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Tel: 0161 830 2172

Land South of The Hill, Littlebourne: Response to KCC Consultation

Ref: VE/JW/ITM16283-011 TN
Date: 12 September 2023

SECTION 1 Introduction

1.1 Gladman Developments Ltd has submitted an outline planning application for up to 300 dwellings on Land South of The Hill in Littlebourne – Canterbury City Council Planning Application Reference CA/23/00484. This Technical Note (TN) has been produced to respond to comments made by Kent County Council's (KCC's) Highways and Transportation team in their formal consultation response to the application dated 16th August 2023, which is included in **Appendix 1.A**.

1.2 The remainder of this document has been set out under four headings, following those set out within KCC's response, and deals with the following issues: the proposed site access arrangements; sustainability; the existing highway network; and contributions. In each section the points raised by KCC are shown in ***bold and italics*** , with the response set out below.

SECTION 2 Site Accesses

2.1 This section sets out the comments raised in relation to the proposed site accesses located on A257 The Hill and Bekesbourne Lane. Details of the accesses were presented in Appendix 3.C of the Transport Assessment.

"The dimensions for The Hill access do not accord with the Picady Junctions 10 model. These state the dimensions used are 3.25m for Arm B and 5.10m for Arm C, however the geometric drawings show 3.375m for arm B and 4.3m for Arm C. As such the Picady Junctions 10 modelling for The Hill access will need to be re-run with the correct dimensions inputted."

2.2 The geometric drawing of the proposed site access on The Hill is presented in **Appendix 2.A**.

2.3 Amended site access junction capacity assessments have been carried out for the A257 access based on the geometric parameters presented on the drawing in **Appendix 2.A**. The updated capacity assessment model also incorporates the minor changes in traffic flows as detailed in Section 4.0 below.

SECTION 3 Sustainability

Public Rights of Way (PRoW)

3.1 KCC has noted the following with regard to the PRoWs in the vicinity of the development site:

"I note the comments by KCC PRoW team and the request for contributions of £30,000 to upgrade a number of PRoW's that already provide links to the school and surgery."

3.2 Gladman are willing to discuss the potential for a contribution to upgrade nearby PRoWs. However, the comments from KCCs PRoW team have not been made available as yet and therefore before agreeing any contribution, a schedule of works required and associated costings, will need to be provided by KCC.

Jubilee Hill Junction

3.3 KCC has noted the following off-site pedestrian facility improvements:

"I would ask the applicant to provide tactile paving on either side of Jubilee Hill at its junction with The Hill."

3.4 The proposed pedestrian improvements at the A257 / Jubilee Hill junction are shown on i-Transport drawing ITM16283-GA-024, presented in **Appendix 3.A**, which includes the introduction of tactile paving and dropped kerbs at the bell mouth on Jubilee Road. These works could be delivered as part of the proposed access and crossing works along the A257 The Hill

Crossing on A257

3.5 In the previous response to KCC it was stated that Gladman would be willing to provide a proportionate contribution towards the design and construction of a formal crossing provision to facilitate easier pedestrian crossing on the A257, close to the development access.

3.6 KCC have noted that:

"It is appropriate for the applicant to provide a formal/controlled crossing point here as part of the highway mitigation measures. This should be in the form of a puffin crossing, and a Stage one road Safety Audit would need to be conducted on this prior to any recommendation of approval for this application."

3.7 It is therefore agreed that a puffin crossing will be provided as part of the development proposals and discussions are on going with KCC to agree to the location and arrangement of the crossing.

3.8 Once agreed, a Road Safety Audit will be carried out for the puffin crossing and submitted to KCC for approval.

Howletts Zoo Access

3.9 In response to previous KCC comments, Gladman proposed to provide a link to the development boundary with Howletts Zoo and noted that Gladman are in ongoing discussions with the Zoo as to whether this could be reciprocated within the third party land.

3.10 KCC's response stated:

3.11 ***"I note that the applicants response, and this is accepted. It would be beneficial if the proposed footway within this site was able to link into an appropriate area within the Howletts Zoo site, and it is pleasing to note the applicant is in discussions with the Zoo on this point."***

3.12 Following the initial response Gladman have confirmed that they would accept a planning condition that secures a footpath link up to the site boundary with Howletts Zoo. However, the provision of the actual access into the Zoo will need to be agreed with Howletts, as this is beyond the control of the applicant.

3.13 The internal footway which runs parallel with Bekesbourne Lane will continue to be provided to the extent of their (Gladman's) ownership on Bekesbourne Lane.

SECTION 4 Existing Highway Network

Committed Developments

4.1 The following section relates to the committed developments that were included in the assessment of the likely future year traffic levels across the surrounding highway network. It is noted that KCC is satisfied with the sites included in the assessment, but has requested further details of the traffic flows included at specific committed development sites, as set out below.

Howe Barracks

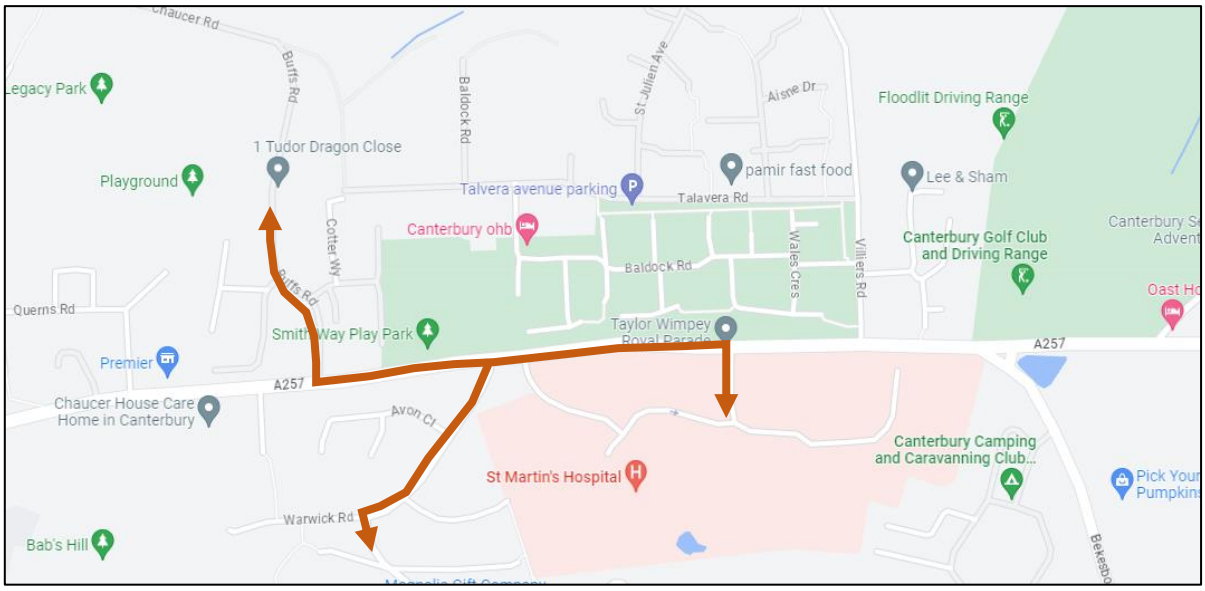
"On assessing the flow diagrams for Howe Barracks, there were some figures that require clarification, as highlighted below. These do not appear to correspond to other figures used within the flow diagram."

4.2 The traffic flows for Howe Barracks were taken from the Transport Assessment produced by PBA in June 2014 for the planning application (CA/14/01230/FUL). These traffic flows are stated to be presented in Figure 6.1 and 6.2, for the AM and PM peak respectively. It is noted that in the appendices to the PBA report these are both referenced as Figure x.x.

4.3 Howe Barracks is served from two access on the A257 as shown on the traffic flow diagram presented in i-Transport's previous response to KCC's comments (ITM16283-010 - Appendix 4.D) – these are represented by Buffs Road to the west and Villiers Road to the east on the map below.

4.4 The traffic routing assignment presented in the PBA report shows that all traffic leaving the Buffs Road to/from the east would travel to/from Warwick Road and/or the hospital site, as shown on the plan below.

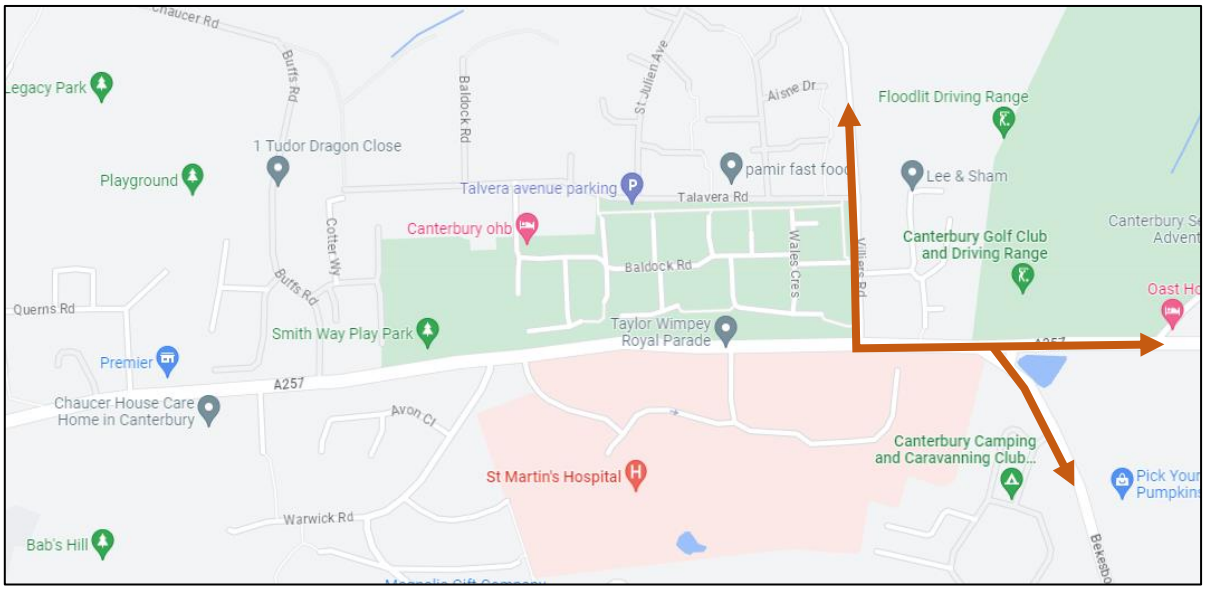
Image 4.1: Traffic Assignment to/from Buff Road (Western Access) for Howe Barracks



Source: GoogleMaps

4.5 Traffic using the eastern access via Villiers Road is shown to travel to/from Bekesbourne Lane and/or the A257 eastwards towards Littlebourne, as shown on the plan below.

Image 4.2: Traffic Assignment to/from Villiers Road (Eastern Access) for Howe Barracks



Source: GoogleMaps

4.6 This therefore explains why some of the traffic flows on the i-Transport traffic flow diagrams appear to disappear between the two access points.

4.7 Traffic flows associated with Bekesbourne Lane had been omitted at the eastern site access, as they did not impact on the any of the assessment junctions. The corrected traffic flow diagram for the Howe Barracks trip generation, including the traffic flows associated with Bekesbourne Lane, are presented in **Appendix 4.A** of this note.

South Canterbury Site

"When assessing the total flows on Appendix 4.E-5, the figures do not correspond to those shown in 4.E-1 to 4.E-4. Can these please be reviewed."

4.8 A typographical error has been noted in the traffic flow diagrams associated with the P&R element of the site (previous Appendix 4.E-3), in the PM Peak hour. These have been corrected, along with the total development traffic flows. The corrected South Canterbury traffic flow diagrams are included in **Appendix 4.B**. This results in minor changes in the overall committed development traffic flows, which are taken into account in the development impact assessment set out in Section 5 below.

Total Committed Development Traffic Flows

4.9 For completeness and ease of review, the traffic flows associated with the two other committed developments included in the assessment, The Hill and Land North of Hearsden, are included in **Appendix 4.C**.

4.10 With the amendments made to the committed development traffic flows at Howe Barracks and South Canterbury, as set out above, the total committed development traffic flows at the each of the junctions included in the impact assessment on the local highway network are presented in **Appendix 4.D**.

4.11 The 2045 Base + Committed Development traffic flows are included in **Appendix 4.E**.

Development Traffic Flow Diagrams

"When checking the Total Proposed Development Traffic Flows on Appendix 4.J-6, some of the figures do not appear to correspond to those presented in Appendices 4.J-1 to 4.J-5."

4.12 The traffic flows presented in Appendix 4.J-6 incorporated only the 'new' trips associated with the proposed development site and omitted the local shop 'pass-by' trips. The inclusion of the pass-by trips results in higher turning movements at the A257 site access, but with no change in traffic flows at any of the off-site junctions. The development traffic flows are presented in **Appendix 4.F**.

4.13 The 2045 Base + Committed + Proposed Development traffic flows are included in **Appendix 4.G**.

Future Year Development Traffic Flows

4.14 Given the minor changes associated with committed development above, the impact assessments (Tables 7.1 and 7.2 of the Transport Assessment) have been updated for clarification and are presented in the tables below.

Table 4.1: AM Peak Hour Proportional Impacts of Development Generated Traffic (Two-Way)

Junction	AM Peak Hour					
	June 2022 Survey	Background Growth to 2045	Total Committed Development Traffic	2045 Baseline Traffic Flows (2045 Background + Committed Development)	Development Traffic Flow	Proportional Impact of Development Traffic Flow to 2045 Baseline
St George's Roundabout	3,055	+639	+684	4,378	+82	+1.9%
A257 /A2050 Upper Chantry Lane	2,405	+504	+613	3,521	+90	+2.6%
Longport Roundabout	1,511	+316	+124	1,951	+90	+4.6%
A257 / Wemyss Way	1,130	+236	+237	1,603	+98	+6.1%
A257 / Bekesbourne Lane / Nargate Street	1,163	+243	+146	1,552	-164	-10.6%

Table 4.2: PM Peak Hour Proportional Impacts of Development Generated Traffic (Two-Way)

Junction	PM Peak Hour					
	June 2022 Survey	Background Growth to 2045	Total Committed Development Traffic	2045 Baseline Traffic Flows (2045 Background + Committed Development)	Development Traffic Flow	Proportional Impact of Development Traffic Flow to 2045 Baseline
St George's Roundabout	2,937	+623	+824	4,384	+87	+2.0%
A257 /A2050 Upper Chantry Lane	2,259	+479	+762	3,500	+91	+2.6%
Longport Roundabout	1,471	+312	+168	1,951	+91	+4.7%
A257 / Wemyss Way	1,051	+223	+285	1,559	+98	+6.3%
A257 / Bekesbourne Lane / Nargate Street	1,011	+214	+150	1,376	-186	-13.5%

4.15 The results of the above updated impact assessment shows that, while there are minor changes to the future year baseline traffic flows, the proportional impacts of the development are the same as those presented in the TA (rounded to one decimal place).

4.16 The conclusions of the impact assessment presented in the TA therefore remain valid. This should hopefully allow KCC to conclude its review of the analysis presented in the TA, including the capacity of the Buffs Road / A257 junction which had not been considered pending the verification of the baseline traffic figures (as set out above).

Site Access Assessments

4.17 The capacity assessment of the A257 site access, with the corrected geometry and the inclusion of the pass-by trips associated with the local shop, as described above, has been carried out with geometry set out in **Appendix 2.A** and the traffic flows in **Appendix 4.G**. A full copy of the updated junction capacity analysis outputs is presented in **Appendix 4.H**.

Table 4.3: A257 The Hill / Site Access – Junction Capacity Summary Results

Arm/Movement	AM Peak Hour		PM Peak Hour	
	Max. RFC	Max. Queue	Max. RFC	Max. Queue
Site Access	0.60	2	0.44	1
A257 The Hill	0.50	2	0.50	2

Max RFC = Maximum Ratio of Flow to Capacity / Max. Queue = Maximum Average Queue

4.18 As can be seen from the table above the proposed access junction on the A257 The Hill is still expected to operate well within capacity, with very similar results to those presented in the TA.

SECTION 5 Contributions

"The site will be expected to provide contributions towards the Local Infrastructure Delivery Plan, and these will be advised on in due course."

5.1 Further clarification on the scale of contributions being sought towards the Local Infrastructure Delivery Plan is requested from KCC.

APPENDIX 1.A KENT COUNTY COUNCIL CONSULTATION RESPONSE (16TH AUGUST 2023)

Canterbury City Council
Planning Department
Military Road,
Canterbury
CT1 1YW

Highways and Transportation
Kroner House
Eurogate Business Park
Ashford
TN24 8XU
Tel: 03000 418181
Date: 16 August 2023
Our Ref: FW

Application - **CA/23/00484**
Location - **Land At The Hill, Bekesbourne Lane, East Of Bekesbourne Hill, Bekesbourne, Canterbury, CT4 5EA**
Proposal - **Outline planning application for up to 300 residential dwellings (including affordable housing and older person accommodation), a new community hub, introduction of structural planting and landscaping, informal public open space and children's play area and surface water flood mitigation and attenuation. All matters reserved except for access.**

Thank you for your consultation in relation to the above planning application.

Further to our previous comments, the applicant has submitted a Technical Note to address the points we raised.
My response will follow the setting out of this document:

Section 2 Site Accesses

2.2 plans have been submitted demonstrating the tracking for an 11.4m long refuse vehicle, entering and exiting from both the proposed accesses. These are acceptable, given that this size vehicle will only visit the site once a week. A refuse vehicle already makes collections from Littlebourne using The Hill, so this will not create any additional impact on traffic movements on The Hill.

2.5 plans have been submitted demonstrating a 12.2m long bus entering and exiting the development from both the proposed accesses. At this time, it is not proposed that buses will traverse the site and they will continue to use The Hill as per the current provision. However this future proofs the site and demonstrates the proposed accesses can serve a bus.

2.6 I concur with the applicant that conducting an ATC survey on Bekesbourne Lane prior to this application being approved would not be reflective of future conditions on this road. I would therefore seek to apply a suitably worded condition that this be reviewed once the development has become operational, and should it be deemed appropriate that a reduction in the speed limit be implemented. I am content that additional gateway markings at the speed limit change point on Bekesbourne Lane can be reviewed as part of the detailed design required for any S278 Agreement that will be required.

2.12 I note the geometric drawings submitted. Whilst I concur with the figures presented for the Bekesbourne Lane access, the dimensions for The Hill access do not accord with the Picady

Junctions 10 model. These state the dimensions used are 3.25m for Arm B and 5.10m for Arm C, however the geometric drawings show 3.375m for arm B and 4.3m for Arm C. As such the Picady Junctions 10 modelling for The Hill access will need to be re-run with the correct dimensions inputted.

Section 3 Sustainability

Littlebourne C of E Primary School and Littlebourne Surgery

I note the comments by KCC PROW team and the request for contributions of £30,00 to upgrade a number of PROW's that already provide links to the school and surgery. I would support the their request, as these would provide safe direct links, away from the roadside, from the site to the surrounding network.

3.8 I would ask the applicant to provide tactile paving on either side of Jubilee Hill at its junction with The Hill. Having reviewed the point where PROW CB143 exits onto The List/Jubilee Road, there is insufficient highway land to enable any improved crossing point to be implemented. As such I am content for this to remain as is.

Bekesbourne Railway Station

I accept that due to the lack of available highway land it would be difficult to implement a footway on Bekesbourne Lane, or make improvements to provide safer access for less experienced cyclists. There are a number of tracks in the vicinity which could provide off road routes, whoever these fall under third party ownership, and it would therefore prove difficult for the applicant to make any appropriate improvement.

I do note CCC's Transport Strategy and there are two links within close proximity of this site that CCC are looking to promote for improvements to walking and cycling. However these fall under third party land ownership.

A257/Nargate Street junction

Due to the geometry of the road and lack of additional highway land, it is very difficult to make any highway improvements here that would be appropriate. However, due to the proposed new link road through the site, the amount of traffic using the Bekesbourne Lane/A257 junction would be reduced, which in itself would improve conditions for cyclists and pedestrians.

Crossing on A257

An informal (uncontrolled) crossing has been proposed to the east of the access from The Hill, utilising existing traffic calming features.

Using the worst case scenario of 950 two way movements in peak hours (Point 4.3.8 of first TA, existing traffic flow data) even if this was reduced by 225 vehicles due to the delivery of the proposed link road through the site, this would still result in 725 two way movements in the peak hours, which equates to one vehicle every 5 seconds.

As such, we feel it is appropriate for the applicant to provide a formal/controlled crossing point here as part of the highway mitigation measures. This should be in the form of a puffin crossing, and a Stage one road Safety Audit would need to be conducted on this prior to any recommendation of approval for this application.

Howletts Zoo Access

I note that the applicants response, and this is accepted. It would be beneficial if the proposed footway within this site was able to link into an appropriate area within the Howletts Zoo site, and it is pleasing to note the applicant is in discussions with the Zoo on this point.

Section 4 Existing Highway Network

Surveyed Traffic Flows

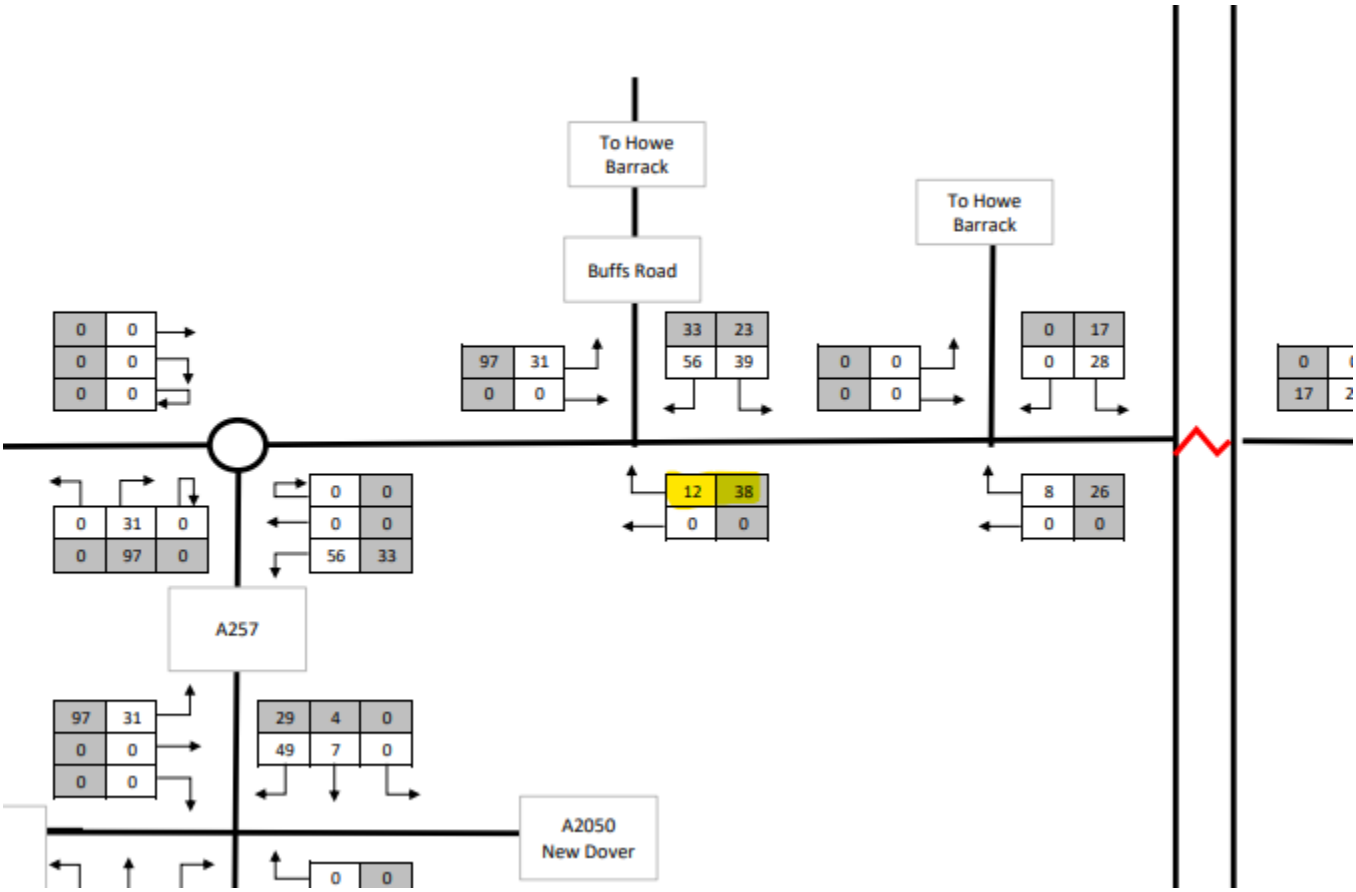
Having assessed the submitted traffic survey data, I concur that the traffic flows recorded via the ATC placed on The Hill validate the one day manual turning count figures that have been used.
As such we are minded to accept the manual turning count figures as surveyed.

Future Year Baseline

We will accept the use of 2045 future year assessment, as previously agreed as part of the pre-planning application advice that we provided.

Committed Developments

On assessing the flow diagrams for Howe Barracks, there were some figures that require clarification, as highlighted below. These do not appear to correspond to other figures used within the flow diagram.



I also have queries regarding the flow diagrams for the Canterbury South Application. When assessing the total flows on Appendix 4 E-5, the figures do not correspond to those shown in 4 E-1 to 4 E-4. Can these please be reviewed.

When checking the Total Proposed Development Traffic Flows on Appendix 4 J-6, some of the figures do not appear to correspond to those presented in Appendices 4 J-1 to 4 J-5. I

appreciate there may be some rounding up that will occur, but some of the figures presented would be in excess of what would be expected.

Further clarification of the above will enable me to assess the flow diagrams presented in Appendix 4k

Travel Plan

This has been assessed by our Travel Plan Coordinator and they had the following comments to make:

I would like to see a few amendments for when it is submitted for Discharge of Conditions. These are as follows:

2.9 – Once confirmed I would like to see more information regarding the Shop and Work hub and parking information etc
Bus – I would like to see a link to the bus provider website to give information for times and tickets.
Train – I would like to see a link to the train provider to give information for Time and Tickets.
Cycling – Please include a map showing the closest National Cycle Routes to the site.
Travel Information pack to be produced and included I the Travel Plan and approved by us prior occupation.
8.1 – It suggest the survey will be monitored over 3 years I would prefer it be monitored over 5 years.

I am content that a suitable condition can be applied for the submission of further details, should the LPA be minded to approve this application

Contributions

The site will be expected to provide contributions towards the Local Infrastructure Delivery Plan, I am still awaiting confirmation of these figures.

I look forward to further information being submitted to assist me in determining this application. from a highway perspective.

Yours Faithfully

Director of Highways & Transportation

*This is a statutory technical response on behalf of KCC as Highway Authority. If you wish to make representations in relation to highways matters associated with the planning application under consideration, please make these directly to the Planning Authority.

APPENDIX 2.A A257 THE HILL SITE ACCESS PICADY GEOMETRIC PARAMETERS DRAWING

Site Access providing Single Lane Approach - 3.375m

Visibility to the Right for Vehicles Turning out of the Site Access - 20m

Visibility to the Left for Vehicles Turning out of the Site Access - 25m

Forward Visibility - 170m

A257 The Hill Carriageway Width in the Vicinity of the Site Access - 4.5m

C - A257 The Hill (West)

4.5m

VISIBILITY TO LEFT - 25m

THE HILL

FORWARD VISIBILTIY ON A257 THE HILL - 170M

30

28b

THE HILL

4.5m

VISIBILITY TO THE RIGHT - 20m

3.375m

B - A257 The Hill Site Access

A- A257 The Hill (East)

18.0m

SCALE BAR @ 1:250

0 1 2 5 10 25

DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

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REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

TITLE: A257 THE HILL SITE ACCESS - LAYOUT AND GEOMETRY FOR PICADY CAPACITY ASSESSMENT

PROJECT: LAND SOUTH OF THE HILL, LITTLEBOURNE

CLIENT: GLADMAN DEVELOPMENTS LTD

DRAWN:	CHECKED:	APPROVED:
MS	JW	JW
PROJECT No:	SCALE @ A3:	DATE:
ITM16283	1:250	28.06.23
DRAWING No:		REV:
ITM16283-GEOM-002		-

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APPENDIX 3.A JUBILEE ROAD PEDESTRIAN CROSSING DRAWING

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REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

TITLE: PROPOSED PEDESTRIAN CROSSING ACROSS JUBILEE ROAD

PROJECT: LAND SOUTH OF THE HILL, LITTLEBOURNE

CLIENT: GLADMAN DEVELOPMENTS LTD

DRAWN:	CHECKED:	APPROVED:
JB	JW	VE
PROJECT No:	SCALE @ A3:	DATE:
ITM16283	1:250	30.08.23
DRAWING No:		REV:
ITM16283-GA-024		

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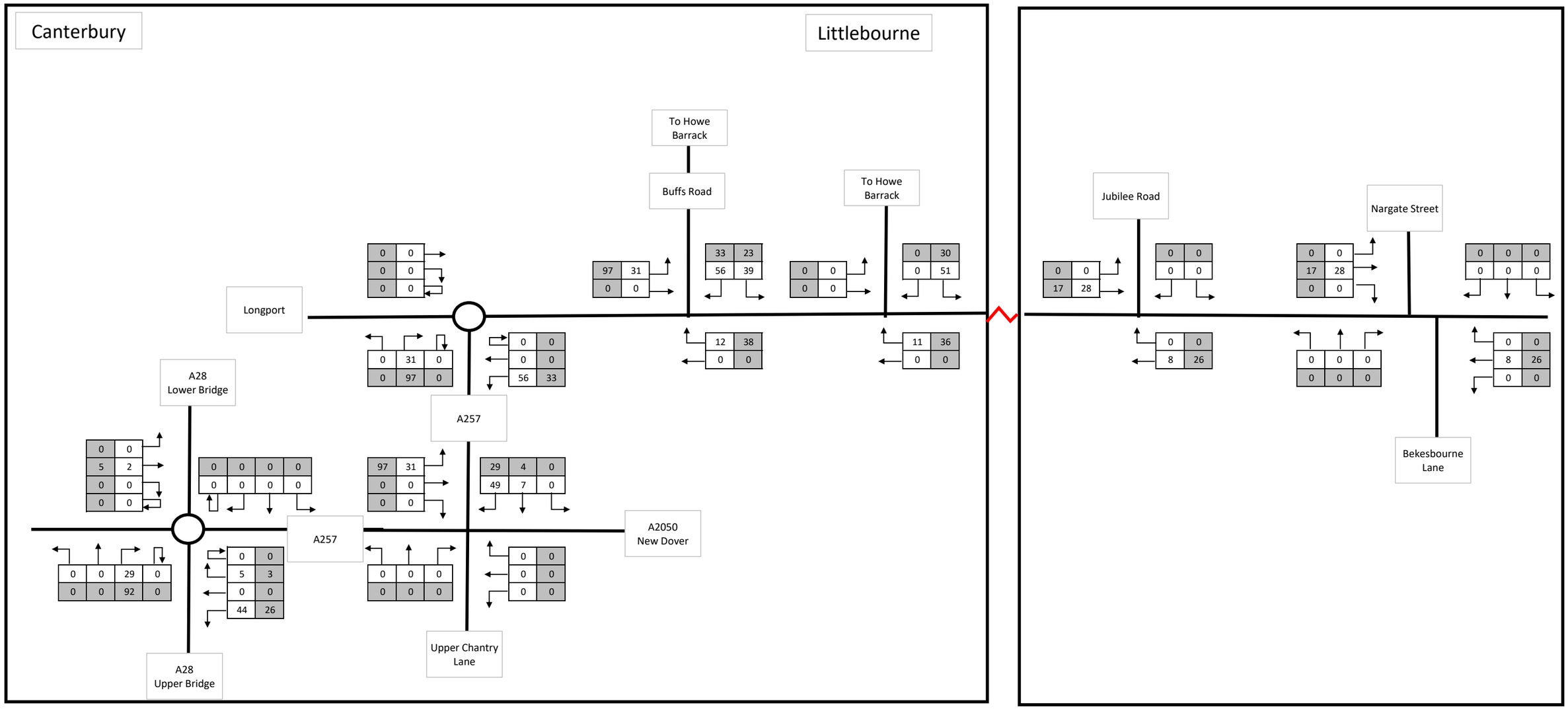
APPENDIX 4.A HOWE BARRACKS COMMITTED DEVELOPMENT TRAFFIC FLOWS



KEY

123 = AM Peak

123 = PM PEAK

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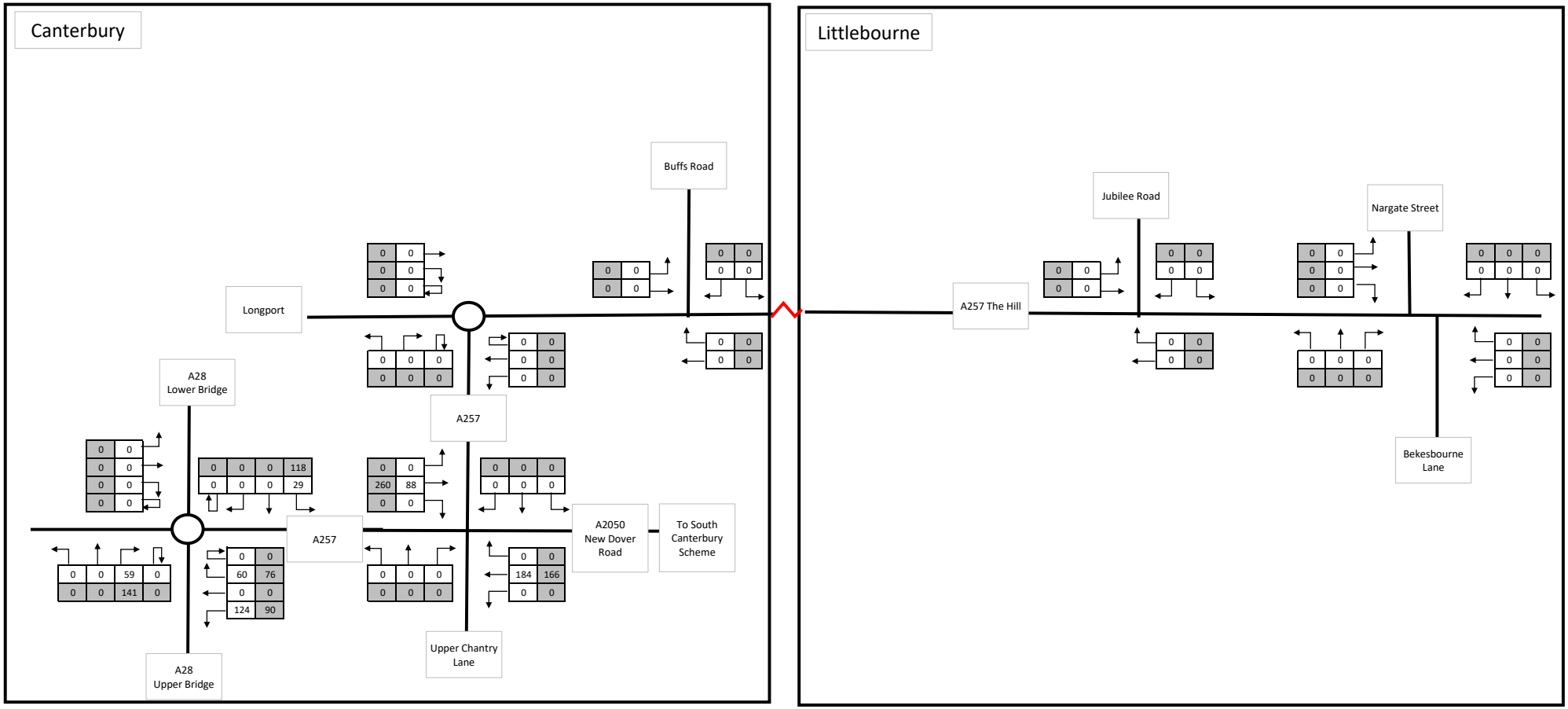
Land South of the Hill, Littlebourne

Appendix 4.A

Howe Barrack Traffic Flows

APPENDIX 4.B SOUTH CANTERBURY COMMITTED DEVELOPMENT TRAFFIC FLOWS



KEY

123 = AM Peak

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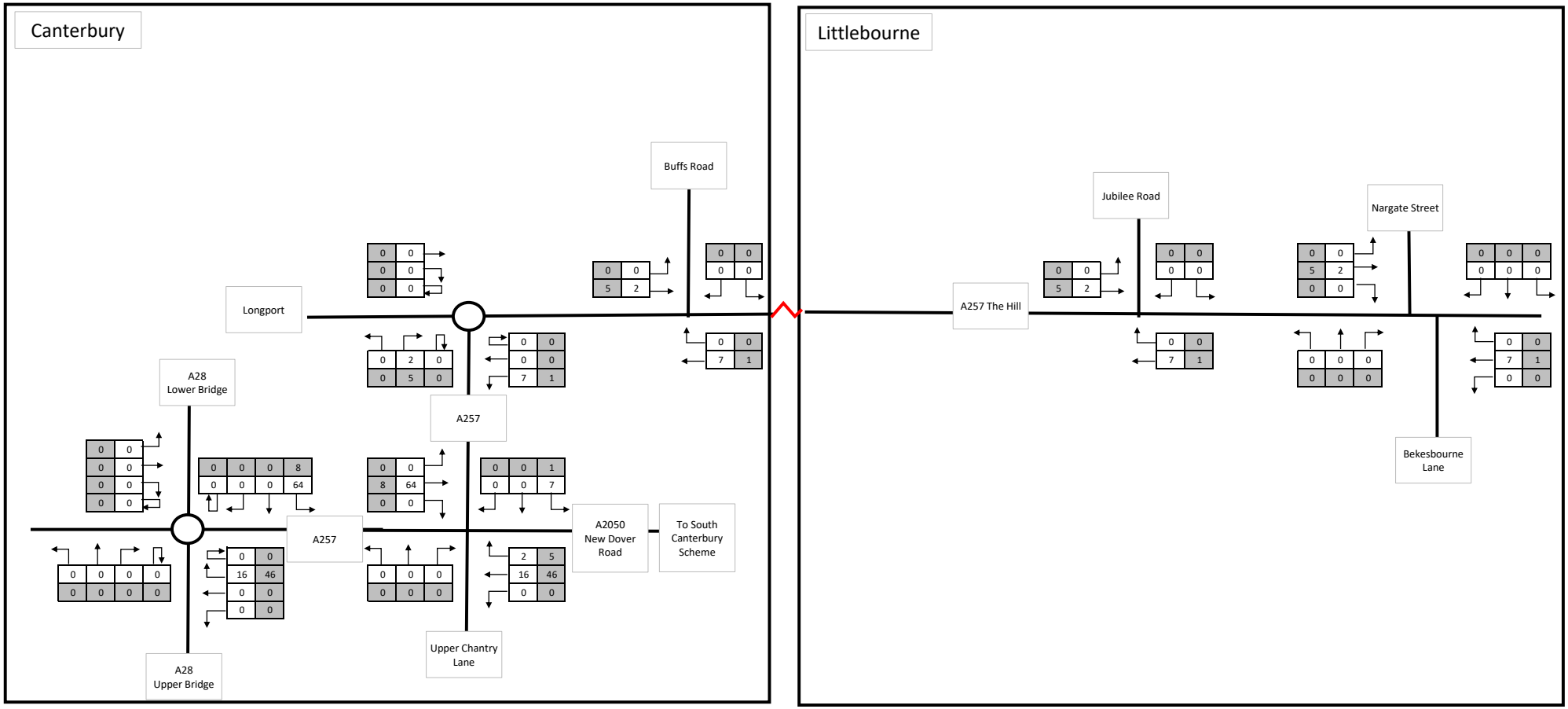
Land South of the Hill, Littlebourne

Appendix 4.B-1

South Canterbury Residential (4000 Dwellings)



KEY

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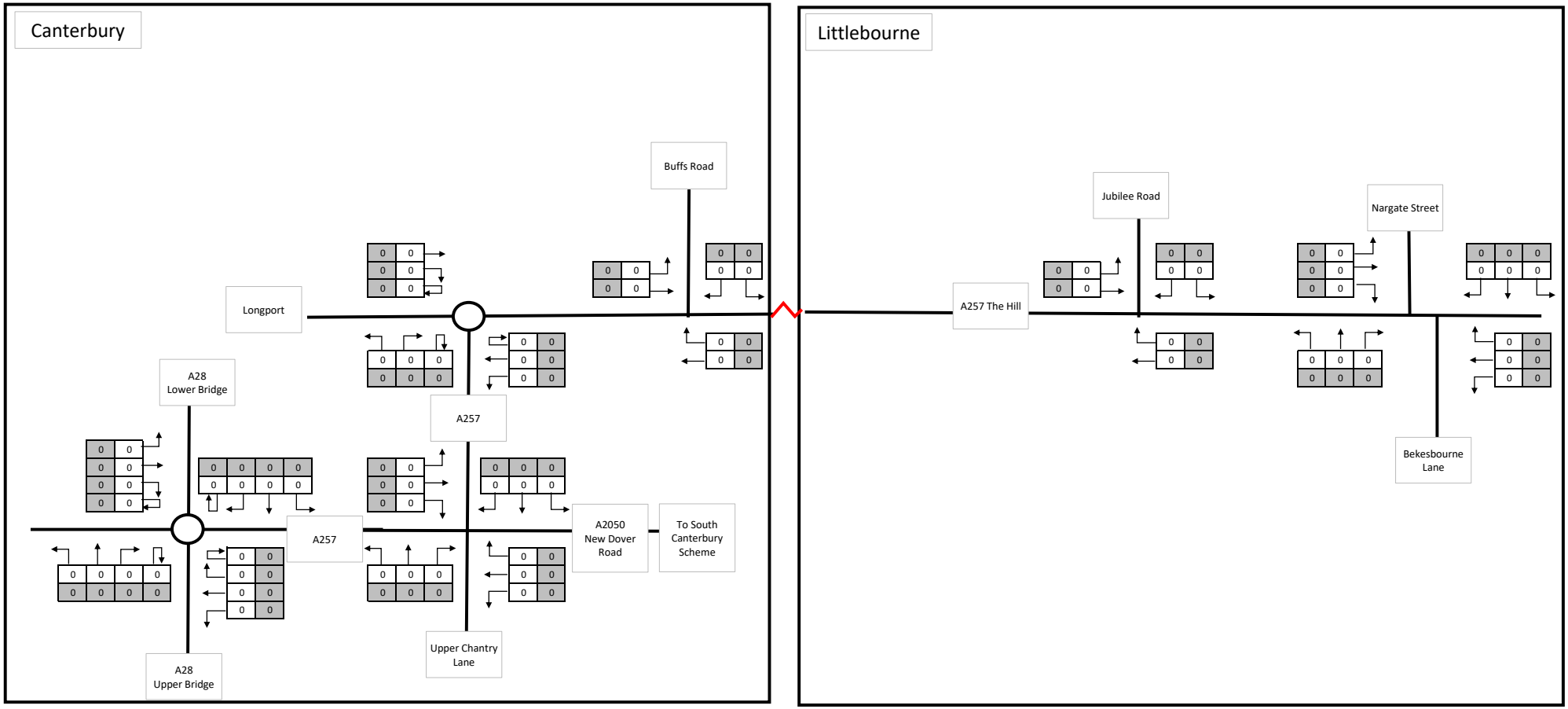
Appendix 4.B-2

South Canterbury Commercial (70,000sqm)



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123 = AM Peak

123 = PM PEAK

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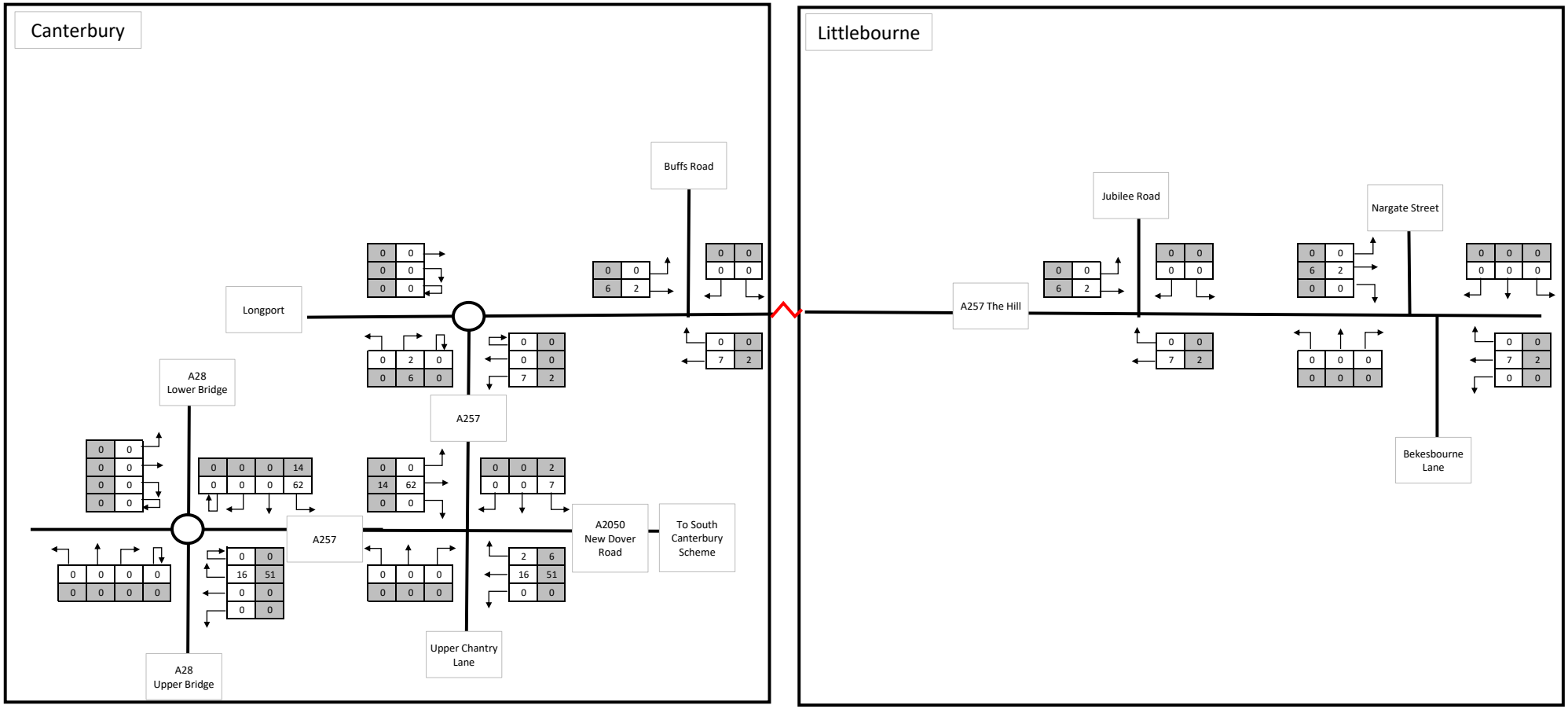
Land South of the Hill, Littlebourne

Appendix 4.B-3

South Canterbury P&R



KEY

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123 = PM PEAK

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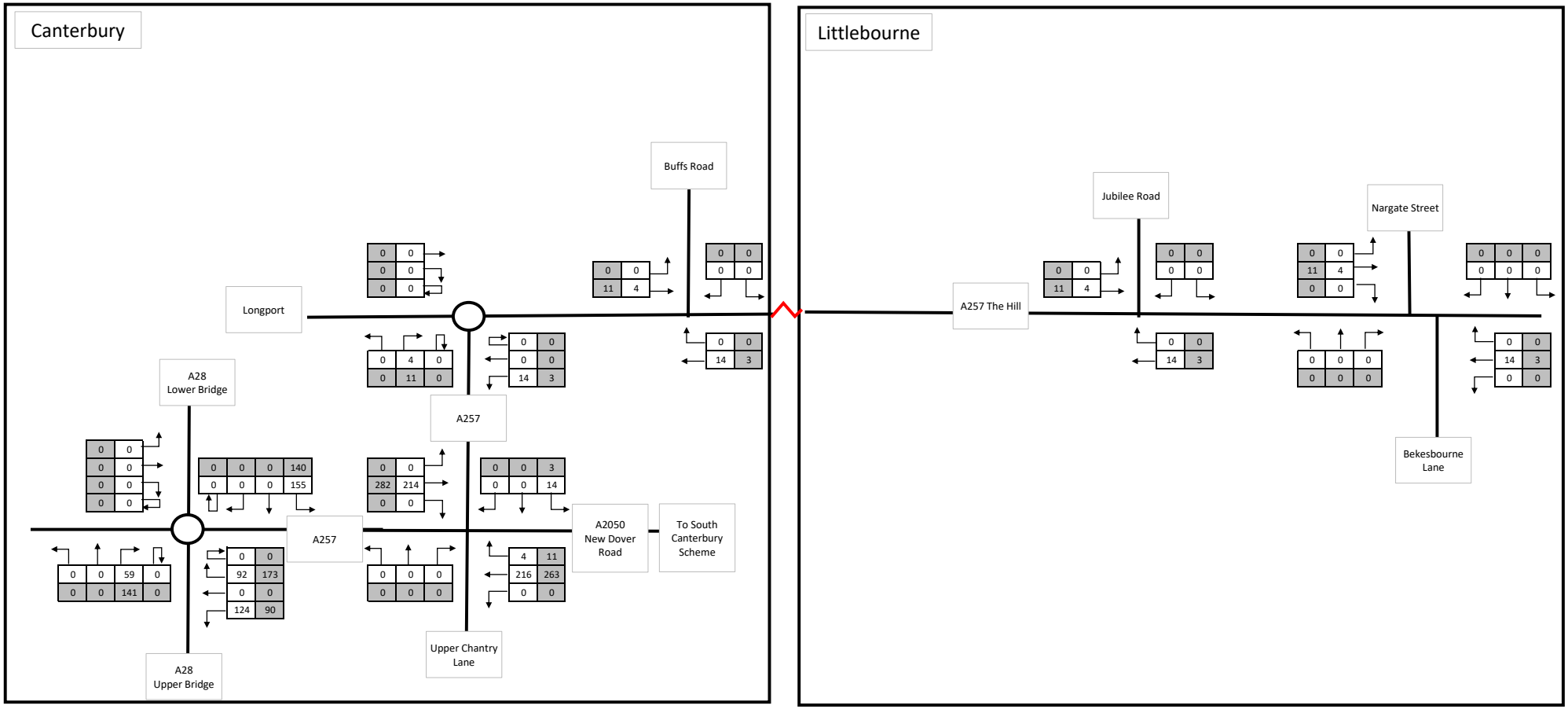
Land South of the Hill, Littlebourne

Appendix 4.B-4

South Canterbury Hospital Relocation



KEY

123 = AM Peak

123 = PM PEAK

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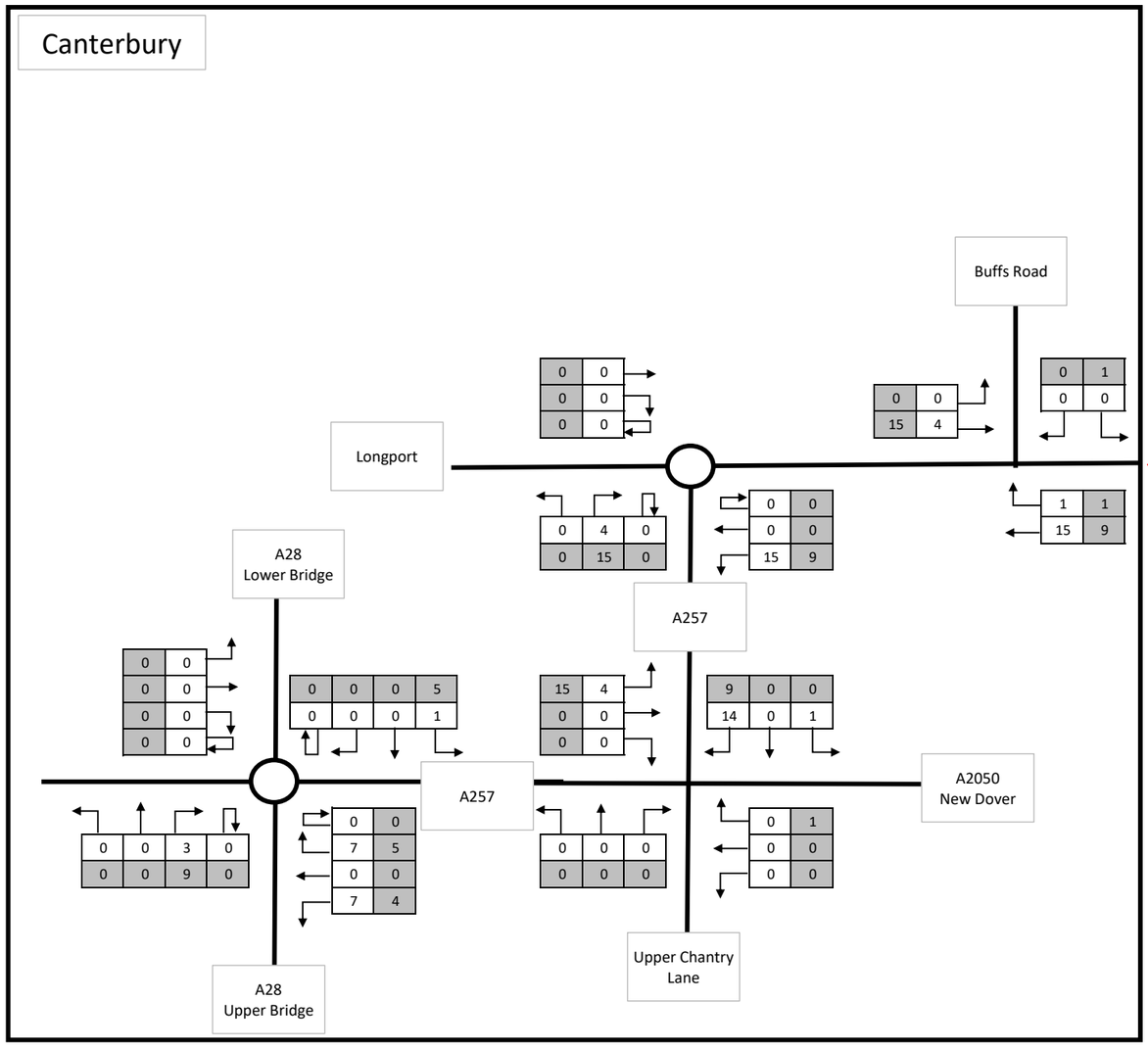
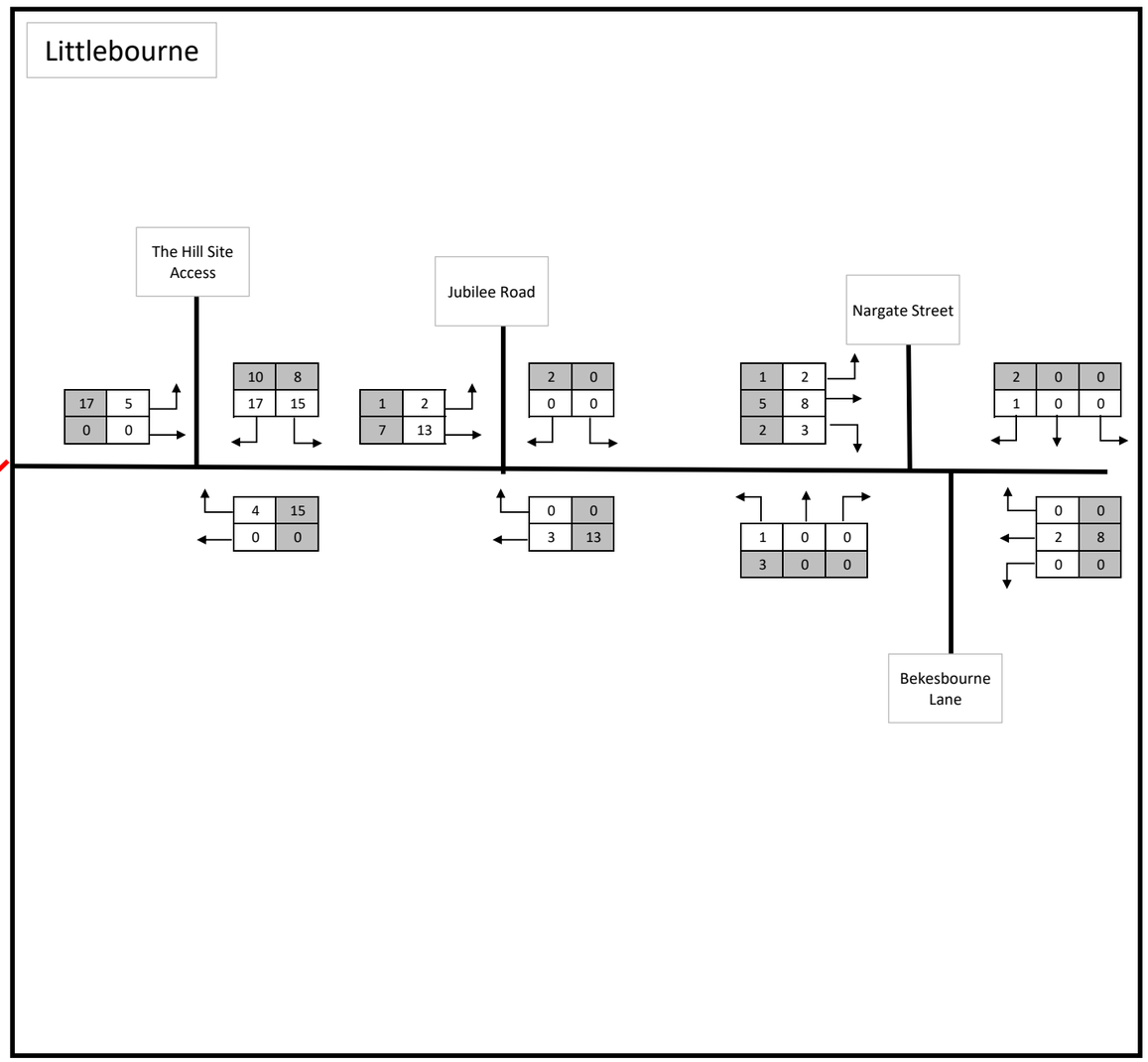
Land South of the Hill, Littlebourne

Appendix 4.B-5

South Canterbury Traffic Flows

APPENDIX 4.C THE HILL AND LAND NORTH OF HEARSDEN COMMITTED DEVELOPMENT TRAFFIC FLOWS





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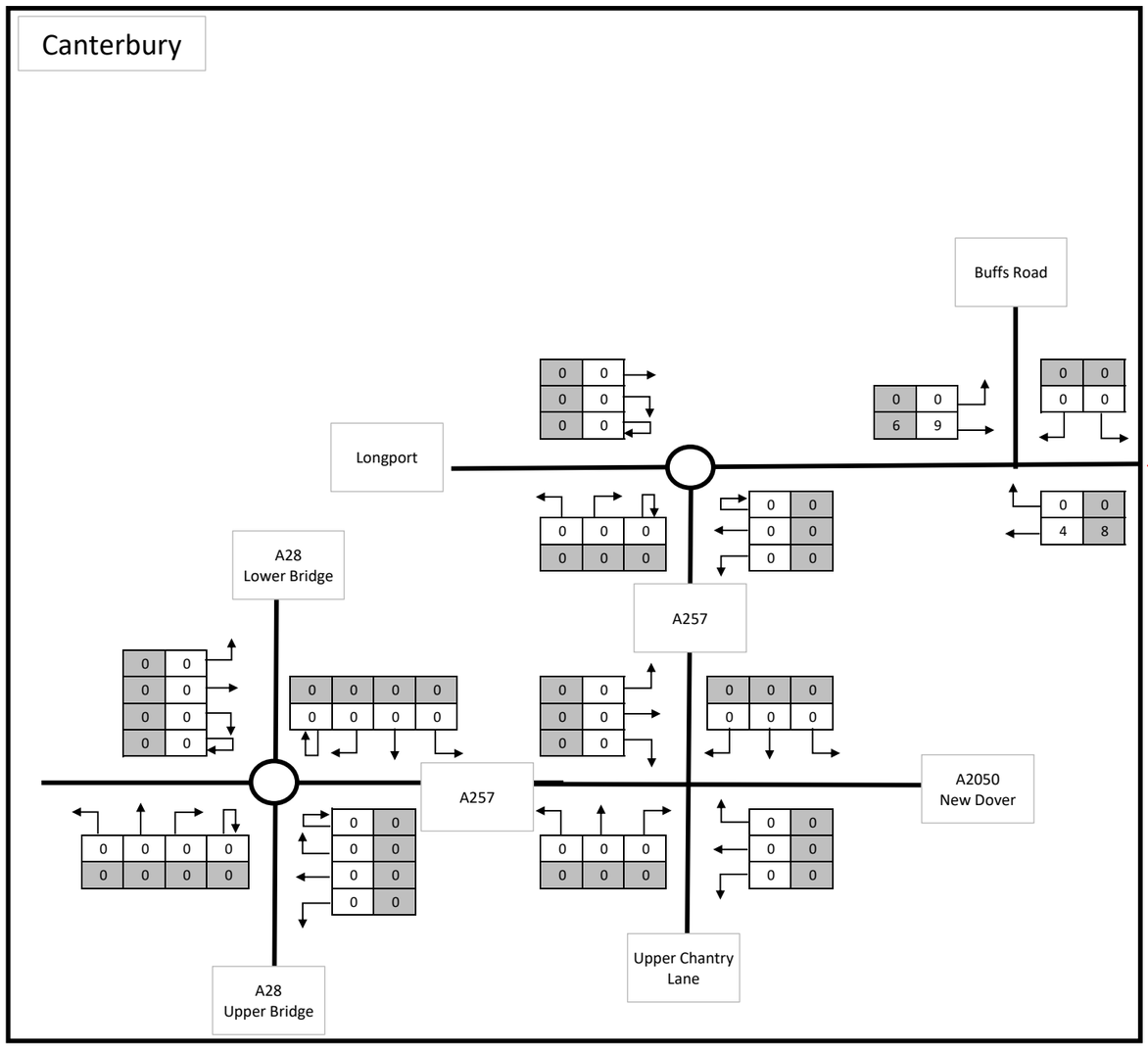
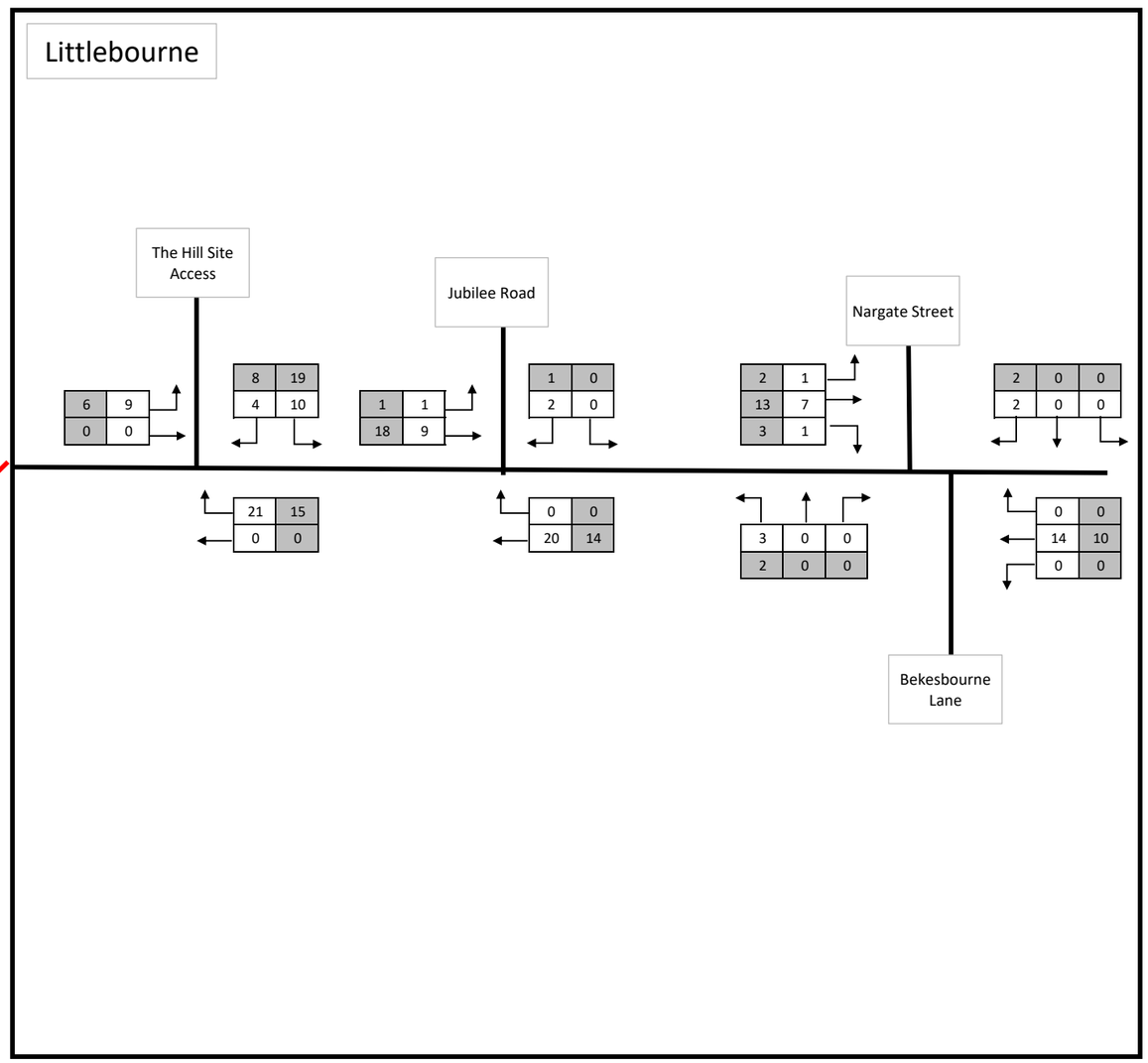
Land South of the Hill, Littlebourne

Appendix 4.C-1

The Hill Residential Traffic Flow





KEY

123 = AM Peak

123 = PM PEAK

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Manchester, M3 3WR
Tel: 0161 830 2172
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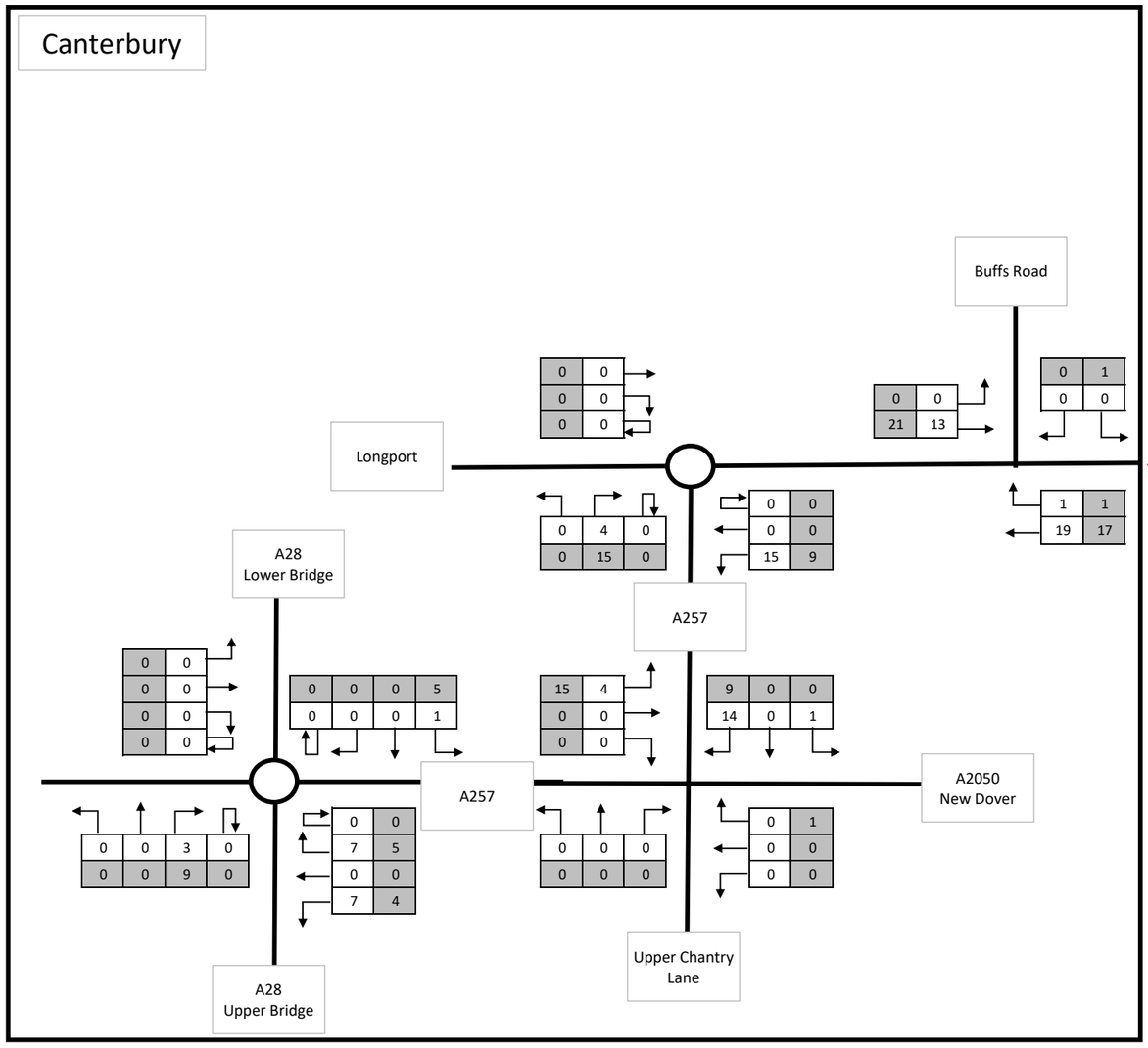
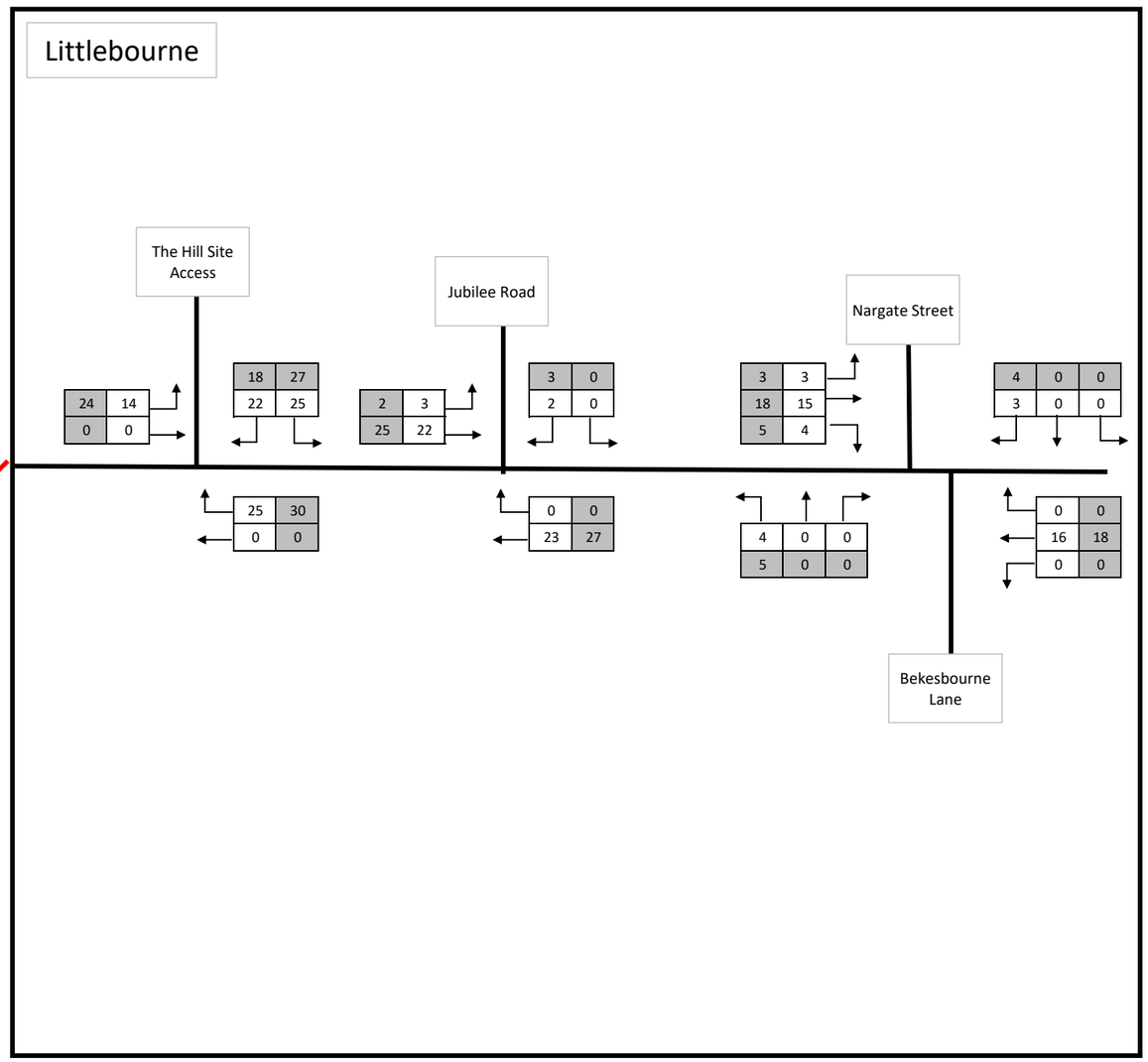
Land South of the Hill, Littlebourne

Appendix 4.C-2

The Hill Doctors Surgey Traffic Flow





KEY

123 = AM Peak

123 = PM PEAK

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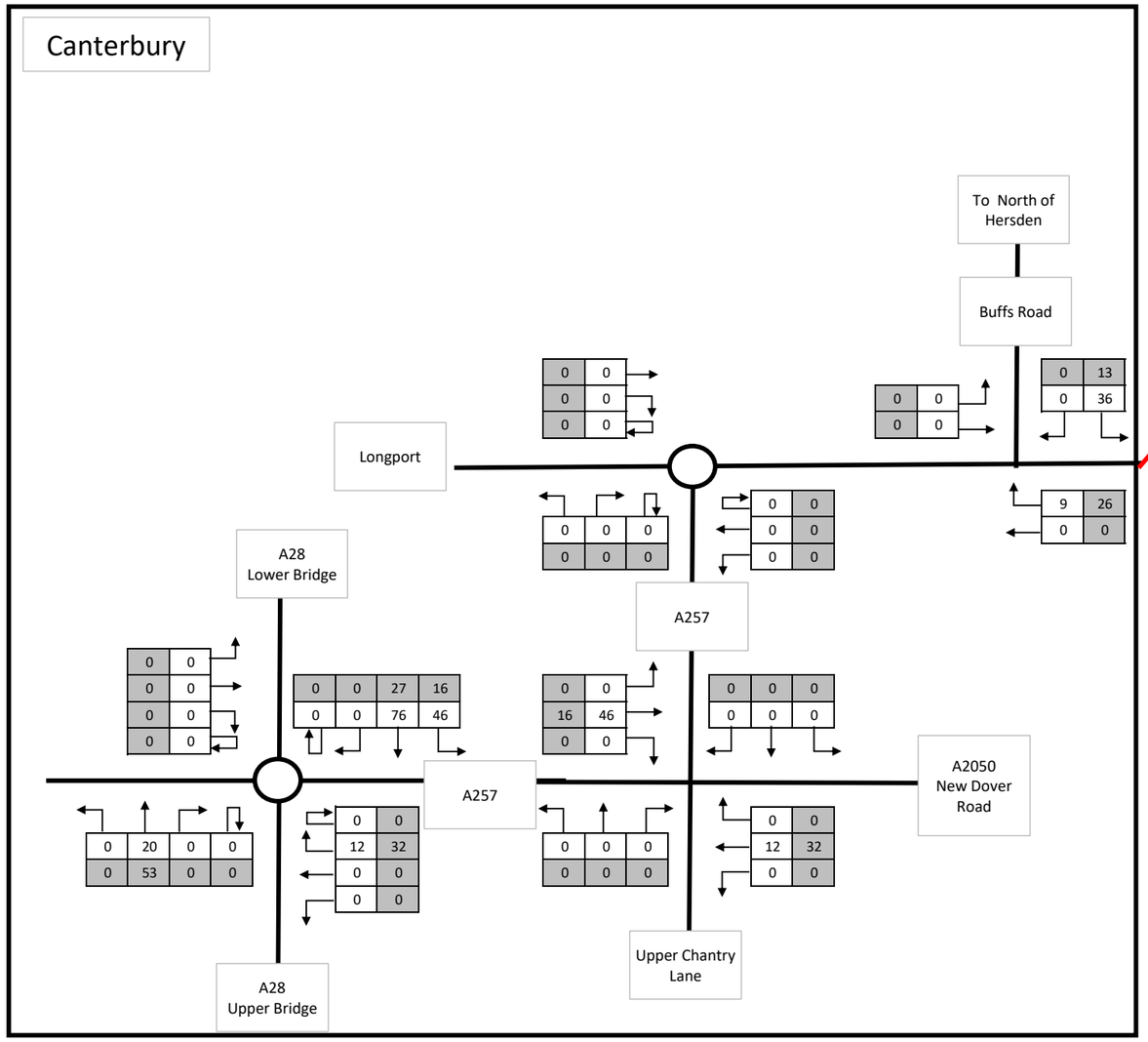
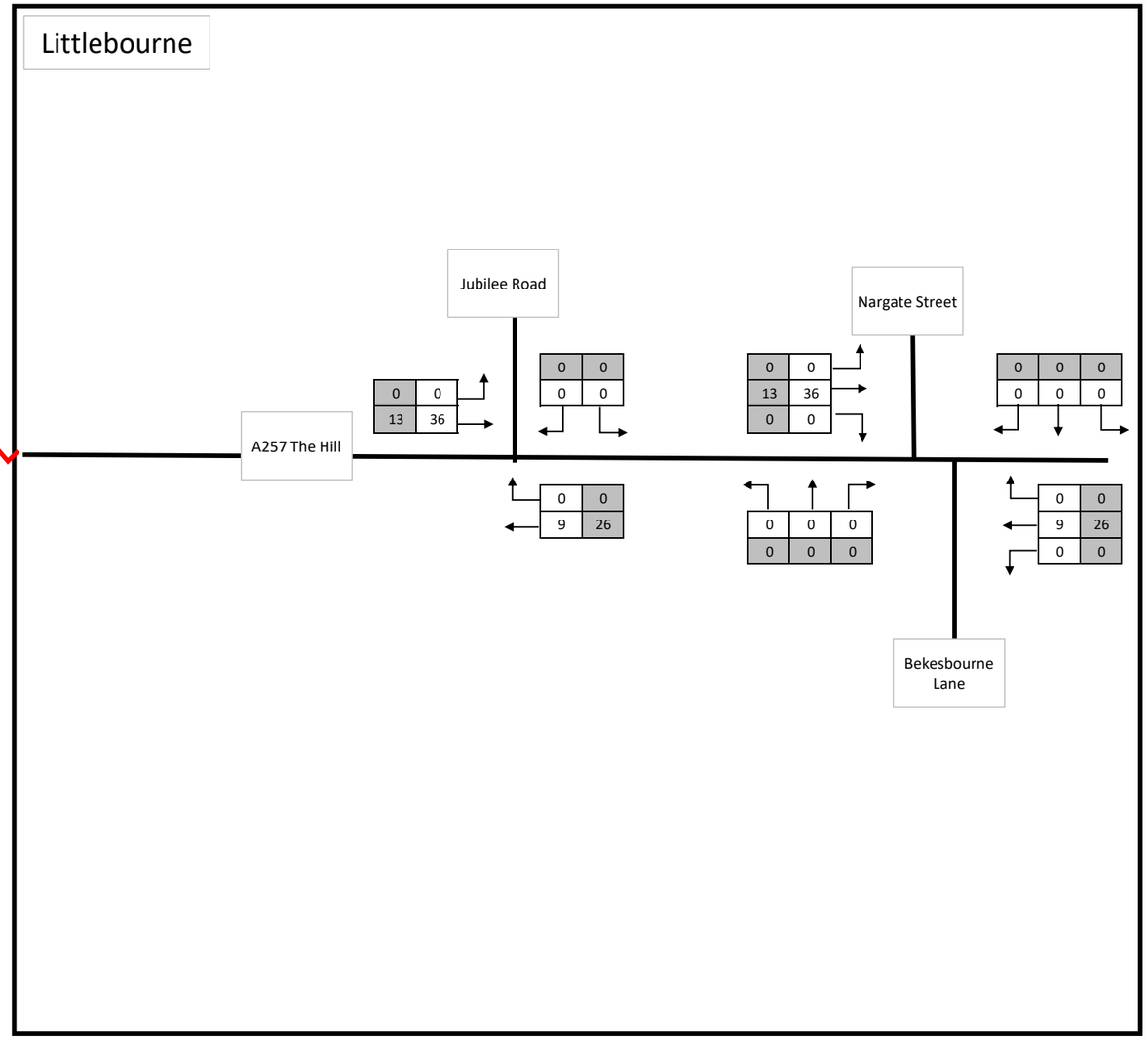
Land South of the Hill, Littlebourne

Appendix 4.C-3

The Hill Traffic Flows





KEY

123 = AM Peak

123 = PM PEAK

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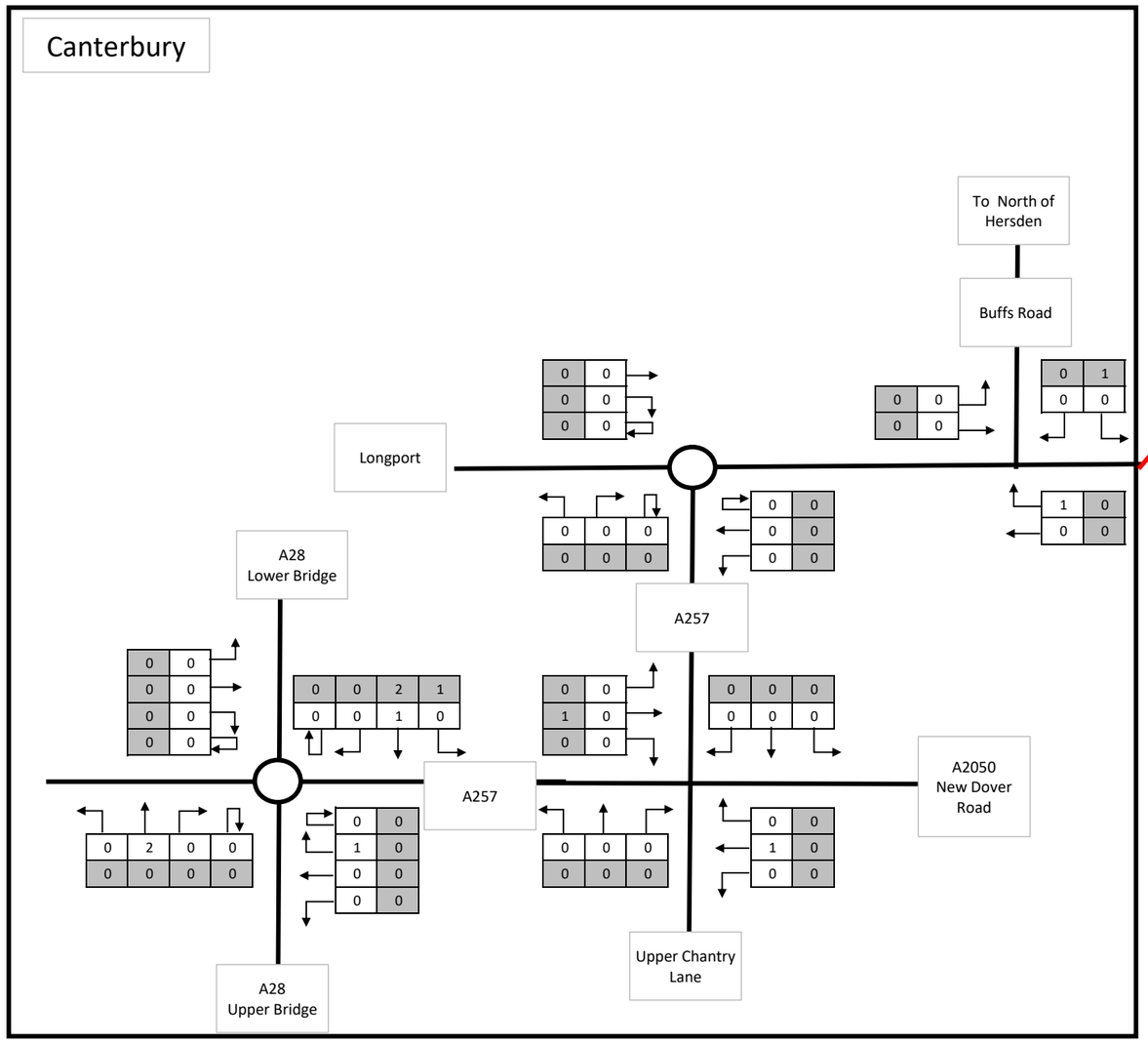
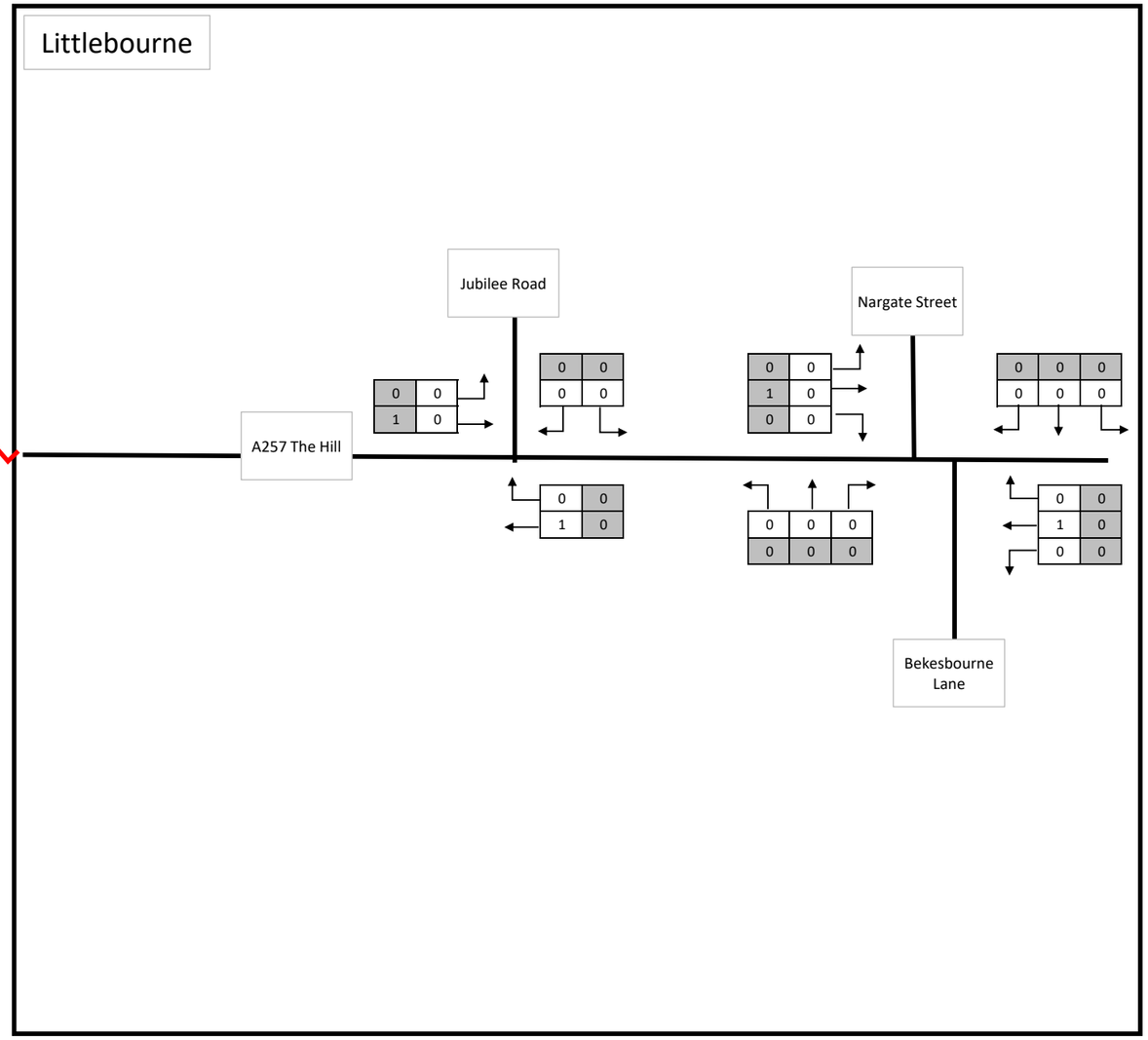
Land South of the Hill, Littlebourne

Appendix 4.C-4

Land North of Hersden Residential





KEY

123 = AM Peak

123 = PM PEAK

i-Transport

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Manchester, M3 3WR
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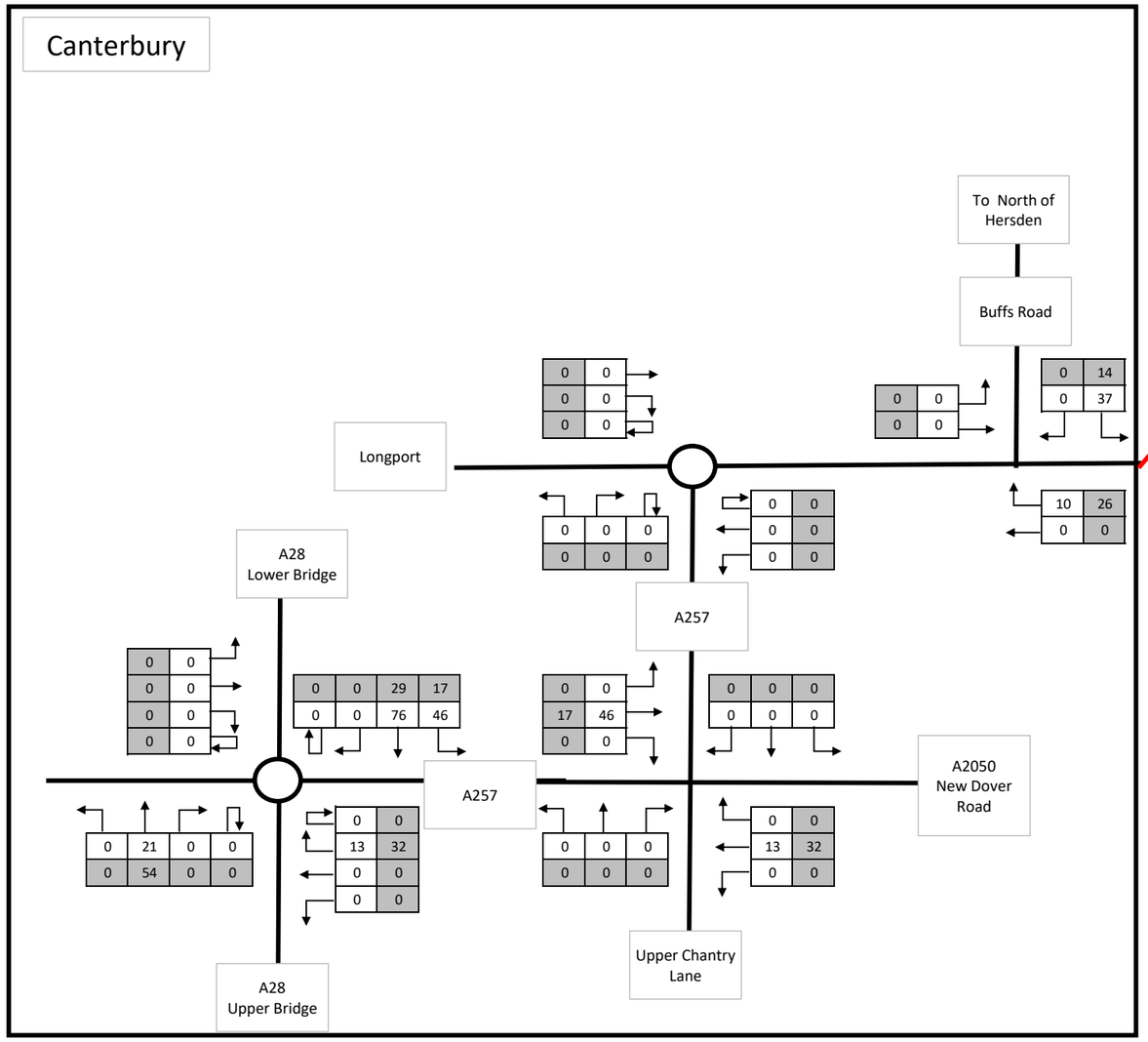
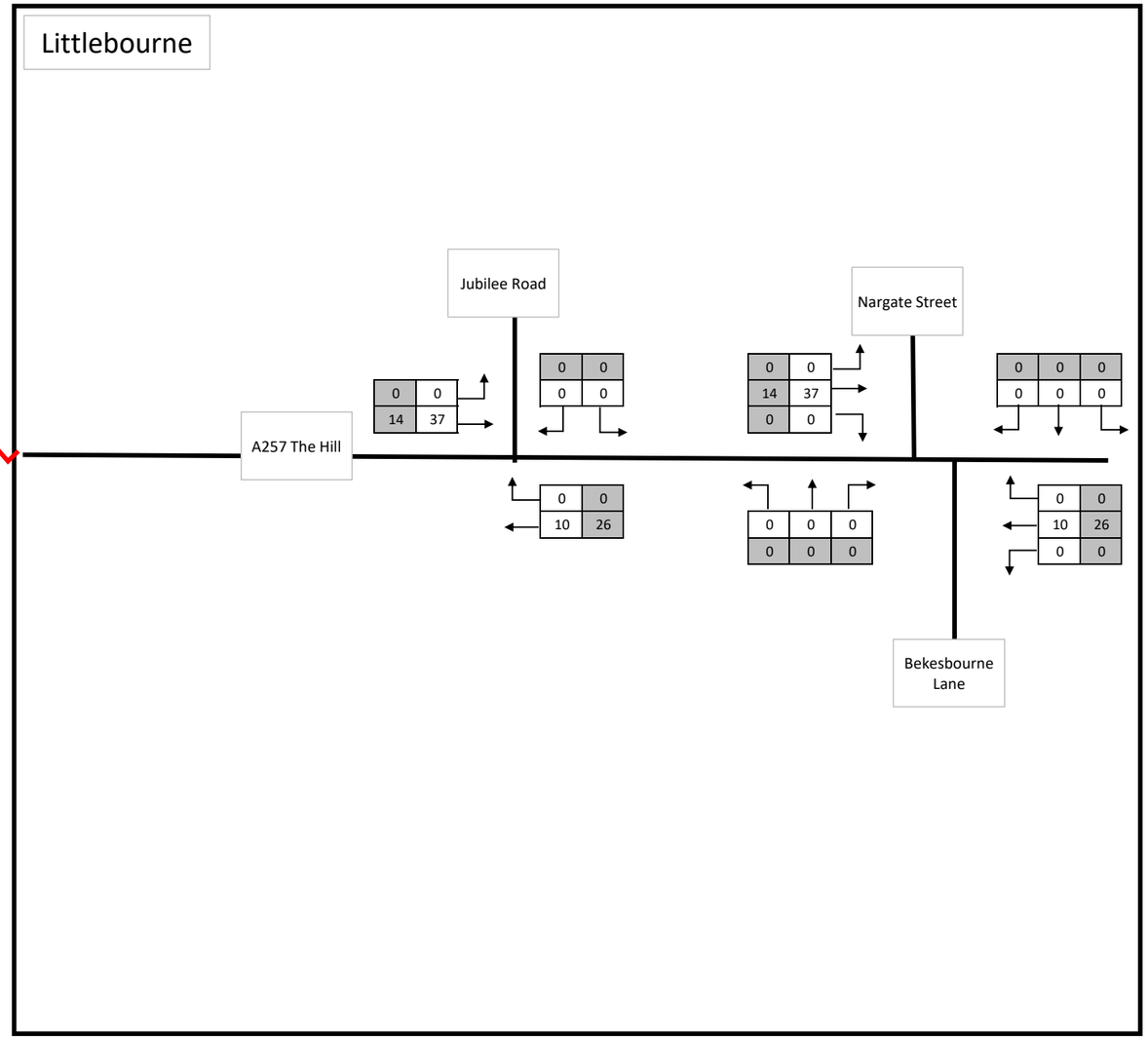
Land South of the Hill, Littlebourne

Appendix 4.C-5

Land North of Hersden Employment





KEY

123 = AM Peak

123 = PM PEAK

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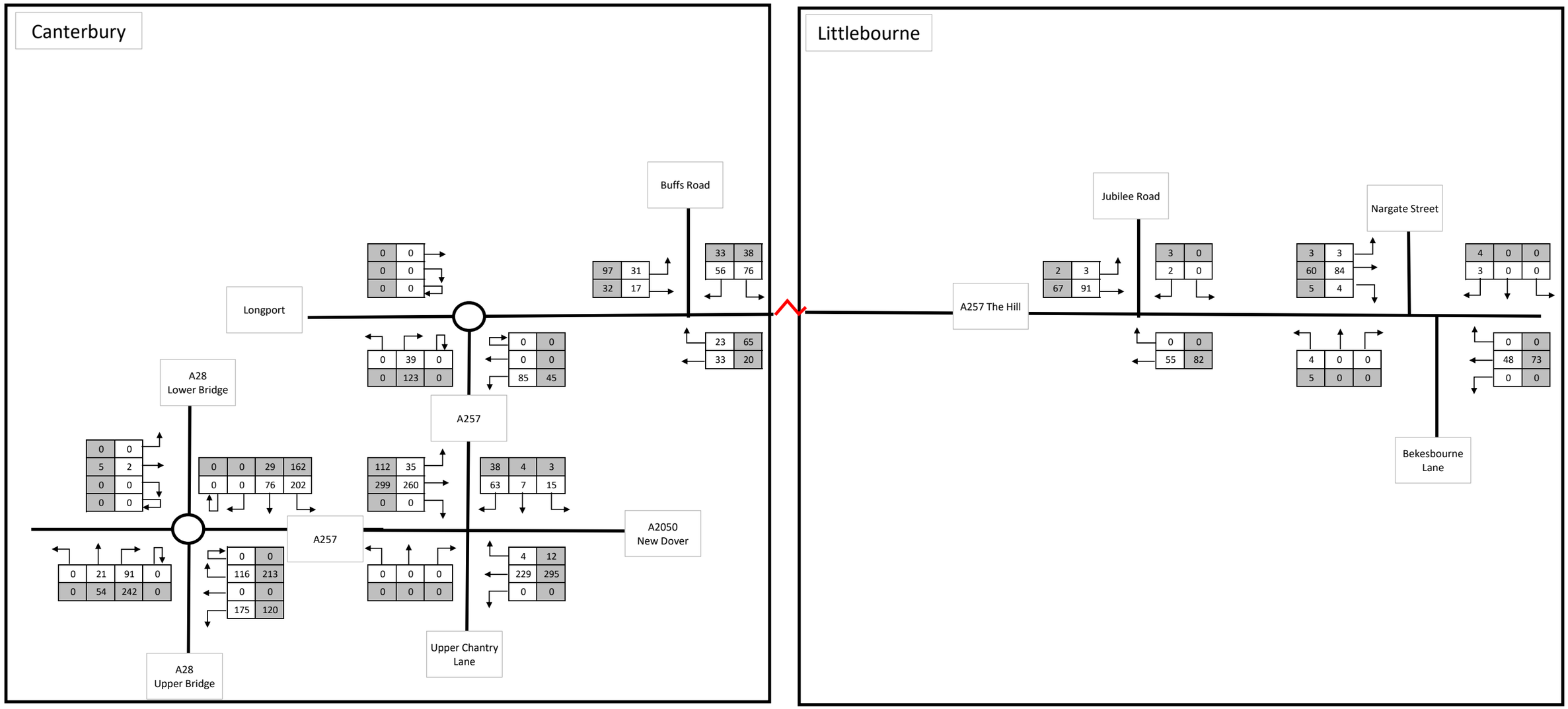
Land South of the Hill, Littlebourne

Appendix 4.C-6

Land North of Hersden Traffic Flows

APPENDIX 4.D TOTAL COMMITTED DEVELOPMENT TRAFIC FLOWS



KEY

123 = AM Peak

123 = PM PEAK

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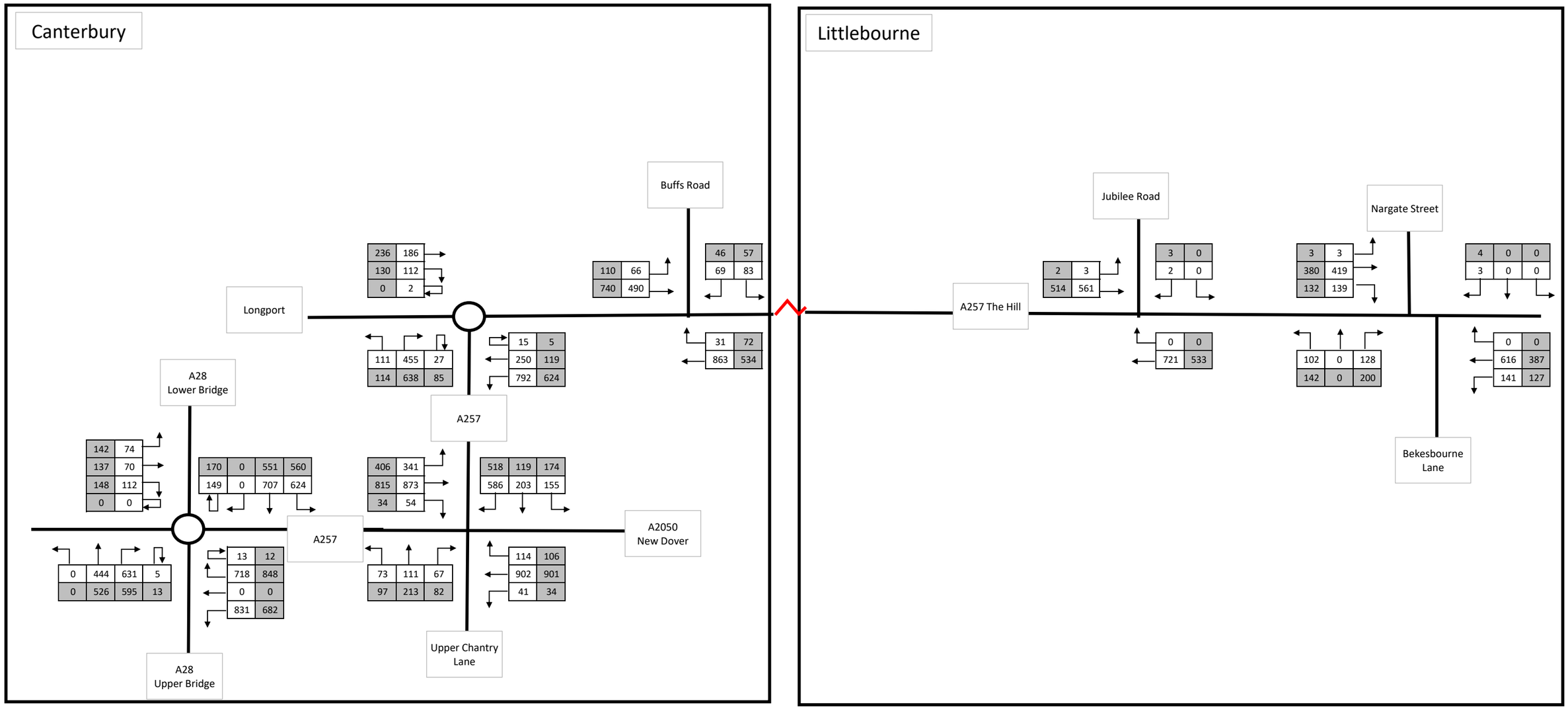
Land South of the Hill, Littlebourne

Appendix 4.D

Total Committed Development Traffic Flows

APPENDIX 4.E 2045 BASE + COMMITTED TRAFFIC FLOWS



KEY

123 = AM Peak

123 = PM PEAK

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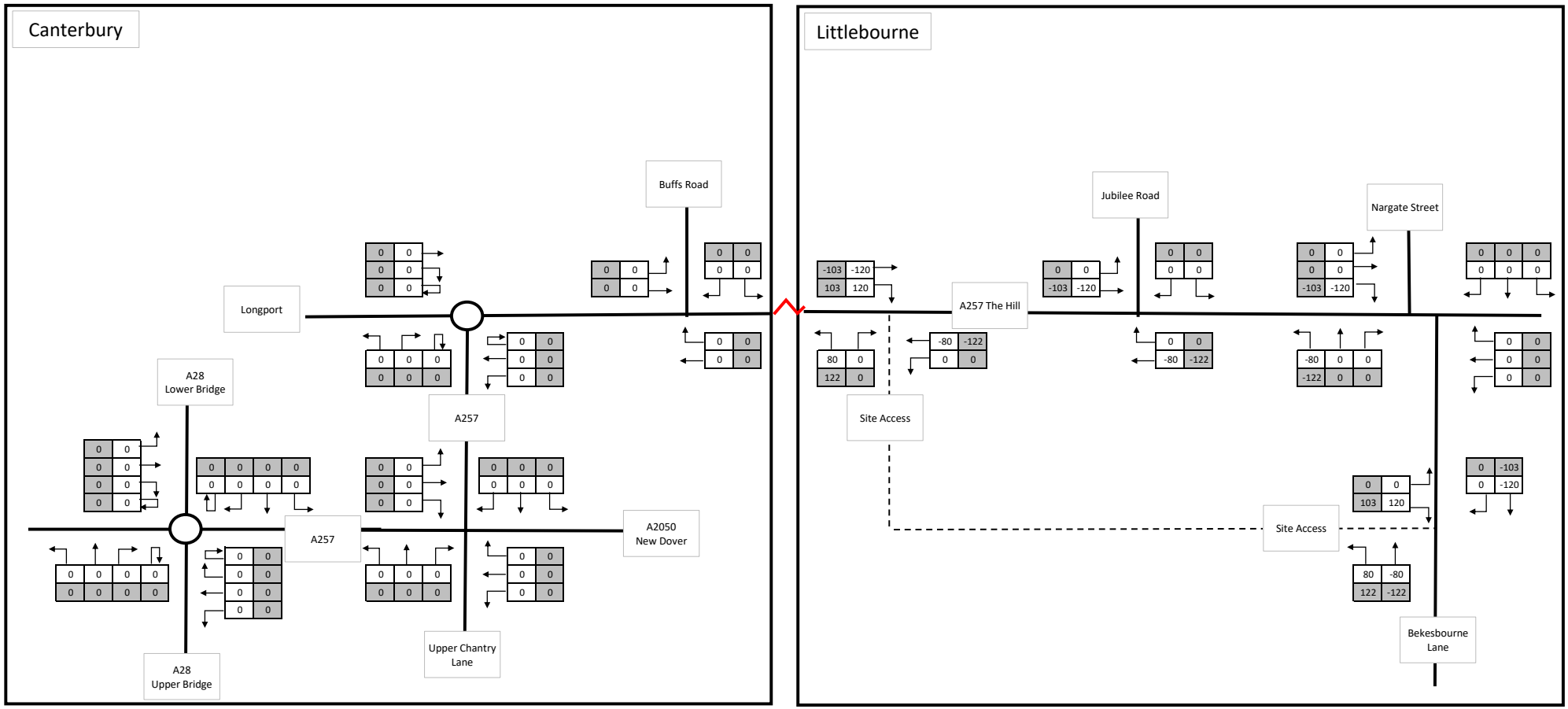
Land South of the Hill, Littlebourne

Appendix 4.E

2045 Base + Committed Traffic Flows

APPENDIX 4.F PROPOSED DEVELOPMENT TRAFFIC FLOWS



KEY

123 = AM Peak

123 = PM PEAK

i-Transport

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Manchester, M3 3WR
Tel: 0161 830 2172
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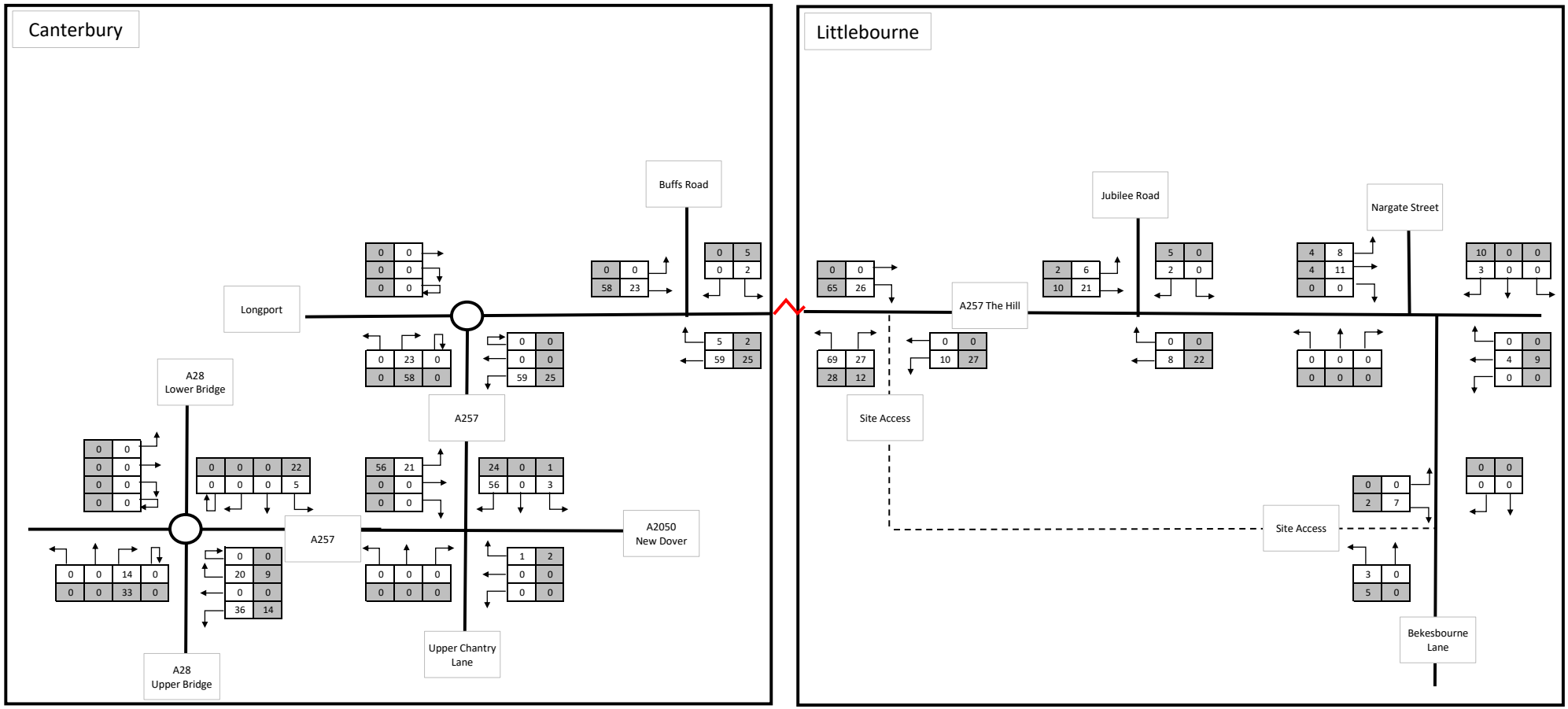
Land South of the Hill, Littlebourne

Appendix 4.F-1

2045 Background Traffic Flow Reassignment



KEY

123 = AM Peak

123 = PM PEAK

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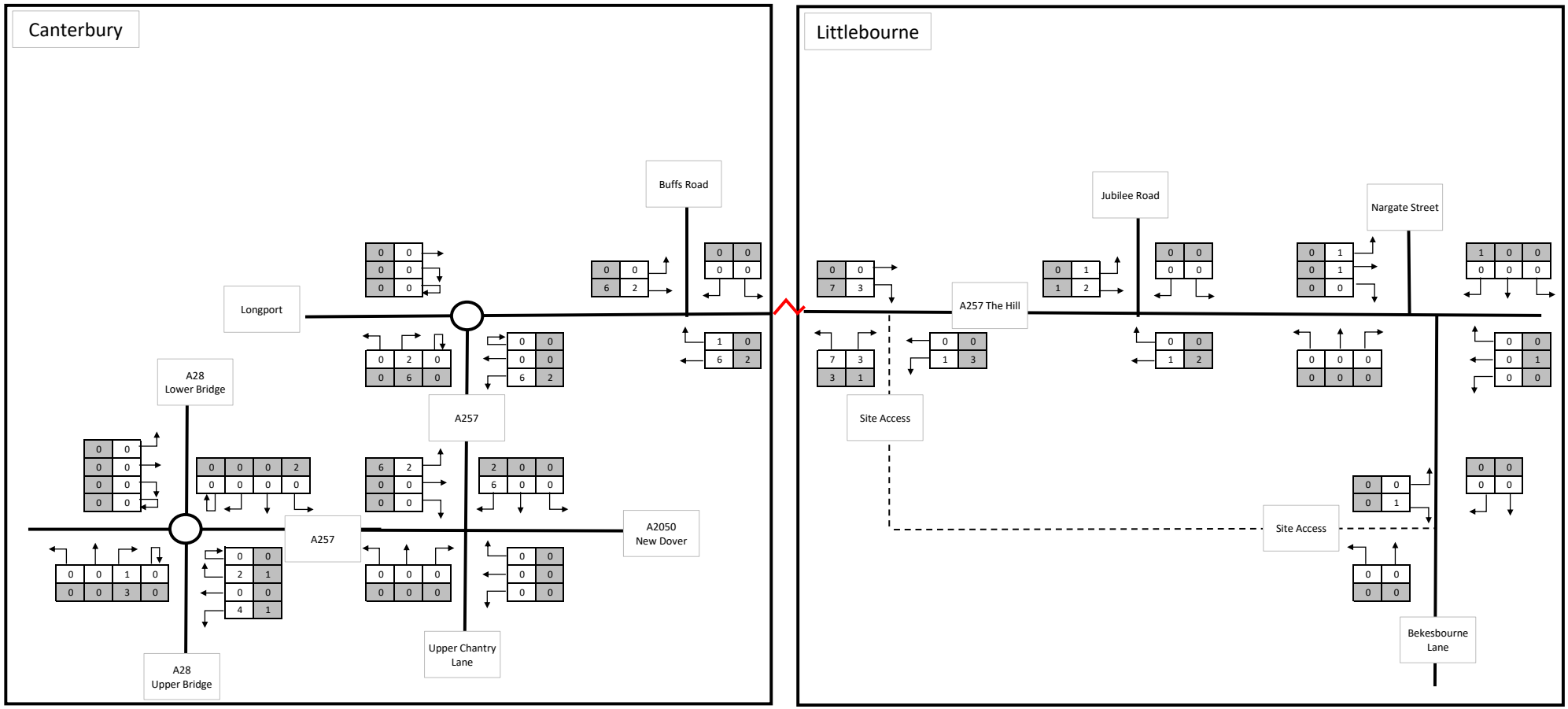
Land South of the Hill, Littlebourne

Appendix 4.F-2

Residential Development Traffic Flows



KEY

123 = AM Peak

123 = PM PEAK

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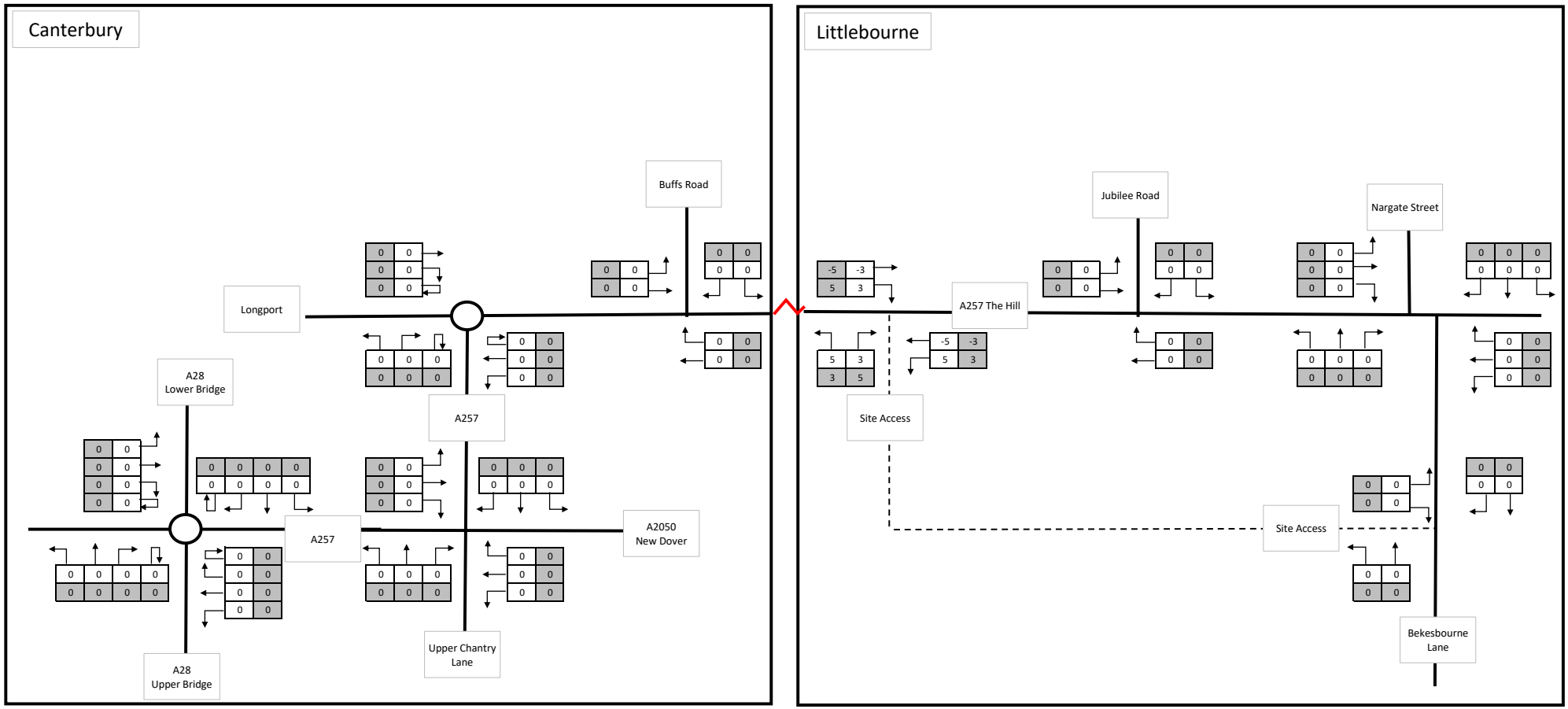
Land South of the Hill, Littlebourne

Appendix 4.F-3

Elderly Accommodation Traffic Flows



KEY

123 = AM Peak

123 = PM PEAK

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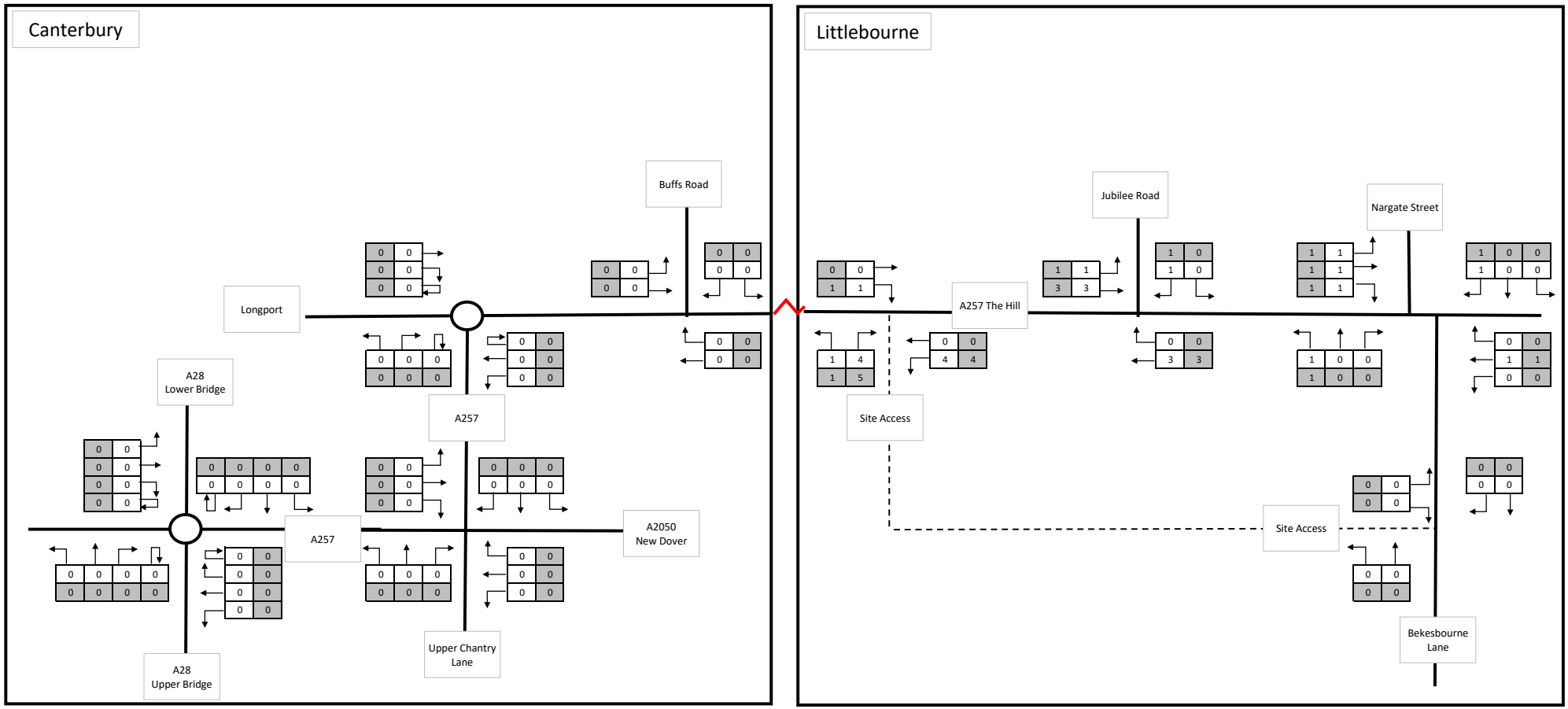
Appendix 4.F-4

Local Shop 'Pass-by' Traffic Flows



KEY

123 = AM Peak

123 = PM PEAK

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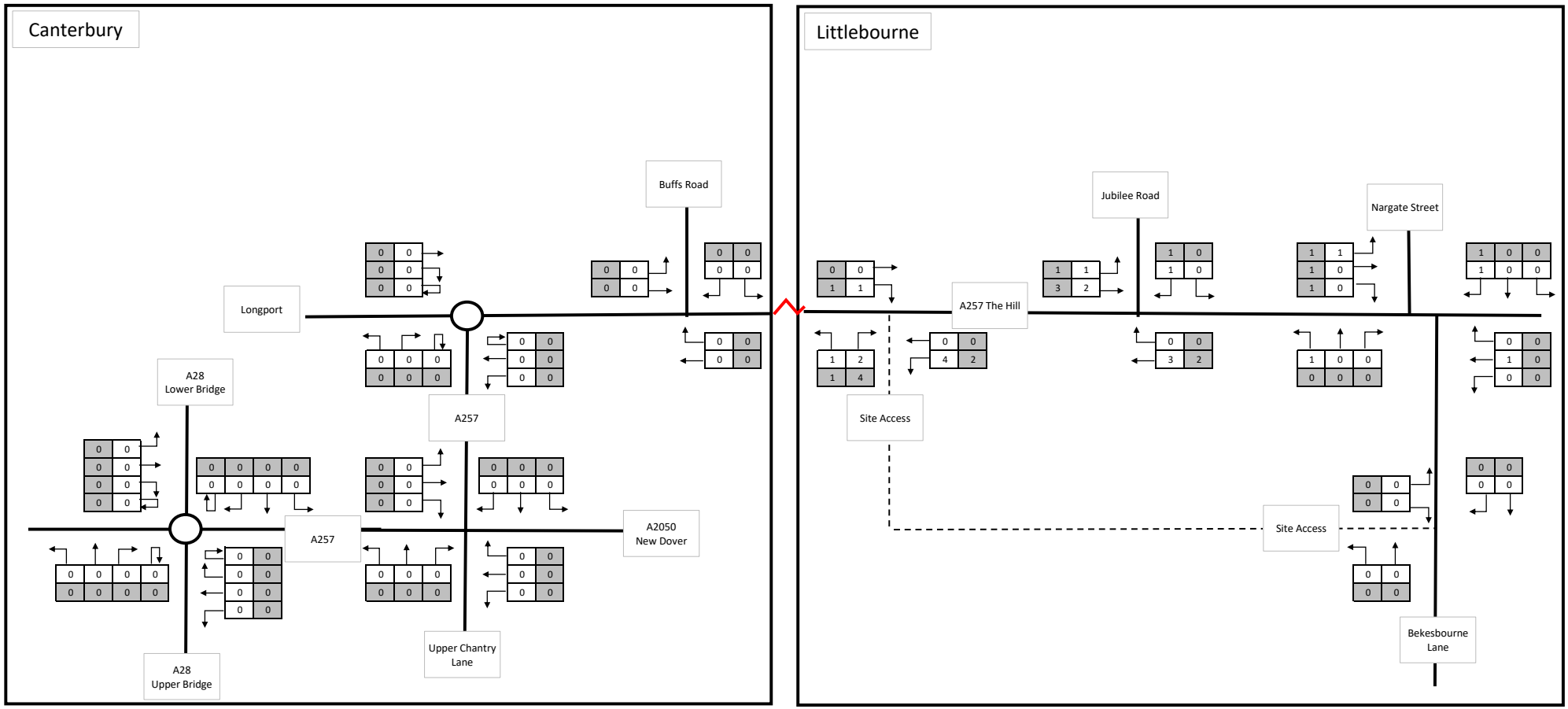
Land South of the Hill, Littlebourne

Appendix 4.F-5

Local Shop 'New Trips' Traffic Flows



KEY

123 = AM Peak

123 = PM PEAK

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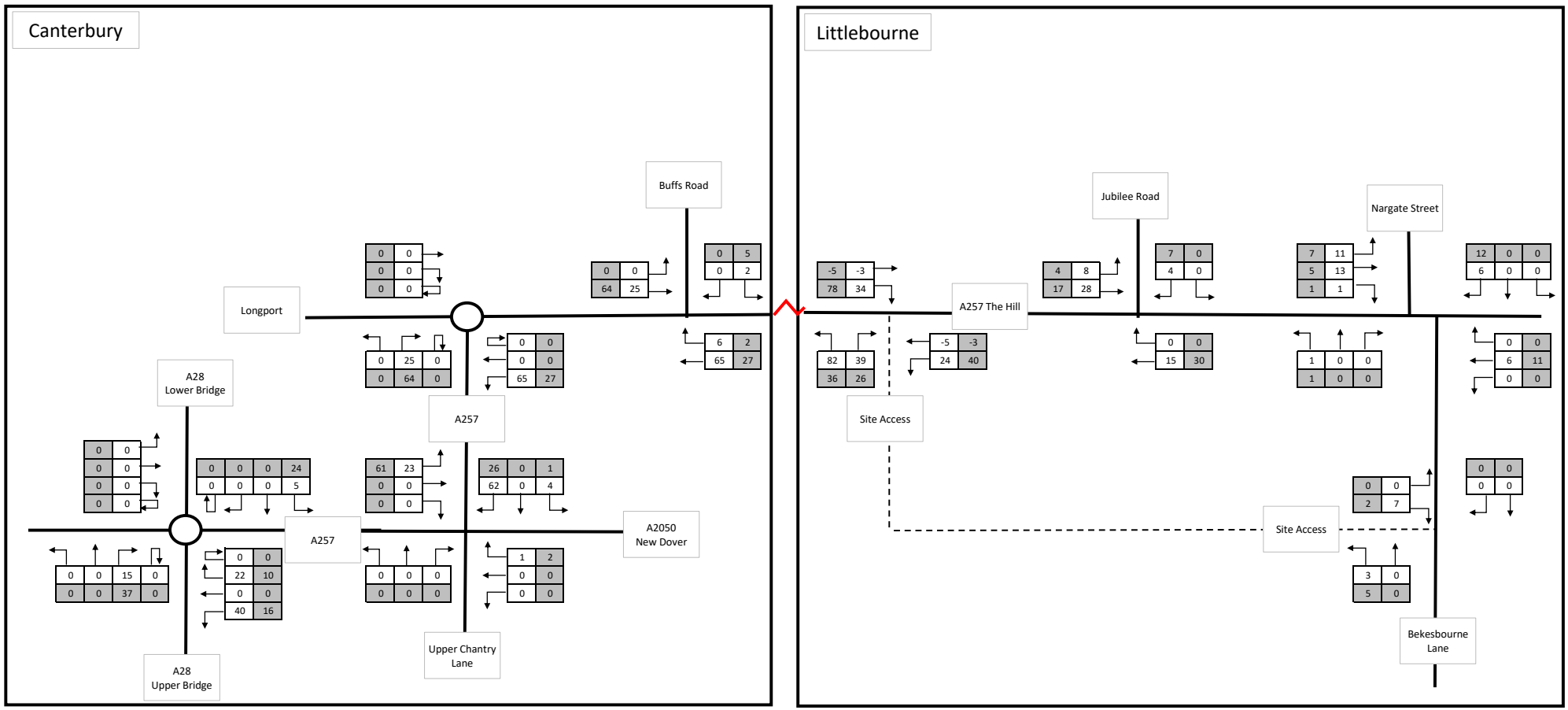
Land South of the Hill, Littlebourne

Appendix 4.F-6

Work Hub/Meeting Units Traffic Flows



KEY

123 = AM Peak

123 = PM PEAK

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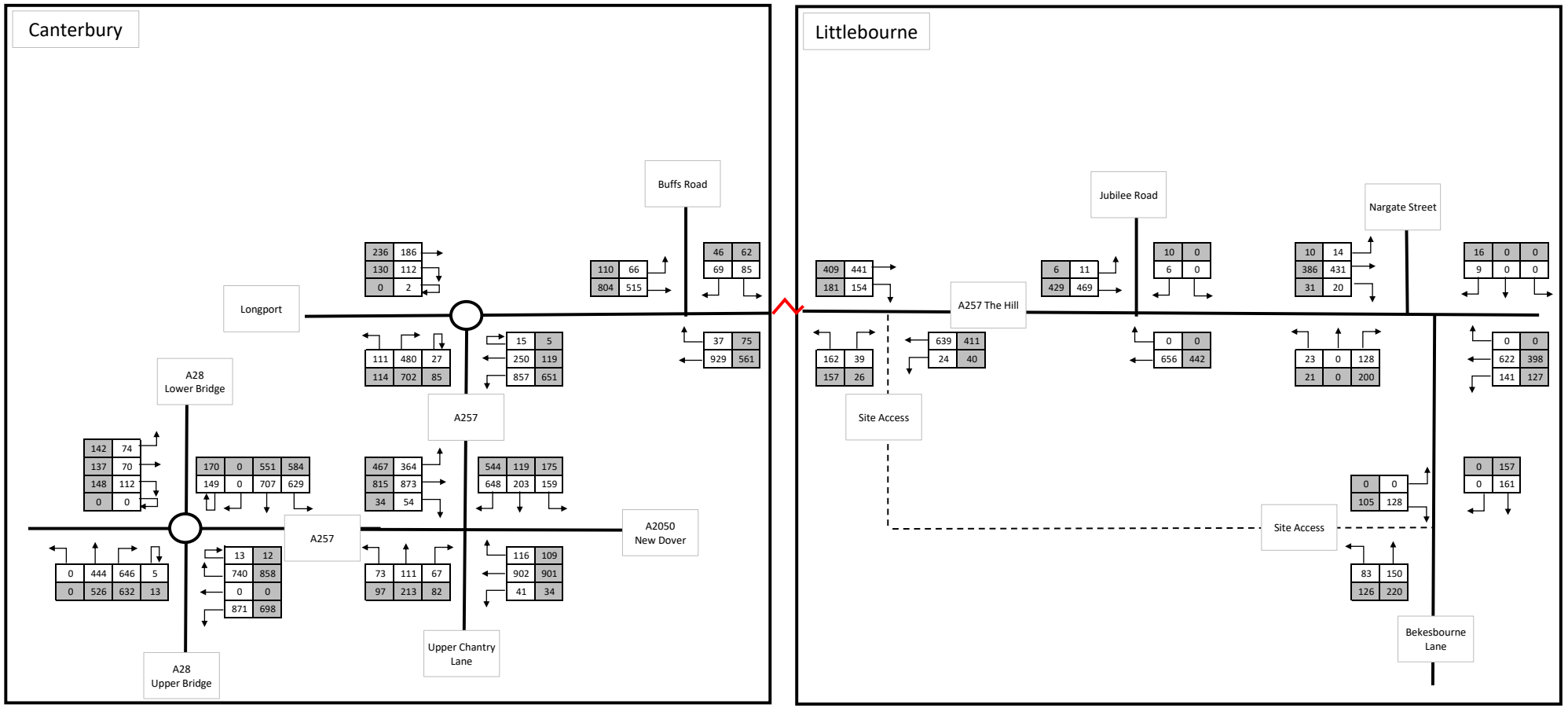
Appendix 4.F-7

Total Proposed Development Traffic Flows

APPENDIX 4.G 2045 BASE + COMMITTED + DEVELOPMENT TRAFFIC FLOWS



KEY

123 = AM Peak

123 = PM PEAK

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Tel: 0161 830 2172
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Land South of the Hill, Littlebourne

Appendix 4.G

2045 Base + Committed + Development Traffic Flows

APPENDIX 4.H A257 THE HILL SITE ACCESS CAPACITY ASSESSMENT

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: A257 The Hill Site Access (300 Dwellings) - GEOM-002 (Updated Flows).j10
Path: M:\Projects\16283ITM - Land South of The Hill, Littlebourne\Tech\Junction Assessments\Picady
Report generation date: 17/08/2023 10:15:07

»Proposed - 2045 Base + Comm + Dev, AM
»Proposed - 2045 Base + Comm + Dev, PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	Proposed - 2045 Base + Comm + Dev											
Stream B-AC	D1	1.5	24.65	0.60	C	5.35	D2	0.8	13.95	0.44	B	4.49
Stream C-AB		1.7	8.73	0.50	A			1.6	8.52	0.50	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	Proposed Site Access
Location	A257 The Hill
Site number	
Date	04/01/2023
Version	
Status	Proposed
Identifier	
Client	Gladman
Jobnumber	ITM16283
Enumerator	I-TRANSPORT\jonwilkinson
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2045 Base + Comm + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D2	2045 Base + Comm + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Name	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	Proposed	✓	100.000	100.000

Proposed - 2045 Base + Comm + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		5.35	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.35	A

Arms

Arms

Arm	Name	Description	Arm type
A	A257 East		Major
B	Site Access		Minor
C	A257 West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	4.50			170.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.38	25	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	514	0.100	0.252	0.159	0.360
B-C	661	0.108	0.273	-	-
C-B	672	0.278	0.278	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2045 Base + Comm + Dev	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	663	100.000
B		ONE HOUR	✓	201	100.000
C		ONE HOUR	✓	595	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	24	639
	B	39	0	162
	C	441	154	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.60	24.65	1.5	C	184	277
C-AB	0.50	8.73	1.7	A	299	449
C-A					247	370
A-B					22	33
A-C					586	880

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	151	38	458	0.330	149	0.0	0.5	11.580	B
C-AB	204	51	767	0.266	202	0.0	0.6	6.362	A
C-A	244	61			244				
A-B	18	5			18				
A-C	481	120			481				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	181	45	422	0.428	180	0.5	0.7	14.804	B
C-AB	279	70	792	0.352	277	0.6	0.9	7.009	A
C-A	256	64			256				
A-B	22	5			22				
A-C	574	144			574				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	221	55	367	0.603	219	0.7	1.4	23.770	C
C-AB	412	103	830	0.497	409	0.9	1.7	8.600	A
C-A	243	61			243				
A-B	26	7			26				
A-C	704	176			704				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	221	55	367	0.604	221	1.4	1.5	24.645	C
C-AB	414	104	832	0.498	414	1.7	1.7	8.731	A
C-A	241	60			241				
A-B	26	7			26				
A-C	704	176			704				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	181	45	421	0.429	183	1.5	0.8	15.307	C
C-AB	280	70	795	0.353	284	1.7	0.9	7.127	A
C-A	254	64			254				
A-B	22	5			22				
A-C	574	144			574				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	151	38	458	0.330	152	0.8	0.5	11.824	B
C-AB	206	51	769	0.268	207	0.9	0.6	6.446	A
C-A	242	61			242				
A-B	18	5			18				
A-C	481	120			481				

Proposed - 2045 Base + Comm + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		4.49	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.49	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2045 Base + Comm + Dev	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	451	100.000
B		ONE HOUR	✓	183	100.000
C		ONE HOUR	✓	590	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	40	411
	B	26	0	157
	C	409	181	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.44	13.95	0.8	B	168	252
C-AB	0.50	8.52	1.6	A	317	475
C-A					225	337
A-B					37	55
A-C					377	566

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	138	34	521	0.265	136	0.0	0.4	9.333	A
C-AB	224	56	787	0.284	222	0.0	0.6	6.354	A
C-A	220	55			220				
A-B	30	8			30				
A-C	309	77			309				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	165	41	496	0.332	164	0.4	0.5	10.827	B
C-AB	298	75	814	0.366	297	0.6	0.9	6.981	A
C-A	232	58			232				
A-B	36	9			36				
A-C	369	92			369				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	201	50	460	0.438	200	0.5	0.8	13.825	B
C-AB	426	106	852	0.499	423	0.9	1.5	8.414	A
C-A	224	56			224				
A-B	44	11			44				
A-C	453	113			453				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	201	50	459	0.439	201	0.8	0.8	13.950	B
C-AB	427	107	853	0.500	427	1.5	1.6	8.521	A
C-A	223	56			223				
A-B	44	11			44				
A-C	453	113			453				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	165	41	496	0.332	166	0.8	0.5	10.943	B
C-AB	300	75	815	0.368	302	1.6	0.9	7.086	A
C-A	231	58			231				
A-B	36	9			36				
A-C	369	92			369				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	138	34	520	0.265	138	0.5	0.4	9.439	A
C-AB	225	56	788	0.286	226	0.9	0.6	6.438	A
C-A	219	55			219				
A-B	30	8			30				
A-C	309	77			309				

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