

BRIGHT PLAN

HOREBEECH LANE, HORAM

RESIDENTIAL DEVELOPMENT

Transport Statement Addendum

Prepared on Behalf of

Chailey Homes

CHHO/17/3547s

03 December 2019

Bright Plan Ltd – Transport Planning and Civil Engineering Consultants T: 01243 210418 www.bpcivils.co.uk
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Residential Development

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1 INTRODUCTION

1.1.1 This Transport Statement Addendum (TSA) has been prepared by Bright Plan Ltd on behalf of Chailey Homes to address outstanding matters raised by East Sussex County Council's (ESCC) in relation to the development proposal at Horebeech Lane, Horam, East Sussex.

1.1.2 The outstanding matters are contained within correspondence with ESCC dated 28th November 2019 and follow previous comments made by ESCC's Highways Officers. A copy of the correspondence is attached at **Appendix A** for reference.

1.1.3 ESCC's highway officers have identified the following outstanding highway elements that require additional review:

i. Speeds on Horebeech Lane

ii. Main Access

iii. RSA 1

iv. Highway Scheme

v. Footway on Horebeech Lane

vi. Cuckoo Trail Link

vii. Highway Impact

viii. Junction Modelling

ix. Parking/Servicing

1.1.4 This report addresses the above concerns and responds to ESCC's comments sequentially.

ESCC's original comments are shown in blue

ESCC's further comments are shown in red

2 SPEEDS ON HOREBEECH LANE

2.1.1 ESCC's consultation response states the following regarding speeds on Horebeech Lane:

*"**2.1 Speeds on Horebeech Lane** – The highway officer view is maintained as a highway scheme can be secured through a condition in the same way that a highway scheme was secured for Rosemead Farm. The report states that a TRO has a separate authorisation outside the planning process, but if part of a highway scheme which provides speed reducing features to create conditions for a more residential appearance, a Grampian condition can be imposed."*

"Rosemead Farm has moved on and we are experiencing some teething problems whilst the highway works are being phased in, and the reposition of the 30 mph speed limit commencement/termination is not yet finalised. It is therefore a prudent approach that a highway scheme relating to traffic calming and relocation of the 30mph speed limit is secured in a Grampian planning condition, so that the conditions on the highway post Rosemead Farm completion can be reviewed."

2.1.2 Bright Plan recognise this concern and agree that this should be recommended as a condition should planning permission be granted.

3 MAIN ACCESS

3.1.1 ESCC's consultation response states the following regarding the site's main access:

*"**2.2 Main Access** – This is a full planning application, not outline and should be supported with a detailed design for planning stage. The highway officer view remains unchanged. The proposed access and expected activity for both motorised and non-motorised users does require a highway environment that encourages lower road speeds than is demonstrated in the speed survey. The request for a lowered speed limit is not merely for driver sightlines but to provide an environment that encourages walking and cycling."*

"Am I expecting to see any access enhancements?"

3.1.2 Access drawings have been prepared demonstrating the proposed access arrangements. The drawings demonstrate the proposed junction, footways, pedestrian crossing facility and vehicle swept path analysis. See **Drawings 2017/3547/001** and **2017/3547/002**.

3.1.3 As address in **Section 2**, any design to mitigate vehicle speeds on Horebeech Lane would be secured by a planning condition.

4 RSA 1

4.1.1 ESCC's consultation response states the following regarding Stage 1 Road Safety Audit requirements:

*"**2.3 RSA 1** – A further RSA1 will be required depending on the works that are carried out on Horebeech Lane, but the reference made was not applicant specific and would be likely for changes to the highway scheme as approved for Rosemead Farm, whether or not this development (if approved) comes forward once Rosemead has commenced or whether there are additional changes to the road layout to be carried out."*

"As mentioned earlier, the emerging local conditions of the highway are in a period of flux whilst the highway works associated with Rosemead Farm are phased in. Post completion, a review will be necessary and a further RSA1."

4.1.2 Bright Plan recognise this concern and agree that a Stage 1 RSA of any potential highway scheme should be recommended as a condition should planning permission be granted.

5 HIGHWAY SCHEME

5.1.1 ESCC's consultation response states the following regarding a highway scheme on Horebeech Lane:

*"**2.4 Highway Scheme** – The suggestion of a mini-roundabout was indicative. The rationale for a feature at this section of Horebeech Lane was to indicate to drivers that they are entering an area of built form, and that driving behaviour should be appropriate. If a mini-roundabout is not appropriate then a gateway feature of some description should be provided and the last sentence in the cited paragraph remains pertinent "..it is recommended that the applicant enters into discussions with this authority so that 'access' can be discussed and appropriate measures can be secured for this site…"*

"This is linked to my comment in 2.1"

5.1.2 See paragraph 2.1.2.

6 FOOTWAY ON HOREBEECH LANE

6.1.1 ESCC's consultation response states the following regarding a footway on Horebeech Lane:

*"**2.5 Footway on Horebeech Lane** – Accepted as a feature that should be part of a highway scheme."*

6.1.2 See paragraph 2.1.2.

7 CUCKOO TRAIL LINK

7.1.1 ESCC's consultation response states the following regarding the proposed Cuckoo Trail Link:

*"**2.5 Footway on Horebeech Lane** – The highway view remains relevant. Landowners of privately owned land may restrict public use and the PROW would only be accessible to those who live of visit the site and there would be the loss of potential permeability. The applicant is requested to clarify whether the land laid out as a cycleway will be designated as a public right of way or otherwise, bearing in mind the route should connect to Horebeech Lane if the internal roads are not adopted."*

7.1.2 It is intended that the route through the site would form a Public Right of Way and would therefore be accessible to the public in perpetuity.

8 HIGHWAY IMPACT

8.1.1 ESCC's consultation response states the following regarding highway impact:

*"**3.1 Highway Impact** – The trips rate used should use surveys at sites without rail stations. The site is relatively car dependent, there being only 1 bus service covering commuter periods and reaching Heathfield, Hailsham and Eastbourne; and the bus stop is 1km distant, not conveniently located for regular commuting particularly as parking is free of charge in nearby towns with the exception of Eastbourne. The majority of journeys are made by private car and as such the trip rate should reflect this unless justified with census data evidence. For consistency, the trip rate used for the Rosemead Farm site should be used for robustness."*

"I have considered this myself and the impact is not likely to be to detriment of highway safety or capacity on the network. This is expected to be addressed in the technical report due."

8.1.2 Following ESCC's original comment the proposals were assessed using the trip rate used for the Rosemead Farm site. The modelling works undertaken subsequently demonstrate the Horebeech Lane/A267 mini roundabout operate within capacity in a future 2028 scenario. The modelling Technical Note (TN) is attached at **Appendix B**.

9 JUNCTION MODELLING

9.1.1 ESCC's consultation response states the following regarding junction modelling:

*"**3.2 Junction modelling** – The mini roundabout at the junction with A267 and Horebeech Lane was installed in late 2017, and was formerly a priority junction. The rational for this change was to accommodate the Merrydown development site on the A267 just north of the junction A267 and Horebeech Lane. This feature was part of a package of highway works required for reducing vehicles speeds and highway safety on the A267, and to facilitate the zebra crossing and assist the driver sightlines at the Merrydown Village site. To change the mini-roundabout back to a priority junction is not likely to be supported by the highway authority as it would have highway safety repercussions on the function of the A267.*

I note that the Transport consultant has carried out further modelling work based on the theoretical operation of the junction, using the modelling data provided by GTA Civils when the Rosemead Farm proposal was being considered. It has been noted that the actual operation of the mini-roundabout has been effective in terms of the reduction of vehicle speeds and improvement to flows of traffic on the A267.

It is therefore considered that the operational flows should be surveyed to obtain an actual representation of the network operation with committed and proposed development figures applied accordingly with growth to 2028."

"This is now complete and the impact on the mini-roundabout does not reach a point of unacceptable impact in forecast year 2028. Technical report is expected."

9.1.2 Supplementary modelling works have been undertaken demonstrating that the A267/ Horebeech Lane mini roundabout operates comfortably within capacity in a future 2028 scenario. The junction capacity modelling assessments are detailed within the TN is attached at **Appendix B**.

10 PARKING

10.1.1 ESCC's consultation response states the following regarding parking at the development:

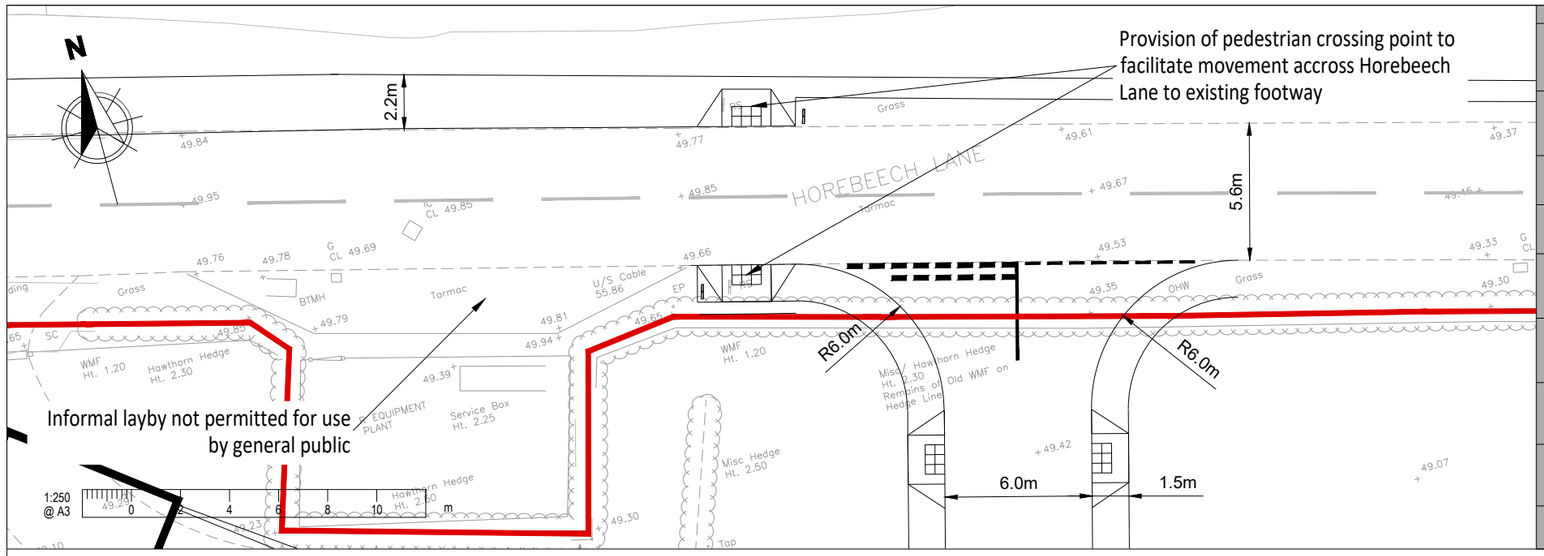
*"**4.1 Parking/Servicing** – Provision in terms of amount is accepted, though swept path plans are using a car 4.2m in length, 4.8m long vehicle should be used instead to demonstrate the areas shown for parking can be accessed."*

"Still awaited."

10.1.2 Additional swept path analysis has been undertaken using a 4.8m long car demonstrating car parking spaces are accessible in **Drawing 2017/3547/005.**

DRAWINGS

001 Proposed Access Arrangement and Visibility Splays
002 Access Swept Path Analysis
003 Internal Junctions Visibility Splays
004 Refuse and Car Passing Swept Path Analysis
005 Refuse Turning and Parking Spaces Swept Path Analysis



	A	B
1	Data Box	
2	Vehicle Movements	303 Site Vehicle Movements Per Day
3	AADT Northbound	833
4	AADT Southbound	826
5	AM Peak Hour	8 Arrivals, 23 Departures
6	PM Peak Hour	22 Arrivals, 13 Departures
7	85th Percentile Design Speed Northbound	55 mph
8	85th Percentile Design Speed Southbound	54 mph
9	Posted Speed Limit	National Speed Limit (60mph)

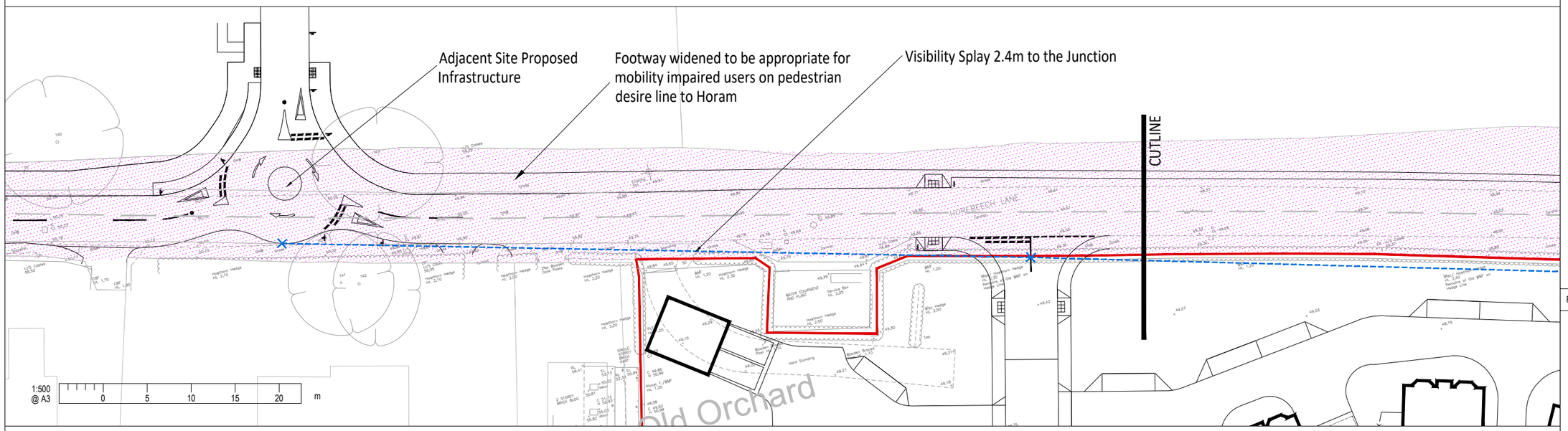
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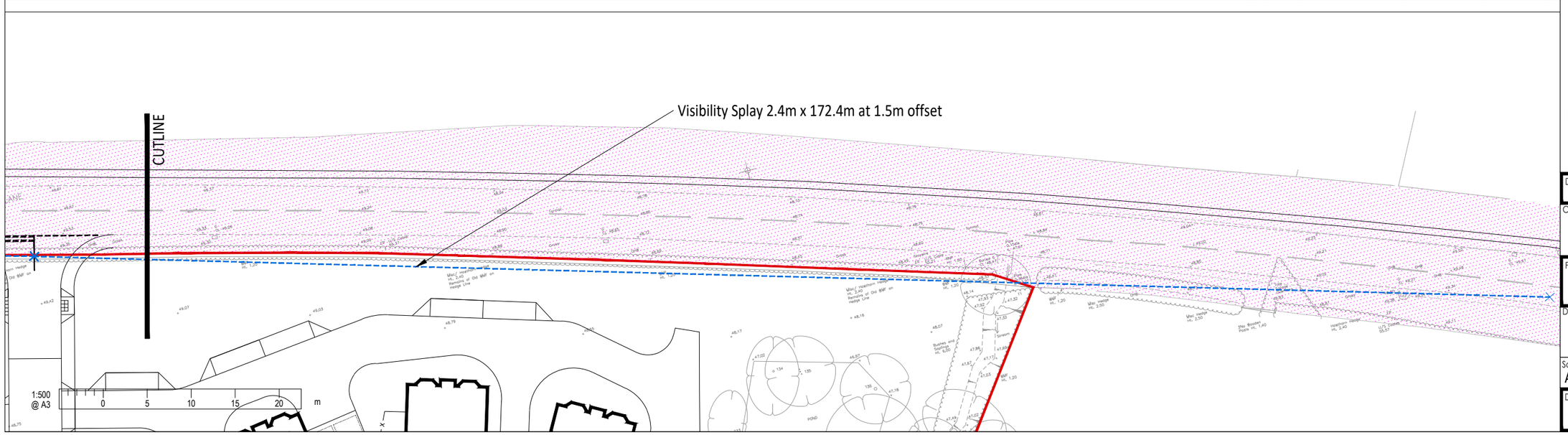
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3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-

- Site Boundary
- Highway Boundary
- Existing Road Markings
- Visibility Splays





Rev.	Amendments	Date
H	Original Bright Plan Ltd Issue	Dec 2019

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Transport Planning and Civil Engineering Consultants
2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AF
Tel: 01243 210418 Email: enquiries@bpcivils.co.uk
www.bpcivils.co.uk

Drawing Status: FINAL

Client: Chailey Homes

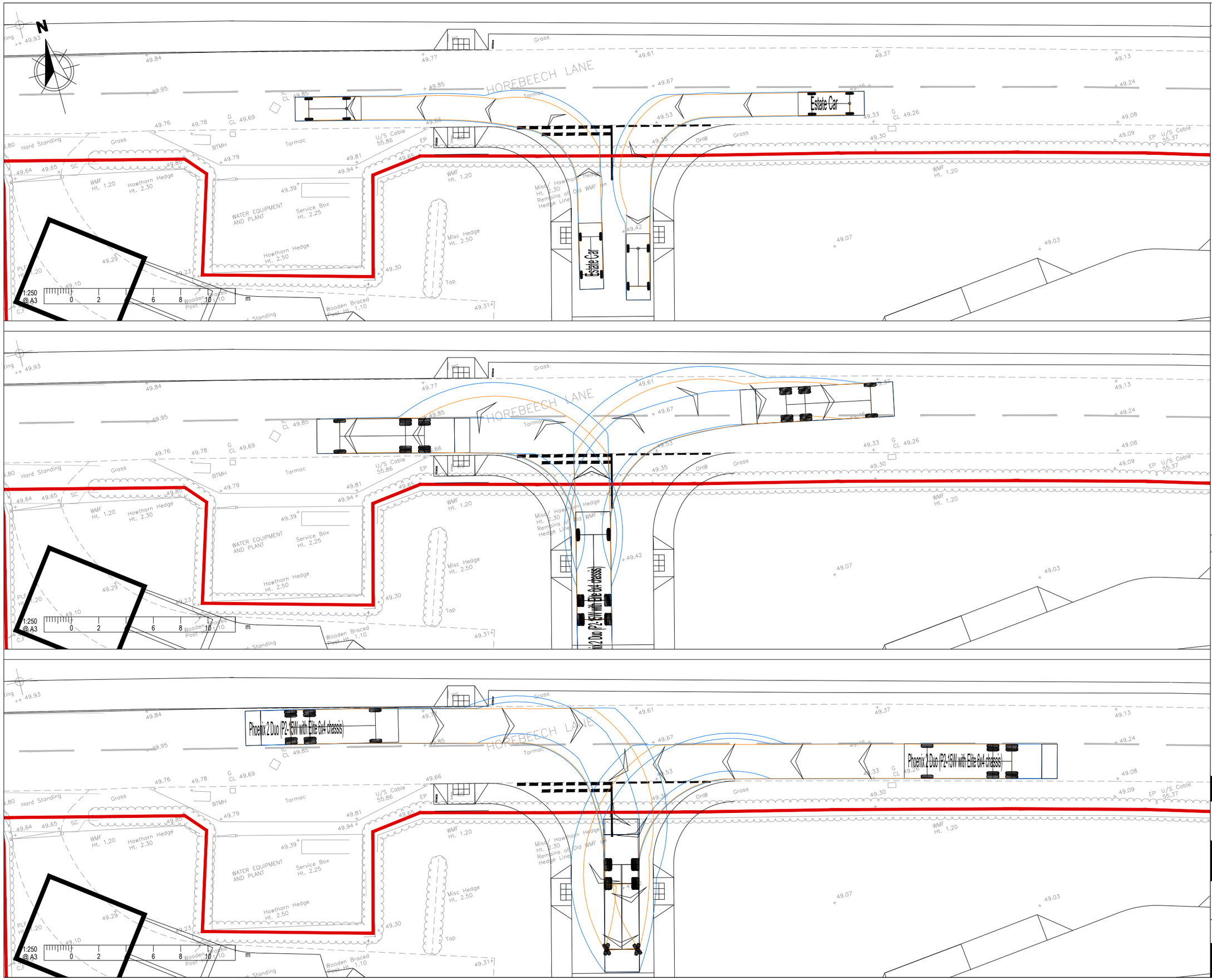
Project: Horebeech Lane, Horam

Drawing Title: Proposed Access Arrangement and Visibility Splays

Scale	Date	Drawn By	Checked By
As Shown	Dec 19	SMO	ALB

Drawing No.: 2019-3547-001

Rev.: H



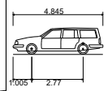
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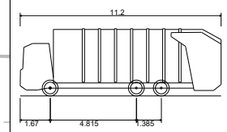
-LEGEND-

- Site Boundary
- Existing Road Markings
- Visibility Splays 2.4m x 25.0m



Estate Car

Overall Length	4.845m
Overall Width	1.750m
Overall Body Height	1.424m
Min Body Ground Clearance	0.189m
Max Track Width	1.655m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	4.950m



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)

Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

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G	Original Bright Plan Ltd Issue	Dec 2019

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Drawing Status: FINAL

Client: Chailey Homes

Project: Horebeech Lane, Horam

Drawing Title: Access Swept Path Analysis

Scale	Date	Drawn By	Checked By
1:250	Dec 19	SMO	ALB

Drawing No.: 2019-3547-002

Rev.: G



NOTES

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4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-

- Site Boundary
- Existing Road Markings
- Visibility Splays 2.4m x 25.0m

Rev.	Amendments	Date
G	Original Bright Plan Ltd Issue	Dec 2019

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Drawing Status: FINAL

Client: Chailey Homes

Project: Horebeech Lane, Horam

Drawing Title: Internal Junctions Visibility Splays

Scale	Date	Drawn By	Checked By
1:750	Dec 19	SMO	ALB

Drawing No.: 2019-3547-003

Rev.: G





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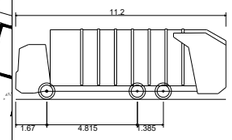
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-LEGEND-

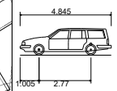
Site Boundary

Existing Road Markings



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)

Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m



Estate Car

Overall Length	4.845m
Overall Width	1.750m
Overall Body Height	1.424m
Min Body Ground Clearance	0.189m
Max Track Width	1.655m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	4.950m

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Drawing Status	FINAL
Client	Chailey Homes
Project	Horebeech Lane, Horam
Drawing Title	Refuse and Car Passing Swept Path Analysis

Scale	Date	Drawn By	Checked By
1:750	Dec 19	SMO	ALB

Drawing No.	Rev.
2019-3547-004	G



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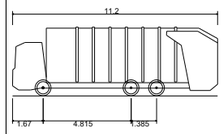
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4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-

Site Boundary

Existing Road Markings



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	
Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m



DB32 Private Car	
Overall Length	4.223m
Overall Width	1.715m
Overall Body Height	1.392m
Min Body Ground Clearance	0.233m
Max Track Width	1.629m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.780m

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Drawing Status: FINAL

Client: Chailey Homes

Project: Horebeech Lane, Horam

Drawing Title: Refuse Turning and Parking Spaces Swept Path Analysis

Scale	Date	Drawn By	Checked By
1:750	Dec 19	SMO	ALB

Drawing No.: 2019-3547-005

Rev.: G

APPENDICES

Appendix A Correspondence with ESCC

Ed Dodd

From: Phil Russell
Sent: 29 November 2019 11:58
To: Kal Kamboh
Cc: Mark Best; 'Matthew Taylor'; Ed Dodd; 'Chris Baron'
Subject: RE: APP/C1435/W/19/3235754 - LAND ADJACENT TO OLD ORCHARD HOUSE, HOREBEECH LANE, HORAM.

Dear Kal,

Thank you for the comments below and for acknowledgement of receipt of the modelling details in 'fragments' as requested by you to assist your review.

We will prepare our addendum report for submission to you by mid-next week, which will include the additional modelling requested and responses in red below.

With regards

Phil
Philip Russell
Managing Director

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07905 425 091
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From: Kal Kamboh <Kal.Kamboh@eastsussex.gov.uk>
Sent: 28 November 2019 11:55
To: 'Mark Best' <mark@parkerdann.co.uk>
Cc: 'Matthew Taylor' <Matthew.Taylor@wealden.gov.uk>; Phil Russell <phil.russell@brightplan.uk>
Subject: RE: APP/C1435/W/19/3235754 - LAND ADJACENT TO OLD ORCHARD HOUSE, HOREBEECH LANE, HORAM.

Dear Mark,
I have received further highway details relating to the modelling of the mini-roundabout which has arrived in fragments, and as such I have requested a revised technical report to sum up the outcome and set out the rationale so all is clear for my ensuing highway response to refer to and for the inspector to be aware of. I will be expected to submit an appeal statement, and from looking back to a year ago, my last formal response to WDC was (red comments are my update of today):

Further response
24/10/18 A technical note has been submitted by RGP transport consultants in response to the highway objection and the following further comments are made in the order presented in the note:
2.1 Speeds on Horebeech Lane – *the highway officer view is maintained as a highway scheme can be secured through a condition in the same way that a highway scheme was secured for Rosemead Farm. The report states that a TRO has a separate authorisation outside the planning process, but if part of a highway scheme which provides*

speed reducing features to create conditions for a more residential appearance, a Grampian condition can be imposed. Rosemead Farm has moved on and we are experiencing some teething problems whilst the highway works are being phased in, and the reposition of the 30 mph speed limit commencement/termination is not yet finalised. It is therefore a prudent approach that a highway scheme relating to traffic calming and relocation of the 30mph speed limit is secured in a Grampian planning condition, so that the conditions on the highway post Rosemead Farm completion can be reviewed.

***2.2 Main Access** – this is a full planning application, not outline and should be supported with a detailed design for planning stage. The highway officer view remains unchanged. The proposed access and expected activity for both motorised and non-motorised users does require a highway environment that encourages lower road speeds than is demonstrated in the speed survey. The request for a lowered speed limit is not merely for driver sightlines but to provide an environment that encourages walking and cycling. Am I expecting to see any access enhancements?*

***2.3 RSA1** - a further RSA1 will be required depending on the works that are carried out on Horebeech Lane, but the reference made was not applicant specific and would be likely for changes to the highway scheme as approved for Rosemead Farm, whether or not this development (if approved) comes forward once Rosemead has commenced or whether there are additional changes to the road layout to be carried out. As mentioned earlier, the emerging local conditions of the highway are in a period of flux whilst the highway works associated with Rosemead Farm are phased in. Post completion, a review will be necessary and a further RSA1.*

***2.4 Highway Scheme –** The suggestion of a mini-roundabout was indicative. The rationale for a feature at this section of Horebeech Lane was to indicate to drivers that they are entering an area of built form, and that driving behaviour should be appropriate. If a mini-roundabout is not appropriate then a gateway feature of some description should be provided and the last sentence in the cited paragraph remains pertinent "..it is recommended that the applicant enters into discussions with this authority so that 'access' can be discussed and appropriate measures can be secured for this site…" This is linked to my comment in 2.1*

***2.5 Footway on Horebeech Lane -** accepted as a feature that should be part of a highway scheme.*

***2.6 Cuckoo Trail Link** – the highway view remains relevant. Landowners of privately owned land may restrict public use and the PROW would only be accessible to those who live of visit the site and there would be the loss of potential permeability. The applicant is requested to clarify whether the land laid out as a cycleway will be designated as a public right of way or otherwise, bearing in mind the route should connect to Horebeech Lane if the internal roads are not adopted.*

***3.1 Highway Impact** – The trips rate used should use surveys at sites without rail stations. The site is relatively car dependent, there being only 1 bus service covering commuter periods and reaching Heathfield, Hailsham and Eastbourne; and the bus stop is 1km distant, not conveniently located for regular commuting particularly as parking is free of charge in nearby towns with the exception of Eastbourne. The majority of journeys are made by private car and as such the trip rate should reflect this unless justified with census data evidence. For consistency, the trip rate used for the Rosemead Farm site should be used for robustness. I have considered this myself and the impact is not likely to be to detriment of highway safety or capacity on the network. This is expected to be addressed in the technical report due.*

***3.2 Junction modelling** – the mini roundabout at the junction with A267 and Horebeech Lane was installed in late 2017, and was formerly a priority junction. The rational for this change was to accommodate the Merrydown development site on the A267 just north of the junction A267 and Horebeech Lane. This feature was part of a package of highway works required for reducing vehicles speeds and highway safety on the A267, and to facilitate the zebra crossing and assist the driver sightlines at the Merrydown Village site. To change the mini-roundabout back to a priority junction is not likely to be supported by the highway authority as it would have highway safety repercussions on the function of the A267.*

I note that the Transport consultant has carried out further modelling work based on the theoretical operation of the junction, using the modelling data provided by GTA Civils when the Rosemead Farm proposal was being considered. It has been noted that the actual operation of the mini-roundabout has been effective in terms of the reduction of vehicle speeds and improvement to flows of traffic on the A267.

It is therefore considered that the operational flows should be surveyed to obtain an actual representation of the network operation with committed and proposed development figures applied accordingly with growth to 2028. This is now complete and the impact on the mini-roundabout does not reach a point of unacceptable impact in forecast year 2028. Technical report is expected.

***4.1 Parking/Servicing –** provision in terms of amount is accepted, though swept path plans are using a car 4.2m in length, 4.8m long vehicle should be used instead to demonstrate the areas shown for parking can be accessed. Still awaited*

***5 Shared surfaces** – agreed*

***6 Travel Plan** – agreed*
Summary – The planning application attracts an objection as submitted and the outstanding matters are set out above within the comments.

I trust this helps to understand what is outstanding.
regards

Ms Kal Kamboh
Principal Officer
Transport Development Control

01273 482287| 07701 394 524
eastsussex.gov.uk

From: Mark Best [mailto:mark@parkerdann.co.uk]
Sent: 28 November 2019 11:10 AM
To: Phil Russell
Cc: info; Kal Kamboh
Subject: FW: APP/C1435/W/19/3235754 - LAND ADJACENT TO OLD ORCHARD HOUSE, HOREBEECH LANE, HORAM.

Morning Phillip,

Further to my email below, do we need any revised plans to deal with the updated information we have provided Kal?

If there is further modelling or anything new this should be sent to Wealden before 6th December when the press advert goes out. We have to ensure that we can legitimately say to the Inspector that no party is prejudiced or they may not accept the additional information.

Sorry for chasing but this is really urgent now.

Any queries please let me know.

Thanks

Mark

Mr. Mark Best BSc (Hons) MSc MRTPI - Planning Consultant
Parker Dann Chartered Town Planning Consultants
Suite S10, Waterside Centre, North Street, Lewes BN7 2PE
Tel: +44 (0)1273 478654
Mobile: +44 (0)7436 810286
Twitter: @parkerdann
www.parkerdann.co.uk
Sussex Heritage Trust Award winners – Commercial: 2012 and 2015, Small Scale Residential: 2015, 2016 and 2017

From: Mark Best [mailto:mark@parkerdann.co.uk]
Sent: 27 November 2019 09:50

To: info (info@chaileyhomes.co.uk); Phil Russell (phil.russell@brightplan.uk); 'Matthew Taylor'
Cc: 'Planning Appeals'; 'Kal Kamboh'
Subject: RE: APP/C1435/W/19/3235754 - LAND ADJACENT TO OLD ORCHARD HOUSE, HOREBEECH LANE, HORAM.

Morning Chris, Phillip, Matthew,

Please see below for info.

Further to my email dated 25th November 2019, I'm acutely conscious that if we unveil some revised plans at the Hearing the Inspector is likely to tell us they are inadmissible and will consider the appeal as submitted. Therefore it would be beneficial for us to submit any revised plans dealing with layout and @Phillip if necessary highway matters to the Council and PINS in advance of press advert below going out. I'm sure the Council will be co-operative and put the plans on their website allowing interest parties to make comments to PINS on their content should they wish to. This would ensure no party is prejudiced and makes it substantially more likely the revised plans are accepted.

@Mathew – How can we progress the design amendments the Council wishes to see?

@Phillip – If we need revised plans to achieve the solution agreed with Kal please can I have these along with a note to indicate which plans are superseded (if any).

Any queries please let me know.

Kind regards

Mark

Mr. Mark Best BSc (Hons) MSc MRTPI - Planning Consultant
Parker Dann Chartered Town Planning Consultants
Suite S10, Waterside Centre, North Street, Lewes BN7 2PE
Tel: +44 (0)1273 478654
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Twitter: @parkerdann
www.parkerdann.co.uk
Sussex Heritage Trust Award winners – Commercial: 2012 and 2015, Small Scale Residential: 2015, 2016 and 2017

From: Planning Appeals [mailto:Planning.Appeals@wealden.gov.uk]
Sent: 26 November 2019 14:27
To: 'East 2'
Cc: 'Mark Best'; Matthew Taylor
Subject: APP/C1435/W/19/3235754 - LAND ADJACENT TO OLD ORCHARD HOUSE, HOREBEECH LANE, HORAM.

Attn. Simon Dunn

Further to my note with regard to the press advert that was submitted with the Questionnaire yesterday.

The press advert has now been generated and will be placed in the local paper on the 6th December 2019.

It has been decided that it will be advertised as a departure application. The expiry date for comments will be 27 December 2019, a day later than the PINS deadline of the 26 December 2019.

The council offices close early on the 24 December and reopen on the 2 January, we will ensure that any comments submitted to us during this time will be forwarded to you as soon as possible on the 2 January 2020.

Kind regards

Louise Evans | Technical Officer (Planning Appeals)
Planning and Environmental Services, Wealden District Council
01892 602481 (direct line) or 01892 602010 (Technical Team)
louise.evans@wealden.gov.uk
Council Offices | Vicarage Lane | Hailsham | East Sussex | BN27 2AX

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Appendix B Technical Note

BRIGHT PLAN

HOREBEECH LANE, HORAM

RESIDENTIAL DEVELOPMENT

Technical Note

Prepared on Behalf of

Chailey Homes

CHHO/17/3547s

03 December 2019

Bright Plan Ltd – Transport Planning and Civil Engineering Consultants T: 01243 210418 www.bpcivils.co.uk
Unit 2, West Barn, Norton Lane, Chichester, West Sussex, PO20 3AF
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DOCUMENT CONTROL

Project: Horebeech Lane, Horam
Residential Development

Document: Technical Note

Client: Chailey Homes

Reference: CHHO/17/3547s

Document Checking:

Author: EJD ..... **Date:** 03/12/19 .....

Checked by: PMR ..... **Date:** 03/12/19 .....

Approved by: PMR ..... **Date:** 03/12/19 .....

Status:

Issue	Date	Status	Issued by
1.	03/12/19	Final	EJD
2.			
3.			
4.			
5.			
6.			

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1 INTRODUCTION

1.1.1 This Technical Note (TN) has been prepared be Bright Plan on behalf of Chailey Homes to summarise junction modelling assessments of the A267/Horebeech Lane mini roundabout in relation to a proposed residential development at Horebeech Lane Horam. This report includes future scenarios as requested by ESCC's Highways Officers within correspondence dated 27th November 2019. A copy of the correspondence is attached at **Appendix A**.

1.1.2 The remainder of this report comprises the following sections:

i. **Section 2** reviews the vehicle trip rate applied to the proposed development;

ii. **Section 3** summarises the traffic assignment model used to determine the distribution of development trips on the local road network;

iii. **Section 4** reviews the vehicle trip generation and distribution associated with committed development in the vicinity of the site;

iv. **Section 5** provides a summary of the results of the junction modelling assessments.

2 VEHICLE TRIP GENERATION

2.1.1 Following comments from East Sussex County Council's (ESCC) Highways Officers, the proposed vehicle trip generation used within the junction capacity modelling assessment of the A267/Horebeech lane mini roundabout has been based on the trip rates established for the neighbouring Rosemead Farm development. Summary of anticipated vehicle trips that would be generated by the development is provided in **Figure 2.1**.

		AM Peak Hour		PM Peak Hour		Daily	
		Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
Flats	Trip Rates	0.056	0.299	0.311	0.096	1.911	1.749
	8 Flats	**0**	**2**	**2**	**1**	**15**	**14**
Houses	Trip Rates	0.158	0.420	0.400	0.238	2.690	2.792
	50 Houses	**8**	**21**	**20**	**12**	**135**	**140**
Overall		**8**	**23**	**22**	**13**	**150**	**154**

Figure 2.1: Vehicle Trips

3 TRAFFIC ASSIGNMENT MODEL

3.1.1 To determine the traffic distribution to/from the development sites, commuting patterns for existing residents in the vicinity of the site have been applied to trips arising from the proposed developments.

3.1.2 To establish the routes used by future residents, data has been gathered from the 2011 census 'Location of usual residence and place of work' dataset which identifies the workplace destinations for residents of a particular area (ward or lower output level). For the purposes of this assessment, data has been gathered from the Wealden 011D and Wealden 011E super output lower layers. The census data is attached at **Appendix B**.

3.1.3 Using the census data, trips to/from the site have been assigned to key traffic routes based on typical journey times as calculated using Geographic Information System (GIS) algorithms. The anticipated distribution of traffic from each development has been demonstrated as a percentage in **Appendix C**.

3.1.4 To determine the quantum of additional vehicle trips on the key routes, the percentage distribution for each site has been applied to the site's anticipated trip generation. The number of movements have then summed to establish the total flows arising from the developments. The traffic assignment model is attached at **Appendix D**.

4 COMMITTED DEVELOPMENTS

4.1.1 ESCC requested that the following approved developments be included within capacity modelling assessment of the A267/Horebeech Lane mini roundabout.

i. WD/17/2952 – 58 dwellings

ii. WD/16/2017 – 123 dwellings

iii. WD/17/0022 – 20 dwellings

iv. WD/16/2533 – crematorium

v. WD/16/1560 – 21 dwellings

4.1.2 Trips associated with the committed developments were obtained from the respective transport reports associated with each of the developments. The Transport Statement associated with the proposed Crematorium states; "the site proposals for the service times would not result in any arrivals in the AM peak hour or departures in the PM peak hour". As such, the assessment assumes no trips would be generated by the crematorium during either the AM or PM peak hours. A summary of the committed development trips is provided in **Figure 4.1**.

	AM Peak Hour		PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
WD/17/2952 – 58 dwellings	8	23	21	9
WD/16/2017 – 123 dwellings	20	57	55	31
WD/17/0022 – 20 dwellings	2	8	8	2
WD/16/1560 – 21 dwellings	3	8	8	3

Figure 4.1: Committed Development Vehicle Trips

4.1.3 The vehicle trips above were assigned to the key routes on the local road network based on the percentages established within the traffic assignment model (**Appendix C**). Flow diagrams for each of the committed developments, including an overall distribution of all committed development flows, are attached at **Appendix E**.

5 JUNCTION CAPACITY MODELLING

5.1.1 In order to establish the traffic impact of the development on the local road network, junction capacity modelling assessments have been undertaken for the A267/Horebeech Lane mini roundabout using ARCADY, considering 3 scenarios as follows:

i. 2018 baseline traffic (AM/PM peak hours)

ii. 2028 baseline traffic + committed development traffic (AM/PM peak hours)

iii. 2028 baseline traffic + committed development traffic + development traffic (AM/PM peak hours)

5.2 2018 Baseline Traffic

5.2.1 The 2018 baseline traffic model was based on the flows recorded during a turning count survey undertaken by Phoenix Traffic Surveys on Wednesday 5th December 2018. A copy of the survey results is attached at AM/PM peak hour **Appendix F** and the junction flows used for the modelling are attached at **Appendix G**.

5.2.2 A summary of the results of the 2019 baseline traffic is provided in **Figure 5.1**.

	Arm	Queue (Veh)	Delay (s)	Ratio Flow Capacity	Junction Delay (s)
AM Peak Hour	Arm A (A267 (N))	0.2	5.01	0.19	**4.75**
	Arm B (Horebeech Lane)	0.1	5.06	0.10	
	Arm C (A267 (S))	0.2	4.36	0.15	
PM Peak Hour	Arm A (A267 (N))	0.4	5.52	0.28	**5.36**
	Arm B (Horebeech Lane)	0.1	5.04	0.06	
	Arm C (A267 (S))	0.2	4.16	0.14	

Figure 5.1: Capacity Modelling Results: 2018 Baseline Traffic

5.2.3 As shown in **Figure 5.1** above, the ARCADY assessment of the mini roundabout revealed a maximum Ratio Flow Capacity (RFC) value of 0.28 on arm A (A267 (N)) in the PM peak hour and a maximum queue length of below 1 vehicle (0.4). A maximum delay of 5.52 seconds was revealed on Arm A (A267 (N)).

5.2.4 The junction flows are attached at **Appendix G** and the ARCADY assessment reports are attached at **Appendix H**.

5.3 2028 Baseline Traffic + Committed Development Traffic

5.3.1 To determine the flows in 2028 (end of Local Plan), the recorded flows through the mini roundabout have been growthed using TEMPRO. A copy of the TEMPRO growth factors is attached at **Appendix G**.

5.3.2 A summary of the results of the 2028 baseline traffic + committed development traffic model is provided in **Figure 5.2**.

	Arm	Queue (Veh)	Delay (s)	Ratio Flow Capacity	Junction Delay (s)
AM Peak Hour	Arm A (A267 (N))	0.3	5.22	0.22	**4.98**
	Arm B (Horebeech Lane)	0.2	5.34	0.14	
	Arm C (A267 (S))	0.2	4.56	0.17	
PM Peak Hour	Arm A (A267 (N))	0.5	6.01	0.34	**5.36**
	Arm B (Horebeech Lane)	0.1	5.27	0.08	
	Arm C (A267 (S))	0.2	4.33	0.17	

Figure 5.2: Capacity Modelling Results: 2028 Baseline Traffic + Committed Development Traffic

5.3.3 As shown in **Figure 5.2** above, the ARCADY assessment of the mini roundabout revealed a maximum Ratio Flow Capacity (RFC) value of 0.34 on arm A (A267 (N)) in the PM peak hour and a maximum queue length of below 1 vehicle (0.5). A maximum delay of 6.01 seconds was revealed on Arm A (A267 (N)).

5.4 2028 Baseline Traffic + Committed Development Traffic + Proposed Development Traffic

5.4.1 A summary of the results of the 2028 baseline traffic + committed development traffic model is provided in **Figure 5.3**.

	Arm	Queue (Veh)	Delay (s)	Ratio Flow Capacity	Junction Delay (s)
AM Peak Hour	Arm A (A267 (N))	0.3	5.22	0.22	**5.62**
	Arm B (Horebeech Lane)	0.5	6.69	0.33	
	Arm C (A267 (S))	0.2	5.31	0.20	
PM Peak Hour	Arm A (A267 (N))	0.6	7.44	0.39	**6.38**
	Arm B (Horebeech Lane)	0.1	5.39	0.08	
	Arm C (A267 (S))	0.2	4.89	0.19	

Figure 5.3: Capacity Modelling Results: 2028 Baseline Traffic + Committed Development Traffic + Proposed Development Traffic

5.4.2 As shown in **Figure 5.3** above, the ARCADY assessment of the mini roundabout revealed a maximum Ratio Flow Capacity (RFC) value of 0.39 on arm A (A267 (N)) in the PM peak hour and a maximum queue length of below 1 vehicle (0.6). A maximum delay of 7.44 seconds was revealed on Arm A (A267 (N)).

5.4.3 The proposed development would result in a negligible increase in the delay at the junction, increasing the maximum delay 6.01 seconds to 7.44 seconds.

APPENDICES

Appendix A Correspondence with ESCC

Ed Dodd

From: Kal Kamboh <Kal.Kamboh@eastsussex.gov.uk>
Sent: 27 November 2019 10:42
To: Ed Dodd
Cc: Phil Russell; Mark Weston; Sam O'Halloran; Alex Jack
Subject: RE: Land at Horebeech Lane, Horam

Dear Ed,
Thank you for providing the supplementary information on Friday. I have looked through and consider that the figures are representative.
In order to assist the Inspector to understand the impact of the proposal on the mini-roundabout it would be useful to have 2 additional scenarios Baseline + committed AM and Baseline + committed PM.

Following on from my email to Phillip Russell on 31st October, in reference to the modelling and layout, it was stated:

If this can be looked at, I shall be grateful for a revised Arcady report and an addendum Technical report thereafter if the modelling proves to demonstrate a good operational level of the mini-roundabout at Horebeech lane/A267.

I will be able to sum up the remainder of the application content in due course. I have checked my last formal response to Wealden dated 28/05/19 and there appears to be some layout matters that would need to be addressed to overcome highway objection. I am happy to discuss those alongside the highway impact objection.

I therefore am in a position to accept your modelling and conclude that the mini-roundabout can accommodate the development traffic and request that there should be an addendum to set out the work carried out. In terms of the layout, there are some outstanding matters to consider and I still await details pertaining to those.
I look forward to hearing from Brightplan.

regards
Ms Kal Kamboh
Principal Officer
Transport Development Control

01273 482287| 07701 394 524
eastsussex.gov.uk

From: Ed Dodd [mailto:ed.dodd@brightplan.uk]
Sent: 22 November 2019 12:58 PM
To: Kal Kamboh
Cc: Mark Weston; Phil Russell
Subject: RE: Land at Horebeech Lane, Horam

Good afternoon Kal,

Please see attached flows junction modelling. This includes the TEMPRO growth factors and the committed development flows.

Please let me know if you require any further information.

Regards,
Ed

Ed Dodd
Senior Consultant

01243 210 418

ed.dodd@brightplan.uk

www.bpcivils.co.uk

Bright Plan Ltd, Transport Planning and Civil Engineering Consultants

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From: Kal Kamboh <Kal.Kamboh@eastsussex.gov.uk>
Sent: 21 November 2019 12:53
To: Sam O'Halloran <sam.ohalloran@brightplan.uk>
Cc: Mark Weston <Mark.Weston@eastsussex.gov.uk>
Subject: RE: Land at Horebeech Lane, Horam

Hi Sam,
Thank you for the amended flows and remodelled junction. Sorry for the delay in getting back to you. I note there is no reference to TEMPRO so I would appreciate confirmation that the appropriate growth factor has been applied and can you let me know the development flows that were added. Phillip has listed the developments that were asked to be included and I would just like to verify that the added flows are representative.
Thanks

Ms Kal Kamboh
Principal Officer
Transport Development Control

01273 482287| 07701 394 524
eastsussex.gov.uk

From: Sam O'Halloran [mailto:sam.ohalloran@brightplan.uk]
Sent: 07 November 2019 10:17 AM
To: Kal Kamboh
Cc: Phil Russell
Subject: RE: Land at Horebeech Lane, Horam

Good morning Kal,

I hope you are well.

Further to your previous correspondence we have revised the flows as requested and re modeled the junction.

Please find attached the revised ARCADY modal showing the mini-roundabout working within capacity in 2028 with committed development.

If you have any questions feel free to contact me at any point.

Kind regards,

Sam O'Halloran
Consultant

01243 210 418

sam.ohalloran@brightplan.uk

www.bpcivils.co.uk

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From: Kal Kamboh <Kal.Kamboh@eastsussex.gov.uk>
Sent: 31 October 2019 12:42
To: Phil Russell <phil.russell@brightplan.uk>
Cc: Mark Weston <Mark.Weston@eastsussex.gov.uk>; 'Richard Goodall (Richard.goodall@advocoplanning.co.uk)' <Richard.goodall@advocoplanning.co.uk>; 'Chris Baron' <cbaron@chaileyhomes.co.uk>; Mark Best <mark@parkerdann.co.uk>; 'Matthew Taylor' <Matthew.Taylor@wealden.gov.uk>; Dan Witcher <Dan.Witcher@eastsussex.gov.uk>
Subject: RE: Land at Horebeech Lane, Horam

Dear Phil,
Thank you for providing the requested information.
Mark and I have checked the turning counts that are dated 4th and 5th December 2018 and referenced them to the Arcady modelling report generated on the 9th October 2019. It would appear that the AM periods are consistent with the data, but the PM modelling represents approximately 50% of the actual traffic data. More specifically, errors were found for the northbound A267 and northbound Horebeech Lane. As the baseline input has been incorrect the remainder of the generated report for the forecast CD + Devt 2028 will also be flawed.

If this can be looked at, I shall be grateful for a revised Arcady report and an addendum Technical report thereafter if the modelling proves to demonstrate a good operational level of the mini-roundabout at Horebeech lane/A267.

I will be able to sum up the remainder of the application content in due course. I have checked my last formal response to Wealden dated 28/05/19 and there appears to be some layout matters that would need to be addressed to overcome highway objection. I am happy to discuss those alongside the highway impact objection.

Regards

Ms Kal Kamboh
Principal Officer
Transport Development Control

01273 482287| 07701 394 524
eastsussex.gov.uk

East Sussex County Council

From: Phil Russell [mailto:phil.russell@brightplan.uk]
Sent: 16 October 2019 11:20 AM
To: Kal Kamboh
Cc: Mark Weston; 'Richard Goodall (Richard.goodall@advocoplanning.co.uk)'; 'Chris Baron'; Mark Best; 'Matthew Taylor'; Dan Witcher
Subject: RE: Land at Horebeech Lane, Horam

Dear Kal,

Thank you for your response. My response to your email is as follows:

a. Attached;
b. Attached. You will see your Representations under Highways Impact have been complied with;
c. https://www.sendspace.com/folder/p4w0zf

I note your point highlighted, but my point was that it would have been helpful to have received the comments on the operation of the junction from local highways officers a year ago.

Notwithstanding your views on the attached which I await, and that our modelling reflects more closely what we were advised by Mark Weston at the meeting, perhaps you would like to nominate a traffic survey company to provide a most up to date version of the data supplied by Phoenix Traffic Surveys, upon which we could rerun all models? An alternative may be that ESCC gathers the data. Either way my client has agreed to pay further for this work, in order to avoid what appears to be a wholly unnecessary appeal on highways matters.

I look forward to your further comments, including any request for alternative data soonest please.

With regards

Phil
Philip Russell
Managing Director

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07905 425 091
phil.russell@brightplan.uk
www.bpcivils.co.uk

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From: Kal Kamboh <Kal.Kamboh@eastsussex.gov.uk>
Sent: 16 October 2019 10:18
To: Phil Russell <phil.russell@brightplan.uk>
Cc: Mark Weston <Mark.Weston@eastsussex.gov.uk>; 'Richard Goodall (Richard.goodall@advocoplanning.co.uk)' <Richard.goodall@advocoplanning.co.uk>; 'Chris Baron' <cbaron@chaileyhomes.co.uk>; Mark Best <mark@parkerdann.co.uk>; 'Matthew Taylor' <Matthew.Taylor@wealden.gov.uk>; Dan Witcher <Dan.Witcher@eastsussex.gov.uk>
Subject: RE: Land at Horebeech Lane, Horam

Dear Phil,
Thank you for your email of 10 October 2019 and your revised modelling outputs.

Firstly, as we are dealing with an appeal situation, I would be grateful if you could confirm to me by way of supplementary information the following:

a. The actual count data
b. A list of the committed developments included
c. Video footage snapshots for each segment within the surveyed period

Concerning your second paragraph, I will draw to your attention my highway response of 24/10/18 to the submitted RGP technical report. In section 3.2 it is stated, the relevant sentence highlighted:

3.2 Junction modelling *– the mini roundabout at the junction with A267 and Horebeech Lane was installed in late 2017, and was formerly a priority junction. The rational for this change was to accommodate the Merrydown development site on the A267 just north of the junction A267 and Horebeech Lane. This feature was part of a package of highway works required for reducing vehicles speeds and highway safety on the A267, and to facilitate the zebra crossing and assist the driver sightlines at the Merrydown Village site. To change the mini-roundabout back to a priority junction is not likely to be supported by the highway authority as it would have highway safety repercussions on the function of the A267.*

I note that the Transport consultant has carried out further modelling work based on the theoretical operation of the junction, using the modelling data provided by GTA Civils when the Rosemead Farm proposal was being considered. It has been noted that the actual operation of the mini-roundabout has been effective in terms of the reduction of vehicle speeds and improvement to flows of traffic on the A267.

It is therefore considered that the operational flows should be surveyed to obtain an actual representation of the network operation with committed and proposed development figures applied accordingly with growth to 2028.

As you can see, it has been almost a year since we requested actual representation of the junction which is now presented.

I have reviewed your recent modelling work for the junction and what is presented does indicate that the capacity problems that were flagged up within the theoretical modelling are not present. However, the evidence to support this will be required to satisfy this authority to reconsider the highway opinion to the proposal; and to present to an Inspector at appeal.

I look forward to hearing from you.

Regards

Ms Kal Kamboh
Principal Officer
Transport Development Control

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East Sussex County Council

From: Phil Russell [mailto:phil.russell@brightplan.uk]
Sent: 10 October 2019 10:20 AM
To: Kal Kamboh
Cc: Mark Weston; 'Richard Goodall (Richard.goodall@advocoplanning.co.uk)'; 'Chris Baron'; Mark Best
Subject: Land at Horebeech Lane, Horam

Dear Kal,

I write in response to the matters arising from the meeting held at your offices on 27th September. The principal outcome of the meeting was that you and Mark Weston considered that our base modelling was not representative of the actual traffic conditions, since you both have experience of traffic running freely at the junction at peak times, rather than vehicles queuing as reflected in our base models. This came as a revelation to me, since the data gathered by a data collection company showed queues, which we undertook to reflect in our modelling.

The fundamental issue of our base models not reflecting actuality was raised by yourselves after 14 months since our first modelling input was submitted to your office. However, the issues arising from the recent meeting prompted me to obtain the actual videos taken by Phoenix Traffic Surveys, which are not normally provided to the client, and to visit the junction during the peak periods.

The video evidence does uphold your council's view that the junction is free-flowing during the morning and afternoon peaks. It is apparent from the video footage that the mini-roundabout was likely installed because of the high levels of traffic on the A267, which as a T-junction would have severely restricted opportunities for drivers attempting to emerge onto the A267 from Horebeech Lane. The traffic on the A267 is only mildly impeded by the mini-roundabout, and because of the comparatively light levels of traffic on Horebeech Lane.

Following the meeting on the 27th September and with the benefit of the video footage, we have been able to remodel the junction and validate the outputs against the footage. We have used the most recent Junctions 9 software, that includes a mode that provides a visualisation of traffic through the junction, which we have compared against the video footage.

The attached Junctions 9 models provides accurate representations of the performances of the junction for the base, (existing) and thus for 2028 with the committed development and my client's development-related traffic.

It is clear from the attached that the mini-roundabout will continue to operate well within capacity at 2028, with the committed development, plus my client's development.

I look forward to your response to this updated evidence, which clearly shows that my client's proposal, if allowed, would not cause harm to the operational performance of the junction of Horebeech Lane and the A267.

With regards

Phil

Philip Russell
Managing Director

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Appendix B 2011 Census Data

WF01BEW - Location of usual residence and place of work (OA level)

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population: All usual residents ages 16 and over in employment the week before the census
units: Persons
date: 2011

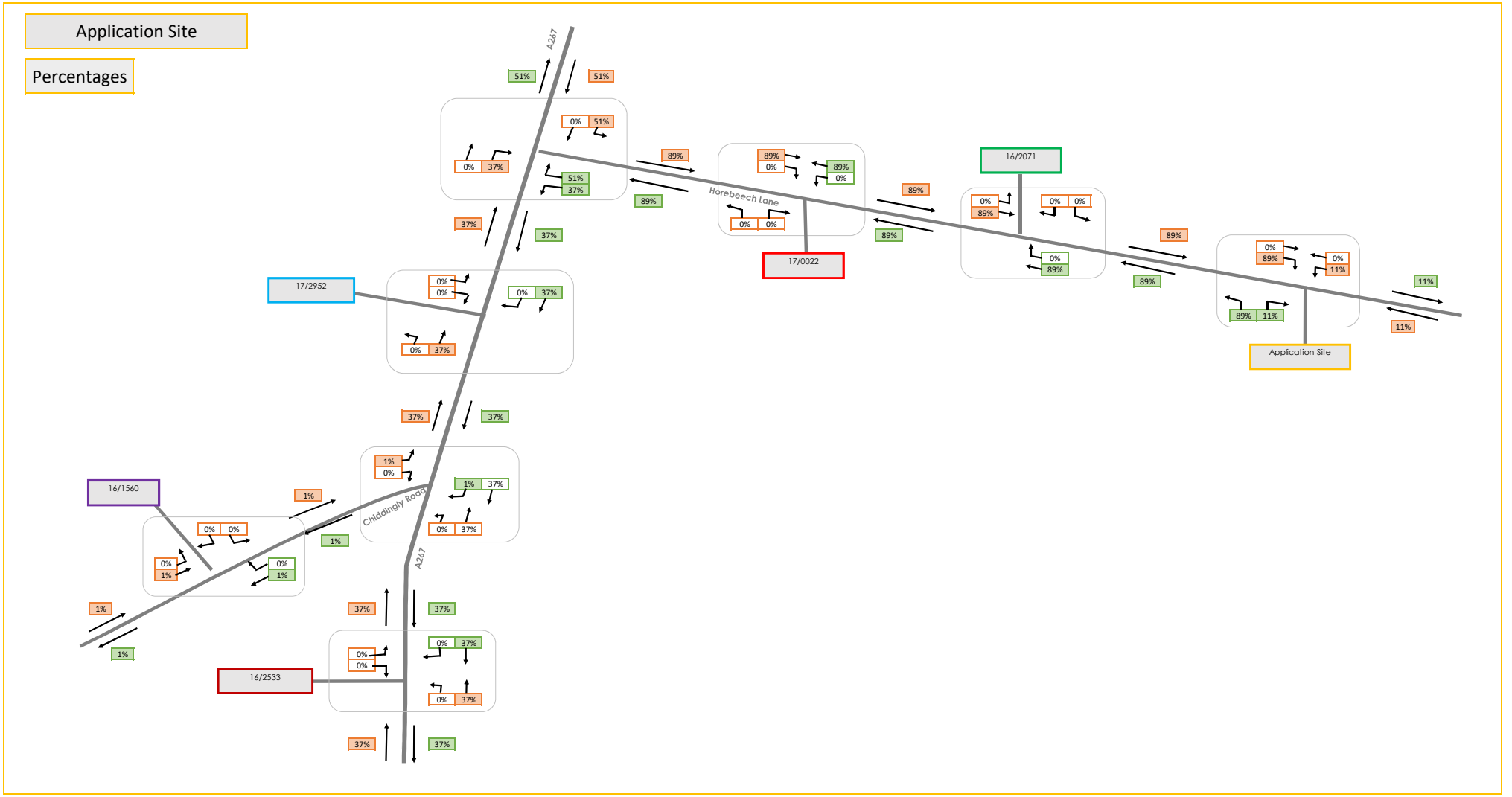
place of work / **currently residing in**

Mid Layer	E01021200 : Wealden 011D	E01021201 : Wealden 011E	Combined		B2203	Chiddingly Rd	A267 (S)	Laundry Ln	Marle Green	A267 (N)	A26 (N)	A22 (N)	B2102	A272
Lower Layer														
E01021150 : Wealden 010A	9	5	14	1.8%							1			
E01021191 : Wealden 010B	27	32	59	7.4%		0.5					0.5			
E01021192 : Wealden 010C	0	5	5	0.6%		1								
E01021193 : Wealden 010D	13	10	23	2.9%		0.75					0.25			
E01021194 : Wealden 010E	3	2	5	0.6%		1								
E01021149 : Wealden 011A	7	4	11	1.4%							1			
E01021189 : Wealden 011B	13	14	27	3.4%		0.25			0.75					
E01021190 : Wealden 011C	3	7	10	1.3%		0.5			0.5					
E01021200 : Wealden 011D	15	9	24	3.0%										
E01021201 : Wealden 011E	30	35	65	8.2%										
Mid Layer														
E02004413 : Wealden 011	68	69	137	17.2%										
E02004412 : Wealden 010	52	54	106	13.3%										
E02004411 : Wealden 009	19	13	32	4.0%									1	
E02004417 : Wealden 015	14	14	28	3.5%				0.75		0.25				
E02004410 : Wealden 008	17	9	26	3.3%							1			
E02004420 : Wealden 018	12	13	25	3.1%				1						
E02004415 : Wealden 013	17	4	21	2.6%				1						
E02004416 : Wealden 014	6	12	18	2.3%						1				
E02004418 : Wealden 016	7	6	13	1.6%				1						
E02004414 : Wealden 012	5	6	11	1.4%									1	
E02004406 : Wealden 004	6	4	10	1.3%							1			
E02004407 : Wealden 005	3	7	10	1.3%		0.5					0.5			
E02004408 : Wealden 006	2	7	9	1.1%							1			
E02004404 : Wealden 002	3	5	8	1.0%							1			
E02004405 : Wealden 003	4	4	8	1.0%							1			
E02004419 : Wealden 017	3	4	7	0.9%				0.75		0.25				
E02004421 : Wealden 019	2	4	6	0.8%				1						
E02004403 : Wealden 001	1	4	5	0.6%								1		
E02004409 : Wealden 007	1	4	5	0.6%								1		
E02004422 : Wealden 020	0	2	2	0.3%				1						
E02004423 : Wealden 021	0	0	0	0.0%				1						
merged local authority														
Wealden	242	245	487	61.1%										
Eastbourne	29	42	71	8.9%				1						
Lewes	22	29	51	6.4%				1						
Tunbridge Wells	13	24	37	4.6%							1			
Rother	13	19	32	4.0%				0.25		0.75				
Westminster,City of London	10	21	31	3.9%				1						
Crawley	9	17	26	3.3%				0.5				0.5		
Brighton and Hove	8	13	21	2.6%				1						
Mid Sussex	7	11	18	2.3%										1
Hastings	5	9	14	1.8%						1				
Tonbridge and Malling	3	8	11	1.4%		0.25					0.75			
Southwark	6	2	8	1.0%							1			
Hillingdon	3	2	5	0.6%							1			
Tandridge	2	3	5	0.6%									1	
Horsham	1	4	5	0.6%			0.5							0.5
Bromley	0	4	4	0.5%							1			
Croydon	2	2	4	0.5%								1		
Islington	1	3	4	0.5%							1			
Merton	1	3	4	0.5%									1	
Tower Hamlets	2	2	4	0.5%							1			
Elmbridge	0	4	4	0.5%							1			
Reigate and Banstead	1	3	4	0.5%							0.5		0.5	
Lambeth	1	2	3	0.4%							1			
Worthing	2	1	3	0.4%				1						
Enfield	1	1	2	0.3%							1			
Wandsworth	2	0	2	0.3%							0.5		0.5	
Sevenoaks	1	1	2	0.3%							1			
Bristol, City of	1	1	2	0.3%				0.5			0.5			
Warrington	1	0	1	0.1%							1			
Manchester	0	1	1	0.1%							1			
Coventry	0	1	1	0.1%							1			
Watford	0	1	1	0.1%							1			
Babergh	0	1	1	0.1%							1			
Camden	0	1	1	0.1%							1			
Havering	0	1	1	0.1%							1			
Hounslow	0	1	1	0.1%							1			
Kensington and Chelsea	1	0	1	0.1%							1			
Lewisham	0	1	1	0.1%							1			
Newham	1	0	1	0.1%							1			
Sutton	1	0	1	0.1%									1	
Medway	0	1	1	0.1%					0.25		0.75			
Bracknell Forest	0	1	1	0.1%							1			
Dartford	0	1	1	0.1%							1			
Maidstone	0	1	1	0.1%							1			
Shepway	0	1	1	0.1%						1				
Guildford	0	1	1	0.1%							1			
Waverley	1	0	1	0.1%							1			
Adur	0	1	1	0.1%			0.5	0.5						
Chichester	1	0	1	0.1%			1							
East Dorset	1	0	1	0.1%			1							
		Total	797	100.0%										

Mid Layer	B2203	Chiddingly Rd	A267 (S)	Laundry Ln	Marle Green	A267 (N)	A26 (N)	A22 (N)	B2102	A272
Lower Layer										
E01021150 : Wealden 010A							1.8%			
E01021191 : Wealden 010B	3.7%						3.7%			
E01021192 : Wealden 010C	0.6%									
E01021193 : Wealden 010D	2.2%						0.7%			
E01021194 : Wealden 010E	0.6%									
E01021149 : Wealden 011A							1.4%			
E01021189 : Wealden 011B	0.8%				2.5%					
E01021190 : Wealden 011C	0.6%				0.6%					
E01021200 : Wealden 011D										
E01021201 : Wealden 011E										
Mid Layer										
E02004413 : Wealden 011										
E02004412 : Wealden 010										
E02004411 : Wealden 009										4.0%
E02004417 : Wealden 015			2.6%		0.9%					
E02004410 : Wealden 008							3.3%			
E02004420 : Wealden 018			3.1%							
E02004415 : Wealden 013			2.6%							
E02004416 : Wealden 014					2.3%					
E02004418 : Wealden 016			1.6%							
E02004414 : Wealden 012										1.4%
E02004406 : Wealden 004							1.3%			
E02004407 : Wealden 005	0.6%						0.6%			
E02004408 : Wealden 006							1.1%			
E02004404 : Wealden 002							1.0%			
E02004405 : Wealden 003							1.0%			
E02004419 : Wealden 017			0.7%		0.2%					
E02004421 : Wealden 019			0.8%							
E02004403 : Wealden 001									0.6%	
E02004409 : Wealden 007									0.6%	
E02004422 : Wealden 020			0.3%							
E02004423 : Wealden 021										
merged local authority										
Wealden										
Eastbourne			8.9%							
Lewes			6.4%							
Tunbridge Wells							4.6%			
Rother			1.0%		3.0%					
Westminster,City of London			3.9%							
Crawley			1.6%					1.6%		
Brighton and Hove			2.6%							
Mid Sussex										2.3%
Hastings					1.8%					
Tonbridge and Malling	0.3%						1.0%			
Southwark							1.0%			
Hillingdon							0.6%			
Tandridge									0.6%	
Horsham		0.3%								0.3%
Bromley							0.5%			
Croydon								0.5%		
Islington							0.5%			
Merton									0.5%	
Tower Hamlets							0.5%			
Elmbridge							0.5%			
Reigate and Banstead							0.3%		0.3%	
Lambeth							0.4%			
Worthing			0.4%							
Enfield							0.3%			
Wandsworth							0.1%		0.1%	
Sevenoaks							0.3%			
Bristol, City of			0.1%				0.1%			
Warrington							0.1%			
Manchester							0.1%			
Coventry							0.1%			
Watford							0.1%			
Babergh							0.1%			
Camden							0.1%			
Havering							0.1%			
Hounslow							0.1%			
Kensington and Chelsea							0.1%			
Lewisham							0.1%			
Newham							0.1%			
Sutton									0.1%	
Medway					0.0%		0.1%			
Bracknell Forest							0.1%			
Dartford							0.1%			
Maidstone							0.1%			
Shepway					0.1%					
Guildford							0.1%			
Waverley							0.1%			
Adur		0.1%	0.1%							
Chichester		0.1%								
East Dorset		0.1%								
	9.6%	0.6%	36.7%	3.2%	8.2%	28.6%	2.1%	2.9%	5.4%	2.6% 0.0%

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

Appendix C Flow Diagram - Percentage Distribution

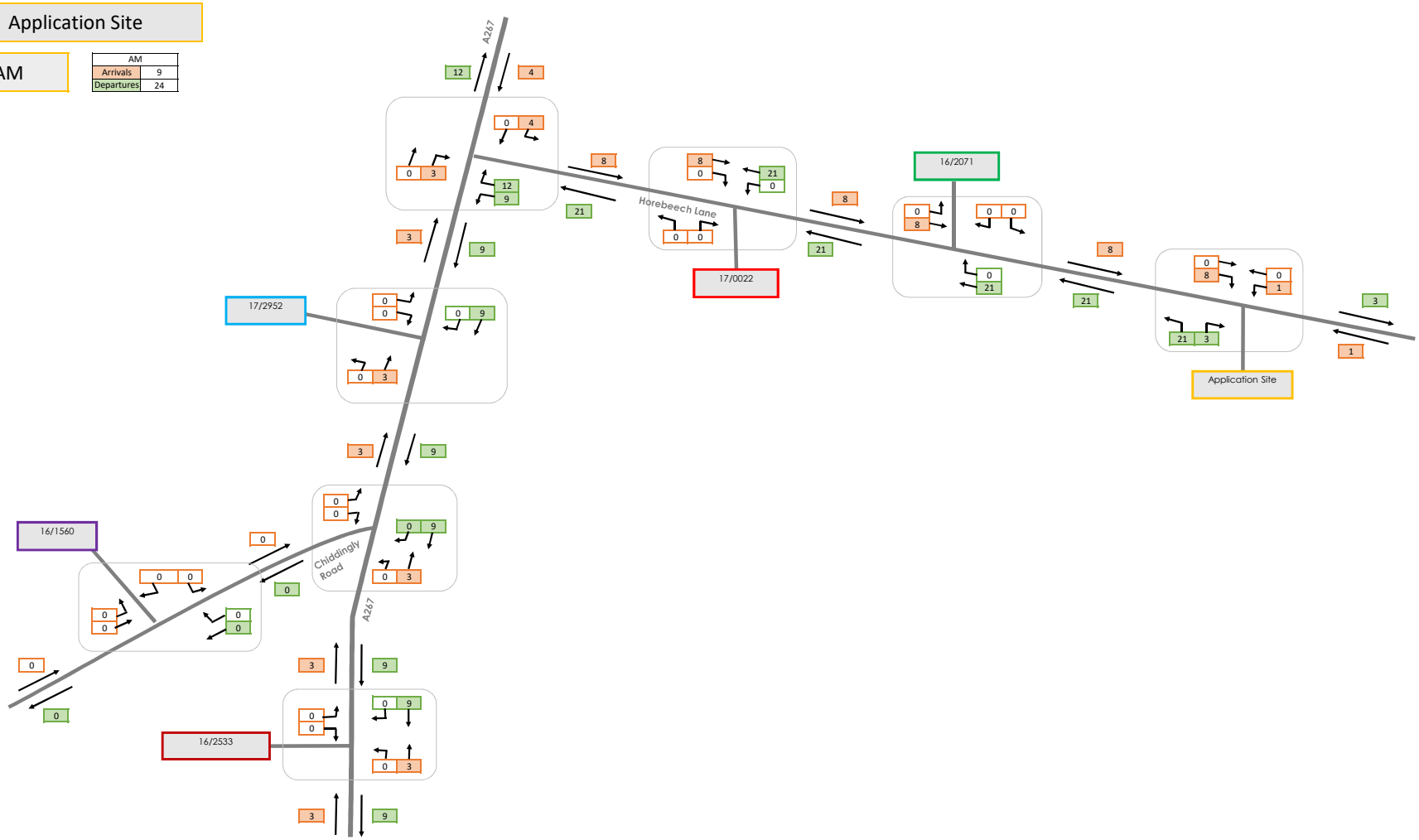

Application Site
Percentages
A267
Horebeech Lane
Chiddingly Road
17/2952
17/0022
16/2071
16/1560
16/2533
Application Site

Appendix D Flow Diagrams - AM/PM Peak Hours

Application Site

AM

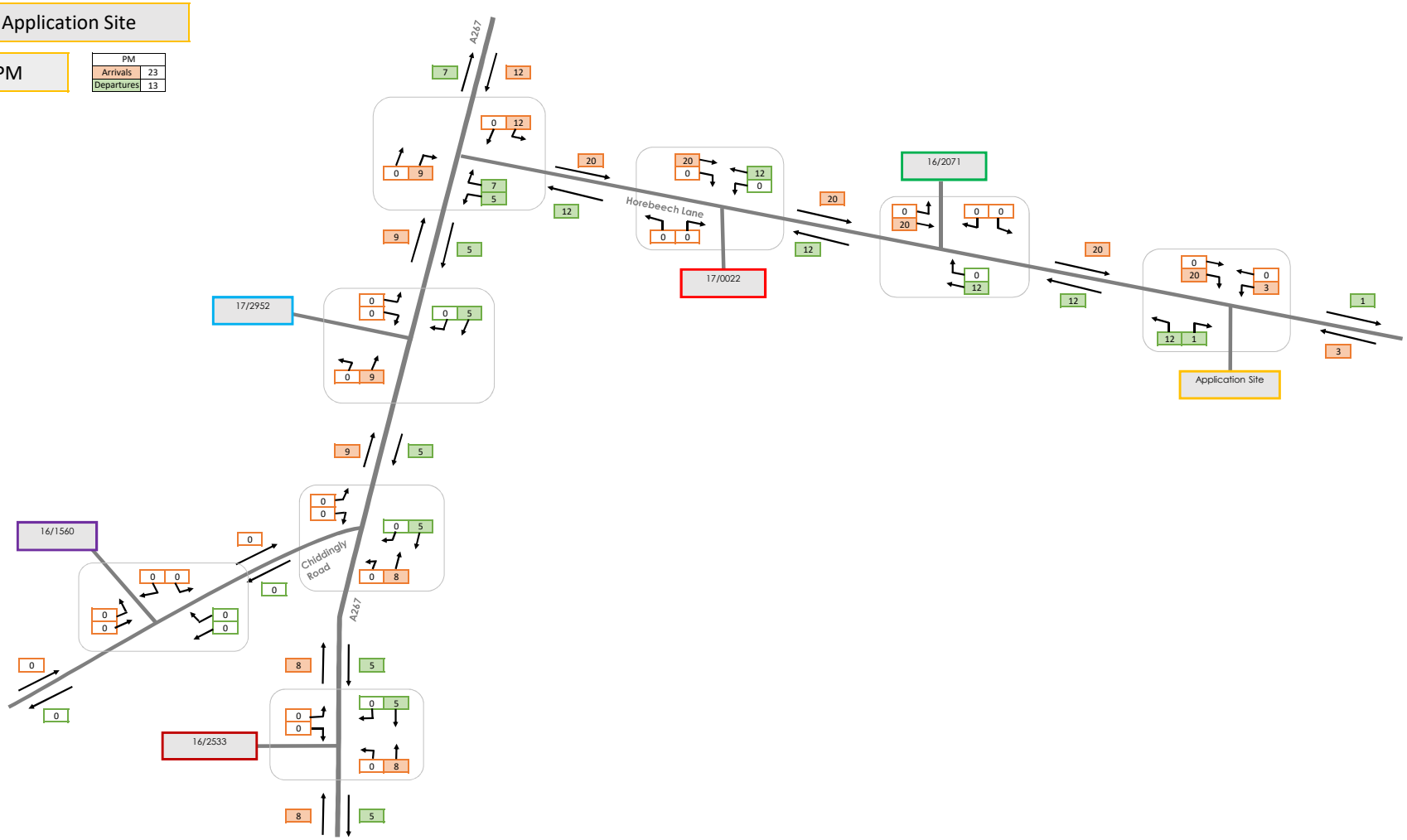
AM	
Arrivals	9
Departures	24



Application Site

PM

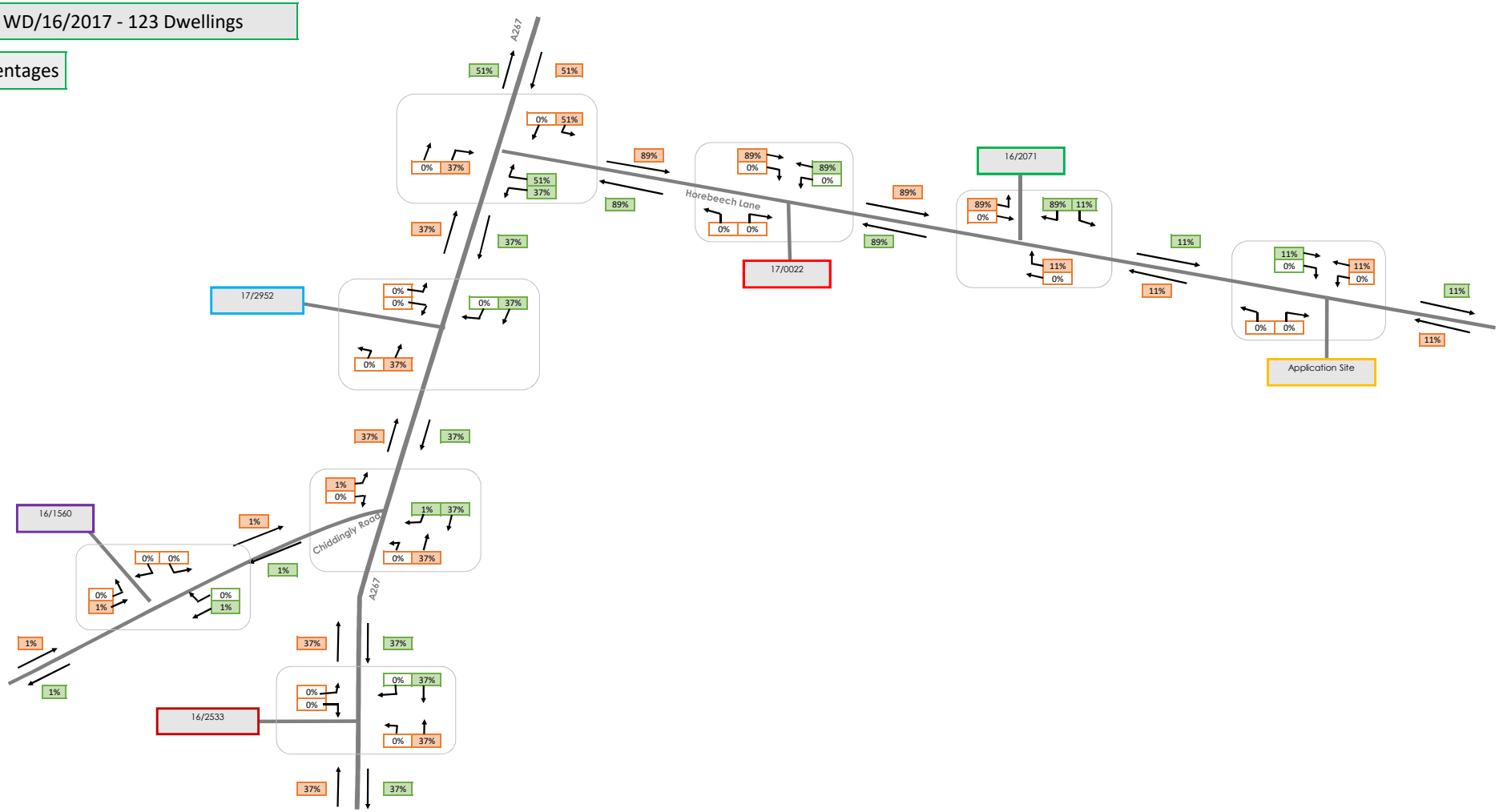
PM	
Arrivals	23
Departures	13



Appendix E Flow Diagrams - Committed Development Flows

WD/16/2017 - 123 Dwellings

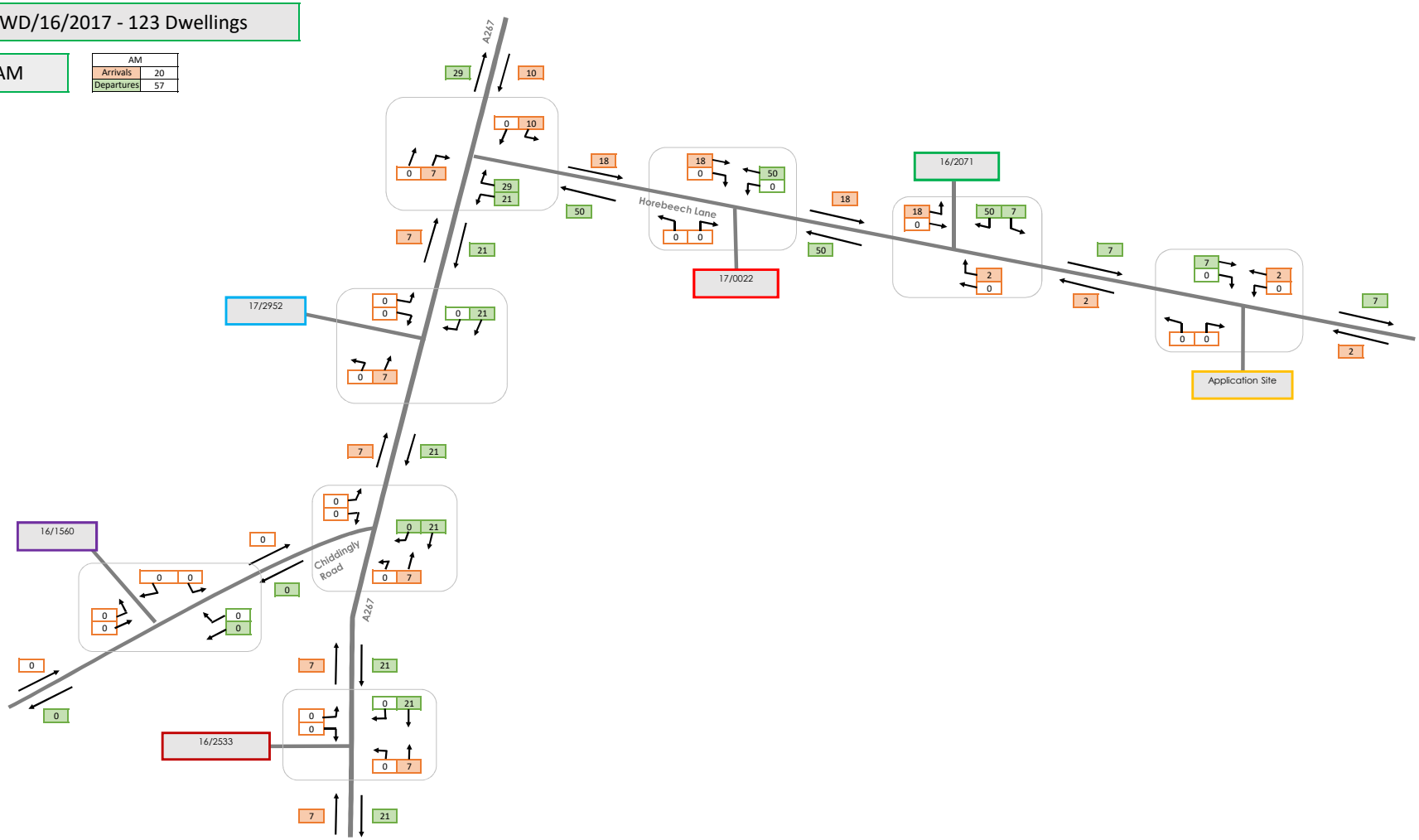
Percentages



WD/16/2017 - 123 Dwellings

AM

AM	
Arrivals	20
Departures	57



WD/16/2017 - 123 Dwellings

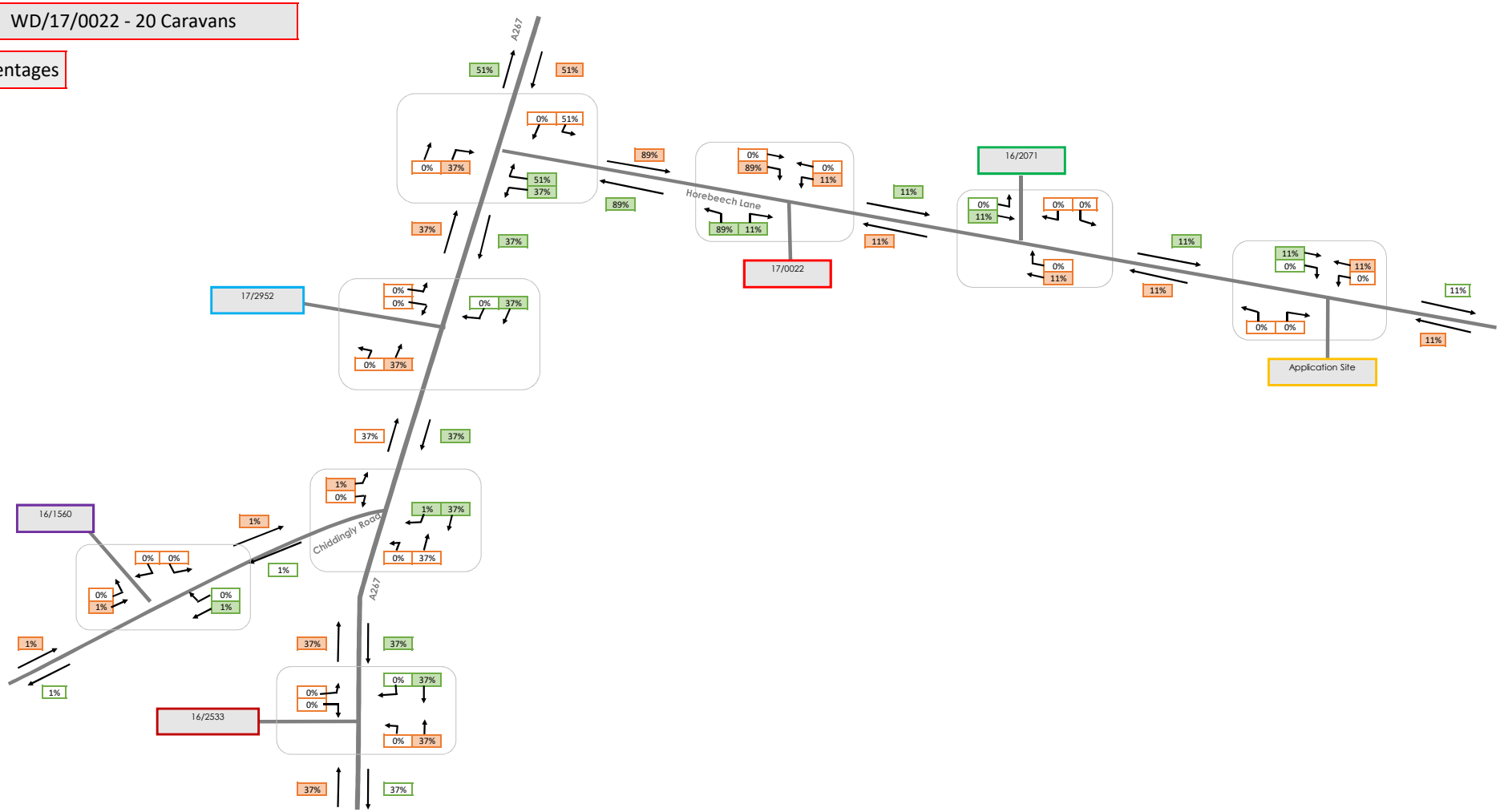
PM

PM	
Arrivals	55
Departures	31



WD/17/0022 - 20 Caravans

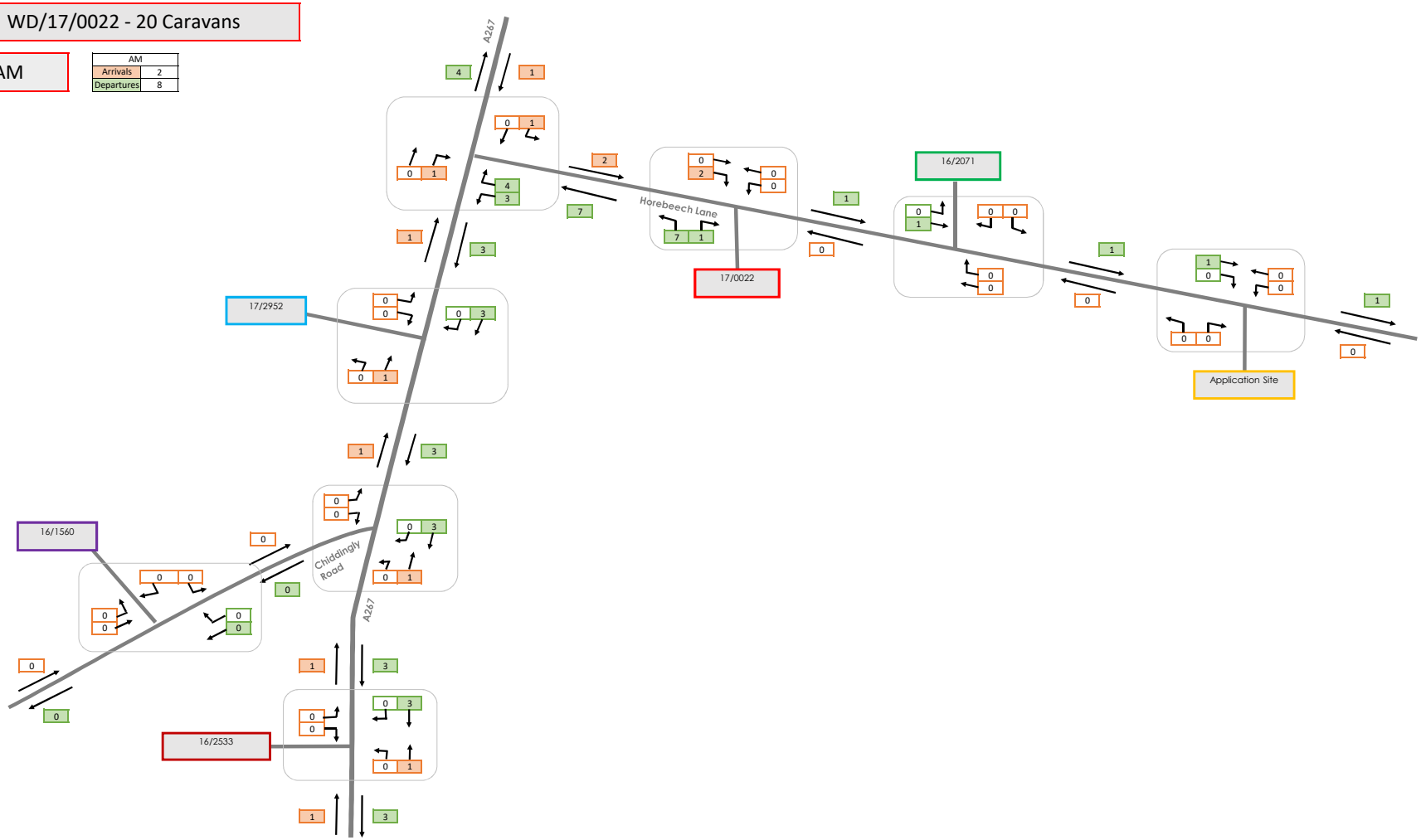
Percentages



WD/17/0022 - 20 Caravans

AM

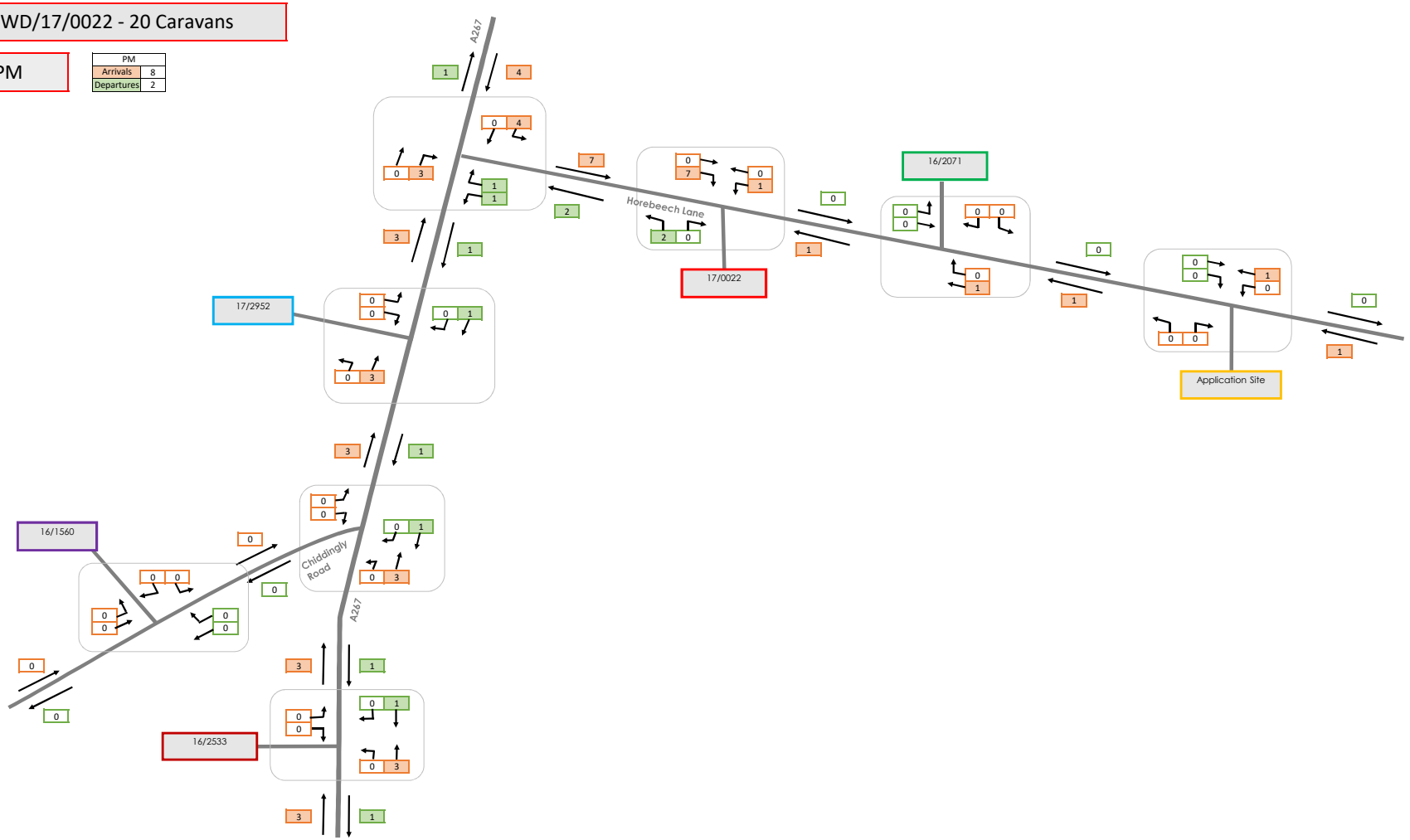
AM	
Arrivals	2
Departures	8



WD/17/0022 - 20 Caravans

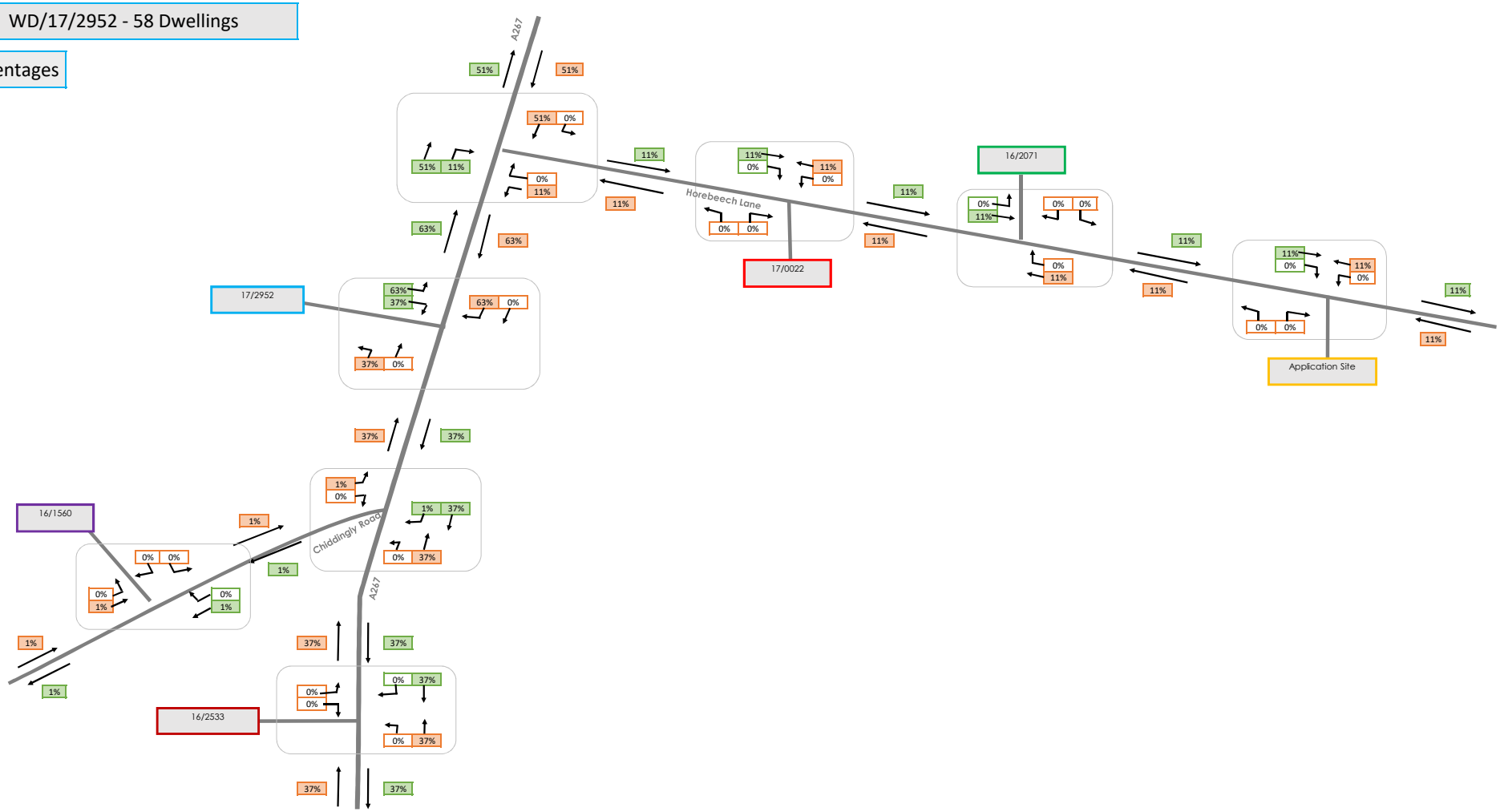
PM

PM	
Arrivals	8
Departures	2



WD/17/2952 - 58 Dwellings

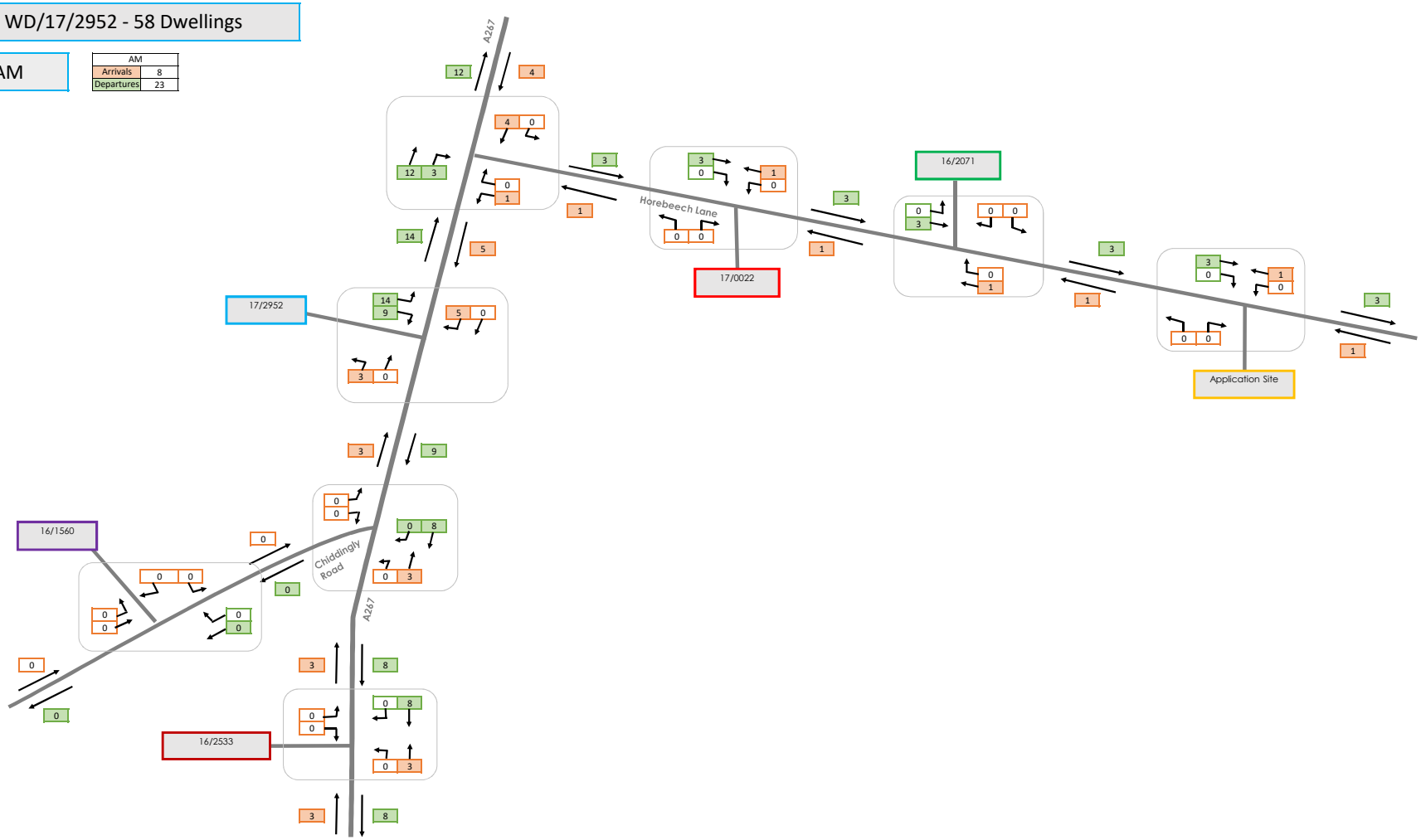
Percentages



WD/17/2952 - 58 Dwellings

AM

AM	
Arrivals	8
Departures	23

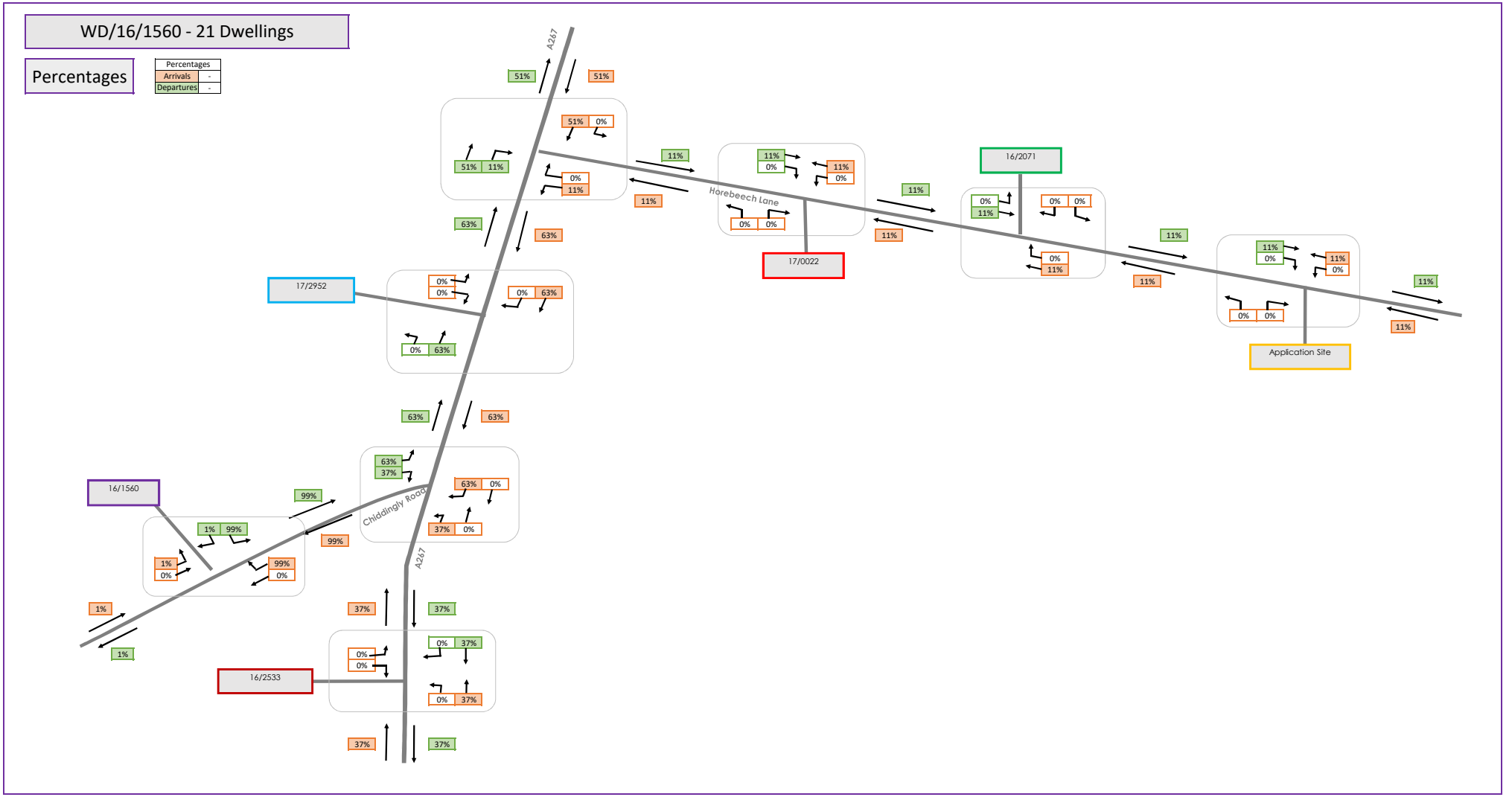


WD/17/2952 - 58 Dwellings

PM

PM	
Arrivals	21
Departures	9

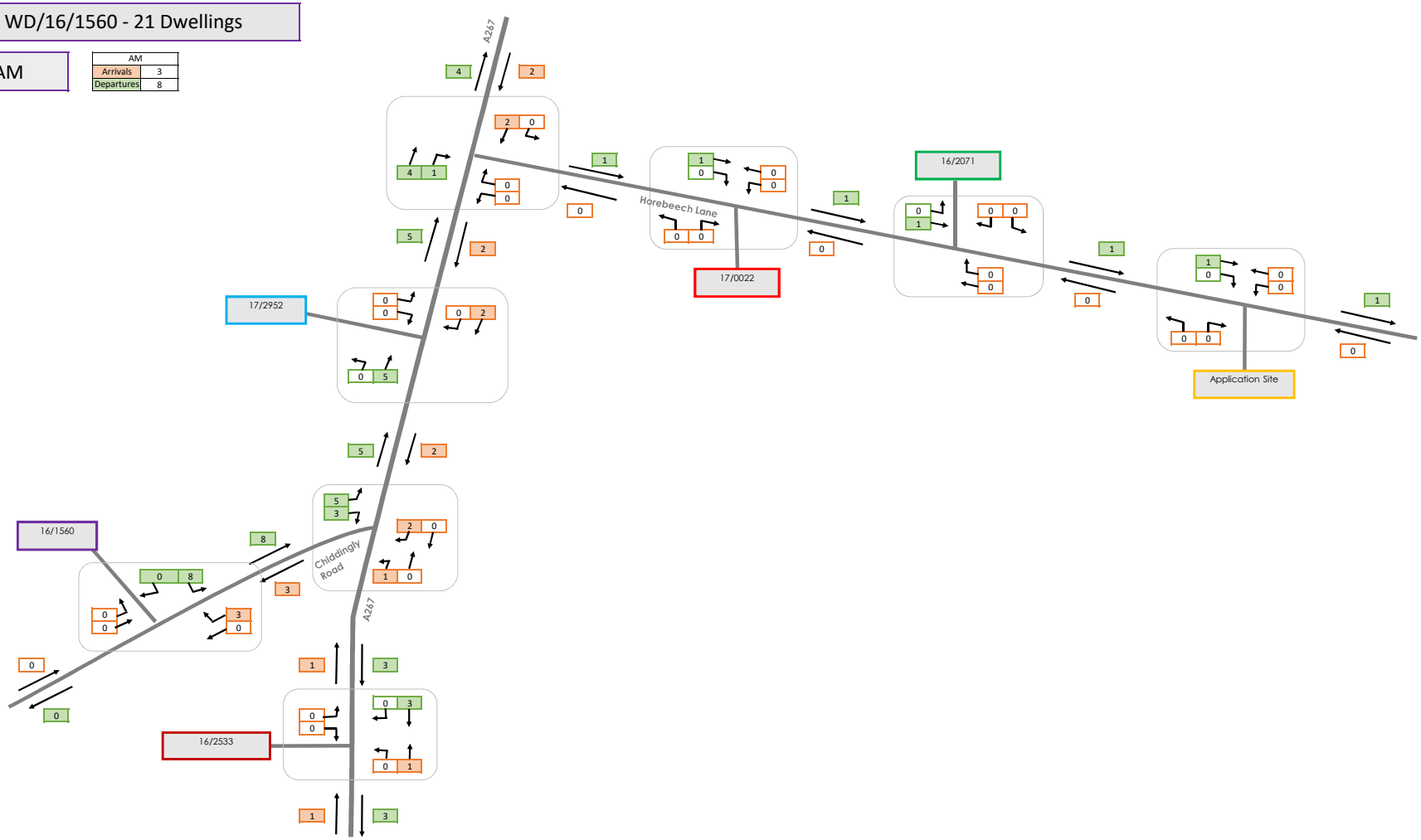



WD/16/1560 - 21 Dwellings
Percentages
Percentages
Arrivals -
Departures -
A267
Horebeech Lane
Chiddingly Road
A267
16/1560
17/2952
17/0022
16/2071
Application Site
16/2533

WD/16/1560 - 21 Dwellings

AM

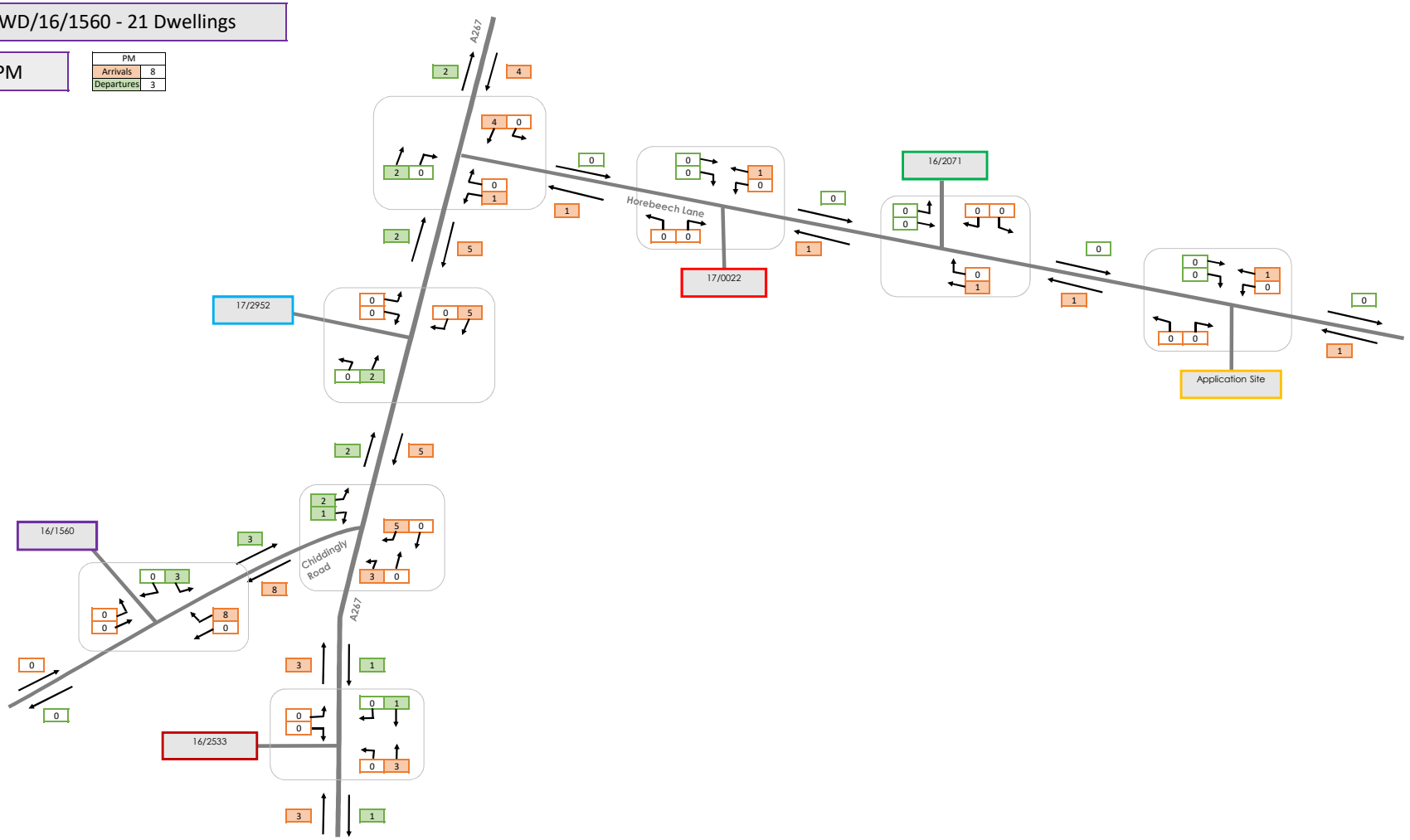
AM	
Arrivals	3
Departures	8

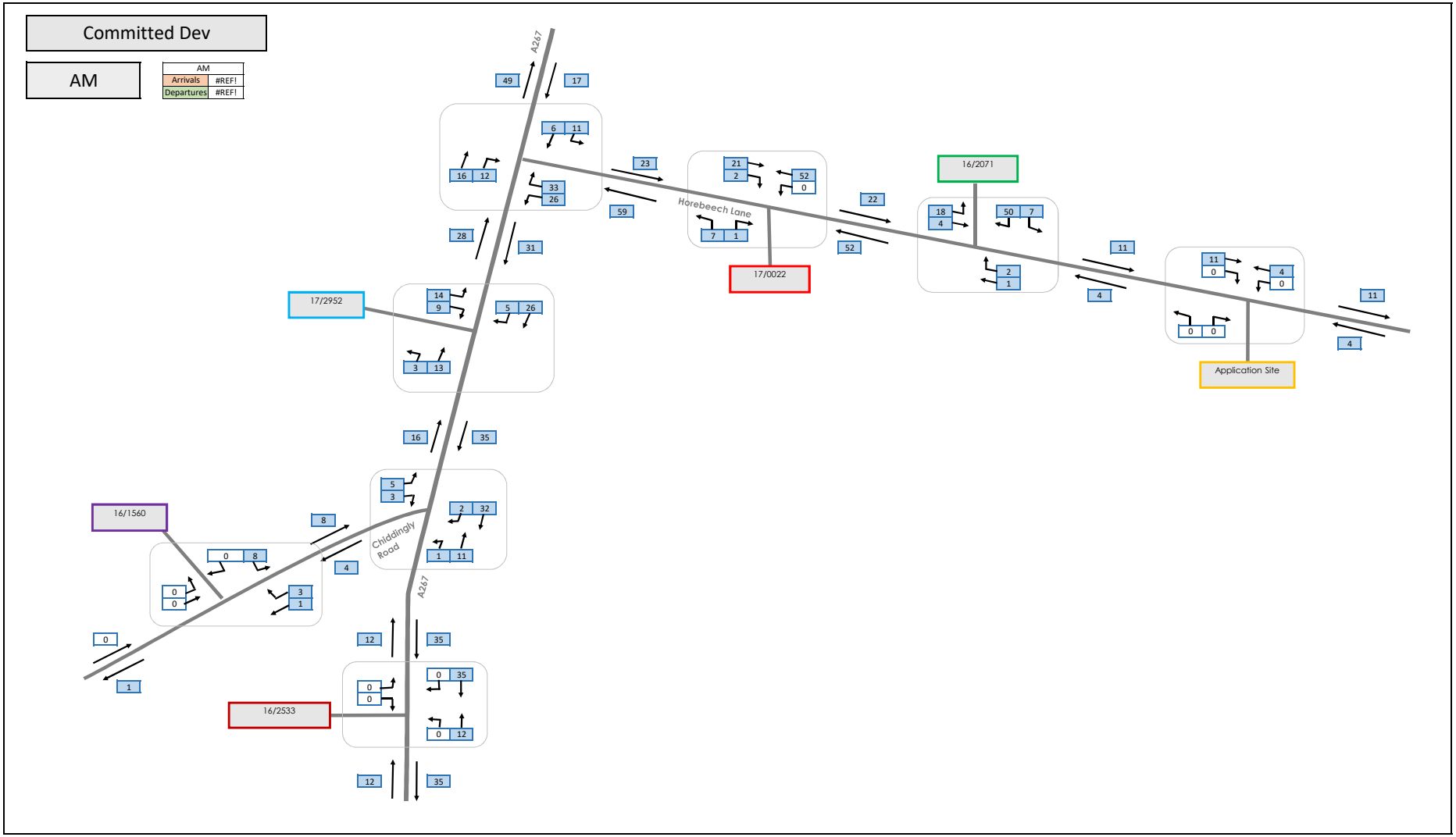


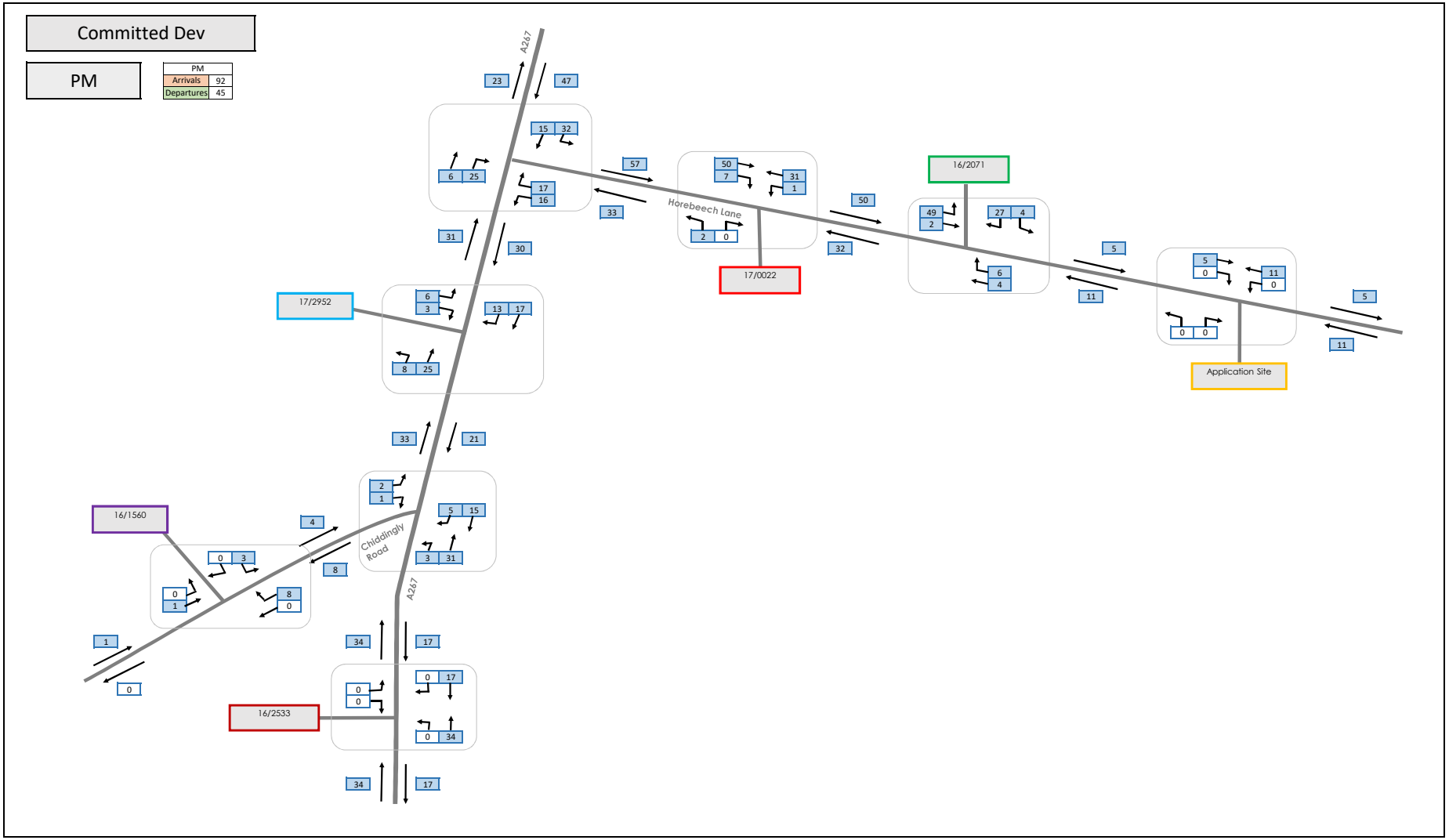
WD/16/1560 - 21 Dwellings

PM

PM	
Arrivals	8
Departures	3



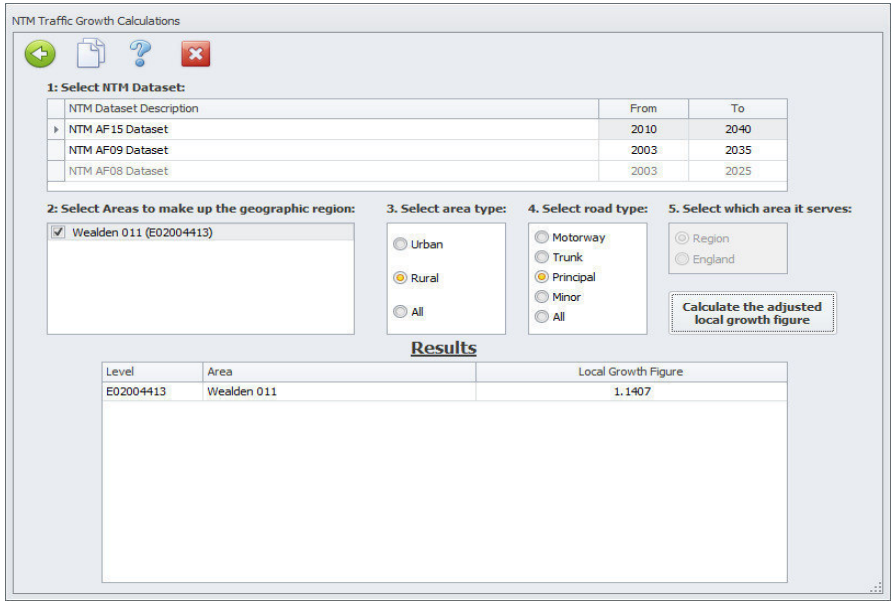

Committed Dev
AM
AM
Arrivals #REF!
Departures #REF!
A267
Horebeech Lane
Chiddingly Road
16/2071
17/0022
17/2952
16/1560
16/2533
Application Site


Committed Dev
PM
PM
Arrivals 92
Departures 45
A267
Horebeech Lane
Chiddingly Road
A267
17/2952
17/0022
16/2071
16/1560
16/2533
Application Site

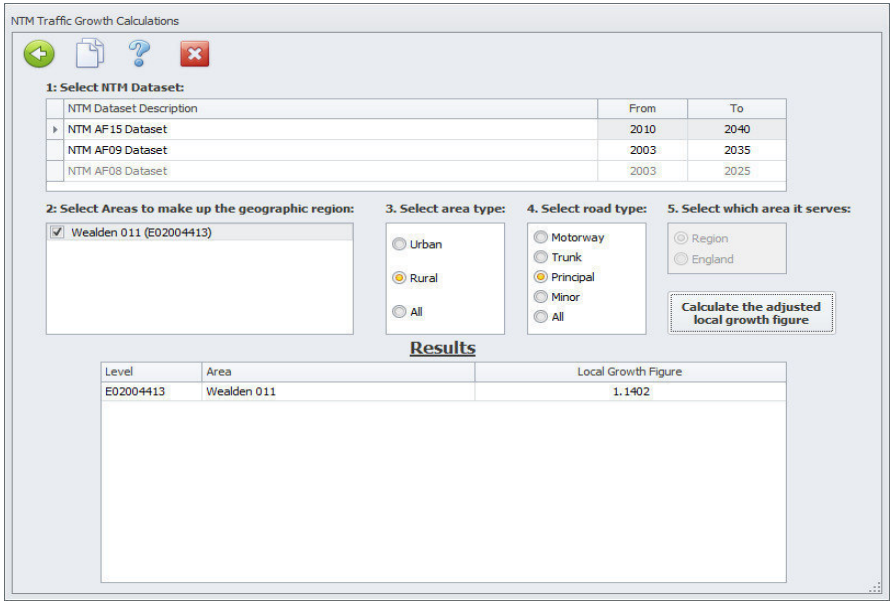
Appendix F TEMPRO Output

2018 - 2028

AM	1.1407



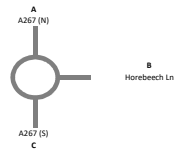
PM	1.1402



Appendix G Junction Flows

3-Arm Junction

Hourly Flows



AM TEMPRO	1.1407

PM TEMPRO	1.1402

AM Com Dev	A	B	C
A	0	11	6
B	33	0	26
C	16	12	0

PM Com Dev	A	B	C
A	0	32	15
B	17	0	16
C	6	25	0

AM Dev 7-8	A	B	C
A	0	2	0
B	7	0	5
C	0	1	0

PM Dev 7-8	A	B	C
A	0	7	0
B	5	0	3
C	0	5	0

AM Dev 8-9	A	B	C
A	0	4	0
B	12	0	9
C	0	3	0

PM Dev 8-9	A	B	C
A	0	12	0
B	7	0	5
C	0	9	0

AM Dev 9-10	A	B	C
A	0	5	0
B	4	0	3
C	0	3	0

PM Dev 9-10	A	B	C
A	0	7	0
B	4	0	3
C	0	5	0

AM HGV %	A	B	C
A	0.0	4.7	3.9
B	1.8	0.0	1.7
C	4.0	5.4	0.0

PM HGV %	A	B	C
A	0.0	0.5	1.5
B	3.1	0.0	0.0
C	1.7	1.0	0.0

AM Vehicles	A	B	C
A	0	71	447
B	142	0	50
C	635	24	0

PM Vehicles	A	B	C
A	0	145	797
B	65	0	27
C	528	48	0

AM HGVS	A	B	C
A	0	4	25
B	6	0	1
C	31	1	0

PM HGVS	A	B	C
A	0	3	20
B	1	0	0
C	14	1	0

15 min Segments - to be modelled

AM Com Dev 7-8

07:00 - 07:15	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

(Based on 8-9)

07:15 - 07:30	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

07:30 - 07:45	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

07:45 - 08:00	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

AM Com Dev 8-9

08:00 - 08:15	A	0.0	2.6	1.4
23%	B	7.7	0.0	6.1
	C	3.7	2.8	0.0

08:15 - 08:30	A	0.0	2.5	1.4
23%	B	7.5	0.0	5.9
	C	3.6	2.7	0.0

08:30 - 08:45	A	0.0	2.9	1.6
26%	B	8.7	0.0	6.9
	C	4.2	3.2	0.0

08:45 - 09:00	A	0.0	3.0	1.6
27%	B	9.1	0.0	7.1
	C	4.4	3.3	0.0

AM Com Dev 9-10

09:00 - 09:15	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

(Based on 8-9)

09:15 - 09:30	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

09:30 - 09:45	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

09:45 - 10:00	A	0.0	2.8	1.5
	B	8.3	0.0	6.5
	C	4.0	3.0	0.0

AM Dev 7-8

07:00 - 07:15	A	0.0	0.5	0.0
	B	1.8	0.0	1.3
	C	0.0	0.3	0.0

07:15 - 07:30	A	0.0	0.5	0.0
	B	1.8	0.0	1.3
	C	0.0	0.3	0.0

07:30 - 07:45	A	0.0	0.5	0.0
	B	1.8	0.0	1.3
	C	0.0	0.3	0.0

07:45 - 08:00	A	0.0	0.5	0.0
	B	1.8	0.0	1.3
	C	0.0	0.3	0.0

AM Dev 8-9

08:00 - 08:15	A	0.0	0.9	0.0
23%	B	2.8	0.0	2.1
	C	0.0	0.7	0.0

08:15 - 08:30	A	0.0	0.9	0.0
23%	B	2.7	0.0	2.0
	C	0.0	0.7	0.0

08:30 - 08:45	A	0.0	1.1	0.0
26%	B	3.2	0.0	2.4
	C	0.0	0.8	0.0

08:45 - 09:00	A	0.0	1.1	0.0
27%	B	3.3	0.0	2.5
	C	0.0	0.8	0.0

AM Dev 9-10

09:00 - 09:15	A	0.0	1.3	0.0
	B	1.0	0.0	0.8
	C	0.0	0.8	0.0

09:15 - 09:30	A	0.0	1.3	0.0
	B	1.0	0.0	0.8
	C	0.0	0.8	0.0

09:30 - 09:45	A	0.0	1.3	0.0
	B	1.0	0.0	0.8
	C	0.0	0.8	0.0

09:45 - 10:00	A	0.0	1.3	0.0
	B	1.0	0.0	0.8
	C	0.0	0.8	0.0

baseline	A	B	C
A	0	7	59
B	25	0	11
C	124	4	0

A	0	13	100
B	36	0	11
C	129	8	0

A	0	16	123
B	60	0	22
C	115	8	0

A	0	19	117
B	64	0	12
C	131	5	0

A	0	23	87
B	48	0	15
C	122	8	0

A	0	14	94
B	47	0	18
C	115	8	0

A	0	20	110
B	67	0	16
C	123	6	0

A	0	20	149
B	60	0	13
C	110	6	0

A	0	29	113
B	36	0	15
C	106	5	0

A	0	21	126
B	24	0	10
C	89	13	0

A	0	13	88
B	19	0	11
C	90	15	0

A	0	18	105
B	27	0	8
C	135	8	0

2028	A	B	C
A	0	7	67
B	29	0	12
C	141	4	0

A	0	15	113
B	40	0	12
C	147	9	0

A	0	18	140
B	68	0	25
C	131	9	0

A	0	22	133
B	72	0	13
C	149	6	0

A	0	26	99
B	55	0	17
C	139	9	0

A	0	15	107
B	53	0	20
C	131	9	0

A	0	22	125
B	76	0	18
C	140	7	0

A	0	22	169
B	68	0	14
C	125	6	0

A	0	33	129
B	40	0	17
C	121	6	0

A	0	23	143
B	27	0	11
C	102	14	0

A	0	15	100
B	21	0	12
C	103	17	0

A	0	21	120
B	31	0	9
C	153	9	0

AM 2028 + Com Dev + Dev

07:00 - 07:15	A	0	11	68
	B	39	0	20
	C	145	7	0

07:15 - 07:30	A	0	18	115
	B	50	0	20
	C	151	12	0

07:30 - 07:45	A	0	21	141
	B	78	0	33
	C	135	12	0

07:45 - 08:00	A	0	25	134
	B	82	0	21
	C	153	9	0

08:00 - 08:15	A	0	29	100
	B	65	0	25
	C	143	12	0

08:15 - 08:30	A	0	19	108
	B	63	0	28
	C	135	13	0

08:30 - 08:45	A	0	26	127
	B	88	0	27
	C	145	11	0

08:45 - 09:00	A	0	26	171
	B	80	0	24
	C	129	10	0

09:00 - 09:15	A	0	37	130
	B	50	0	24
	C	125	9	0

09:15 - 09:30	A	0	27	145
	B	36	0	19
	C	106	18	0

09:30 - 09:45	A	0	19	101
	B	30	0	19
	C	107	21	0

09:45 - 10:00	A	0	25	121
	B	40	0	16
	C	157	12	0

PM Com Dev 7-8

16:00 - 16:15	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

(Based on 8-9)

16:15 - 16:30	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

16:30 - 16:45	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

16:45 - 17:00	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

PM Com Dev 8-9

17:00 - 17:15	A	0.0	8.8	4.1
27%	B	4.7	0.0	4.4
	C	1.6	6.9	0.0

17:15 - 17:30	A	0.0	9.1	4.3
29%	B	4.8	0.0	4.6
	C	1.7	7.1	0.0

17:30 - 17:45	A	0.0	7.6	3.6
24%	B	4.0	0.0	3.8
	C	1.4	5.9	0.0

17:45 - 18:00	A	0.0	6.9	3.2
21%	B	3.6	0.0	3.4
	C	1.3	5.4	0.0

PM Com Dev 9-10

18:00 - 18:15	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

(Based on 8-9)

18:15 - 18:30	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

18:30 - 18:45	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

18:45 - 19:00	A	0.0	8.0	3.8
	B	4.3	0.0	4.0
	C	1.5	6.3	0.0

PM Dev 16-17

16:00 - 16:15	A	0	1.75	0
	B	1.25	0	0.75
	C	0	1.25	0

16:15 - 16:30	A	0.0	1.8	0.0
	B	1.3	0.0	0.8
	C	0.0	1.3	0.0

16:30 - 16:45	A	0.0	1.8	0.0
	B	1.3	0.0	0.8
	C	0.0	1.3	0.0

16:45 - 17:00	A	0.0	1.8	0.0
	B	1.3	0.0	0.8
	C	0.0	1.3	0.0

PM Dev 17-18

17:00 - 17:15	A	0.0	3.3	0.0
27%	B	1.9	0.0	1.4
	C	0.0	2.5	0.0

17:15 - 17:30	A	0.0	3.4	0.0
29%	B	2.0	0.0	1.4
	C	0.0	2.6	0.0

17:30 - 17:45	A	0.0	2.8	0.0
24%	B	1.7	0.0	1.2
	C	0.0	2.1	0.0

17:45 - 18:00	A	0.0	2.6	0.0
21%	B	1.5	0.0	1.1
	C	0.0	1.9	0.0

PM Dev 18-19

18:00 - 18:15	A	0	1.75	0
	B	1	0	0.75
	C	0	1.25	0

18:15 - 18:30	A	0.0	1.8	0.0
	B	1.0	0.0	0.8
	C	0.0	1.3	0.0

18:30 - 18:45	A	0.0	1.8	0.0
	B	1.0	0.0	0.8
	C	0.0	1.3	0.0

18:45 - 19:00	A	0.0	1.8	0.0
	B	1.0	0.0	0.8
	C	0.0	1.3	0.0

baseline	A	B	C
A	0	38	162
B	29	0	9
C	121	10	0

A	0	43	175
B	32	0	7
C	105	11	0

A	0	57	145
B	19	0	10
C	105	11	0

A	0	31	138
B	20	0	4
C	93	16	0

A	0	57	179
B	23	0	18
C	114	13	0

A	0	64	192
B	35	0	8
C	124	14	0

A	0	46	171
B	18	0	11
C	118	16	0

A	0	44	146
B	24	0	9
C	98	6	0

A	0	30	134
B	15	0	12
C	98	7	0

A	0	39	112
B	27	0	5
C	102	9	0

A	0	26	94
B	20	0	8
C	86	6	0

A	0	12	99
B	12	0	9
C	80	4	0

2028	A	B	C
A	0	43	184
B	32	0	10
C	138	11	0

A	0	49	199
B	36	0	7
C	119	13	0

A	0	64	165
B	22	0	11
C	119	13	0

A	0	35	157
B	22	0	4
C	106	18	0

A	0	65	204
B	26	0	20
C	130	14	0

A	0	73	219
B	39	0	9
C	141	15	0

A	0	52	194
B	20	0	12
C	134	18	0

A	0	50	166
B	27	0	10
C	112	7	0

A	0	34	152
B	17	0	14
C	111	8	0

A	0	44	128
B	31	0	6
C	116	10	0

A	0	30	107
B	23	0	9
C	97	6	0

A	0	14	112
B	13	0	10
C	91	5	0

PM 2028 + Com Dev + Dev

16:00 - 16:15	A	0	53	188
	B	38	0	15
	C	139	18	0

16:15 - 16:30	A	0	59	203
	B	41	0	12
	C	121	20	0

16:30 - 16:45	A	0	74	169
	B	27	0	16
	C	121	20	0

16:45 - 17:00	A	0	45	161
	B	28	0	9
	C	108	26	0

17:00 - 17:15	A	0	77	208
	B	32	0	26
	C	132	24	0

17:15 - 17:30	A	0	86	223
	B	46	0	15
	C	143	25	0

17:30 - 17:45	A	0	63	198
	B	26	0	17
	C	135	26	0

17:45 - 18:00	A	0	59	169
	B	32	0	15
	C	113	14	0

18:00 - 18:15	A	0	43	156
	B	22	0	18
	C	113	15	0

18:15 - 18:30	A	0	54	131
	B	36	0	10
	C	118	18	0

18:30 - 18:45	A	0	39	110
	B	28	0	14
	C	99	14	0

18:45 - 19:00	A	0	23	116
	B	18	0	15
	C	92	12	0

Appendix H ARCADY Output

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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Filename: Mini Roundabout Direct Input.j9
Path: P:\Planning\RGP Godalming Server\2017 Projects (3493-3600)\3547 Horebeech Lane, Horam, East Sussex\Technical Assessments\Junction Modelling\Oct-Nov 2019
Report generation date: 03/12/2019 12:24:41

»A267 / Horebeech Lane - 2018 Baseline, AM
»A267 / Horebeech Lane - 2018 Baseline, PM
»A267 / Horebeech Lane - 2028 Baseline + Committed, AM
»A267 / Horebeech Lane - 2028 Baseline + Committed, PM
»A267 / Horebeech Lane - 2028 Baseline + Committed Development + Development , AM
»A267 / Horebeech Lane - 2028 Baseline + Committed Development + Development, PM

Summary of junction performance

	AM					PM				
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)
A267 / Horebeech Lane - 2018 Baseline										
Arm A	0.2	5.01	0.19	A	4.75	0.4	5.52	0.28	A	5.01
Arm B	0.1	5.06	0.10	A		0.1	5.04	0.06	A	
Arm C	0.2	4.36	0.15	A		0.2	4.16	0.14	A	
A267 / Horebeech Lane - 2028 Baseline + Committed										
Arm A	0.3	5.22	0.22	A	4.98	0.5	6.01	0.34	A	5.36
Arm B	0.2	5.34	0.14	A		0.1	5.27	0.08	A	
Arm C	0.2	4.56	0.17	A		0.2	4.33	0.17	A	
A267 / Horebeech Lane - 2028 Baseline + Committed Development + Development										
Arm A	0.3	5.22	0.22	A	5.62	0.6	7.44	0.39	A	6.38
Arm B	0.5	6.69	0.33	A		0.1	5.39	0.08	A	
Arm C	0.2	5.31	0.20	A		0.2	4.89	0.19	A	

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

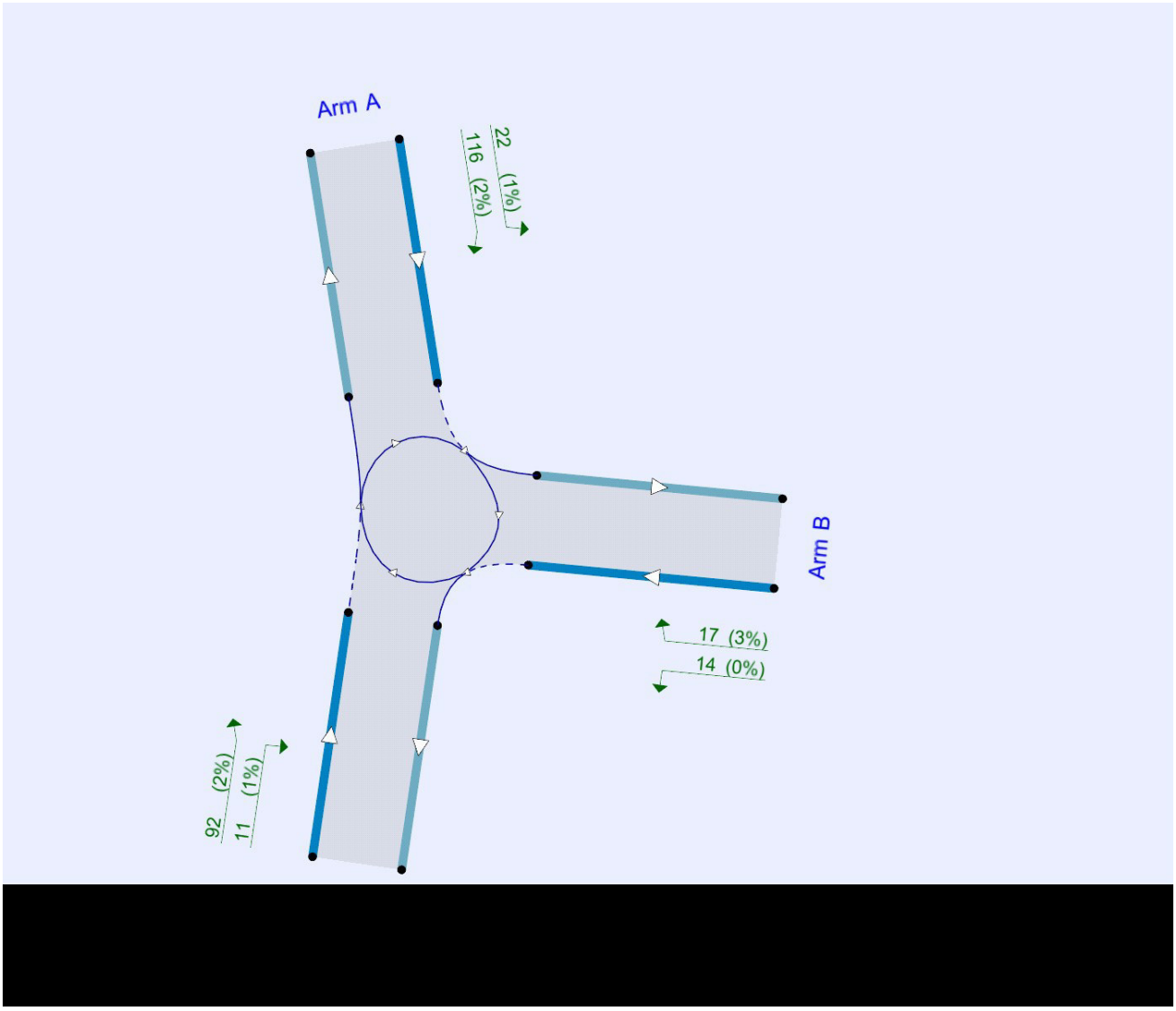
File summary

File Description

Title	A267 / Horebeech Lane Mini Roundabout Assessment
Location	A267 / Horebeech Lane
Site number	
Date	02/10/2019
Version	
Status	
Identifier	
Client	Chailey Homes
Jobnumber	3547
Enumerator	BP-RAT-01\RemotePC
Description	

Units

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



The junction diagram reflects the last run of Junctions.

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2018 Baseline	AM	DIRECT	07:00	10:00	180	15	✓
D2	2018 Baseline	PM	DIRECT	16:00	19:00	180	15	✓
D5	2028 Baseline + Committed	AM	DIRECT	07:00	10:00	180	15	✓
D6	2028 Baseline + Committed	PM	DIRECT	16:00	19:00	180	15	✓
D7	2028 Baseline + Committed Development + Development	AM	DIRECT	07:00	10:00	180	15	✓
D8	2028 Baseline + Committed Development + Development	PM	DIRECT	16:00	19:00	180	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	A267 / Horebeech Lane	✓	100.000	100.000

A267 / Horebeech Lane - 2018 Baseline, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Horebeech Lane Mini Roundabout	Mini-roundabout		A, B, C	4.75	A

Junction Network Options

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

Arms

Arms

Arm	Name	Description
A	A267 North	
B	Horebeech Lane	
C	A267 South	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.05	3.05	4.28	10.1	10.42	8.77	7.0	
B	2.56	2.56	3.90	8.1	10.43	7.58	3.0	
C	3.29	3.29	3.94	25.0	12.09	11.66	-1.2	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.543	927
B	0.571	887
C	0.643	1043

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2018 Baseline	AM	DIRECT	07:00	10:00	180	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT	✓	100.000
B		DIRECT	✓	100.000
C		DIRECT	✓	100.000

Origin-Destination Data

07:00 - 07:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	7	59
	B	25	0	11
	C	124	4	0

07:15 - 07:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	13	100
	B	36	0	11
	C	129	8	0

07:30 - 07:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	123
	B	60	0	22
	C	115	8	0

07:45 - 08:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	19	117
	B	64	0	12
	C	131	5	0

08:00 - 08:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	23	87
	B	48	0	15
	C	122	8	0

08:15 - 08:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	14	94
	B	47	0	18
	C	115	8	0

08:30 - 08:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	20	110
	B	67	0	16
	C	123	6	0

08:45 - 09:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	20	149
	B	60	0	13
	C	110	6	0

09:00 - 09:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	29	113
	B	36	0	15
	C	106	5	0

09:15 - 09:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	21	126
	B	24	0	10
	C	89	13	0

09:30 - 09:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	13	88
	B	19	0	11
	C	90	15	0

09:45 - 10:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	18	105
	B	27	0	8
	C	135	8	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	5	4
	B	2	0	2
	C	4	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.19	5.01	0.2	A	124	371
B	0.10	5.06	0.1	A	56	169
C	0.15	4.36	0.2	A	124	371

Main Results for each time segment

07:00 - 07:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	66	16	4	889	0.074	66	148	0.0	0.1	4.373	A
B	36	9	59	837	0.043	36	11	0.0	0.0	4.490	A
C	128	32	25	987	0.130	127	70	0.0	0.1	4.186	A

07:15 - 07:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	113	28	8	887	0.127	113	165	0.1	0.1	4.650	A
B	47	12	100	813	0.058	47	21	0.0	0.1	4.697	A
C	137	34	36	980	0.140	137	111	0.1	0.2	4.272	A

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	139	35	8	887	0.157	139	175	0.1	0.2	4.812	A
B	82	21	123	800	0.103	82	24	0.1	0.1	5.012	A
C	123	31	60	964	0.128	123	145	0.2	0.1	4.278	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	136	34	5	888	0.153	136	195	0.2	0.2	4.785	A
B	76	19	117	803	0.095	76	24	0.1	0.1	4.950	A
C	136	34	64	962	0.141	136	129	0.1	0.2	4.356	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	110	28	8	886	0.124	110	170	0.2	0.1	4.642	A
B	63	16	87	821	0.077	63	31	0.1	0.1	4.752	A
C	130	33	48	972	0.134	130	102	0.2	0.2	4.277	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	108	27	8	887	0.122	108	162	0.1	0.1	4.623	A
B	65	16	94	817	0.080	65	22	0.1	0.1	4.788	A
C	123	31	47	973	0.126	123	112	0.2	0.1	4.237	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	130	33	6	888	0.146	130	190	0.1	0.2	4.751	A
B	83	21	110	807	0.103	83	26	0.1	0.1	4.969	A
C	129	32	67	960	0.134	129	126	0.1	0.2	4.330	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	169	42	6	888	0.190	169	170	0.2	0.2	5.006	A
B	73	18	149	785	0.093	73	26	0.1	0.1	5.058	A
C	116	29	60	964	0.120	116	162	0.2	0.1	4.244	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	142	36	5	888	0.160	142	142	0.2	0.2	4.831	A
B	51	13	113	805	0.063	51	34	0.1	0.1	4.772	A
C	111	28	36	980	0.113	111	128	0.1	0.1	4.144	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	147	37	13	884	0.166	147	113	0.2	0.2	4.885	A
B	34	8	126	798	0.043	34	34	0.1	0.0	4.714	A
C	102	26	24	986	0.103	102	136	0.1	0.1	4.072	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	101	25	15	883	0.114	101	109	0.2	0.1	4.607	A
B	30	8	88	820	0.037	30	28	0.0	0.0	4.558	A
C	105	26	19	989	0.106	105	99	0.1	0.1	4.071	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	123	31	8	886	0.139	123	162	0.1	0.2	4.714	A
B	35	9	105	810	0.043	35	26	0.0	0.0	4.643	A
C	143	36	27	985	0.145	143	113	0.1	0.2	4.272	A

A267 / Horebeech Lane - 2018 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 89% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Horebeech Lane Mini Roundabout	Mini-roundabout		A, B, C	5.01	A

Junction Network Options

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2018 Baseline	PM	DIRECT	16:00	19:00	180	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT	✓	100.000
B		DIRECT	✓	100.000
C		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/hr)

16:00 - 16:15

		To		
		A	B	C
From	A	0	38	162
	B	29	0	9
	C	121	10	0

Demand (Veh/hr)

16:15 - 16:30

		To		
		A	B	C
From	A	0	43	175
	B	32	0	7
	C	105	11	0

16:30 - 16:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	57	145
	B	19	0	10
	C	105	11	0

16:45 - 17:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	31	138
	B	20	0	4
	C	93	16	0

17:00 - 17:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	57	179
	B	23	0	18
	C	114	13	0

17:15 - 17:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	64	192
	B	35	0	8
	C	124	14	0

17:30 - 17:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	46	171
	B	18	0	11
	C	118	16	0

17:45 - 18:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	44	146
	B	24	0	9
	C	98	6	0

18:00 - 18:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	30	134
	B	15	0	12
	C	98	7	0

18:15 - 18:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	39	112
	B	27	0	5
	C	102	9	0

Demand (Veh/hr)

18:30 - 18:45

		To		
		A	B	C
From	A	0	26	94
	B	20	0	8
	C	86	6	0

Demand (Veh/hr)

18:45 - 19:00

		To		
		A	B	C
From	A	0	12	99
	B	12	0	9
	C	80	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	2
	B	3	0	0
	C	2	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.28	5.52	0.4	A	186	559
B	0.06	5.04	0.1	A	32	96
C	0.14	4.16	0.2	A	114	342

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	200	50	10	909	0.220	199	149	0.0	0.3	5.052	A
B	38	9	161	775	0.049	38	48	0.0	0.1	4.881	A
C	131	33	29	1007	0.130	130	170	0.0	0.1	4.102	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	218	54	11	909	0.240	218	137	0.3	0.3	5.208	A
B	39	10	175	766	0.051	39	54	0.1	0.1	4.951	A
C	116	29	32	1005	0.115	116	182	0.1	0.1	4.047	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	202	50	11	910	0.222	202	124	0.3	0.3	5.091	A
B	29	7	145	787	0.037	29	68	0.1	0.0	4.751	A
C	116	29	19	1014	0.114	116	155	0.1	0.1	4.009	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	169	42	16	906	0.187	169	113	0.3	0.2	4.889	A
B	24	6	138	787	0.031	24	47	0.0	0.0	4.720	A
C	109	27	20	1014	0.108	109	142	0.1	0.1	3.981	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	236	59	13	908	0.260	236	137	0.2	0.3	5.349	A
B	41	10	179	770	0.053	41	70	0.0	0.1	4.938	A
C	127	32	23	1011	0.126	127	197	0.1	0.1	4.070	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	256	64	14	908	0.282	256	159	0.3	0.4	5.521	A
B	43	11	192	757	0.057	43	78	0.1	0.1	5.044	A
C	138	35	35	1004	0.138	138	200	0.1	0.2	4.158	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	217	54	16	906	0.239	217	136	0.4	0.3	5.229	A
B	29	7	171	773	0.038	29	62	0.1	0.0	4.840	A
C	134	34	18	1015	0.132	134	182	0.2	0.2	4.089	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	190	48	6	912	0.208	190	122	0.3	0.3	4.990	A
B	33	8	146	784	0.042	33	50	0.0	0.0	4.790	A
C	104	26	24	1010	0.103	104	155	0.2	0.1	3.972	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	164	41	7	911	0.180	164	113	0.3	0.2	4.822	A
B	27	7	134	795	0.034	27	37	0.0	0.0	4.684	A
C	105	26	15	1016	0.103	105	146	0.1	0.1	3.951	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	151	38	9	910	0.166	151	129	0.2	0.2	4.742	A
B	32	8	112	801	0.040	32	48	0.0	0.0	4.681	A
C	111	28	27	1009	0.110	111	117	0.1	0.1	4.010	A

18:30 - 18:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	120	30	6	912	0.132	120	106	0.2	0.2	4.550	A
B	28	7	94	814	0.034	28	32	0.0	0.0	4.578	A
C	92	23	20	1013	0.091	92	102	0.1	0.1	3.909	A

18:45 - 19:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	111	28	4	912	0.122	111	92	0.2	0.1	4.497	A
B	21	5	99	815	0.026	21	16	0.0	0.0	4.535	A
C	84	21	12	1018	0.083	84	108	0.1	0.1	3.853	A

A267 / Horebeech Lane - 2028 Baseline + Committed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Horebeech Lane Mini Roundabout	Mini-roundabout		A, B, C	4.98	A

Junction Network Options

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	2028 Baseline + Committed	AM	DIRECT	07:00	10:00	180	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT	✓	100.000
B		DIRECT	✓	100.000
C		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/hr)

07:00 - 07:15

		To		
		A	B	C
From	A	0	10	68
	B	37	0	18
	C	145	7	0

Demand (Veh/hr)

07:15 - 07:30

		To		
		A	B	C
From	A	0	18	115
	B	49	0	18
	C	151	12	0

07:30 - 07:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	20	141
	B	76	0	32
	C	135	12	0

07:45 - 08:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	24	134
	B	81	0	20
	C	153	9	0

08:00 - 08:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	28	100
	B	62	0	23
	C	143	11	0

08:15 - 08:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	18	108
	B	61	0	26
	C	135	12	0

08:30 - 08:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	25	127
	B	85	0	25
	C	145	10	0

08:45 - 09:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	25	171
	B	77	0	21
	C	129	10	0

09:00 - 09:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	36	130
	B	49	0	23
	C	125	9	0

09:15 - 09:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	26	145
	B	35	0	18
	C	106	17	0

Demand (Veh/hr)

09:30 - 09:45

		To		
		A	B	C
From	A	0	18	101
	B	29	0	18
	C	107	20	0

Demand (Veh/hr)

09:45 - 10:00

		To		
		A	B	C
From	A	0	23	121
	B	39	0	16
	C	157	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	5	4
	B	2	0	2
	C	4	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.22	5.22	0.3	A	144	433
B	0.14	5.34	0.2	A	78	235
C	0.17	4.56	0.2	A	148	443

Main Results for each time segment

07:00 - 07:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	78	19	7	887	0.088	78	181	0.0	0.1	4.445	A
B	55	14	68	832	0.066	55	17	0.0	0.1	4.630	A
C	152	38	37	979	0.155	151	86	0.0	0.2	4.345	A

07:15 - 07:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	133	33	12	884	0.150	133	200	0.1	0.2	4.787	A
B	67	17	115	805	0.083	67	30	0.1	0.1	4.880	A
C	163	41	49	971	0.168	163	133	0.2	0.2	4.454	A

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	161	40	12	884	0.182	161	211	0.2	0.2	4.973	A
B	108	27	141	789	0.137	108	32	0.1	0.2	5.277	A
C	147	37	76	954	0.154	147	173	0.2	0.2	4.462	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	158	39	9	886	0.178	158	234	0.2	0.2	4.947	A
B	101	25	134	793	0.127	101	33	0.2	0.1	5.202	A
C	162	40	81	951	0.170	162	154	0.2	0.2	4.560	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	128	32	11	884	0.145	128	205	0.2	0.2	4.761	A
B	85	21	100	813	0.105	85	39	0.1	0.1	4.947	A
C	154	39	62	963	0.160	154	123	0.2	0.2	4.450	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	126	32	12	884	0.142	126	196	0.2	0.2	4.747	A
B	87	22	108	809	0.108	87	30	0.1	0.1	4.988	A
C	147	37	61	963	0.153	147	134	0.2	0.2	4.409	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	152	38	10	885	0.172	152	230	0.2	0.2	4.907	A
B	110	28	127	797	0.138	110	35	0.1	0.2	5.234	A
C	155	39	85	949	0.163	155	152	0.2	0.2	4.535	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	196	49	10	886	0.221	196	206	0.2	0.3	5.216	A
B	98	24	171	772	0.127	98	35	0.2	0.1	5.342	A
C	139	35	77	954	0.146	139	192	0.2	0.2	4.422	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	166	42	9	885	0.187	166	174	0.3	0.2	5.008	A
B	72	18	130	796	0.091	72	45	0.1	0.1	4.979	A
C	134	34	49	971	0.138	134	153	0.2	0.2	4.300	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	171	43	17	882	0.194	171	141	0.2	0.2	5.066	A
B	53	13	145	787	0.067	53	43	0.1	0.1	4.907	A
C	123	31	35	979	0.126	123	163	0.2	0.1	4.205	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	119	30	20	880	0.135	119	136	0.2	0.2	4.737	A
B	47	12	101	812	0.058	47	38	0.1	0.1	4.702	A
C	127	32	29	983	0.129	127	119	0.1	0.1	4.207	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	144	36	12	884	0.163	144	196	0.2	0.2	4.861	A
B	55	14	121	801	0.069	55	35	0.1	0.1	4.825	A
C	169	42	39	977	0.173	169	137	0.1	0.2	4.450	A

A267 / Horebeech Lane - 2028 Baseline + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 88% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Horebeech Lane Mini Roundabout	Mini-roundabout		A, B, C	5.36	A

Junction Network Options

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2028 Baseline + Committed	PM	DIRECT	16:00	19:00	180	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT	✓	100.000
B		DIRECT	✓	100.000
C		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/hr)

16:00 - 16:15

		To		
		A	B	C
From	A	0	51	188
	B	37	0	14
	C	139	17	0

Demand (Veh/hr)

16:15 - 16:30

		To		
		A	B	C
From	A	0	57	203
	B	40	0	11
	C	121	19	0

16:30 - 16:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	72	169
	B	26	0	15
	C	121	19	0

16:45 - 17:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	43	161
	B	26	0	8
	C	108	24	0

17:00 - 17:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	74	208
	B	30	0	24
	C	132	21	0

17:15 - 17:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	82	223
	B	44	0	13
	C	143	23	0

17:30 - 17:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	60	198
	B	24	0	16
	C	135	24	0

17:45 - 18:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	56	169
	B	30	0	14
	C	113	12	0

18:00 - 18:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	42	156
	B	21	0	18
	C	113	14	0

18:15 - 18:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	52	131
	B	35	0	10
	C	118	17	0

18:30 - 18:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	38	110
	B	27	0	13
	C	99	13	0

18:45 - 19:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	22	116
	B	17	0	14
	C	92	11	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	2
	B	3	0	0
	C	2	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.34	6.01	0.5	A	223	670
B	0.08	5.27	0.1	A	44	132
C	0.17	4.33	0.2	A	137	412

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	239	60	17	906	0.264	238	175	0.0	0.4	5.377	A
B	51	13	187	761	0.067	51	68	0.0	0.1	5.061	A
C	156	39	37	1002	0.156	155	201	0.0	0.2	4.246	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	260	65	19	905	0.287	260	161	0.4	0.4	5.581	A
B	51	13	203	751	0.068	51	76	0.1	0.1	5.142	A
C	140	35	40	1001	0.140	140	214	0.2	0.2	4.184	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	241	60	19	905	0.266	241	147	0.4	0.4	5.422	A
B	41	10	169	774	0.053	41	91	0.1	0.1	4.914	A
C	140	35	26	1010	0.139	140	184	0.2	0.2	4.139	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	204	51	24	902	0.226	204	134	0.4	0.3	5.162	A
B	34	8	161	775	0.044	34	67	0.1	0.0	4.859	A
C	132	33	26	1010	0.131	132	169	0.2	0.2	4.100	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	282	70	21	904	0.312	281	162	0.3	0.4	5.776	A
B	54	14	208	754	0.072	54	95	0.0	0.1	5.145	A
C	153	38	30	1007	0.152	153	232	0.2	0.2	4.214	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	305	76	23	903	0.338	305	187	0.4	0.5	6.015	A
B	57	14	223	740	0.077	57	105	0.1	0.1	5.270	A
C	166	42	44	998	0.166	166	236	0.2	0.2	4.326	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	258	65	24	902	0.286	258	159	0.5	0.4	5.598	A
B	40	10	198	758	0.053	40	84	0.1	0.1	5.017	A
C	159	40	24	1011	0.157	159	214	0.2	0.2	4.227	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	225	56	12	909	0.248	225	143	0.4	0.3	5.271	A
B	44	11	169	772	0.057	44	68	0.1	0.1	4.941	A
C	125	31	30	1007	0.124	125	183	0.2	0.1	4.085	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	198	49	14	907	0.218	198	134	0.3	0.3	5.077	A
B	39	10	156	783	0.050	39	56	0.1	0.1	4.836	A
C	127	32	21	1013	0.125	127	174	0.1	0.1	4.064	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	183	46	17	906	0.202	183	153	0.3	0.3	4.978	A
B	45	11	131	792	0.057	45	69	0.1	0.1	4.820	A
C	135	34	35	1004	0.135	135	141	0.1	0.2	4.143	A

18:30 - 18:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	148	37	13	908	0.163	148	126	0.3	0.2	4.739	A
B	40	10	110	806	0.050	40	51	0.1	0.1	4.700	A
C	112	28	27	1009	0.111	112	123	0.2	0.1	4.016	A

18:45 - 19:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	138	34	11	908	0.152	138	109	0.2	0.2	4.674	A
B	31	8	116	806	0.038	31	33	0.1	0.0	4.647	A
C	103	26	17	1015	0.101	103	130	0.1	0.1	3.946	A

A267 / Horebeech Lane - 2028 Baseline + Committed Development + Development , AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Horebeech Lane Mini Roundabout	Mini-roundabout		A, B, C	5.62	A

Junction Network Options

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2028 Baseline + Committed Development + Development	AM	DIRECT	07:00	10:00	180	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT	✓	100.000
B		DIRECT	✓	100.000
C		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/hr)

07:00 - 07:15

		To		
		A	B	C
From	A	0	11	68
	B	39	0	20
	C	145	7	0

Demand (Veh/hr)

07:15 - 07:30

		To		
		A	B	C
From	A	0	18	115
	B	50	0	20
	C	151	12	0

07:30 - 07:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	21	141
	B	78	0	33
	C	135	12	0

07:45 - 08:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	25	134
	B	82	0	21
	C	153	9	0

08:00 - 08:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	29	100
	B	65	0	25
	C	143	12	0

08:15 - 08:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	19	108
	B	63	0	28
	C	135	13	0

08:30 - 08:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	26	127
	B	88	0	27
	C	145	11	0

08:45 - 09:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	26	171
	B	80	0	24
	C	129	10	0

09:00 - 09:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	37	130
	B	50	0	24
	C	125	9	0

09:15 - 09:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	27	145
	B	36	0	19
	C	106	18	0

09:30 - 09:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	19	101
	B	30	0	19
	C	107	21	0

09:45 - 10:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	25	121
	B	250	0	16
	C	157	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	5	4
	B	2	0	2
	C	4	5	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.22	5.22	0.3	A	145	436
B	0.33	6.69	0.5	A	99	297
C	0.20	5.31	0.2	A	148	444

Main Results for each time segment

07:00 - 07:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	79	20	7	887	0.089	79	183	0.0	0.1	4.451	A
B	59	15	68	832	0.071	59	18	0.0	0.1	4.655	A
C	152	38	39	978	0.155	151	88	0.0	0.2	4.351	A

07:15 - 07:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	133	33	12	884	0.150	133	201	0.1	0.2	4.787	A
B	70	18	115	805	0.087	70	30	0.1	0.1	4.900	A
C	163	41	50	971	0.168	163	135	0.2	0.2	4.457	A

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	162	40	12	884	0.183	162	213	0.2	0.2	4.981	A
B	111	28	141	789	0.141	111	33	0.1	0.2	5.302	A
C	147	37	78	953	0.154	147	174	0.2	0.2	4.467	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	159	40	9	886	0.179	159	235	0.2	0.2	4.952	A
B	103	26	134	793	0.130	103	34	0.2	0.2	5.217	A
C	162	40	82	951	0.170	162	155	0.2	0.2	4.564	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	129	32	12	884	0.146	129	208	0.2	0.2	4.773	A
B	90	23	100	813	0.111	90	41	0.2	0.1	4.981	A
C	155	39	65	961	0.161	155	125	0.2	0.2	4.466	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	127	32	13	884	0.144	127	198	0.2	0.2	4.759	A
B	91	23	108	809	0.113	91	32	0.1	0.1	5.016	A
C	148	37	63	962	0.154	148	136	0.2	0.2	4.421	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	153	38	11	885	0.173	153	233	0.2	0.2	4.917	A
B	115	29	127	797	0.144	115	37	0.1	0.2	5.272	A
C	156	39	88	947	0.165	156	154	0.2	0.2	4.552	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	197	49	10	885	0.222	197	209	0.2	0.3	5.224	A
B	104	26	171	772	0.135	104	36	0.2	0.2	5.390	A
C	139	35	80	952	0.146	139	195	0.2	0.2	4.432	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	167	42	9	885	0.189	167	175	0.3	0.2	5.015	A
B	74	18	130	796	0.093	74	46	0.2	0.1	4.991	A
C	134	34	50	970	0.138	134	154	0.2	0.2	4.305	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	172	43	18	881	0.195	172	142	0.2	0.2	5.077	A
B	55	14	145	787	0.070	55	45	0.1	0.1	4.918	A
C	124	31	36	978	0.127	124	164	0.2	0.1	4.215	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	120	30	21	879	0.136	120	137	0.2	0.2	4.747	A
B	49	12	101	813	0.060	49	40	0.1	0.1	4.717	A
C	128	32	30	982	0.130	128	120	0.1	0.1	4.215	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	146	37	12	884	0.165	146	405	0.2	0.2	4.875	A
B	266	66	121	801	0.332	264	37	0.1	0.5	6.688	A
C	169	42	248	846	0.200	169	137	0.1	0.2	5.314	A

A267 / Horebeech Lane - 2028 Baseline + Committed Development + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms A and C have 89% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Horebeech Lane Mini Roundabout	Mini-roundabout		A, B, C	6.38	A

Junction Network Options

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	2028 Baseline + Committed Development + Development	PM	DIRECT	16:00	19:00	180	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
A		DIRECT	✓	100.000
B		DIRECT	✓	100.000
C		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/hr)

16:00 - 16:15

		To		
		A	B	C
From	A	0	53	188
	B	38	0	15
	C	139	18	0

Demand (Veh/hr)

16:15 - 16:30

		To		
		A	B	C
From	A	0	59	203
	B	41	0	12
	C	121	20	0

16:30 - 16:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	74	169
	B	27	0	16
	C	121	20	0

16:45 - 17:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	45	161
	B	28	0	9
	C	108	26	0

17:00 - 17:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	77	208
	B	32	0	26
	C	132	24	0

17:15 - 17:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	86	223
	B	46	0	15
	C	143	25	0

17:30 - 17:45

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	63	198
	B	26	0	17
	C	135	26	0

17:45 - 18:00

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	59	169
	B	32	0	15
	C	113	14	0

18:00 - 18:15

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	43	156
	B	22	0	18
	C	113	15	0

18:15 - 18:30

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	54	131
	B	36	0	10
	C	118	18	0

Demand (Veh/hr)

18:30 - 18:45

		To		
		A	B	C
From	A	0	39	110
	B	28	0	14
	C	99	14	0

Demand (Veh/hr)

18:45 - 19:00

		To		
		A	B	C
From	A	0	23	116
	B	18	0	15
	C	92	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	3	20
	B	1	0	0
	C	14	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.39	7.44	0.6	A	226	677
B	0.08	5.39	0.1	A	46	139
C	0.19	4.89	0.2	A	139	416

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	241	60	18	789	0.306	239	176	0.0	0.4	6.512	A
B	53	13	187	754	0.070	53	71	0.0	0.1	5.134	A
C	157	39	38	905	0.173	156	202	0.0	0.2	4.801	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	262	65	20	788	0.332	262	162	0.4	0.5	6.834	A
B	53	13	203	742	0.071	53	79	0.1	0.1	5.223	A
C	141	35	41	906	0.156	141	215	0.2	0.2	4.706	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	243	61	20	797	0.305	243	148	0.5	0.4	6.497	A
B	43	11	169	766	0.056	43	94	0.1	0.1	4.981	A
C	141	35	27	914	0.154	141	185	0.2	0.2	4.656	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	206	52	26	785	0.263	206	136	0.4	0.4	6.227	A
B	37	9	161	771	0.048	37	71	0.1	0.1	4.906	A
C	134	33	28	919	0.146	134	170	0.2	0.2	4.584	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	285	71	24	792	0.360	284	164	0.4	0.6	7.074	A
B	58	14	207	741	0.078	58	101	0.1	0.1	5.271	A
C	156	39	32	913	0.171	156	233	0.2	0.2	4.756	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	309	77	25	792	0.390	309	189	0.6	0.6	7.443	A
B	61	15	223	729	0.084	61	111	0.1	0.1	5.390	A
C	168	42	46	904	0.186	168	238	0.2	0.2	4.889	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	261	65	26	787	0.332	262	161	0.6	0.5	6.855	A
B	43	11	198	746	0.058	43	89	0.1	0.1	5.120	A
C	161	40	26	917	0.176	161	215	0.2	0.2	4.762	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	228	57	14	795	0.287	228	145	0.5	0.4	6.360	A
B	47	12	169	766	0.061	47	73	0.1	0.1	5.008	A
C	127	32	32	908	0.140	127	184	0.2	0.2	4.612	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	199	50	15	790	0.252	199	135	0.4	0.3	6.102	A
B	40	10	156	776	0.052	40	58	0.1	0.1	4.895	A
C	128	32	22	915	0.140	128	174	0.2	0.2	4.576	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	185	46	18	797	0.232	185	154	0.3	0.3	5.887	A
B	46	11	131	791	0.058	46	72	0.1	0.1	4.833	A
C	136	34	36	908	0.150	136	141	0.2	0.2	4.661	A

18:30 - 18:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	149	37	14	795	0.187	149	127	0.3	0.2	5.576	A
B	42	10	110	806	0.052	42	53	0.1	0.1	4.711	A
C	113	28	28	912	0.124	113	124	0.2	0.1	4.507	A

18:45 - 19:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	139	35	12	785	0.177	139	110	0.2	0.2	5.573	A
B	33	8	116	803	0.041	33	35	0.1	0.0	4.677	A
C	104	26	18	917	0.113	104	131	0.1	0.1	4.431	A