ambitious to improve | Commitment to quality

[redacted]
Subject: RE: Bartons Road jct Petersfield Road, Havant - Traffic data

Hi Mike,

Thanks for your email, much appreciated. Before we approve this cost with our client can you confirm that you hold turning count data from a pre-covid Saturday during the inter-peak period?

Kind Regards

Alex Stephenson
Principal Transport Planner
BEng (Hons)

paulbasham associates

PLEASE NOTE OUR BRISTOL OFFICE NUMBER HAS NOW CHANGED TO: 0117 2390 766

Bristol Office
t +44 (0) 117 239 0766
p Regus Castlemead, Office 326, Lower Castle Street, Bristol, BS1 3AG
w www.paulbashamassociates.com

Fareham | Oxford | Bristol | Cambridge

[redacted]

Subject: Bartons Road jct Petersfield Road, Havant - Traffic data

Alex,

I understand you would like some traffic data for the junction of the B2149 Petersfield Road with Bartons Road, Havant.

The cost to provide the traffic data as well as the existing as built drawing for the junction is £300 + VAT, if you are solely after the traffic data for a specified period the cost of providing this is £150 + VAT. If you are happy to pay this please can you reply to this email confirming what data you require and that you are happy accept this cost, please can you also provide:

- Your company name and invoicing address:
- Your accounts payable telephone number:
- Your accounts payable e-mail address (your invoice will be sent to this e-mail address):
- Please confirm your purchase order number for these works.

Attached is .pdf of finance details of raising a purchase order to HCC.

Once I have received confirmation I will extract the data requested and send across.

Regards

Mike Kester EngTech FIHE
Traffic Signals Engineer
Intelligent Transport Systems Group
Hampshire Highways
Hampshire County Council
Office tel: 0370 779 7322
Mobile tel: 07739 050680

Economy, Transport and Environment
Moving and shaping a prospering and sustainable Hampshire

Making a difference | Working together | Ambitious to improve | Commitment to quality

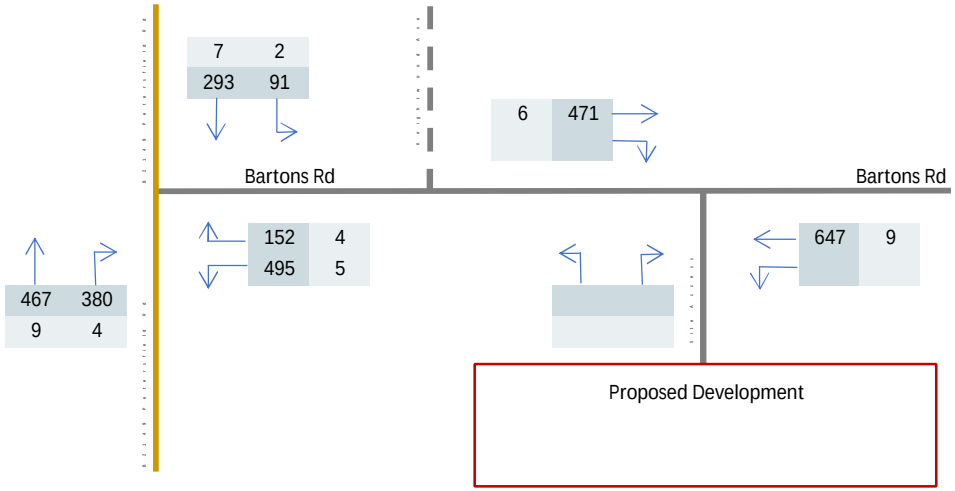
Appendix K

Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2018 Recorded Weekday Traffic Flows
Notes:	2018 traffic flows taken from TA for 'Land West of Havant Crematorium' (Planning ref: APP/19/0007) - Traffic Figure 01 and Traffic Figure 11

2018 Recorded Traffic Flows - AM Peak Hour (08:00-09:00)



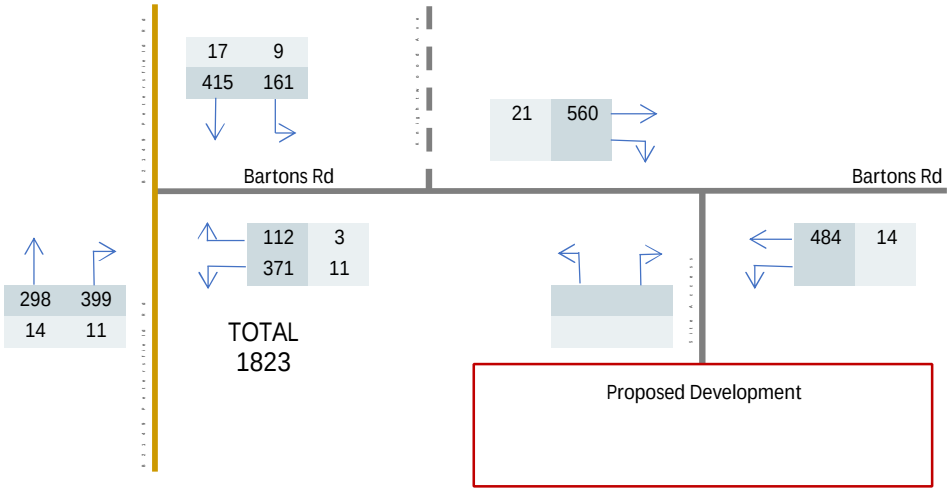
2018 Recorded Traffic Flows - PM Peak Hour (17:00-18:00)



Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2020 Forecast Weekday Traffic Flows/ 2025 Forecast Weekday Traffic Flows
Notes:	2020 traffic flows forecast using TEMPro growth factors
	2025 traffic flows forecast using TEMPro growth factors

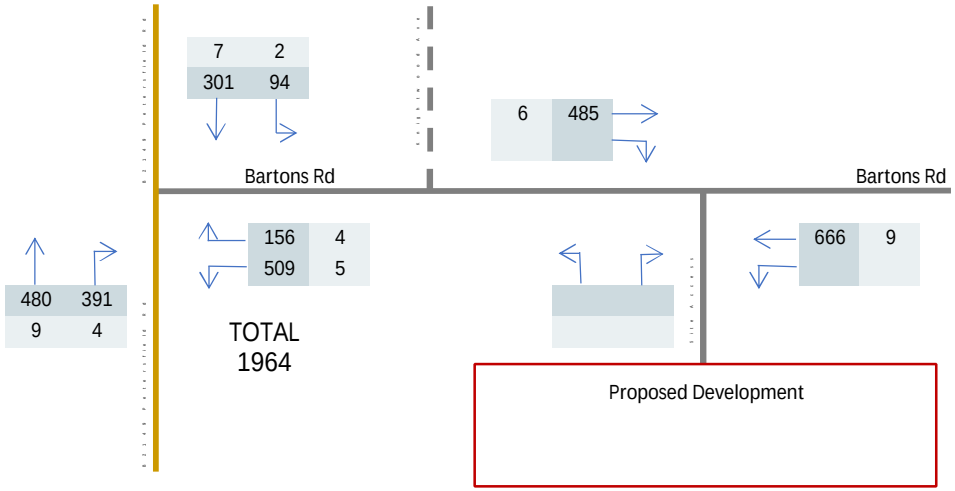
2020 Forecast Traffic Flows - AM Peak Hour (08:00-09:00)

Growth factor: 1.0317

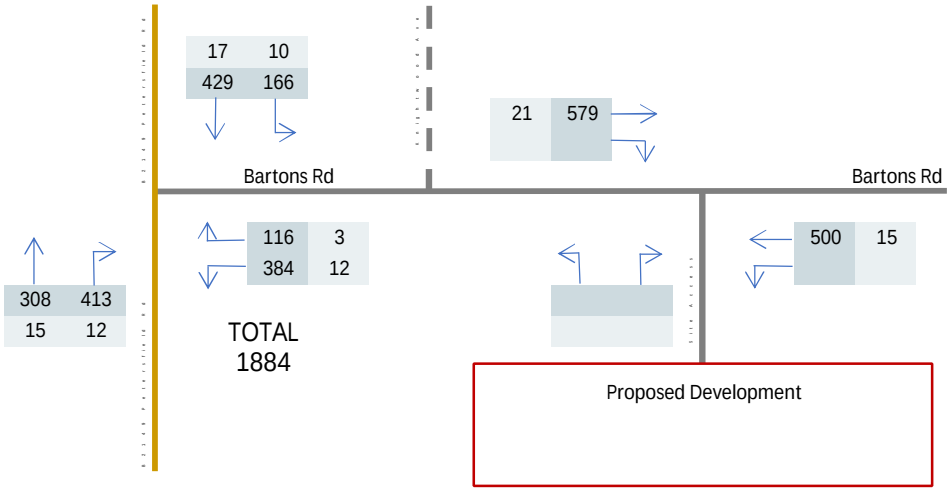


2020 Forecast Traffic Flows - PM Peak Hour (17:00-18:00)

Growth factor: 1.0288

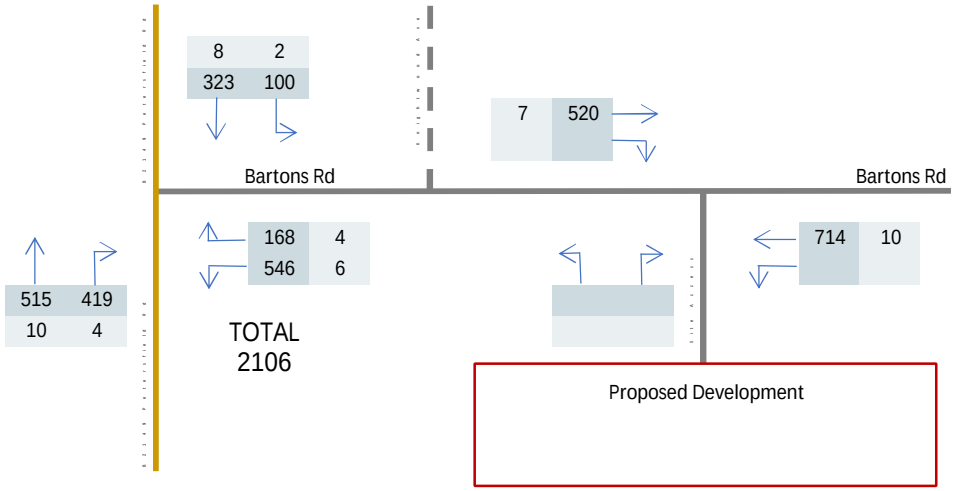


2025 Forecast Traffic Flows - AM Peak Hour (08:00-09:00)



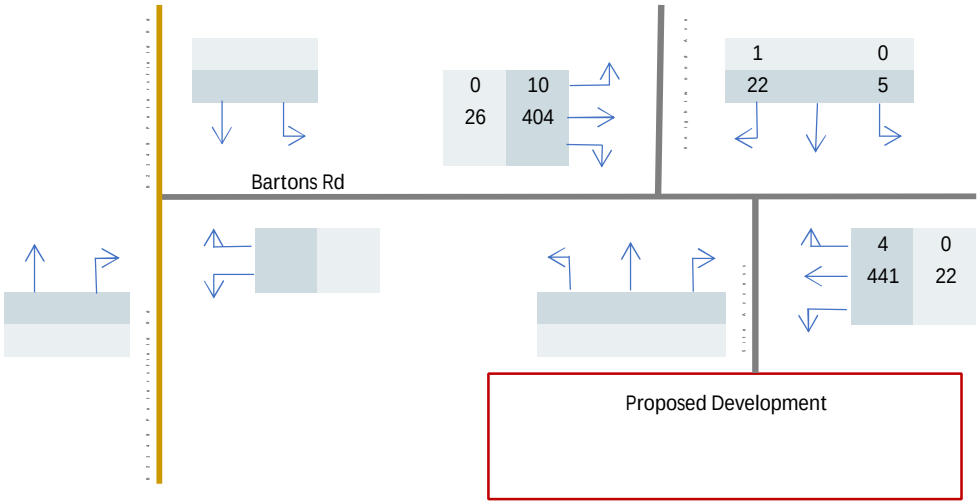
2025 Forecast Traffic Flows - PM Peak Hour (17:00-18:00)

Growth factor: 1.1033

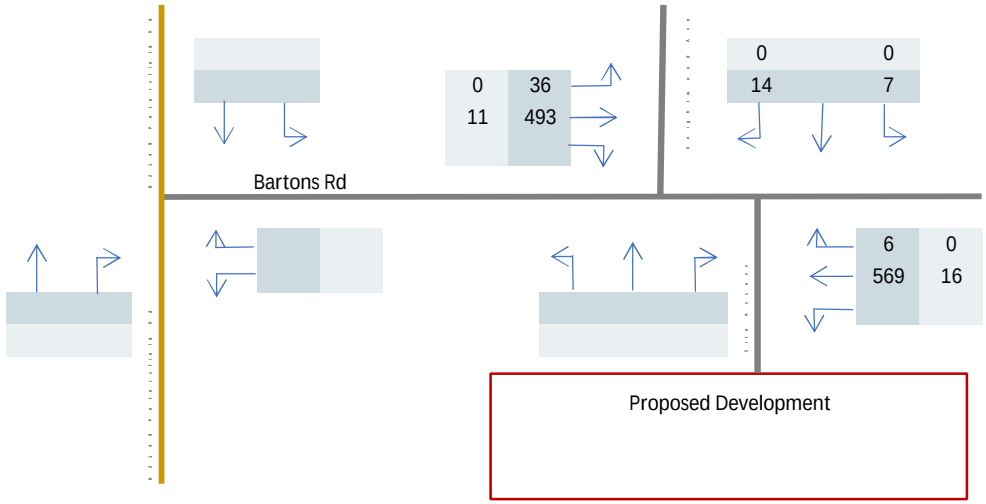


Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2021 Recorded Thursday Traffic Flows and 2025 Forecast Traffic Flows
Notes:	Trafic counts undertaken on Thursday 27th May 2021

2021 Recorded Flows - AM Peak Hour (08:00-09:00)

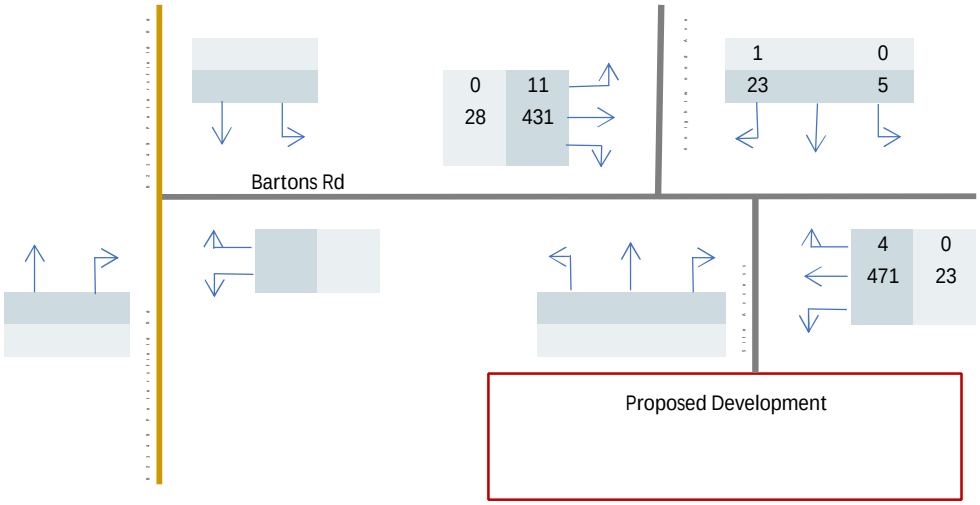


2021 Recorded Flows - PM Peak Hour (17:00-18:00)



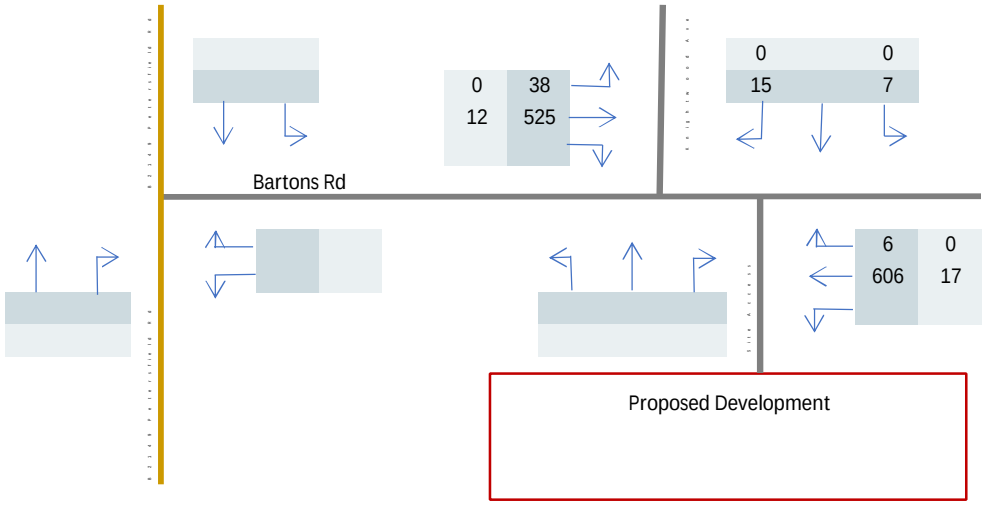
2025 Forecast Flows - AM Peak Hour (08:00-09:00)

Growth factor: 1.0673



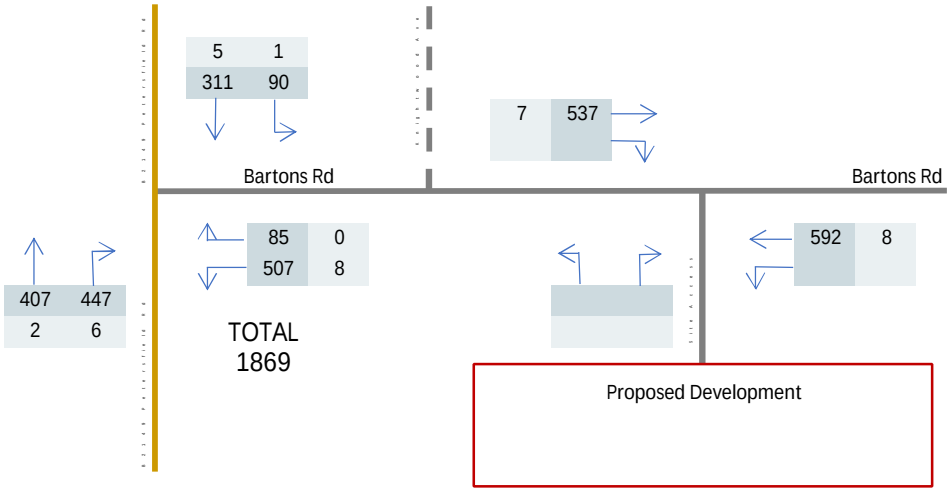
2025 Forecast Flows - PM Peak Hour (17:00-18:00)

Growth factor: 1.0655



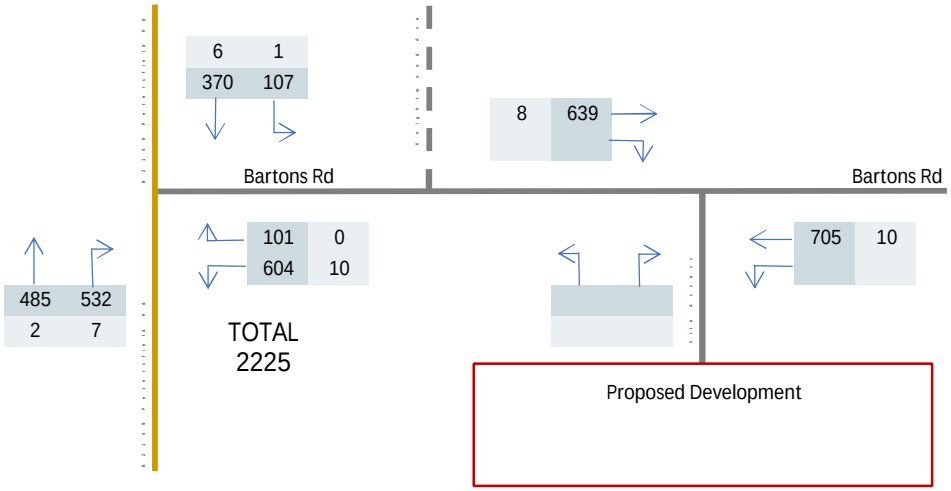
Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2020 Recorded Saturday Traffic Flows/ 2025 Forecast Saturday Traffic Flows
Notes:	2020 traffic counts undertaken Saturday 13th December 2020
	2025 traffic flows forecast using TEMPro growth factors

2020 Recorded Traffic Flows - Saturday Peak Hour (12:30-13:30)



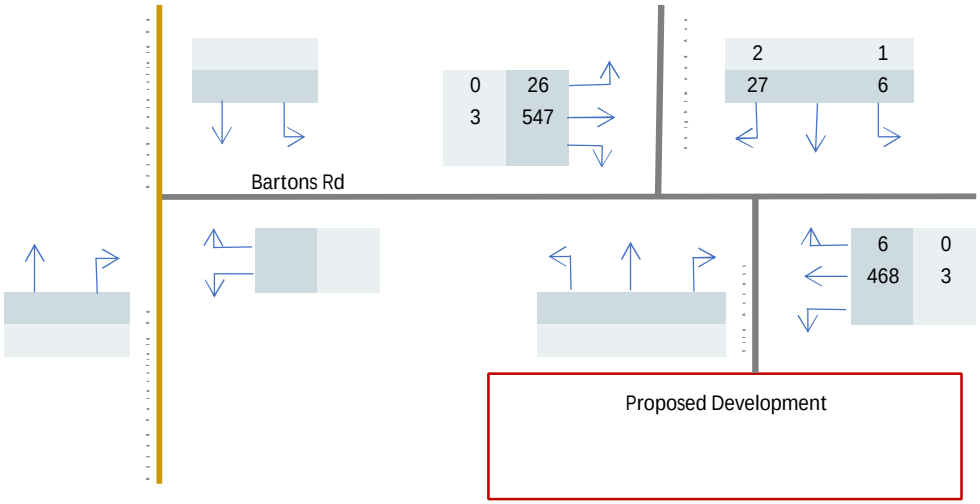
2025 Forecast Traffic Flows - Saturday Peak (12:30-13:30)

Growth factor: 1.0725
Covid factor: 1.1100

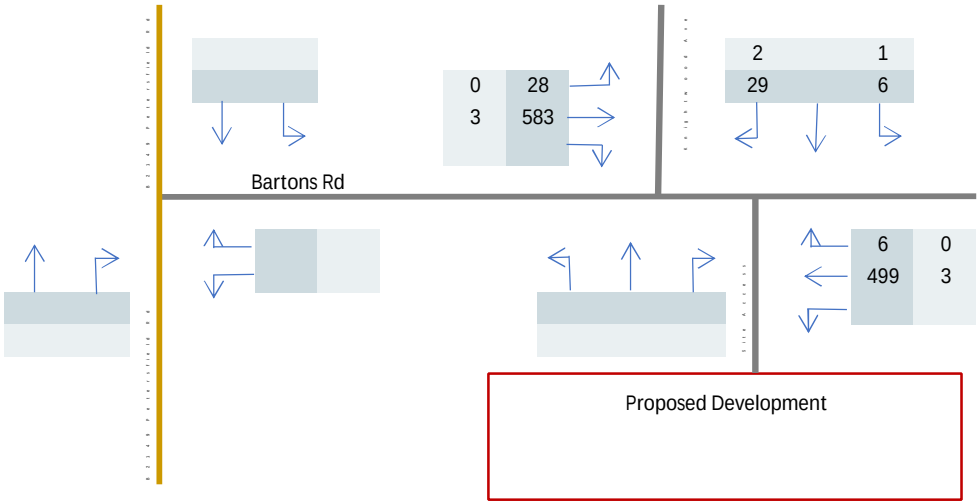


Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2021 Recorded Saturday Traffic Flows and 2025 Forecast Traffic Flows
Notes:	Traffic counts undertaken on Saturday 22nd May 2021

2021 Recorded Flows - Saturday Peak Hour (12:30-13:30)

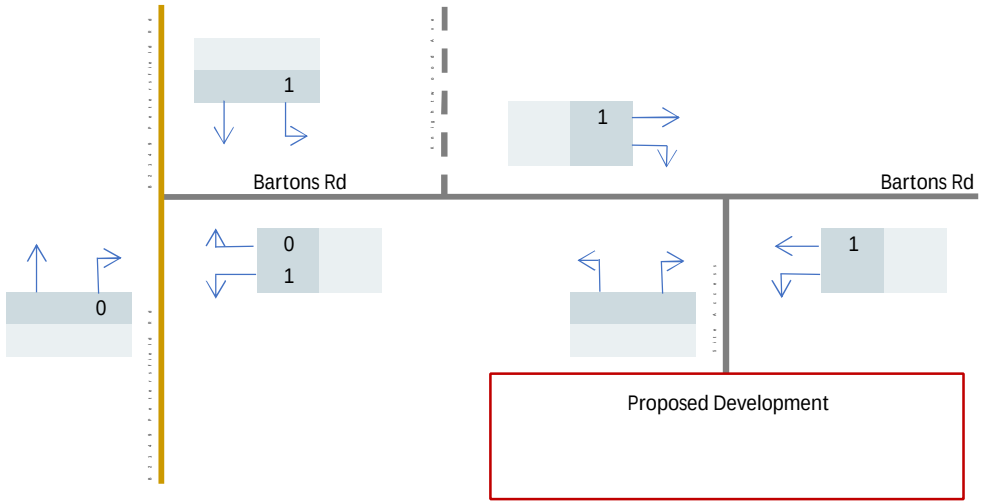


2025 Forecast Flows - Saturday Peak Hour (12:30-13:30) Growth factor: 1.0663



Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	Committed Development - Linden Homes (10% unoccupied at time of survey)
Notes:	Committed development traffic flows taken from TA for 'Land West of Havant Crematorium' (Planning ref: APP/19/0007) - Traffic Figure 04 and Traffic Figure 14

Trip Generation - AM Peak Hour (08:00-09:00)



Trip Generation - PM Peak Hour (17:00-18:00)



Saturday Committed Development Calculation

Trip generation data from the considered committed developments is not available therefore a factor has been calculated from comparing the weekday peak hour trip generation of the proposed development to the Saturday peak hour trip generation of the proposed development. This calculation is shown below:

	Tot
Weekday AM peak hour trip rate	0.263
Weekday PM peak hour trip rate	0.271
Weekday average peak hours trip rates	0.267
Saturday peak hour trip rate	0.253
Factor which relates the weekday average trip rate to the Saturday trip rate	0.948

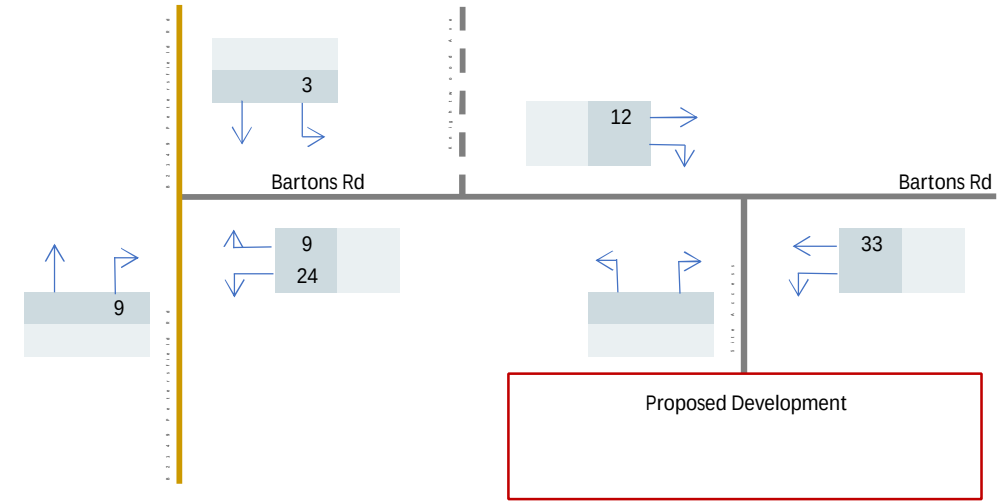
This factor has been applied to weekday committed development flows to provide estimated Saturday committed development flows.

Trip Generation - Saturday Peak Hour (12:30-13:30)

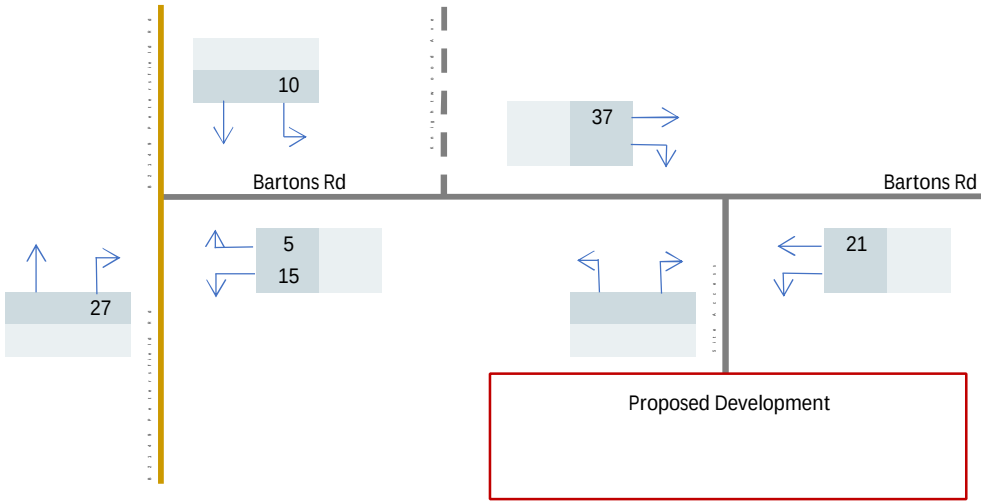


Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	Committed Development - Land South of Bartons Road
Notes:	Committed development traffic flows taken from TA for 'Land West of Havant Crematorium' (Planning ref: APP/19/0007) - Traffic Figure 05 and Traffic Figure 15

Trip Generation - AM Peak Hour (08:00-09:00)



Trip Generation - PM Peak Hour (17:00-18:00)



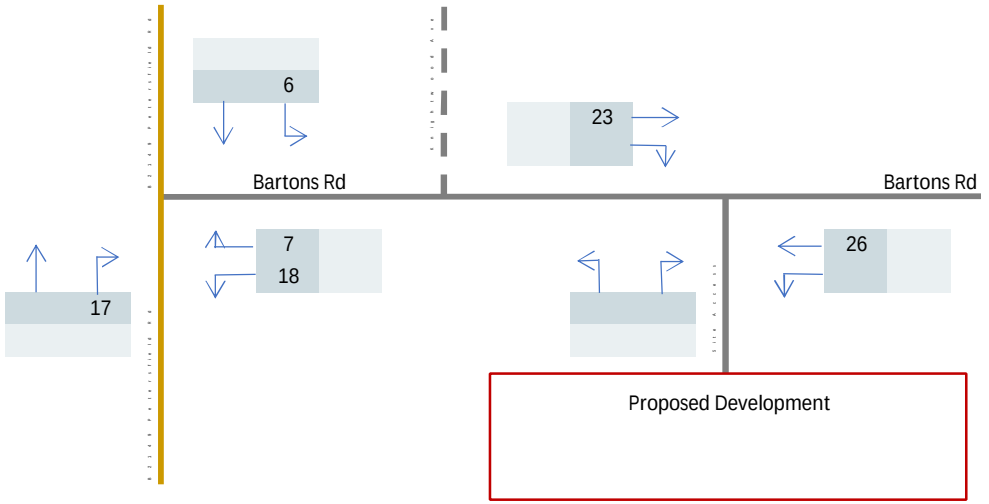
Saturday Committed Development Calculation

Trip generation data from the considered committed developments is not available therefore a factor has been calculated from comparing the weekday peak hour trip generation of the proposed development to the Saturday peak hour trip generation of the proposed development. This calculation is shown below:

	Tot
Weekday AM peak hour trip rate	0.263
Weekday PM peak hour trip rate	0.271
Weekday average peak hours trip rates	0.267
Saturday peak hour trip rate	0.253
Factor which relates the weekday average trip rate to the Saturday trip rate	0.948

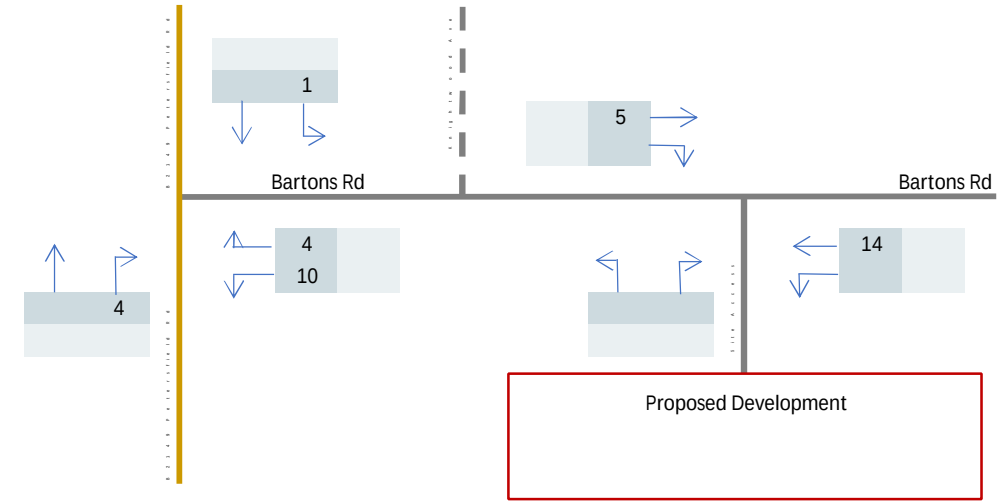
This factor has been applied to weekday committed development flows to provide estimated Saturday committed development flows.

Trip Generation - Saturday Peak Hour (12:30-13:30)



Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	Committed Development - Land West of Havant Crematorium
Notes:	Committed development traffic flows taken from TA for 'Land West of Havant Crematorium' (Planning ref: APP/19/0007) - Traffic Figure 08 and Traffic Figure 18

Trip Generation - AM Peak Hour (08:00-09:00)



Trip Generation - PM Peak Hour (17:00-18:00)



Saturday Committed Development Calculation

Trip generation data from the considered committed developments is not available therefore a factor has been calculated from comparing the weekday peak hour trip generation of the proposed development to the Saturday peak hour trip generation of the proposed development. This calculation is shown below:

	Tot
Weekday AM peak hour trip rate	0.263
Weekday PM peak hour trip rate	0.271
Weekday average peak hours trip rates	0.267
Saturday peak hour trip rate	0.253
Factor which relates the weekday average trip rate to the Saturday trip rate	0.948

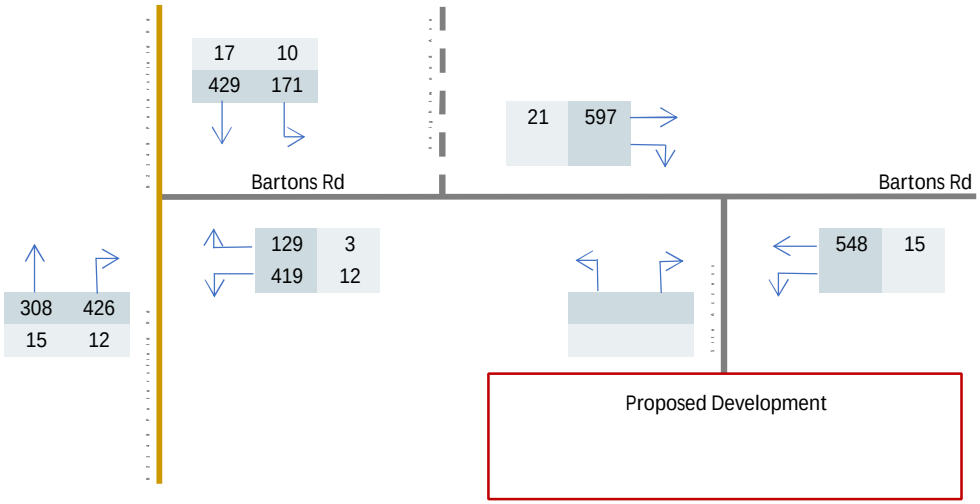
This factor has been applied to weekday committed development flows to provide estimated Saturday committed development flows.

Trip Generation - Saturday Peak Hour (12:30-13:30)

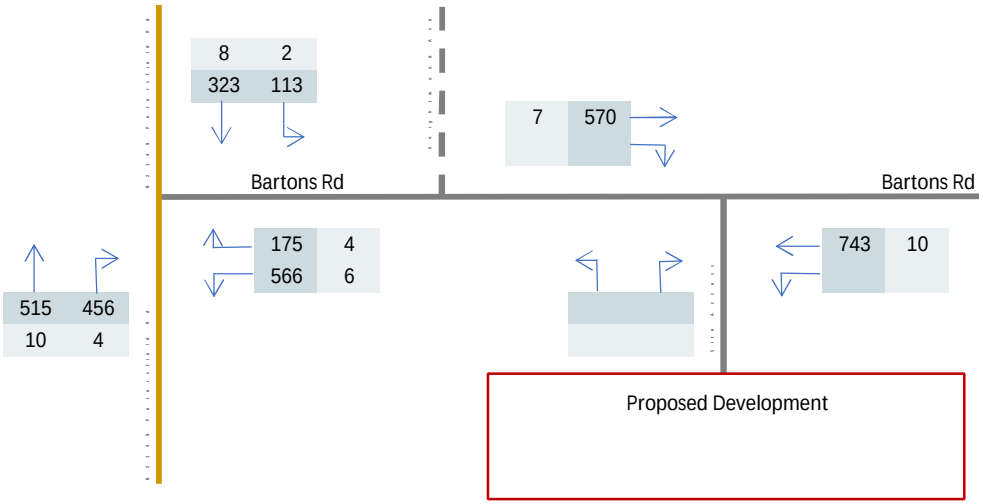


Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2025 Forecast Weekday Traffic Flows Plus Committed Development
Notes:	

2025 Flows + Committed Development - AM Peak Hour (08:00-09:00)



2025 Flows + Committed Development - PM Peak Hour (17:00-18:00)



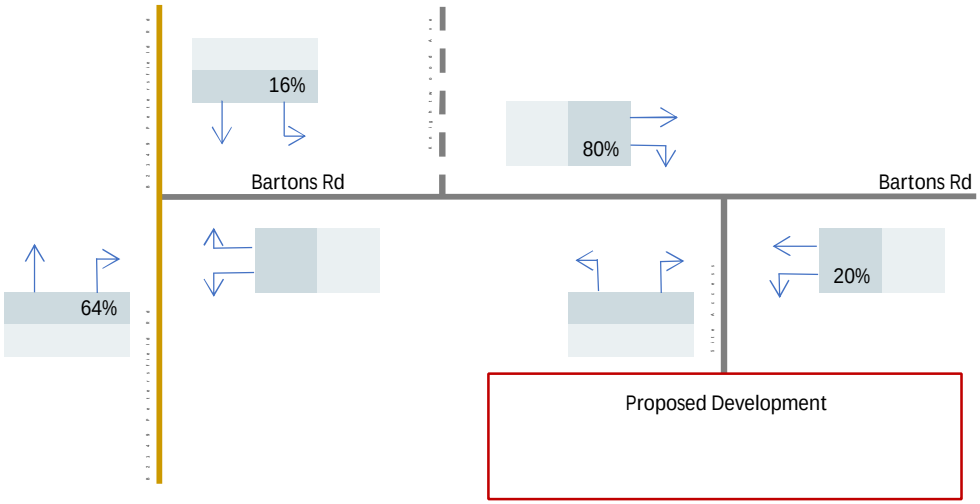
Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2025 Forecast Saturday Traffic Flows Plus Committed Development
Notes:	

2025 Flows + Committed Development - Saturday Peak (12:30-13:30)

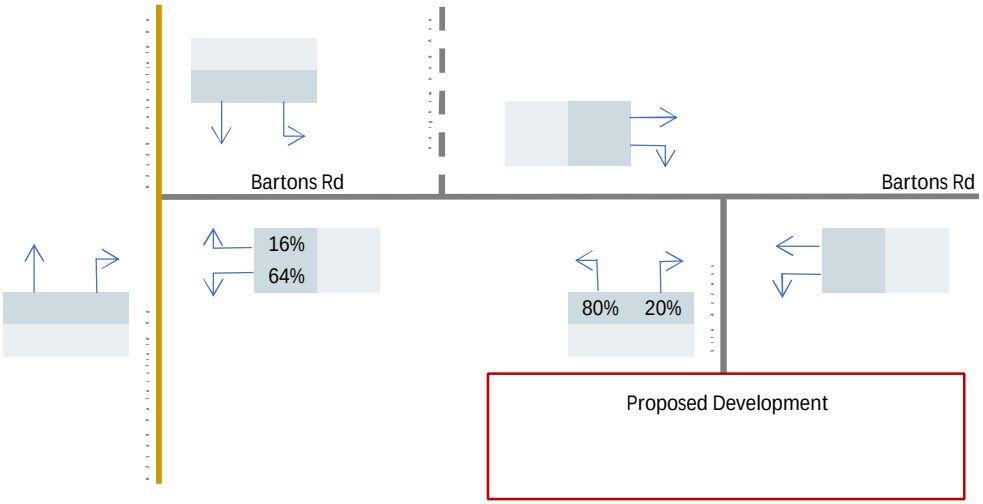


Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	Proposed Residential Land Use - Weekday Trip Distribution and Generation
Notes:	Trip distribution calculated using 2011 Census WF01BEW data
	Trip generation calculated using TRICS

Trip Distribution Inbound



Trip Distribution Outbound



Trip Generation - AM Peak Hour (08:00-09:00)

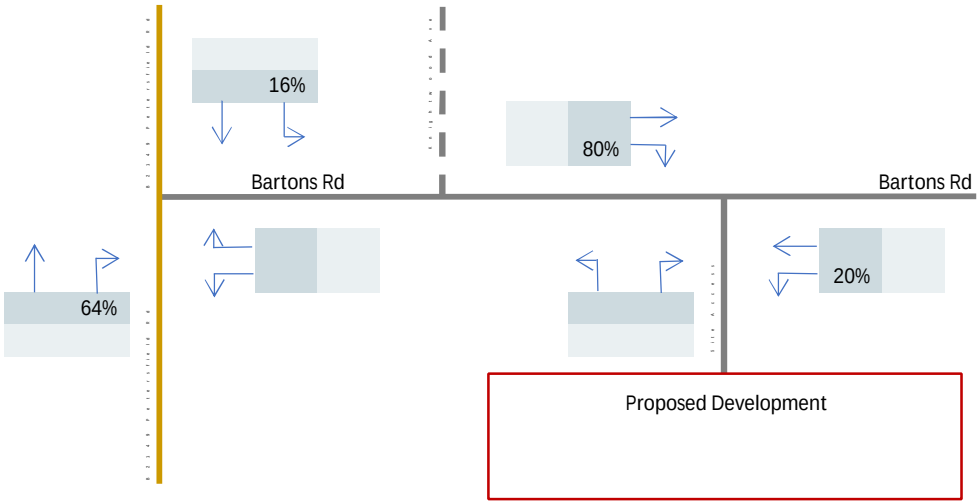


Trip Generation - PM Peak Hour (17:00-18:00)

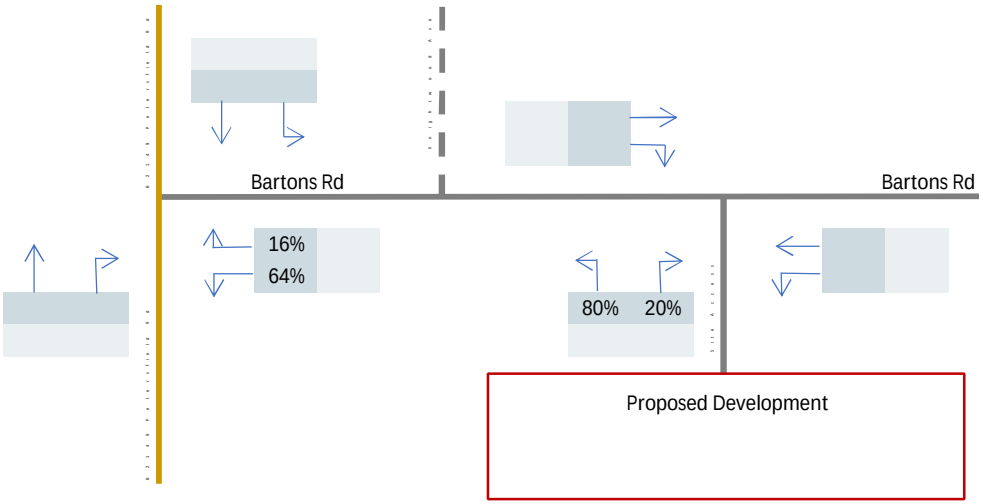


Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	Proposed Residential Land Use - Saturday Trip Distribution and Generation
Notes:	Trip distribution calculated using 2011 Census WF01BEW data
	Trip generation calculated using TRICS

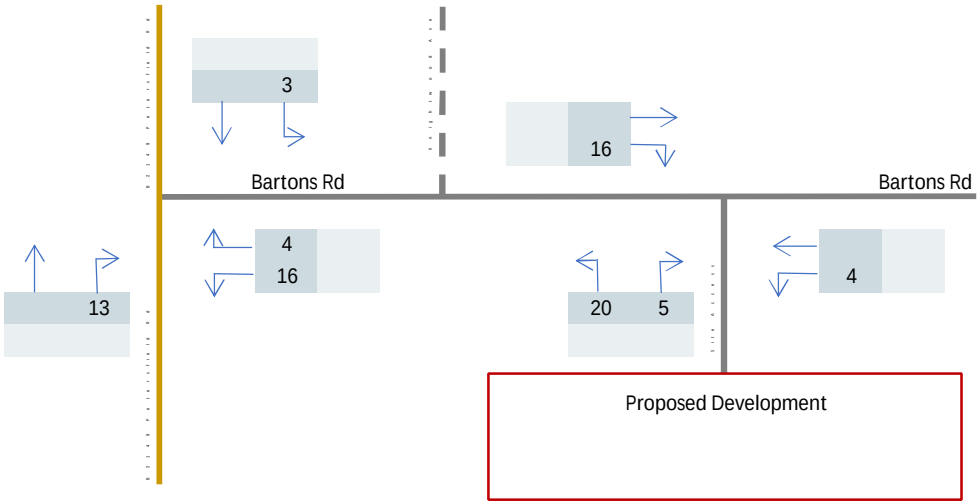
Trip Distribution Inbound



Trip Distribution Outbound

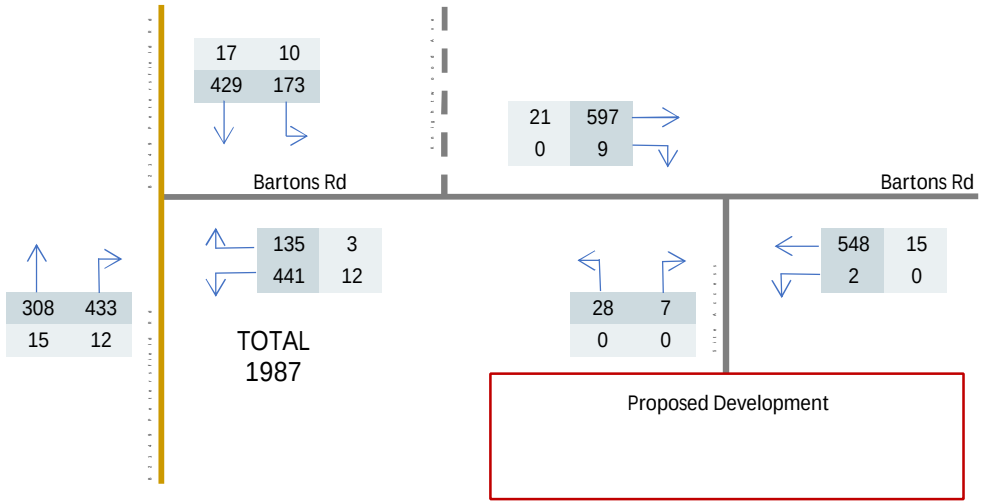


Trip Generation - Saturday Peak Hour (12:30-13:30)

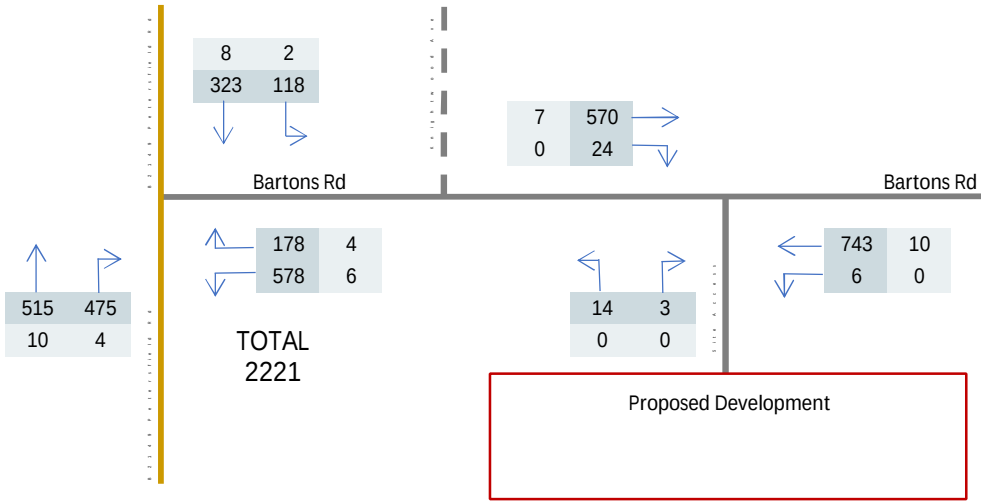


Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2025 Forecast Weekday Traffic Flows + Committed + Proposed Development
Notes:	

2025 Flows + Committed + Proposed Development - AM Peak Hour (08:00-09:00)

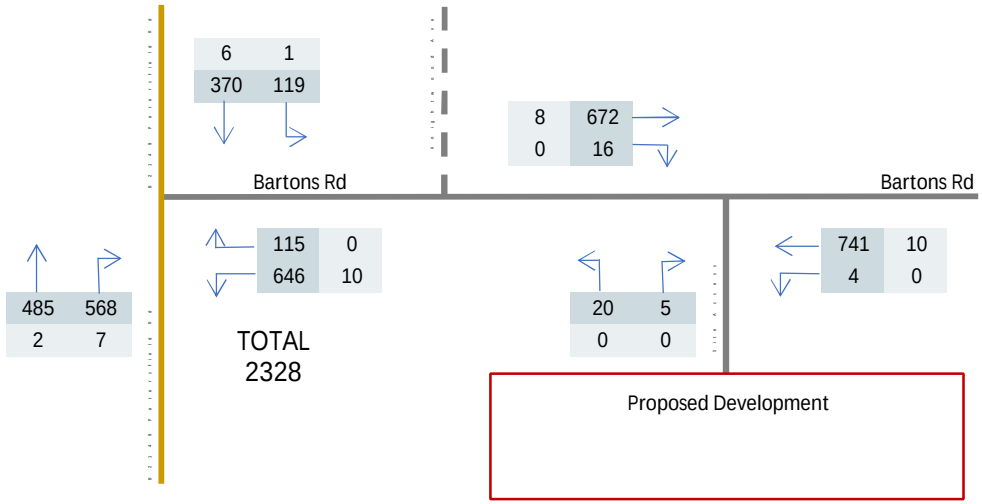


2025 Flows + Committed + Proposed Development - PM Peak Hour (17:00-18:00)



Project Name:	Bartons Road, Havant
Project Number:	106.0019
Drawn By:	AST
Scenario:	2025 Forecast Saturday Traffic Flows + Committed + Proposed Development
Notes:	

2025 Flows + Committed + Proposed Development - Saturday Peak (12:30-13:30)



Appendix L

Calculation Reference: AUDIT-247601-200114-0105

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	3 days
	EX	ESSEX	2 days
	HC	HAMPSHIRE	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
10	WALES		
	CO	CONWY	1 days

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

Secondary 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: Number of dwellings
Actual Range: 6 to 175 (units:)
Range Selected by User: 6 to 184 (units:)

Parking Spaces 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: 01/01/11 to 13/11/18

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

Selected survey days:

Monday	1 days
Tuesday	6 days
Thursday	2 days

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

Selected survey types:

Manual count	9 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:

Edge of Town Centre	9

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.

Selected Location Sub Categories:

Residential Zone	4
Built-Up Zone	4
No Sub Category	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:

Use Class:

C3	9 days

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

Population within 1 mile:

10,001 to 15,000	2 days
15,001 to 20,000	1 days
25,001 to 50,000	6 days

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

Population within 5 miles:

50,001 to 75,000	5 days
125,001 to 250,000	3 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	7 days

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

Travel Plan:

Yes	1 days
No	8 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	9 days

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

LIST OF SITES relevant to selection parameters

1 BD-03-C-01 BLOCKS OF FLATS BEDFORDSHIRE
WING ROAD
LEIGHTON BUZZARD
LINSLADE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 175
Survey date: TUESDAY 15/05/18 Survey Type: MANUAL

2 BD-03-C-02 BLOCKS OF FLATS BEDFORDSHIRE
STANBRIDGE ROAD
LEIGHTON BUZZARD

Edge of Town Centre
Residential Zone
Total Number of dwellings: 62
Survey date: TUESDAY 15/05/18 Survey Type: MANUAL

3 BD-03-C-03 BLOCKS OF FLATS BEDFORDSHIRE
COURT DRIVE
DUNSTABLE

Edge of Town Centre
No Sub Category
Total Number of dwellings: 146
Survey date: TUESDAY 15/05/18 Survey Type: MANUAL

4 CO-03-C-01 BLOCKS OF FLATS CONWY
MOSTYN BROADWAY
LLANDUDNO

Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 37
Survey date: MONDAY 26/03/18 Survey Type: MANUAL

5 EX-03-C-01 FLATS ESSEX
WESTCLIFF PARADE
SOUTHEND-ON-SEA
WESTCLIFF
Edge of Town Centre
Residential Zone
Total Number of dwellings: 6
Survey date: TUESDAY 22/10/13 Survey Type: MANUAL

6 EX-03-C-02 BLOCK OF FLATS ESSEX
WESTCLIFF PARADE
SOUTHEND-ON-SEA
WESTCLIFF
Edge of Town Centre
Residential Zone
Total Number of dwellings: 94
Survey date: TUESDAY 22/10/13 Survey Type: MANUAL

7 HC-03-C-01 BLOCKS OF FLATS HAMPSHIRE
CROSS STREET
PORTSMOUTH

Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 90
Survey date: TUESDAY 05/06/18 Survey Type: MANUAL

8 NF-03-C-01 BLOCKS OF FLATS NORFOLK
PAGE STAIR LANE
KING'S LYNN

Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 51
Survey date: THURSDAY 11/12/14 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 SF-03-C-01 BLOCKS OF FLATS SUFFOLK
STATION HILL
BURY ST EDMUNDS

Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 85
Survey date: THURSDAY 18/12/14 Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.047	9	83	0.161	9	83	0.208
08:00 - 09:00	9	83	0.066	9	83	0.197	9	83	0.263
09:00 - 10:00	9	83	0.078	9	83	0.083	9	83	0.161
10:00 - 11:00	9	83	0.084	9	83	0.103	9	83	0.187
11:00 - 12:00	9	83	0.090	9	83	0.099	9	83	0.189
12:00 - 13:00	9	83	0.127	9	83	0.121	9	83	0.248
13:00 - 14:00	9	83	0.095	9	83	0.105	9	83	0.200
14:00 - 15:00	9	83	0.076	9	83	0.088	9	83	0.164
15:00 - 16:00	9	83	0.105	9	83	0.080	9	83	0.185
16:00 - 17:00	9	83	0.142	9	83	0.079	9	83	0.221
17:00 - 18:00	9	83	0.170	9	83	0.101	9	83	0.271
18:00 - 19:00	9	83	0.198	9	83	0.109	9	83	0.307
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.278			1.326			2.604

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	6 - 175 (units:)
Survey date date range:	01/01/11 - 13/11/18
Number of weekdays (Monday-Friday):	9
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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.003	9	83	0.004	9	83	0.007
08:00 - 09:00	9	83	0.004	9	83	0.003	9	83	0.007
09:00 - 10:00	9	83	0.001	9	83	0.003	9	83	0.004
10:00 - 11:00	9	83	0.003	9	83	0.003	9	83	0.006
11:00 - 12:00	9	83	0.011	9	83	0.011	9	83	0.022
12:00 - 13:00	9	83	0.008	9	83	0.008	9	83	0.016
13:00 - 14:00	9	83	0.004	9	83	0.004	9	83	0.008
14:00 - 15:00	9	83	0.000	9	83	0.000	9	83	0.000
15:00 - 16:00	9	83	0.004	9	83	0.004	9	83	0.008
16:00 - 17:00	9	83	0.005	9	83	0.005	9	83	0.010
17:00 - 18:00	9	83	0.004	9	83	0.004	9	83	0.008
18:00 - 19:00	9	83	0.007	9	83	0.005	9	83	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.054			0.054			0.108

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.004	9	83	0.004	9	83	0.008
08:00 - 09:00	9	83	0.000	9	83	0.000	9	83	0.000
09:00 - 10:00	9	83	0.001	9	83	0.001	9	83	0.002
10:00 - 11:00	9	83	0.000	9	83	0.000	9	83	0.000
11:00 - 12:00	9	83	0.001	9	83	0.000	9	83	0.001
12:00 - 13:00	9	83	0.001	9	83	0.003	9	83	0.004
13:00 - 14:00	9	83	0.001	9	83	0.001	9	83	0.002
14:00 - 15:00	9	83	0.000	9	83	0.000	9	83	0.000
15:00 - 16:00	9	83	0.000	9	83	0.000	9	83	0.000
16:00 - 17:00	9	83	0.000	9	83	0.000	9	83	0.000
17:00 - 18:00	9	83	0.000	9	83	0.000	9	83	0.000
18:00 - 19:00	9	83	0.000	9	83	0.000	9	83	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			0.009			0.017

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.001	9	83	0.008	9	83	0.009
08:00 - 09:00	9	83	0.004	9	83	0.017	9	83	0.021
09:00 - 10:00	9	83	0.003	9	83	0.004	9	83	0.007
10:00 - 11:00	9	83	0.003	9	83	0.009	9	83	0.012
11:00 - 12:00	9	83	0.008	9	83	0.007	9	83	0.015
12:00 - 13:00	9	83	0.001	9	83	0.004	9	83	0.005
13:00 - 14:00	9	83	0.003	9	83	0.001	9	83	0.004
14:00 - 15:00	9	83	0.005	9	83	0.000	9	83	0.005
15:00 - 16:00	9	83	0.008	9	83	0.005	9	83	0.013
16:00 - 17:00	9	83	0.004	9	83	0.001	9	83	0.005
17:00 - 18:00	9	83	0.009	9	83	0.005	9	83	0.014
18:00 - 19:00	9	83	0.004	9	83	0.001	9	83	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.053			0.062			0.115

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.058	9	83	0.243	9	83	0.301
08:00 - 09:00	9	83	0.084	9	83	0.351	9	83	0.435
09:00 - 10:00	9	83	0.097	9	83	0.114	9	83	0.211
10:00 - 11:00	9	83	0.110	9	83	0.147	9	83	0.257
11:00 - 12:00	9	83	0.117	9	83	0.137	9	83	0.254
12:00 - 13:00	9	83	0.173	9	83	0.181	9	83	0.354
13:00 - 14:00	9	83	0.139	9	83	0.127	9	83	0.266
14:00 - 15:00	9	83	0.092	9	83	0.119	9	83	0.211
15:00 - 16:00	9	83	0.170	9	83	0.111	9	83	0.281
16:00 - 17:00	9	83	0.232	9	83	0.106	9	83	0.338
17:00 - 18:00	9	83	0.277	9	83	0.138	9	83	0.415
18:00 - 19:00	9	83	0.346	9	83	0.150	9	83	0.496
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.895			1.924			3.819

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.019	9	83	0.075	9	83	0.094
08:00 - 09:00	9	83	0.024	9	83	0.088	9	83	0.112
09:00 - 10:00	9	83	0.050	9	83	0.066	9	83	0.116
10:00 - 11:00	9	83	0.063	9	83	0.056	9	83	0.119
11:00 - 12:00	9	83	0.040	9	83	0.044	9	83	0.084
12:00 - 13:00	9	83	0.070	9	83	0.062	9	83	0.132
13:00 - 14:00	9	83	0.055	9	83	0.052	9	83	0.107
14:00 - 15:00	9	83	0.048	9	83	0.054	9	83	0.102
15:00 - 16:00	9	83	0.064	9	83	0.060	9	83	0.124
16:00 - 17:00	9	83	0.076	9	83	0.072	9	83	0.148
17:00 - 18:00	9	83	0.091	9	83	0.072	9	83	0.163
18:00 - 19:00	9	83	0.091	9	83	0.075	9	83	0.166
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.691			0.776			1.467

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.001	9	83	0.044	9	83	0.045
08:00 - 09:00	9	83	0.011	9	83	0.107	9	83	0.118
09:00 - 10:00	9	83	0.008	9	83	0.036	9	83	0.044
10:00 - 11:00	9	83	0.013	9	83	0.011	9	83	0.024
11:00 - 12:00	9	83	0.016	9	83	0.012	9	83	0.028
12:00 - 13:00	9	83	0.031	9	83	0.027	9	83	0.058
13:00 - 14:00	9	83	0.017	9	83	0.035	9	83	0.052
14:00 - 15:00	9	83	0.027	9	83	0.016	9	83	0.043
15:00 - 16:00	9	83	0.074	9	83	0.020	9	83	0.094
16:00 - 17:00	9	83	0.038	9	83	0.015	9	83	0.053
17:00 - 18:00	9	83	0.066	9	83	0.015	9	83	0.081
18:00 - 19:00	9	83	0.055	9	83	0.013	9	83	0.068
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.357			0.351			0.708

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.000	9	83	0.020	9	83	0.020
08:00 - 09:00	9	83	0.001	9	83	0.034	9	83	0.035
09:00 - 10:00	9	83	0.000	9	83	0.011	9	83	0.011
10:00 - 11:00	9	83	0.008	9	83	0.008	9	83	0.016
11:00 - 12:00	9	83	0.000	9	83	0.004	9	83	0.004
12:00 - 13:00	9	83	0.009	9	83	0.004	9	83	0.013
13:00 - 14:00	9	83	0.003	9	83	0.004	9	83	0.007
14:00 - 15:00	9	83	0.003	9	83	0.001	9	83	0.004
15:00 - 16:00	9	83	0.007	9	83	0.001	9	83	0.008
16:00 - 17:00	9	83	0.021	9	83	0.001	9	83	0.022
17:00 - 18:00	9	83	0.021	9	83	0.000	9	83	0.021
18:00 - 19:00	9	83	0.011	9	83	0.001	9	83	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.084			0.089			0.173

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.001	9	83	0.064	9	83	0.065
08:00 - 09:00	9	83	0.012	9	83	0.141	9	83	0.153
09:00 - 10:00	9	83	0.008	9	83	0.047	9	83	0.055
10:00 - 11:00	9	83	0.021	9	83	0.019	9	83	0.040
11:00 - 12:00	9	83	0.016	9	83	0.016	9	83	0.032
12:00 - 13:00	9	83	0.040	9	83	0.031	9	83	0.071
13:00 - 14:00	9	83	0.020	9	83	0.039	9	83	0.059
14:00 - 15:00	9	83	0.029	9	83	0.017	9	83	0.046
15:00 - 16:00	9	83	0.080	9	83	0.021	9	83	0.101
16:00 - 17:00	9	83	0.059	9	83	0.016	9	83	0.075
17:00 - 18:00	9	83	0.087	9	83	0.015	9	83	0.102
18:00 - 19:00	9	83	0.066	9	83	0.015	9	83	0.081
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.439			0.441			0.880

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.079	9	83	0.390	9	83	0.469
08:00 - 09:00	9	83	0.125	9	83	0.598	9	83	0.723
09:00 - 10:00	9	83	0.157	9	83	0.231	9	83	0.388
10:00 - 11:00	9	83	0.197	9	83	0.232	9	83	0.429
11:00 - 12:00	9	83	0.181	9	83	0.204	9	83	0.385
12:00 - 13:00	9	83	0.284	9	83	0.277	9	83	0.561
13:00 - 14:00	9	83	0.217	9	83	0.220	9	83	0.437
14:00 - 15:00	9	83	0.176	9	83	0.190	9	83	0.366
15:00 - 16:00	9	83	0.323	9	83	0.198	9	83	0.521
16:00 - 17:00	9	83	0.371	9	83	0.196	9	83	0.567
17:00 - 18:00	9	83	0.465	9	83	0.231	9	83	0.696
18:00 - 19:00	9	83	0.507	9	83	0.241	9	83	0.748
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.082			3.208			6.290

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.029	9	83	0.139	9	83	0.168
08:00 - 09:00	9	83	0.044	9	83	0.169	9	83	0.213
09:00 - 10:00	9	83	0.052	9	83	0.051	9	83	0.103
10:00 - 11:00	9	83	0.051	9	83	0.058	9	83	0.109
11:00 - 12:00	9	83	0.044	9	83	0.055	9	83	0.099
12:00 - 13:00	9	83	0.075	9	83	0.071	9	83	0.146
13:00 - 14:00	9	83	0.050	9	83	0.059	9	83	0.109
14:00 - 15:00	9	83	0.046	9	83	0.055	9	83	0.101
15:00 - 16:00	9	83	0.070	9	83	0.048	9	83	0.118
16:00 - 17:00	9	83	0.102	9	83	0.044	9	83	0.146
17:00 - 18:00	9	83	0.141	9	83	0.080	9	83	0.221
18:00 - 19:00	9	83	0.174	9	83	0.094	9	83	0.268
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.878			0.923			1.801

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.005	9	83	0.011	9	83	0.016
08:00 - 09:00	9	83	0.009	9	83	0.013	9	83	0.022
09:00 - 10:00	9	83	0.009	9	83	0.008	9	83	0.017
10:00 - 11:00	9	83	0.012	9	83	0.015	9	83	0.027
11:00 - 12:00	9	83	0.017	9	83	0.019	9	83	0.036
12:00 - 13:00	9	83	0.021	9	83	0.019	9	83	0.040
13:00 - 14:00	9	83	0.011	9	83	0.015	9	83	0.026
14:00 - 15:00	9	83	0.011	9	83	0.012	9	83	0.023
15:00 - 16:00	9	83	0.017	9	83	0.013	9	83	0.030
16:00 - 17:00	9	83	0.015	9	83	0.016	9	83	0.031
17:00 - 18:00	9	83	0.012	9	83	0.005	9	83	0.017
18:00 - 19:00	9	83	0.005	9	83	0.005	9	83	0.010
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.144			0.151			0.295

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	9	83	0.000	9	83	0.000	9	83	0.000
08:00 - 09:00	9	83	0.000	9	83	0.000	9	83	0.000
09:00 - 10:00	9	83	0.000	9	83	0.001	9	83	0.001
10:00 - 11:00	9	83	0.000	9	83	0.001	9	83	0.001
11:00 - 12:00	9	83	0.000	9	83	0.000	9	83	0.000
12:00 - 13:00	9	83	0.001	9	83	0.001	9	83	0.002
13:00 - 14:00	9	83	0.001	9	83	0.001	9	83	0.002
14:00 - 15:00	9	83	0.000	9	83	0.000	9	83	0.000
15:00 - 16:00	9	83	0.001	9	83	0.000	9	83	0.001
16:00 - 17:00	9	83	0.000	9	83	0.000	9	83	0.000
17:00 - 18:00	9	83	0.001	9	83	0.001	9	83	0.002
18:00 - 19:00	9	83	0.001	9	83	0.001	9	83	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.005			0.006			0.011

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.

Calculation Reference: AUDIT-247601-201216-1246

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	SC	SURREY	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 28 to 72 (units:)
Range Selected by User: 6 to 215 (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: 01/01/07 to 18/11/19

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

Selected survey days:

Saturday	3 days

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

Selected survey types:

Manual count	3 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)	2
Edge of Town	1

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.

Selected Location Sub Categories:

Residential Zone	3

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:

Use Class:

C3	3 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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

100,001 to 125,000	1 days
125,001 to 250,000	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:

1.1 to 1.5	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:

No	3 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	3 days

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

LIST OF SITES relevant to selection parameters

1	DS-03-C-02	FLATS		DERBYSHIRE
	BURTON ROAD			
	DERBY			
	NEW NORMANTON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		28	
	Survey date: SATURDAY		09/07/11	Survey Type: MANUAL
2	SC-03-C-03	FLATS		SURREY
	KINGS ROAD			
	WOKING			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total No of Dwellings:		52	
	Survey date: SATURDAY		19/07/08	Survey Type: MANUAL
3	SC-03-C-04	BLOCK OF FLATS		SURREY
	LONDON ROAD			
	GUILDFORD			
	BURPHAM			
	Edge of Town			
	Residential Zone			
	Total No of Dwellings:		72	
	Survey date: SATURDAY		23/10/10	Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	3	51	0.013	3	51	0.046	3	51	0.059
08:00 - 09:00	3	51	0.020	3	51	0.059	3	51	0.079
09:00 - 10:00	3	51	0.033	3	51	0.105	3	51	0.138
10:00 - 11:00	3	51	0.092	3	51	0.092	3	51	0.184
11:00 - 12:00	3	51	0.086	3	51	0.112	3	51	0.198
12:00 - 13:00	3	51	0.072	3	51	0.112	3	51	0.184
13:00 - 14:00	3	51	0.151	3	51	0.171	3	51	0.322
14:00 - 15:00	3	51	0.105	3	51	0.092	3	51	0.197
15:00 - 16:00	3	51	0.112	3	51	0.066	3	51	0.178
16:00 - 17:00	3	51	0.158	3	51	0.092	3	51	0.250
17:00 - 18:00	3	51	0.086	3	51	0.066	3	51	0.152
18:00 - 19:00	3	51	0.132	3	51	0.079	3	51	0.211
19:00 - 20:00	1	72	0.111	1	72	0.097	1	72	0.208
20:00 - 21:00	1	72	0.083	1	72	0.069	1	72	0.152
21:00 - 22:00	1	72	0.083	1	72	0.042	1	72	0.125
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.337			1.300			2.637

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	28 - 72 (units:)
Survey date date range:	01/01/07 - 18/11/19
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	3
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.

Calculation Reference: AUDIT-247601-210505-0520

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	1 days
	ES	EAST SUSSEX	1 days
	HC	HAMPSHIRE	1 days
	HF	HERTFORDSHIRE	2 days
	SO	SLOUGH	1 days
04	EAST ANGLIA		
	NF	NORFOLK	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
06	WEST MIDLANDS		
	WO	WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
08	NORTH WEST		
	LC	LANCASHIRE	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: 594 to 10100 (units: sqm)
Range Selected by User: 500 to 20000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 22/10/20

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	4 days
Tuesday	2 days
Wednesday	3 days
Thursday	4 days

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

Selected survey types:

Manual count	13 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:

Edge of Town Centre	11
Suburban Area (PPS6 Out of Centre)	2

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.

Selected Location Sub Categories:

Commercial Zone	2
Residential Zone	1
Built-Up Zone	6
No Sub Category	4

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:

Use Class:

Not Known	13 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®.

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	3 days
20,001 to 25,000	1 days
25,001 to 50,000	6 days

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

Population within 5 miles:

25,001 to 50,000	3 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	6 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	7 days
1.6 to 2.0	1 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	2 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	13 days

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

LIST OF SITES relevant to selection parameters

1 BD-02-A-03 OFFICES BEDFORDSHIRE
BROMHAM ROAD
BEDFORD

Edge of Town Centre
No Sub Category
Total Gross floor area: 1469 sqm
Survey date: MONDAY 14/10/13 Survey Type: MANUAL

2 DS-02-A-01 REAL ESTATE DEVELOPERS DERBYSHIRE
PRIME PARK WAY
DERBY

Edge of Town Centre
No Sub Category
Total Gross floor area: 594 sqm
Survey date: WEDNESDAY 25/09/19 Survey Type: MANUAL

3 ES-02-A-12 COUNCIL OFFICES EAST SUSSEX
VICARAGE LANE
HAILSHAM

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 3640 sqm
Survey date: THURSDAY 26/11/15 Survey Type: MANUAL

4 HC-02-A-12 HMRC HAMPSHIRE
NORTHERN ROAD
PORTSMOUTH
COSHAM

Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Gross floor area: 10100 sqm
Survey date: MONDAY 23/11/15 Survey Type: MANUAL

5 HF-02-A-03 OFFICE HERTFORDSHIRE
60 VICTORIA STREET
ST ALBANS

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 610 sqm
Survey date: WEDNESDAY 16/10/13 Survey Type: MANUAL

6 HF-02-A-04 OFFICES HERTFORDSHIRE
STATION WAY
ST ALBANS

Edge of Town Centre
Residential Zone
Total Gross floor area: 5000 sqm
Survey date: THURSDAY 02/10/14 Survey Type: MANUAL

7 LC-02-A-09 OFFICES LANCASHIRE
FURTHERGATE
BLACKBURN

Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Gross floor area: 2600 sqm
Survey date: TUESDAY 04/06/13 Survey Type: MANUAL

8 LE-02-A-04 COUNCIL OFFICES LEICESTERSHIRE
BURTON STREET
MELTON MOWBRAY

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 3981 sqm
Survey date: WEDNESDAY 30/11/16 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	NF-02-A-02 NORTH QUAY GREAT YARMOUTH	FINANCIAL PLANNERS	NORFOLK
	Edge of Town Centre Commercial Zone Total Gross floor area: 894 sqm Survey date: MONDAY 11/09/17		Survey Type: MANUAL
10	NF-02-A-03 NORTH QUAY GREAT YARMOUTH	OFFICES	NORFOLK
	Edge of Town Centre Commercial Zone Total Gross floor area: 5500 sqm Survey date: TUESDAY 12/09/17		Survey Type: MANUAL
11	NY-02-A-02 STATION ROAD RICHMOND	DISTRICT COUNCIL OFFICES	NORTH YORKSHIRE
	Edge of Town Centre No Sub Category Total Gross floor area: 1930 sqm Survey date: THURSDAY 14/03/19		Survey Type: MANUAL
12	SO-02-A-02 BATH ROAD SLOUGH	COUNCIL OFFICES	SLOUGH
	Edge of Town Centre Built-Up Zone Total Gross floor area: 5050 sqm Survey date: THURSDAY 27/02/14		Survey Type: MANUAL
13	WO-02-A-02 MOOR STREET WORCESTER	OFFICE	WORCESTERSHIRE
	Edge of Town Centre Built-Up Zone Total Gross floor area: 2000 sqm Survey date: MONDAY 14/11/16		Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30	1	10100	0.406	1	10100	0.030	1	10100	0.436
06:30 - 07:00	1	10100	0.703	1	10100	0.139	1	10100	0.842
07:00 - 07:30	13	3336	0.270	13	3336	0.018	13	3336	0.288
07:30 - 08:00	13	3336	0.484	13	3336	0.046	13	3336	0.530
08:00 - 08:30	13	3336	0.710	13	3336	0.060	13	3336	0.770
08:30 - 09:00	13	3336	0.938	13	3336	0.085	13	3336	1.023
09:00 - 09:30	13	3336	0.802	13	3336	0.187	13	3336	0.989
09:30 - 10:00	13	3336	0.445	13	3336	0.191	13	3336	0.636
10:00 - 10:30	13	3336	0.235	13	3336	0.182	13	3336	0.417
10:30 - 11:00	13	3336	0.166	13	3336	0.138	13	3336	0.304
11:00 - 11:30	13	3336	0.143	13	3336	0.166	13	3336	0.309
11:30 - 12:00	13	3336	0.152	13	3336	0.168	13	3336	0.320
12:00 - 12:30	13	3336	0.182	13	3336	0.247	13	3336	0.429
12:30 - 13:00	13	3336	0.263	13	3336	0.311	13	3336	0.574
13:00 - 13:30	13	3336	0.261	13	3336	0.256	13	3336	0.517
13:30 - 14:00	13	3336	0.228	13	3336	0.210	13	3336	0.438
14:00 - 14:30	13	3336	0.201	13	3336	0.180	13	3336	0.381
14:30 - 15:00	13	3336	0.168	13	3336	0.334	13	3336	0.502
15:00 - 15:30	13	3336	0.148	13	3336	0.383	13	3336	0.531
15:30 - 16:00	13	3336	0.143	13	3336	0.397	13	3336	0.540
16:00 - 16:30	13	3336	0.101	13	3336	0.542	13	3336	0.643
16:30 - 17:00	13	3336	0.115	13	3336	0.477	13	3336	0.592
17:00 - 17:30	13	3336	0.111	13	3336	0.899	13	3336	1.010
17:30 - 18:00	13	3336	0.095	13	3336	0.526	13	3336	0.621
18:00 - 18:30	13	3336	0.039	13	3336	0.297	13	3336	0.336
18:30 - 19:00	13	3336	0.018	13	3336	0.161	13	3336	0.179
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			7.527			6.630			14.157

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.

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	594 - 10100 (units: sqm)
Survey date date range:	01/01/13 - 22/10/20
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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.

Calculation Reference: AUDIT-247601-210917-0910

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	1 days
	ES	EAST SUSSEX	2 days
	EX	ESSEX	1 days
	HC	HAMPSHIRE	3 days
	HF	HERTFORDSHIRE	1 days
	KC	KENT	3 days
	SC	SURREY	2 days
	WS	WEST SUSSEX	4 days
03	SOUTH WEST		
	DC	DORSET	1 days
	DV	DEVON	2 days
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	5 days
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
	ST	STAFFORDSHIRE	2 days
	WK	WARWICKSHIRE	1 days
	WO	WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE	NORTH EAST LINCOLNSHIRE	1 days
	NY	NORTH YORKSHIRE	4 days
	SY	SOUTH YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	3 days
09	NORTH		
	DH	DURHAM	1 days
10	WALES		
	PS	POWYS	1 days
11	SCOTLAND		
	FA	FALKIRK	2 days
	HI	HIGHLAND	1 days
12	CONNAUGHT		
	RO	ROSCOMMON	1 days
13	MUNSTER		
	WA	WATERFORD	1 days
14	LEINSTER		
	CC	CARLOW	1 days
	WC	WICKLOW	1 days
	WX	WEXFORD	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	1 days
16	ULSTER (REPUBLIC OF IRELAND)		
	CV	CAVAN	2 days
	DN	DONEGAL	3 days
17	ULSTER (NORTHERN IRELAND)		
	AN	ANTRIM	2 days
	DO	DOWN	1 days
	TY	TYRONE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 21 to 432 (units:)
Range Selected by User: 20 to 500 (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: 01/01/13 to 20/10/20

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	17 days
Tuesday	9 days
Wednesday	20 days
Thursday	18 days

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

Selected survey types:

Manual count	62 days
Directional ATC Count	2 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)	22
Edge of Town	42

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.

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	54
Out of Town	1
No Sub Category	8

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:

Use Class:

C3	64 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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	10 days
5,001 to 10,000	17 days
10,001 to 15,000	16 days
15,001 to 20,000	8 days
20,001 to 25,000	7 days
25,001 to 50,000	5 days

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

Population within 5 miles:

5,000 or Less	1 days
5,001 to 25,000	12 days
25,001 to 50,000	9 days
50,001 to 75,000	8 days
75,001 to 100,000	14 days
100,001 to 125,000	2 days
125,001 to 250,000	14 days
250,001 to 500,000	4 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	14 days
1.1 to 1.5	45 days
1.6 to 2.0	5 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	17 days
No	47 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	63 days
2 Poor	1 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 AN-03-A-08 HOUSES & FLATS ANTRIM
BALLINDERRY ROAD
LISBURN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 204
Survey date: TUESDAY 29/10/13 Survey Type: MANUAL

2 AN-03-A-09 DETACHED & SEMI-DETACHED ANTRIM
SLOEFIELD DRIVE
CARRICKFERGUS

Edge of Town
No Sub Category
Total No of Dwellings: 151
Survey date: WEDNESDAY 12/10/16 Survey Type: MANUAL

3 BD-03-A-03 DETACHED HOUSES BEDFORDSHIRE
CARNOUSTIE DRIVE
BEDFORD
GREAT DENHAM
Edge of Town
Residential Zone
Total No of Dwellings: 30
Survey date: THURSDAY 15/10/20 Survey Type: MANUAL

4 CA-03-A-05 DETACHED HOUSES CAMBRIDGESHIRE
EASTFIELD ROAD
PETERBOROUGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY 17/10/16 Survey Type: MANUAL

5 CC-03-A-01 DETACHED HOUSES CARLOW
R417 ANTHY ROAD
CARLOW

Edge of Town
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY 25/05/16 Survey Type: MANUAL

6 CH-03-A-09 TERRACED HOUSES CHESHIRE
GREYSTOKE ROAD
MACCLESFIELD
HURDSFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 24
Survey date: MONDAY 24/11/14 Survey Type: MANUAL

7 CH-03-A-10 SEMI-DETACHED & TERRACED CHESHIRE
MEADOW DRIVE
NORTHWICH
BARNTON
Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: TUESDAY 04/06/19 Survey Type: MANUAL

8 CH-03-A-11 TOWN HOUSES CHESHIRE
LONDON ROAD
NORTHWICH
LEFTWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 24
Survey date: THURSDAY 06/06/19 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9 CV-03-A-02 DETACHED & SEMI DETACHED CAVAN
R212 DUBLIN ROAD
CAVAN
KILLYNEBBER
Edge of Town
No Sub Category
Total No of Dwellings: 80
Survey date: MONDAY 22/05/17 Survey Type: MANUAL

10 CV-03-A-03 DETACHED HOUSES CAVAN
R212 DUBLIN ROAD
CAVAN
PULLAMORE NEAR
Edge of Town
No Sub Category
Total No of Dwellings: 37
Survey date: MONDAY 22/05/17 Survey Type: MANUAL

11 DC-03-A-08 BUNGALOWS DORSET
HURSTDENE ROAD
BOURNEMOUTH
CASTLE LANE WEST
Edge of Town
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY 24/03/14 Survey Type: MANUAL

12 DH-03-A-01 SEMI DETACHED DURHAM
GREENFIELDS ROAD
BISHOP AUCKLAND

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 50
Survey date: TUESDAY 28/03/17 Survey Type: MANUAL

13 DL-03-A-10 SEMI DETACHED & DETACHED DUBLIN
R124
MALAHIDE
SAINT HELENS
Edge of Town
Residential Zone
Total No of Dwellings: 65
Survey date: WEDNESDAY 20/06/18 Survey Type: MANUAL

14 DN-03-A-03 DETACHED/SEMI-DETACHED DONEGAL
THE GRANGE
LETTERKENNY
GLENCAR IRISH
Edge of Town
Residential Zone
Total No of Dwellings: 50
Survey date: MONDAY 01/09/14 Survey Type: MANUAL

15 DN-03-A-05 DETACHED/SEMI-DETACHED DONEGAL
GORTLEE ROAD
LETTERKENNY
GORTLEE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 146
Survey date: WEDNESDAY 03/09/14 Survey Type: MANUAL

16 DN-03-A-08 SEMI DETACHED & DETACHED DONEGAL
CHURCH ROAD
CARNDONAGH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 36
Survey date: WEDNESDAY 30/09/20 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

17 DO-03-A-03 DETACHED/SEMI DETACHED DOWN
OLD MILL HEIGHTS
BELFAST
DUNDONALD
Edge of Town
Residential Zone
Total No of Dwellings: 79
Survey date: WEDNESDAY 23/10/13 Survey Type: MANUAL

18 DS-03-A-02 MIXED HOUSES DERBYSHIRE
RADBOURNE LANE
DERBY

Edge of Town
Residential Zone
Total No of Dwellings: 371
Survey date: TUESDAY 10/07/18 Survey Type: MANUAL

19 DV-03-A-01 TERRACED HOUSES DEVON
BRONSHILL ROAD
TORQUAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 37
Survey date: WEDNESDAY 30/09/15 Survey Type: MANUAL

20 DV-03-A-03 TERRACED & SEMI DETACHED DEVON
LOWER BRAND LANE
HONITON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 70
Survey date: MONDAY 28/09/15 Survey Type: MANUAL

21 ES-03-A-03 MIXED HOUSES & FLATS EAST SUSSEX
SHEPHAM LANE
POLEGATE

Edge of Town
Residential Zone
Total No of Dwellings: 212
Survey date: MONDAY 11/07/16 Survey Type: MANUAL

22 ES-03-A-05 MIXED HOUSES & FLATS EAST SUSSEX
RATTLE ROAD
NEAR EASTBOURNE
STONE CROSS
Edge of Town
Residential Zone
Total No of Dwellings: 99
Survey date: WEDNESDAY 05/06/19 Survey Type: MANUAL

23 EX-03-A-02 DETACHED & SEMI-DETACHED ESSEX
MANOR ROAD
CHIGWELL
GRANGE HILL
Edge of Town
Residential Zone
Total No of Dwellings: 97
Survey date: MONDAY 27/11/17 Survey Type: MANUAL

24 FA-03-A-01 SEMI-DETACHED/TERRACED FALKIRK
MANDELA AVENUE
FALKIRK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 37
Survey date: THURSDAY 30/05/13 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

25 FA-03-A-02 MIXED HOUSES FALKIRK
ROSEBANK AVENUE & SPRINGFIELD DRIVE
FALKIRK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 161
Survey date: WEDNESDAY 29/05/13 Survey Type: MANUAL

26 HC-03-A-21 TERRACED & SEMI-DETACHED HAMPSHIRE
PRIESTLEY ROAD
BASINGSTOKE
HOUNDMILLS
Edge of Town
Residential Zone
Total No of Dwellings: 39
Survey date: TUESDAY 13/11/18 Survey Type: MANUAL

27 HC-03-A-22 MIXED HOUSES HAMPSHIRE
BOW LAKE GARDENS
NEAR EASTLEIGH
BISHOPSTOKE
Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY 31/10/18 Survey Type: MANUAL

28 HC-03-A-23 HOUSES & FLATS HAMPSHIRE
CANADA WAY
LIPHOOK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 62
Survey date: TUESDAY 19/11/19 Survey Type: MANUAL

29 HF-03-A-03 MIXED HOUSES HERTFORDSHIRE
HARE STREET ROAD
BUNTINGFORD

Edge of Town
Residential Zone
Total No of Dwellings: 160
Survey date: MONDAY 08/07/19 Survey Type: MANUAL

30 HI-03-A-14 SEMI-DETACHED & TERRACED HIGHLAND
KING BRUDE ROAD
INVERNESS
SCORGUIE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 40
Survey date: WEDNESDAY 23/03/16 Survey Type: MANUAL

31 KC-03-A-03 MIXED HOUSES & FLATS KENT
HYTHE ROAD
ASHFORD
WILLESBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 51
Survey date: THURSDAY 14/07/16 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

32 KC-03-A-06 MIXED HOUSES & FLATS KENT
MARGATE ROAD
HERNE BAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 363
Survey date: WEDNESDAY 27/09/17 Survey Type: MANUAL

33 KC-03-A-07 MIXED HOUSES KENT
RECULVER ROAD
HERNE BAY

Edge of Town
Residential Zone
Total No of Dwellings: 288
Survey date: WEDNESDAY 27/09/17 Survey Type: MANUAL

34 NE-03-A-02 SEMI DETACHED & DETACHED NORTH EAST LINCOLNSHIRE
HANOVER WALK
SCUNTHORPE

Edge of Town
No Sub Category
Total No of Dwellings: 432
Survey date: MONDAY 12/05/14 Survey Type: MANUAL

35 NF-03-A-04 MIXED HOUSES NORFOLK
NORTH WALSHAM ROAD
NORTH WALSHAM

Edge of Town
Residential Zone
Total No of Dwellings: 70
Survey date: WEDNESDAY 18/09/19 Survey Type: MANUAL

36 NF-03-A-05 MIXED HOUSES NORFOLK
HEATH DRIVE
HOLT

Edge of Town
Residential Zone
Total No of Dwellings: 40
Survey date: THURSDAY 19/09/19 Survey Type: MANUAL

37 NF-03-A-06 MIXED HOUSES NORFOLK
BEAUFORT WAY
GREAT YARMOUTH
BRADWELL
Edge of Town
Residential Zone
Total No of Dwellings: 275
Survey date: MONDAY 23/09/19 Survey Type: MANUAL

38 NF-03-A-07 MIXED HOUSES & FLATS NORFOLK
SILFIELD ROAD
WYMONDHAM

Edge of Town
Out of Town
Total No of Dwellings: 297
Survey date: THURSDAY 19/09/19 Survey Type: DIRECTIONAL ATC COUNT

39 NF-03-A-16 MIXED HOUSES & FLATS NORFOLK
NORWICH COMMON
WYMONDHAM

Edge of Town
Residential Zone
Total No of Dwellings: 138
Survey date: TUESDAY 20/10/15 Survey Type: DIRECTIONAL ATC COUNT

LIST OF SITES relevant to selection parameters (Cont.)

40 NY-03-A-08 TERRACED HOUSES NORTH YORKSHIRE
NICHOLAS STREET
YORK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 21
Survey date: MONDAY 16/09/13 Survey Type: MANUAL

41 NY-03-A-09 MIXED HOUSING NORTH YORKSHIRE
GRAMMAR SCHOOL LANE
NORTHALLERTON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 52
Survey date: MONDAY 16/09/13 Survey Type: MANUAL

42 NY-03-A-10 HOUSES AND FLATS NORTH YORKSHIRE
BOROUGHBRIDGE ROAD
RIPON

Edge of Town
No Sub Category
Total No of Dwellings: 71
Survey date: TUESDAY 17/09/13 Survey Type: MANUAL

43 NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE
HORSEFAIR
BOROUGHBRIDGE

Edge of Town
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

44 PS-03-A-02 DETACHED/SEMI-DETACHED POWYS
GUNROG ROAD
WELSHPOOL

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 28
Survey date: MONDAY 11/05/15 Survey Type: MANUAL

45 RO-03-A-03 DETACHED HOUSES ROSCOMMON
N61
BOYLE
GREATMEADOW
Edge of Town
No Sub Category
Total No of Dwellings: 23
Survey date: THURSDAY 25/09/14 Survey Type: MANUAL

46 SC-03-A-04 DETACHED & TERRACED SURREY
HIGH ROAD
BYFLEET

Edge of Town
Residential Zone
Total No of Dwellings: 71
Survey date: THURSDAY 23/01/14 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

47 SC-03-A-05 MIXED HOUSES SURREY
REIGATE ROAD
HORLEY

Edge of Town
Residential Zone
Total No of Dwellings: 207
Survey date: MONDAY 01/04/19 Survey Type: MANUAL

48 SF-03-A-07 MIXED HOUSES SUFFOLK
FOXHALL ROAD
IPSWICH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 73
Survey date: THURSDAY 09/05/19 Survey Type: MANUAL

49 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE
SANDCROFT
TELFORD
SUTTON HILL
Edge of Town
Residential Zone
Total No of Dwellings: 54
Survey date: THURSDAY 24/10/13 Survey Type: MANUAL

50 SM-03-A-01 DETACHED & SEMI SOMERSET
WEMBDON ROAD
BRIDGWATER
NORTHFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 33
Survey date: THURSDAY 24/09/15 Survey Type: MANUAL

51 ST-03-A-07 DETACHED & SEMI-DETACHED STAFFORDSHIRE
BEACONSIDE
STAFFORD
MARSTON GATE
Edge of Town
Residential Zone
Total No of Dwellings: 248
Survey date: WEDNESDAY 22/11/17 Survey Type: MANUAL

52 ST-03-A-08 DETACHED HOUSES STAFFORDSHIRE
SILKMORE CRESCENT
STAFFORD
MEADOWCROFT PARK
Edge of Town
Residential Zone
Total No of Dwellings: 26
Survey date: WEDNESDAY 22/11/17 Survey Type: MANUAL

53 SY-03-A-01 SEMI DETACHED HOUSES SOUTH YORKSHIRE
A19 BENTLEY ROAD
DONCASTER
BENTLEY RISE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 54
Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

54 TY-03-A-02 SEMI DETACHED & BUNGALOWS TYRONE
SANDHOLES ROAD
COOKSTOWN
DERRYLORAN
Edge of Town
Industrial Zone
Total No of Dwellings: 101
Survey date: THURSDAY 14/03/19 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

55 WA-03-A-04 DETACHED WATERFORD
MAYPARK LANE
WATERFORD

Edge of Town
Residential Zone
Total No of Dwellings: 280
Survey date: TUESDAY 24/06/14 Survey Type: MANUAL

56 WC-03-A-01 DETACHED HOUSES WICKLOW
STATION ROAD
WICKLOW
CORPORATION MURRAGH
Edge of Town
No Sub Category
Total No of Dwellings: 50
Survey date: MONDAY 28/05/18 Survey Type: MANUAL

57 WK-03-A-03 DETACHED HOUSES WARWICKSHIRE
BRESE AVENUE
WARWICK
GUYS CLIFFE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 23
Survey date: WEDNESDAY 25/09/19 Survey Type: MANUAL

58 WL-03-A-02 SEMI DETACHED WILTSHIRE
HEADLANDS GROVE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 27
Survey date: THURSDAY 22/09/16 Survey Type: MANUAL

59 WO-03-A-07 MIXED HOUSES & FLATS WORCESTERSHIRE
RYE GRASS LANE
REDDITCH

Edge of Town
Residential Zone
Total No of Dwellings: 47
Survey date: THURSDAY 01/10/20 Survey Type: MANUAL

60 WS-03-A-04 MIXED HOUSES WEST SUSSEX
HILLS FARM LANE
HORSHAM
BROADBRIDGE HEATH
Edge of Town
Residential Zone
Total No of Dwellings: 151
Survey date: THURSDAY 11/12/14 Survey Type: MANUAL

61 WS-03-A-08 MIXED HOUSES WEST SUSSEX
ROUNDSTONE LANE
ANGMERING

Edge of Town
Residential Zone
Total No of Dwellings: 180
Survey date: THURSDAY 19/04/18 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

62 WS-03-A-09 MIXED HOUSES & FLATS WEST SUSSEX
LITTLEHAMPTON ROAD
WORTHING
WEST DURRINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 197
Survey date: THURSDAY 05/07/18 Survey Type: MANUAL

63 WS-03-A-10 MIXED HOUSES WEST SUSSEX
TODDINGTON LANE
LITTLEHAMPTON
WICK
Edge of Town
Residential Zone
Total No of Dwellings: 79
Survey date: WEDNESDAY 07/11/18 Survey Type: MANUAL

64 WX-03-A-01 SEMI-DETACHED WEXFORD
CLONARD ROAD
WEXFORD

Suburban Area (PPS6 Out of Centre)
No Sub Category
Total No of Dwellings: 34
Survey date: THURSDAY 25/09/14 Survey Type: MANUAL

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip 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	64	104	0.074	64	104	0.303	64	104	0.377
08:00 - 09:00	64	104	0.134	64	104	0.411	64	104	0.545
09:00 - 10:00	64	104	0.161	64	104	0.196	64	104	0.357
10:00 - 11:00	64	104	0.134	64	104	0.163	64	104	0.297
11:00 - 12:00	64	104	0.140	64	104	0.163	64	104	0.303
12:00 - 13:00	64	104	0.182	64	104	0.164	64	104	0.346
13:00 - 14:00	64	104	0.176	64	104	0.176	64	104	0.352
14:00 - 15:00	64	104	0.191	64	104	0.214	64	104	0.405
15:00 - 16:00	64	104	0.285	64	104	0.191	64	104	0.476
16:00 - 17:00	64	104	0.301	64	104	0.181	64	104	0.482
17:00 - 18:00	64	104	0.387	64	104	0.187	64	104	0.574
18:00 - 19:00	64	104	0.312	64	104	0.192	64	104	0.504
19:00 - 20:00	1	97	0.062	1	97	0.052	1	97	0.114
20:00 - 21:00	1	97	0.031	1	97	0.021	1	97	0.052
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.570			2.614			5.184

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.

The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	21 - 432 (units:)
Survey date date range:	01/01/13 - 20/10/20
Number of weekdays (Monday-Friday):	67
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	7
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.

Appendix M

WF01BEW - Location of usual residence and place of work (OA level)

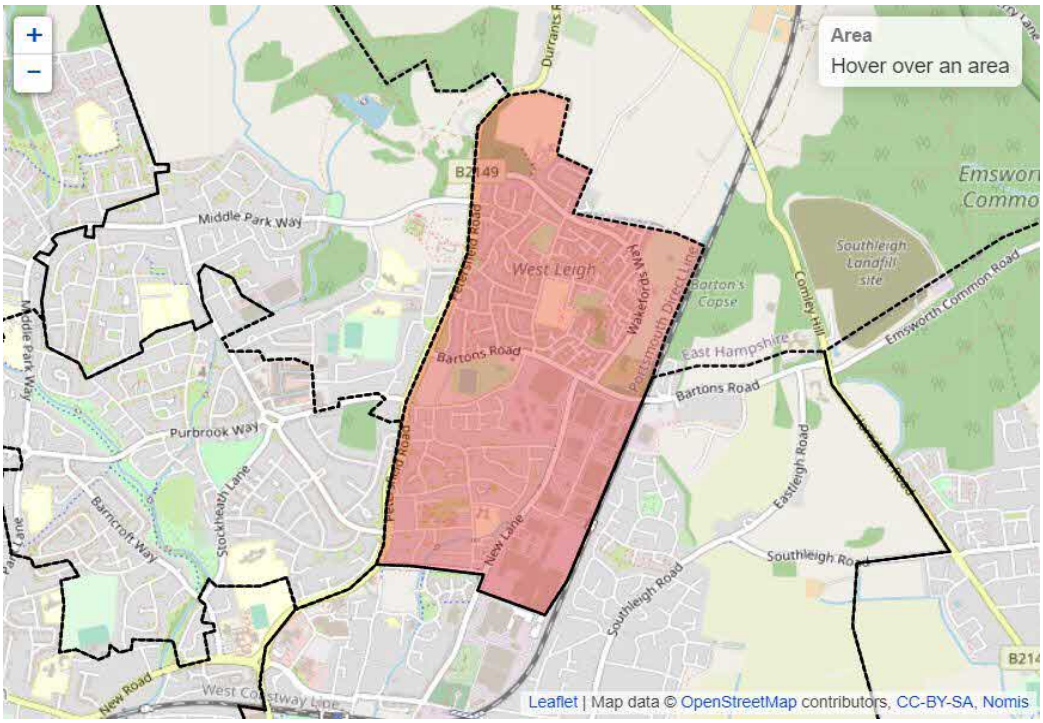
ONS Crown Copyright Reserved [from Nomis on 11 November 2020]

Population:	All usual residents ages 16 and over in employment the week before the census
Units:	Persons
Date:	2011

Query Details

Usual residence:

2011 Output Area - Mid Layer: 'E02004770 : Havant 009'



Place of work:

2011 Super Output Areas - Lower Layer : whole of UK

Usual residence to place of work matrix by route

Place of Work	People	Route		
		B2149 Petersfield Road North	B2149 Petersfield Road South	Bartons Road
ALL DESTINATIONS	2,552	16.0%	64.3%	19.6%
Adur 004B	1		0.0%	
Arun 012A	1		0.0%	
Arun 012E	1		0.0%	
Arun 014D	4		0.2%	
Arun 014E	2		0.1%	
Aylesbury Vale 002B	1	0.0%		
Aylesbury Vale 024C	1	0.0%		
Basingstoke and Deane 007J	1	0.0%		
Basingstoke and Deane 008D	3	0.1%		
Basingstoke and Deane 010D	1	0.0%		
Basingstoke and Deane 011F	1	0.0%		

Basingstoke and Deane 012D	1	0.0%		
Bath and North East Somerset 003B	1		0.0%	
Birmingham 130A	1		0.0%	
Bracknell Forest 004D	1	0.0%		
Bracknell Forest 009A	1	0.0%		
Brighton and Hove 016D	3		0.1%	
Brighton and Hove 017A	2		0.1%	
Burnley 010C	1		0.0%	
Cardiff 009B	1		0.0%	
Chichester 001B	1			0.0%
Chichester 003A	4			0.2%
Chichester 003B	3			0.1%
Chichester 003C	2			0.1%
Chichester 004A	1			0.0%
Chichester 004F	1			0.0%
Chichester 006A	2			0.1%
Chichester 006B	1			0.0%
Chichester 006C	1			0.0%
Chichester 006D	13			0.5%
Chichester 007A	5			0.2%
Chichester 007B	7			0.3%
Chichester 007C	3			0.1%
Chichester 007D	10			0.4%
Chichester 007E	7			0.3%
Chichester 008A	3			0.1%
Chichester 008B	3			0.1%
Chichester 008C	3			0.1%
Chichester 008D	16			0.6%
Chichester 008E	1			0.0%
Chichester 009A	2			0.1%
Chichester 009B	2			0.1%
Chichester 009C	6			0.2%
Chichester 009D	2			0.1%
Chichester 009E	8			0.3%
Chichester 010C	3			0.1%
Chichester 010D	39			1.5%
Chichester 011B	3			0.1%
Chichester 011C	2			0.1%
Chichester 012A	11			0.4%
Chichester 012B	1			0.0%
Chichester 012C	10			0.4%
Chichester 012E	1			0.0%
Chichester 013C	2			0.1%
Chichester 013E	1			0.0%
Chichester 013G	3			0.1%
Chichester 014C	3			0.1%
Chichester 014F	1			0.0%
City of London 001F	4	0.2%		
Copeland 008E	1	0.0%		
Crawley 001C	2		0.1%	
Crawley 011D	1		0.0%	

E01Portsmouth 008D	35		1.4%	
East Dorset 009E	2		0.1%	
East Hampshire 001C	5	0.2%		
East Hampshire 002C	2	0.1%		
East Hampshire 003C	2	0.1%		
East Hampshire 004A	1	0.0%		
East Hampshire 004B	3	0.1%		
East Hampshire 004C	1	0.0%		
East Hampshire 008E	1	0.0%		
East Hampshire 009D	1	0.0%		
East Hampshire 009E	2	0.1%		
East Hampshire 010A	1	0.0%		
East Hampshire 010B	2	0.1%		
East Hampshire 010C	1	0.0%		
East Hampshire 011A	5	0.2%		
East Hampshire 011B	4	0.2%		
East Hampshire 011C	9	0.4%		
East Hampshire 011E	2	0.1%		
East Hampshire 012A	44	1.7%		
East Hampshire 012B	2	0.1%		
East Hampshire 012C	1	0.0%		
East Hampshire 012F	7	0.3%		
East Hampshire 012G	5	0.2%		
East Hampshire 013B	2	0.1%		
East Hampshire 013D	1	0.0%		
East Hampshire 014A	6	0.2%		
East Hampshire 014C	2	0.1%		
East Hampshire 014D	1	0.0%		
East Hampshire 016A	24	0.9%		
East Hampshire 016B	5	0.2%		
East Hampshire 016C	15	0.6%		
East Hampshire 017C	2	0.1%		
East Riding of Yorkshire 034E	1	0.0%		
Eastleigh 001B	1		0.0%	
Eastleigh 003C	2		0.1%	
Eastleigh 003E	1		0.0%	
Eastleigh 004B	1		0.0%	
Eastleigh 006B	5		0.2%	
Eastleigh 007A	9		0.4%	
Eastleigh 007D	6		0.2%	
Eastleigh 009C	1		0.0%	
Eastleigh 011A	1		0.0%	
Eastleigh 011C	3		0.1%	
Eastleigh 011E	1		0.0%	
Eastleigh 012D	1		0.0%	
Eastleigh 015A	4		0.2%	
Eastleigh 015B	1		0.0%	
Eastleigh 015C	1		0.0%	
EPortsmouth 009D	2		0.1%	
Fareham 002C	9		0.4%	
Fareham 002D	14		0.5%	

Fareham 003C	1		0.0%	
Fareham 004A	3		0.1%	
Fareham 004E	2		0.1%	
Fareham 005A	1		0.0%	
Fareham 006C	1		0.0%	
Fareham 007A	2		0.1%	
Fareham 007B	3		0.1%	
Fareham 008A	15		0.6%	
Fareham 008B	1		0.0%	
Fareham 008C	8		0.3%	
Fareham 008F	5		0.2%	
Fareham 010E	2		0.1%	
Fareham 011A	2		0.1%	
Fareham 011D	5		0.2%	
Fareham 012D	5		0.2%	
Fareham 013D	1		0.0%	
Fareham 013F	7		0.3%	
Gosport 001C	5		0.2%	
Gosport 001D	1		0.0%	
Gosport 001E	1		0.0%	
Gosport 002A	1		0.0%	
Gosport 003B	1		0.0%	
Gosport 003C	1		0.0%	
Gosport 004E	1		0.0%	
Gosport 004G	1		0.0%	
Gosport 006A	1		0.0%	
Gosport 006C	1		0.0%	
Gosport 007F	2		0.1%	
Gosport 008A	1		0.0%	
Gosport 008D	2		0.1%	
Gosport 008F	1		0.0%	
Gosport 009A	2		0.1%	
Gosport 010B	1		0.0%	
Gosport 010C	1		0.0%	
Gosport 010E	2		0.1%	
Guildford 012A	1	0.0%		
Guildford 013C	1	0.0%		
Guildford 015C	1	0.0%		
Harrow 006D	1	0.0%		
Hart 006B	2	0.1%		
Hart 007E	1	0.0%		
Hart 008E	1	0.0%		
Hart 011E	2	0.1%		
Havant 003A	2		0.1%	
Havant 003B	9	0.4%		
Havant 003C	1	0.0%		
Havant 003D	51		2.0%	
Havant 003E	12		0.5%	
Havant 004A	3		0.1%	
Havant 004C	3		0.1%	
Havant 005A	6		0.2%	

Havant 005B	6		0.2%	
Havant 005D	38		1.5%	
Havant 006A	12	0.5%		
Havant 006B	1	0.0%		
Havant 006C	5		0.2%	
Havant 006D	1	0.0%		
Havant 007A	3		0.1%	
Havant 007B	2		0.1%	
Havant 007D	2		0.1%	
Havant 008A	28	1.1%		
Havant 008D	39		1.5%	
Havant 009A	1			0.0%
Havant 009B	12	0.5%		
Havant 009C	43			1.7%
Havant 009D	162			6.3%
Havant 009E	16			0.6%
Havant 010A	4		0.2%	
Havant 010B	5		0.2%	
Havant 010C	20		0.8%	
Havant 010E	5		0.2%	
Havant 011A	2		0.1%	
Havant 011B	4		0.2%	
Havant 011C	15		0.6%	
Havant 011D	2		0.1%	
Havant 011F	1		0.0%	
Havant 013A	19			0.7%
Havant 013D	11			0.4%
Havant 013E	11			0.4%
Havant 013F	24			0.9%
Havant 014A	251		9.8%	
Havant 014B	168		6.6%	
Havant 014C	11			0.4%
Havant 014E	56		2.2%	
Havant 014F	16			0.6%
Havant 015A	14		0.5%	
Havant 015B	5		0.2%	
Havant 015C	2		0.1%	
Havant 015D	7		0.3%	
Havant 016A	2		0.1%	
Havant 016B	6		0.2%	
Havant 016C	6		0.2%	
Havant 017A	2		0.1%	
Havant 017B	9		0.4%	
Havant 017C	1		0.0%	
Havant 017D	1		0.0%	
Havant 018A	13		0.5%	
Havant 018B	62		2.4%	
Havant 018C	6		0.2%	
Havant 018D	5		0.2%	
Havant 018E	7		0.3%	
Havant 018F	2		0.1%	

Havant 019C	3	0.1%		
Havant 020A	3	0.1%		
Havant 020B	5	0.2%		
Havant 020C	1	0.0%		
Havant 020D	1	0.0%		
Hillingdon 022F	1	0.0%		
Horsham 006A	1		0.0%	
Horsham 006C	2		0.1%	
Horsham 015C	2		0.1%	
Isle of Wight 009E	1		0.0%	
Islington 019B	1	0.0%		
Kensington and Chelsea 008B	1	0.0%		
Kingston upon Thames 011B	1	0.0%		
Lambeth 008C	1	0.0%		
Lambeth 023A	1	0.0%		
Leicester 010F	1	0.0%		
Lewisham 016B	1	0.0%		
Luton 019A	1	0.0%		
Merton 012A	2	0.1%		
Merton 022B	3	0.1%		
Mid Devon 009A	2		0.1%	
Mole Valley 006B	1	0.0%		
New Forest 003B	1		0.0%	
New Forest 003C	1		0.0%	
New Forest 004E	1		0.0%	
New Forest 008E	5		0.2%	
New Forest 014C	1		0.0%	
Newport 009C	1	0.0%		
North Dorset 003C	1		0.0%	
North Dorset 006E	1		0.0%	
Northumberland 001A	1	0.0%		
Plymouth 014A	1		0.0%	
Poole 014A	1		0.0%	
Poole 015A	1		0.0%	
Portsmouth 001A	1		0.0%	
Portsmouth 001E	2		0.1%	
Portsmouth 002A	50		2.0%	
Portsmouth 002B	4		0.2%	
Portsmouth 002C	12		0.5%	
Portsmouth 003A	1		0.0%	
Portsmouth 003B	3		0.1%	
Portsmouth 003D	6		0.2%	
Portsmouth 004A	6		0.2%	
Portsmouth 004B	5		0.2%	
Portsmouth 004C	9		0.4%	
Portsmouth 004D	1		0.0%	
Portsmouth 006A	4		0.2%	
Portsmouth 006D	3		0.1%	
Portsmouth 006E	31		1.2%	
Portsmouth 007A	4		0.2%	
Portsmouth 007B	1		0.0%	

Portsmouth 007C	11		0.4%	
Portsmouth 007D	2		0.1%	
Portsmouth 007E	1		0.0%	
Portsmouth 008A	7		0.3%	
Portsmouth 008B	29		1.1%	
Portsmouth 008C	20		0.8%	
Portsmouth 008E	10		0.4%	
Portsmouth 009A	2		0.1%	
Portsmouth 009C	2		0.1%	
Portsmouth 010A	3		0.1%	
Portsmouth 010D	1		0.0%	
Portsmouth 011A	1		0.0%	
Portsmouth 011B	1		0.0%	
Portsmouth 011D	3		0.1%	
Portsmouth 011F	9		0.4%	
Portsmouth 012A	3		0.1%	
Portsmouth 012B	1		0.0%	
Portsmouth 012D	1		0.0%	
Portsmouth 012E	2		0.1%	
Portsmouth 013A	1		0.0%	
Portsmouth 013B	6		0.2%	
Portsmouth 013C	6		0.2%	
Portsmouth 013D	4		0.2%	
Portsmouth 013E	1		0.0%	
Portsmouth 014E	4		0.2%	
Portsmouth 014F	2		0.1%	
Portsmouth 015B	1		0.0%	
Portsmouth 015E	2		0.1%	
Portsmouth 016A	11		0.4%	
Portsmouth 016B	49		1.9%	
Portsmouth 016D	30		1.2%	
Portsmouth 016F	3		0.1%	
Portsmouth 016G	1		0.0%	
Portsmouth 016H	2		0.1%	
Portsmouth 017A	3		0.1%	
Portsmouth 017D	6		0.2%	
Portsmouth 017E	5		0.2%	
Portsmouth 017F	1		0.0%	
Portsmouth 018A	1		0.0%	
Portsmouth 018B	2		0.1%	
Portsmouth 018E	1		0.0%	
Portsmouth 019A	1		0.0%	
Portsmouth 019C	5		0.2%	
Portsmouth 019E	1		0.0%	
Portsmouth 020B	1		0.0%	
Portsmouth 020C	3		0.1%	
Portsmouth 020E	1		0.0%	
Portsmouth 021B	1		0.0%	
Portsmouth 021D	1		0.0%	
Portsmouth 022A	35		1.4%	
Portsmouth 022B	1		0.0%	

Portsmouth 023C	1		0.0%	
Portsmouth 024A	1		0.0%	
Portsmouth 024C	3		0.1%	
Portsmouth 024E	6		0.2%	
Portsmouth 025B	3		0.1%	
Portsmouth 026A	55		2.2%	
Portsmouth 026B	2		0.1%	
Portsmouth 026C	13		0.5%	
Portsmouth 026D	3		0.1%	
Reading 011D	1	0.0%		
Reading 011F	1	0.0%		
Reigate and Banstead 002B	1	0.0%		
Richmond upon Thames 004F	1	0.0%		
Richmondshire 004E	1	0.0%		
Runnymede 006B	1	0.0%		
Rushmoor 005B	1	0.0%		
Rushmoor 006C	1	0.0%		
Rushmoor 007D	1	0.0%		
Rushmoor 008B	1	0.0%		
Rushmoor 009C	1	0.0%		
Rushmoor 010A	1	0.0%		
Slough 009D	1	0.0%		
Slough 014D	1	0.0%		
South Gloucestershire 021B	1	0.0%		
South Oxfordshire 013B	1	0.0%		
South Somerset 016B	1		0.0%	
Southampton 006D	1		0.0%	
Southampton 007A	1		0.0%	
Southampton 009F	1		0.0%	
Southampton 013B	1		0.0%	
Southampton 014B	1		0.0%	
Southampton 019E	1		0.0%	
Southampton 022C	1		0.0%	
Southampton 022F	1		0.0%	
Southampton 023D	5		0.2%	
Southampton 029C	1		0.0%	
Southampton 029G	1		0.0%	
Southampton 029H	1		0.0%	
Southampton 032B	1		0.0%	
Stockport 016D	1		0.0%	
Surrey Heath 008A	1	0.0%		
Swansea 010A	1	0.0%		
Swindon 008A	1	0.0%		
Tandridge 011D	1	0.0%		
Test Valley 005B	1	0.0%		
Test Valley 013D	1	0.0%		
Test Valley 015A	2	0.1%		
Three Rivers 009C	1	0.0%		
Wandsworth 029C	1	0.0%		
Waverley 008B	2	0.1%		
Waverley 009B	1	0.0%		

Waverley 009C	1	0.0%		
Waverley 016B	2	0.1%		
Waverley 016D	5	0.2%		
Waverley 017D	1	0.0%		
Waverley 018F	1	0.0%		
West Berkshire 011A	1	0.0%		
Westminster 018C	1	0.0%		
Westminster 020D	1	0.0%		
Westminster 021C	1	0.0%		
Westminster 022A	1	0.0%		
Wiltshire 041C	1		0.0%	
Wiltshire 045C	1		0.0%	
Wiltshire 047E	1		0.0%	
Wiltshire 057B	1		0.0%	
Winchester 001A	2	0.1%		
Winchester 002D	1	0.0%		
Winchester 005F	1	0.0%		
Winchester 006C	1	0.0%		
Winchester 007C	5	0.2%		
Winchester 007D	2	0.1%		
Winchester 007E	2	0.1%		
Winchester 009A	1	0.0%		
Winchester 010E	1	0.0%		
Winchester 011A	2	0.1%		
Winchester 013E	1	0.0%		
Winchester 013F	23	0.9%		
Winchester 014A	14	0.5%		
Winchester 014B	8	0.3%		
Winchester 014C	1	0.0%		
Winchester 014D	4	0.2%		
Windsor and Maidenhead 010A	1	0.0%		
Woking 004E	1	0.0%		
Woking 008E	2	0.1%		
Wokingham 010A	1	0.0%		
Wokingham 012D	1	0.0%		
Wokingham 018B	2	0.1%		
Worthing 008A	2	0.1%		
Worthing 010D	1	0.0%		
Worthing 010E	1	0.0%		
Worthing 011C	1	0.0%		
Wycombe 015B	1	0.0%		
Wycombe 015E	2	0.1%		

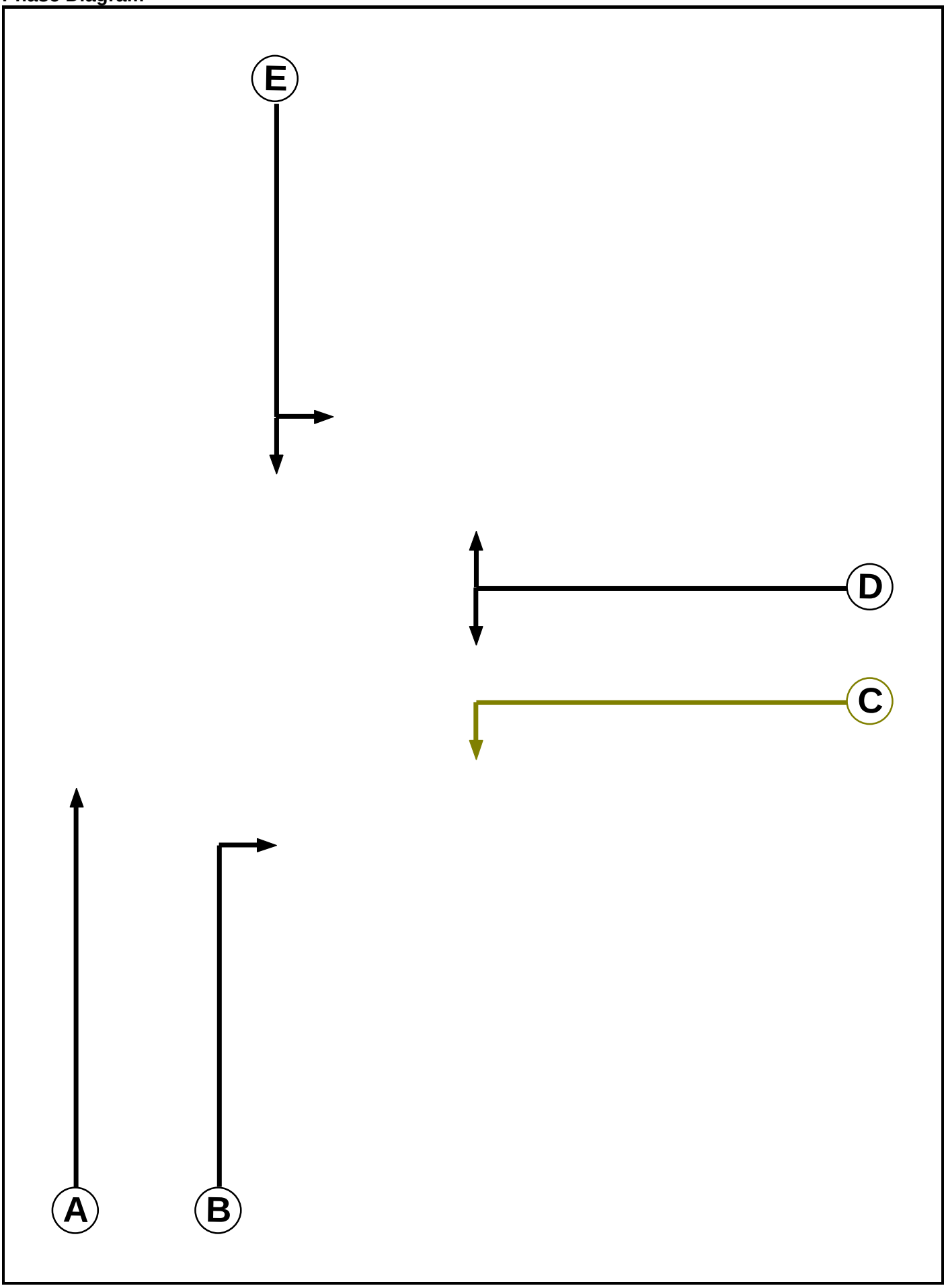
Appendix N

Results Summary

User and Project Details

Project:	**Bartons Road, Havant**
Title:	**B2149 Petersfield Road/ Bartons Road**
Location:	
Additional detail:	
File name:	B2149 Petersfield Road_ Bartons Road Linsig Model - EXISTING LAYOUT.lsg3x
Author:	
Company:	
Address:	

Phase Diagram



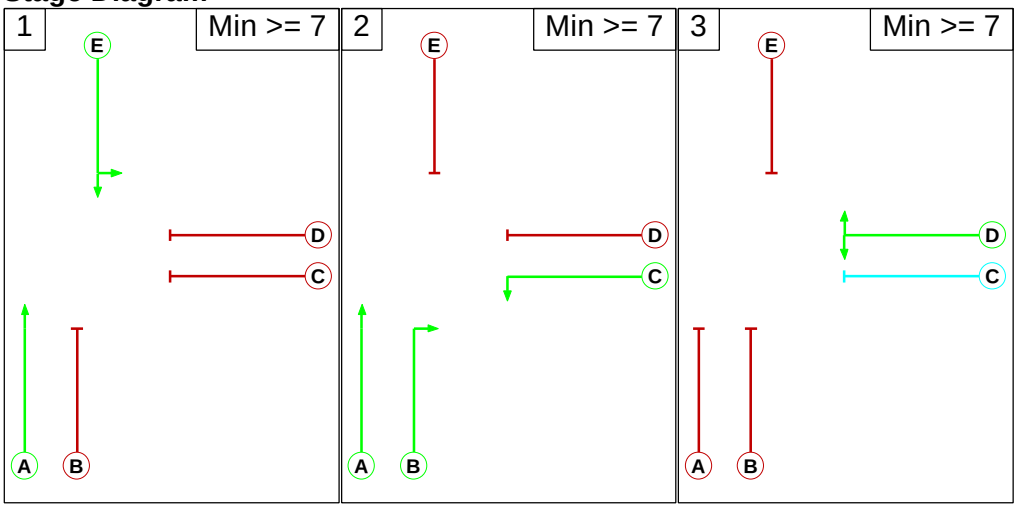
Phase Intergreens Matrix

Terminating Phase	Starting Phase				
	A	B	C	D	E
A		-	-	7	-
B	-		-	7	7
C	-	-		-	7
D	7	7	-		7
E	-	7	7	7	

Phases in Stage

Stage No.	Phases in Stage
1	A E
2	A B C
3	D

Stage Diagram



Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2025 AM'	08:00	09:00	01:00	
2: '2025 PM'	17:00	18:00	01:00	
3: '2025 Sat'	12:30	13:30	01:00	
4: 'CD1 AM (Linden Homes)'	08:00	09:00	01:00	
5: 'CD1 PM (Linden Homes)'	17:00	18:00	01:00	
6: 'CD1 Sat (Linden Homes)'	12:30	13:30	01:00	
7: 'CD2 AM (Land South of Bartons Road)'	08:00	09:00	01:00	
8: 'CD2 PM (Land South of Bartons Road)'	17:00	18:00	01:00	
9: 'CD2 Sat (Land South of Bartons Road)'	12:30	13:30	01:00	
10: 'CD3 AM (Land West of Havant Crematorium)'	08:00	09:00	01:00	
11: 'CD3 PM (Land West of Havant Crematorium)'	17:00	18:00	01:00	
12: 'CD3 Sat (Land West of Havant Crematorium)'	12:30	13:30	01:00	
13: '2025 + CD AM'	08:00	09:00	01:00	F1 + F4 + F7 + F10
14: '2025 + CD PM'	17:00	18:00	01:00	F1 + F5 + F8 + F11
15: '2025 + CD Sat'	12:30	13:30	01:00	F1 + F6 + F9 + F12
16: 'PD1 AM Residential'	08:00	09:00	01:00	
17: 'PD1 PM Residential'	17:00	18:00	01:00	
18: 'PD1 Sat Residential'	12:30	13:30	01:00	
19: '2025 + CD + PD AM'	08:00	09:00	01:00	F13 + F16
20: '2025 + CD + PD PM'	17:00	18:00	01:00	F14 + F17
21: '2025 + CD + PD Sat'	12:30	13:30	01:00	F15 + F18

Traffic Flows, Desired

FG1: '2025 AM'

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	186	463	649
	B	122	0	408	530
	C	338	437	0	775
	Tot.	460	623	871	1954

FG2: '2025 PM'

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	104	339	443
	B	176	0	558	734
	C	535	427	0	962
	Tot.	711	531	897	2139

FG3: '2025 Sat'

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	109	382	491
	B	101	0	624	725
	C	489	546	0	1035
	Tot.	590	655	1006	2251

FG4: 'CD1 AM (Linden Homes)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	1	0	1
	B	0	0	1	1
	C	0	0	0	0
	Tot.	0	1	1	2

FG5: 'CD1 PM (Linden Homes)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	0	0	0	0
	C	0	1	0	1
	Tot.	0	1	0	1

FG6: 'CD1 Sat (Linden Homes)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	0	0
	B	0	0	0	0
	C	0	0	0	0
	Tot.	0	0	0	0

FG7: 'CD2 AM (Land South of Bartons Road)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	3	0	3
	B	9	0	24	33
	C	0	9	0	9
	Tot.	9	12	24	45

FG8: 'CD2 PM (Land South of Bartons Road)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	10	0	10
	B	5	0	15	20
	C	0	27	0	27
	Tot.	5	37	15	57

FG9: 'CD2 Sat (Land South of Bartons Road)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	6	0	6
	B	7	0	18	25
	C	0	17	0	17
	Tot.	7	23	18	48

FG10: 'CD3 AM (Land West of Havant Crematorium)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	1	0	1
	B	4	0	10	14
	C	0	4	0	4
	Tot.	4	5	10	19

FG11: 'CD3 PM (Land West of Havant Crematorium)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	3	0	3
	B	2	0	5	7
	C	0	9	0	9
	Tot.	2	12	5	19

FG12: 'CD3 Sat (Land West of Havant Crematorium)'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	2	0	2
	B	3	0	7	10
	C	0	6	0	6
	Tot.	3	8	7	18

FG13: '2025 + CD AM'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	191	463	654
	B	135	0	443	578
	C	338	450	0	788
	Tot.	473	641	906	2020

FG14: '2025 + CD PM'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	199	463	662
	B	129	0	428	557
	C	338	474	0	812
	Tot.	467	673	891	2031

FG15: '2025 + CD Sat'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	194	463	657
	B	132	0	433	565
	C	338	460	0	798
	Tot.	470	654	896	2020

FG16: 'PD1 AM Residential'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	2	0	2
	B	6	0	24	30
	C	0	8	0	8
	Tot.	6	10	24	40

FG17: 'PD1 PM Residential'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	5	0	5
	B	3	0	12	15
	C	0	21	0	21
	Tot.	3	26	12	41

FG18: 'PD1 Sat Residential'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	3	0	3
	B	4	0	17	21
	C	0	14	0	14
	Tot.	4	17	17	38

FG19: '2025 + CD + PD AM'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	193	463	656
	B	141	0	467	608
	C	338	458	0	796
	Tot.	479	651	930	2060

FG20: '2025 + CD + PD PM'
Desired Flow :

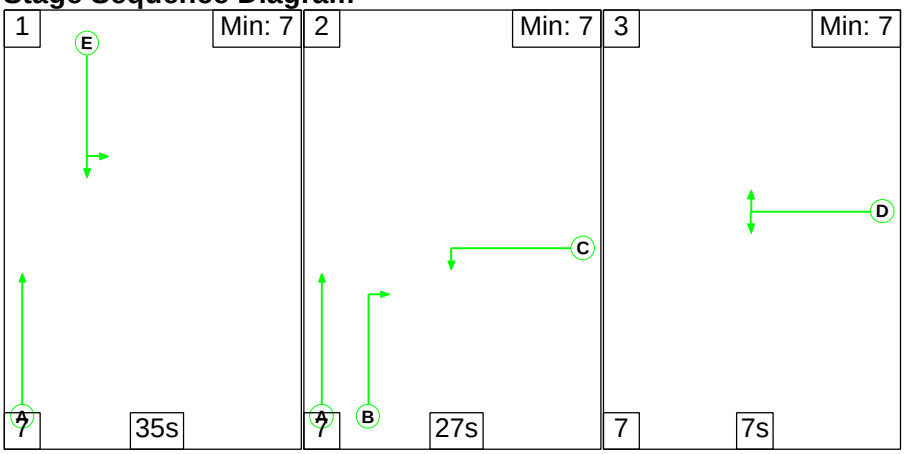
		Destination			
		A	B	C	Tot.
Origin	A	0	204	463	667
	B	132	0	440	572
	C	338	495	0	833
	Tot.	470	699	903	2072

FG21: '2025 + CD + PD Sat'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	197	463	660
	B	136	0	450	586
	C	338	474	0	812
	Tot.	474	671	913	2058

Scenario 1: '2025 AM' (FG1: '2025 AM', Plan 1: 'Network Control Plan 1')

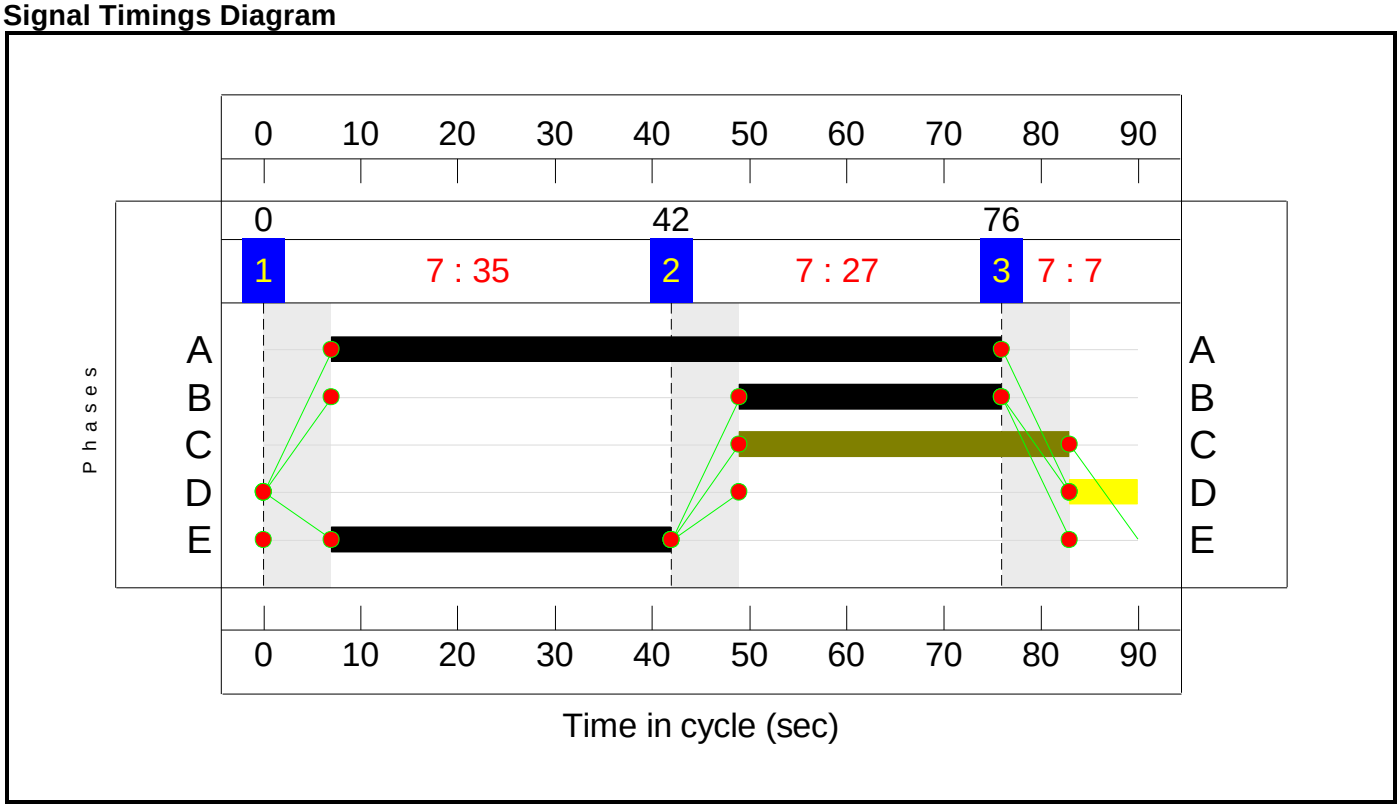
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	35	27	7
Change Point	0	42	76

Signal Timings Diagram



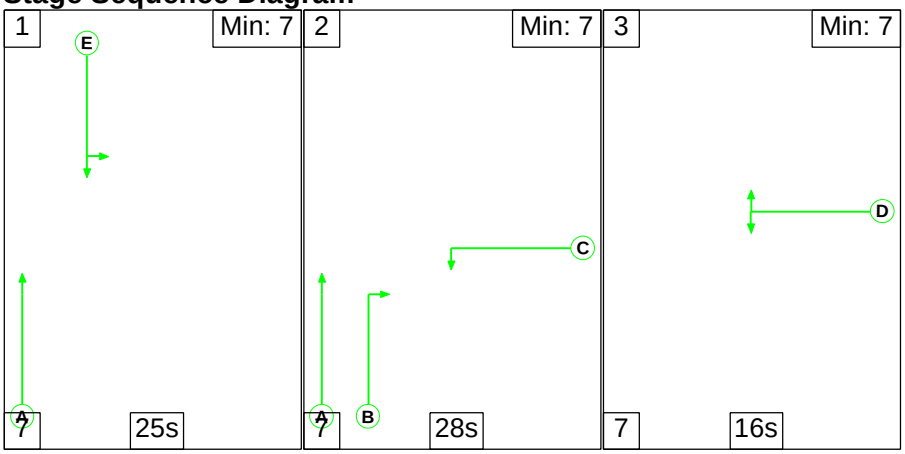
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**77.3%**	**0**	**0**	**0**	**15.4**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**77.3%**	**0**	**0**	**0**	**15.4**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	35	-	649	2095:1749	599+240	77.3 : 77.3%	-	-	-	5.7	31.9	14.8
2/2+2/1	Bartons Road Right Left	U	D	C	1	7:41	34	530	1953:1743	174+581	70.3 : 70.3%	-	-	-	4.4	30.0	8.8
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:27	-	775	1940:1849	445+575	76.0 : 76.0%	-	-	-	5.2	24.2	11.4

C1 PRC for Signalled Lanes (%): 16.4 Total Delay for Signalled Lanes (pcuHr): 15.37 Cycle Time (s): 90
PRC Over All Lanes (%): 16.4 Total Delay Over All Lanes(pcuHr): 15.37

Scenario 2: '2025 PM' (FG2: '2025 PM', Plan 1: 'Network Control Plan 1')

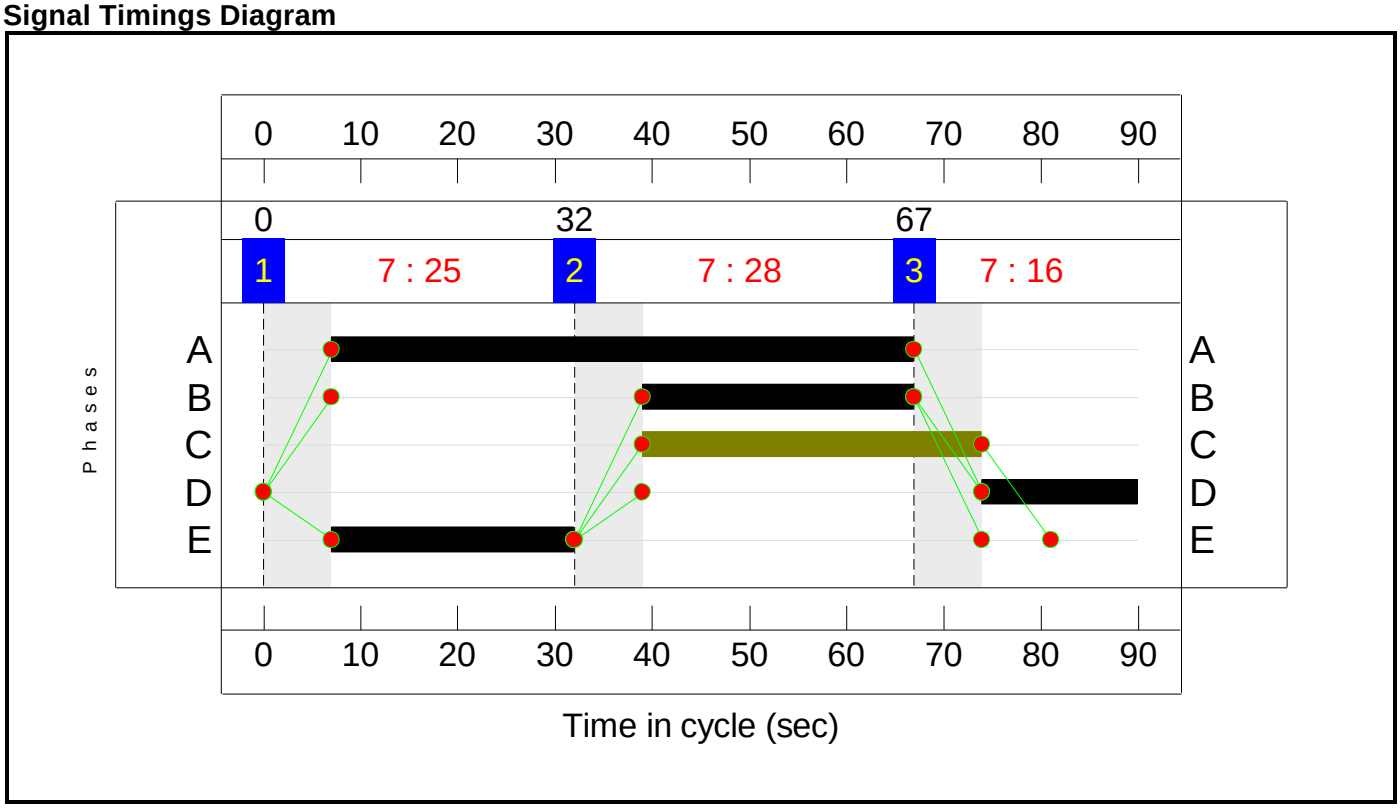
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	25	28	16
Change Point	0	32	67

Signal Timings Diagram



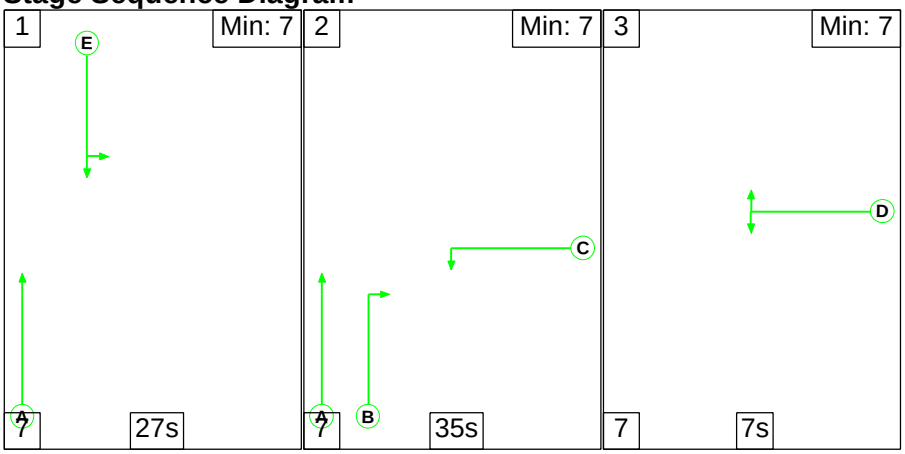
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**73.2%**	**0**	**0**	**0**	**14.9**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**73.2%**	**0**	**0**	**0**	**14.9**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	25	-	443	2095:1749	472+145	71.9 : 71.9%	-	-	-	4.7	38.3	10.5
2/2+2/1	Bartons Road Right Left	U	D	C	1	16:51	35	734	1953:1743	241+762	73.2 : 73.2%	-	-	-	4.8	23.4	11.4
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	60:28	-	962	1940:1849	746+596	71.7 : 71.7%	-	-	-	5.4	20.2	10.6

C1 PRC for Signalled Lanes (%): 23.0 Total Delay for Signalled Lanes (pcuHr): 14.89 Cycle Time (s): 90
PRC Over All Lanes (%): 23.0 Total Delay Over All Lanes(pcuHr): 14.89

Scenario 3: '2025 Sat' (FG3: '2025 Sat', Plan 1: 'Network Control Plan 1')

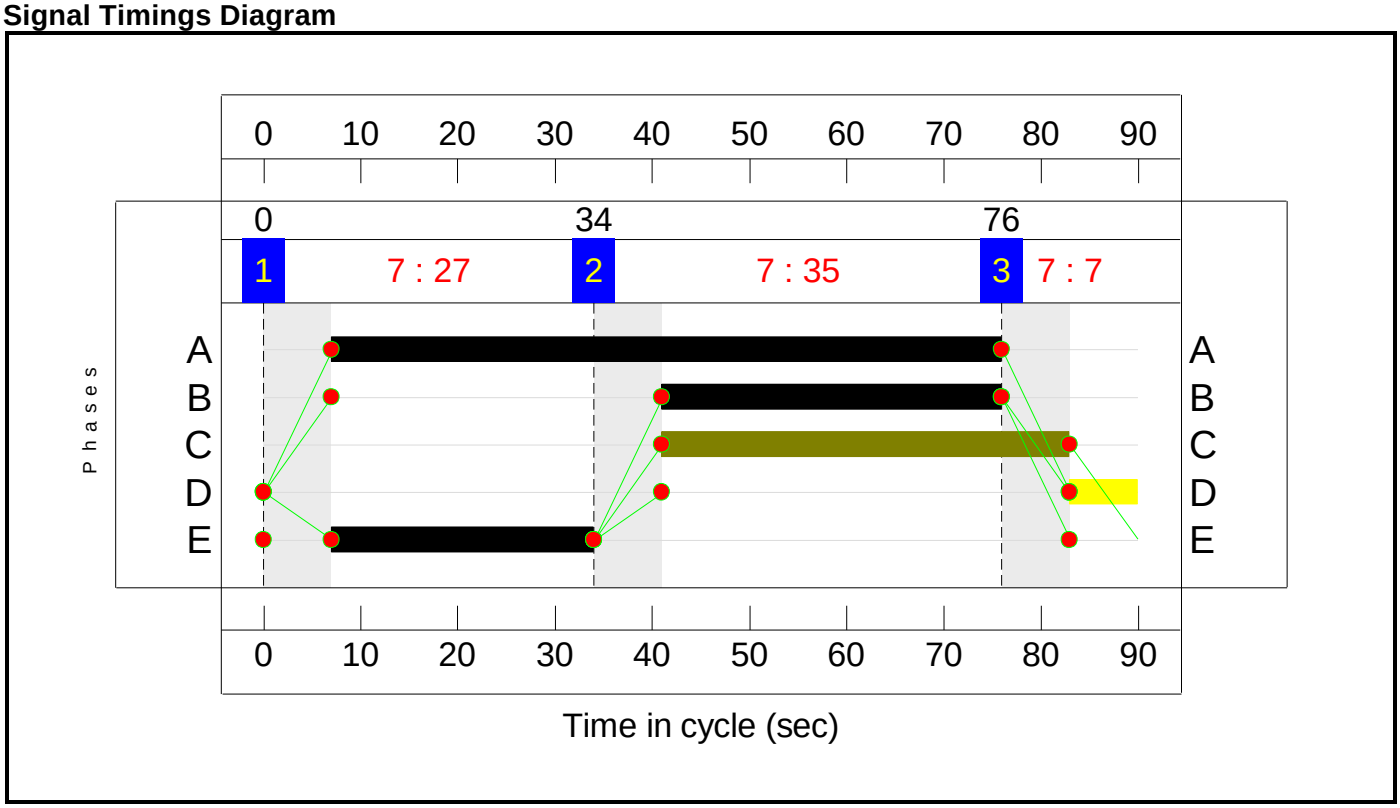
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	27	35	7
Change Point	0	34	76

Signal Timings Diagram



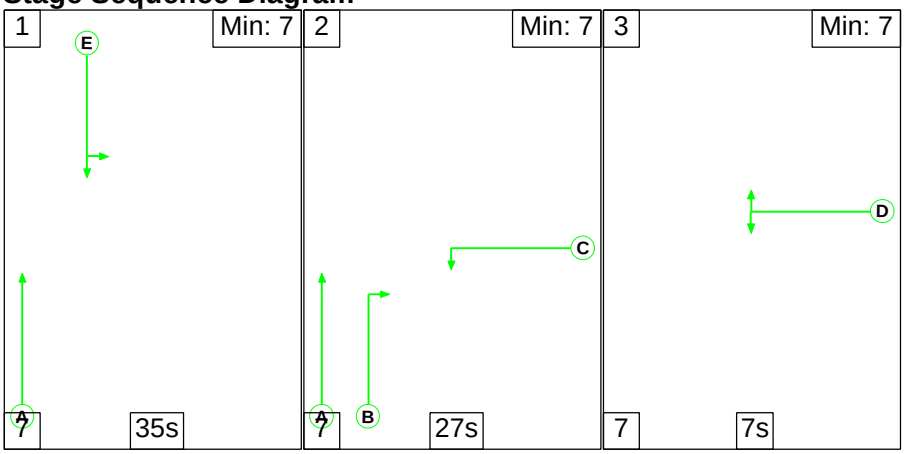
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**75.2%**	**0**	**0**	**0**	**15.2**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**75.2%**	**0**	**0**	**0**	**15.2**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	27	-	491	2095:1749	514+147	74.4 : 74.4%	-	-	-	5.1	37.6	11.6
2/2+2/1	Bartons Road Right Left	U	D	C	1	7:49	42	725	1953:1743	144+892	70.0 : 70.0%	-	-	-	4.7	23.2	13.1
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:35	-	1035	1940:1849	650+726	75.2 : 75.2%	-	-	-	5.4	18.8	13.0

C1 PRC for Signalled Lanes (%): 19.7 Total Delay for Signalled Lanes (pcuHr): 15.18 Cycle Time (s): 90
PRC Over All Lanes (%): 19.7 Total Delay Over All Lanes(pcuHr): 15.18

Scenario 4: '2025 + CD AM' (FG13: '2025 + CD AM', Plan 1: 'Network Control Plan 1')

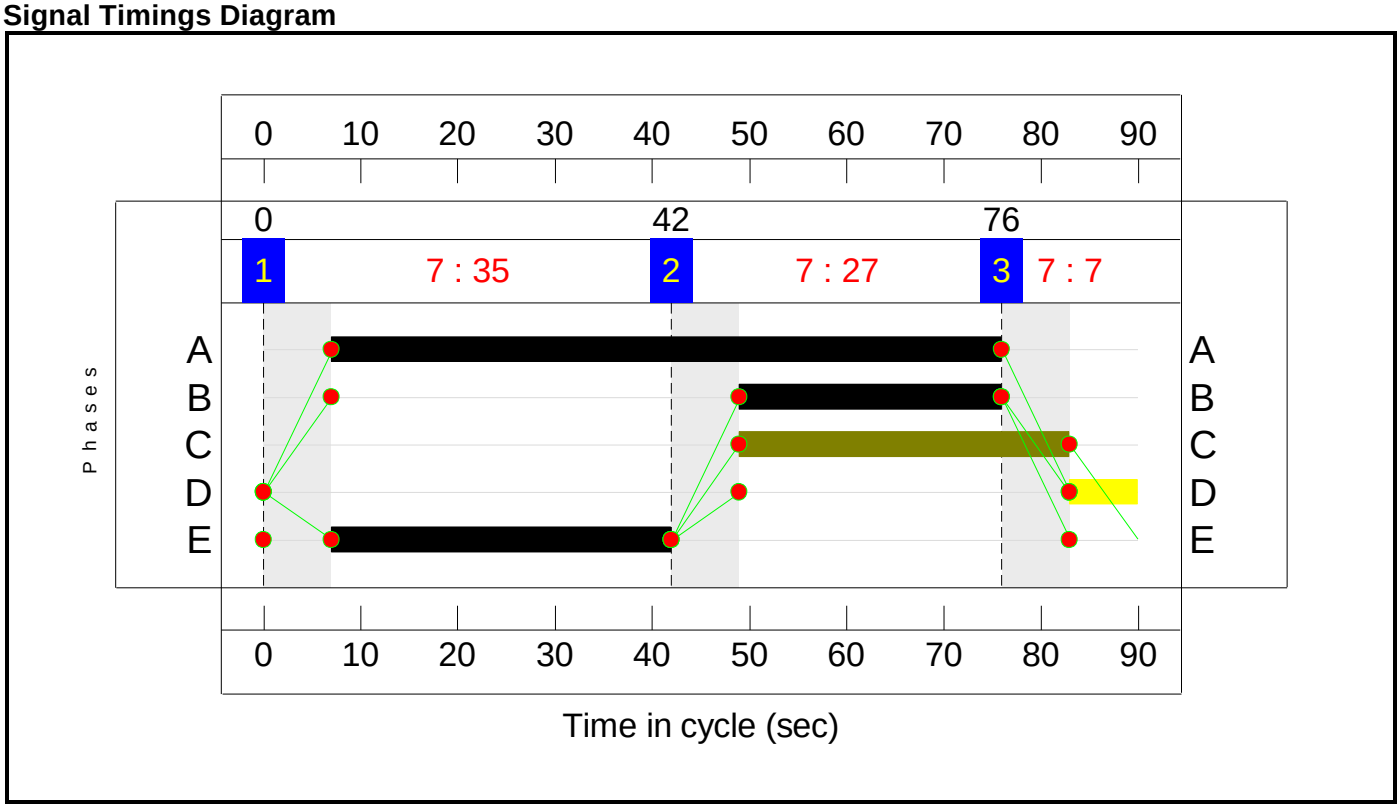
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	35	27	7
Change Point	0	42	76

Signal Timings Diagram



Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**78.2%**	**0**	**0**	**0**	**16.7**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**78.2%**	**0**	**0**	**0**	**16.7**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	35	-	654	2095:1749	594+245	77.9 : 77.9%	-	-	-	5.8	32.2	14.9
2/2+2/1	Bartons Road Right Left	U	D	C	1	7:41	34	578	1953:1743	174+570	77.8 : 77.8%	-	-	-	5.3	33.2	10.7
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:27	-	788	1940:1849	432+575	78.2 : 78.2%	-	-	-	5.5	25.4	11.9

C1

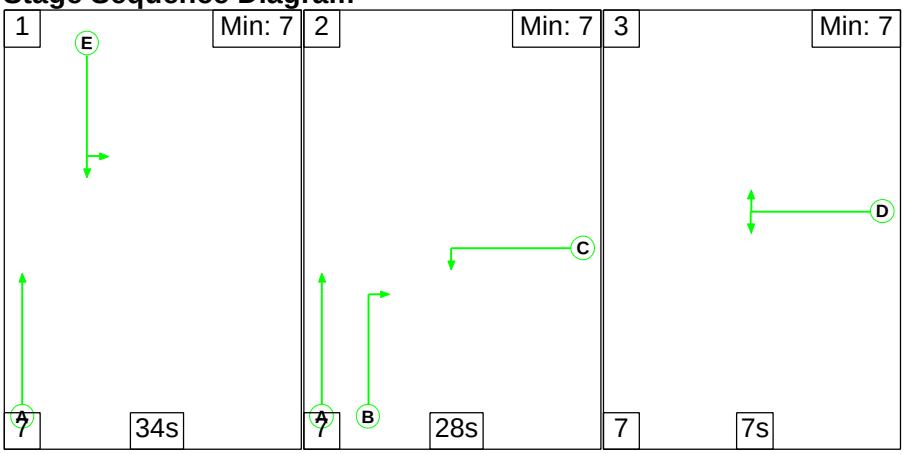
PRC for Signalled Lanes (%): 15.0
PRC Over All Lanes (%): 15.0

Total Delay for Signalled Lanes (pcuHr): 16.73
Total Delay Over All Lanes(pcuHr): 16.73

Cycle Time (s): 90

Scenario 5: '2025 + CD PM' (FG14: '2025 + CD PM', Plan 1: 'Network Control Plan 1')

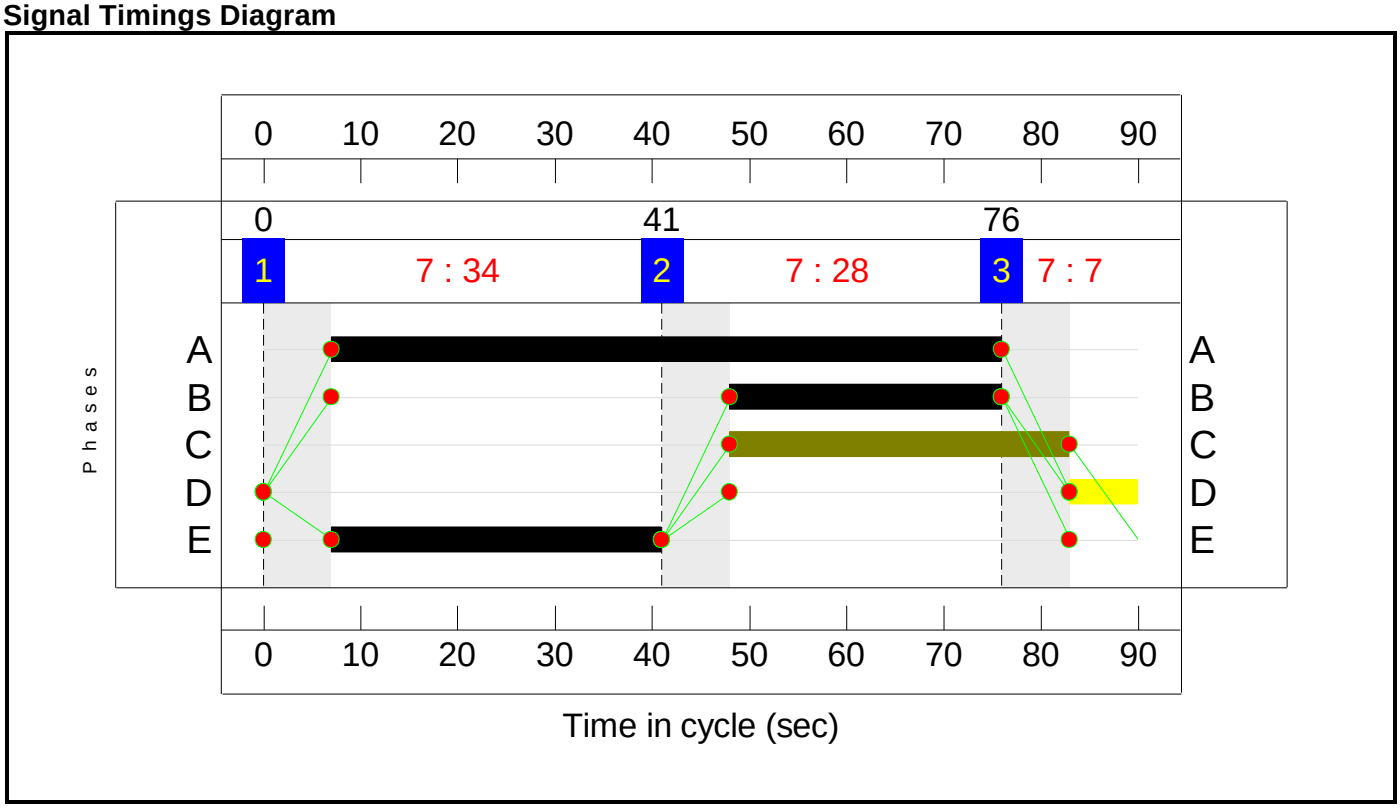
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	34	28	7
Change Point	0	41	76

Signal Timings Diagram



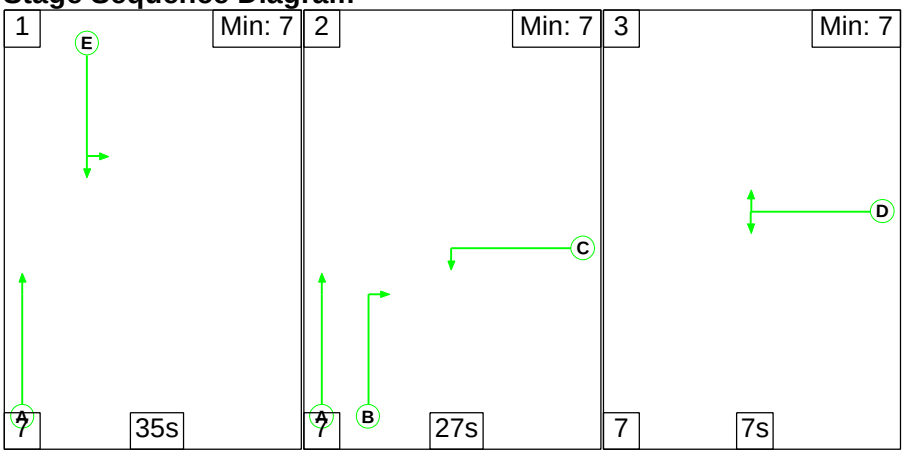
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**81.0%**	**0**	**0**	**0**	**17.0**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**81.0%**	**0**	**0**	**0**	**17.0**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	34	-	662	2095:1749	572+246	81.0 : 81.0%	-	-	-	6.4	34.9	15.7
2/2+2/1	Bartons Road Right Left	U	D	C	1	7:42	35	557	1953:1743	174+576	74.3 : 74.3%	-	-	-	4.8	31.0	9.5
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:28	-	812	1940:1849	425+596	79.6 : 79.6%	-	-	-	5.8	25.8	12.7

C1 PRC for Signalled Lanes (%): 11.1 Total Delay for Signalled Lanes (pcuHr): 17.03 Cycle Time (s): 90
PRC Over All Lanes (%): 11.1 Total Delay Over All Lanes(pcuHr): 17.03

Scenario 6: '2025 + CD Sat' (FG15: '2025 + CD Sat', Plan 1: 'Network Control Plan 1')

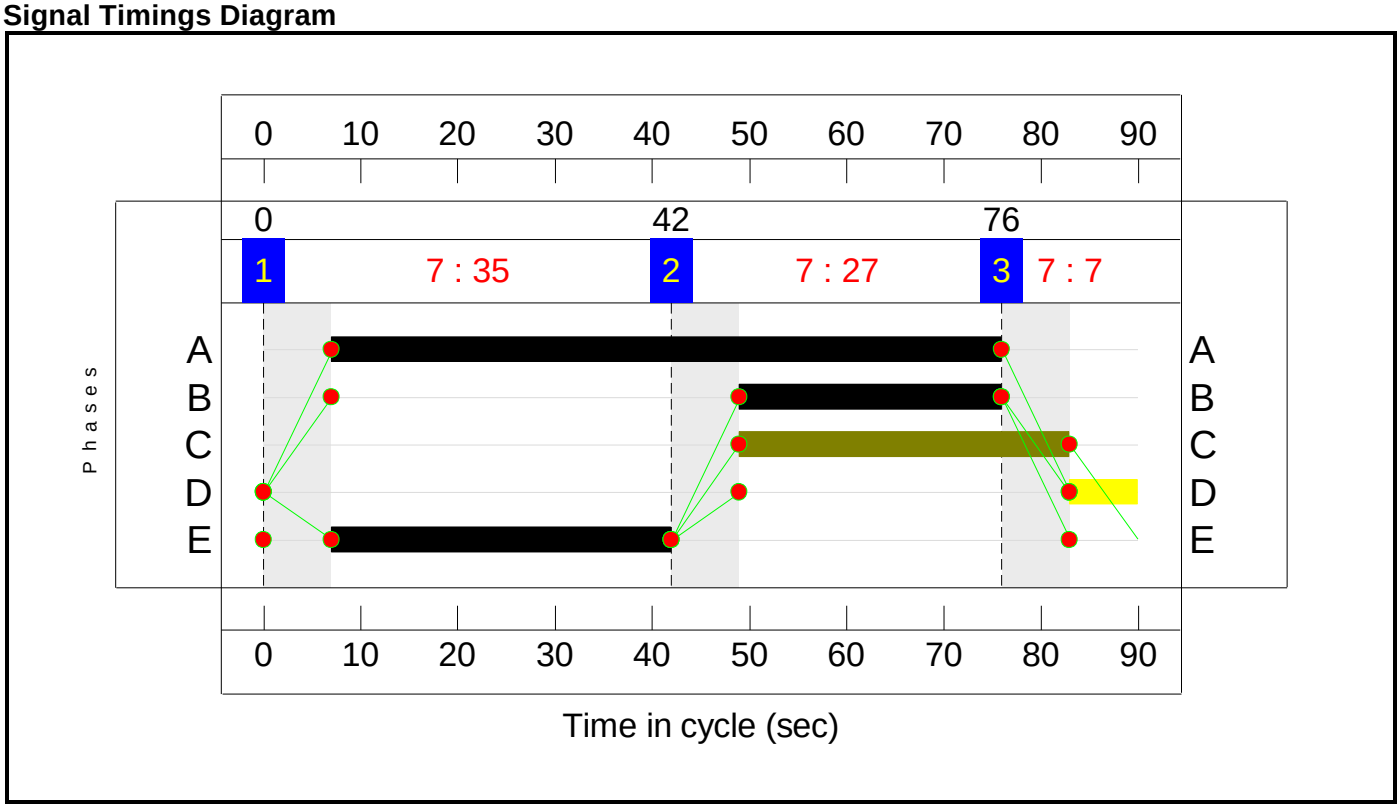
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	35	27	7
Change Point	0	42	76

Signal Timings Diagram



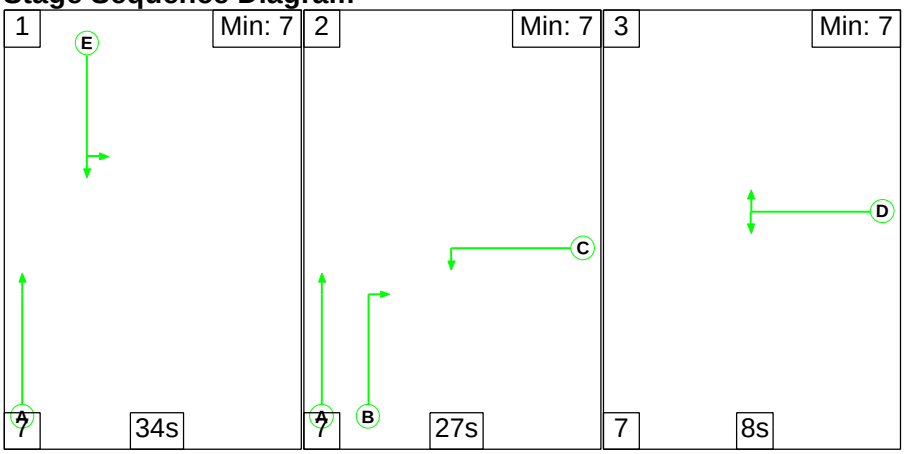
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.0%**	**0**	**0**	**0**	**16.8**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.0%**	**0**	**0**	**0**	**16.8**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	35	-	657	2095:1749	591+248	78.3 : 78.3%	-	-	-	5.9	32.4	15.0
2/2+2/1	Bartons Road Right Left	U	D	C	1	7:41	34	565	1953:1743	174+569	76.0 : 76.0%	-	-	-	5.1	32.4	10.1
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:27	-	798	1940:1849	423+575	80.0 : 80.0%	-	-	-	5.8	26.4	12.4

C1 PRC for Signalled Lanes (%): 12.5 Total Delay for Signalled Lanes (pcuHr): 16.83 Cycle Time (s): 90
PRC Over All Lanes (%): 12.5 Total Delay Over All Lanes(pcuHr): 16.83

Scenario 7: '2025 + CD + PD AM' (FG19: '2025 + CD + PD AM', Plan 1: 'Network Control Plan 1')

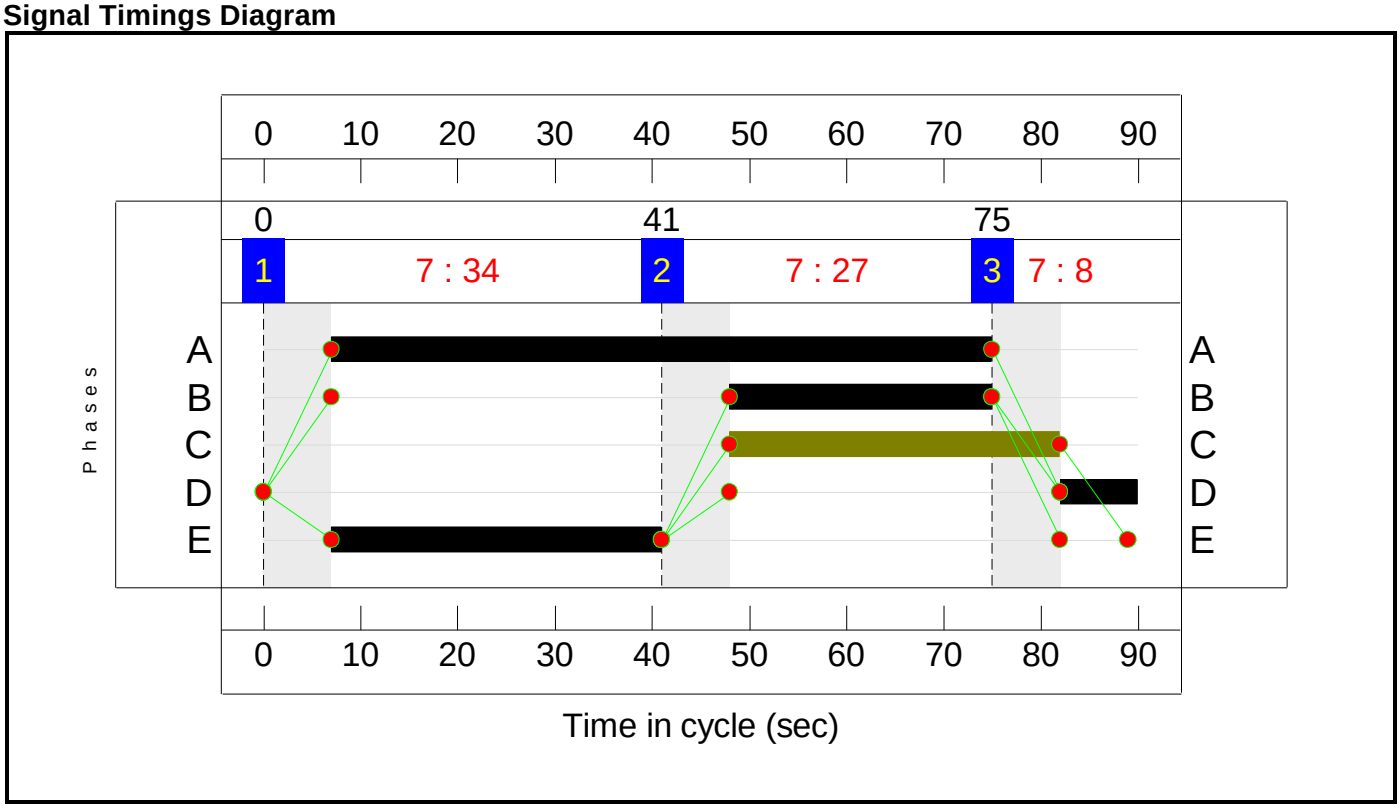
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	34	27	8
Change Point	0	41	75

Signal Timings Diagram



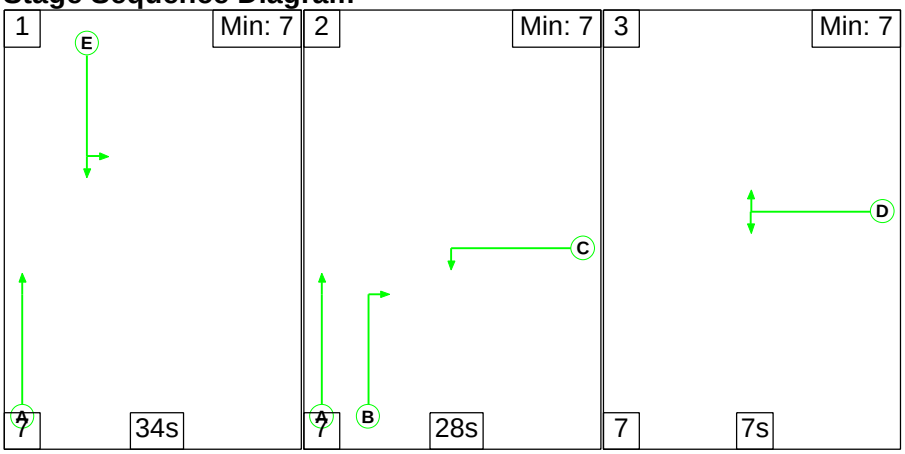
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.3%**	**0**	**0**	**0**	**17.1**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.3%**	**0**	**0**	**0**	**17.1**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	34	-	656	2095:1749	577+240	80.3 : 80.3%	-	-	-	6.3	34.4	15.5
2/2+2/1	Bartons Road Right Left	U	D	C	1	8:42	34	608	1953:1743	195+647	72.2 : 72.2%	-	-	-	5.0	29.6	10.8
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	68:27	-	796	1940:1849	425+575	79.6 : 79.6%	-	-	-	5.8	26.3	12.3

C1 PRC for Signalled Lanes (%): 12.1 Total Delay for Signalled Lanes (pcuHr): 17.08 Cycle Time (s): 90
PRC Over All Lanes (%): 12.1 Total Delay Over All Lanes(pcuHr): 17.08

Scenario 8: '2025 + CD + PD PM' (FG20: '2025 + CD + PD PM', Plan 1: 'Network Control Plan 1')

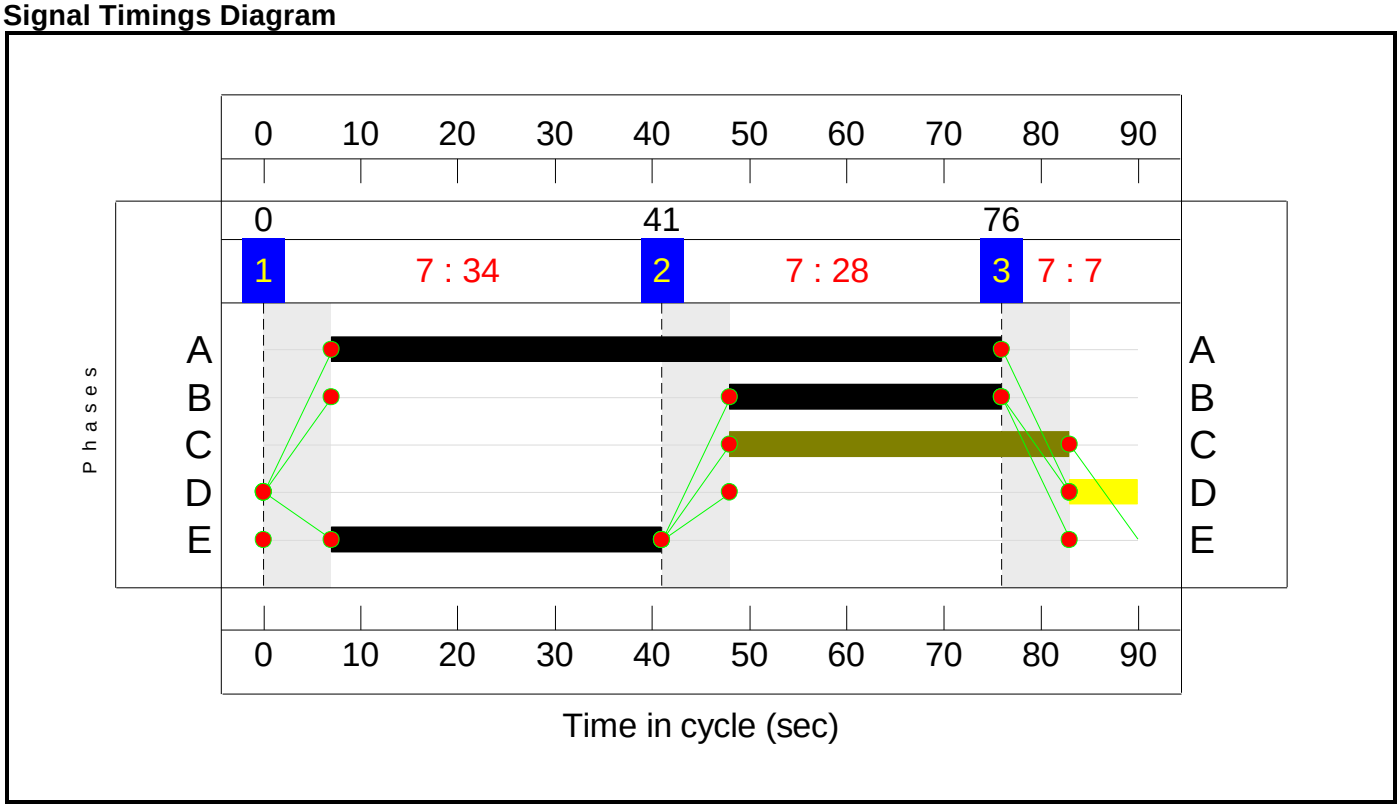
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	34	28	7
Change Point	0	41	76

Signal Timings Diagram



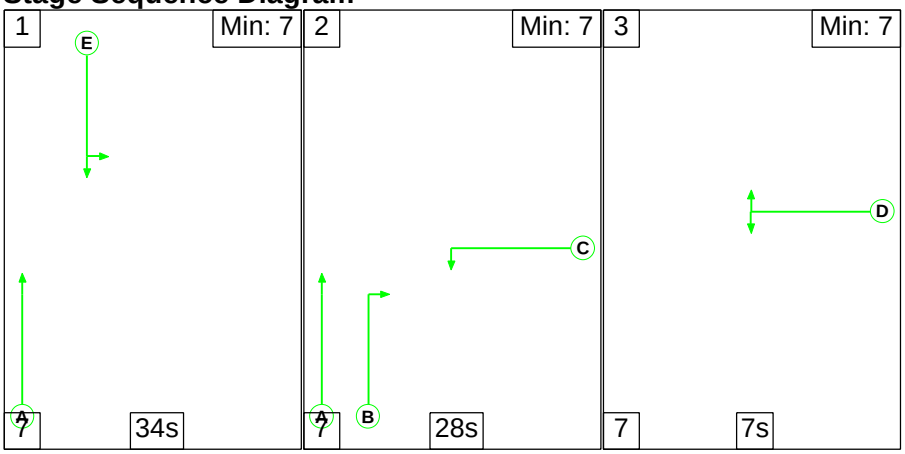
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**83.1%**	**0**	**0**	**0**	**18.1**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**83.1%**	**0**	**0**	**0**	**18.1**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	34	-	667	2095:1749	568+250	81.6 : 81.6%	-	-	-	6.5	35.3	15.9
2/2+2/1	Bartons Road Right Left	U	D	C	1	7:42	35	572	1953:1743	174+579	76.0 : 76.0%	-	-	-	5.0	31.7	10.1
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:28	-	833	1940:1849	407+596	83.1 : 83.1%	-	-	-	6.5	28.2	13.8

C1 PRC for Signalled Lanes (%): 8.3 Total Delay for Signalled Lanes (pcuHr): 18.10 Cycle Time (s): 90
PRC Over All Lanes (%): 8.3 Total Delay Over All Lanes(pcuHr): 18.10

Scenario 9: '2025 + CD + PD Sat' (FG21: '2025 + CD + PD Sat', Plan 1: 'Network Control Plan 1')

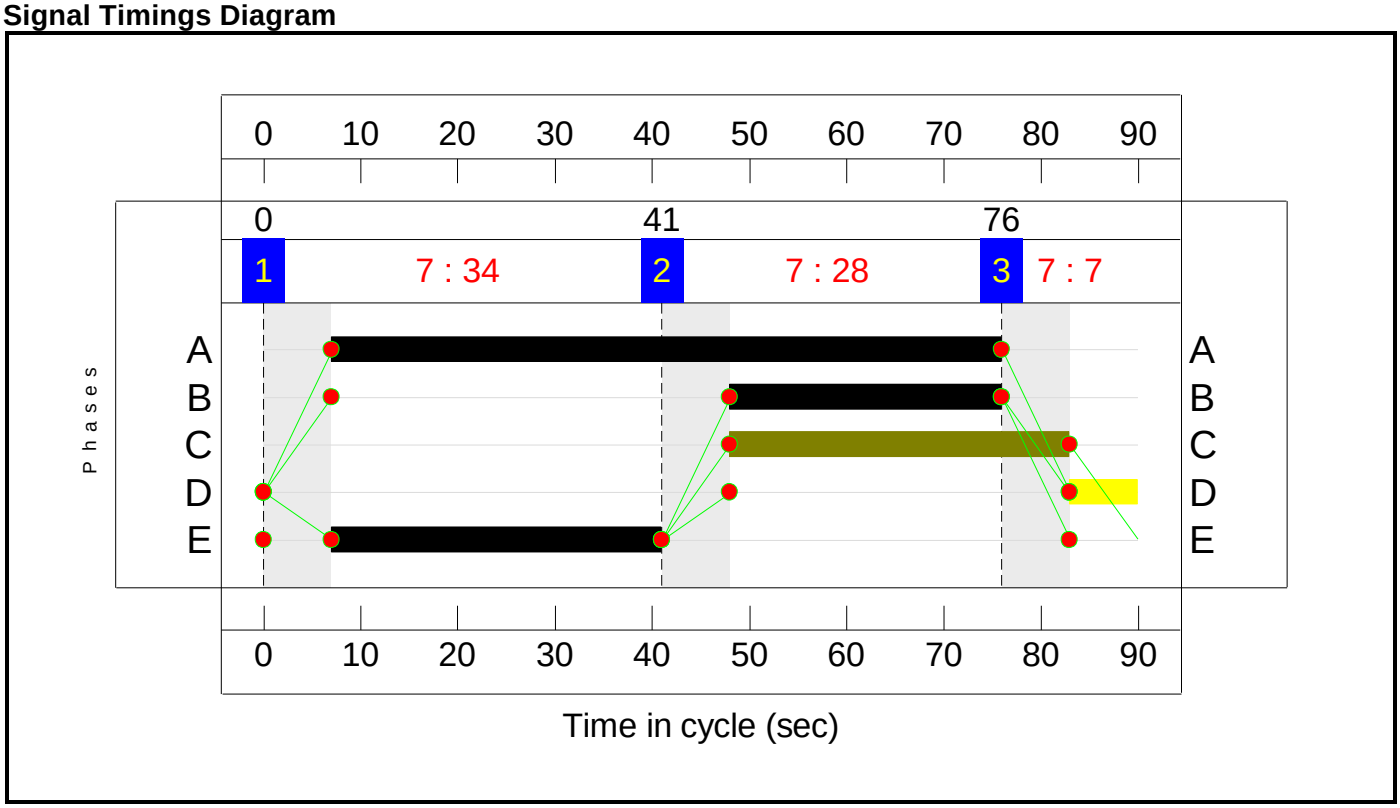
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	34	28	7
Change Point	0	41	76

Signal Timings Diagram



Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.7%**	**0**	**0**	**0**	**17.5**	-	-
B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.7%**	**0**	**0**	**0**	**17.5**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E		1	34	-	660	2095:1749	573+244	80.7 : 80.7%	-	-	-	6.4	34.7	15.7
2/2+2/1	Bartons Road Right Left	U	D	C	1	7:42	35	586	1953:1743	174+574	78.3 : 78.3%	-	-	-	5.4	32.9	10.7
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:28	-	812	1940:1849	425+596	79.6 : 79.6%	-	-	-	5.8	25.8	12.7

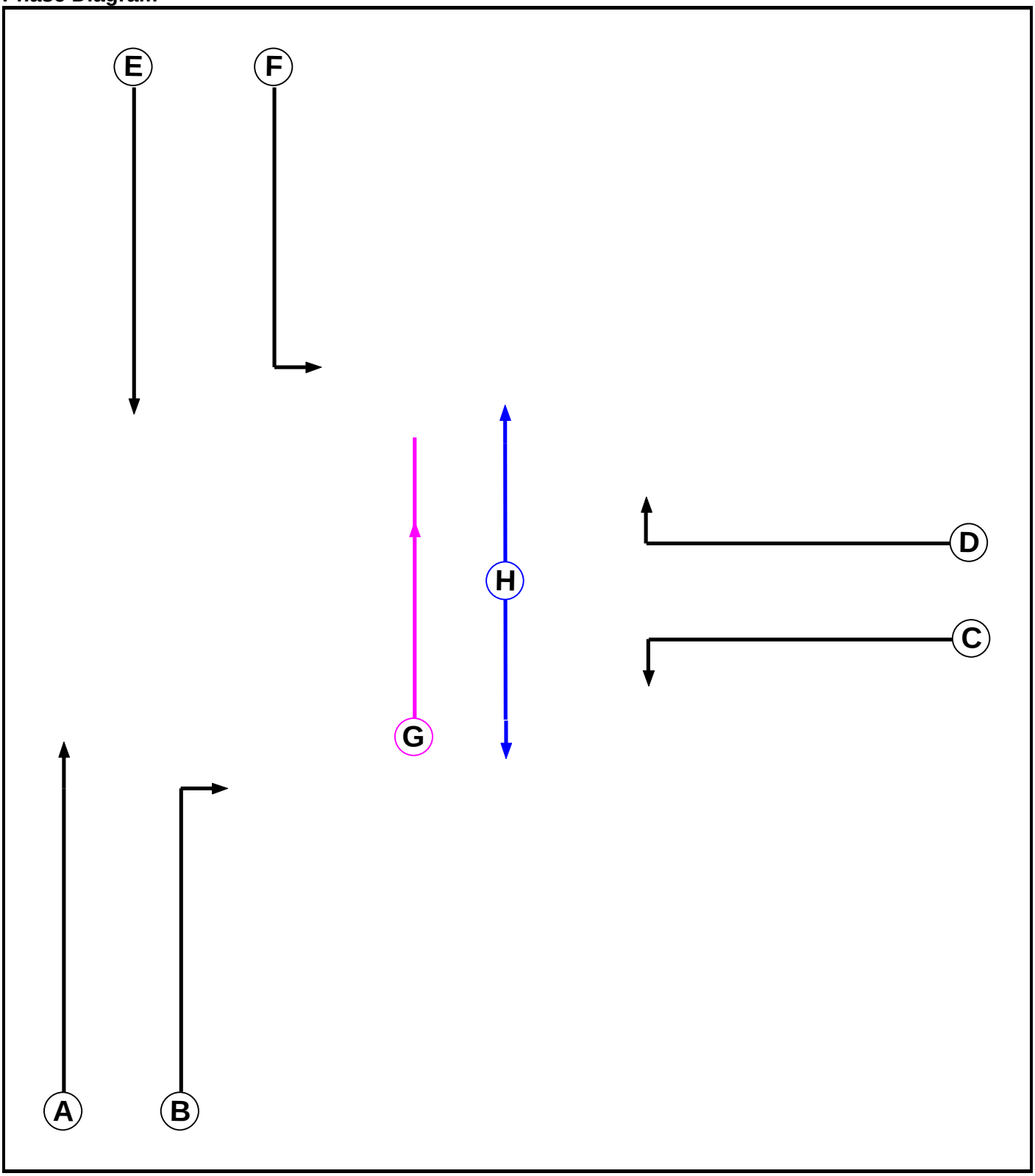
C1 PRC for Signalled Lanes (%): 11.5 Total Delay for Signalled Lanes (pcuHr): 17.55 Cycle Time (s): 90
PRC Over All Lanes (%): 11.5 Total Delay Over All Lanes(pcuHr): 17.55

Results Summary

User and Project Details

Project:	**Bartons Road, Havant**
Title:	**B2149 Petersfield Road/ Bartons Road**
Location:	
Additional detail:	
File name:	B2149 Petersfield Road_ Bartons Road Linsig Model - REVISED SCHEME.lsg3x
Author:	
Company:	
Address:	

Phase Diagram



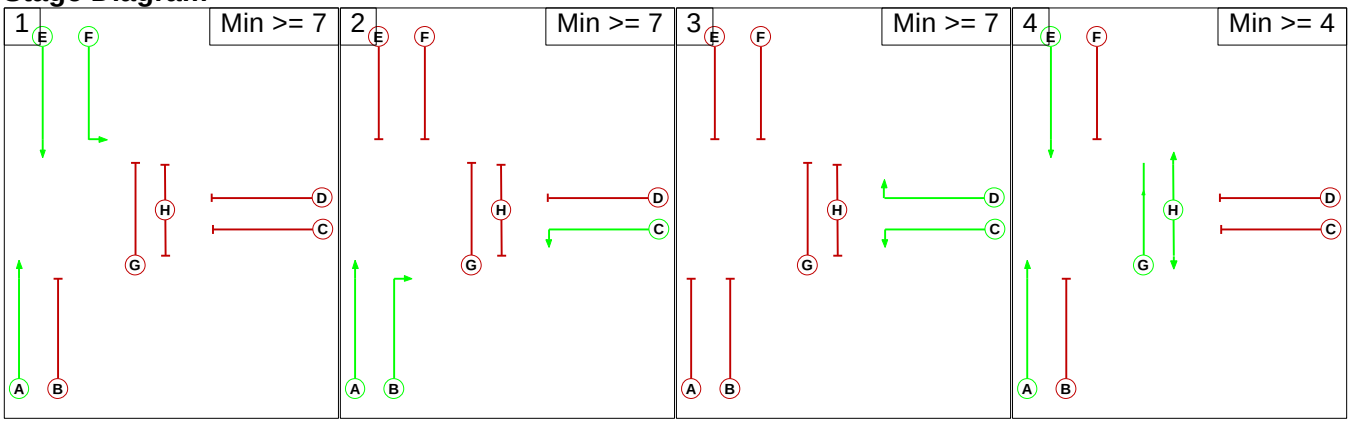
Phase Intergreens Matrix

Terminating Phase	Starting Phase								
		A	B	C	D	E	F	G	H
	A		-	-	7	-	-	-	-
	B	-		-	7	7	7	8	8
	C	-	-		-	7	-	5	5
	D	7	7	-		7	7	5	5
	E	-	7	7	7		-	-	-
	F	-	7	-	7	-		8	8
	G	-	13	13	13	-	13		-
	H	-	13	13	13	-	13	-	

Phases in Stage

Stage No.	Phases in Stage
1	A E F
2	A B C
3	C D
4	A E G H

Stage Diagram



Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2025 Sat'	12:30	13:30	01:00	
2: 'CD1 Sat (Linden Homes)'	12:30	13:30	01:00	
3: 'CD2 Sat (Land South of Bartons Road)'	12:30	13:30	01:00	
4: 'CD3 Sat (Land West of Havant Crematorium)'	12:30	13:30	01:00	
5: '2025 + CD Sat'	12:30	13:30	01:00	F1+F2+F3+F4
6: 'PD1 Sat Residential'	12:30	13:30	01:00	
7: '2025 + CD + PD Sat'	12:30	13:30	01:00	F5+F6
8: '2025 AM'	08:00	09:00	01:00	
9: 'CD1 AM (Linden Homes)'	08:00	09:00	01:00	
10: 'CD2 AM (Land South of Bartons Road)'	08:00	09:00	01:00	
11: 'CD3 AM (Land West of Havant Crematorium)'	08:00	09:00	01:00	
12: '2025 + CD AM'	08:00	09:00	01:00	F8 + F9 + F10 + F11
13: 'PD1 AM Residential'	08:00	09:00	01:00	
14: '2025 + CD + PD AM'	08:00	09:00	01:00	F12 + F13
15: '2025 PM'	17:00	18:00	01:00	
16: 'CD1 PM (Linden Homes)'	17:00	18:00	01:00	
17: 'CD2 PM (Land South of Bartons Road)'	17:00	18:00	01:00	
18: 'CD3 PM (Land West of Havant Crematorium)'	17:00	18:00	01:00	
19: '2025 + CD PM'	17:00	18:00	01:00	F15 + F16 + F17 + F18
20: 'PD1 PM Residential'	17:00	18:00	01:00	
21: '2025 + CD + PD PM'	17:00	18:00	01:00	F19 + F20

Traffic Flows, Desired

FG1: '2025 Sat'

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	489	28	518	0	1035
	B	382	0	0	109	0	491
	C	33	0	0	8	0	41
	D	591	101	6	0	0	698
	E	0	0	0	0	0	0
	Tot.	1006	590	34	635	0	2265

FG2: 'CD1 Sat (Linden Homes)'

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	0	0	0	0	0
	B	0	0	0	1	0	1
	C	0	0	0	0	0	0
	D	1	0	0	0	0	1
	E	0	0	0	0	0	0
	Tot.	1	0	0	1	0	2

FG3: 'CD2 Sat (Land South of Bartons Road)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	17	0	17
	B	0	0	0	6	0	6
Origin	C	0	0	0	0	0	0
	D	18	7	0	0	0	25
	E	0	0	0	0	0	0
	Tot.	18	7	0	23	0	48

FG4: 'CD3 Sat (Land West of Havant Crematorium)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	6	0	6
	B	0	0	0	2	0	2
Origin	C	0	0	0	0	0	0
	D	7	3	0	0	0	10
	E	0	0	0	0	0	0
	Tot.	7	3	0	8	0	18

FG5: '2025 + CD Sat'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	489	28	541	0	1058
	B	382	0	0	118	0	500
Origin	C	33	0	0	8	0	41
	D	617	111	6	0	0	734
	E	0	0	0	0	0	0
	Tot.	1032	600	34	667	0	2333

FG6: 'PD1 Sat Residential'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	0	14	14
	B	0	0	0	0	3	3
Origin	C	0	0	0	0	0	0
	D	0	0	0	0	4	4
	E	17	4	0	5	0	26
	Tot.	17	4	0	5	21	47

FG7: '2025 + CD + PD Sat'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	489	28	541	14	1072
	B	382	0	0	118	3	503
Origin	C	33	0	0	8	0	41
	D	617	111	6	0	4	738
	E	17	4	0	5	0	26
	Tot.	1049	604	34	672	21	2380

FG8: '2025 AM'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	338	11	426	0	775
	B	463	0	0	186	0	649
Origin	C	25	0	0	5	0	30
	D	383	122	4	0	0	509
	E	0	0	0	0	0	0
	Tot.	871	460	15	617	0	1963

FG9: 'CD1 AM (Linden Homes)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	0	0	0
	B	0	0	0	1	0	1
Origin	C	0	0	0	0	0	0
	D	1	0	0	0	0	1
	E	0	0	0	0	0	0
	Tot.	1	0	0	1	0	2

FG10: 'CD2 AM (Land South of Bartons Road)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	9	0	9
	B	0	0	0	3	0	3
Origin	C	0	0	0	0	0	0
	D	24	9	0	0	0	33
	E	0	0	0	0	0	0
	Tot.	24	9	0	12	0	45

FG11: 'CD3 AM (Land West of Havant Crematorium)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	0	0	4	0	4
	B	0	0	0	1	0	1
	C	0	0	0	0	0	0
	D	10	4	0	0	0	14
	E	0	0	0	0	0	0
	Tot.	10	4	0	5	0	19

FG12: '2025 + CD AM'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	338	11	439	0	788
	B	463	0	0	191	0	654
	C	25	0	0	5	0	30
	D	418	135	4	0	0	557
	E	0	0	0	0	0	0
	Tot.	906	473	15	635	0	2029

FG13: 'PD1 AM Residential'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	0	0	0	8	8
	B	0	0	0	0	2	2
	C	0	0	0	0	0	0
	D	0	0	0	0	2	2
	E	24	6	0	7	0	37
	Tot.	24	6	0	7	12	49

FG14: '2025 + CD + PD AM'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	338	11	439	8	796
	B	463	0	0	191	2	656
	C	25	0	0	5	0	30
	D	418	135	4	0	2	559
	E	24	6	0	7	0	37
	Tot.	930	479	15	642	12	2078

FG15: '2025 PM'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	535	38	389	0	962
	B	339	0	0	104	0	443
Origin	C	15	0	0	7	0	22
	D	543	176	6	0	0	725
	E	0	0	0	0	0	0
	Tot.	897	711	44	500	0	2152

FG16: 'CD1 PM (Linden Homes)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	1	0	1
	B	0	0	0	0	0	0
Origin	C	0	0	0	0	0	0
	D	1	0	0	0	0	1
	E	0	0	0	0	0	0
	Tot.	1	0	0	1	0	2

FG17: 'CD2 PM (Land South of Bartons Road)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	27	0	27
	B	0	0	0	10	0	10
Origin	C	0	0	0	0	0	0
	D	15	5	0	0	0	20
	E	0	0	0	0	0	0
	Tot.	15	5	0	37	0	57

FG18: 'CD3 PM (Land West of Havant Crematorium)'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	9	0	9
	B	0	0	0	3	0	3
Origin	C	0	0	0	0	0	0
	D	5	2	0	0	0	7
	E	0	0	0	0	0	0
	Tot.	5	2	0	12	0	19

FG19: '2025 + CD PM'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	535	38	426	0	999
	B	339	0	0	117	0	456
Origin	C	15	0	0	7	0	22
	D	564	183	6	0	0	753
	E	0	0	0	0	0	0
	Tot.	918	718	44	550	0	2230

FG20: 'PD1 PM Residential'
Desired Flow :

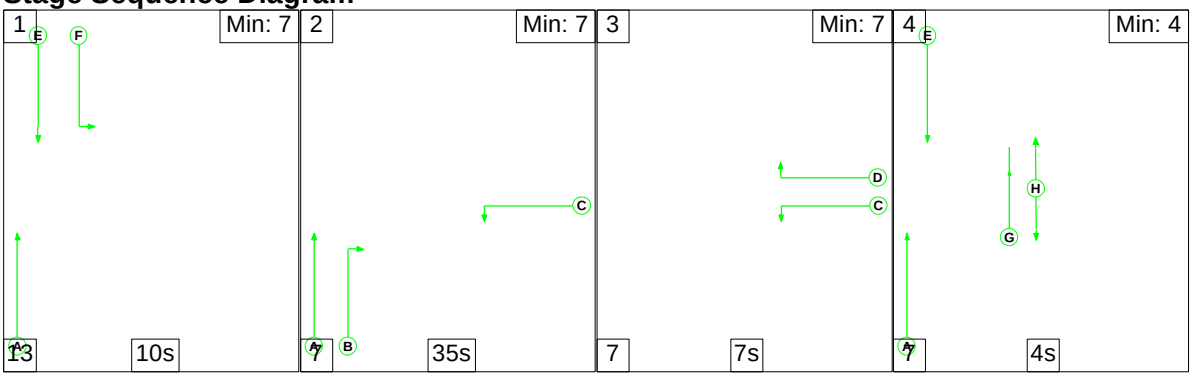
		Destination					
		A	B	C	D	E	Tot.
	A	0	0	0	0	21	21
	B	0	0	0	0	5	5
Origin	C	0	0	0	0	0	0
	D	0	0	0	0	6	6
	E	12	3	0	4	0	19
	Tot.	12	3	0	4	32	51

FG21: '2025 + CD + PD PM'
Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
	A	0	535	38	426	21	1020
	B	339	0	0	117	5	461
Origin	C	15	0	0	7	0	22
	D	564	183	6	0	6	759
	E	12	3	0	4	0	19
	Tot.	930	721	44	554	32	2281

Scenario 1: '2025 + CD + PD Sat' (FG7: '2025 + CD + PD Sat', Plan 1: 'Network Control Plan 1')

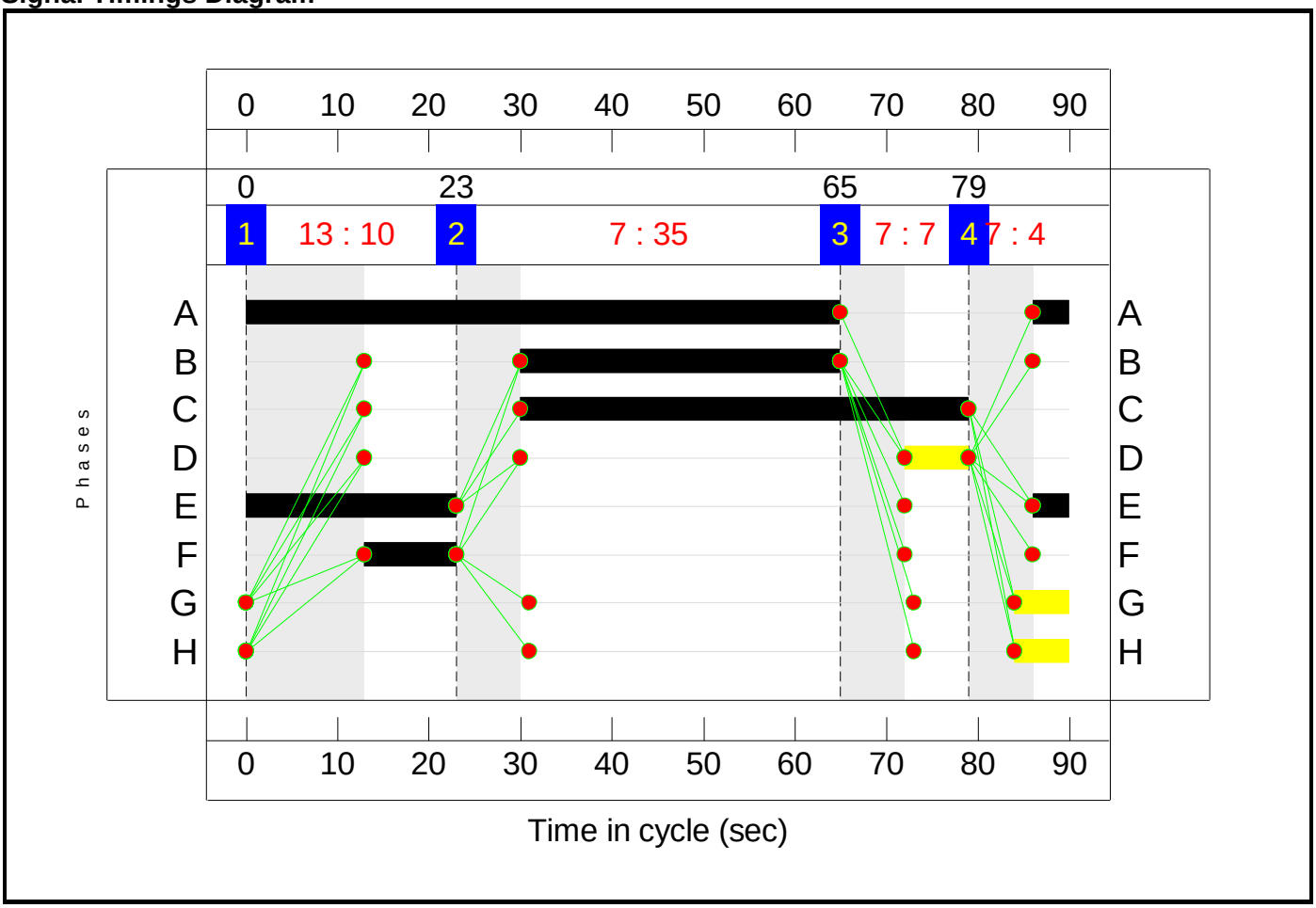
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	10	35	7	4
Change Point	0	23	65	79

Signal Timings Diagram



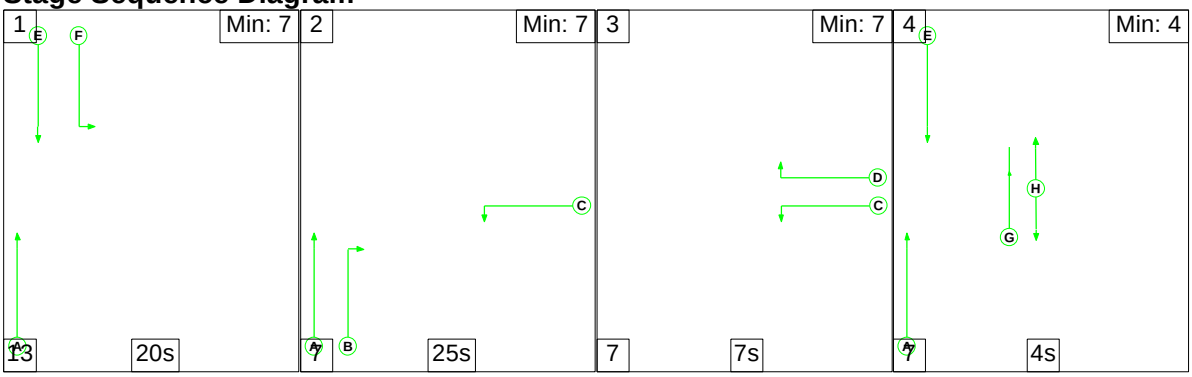
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.8%**	**90**	**0**	**0**	**18.5**	-	-
J1: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**80.8%**	**0**	**0**	**0**	**17.8**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E F		1	27:10	-	503	2095:1749	473+150	80.8 : 80.8%	-	-	-	6.0	43.2	12.7
2/1+2/2	Bartons Road Right Left	U	C D		1	49:7	-	782	1743:1953	877+151	76.0 : 76.0%	-	-	-	5.6	25.6	15.3
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:35	-	1072	1940:1849	610+727	80.2 : 80.2%	-	-	-	6.2	20.9	14.6
J2: Bartons Road/ Knightwood Avenue	-	-	-		-	-	-	-	-	-	**39.4%**	**47**	**0**	**0**	**0.4**	-	-
1/1	Knightwood Avenue Left Right	O	-		-	-	-	41	1637	328	12.5%	41	0	0	0.1	6.3	0.1
2/1+2/2	Bartons Road (E) Right Ahead	U+O	-		-	-	-	755	1915:1787	1899+15	39.4 : 39.4%	6	0	0	0.3	1.6	0.3
J3: Bartons Road/ Site Access	-	-	-		-	-	-	-	-	-	**35.9%**	**43**	**0**	**0**	**0.3**	-	-
2/1	Site Access Right Left	O	-		-	-	-	26	1736	376	6.9%	26	0	0	0.0	5.1	0.0
3/1+3/2	Bartons Road (W) Ahead Right	U+O	-		-	-	-	684	1915:1665	1860+47	35.9 : 35.9%	17	0	0	0.3	1.5	0.3

C1 PRC for Signalled Lanes (%): 11.4 Total Delay for Signalled Lanes (pcuHr): 17.81 Cycle Time (s): 90
PRC Over All Lanes (%): 11.4 Total Delay Over All Lanes(pcuHr): 18.53

Scenario 2: '2025 + CD + PD AM' (FG14: '2025 + CD + PD AM', Plan 1: 'Network Control Plan 1')

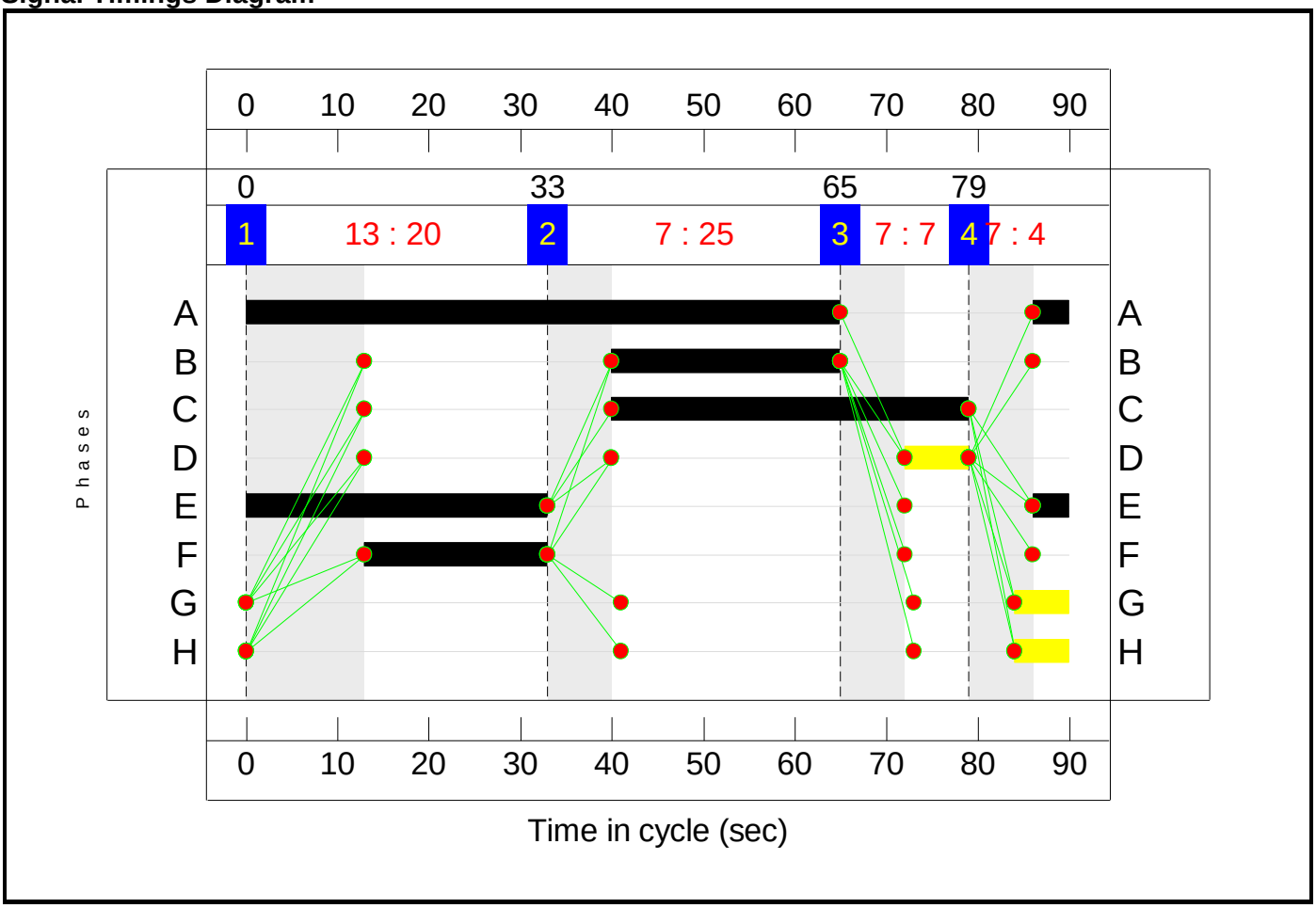
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	20	25	7	4
Change Point	0	33	65	79

Signal Timings Diagram



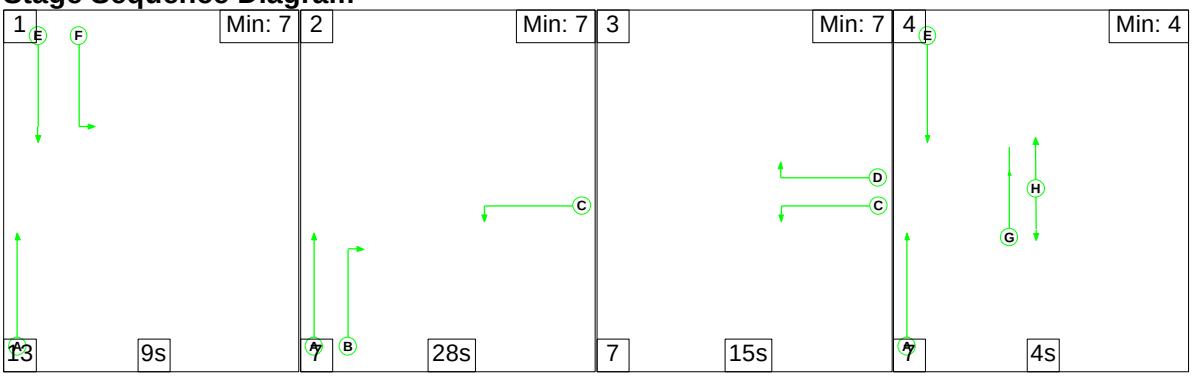
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**85.7%**	**81**	**0**	**0**	**20.7**	-	-
J1: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**85.7%**	**0**	**0**	**0**	**20.1**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E F		1	37:20	-	656	2095:1749	549+229	84.3 : 84.3%	-	-	-	6.9	38.1	16.3
2/1+2/2	Bartons Road Right Left	U	C D		1	39:7	-	608	1743:1953	575+174	81.2 : 81.2%	-	-	-	6.2	36.5	12.6
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	69:25	-	796	1940:1849	394+534	85.7 : 85.7%	-	-	-	7.0	31.6	13.7
J2: Bartons Road/ Knightwood Avenue	-	-	-		-	-	-	-	-	-	**30.7%**	**34**	**0**	**0**	**0.3**	-	-
1/1	Knightwood Avenue Left Right	O	-		-	-	-	30	1641	368	8.2%	30	0	0	0.0	5.3	0.0
2/1+2/2	Bartons Road (E) Right Ahead	U+O	-		-	-	-	587	1915:1787	1901+13	30.7 : 30.7%	4	0	0	0.2	1.4	0.2
J3: Bartons Road/ Site Access	-	-	-		-	-	-	-	-	-	**33.8%**	**47**	**0**	**0**	**0.3**	-	-
2/1	Site Access Right Left	O	-		-	-	-	37	1736	436	8.5%	37	0	0	0.0	4.5	0.0
3/1+3/2	Bartons Road (W) Ahead Right	U+O	-		-	-	-	645	1915:1665	1881+30	33.8 : 33.8%	10	0	0	0.3	1.4	0.3

C1 PRC for Signalled Lanes (%): 5.0 Total Delay for Signalled Lanes (pcuHr): 20.09 Cycle Time (s): 90
PRC Over All Lanes (%): 5.0 Total Delay Over All Lanes(pcuHr): 20.66

Scenario 3: '2025 + CD + PD PM' (FG21: '2025 + CD + PD PM', Plan 1: 'Network Control Plan 1')

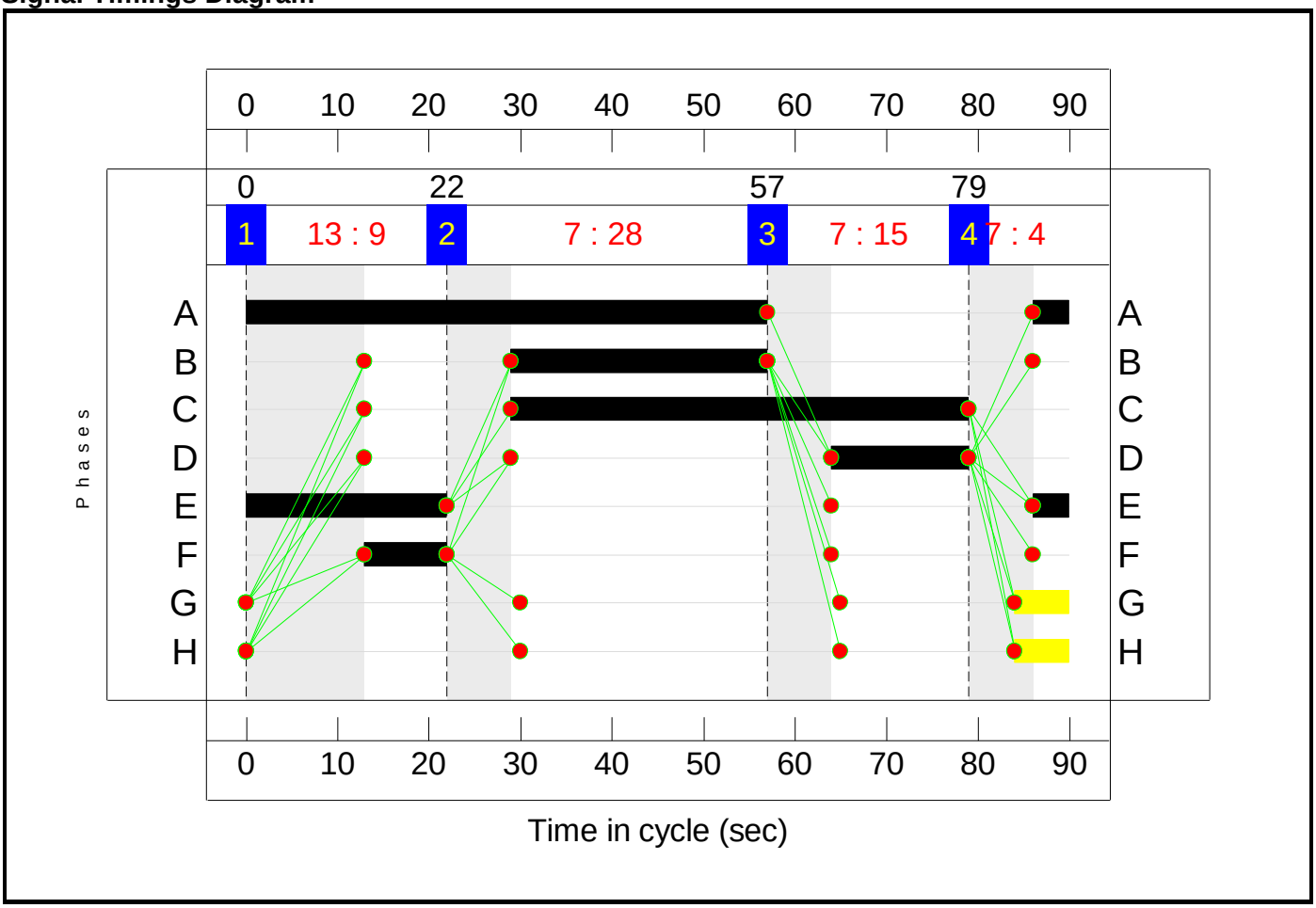
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	9	28	15	4
Change Point	0	22	57	79

Signal Timings Diagram



Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**83.8%**	**73**	**0**	**0**	**19.7**	-	-
J1: B2149 Petersfield Road/ Bartons Road	-	-	-		-	-	-	-	-	-	**83.8%**	**0**	**0**	**0**	**19.0**	-	-
1/2+1/1	Petersfield Road (N) Left Ahead	U	E F		1	26:9	-	461	2095:1749	418+150	81.2 : 81.2%	-	-	-	5.8	45.5	11.9
2/1+2/2	Bartons Road Right Left	U	C D		1	50:15	-	777	1743:1953	705+222	83.8 : 83.8%	-	-	-	6.4	29.6	14.5
3/1+3/2	Petersfield Road (S) Ahead Right	U	A B		1	61:28	-	1020	1940:1849	657+596	81.4 : 81.4%	-	-	-	6.8	24.1	13.2
J2: Bartons Road/ Knightwood Avenue	-	-	-		-	-	-	-	-	-	**40.1%**	**28**	**0**	**0**	**0.4**	-	-
1/1	Knightwood Avenue Left Right	O	-		-	-	-	22	1620	369	6.0%	22	0	0	0.0	5.2	0.0
2/1+2/2	Bartons Road (E) Right Ahead	U+O	-		-	-	-	768	1915:1787	1899+15	40.1 : 40.1%	6	0	0	0.3	1.6	0.3
J3: Bartons Road/ Site Access	-	-	-		-	-	-	-	-	-	**30.3%**	**45**	**0**	**0**	**0.2**	-	-
2/1	Site Access Right Left	O	-		-	-	-	19	1738	374	5.1%	19	0	0	0.0	5.1	0.0
3/1+3/2	Bartons Road (W) Ahead Right	U+O	-		-	-	-	576	1915:1665	1816+86	30.3 : 30.3%	26	0	0	0.2	1.4	0.2

C1 PRC for Signalled Lanes (%): 7.4 Total Delay for Signalled Lanes (pcuHr): 19.04 Cycle Time (s): 90
PRC Over All Lanes (%): 7.4 Total Delay Over All Lanes(pcuHr): 19.65

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
© Copyright TRL Limited, 2017

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Bartons Road_ Site Access - SATURDAY.j9
Path: W:\Projects\Fareham\100-109\106 Chapman Lily Planning\106.0019 Bartons Road, Havant\Modelling
Report generation date: 15/09/2021 12:58:56

»Proposed Layout - 2025 + CD + PD, SAT
»Proposed Layout - 2025 + CD + PD, AM
»Proposed Layout - 2025 + CD + PD, PM

Summary of junction performance

	SAT						AM						PM					
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Netw Resi Capa
	Proposed Layout - 2025 + CD + PD																	
Stream B-AC	0.1	10.70	0.08	B	0.29	59 % [Stream B-AC]	0.1	9.27	0.09	A	0.34	95 % [Stream B-AC]	0.1	10.39	0.06	B	0.31	67 [Stre B-A
Stream C-AB	0.0	8.25	0.04	A			0.0	7.22	0.02	A			0.1	8.46	0.06	A		

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

File summary

File Description

Title	Bartons Road/ Site Access
Location	
Site number	
Date	18/12/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AD\CAD.PC
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			ü	RFC	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025 + CD + PD	SAT	ONE HOUR	12:15	13:45	15	ü
D2	2025 + CD + PD	AM	ONE HOUR	07:45	09:15	15	ü
D3	2025 + CD + PD	PM	ONE HOUR	16:45	18:15	15	ü

Analysis Set Details

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

Proposed Layout - 2025 + CD + PD, SAT

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Bartons Road/ Site Access	T-Junction	Two-way	0.29	A

Junction Network Options

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

Arms

Arms

Arm	Name	Description	Arm type
A	Bartons Road East		Major
B	Site Access		Minor
C	Bartons Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Bartons Road West	6.00		ü	3.00	75.0	ü	3.00

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 - Site Access	One lane	3.00	80	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	528	0.096	0.243	0.153	0.348
1	B-C	655	0.100	0.254	-	-
1	C-B	671	0.260	0.260	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2025 + CD + PD	SAT	ONE HOUR	12:15	13:45	15	ü

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
ü	ü	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Bartons Road East		ONE HOUR	ü	755	100.000
B - Site Access		ONE HOUR	ü	27	100.000
C - Bartons Road West		ONE HOUR	ü	697	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0	4	751
	B - Site Access	5	0	22
	C - Bartons Road West	680	17	0

Proportions

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0.00	0.01	0.99
	B - Site Access	0.19	0.00	0.81
	C - Bartons Road West	0.98	0.02	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0	0	1
	B - Site Access	0	0	0
	C - Bartons Road West	1	0	0

Average PCU Per Veh

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	1.000	1.000	1.010
	B - Site Access	1.000	1.000	1.000
	C - Bartons Road West	1.010	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
12:15-12:30	A - Bartons Road East	568	568
	B - Site Access	20	20
	C - Bartons Road West	525	525
12:30-12:45	A - Bartons Road East	679	679
	B - Site Access	24	24
	C - Bartons Road West	627	627
12:45-13:00	A - Bartons Road East	831	831
	B - Site Access	30	30
	C - Bartons Road West	767	767
13:00-13:15	A - Bartons Road East	831	831
	B - Site Access	30	30
	C - Bartons Road West	767	767
13:15-13:30	A - Bartons Road East	679	679
	B - Site Access	24	24
	C - Bartons Road West	627	627
13:30-13:45	A - Bartons Road East	568	568
	B - Site Access	20	20
	C - Bartons Road West	525	525

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	10.70	0.1	B	25	37
C-AB	0.04	8.25	0.0	A	16	23
C-A					624	936
A-B					4	6
A-C					689	1034

Main Results for each time segment

12:15 - 12:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	20	5	456	0.045	20	0.0	0.0	8.262	A
C-AB	13	3	523	0.024	13	0.0	0.0	7.050	A
C-A	512	128			512				
A-B	3	0.75			3				
A-C	565	141			565				

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	24	6	419	0.058	24	0.0	0.1	9.106	A
C-AB	15	4	495	0.031	15	0.0	0.0	7.508	A
C-A	611	153			611				
A-B	4	0.90			4				
A-C	675	169			675				

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	30	7	366	0.081	30	0.1	0.1	10.694	B
C-AB	19	5	455	0.041	19	0.0	0.0	8.248	A
C-A	749	187			749				
A-B	4	1			4				
A-C	827	207			827				

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	30	7	366	0.081	30	0.1	0.1	10.701	B
C-AB	19	5	455	0.041	19	0.0	0.0	8.250	A
C-A	749	187			749				
A-B	4	1			4				
A-C	827	207			827				

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	24	6	419	0.058	24	0.1	0.1	9.113	A
C-AB	15	4	495	0.031	15	0.0	0.0	7.509	A
C-A	611	153			611				
A-B	4	0.90			4				
A-C	675	169			675				

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	20	5	456	0.045	20	0.1	0.0	8.273	A
C-AB	13	3	523	0.024	13	0.0	0.0	7.053	A
C-A	512	128			512				
A-B	3	0.75			3				
A-C	565	141			565				

Proposed Layout - 2025 + CD + PD, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Bartons Road/ Site Access	T-Junction	Two-way	0.34	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	95	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2025 + CD + PD	AM	ONE HOUR	07:45	09:15	15	ü

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
ü	ü	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Bartons Road East		ONE HOUR	ü	565	100.000
B - Site Access		ONE HOUR	ü	37	100.000
C - Bartons Road West		ONE HOUR	ü	628	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0	2	563
	B - Site Access	7	0	30
	C - Bartons Road West	618	10	0

Proportions

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0.00	0.00	1.00
	B - Site Access	0.19	0.00	0.81
	C - Bartons Road West	0.98	0.02	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0	0	1
	B - Site Access	0	0	0
	C - Bartons Road West	1	0	0

Average PCU Per Veh

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	1.000	1.000	1.010
	B - Site Access	1.000	1.000	1.000
	C - Bartons Road West	1.010	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	A - Bartons Road East	425	425
	B - Site Access	28	28
	C - Bartons Road West	473	473
08:00-08:15	A - Bartons Road East	508	508
	B - Site Access	33	33
	C - Bartons Road West	565	565
08:15-08:30	A - Bartons Road East	622	622
	B - Site Access	41	41
	C - Bartons Road West	691	691
08:30-08:45	A - Bartons Road East	622	622
	B - Site Access	41	41
	C - Bartons Road West	691	691
08:45-09:00	A - Bartons Road East	508	508
	B - Site Access	33	33
	C - Bartons Road West	565	565
09:00-09:15	A - Bartons Road East	425	425
	B - Site Access	28	28
	C - Bartons Road West	473	473

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.09	9.27	0.1	A	34	51
C-AB	0.02	7.22	0.0	A	9	14
C-A					567	851
A-B					2	3
A-C					517	775

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	28	7	495	0.056	28	0.0	0.1	7.693	A
C-AB	8	2	561	0.013	7	0.0	0.0	6.509	A
C-A	465	116			465				
A-B	2	0.38			2				
A-C	424	106			424				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	33	8	468	0.071	33	0.1	0.1	8.276	A
C-AB	9	2	539	0.017	9	0.0	0.0	6.790	A
C-A	556	139			556				
A-B	2	0.45			2				
A-C	506	127			506				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	41	10	429	0.095	41	0.1	0.1	9.266	A
C-AB	11	3	509	0.022	11	0.0	0.0	7.222	A
C-A	680	170			680				
A-B	2	0.55			2				
A-C	620	155			620				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	41	10	429	0.095	41	0.1	0.1	9.271	A
C-AB	11	3	509	0.022	11	0.0	0.0	7.222	A
C-A	680	170			680				
A-B	2	0.55			2				
A-C	620	155			620				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	33	8	468	0.071	33	0.1	0.1	8.284	A
C-AB	9	2	539	0.017	9	0.0	0.0	6.791	A
C-A	556	139			556				
A-B	2	0.45			2				
A-C	506	127			506				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	28	7	495	0.056	28	0.1	0.1	7.705	A
C-AB	8	2	561	0.013	8	0.0	0.0	6.511	A
C-A	465	116			465				
A-B	2	0.38			2				
A-C	424	106			424				

Proposed Layout - 2025 + CD + PD, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Bartons Road/ Site Access	T-Junction	Two-way	0.31	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	67	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 + CD + PD	PM	ONE HOUR	16:45	18:15	15	ü

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
ü	ü	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Bartons Road East		ONE HOUR	ü	759	100.000
B - Site Access		ONE HOUR	ü	20	100.000
C - Bartons Road West		ONE HOUR	ü	603	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0	6	753
	B - Site Access	4	0	16
	C - Bartons Road West	577	26	0

Proportions

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0.00	0.01	0.99
	B - Site Access	0.20	0.00	0.80
	C - Bartons Road West	0.96	0.04	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	0	0	1
	B - Site Access	0	0	0
	C - Bartons Road West	1	0	0

Average PCU Per Veh

		To		
		A - Bartons Road East	B - Site Access	C - Bartons Road West
From	A - Bartons Road East	1.000	1.000	1.010
	B - Site Access	1.000	1.000	1.000
	C - Bartons Road West	1.010	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A - Bartons Road East	571	571
	B - Site Access	15	15
	C - Bartons Road West	454	454
17:00-17:15	A - Bartons Road East	682	682
	B - Site Access	18	18
	C - Bartons Road West	542	542
17:15-17:30	A - Bartons Road East	836	836
	B - Site Access	22	22
	C - Bartons Road West	664	664
17:30-17:45	A - Bartons Road East	836	836
	B - Site Access	22	22
	C - Bartons Road West	664	664
17:45-18:00	A - Bartons Road East	682	682
	B - Site Access	18	18
	C - Bartons Road West	542	542
18:00-18:15	A - Bartons Road East	571	571
	B - Site Access	15	15
	C - Bartons Road West	454	454

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.06	10.39	0.1	B	18	28
C-AB	0.06	8.46	0.1	A	24	36
C-A					529	794
A-B					6	8
A-C					691	1036

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	15	4	455	0.033	15	0.0	0.0	8.174	A
C-AB	20	5	523	0.037	19	0.0	0.0	7.153	A
C-A	434	109			434				
A-B	5	1			5				
A-C	567	142			567				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	18	4	420	0.043	18	0.0	0.0	8.956	A
C-AB	23	6	494	0.047	23	0.0	0.0	7.652	A
C-A	519	130			519				
A-B	5	1			5				
A-C	677	169			677				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	22	6	368	0.060	22	0.0	0.1	10.389	B
C-AB	29	7	454	0.063	29	0.0	0.1	8.461	A
C-A	635	159			635				
A-B	7	2			7				
A-C	829	207			829				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	22	6	368	0.060	22	0.1	0.1	10.394	B
C-AB	29	7	454	0.063	29	0.1	0.1	8.463	A
C-A	635	159			635				
A-B	7	2			7				
A-C	829	207			829				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	18	4	420	0.043	18	0.1	0.0	8.961	A
C-AB	23	6	494	0.047	23	0.1	0.1	7.654	A
C-A	519	130			519				
A-B	5	1			5				
A-C	677	169			677				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	15	4	455	0.033	15	0.0	0.0	8.182	A
C-AB	20	5	523	0.037	20	0.1	0.0	7.160	A
C-A	434	109			434				
A-B	5	1			5				
A-C	567	142			567				