

Project	Barnham Eastergate Westergate (BEW) Parcel SC1 Barnham
Document Title or Subject	Pell Frischmann (PF) Response to National Highways comments
Document Reference	Response to National Highways Comments
Revision Reference	F2
Date	2022-05-11

1 Introduction

- 1.1.1 Pell Frischmann has been commissioned by C.C. Projects alongside Ashmarden Ltd and Hanbury (PM) Ltd (promoting the site together as 'The Southern Consortium') to provide transport planning and highways consultancy services in connection with a planning application for a strategic residential-led mixed use development on land forming part of the site allocation at Barnham/ Eastergate/ Westergate, (BEW), West Sussex.
- 1.1.2 Comments have been received from National Highways (National Highways reference SB398/94046/#16117) dated 14th April 2022, on the Transport Assessment (TA) written by Pell Frischmann dated 13th January 2022. This note addresses each of those comments in turn. The comments are included at Appendix A.

2 Trip Rates

- 2.1.1 National Highways request confirmation of "the origin of all TRICS trip rates".
- 2.1.2 The model which was prepared for use in this planning application was an update to the A29 business case model. The residential and care home trip rates used in the strategic modelling of the proposed development were, for consistency, the same as those used by WSP and WSCC in the A29 business case and this was agreed with WSCC. The trip rates sent to Pell Frischmann by WSP are contained at Appendix B to this Technical Note, and the residential and care home vehicle rates are contained in Table 5-1 and Table 5-6 respectively in the TA.
- 2.1.3 Pell Frischmann were asked by WSCC, as part of the TA Scoping process and model updating process, to provide trip rates for the primary school land use. The TRICS output file for this is included at Appendix C and the record of agreement of the rates and internalisation by WSCC is at Appendix D of this Technical Note.

3 Trip Distribution and Assignment

- 3.1.1 National Highways request further information on the trip distribution and assignment adopted in the assessment. The trip distribution used in the model for the BEW development was calculated by WSP from existing zones in the near vicinity of the site with similar land use. The assignment of trips was determined by the strategic traffic model and select link flow plots are included at Appendix E to this note.

4 TEMPro

- 4.1.1 National Highways comments note that, "due to the inability to undertake traffic surveys throughout the majority of 2020 and to date in 2021", traffic data for certain junctions within the modelling scope "was sourced from previously submitted planning applications for other developments in the area." The comments ask that confirmation be provided "of the TEMPro factors which have been applied for the factoring process for historical data, including the method of calculation applied".

4.1.2 It is noted that a survey was undertaken in 2019 and used for the assessment of the A27 / A259 Bognor Road Roundabout and therefore no TEMPro factor was required. The four other junctions where TEMPro was applied are summarised in Table 4-1. A spreadsheet of these TEMPro calculations has been PDFed and is attached in Appendix F. The following criteria were common to all of the TEMPro selections:

- Dataset 72
- Trip purpose definition: all purposes
- Transport mode: car driver
- Trip end type: origin and destination
- Time period: Weekday AM peak period (0700 – 0959) OR Weekday PM peak period (1600 – 1859)
- NTM dataset description: RTF 2018 Scenario 1 – Reference
- Road type: All road types

4.1.3 It is noted that the traffic flows used in the forecast years (2031 and 2038) do minimum and do something assessments are sourced from the strategic model.

Table 4-1: TEMPro parameters

TEMPro parameters	A27 / B2145 Whyke Roundabout	A27 / A25 Fontwell East Roundabout	A27 / A284 Ford Road Arundel	A27 / The Causeway Arundel
Area definition	MSOA Chichester 012	MSOA Arun 001	MSOA Arun 001	MSOA Arun 001
Starting year	2016	2017	2015	2015
Finishing year	2019	2019	2019	2019
AM factor	1.0309	1.0240	1.0498	1.0498
PM factor	1.0295	1.0238	1.0530	1.0530

5 Summary

5.1.1 This note provides responses to the queries raised by National Highways. We trust that this satisfactorily addresses these, but are happy to provide additional information/ clarifications where required or arrange a meeting if useful.

This report is to be regarded as confidential to our Client and is intended for their use only and may not be assigned except in accordance with the contract. Consequently, and in accordance with current practice, any liability to any third party in respect of the whole or any part of its contents is hereby expressly excluded, except to the extent that the report has been assigned in accordance with the contract. Before the report or any part of it is reproduced or referred to in any document, circular or statement and before its contents or the contents of any part of it are disclosed orally to any third party, our written approval as to the form and context of such a publication or disclosure must be obtained.

Report Ref. Response To National Highways Comments F2.Docx

File Path P:\133-1A13394-VAA Barnham Eastergate Westergate\0 Reports\National Highways response\Response to National Highways comments F2.DOCX

Rev	Sub	Description	Date	Originator	Checker	Approver
D1	-	Draft	26-Apr-22	PA	SM	PC
F1	-	Final	29-Apr-22	PA	SM	PC
F2	-	Final	11-May-22	PA	SM	PC

Ref reference Rev revision Sub suitability

Appendix A National Highways comments

To register to receive notification of planning applications in your area please go to
<https://www1.arun.gov.uk/planning-application-finder>

Sign up to our newsletter [here](#)



From: Bowie, David

Sent: 14 April 2022 17:16

Subject: BN/11/22/OUT - Barnham, Eastergate, Westergate BEW Parcel SC1 Barnham - Outline application with all matters reserved (except for the A29 Realignment) for the demolition of existing structures and mixed use development to provide residential dwellings (Us

CAUTION: This email originated from outside of the organisation. You should take extra care when clicking links or opening attachments - if you are unsure the content is safe contact the IT Helpdesk before clicking or opening.

For attention of:	Ms Claire Potts
Site:	Barnham, Eastergate, Westergate BEW Parcel SC1 Barnham
Proposal:	Outline application with all matters reserved (except for the A29 Realignment) for the provide residential dwellings (Use Class C3), Care Home/Senior Living Accommodation, landscaping, drainage and all other associated ancillary works; and realignment construction of a new road carriageway, junctions and associated infrastructure. This the setting of listed buildings, affects the character & appearance of the Eastergate C Way. This application is the subject of an Environmental Statement.
Your Reference:	BN/11/22/OUT

Dear Claire,

Thank you for your email of 16 February 2022 consulting National Highways (formerly as Highways England) on the application referenced above and seeking a response by 26 March 2022. As set out in our email dated 25 March 2022 we have now undertaken our review of the extensive volume of technical information provided in relation to this application.

Having reviewed the application material, we note that there are a number of matters requiring further clarification or information in order for us to be able to assess the implications of the proposal on the Strategic Road Network.

Until such time as the requirements are fully met, we will not be able to assess whether the proposals comply with national planning and transport policy set out in DfT C2/13 (especially paras 8 to 11) and MHCLG NPPF2021 (especially paras 110 to 113).

Until such time as sufficient information has been provided to enable us to obtain a clear view of the impact of this proposed development on the SRN, our formal recommendation is that your Council should not determine this application (other than a refusal) because of the potential for harm to the strategic road network.

Accordingly, I attach our NHPR response recommending that planning permission should not be granted for a period of 3 months, expiring on 14 July 2022. This is to allow time for the applicant to provide the further information set out in the attached NHPR dated 14 April 2022. This recommendation can be replaced, renewed, or reviewed during the three-month period, or at its end, dependent on progress made with regard to the required further assessments.

If you or others have any questions regarding our response, please contact us at

Kind regards

David
David Bowie
Area 4 Spatial Planning Manager (Acting)

National Highways | Bridge House | 1 Walnut Tree Close | Guildford | Surrey | GU1 4LZ
Web: <http://www.highwaysengland.co.uk>

This email may contain information which is confidential and is intended only for use of the recipient/s named above. If you are not an intended recipient, you are hereby notified that any copying, distribution, disclosure, reliance upon or other use of the contents of this email is strictly prohibited. If you have received this email in error, please notify the sender and destroy it.

*Registered in England and Wales no 9346363 | Registered Office: Bridge House, 1 Walnut Tree Close,
Guildford, Surrey GU1 4LZ*

Consider the environment. Please don't print this e-mail unless you really need to.



National Highways Planning Response (NHPR 21-09)
Formal Recommendation to an Application for Planning Permission

From: Nicola Bell (Regional Director)
Operations Directorate
South East Region
National Highways
[REDACTED]

To: Arun District Council FAO Claire Potts
planning.responses@arun.gov.uk

CC: [REDACTED]

Council's Reference: BN/11/22/OUT

Location: Barnham, Eastergate, Westergate BEW Parcel SC1 Barnham

Proposal: Outline application with all matters reserved (except for the A29 Realignment) for the demolition of existing structures and mixed use development to provide residential dwellings (Use Class C3), Care Home/Senior Living Accommodation (Use Class E/F2/Sui Generis), a Primary School plus open space, landscaping, drainage and all other associated ancillary works; and realignment of the A29 and early connection to existing A29 including construction of a new road carriageway, junctions and associated infrastructure. This application also lies within the parish of Aldingbourne, affects the setting of listed buildings, affects the character & appearance of the Eastergate Church Lane Conservation Area and affects a Public Right of Way. This application is the subject of an Environmental Statement.

National Highways Ref: SB398/94046/#16117

Referring to the consultation on a planning application dated 16 February 2022 referenced above, in the vicinity of the A27 that forms part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

~~a) offer no objection (see reasons at Annex A);~~

~~b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – National Highways recommended Planning Conditions & reasons);~~

c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);

~~d) recommend that the application be refused (see reasons at Annex A)~~

Highways Act 1980 Section 175B is/is not relevant to this application.¹

This represents National Highways formal recommendation (*prepared by the Area 4 Spatial Planning Team*) and is made available to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the Town and Country Planning (Development Affecting Trunk Roads) Direction 2018, via [REDACTED] and may not determine the application until the consultation process is complete.

The Local Planning authority must also copy any consultation under the 2018 Direction to [REDACTED]

Signature: [REDACTED]	Date: 14 April 2022
Name: Elizabeth Cleaver	
Position: Assistant Spatial Planning Manager	
National Highways Bridge House 1 Walnut Tree Close Guildford GU1 4LZ	

¹ Where relevant, further information will be provided within Annex A.

² As announced on 19 August 2021 Highways England became National Highways; although our roles and responsibilities remain largely unchanged and our branding will transition over a period of time.

Annex A **National Highway's assessment of the proposed development**

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

Recommend that planning permission not be granted for a specified period: Reasons

We require further information to be provided by the applicant on this application in order that an informed decision can be made in relation to the potential impacts of the development on the strategic road network. In particular, the following comments should be passed onto the applicant:

Pre-Application Discussions

Appendix E of the TA report includes a series of emails exchanged between PF and the former Highways England (now known as National Highways). The first email from PF is dated 16 June 2020 and this outlines the proposed assessment scenarios and scope of junctions to be assessed. Within this email, it is stated that "Other modelling assumptions such as trip rates would be consistent with the modelling developed for the A29 business case, and we are liaising with WSCC to agree other model inputs such as committed developments and scope of the junction assessments". Although it is not specifically stated, it is understood that this modelling uses the Chichester Area Transport Model (CATM) which is referenced elsewhere in the scoping documents exchanged between PF and WSCC (this is confirmed at paragraph 6.1.1 of the TA report.

A Highways England response which was issued on 7 July 2020 states agreement to the scenarios proposed and lists an additional five junctions along the A27 which should be considered. The Highways England email does not explicitly state agreement to the use of the modelling developed for the A29 business case, but neither does it state an objection to the use of data from these models in principle.

A second email from PF was sent on 11 August 2020 and includes further queries with regard to the scope of the proposed junction assessments, the use of historic data for junctions along the A27, and the extent of the required PIA analysis. It is stated that a copy of the correspondence relating to the use of data from the strategic model forecast years (i.e. the model data to be generated by WSP from the CATM) is attached with the email; as a separate copy of the attachment is not included with this email in the Appendix it is concluded that this refers to correspondence between PF and WSCC from 13 July 2020, which is summarised below.

The Highways England response is contained in an email dated 1 September 2020 and confirms the following:

- The updated scope of junctions to be modelled is agreed

- Data sources are provided for the identified A27 Junctions, either being taken from the Arundel Bypass study (contact details are provided for the Bypass study team) or from specific recent planning applications (Arun DC planning references are provided)
- It is stated that it is acceptable for data from Highways England ATC count sites on the A27 to be used to factor up data from the aforementioned sources where necessary
- The extents of the PIA data analysis as shown on the supplied map are considered to be acceptable

It is noted that Appendix E also contains a series of technical notes and email exchanges between WSCC Highways and PF which took place in May 2019 and May / June 2020 (i.e. pre-dating the initial correspondence with Highways England). There is no evidence that Highways England were party to these discussions, although certain of the maps and tables included in the PF email of 16 June 2020 have clearly been drawn from these materials. The last email exchange in the chain between WSCC and PF is dated 13 July 2020 and summarises WSCC's comments on the latest version of the scoping document, as well as agreeing the methodology for WSP to carry out modelling on behalf of the applicant using the Chichester Area Transport Model (CATM). Although not made explicit, it is concluded that this email exchange and associated documents were included as the attachments to the email from PF to Highways England dated 11 August 2020.

Transport Assessment

A Transport Assessment (TA) has been produced by Pell Frischman (PF) dated 13 January 2022 in support of the application. It is noted that the TA forms part of the Environmental Statement (ES) submitted in support of the application.

Local Plan Allocation & Development Proposals

Barnham, Eastergate and Westergate is Strategic Allocation 'SD5' in the Adopted Arun Local Plan 2011-2031 (July 2018). The allocation is for at least 2,300 units over the plan period, and up to 3,000 in total (a further 700 beyond 2031). The 'BEW Parcel SC1' proposals are for 1,200 residential units, 61 care home units, local centre and primary school. The proposals include the A29 realignment scheme and the early connection referred to as the Hanbury Link. All of the proposals within the current application (i.e. the full development quantum) fall within the Strategic Allocation.

Chapter 4 of the TA states that preliminary designs of the A29 scheme have been shared with WSCC, with comments received in March 2021 and July 2021, and incorporated where appropriate. Survey Data

PIA Data Analysis

Analysis of road traffic collision data for the last 10 years was undertaken for the road links and junctions within the collision study area extent, as agreed with WSCC and National Highways during scoping discussions.

A total of three fatal collisions, 145 serious collisions, and 646 slight collisions were recorded in this time period, a number of which are along the SRN.

Junctions which had serious or fatal severity collisions within a 50m radius were looked at in further detail in Appendix E of the TA. A summary of the findings along the SRN are as follows:

- A27 / Fontwell Avenue – three serious accidents within a 50m radius, one on the A27 Arundel Road arm and two serious accidents on the roundabout circulatory. A further two accidents on the A27 Arundel Road arm approaching the junction (outside 50m radius). Review of causation factors found that the collisions were not due to road or junction geometry.
- A27 / Nyton Road – two serious accidents at the Nyton Road arm at the junction. Review of causation factors found that the collisions were not due to road or junction geometry.
- Bognor Road Roundabout – five collisions with a 50m radius. Two collisions on the circulatory, one on the A27 Chichester Road north approach arm, one on the A27 Chichester Road south exit, and one on the Vinnetrov Road arm. Review of causation factors found that the collisions were not due to road or junction geometry.
- A27 / A29 (Fontwell Eastern Roundabout) – one serious accident within a 50m radius of the junction, located on the roundabout circulatory.
- A27 Chichester Road / A284 / Maltravers Street / Ford Road (Ford Road Roundabout) – four serious collisions on the roundabout circulatory. Review of causation factors found that the collisions were not due to road or junction geometry.

Overall, it has been concluded within the TA report that collisions at junctions along the SRN were not deemed to be as a result of road or junction geometry. Given the number of incidents recorded and the planned improvements for the A27 Bognor Road roundabout and Fontwell Eastern Roundabout junctions, we consider that no additional mitigations are required on the basis of the existing PIA data records.

Trip Generation and Mode Share

Chapter 5 (section 5.1) of the TA states that multi-modal trip generation has been forecast using a combination of vehicle trip rates from the WSCC strategic transport model, 2011 Census travel to work statistics and data from TRICS. There are no further details on TRICS selections in the TA or output files included in the appendices (including within the scoping notes which form part of Appendix E) to review the appropriateness of the survey sites used. From our reading of Section 5.1 it appears that the TRICS trip rates being referred to here specifically for the proposed care home may be different from those which are referenced from the A29 business case model in the initial consultation between PF and the former Highways England in June / July 2020 (as it is unlikely that this category would be specifically included in the strategic modelling exercise).

Specifically, the TA states that an indicative mode split for the care home trips was derived from TRICS (section 5.3), but no further site selection details or output files

are provided. As stated above, it is also unclear whether the trip rates applied for the care home element are from TRICS or the strategic transport model.

ACTION: The origin of all TRICS trip rates applied for the purposes of trip generation exercises referred to in the TA report needs to be confirmed. Where these are not drawn from the A29 Business Case model, full copies of the relevant TRICS outputs should be provided for review.

The TA mentions (section 5.2) that the trips rates used in the assessment of impact of the development are consistent with those used in the A29 modelling assessment business case.

The TA states that 100% internalisation of trips associated with the local centre land uses and 90% internalisation of trips associated with the primary school was agreed with WSCC (section 5.1). Whilst this was not specifically agreed with the former Highways England, the assumptions are considered reasonable in the context of the planning submission.

Trip Distribution/Assignment

The trip distribution used in the model for the development was calculated by WSP (A29 Modelling) using donor zones in the model. This approach has not been explained further in the TA and the appendices do not include network flow diagrams showing the distribution and assignment adopted in the assessment. There are origin-destination matrices for each junction assessed in the appendices, but these are not sufficiently clear to understand the distribution and assignment of vehicle trips applied in the assessment.

ACTION: Trip Distribution/assignment diagrams should be provided which show the routing and assignment of trips to and from the proposed development site which are expected to route via the SRN (this must include any trips which cross the SRN at one or more junctions, even if the vehicles in question do not use the SRN for part of their journey).

Network Modelling

Section 6.1.4 of the TA outlines that the modelling considers committed developments which have been approved plus the adopted Local Plan allocated sites, including developments by Barratts, Landacre, Boweries, Cala, and Pye Homes, which make up the rest of the BEW allocation.

Scenarios modelled are the 2031 and 2038 do minimum (with background growth, committed developments, wider infrastructure changes and other local plan developments and associated infrastructure) and 2031 and 2038 do something (do minimum + BEW development and infrastructure) respectively. There is an alternative 2031 and 2038 do minimum scenario without the Cala development and east-west link road.

The former Highways England requested further clarification be provided in terms of how all the BEW and Cala sites are related. Additional information on this was not received as part of the scoping discussions. Based on the information provided within Section 6 it is assumed that the timing of the implementation of the Cala site will affect

the timing of delivery of elements of the A29 re-alignment, and that as such tests have been undertaken to measure the impact of the proposed development being constructed either before or after the Cala scheme is implemented.

In addition to the 15 junctions proposed in the scoping email, the former Highways England requested the following additional SRN junctions be assessed:

- A27 / B2145 (Whyke Roundabout)
- A27 / A259 (Bognor Road Roundabout)
- A27 / A29 (Fontwell Eastern Roundabout)
- A27 / A284 Ford Road, Arundel
- A27 / The Causeway (Arundel)

The TA includes these junctions in the scope of assessment where capacity analysis has been undertaken using industry standard modelling software. Manual classified turning count surveys were undertaken (November 2019) at many of the junctions and observed queue lengths were used to calibrate the models, where appropriate.

Due to the inability to undertake traffic surveys throughout the majority of 2020 and to date in 2021, traffic data was sourced from previously submitted planning applications for other developments in the area. The TA states that this approach was agreed with WSCC (section 6.4.1.3) and this corresponds to the information presented in the email to National Highways dated 11 August 2020. This was the case for the A27 / A29 (Fontwell Eastern Roundabout) and A27 / B2145 (Whyke Roundabout) on the SRN, where 2017 and 2016 data was used from historic planning applications respectively. Furthermore, the TA states that it was agreed with WSCC that in the absence of a 15-minute traffic profile the FLAT data entry methodology would be acceptable, as the consultants understand traffic flows across the area tend to be flat during the peak periods (p84). It is considered that this is consistent with the information assumed to have been included with the email to Highways England dated 11 August 2020 and the approach is considered acceptable in the circumstances which the TA report describes.

The historic data was factored up to a base year of 2019 using TEMPro to be consistent with the other model forecast years. The principle of factoring up the data has been agreed as recorded within the Highways England response of 1 September 2020; however, the TEMPro growth factors applied are not outlined in the TA or appendices.

ACTION: Confirmation needs to be provided of the TEMPro factors which have been applied for the factoring process for historical data, including the method of calculation applied.

Junction Capacity & Mitigation

At a number of junctions within the scope of assessment, mitigation schemes have been identified as part of the Arun District Transport Study – Stage 3 (2016) (ADTS).

Modelling of development traffic has been undertaken with and without the mitigation schemes, where applicable.

Given the aforementioned outstanding matters detailed above, a detailed review of the traffic modelling analysis has not been undertaken at this time.

Other Matters

It is expected that a full Construction Management Plan will be required for the development; this will need to be conditioned, with the CMP reviewed and approved prior to commencement of any works associated with the development. The standard text is provided below for reference:

'No works shall commence on the site hereby permitted (including site clearance or preparation) until the details of a Construction Management Plan have been submitted to and approved in writing by the local planning authority (who shall consult with National Highways). Thereafter the construction of the development shall proceed in strict accordance with the approved Construction Management Plan unless otherwise agreed in writing by the local planning authority (who shall consult National Highways).'

Reason: To ensure that the A27 Trunk Road continues to be an effective part of the national system of routes for through traffic in accordance with section 10 of the Highways Act 1980 and to satisfy the reasonable requirements of road safety.

Informative: The CMP shall include details (text, maps and drawings as appropriate) of the scale, timing and mitigation of all construction related aspects of the development. It will include, but is not limited to: site hours of operation; numbers, frequency, routing and type of vehicles visiting the site; measures to ensure that HGV loads are adequately secured, travel plan and guided access/egress and parking arrangements for site workers, visitors and deliveries; and wheel washing and other facilities to prevent dust, dirt, detritus etc from entering the public highway (and means to remove if it occurs).'

It is noted that a draft Framework Travel Plan (TP) has been submitted as Appendix D2 of the Environmental Statement. It is further noted that the applicant has not sought any discount to the trip rates applied to the development to account for TP measures, therefore National Highways will be minded to condition approval of the full TP. Approval will need to be in place before first occupation of any part of the development.

Comment on other technical matters is reserved until such time as the wider issues relating to the trip generation, trip distribution and traffic modelling are resolved.

Conclusion

At the present time, the proposed development impact on the SRN is not agreed. This response details the steps that need to be taken in order to resolve this issue.

For the reasons set out above, National Highways recommends that planning permission not be granted for a period of three months from the date of this response to allow the applicant to resolve the outstanding matters.

This application has been assessed by the National Highways South East Region Spatial Planning Team. This NHPR form represents National Highways' formal recommendation regarding the application. It is copied to the Department for Transport as per the terms of our Licence.

Appendix B Trip Rates from WSP

From: Georgeson, Alex
Sent: 26 March 2021 18:32
To: Stephen Moody

Subject: RE: Trip Generations and Rates for BEW and West Bersted

Hi Stephen,

The trip rates that have been used for the strategic models are below:

Land Use	AM Peak (8am to 9am)		PM Peak (5pm to 6pm)	
	Arrivals	Departures	Arrivals	Departures
B1 Office, Business Park (100 sqm)	1.481	0.2	0.153	1.231
B2 Industrial Unit (100 sqm)	0.252	0.136	0.077	0.254
B8 (100 sqm)	0.108	0.075	0.058	0.108
C3 Residential West of Bersted (No. dwellings)	0.145	0.363	0.349	0.148
C3 Residential BEW (No. dwellings)	0.124	0.324	0.312	0.161
Primary School (per pupil)	0.521	0.428	0.038	0.065
Hotel (100 sqm)	0.408	0.514	0.445	0.382
Care Home (per resident)	0.029	0.029	0.029	0.039

The trip rates used for BEW and WoB are the same except for the residential element where in the BEW modelling the rates were taken from the strategic model.

Kind Regards,
Alex

Alex Georgeson
Associate

Appendix C School trip rates TRICS output file

Calculation Reference: AUDIT-610805-201007-1006

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : A - PRIMARY

TOTAL VEHICLESSelected regions and areas:**02 SOUTH EAST**

BU	BUCKINGHAMSHIRE	1 days
EX	ESSEX	1 days
HC	HAMPSHIRE	1 days
SC	SURREY	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: Number of pupils
 Actual Range: 79 to 550 (units:)
 Range Selected by User: 79 to 550 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 30/11/15

*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	1 days
Wednesday	1 days
Thursday	1 days

*This data displays the number of selected surveys by day of the week.*Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	3

*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	1
Village	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:

D1 4 days

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	3 days

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

Population within 5 miles:

75,001 to 100,000	3 days
125,001 to 250,000	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	4 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	2 days

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

PTAL Rating:

No PTAL Present	4 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	BU-04-A-01	PRIMARY SCHOOL	BUCKINGHAMSHIRE
	LOWER ROAD		
	NEAR AYLESBURY		
	STOKE MANDEVILLE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	208	
	Survey date: WEDNESDAY	01/10/14	Survey Type: MANUAL
2	EX-04-A-01	PRIMARY SCHOOL	ESSEX
	THE STREET		
	NEAR CHELMSFORD		
	ROXWELL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	79	
	Survey date: TUESDAY	05/11/13	Survey Type: MANUAL
3	HC-04-A-05	PRIMARY SCHOOL	HAMPSHIRE
	HAVANT ROAD		
	HAYLING ISLAND		
	Edge of Town		
	Residential Zone		
	Total Number of pupils:	550	
	Survey date: MONDAY	30/11/15	Survey Type: MANUAL
4	SC-04-A-01	PRIMARY SCHOOL	SURREY
	SCHOOL LANE		
	NEAR WOKING		
	PIRBRIGHT		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	414	
	Survey date: THURSDAY	22/11/12	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 04 - EDUCATION/A - PRIMARY

TOTAL VEHICLES**Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	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	4	313	0.063	4	313	0.013	4	313	0.076
08:00 - 09:00	4	313	0.521	4	313	0.428	4	313	0.949
09:00 - 10:00	4	313	0.054	4	313	0.107	4	313	0.161
10:00 - 11:00	4	313	0.015	4	313	0.010	4	313	0.025
11:00 - 12:00	4	313	0.022	4	313	0.010	4	313	0.032
12:00 - 13:00	4	313	0.017	4	313	0.025	4	313	0.042
13:00 - 14:00	4	313	0.023	4	313	0.033	4	313	0.056
14:00 - 15:00	4	313	0.172	4	313	0.018	4	313	0.190
15:00 - 16:00	4	313	0.197	4	313	0.348	4	313	0.545
16:00 - 17:00	4	313	0.128	4	313	0.161	4	313	0.289
17:00 - 18:00	4	313	0.038	4	313	0.065	4	313	0.103
18:00 - 19:00	4	313	0.036	4	313	0.042	4	313	0.078
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.286			1.260			2.546

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: 79 - 550 (units:)
 Survey date range: 01/01/12 - 30/11/15
 Number of weekdays (Monday-Friday): 4
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

Appendix D Agreement of school trip rates

Pearl Ahrens

From: Stephen Gee
Sent: 22 October 2020 10:50
To: Stephen Moody
Cc:

Subject: RE: Primary school trips in strategic modelling - BEW and West Bersted

Stephen,
Not sure if I have responded previously but the primary school trip rates below and internalisation rates are acceptable.

And just to update you following some reallocation in workloads Ian Gledhill will be leading on WoB (and Tim remaining the lead on BEW).

Regards

Stephen

From: Stephen Moody
Sent: 07 October 2020 11:32
To: Stephen Gee

Steven Shaw

Subject: Primary school trips in strategic modelling - BEW and West Bersted

Stephen and Steven,

Further to previous e-mails, I write to set out the trip rate and internalisation assumption for agreement ahead of putting this into the strategic model.

We have reviewed TRICS and a summary of the trip rates determined from this are below (output file is also attached). The trip generation calculation is based on a 3FE school (630 pupils), and the assumption that 90% of school trips are internal to the proposed development.

Can you please confirm that the vehicle trip rates shown below and the assumption that 90% of trips to this are internal to the developments are acceptable to be applied to the new primary schools that will be in the sites at BEW and West Bersted?

Vehicle trip rates (per pupil)

AM peak (8am to 9am)		PM peak (5pm to 6pm)		Daily	
Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
0.521	0.428	0.038	0.065	1.286	1.26

Vehicle trip generation (based on 90% of trips being removed due to internalisation)

AM peak (8am to 9am)		PM peak (5pm to 6pm)		Daily	
Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
33	27	2	4	81	79

Kind regards

Stephen Moody
Associate Transport Planner
5 Manchester Square
London
W1U 3PD

Pell Frischmann
Excellence through innovation



www.pellfrischmann.com

CORONAVIRUS (COVID 19): In order to protect our colleagues, and following recent government advice on social distancing, we have temporarily closed our offices until it is confirmed by the government that it is safe to re-open. We have been preparing for this for some time and remain fully operational. Further information can be found **HERE**.

.....

Appendix E Select link flow plots

and width =
200./mm

SP GROUP (S



3/11/2018

Atkins Ltd /
OW / ITS

S_Our_WithEW
_AM_Comp.UFS

Scale 22089

Task Annot:

Bandwidths =
200./mm

8-12-20
WSP GROUP IS





3/1/2018

Atkins Ltd /
GVI / ITS

at_WithoutEW
_AM_Comp.UFS

Scale 22089

Task Annot:

Bandwidths =
200./mm

8-12-20
WSP GROUP IS



3/11/2018

Atkins Ltd /
OW / ITS

ut_WithoutEW
_AM_Comp.UFS

Scale 22089

Jack Annot:

Bandwidths =
200./mm

8-12-20
WSP GROUP IS

and width =
200./mm

SP GROUP (S

Appendix F TEMPro calculations

Contents	
Paul Prischmann (London)	
Project: Barnham Eastergate Westergate	
Doc Ref: 2022-04-22 update_BEWSWB Junctions 11-21 flows	
and Date: V2 2022-04-22	
Author: PA	

•	A27 / A2145 Whyke Roundabout
•	A27 / A259 Bognor Road Roundabout
•	A27 / A259 Fortwell East Road Roundabout
•	A27 / A259 Ford Road Roundabout
•	A27 / The Causeway Roundabout

Whyke - see Whyke tabs
Bognor Road - 2019 data obtained from another survey so was not factored up
Fortwell East - see Fortwell East tabs
Ford Road - see Ford Road tabs
The Causeway - see The Causeway tabs

Whyke roundabout Sur

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

Revision and Date: V2 2022-04-22

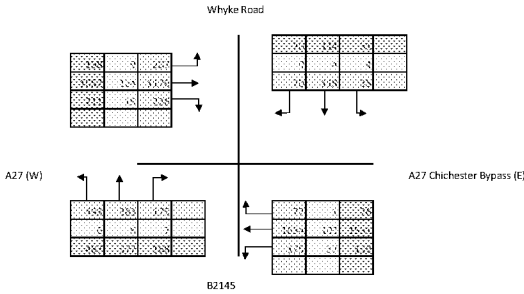
Author: PA

This document contains EMIS data and may contain data from 2016

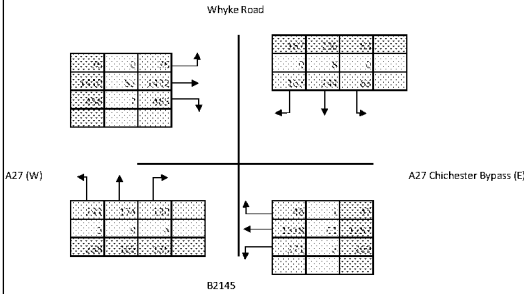
	BEW	WB	AM	PM
Whyke roundabout	16	16		
Year of survey		2016		
		Dataset 72		
		MSOA Chichester D12		
		All purposes		
		Car Driver		
		Origin/Destination		
		Weekday AM		
		Weekday PM		
		RTP		
Tempro used to 2019		All road types	1.0309	1.0295
Peak:			08:00-09:00	17:00-18:00

2016
2019
2021
2022

AM



PM



Whyke roundabout 2019

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

Revision and Date: V2 2022-04-22

Author: PA

This document contains survey flows from 2019 required to 2019 using 1.0Mph

Whyke roundabout

Year of survey

Tempro used to 2019

Peak:

2019

2020

2021

2022/2023

BEW

WB

AM

PM

16

16

2016

Dataset 72

M50A Chichester D12

All purposes

Car Driver

Origin/Destination

Weekday AM

Weekday PM

RTP

All road types

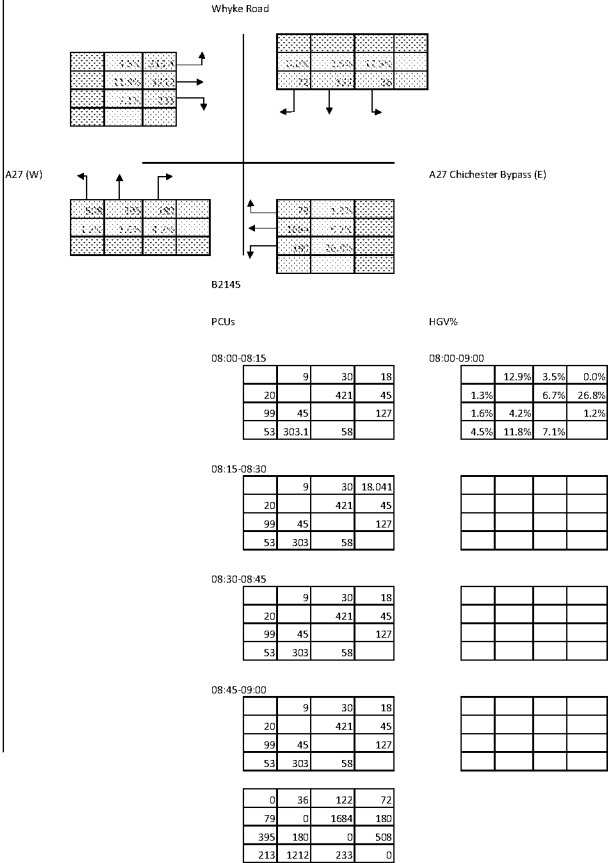
1.0309

1.0295

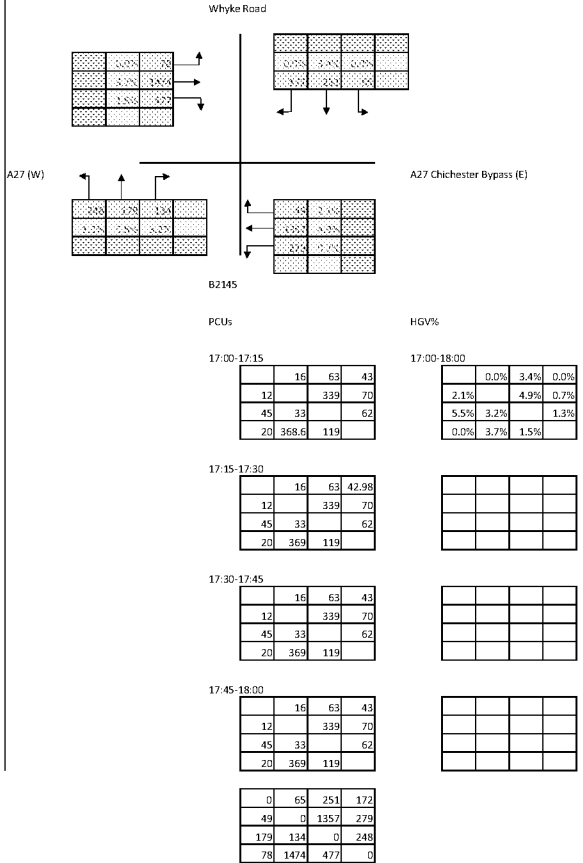
08:00-09:00

17:00-18:00

AM



PM



Fontwell East Surv

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

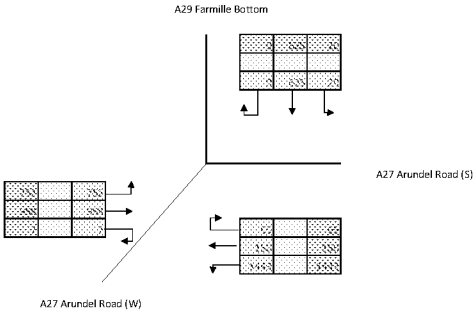
Revision and Date: V2 2022-04-22

Author: PA

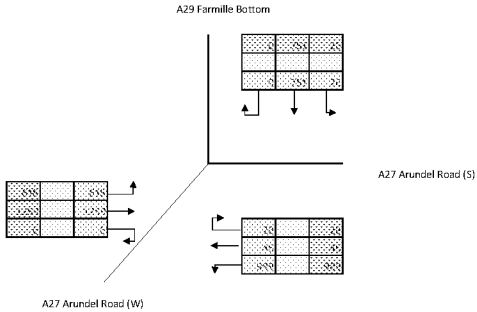
This document contains DMPS data and/or survey flows from 2017

	BEW	WB	AM	PM
Fontwell East Roundabout	18	18		
Year of survey		2017		
		Dataset 72		
		MSOA Arun 001		
		All purposes		
		Car Driver		
		Origin/Destination		
		Weekday AM		
		Weekday PM		
		RTF		
Tempro used to 2019		All road types	1.0240	1.0239
Peak:			08:00-09:00	17:00-18:00
Scale				
Print				
Download				

AM



PM



Fontwell East 2019

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

Revision and Date: V2 2022-04-22

Author: PA

The above contains survey data from 2017, updated to 2019 using 15Mph

Fontwell East Roundabout

Year of survey

Tempro used to 2019

Peak:
CSA
PCU
RTF
RTF

BEW

WB

18

18

2017

Dataset 72

M50A Arun 001

All purposes

Car Driver

Origin/Destination

Weekday AM

Weekday PM

RTF

All road types

AM

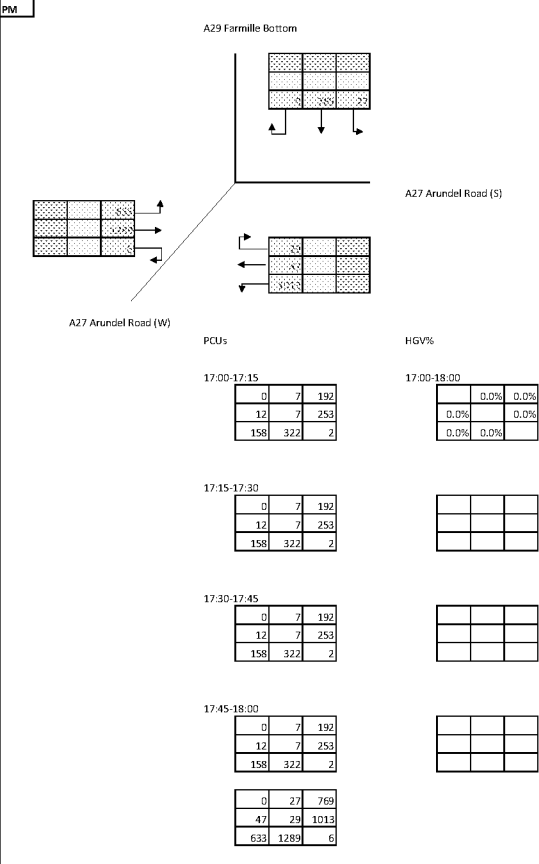
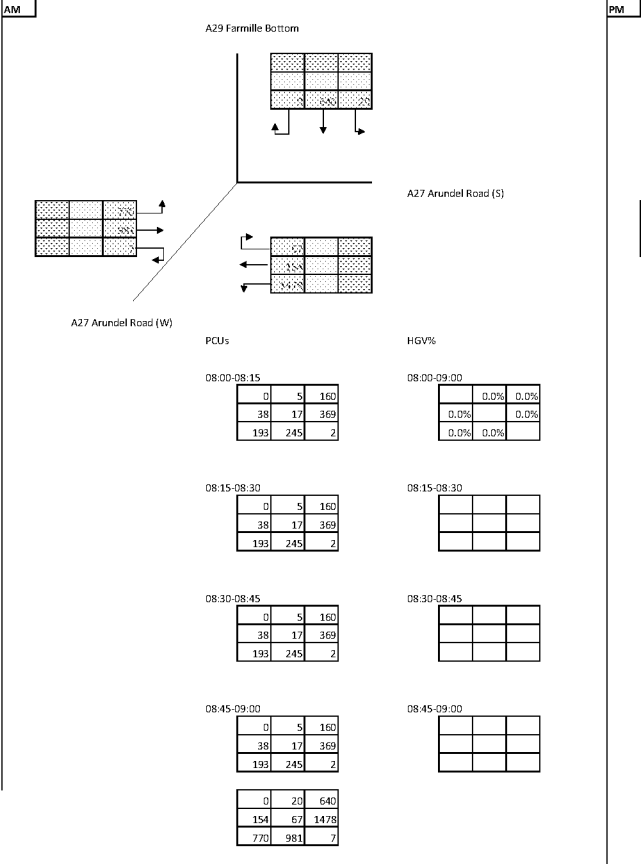
PM

1.0240

1.0239

08:00-09:00

17:00-18:00



Ford Road Rbt Surv

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

Revision and Date: V2 2022-04-22

Author: PA

This document contains confidential information from 2019

BEW WB AM PM
Ford Road Rbt 19 N/A
Year of survey 2015

Dataset 72
MSOA Arun 001
All purposes
Car Driver
Origin/Destination
Weekday AM
Weekday PM
RTF
All road types

1.0498 1.0530

Tempro used to 2019

Peak:

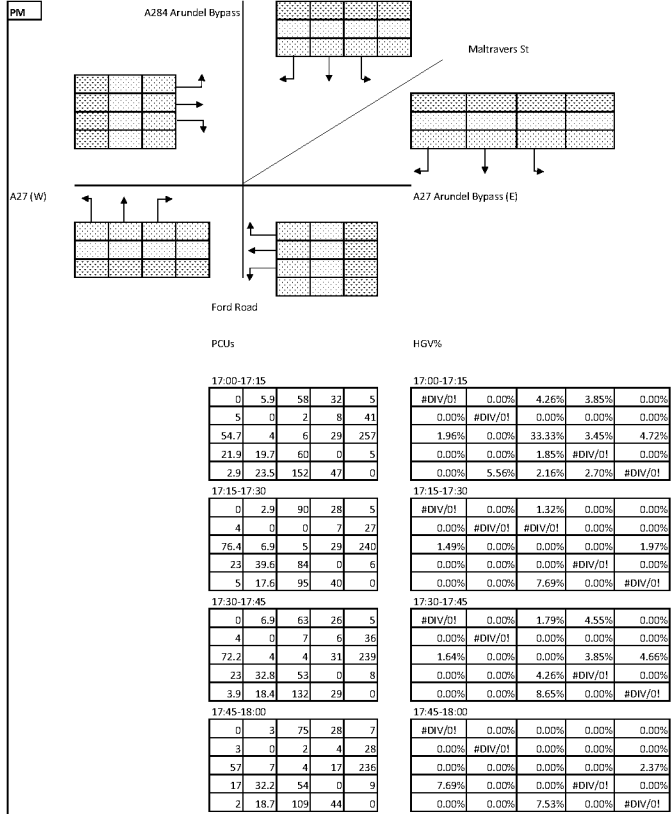
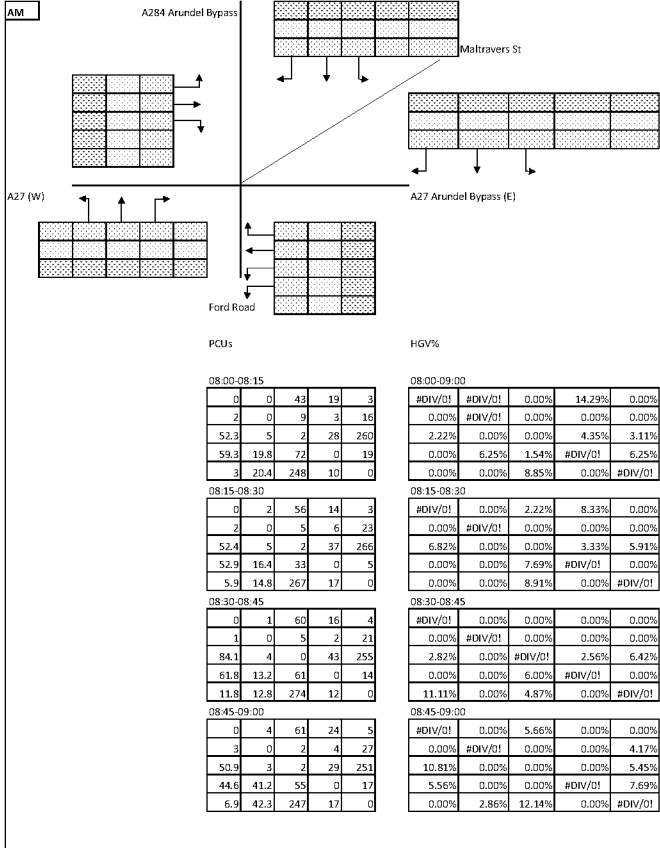
PCU

PCU

PCU

PCU

PCU



Ford Road Rbt 2019

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

Revision and Date: V2 2022-04-22

Author: PA

This document contains Sensitive Information. It is not to be released to the public without the permission of the project manager.

Ford Road Rbt

BEW WB

19 N/A

2015

Dataset 72

MSOA Arun 001

All purposes

Car Driver

Origin/Destination

Weekday AM

Weekday PM

RTF

All road types

1.0498

1.0530

08:00-09:00

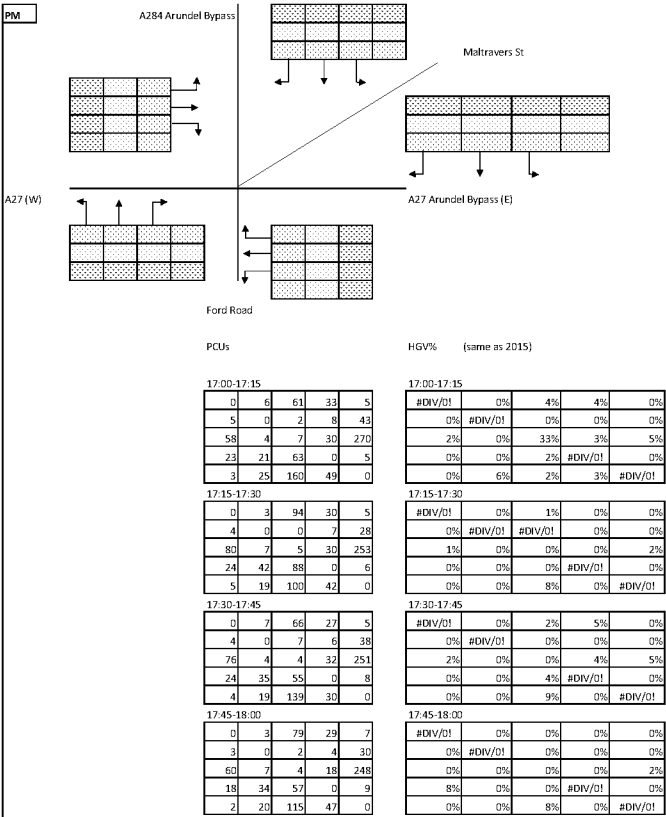
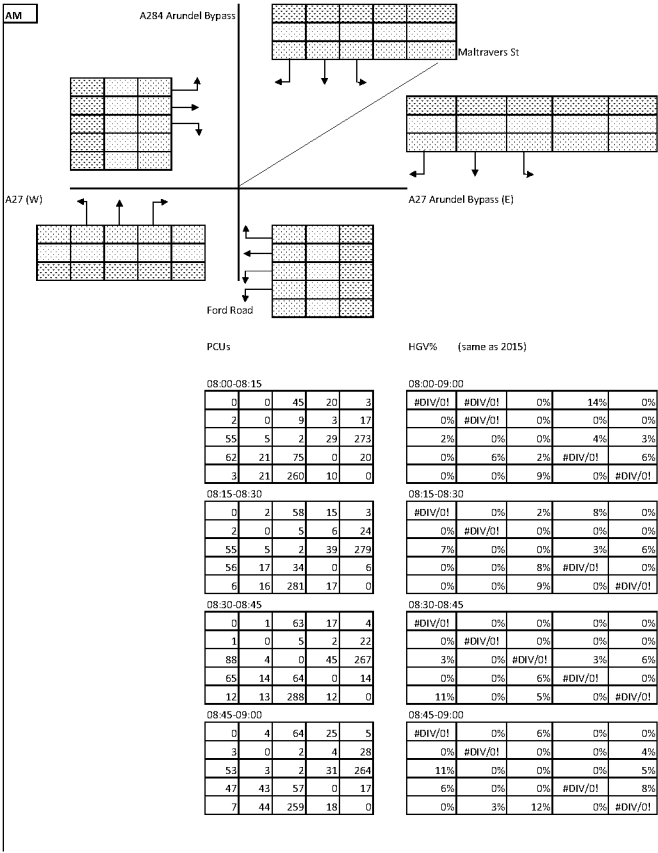
17:00-18:00

Tempo used to 2019

Peak:

08:00-09:00

17:00-18:00



Causeway Rbt Surv

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

Revision and Date: V2 2022-04-22

Author: PA

This document contains information that may be subject to copyright

Causeway Rbt

Year of survey

Tempro used to 2019

Peak:

PCU

PCU

PCU

PCU

BEW WB

20 N/A

2015

Dataset 72

M50A Arun 001

All purposes

Car Driver

Origin/Destination

Weekday AM

Weekday PM

RTF

All road types

AM

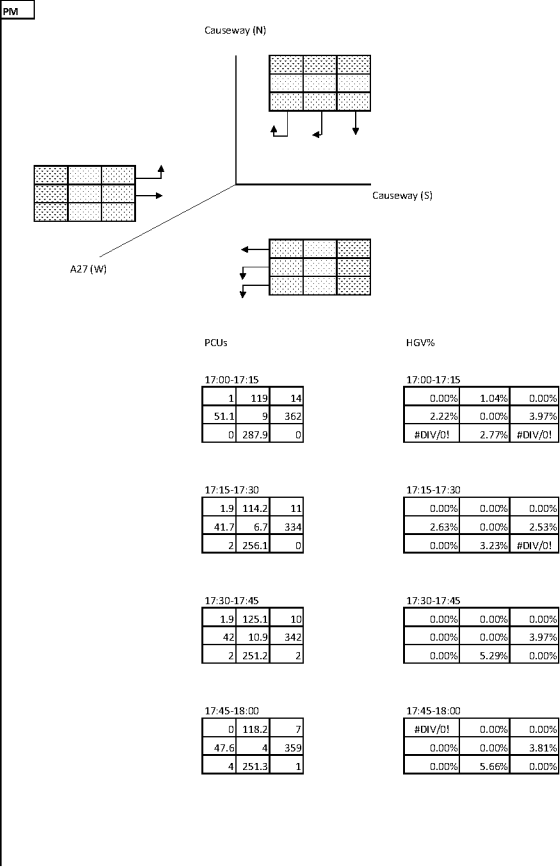
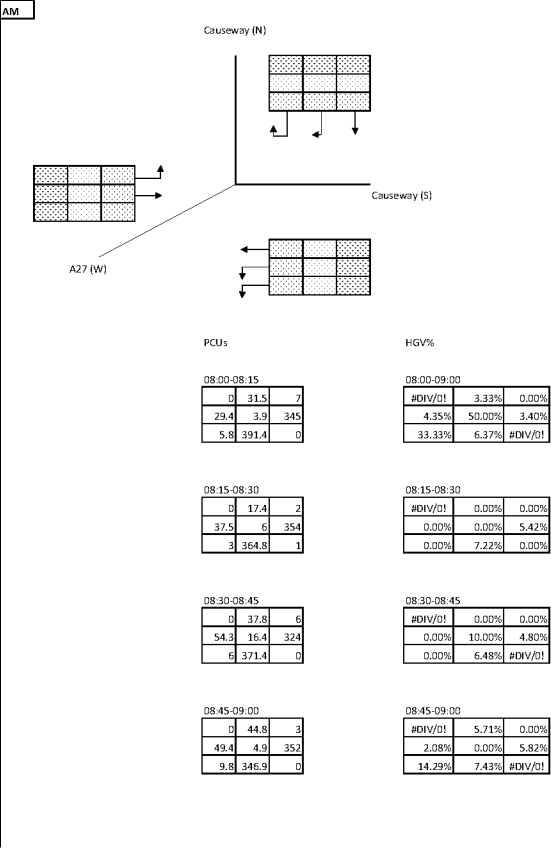
PM

1.0498

1.0530

08:00-09:00

17:00-18:00



Causeway Rbt 2019

Pell Frischmann (London)

Project: Barnham Eastergate Westergate

Doc Ref: 2022-04-22 update_BEW&WB Junctions 11-21 flows

Revision and Date: V2 2022-04-22

Author: PA

This document contains Sensitive Information. It is not to be released to the public without the permission of the project manager.

Causeway Rbt

Year of survey

BEW WB

20 N/A

AM

PM

2015

Dataset 72

M50A Arun 001

All purposes

Car Driver

Origin/Destination

Weekday AM

Weekday PM

RTF

All road types

Tempo used to 2019

Peak:

08:00-09:00

17:00-18:00

1.0498

1.0530

