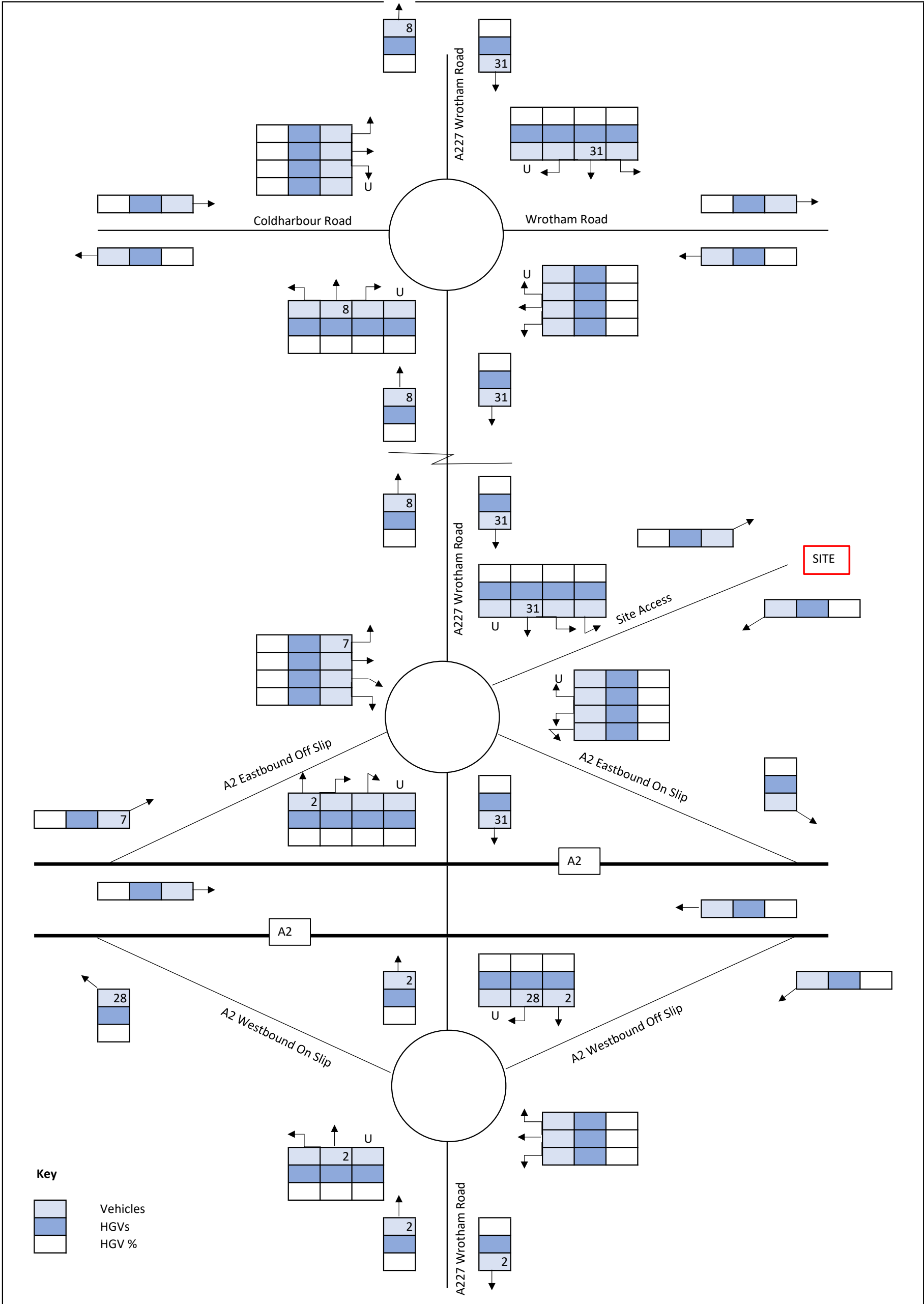


APPENDIX E – COMMITTED DEVELOPMENT FLOWS



Notes:

Job Title:
BP Tollgate, Gravesend

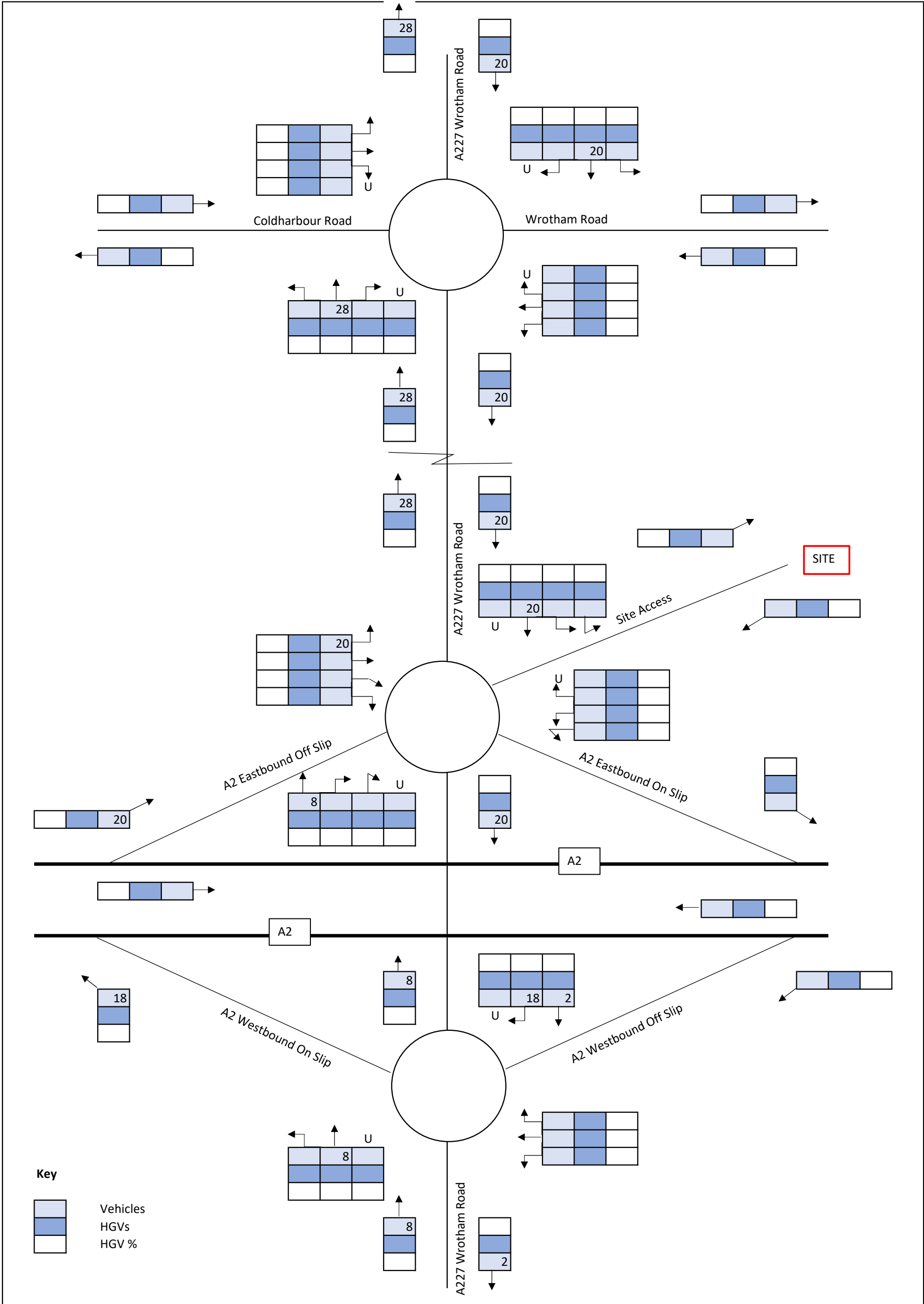
Scale:
NTS

Drawing Title:
Site 1 Committed Dev - Waterside AM
(20210270) Future Year (2028)

Job No:
22052

Figure No:
Figure 50

Date:
Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

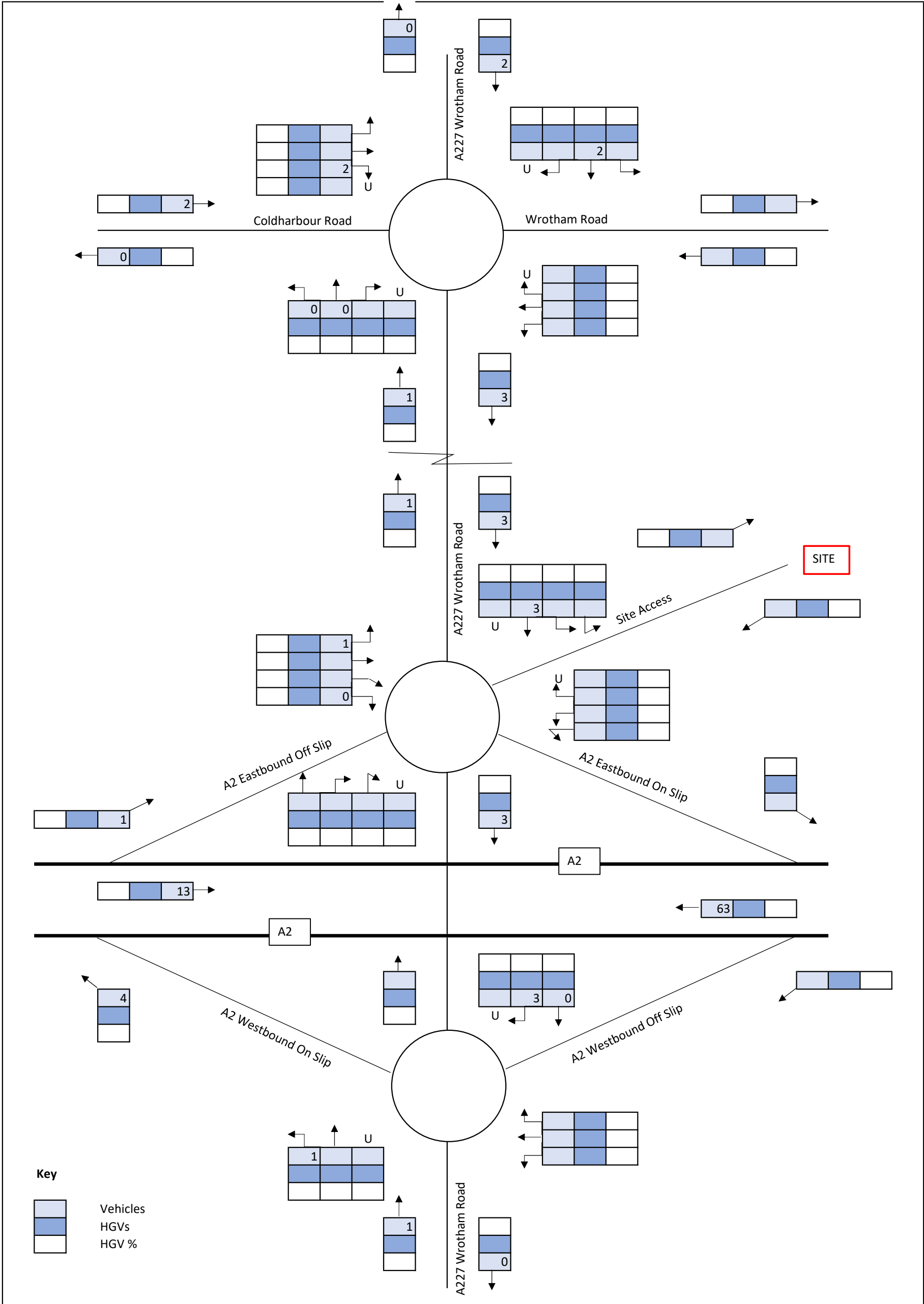
Scale:
NTS

Drawing Title:
Site 1 Committed Dev - Waterside PM
(20210270) Future Year (2028)

Job No:
22052

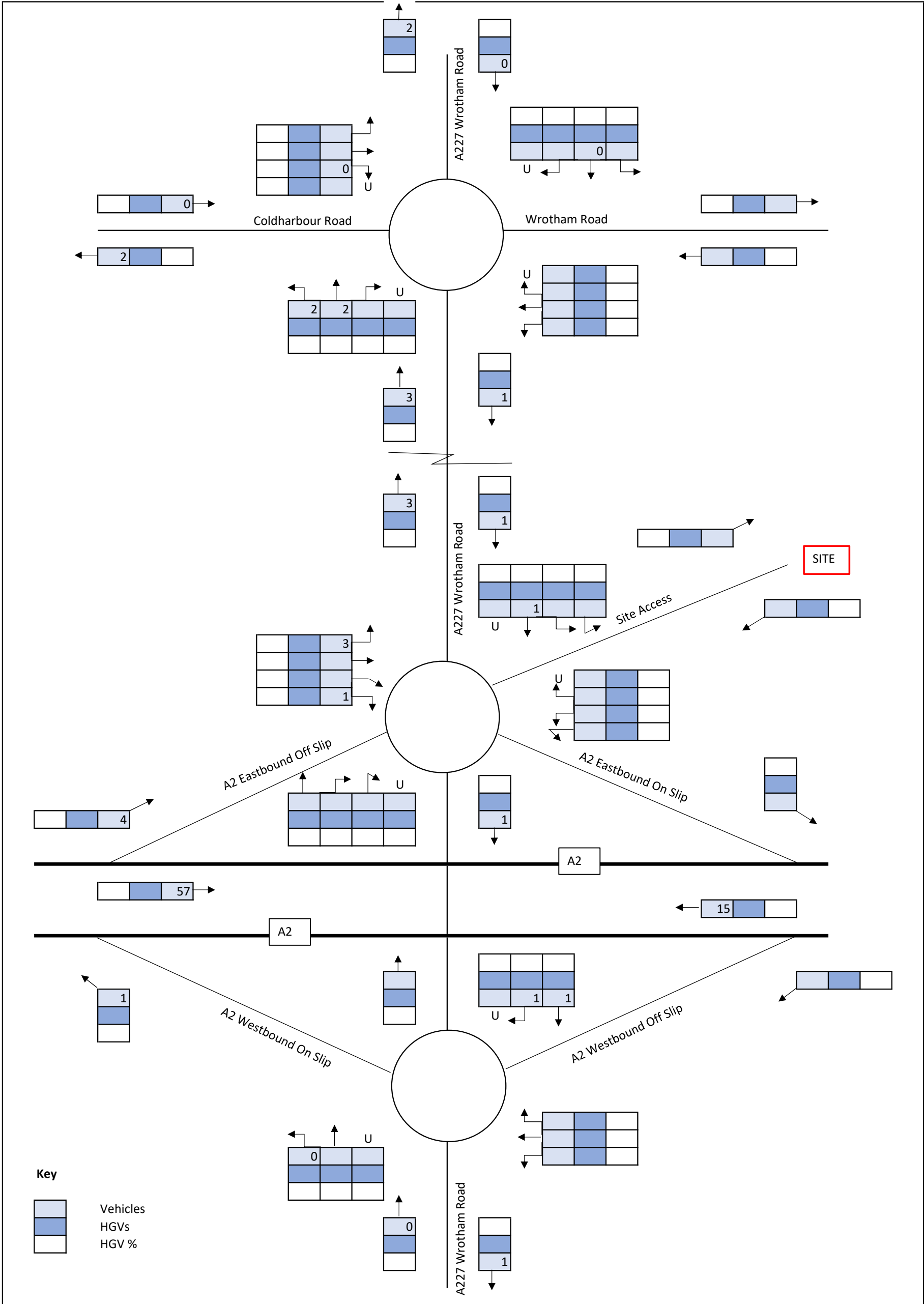
Figure No:
Figure 51

Date:
Oct-24



Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 3 Comm Dev - Ebbsfleet Central AM (EDC/22/0168) Future Year (2028)	Job No: 22052
Figure No: Figure 52	Date: Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

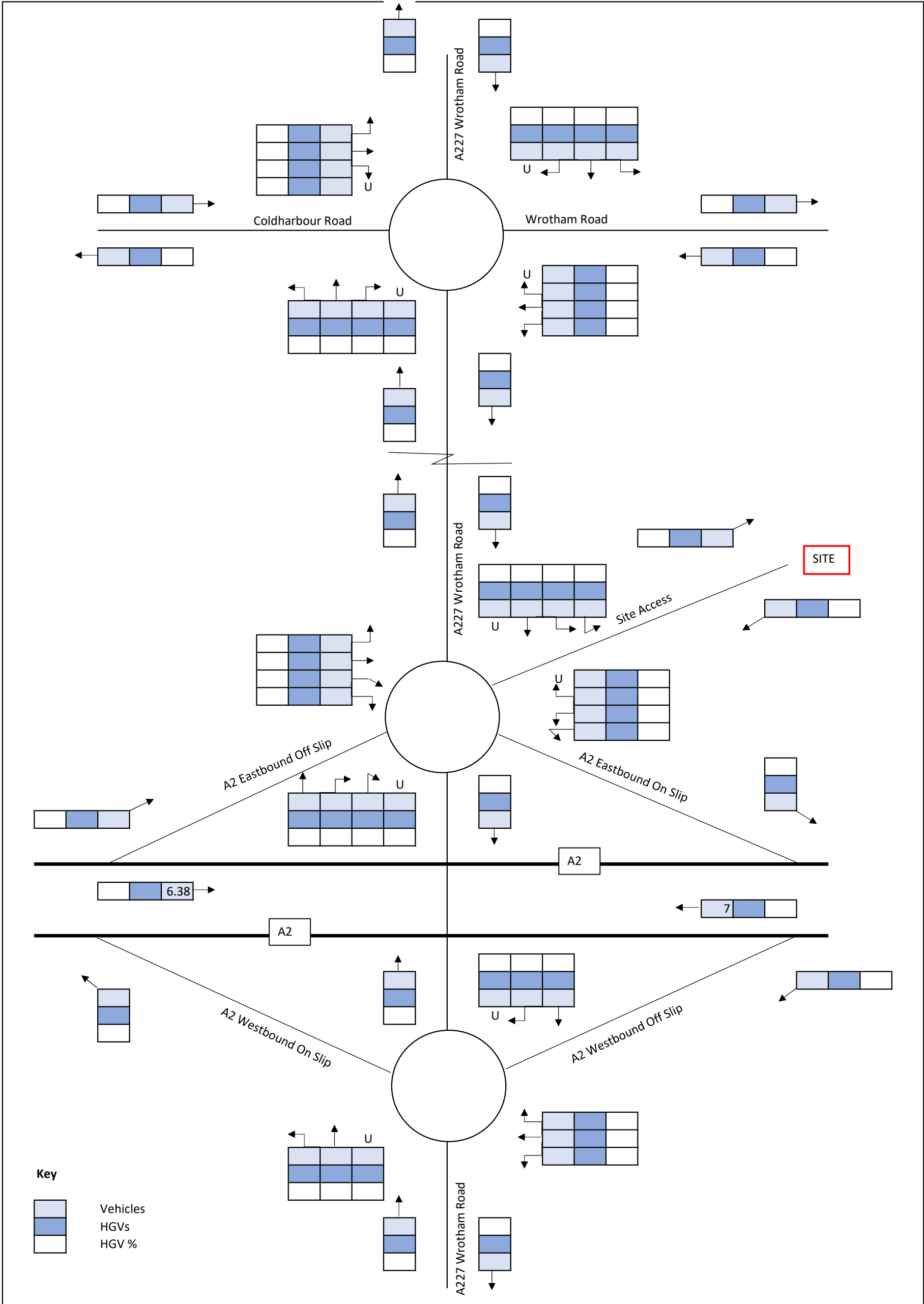
Scale:
NTS

Drawing Title:
Site 3 Comm Dev - Ebbsfleet Central PM
(EDC/22/0168) Future Year (2028)

Job No:
22052

Figure No:
Figure 53

Date:
Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

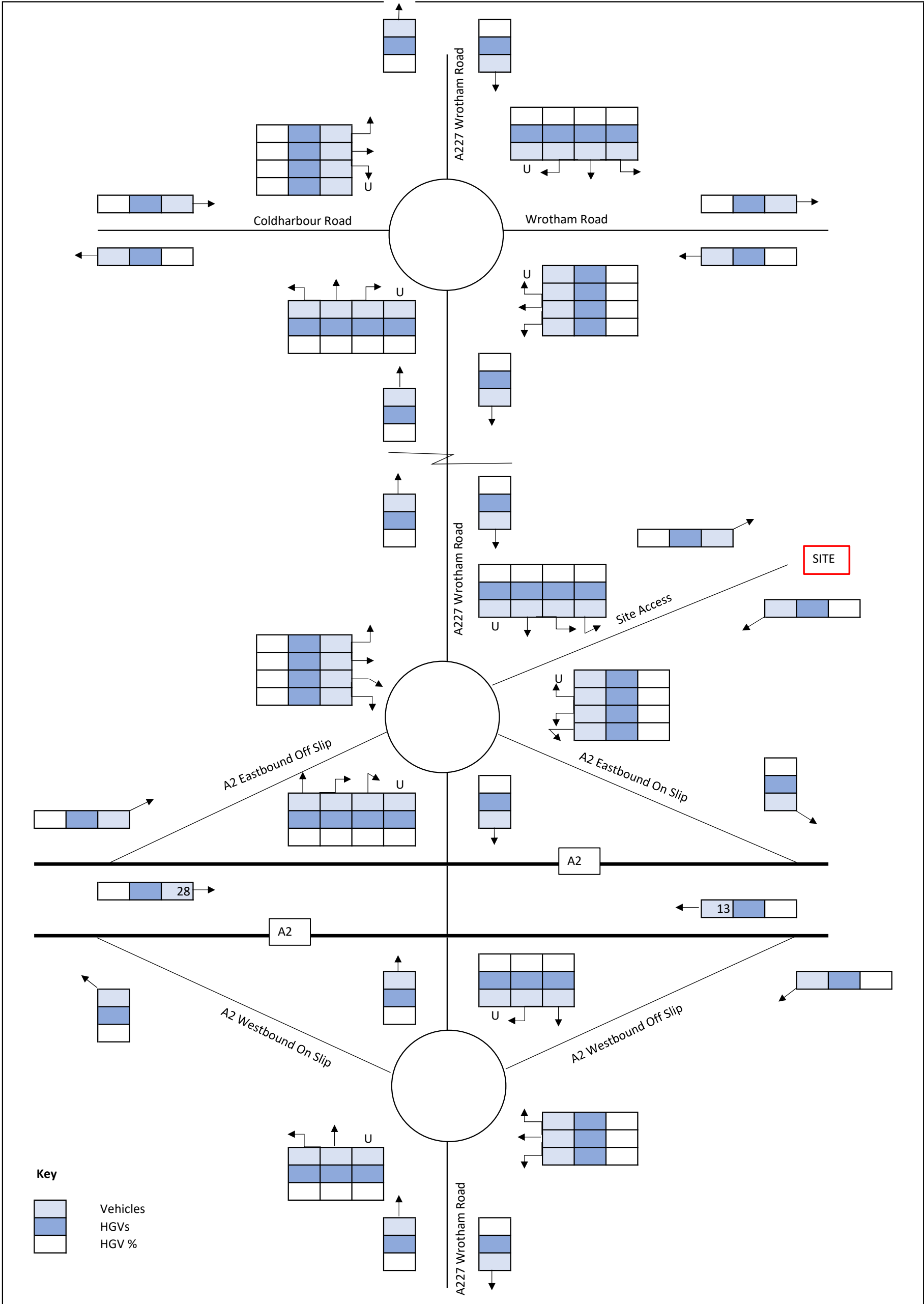
Scale:
NTS

Drawing Title:
Site 4 Comm Dev - Northfleet Embank West PM
(EDC/16/0004) Open Year (2025)

Job No:
22052

Figure No:
Figure 55

Date:
Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

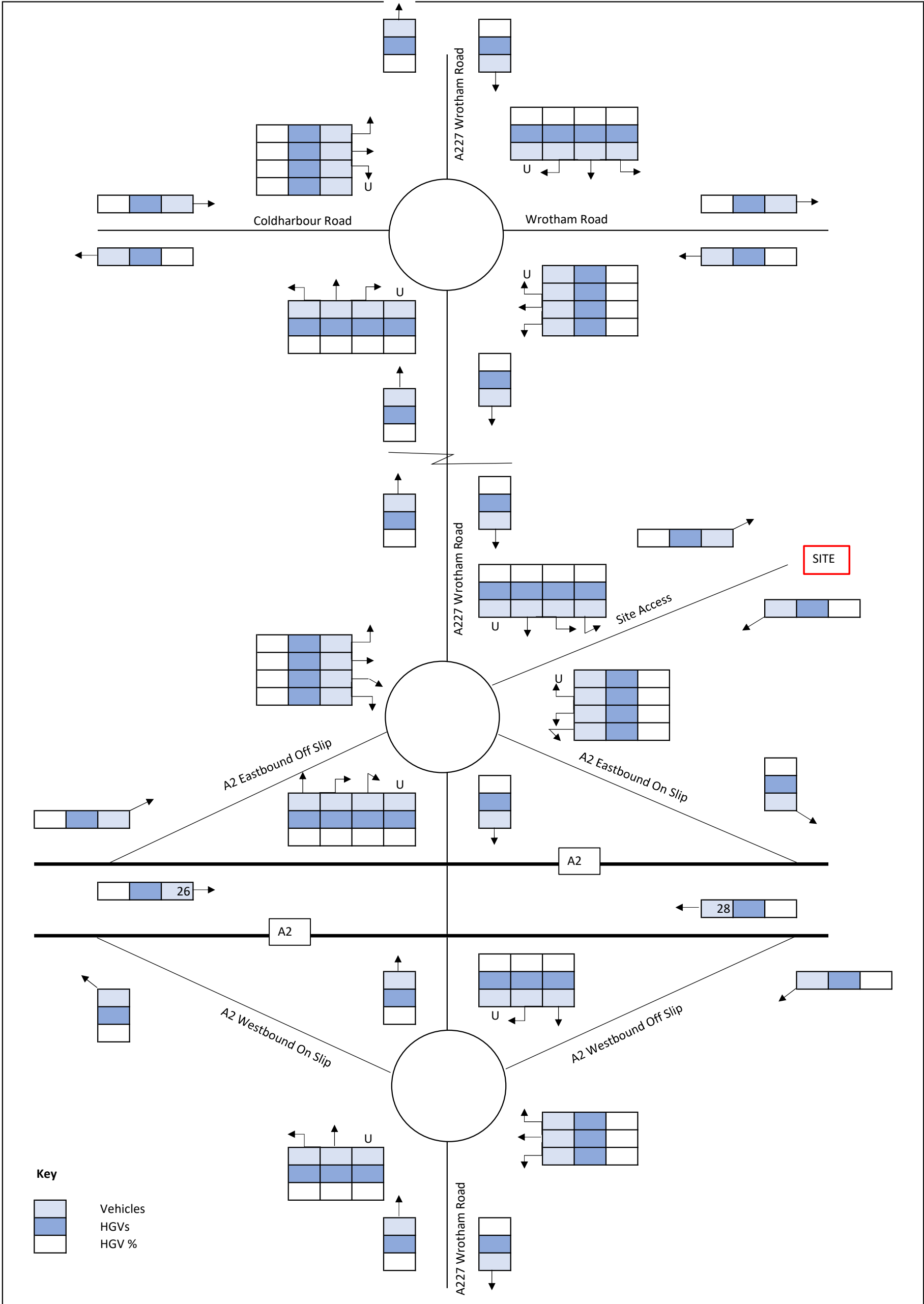
Drawing Title:
Site 4 Comm Dev - Northfleet Embank West AM
(EDC/16/0004) Future Year (2028)

Figure No:
Figure 56

Scale:
NTS

Job No:
22052

Date:
Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

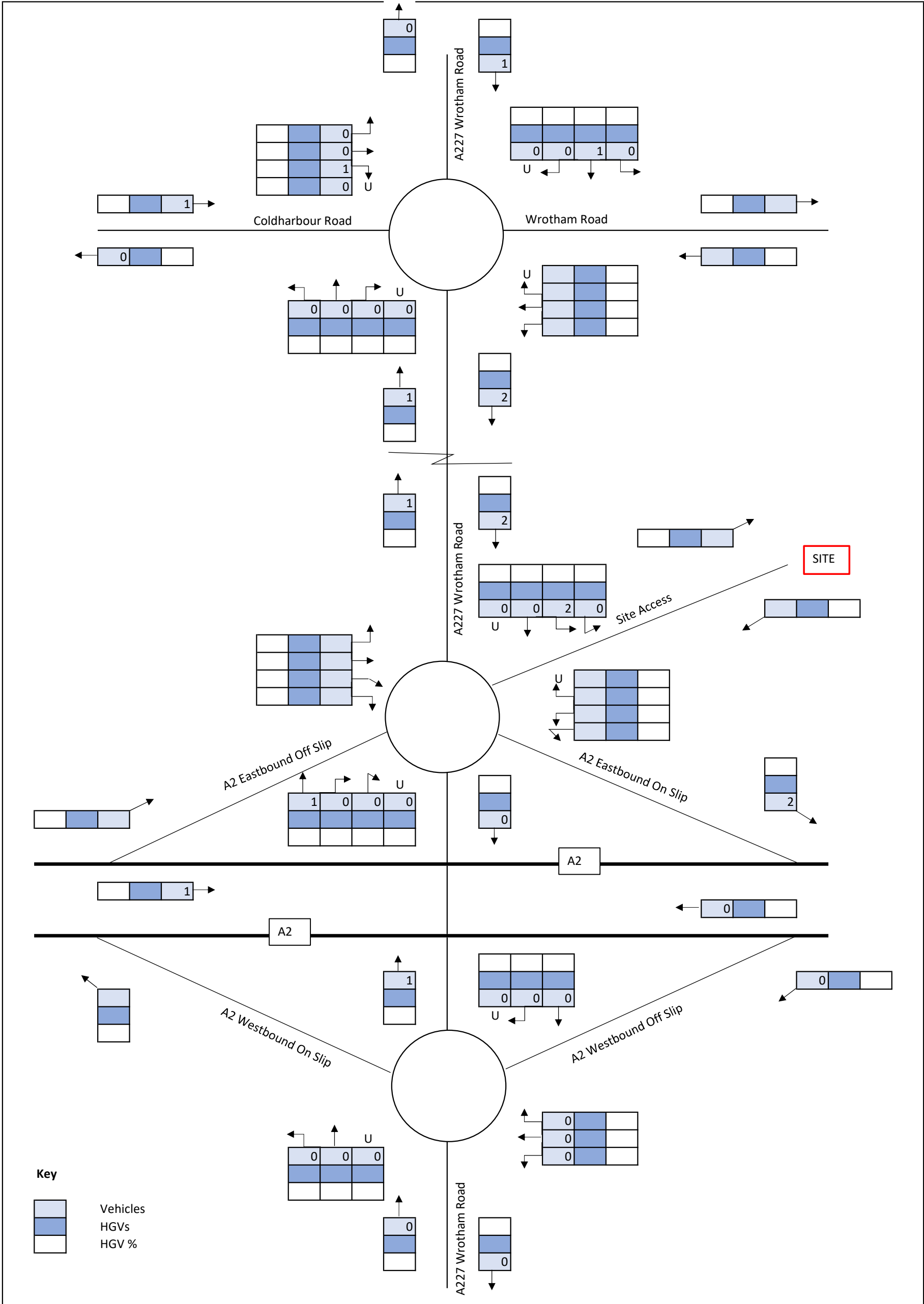
Scale:
NTS

Drawing Title:
Site 4 Comm Dev - Northfleet Embank West PM
(EDC/16/0004) Future Year (2028)

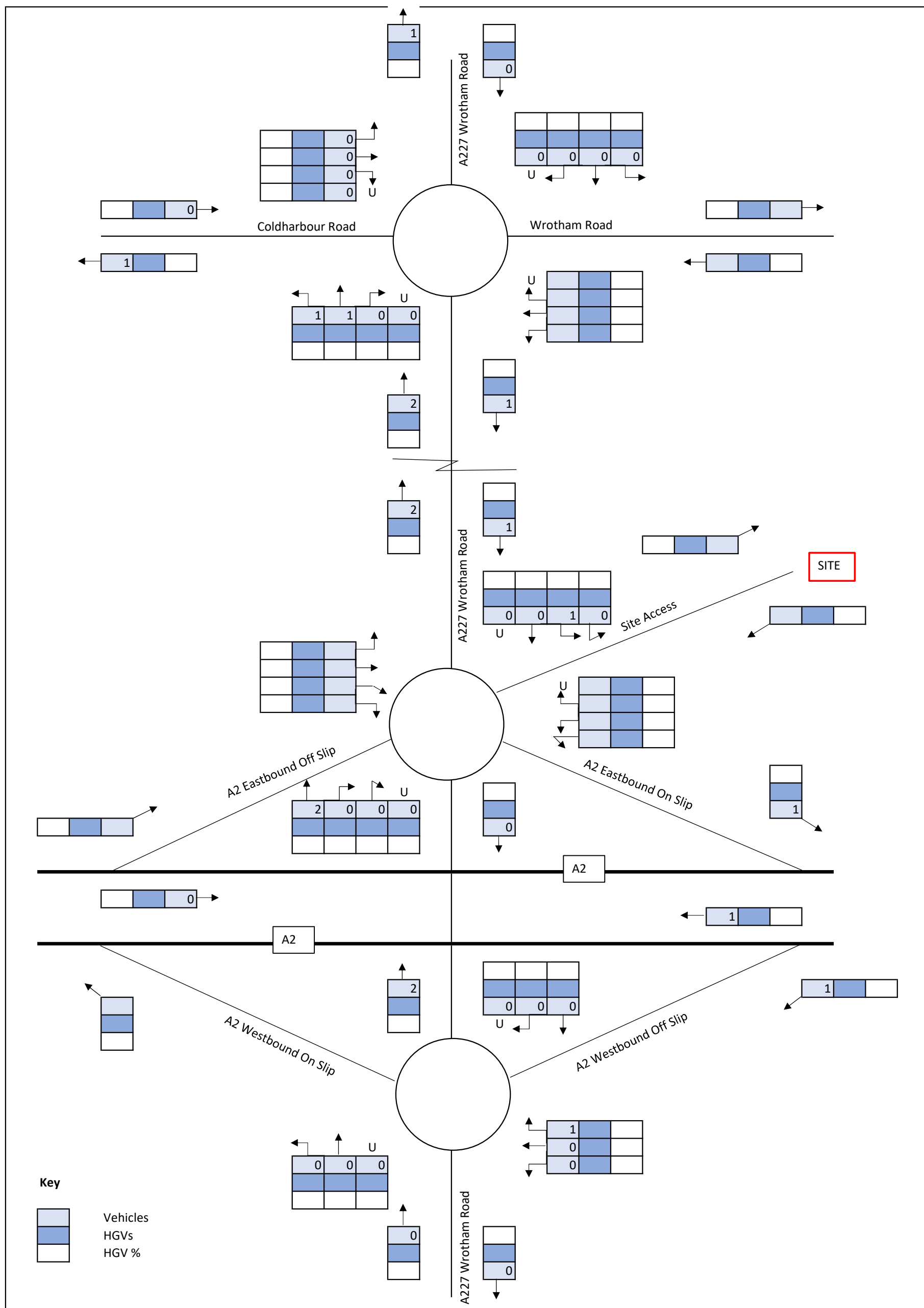
Job No:
22052

Figure No:
Figure 57

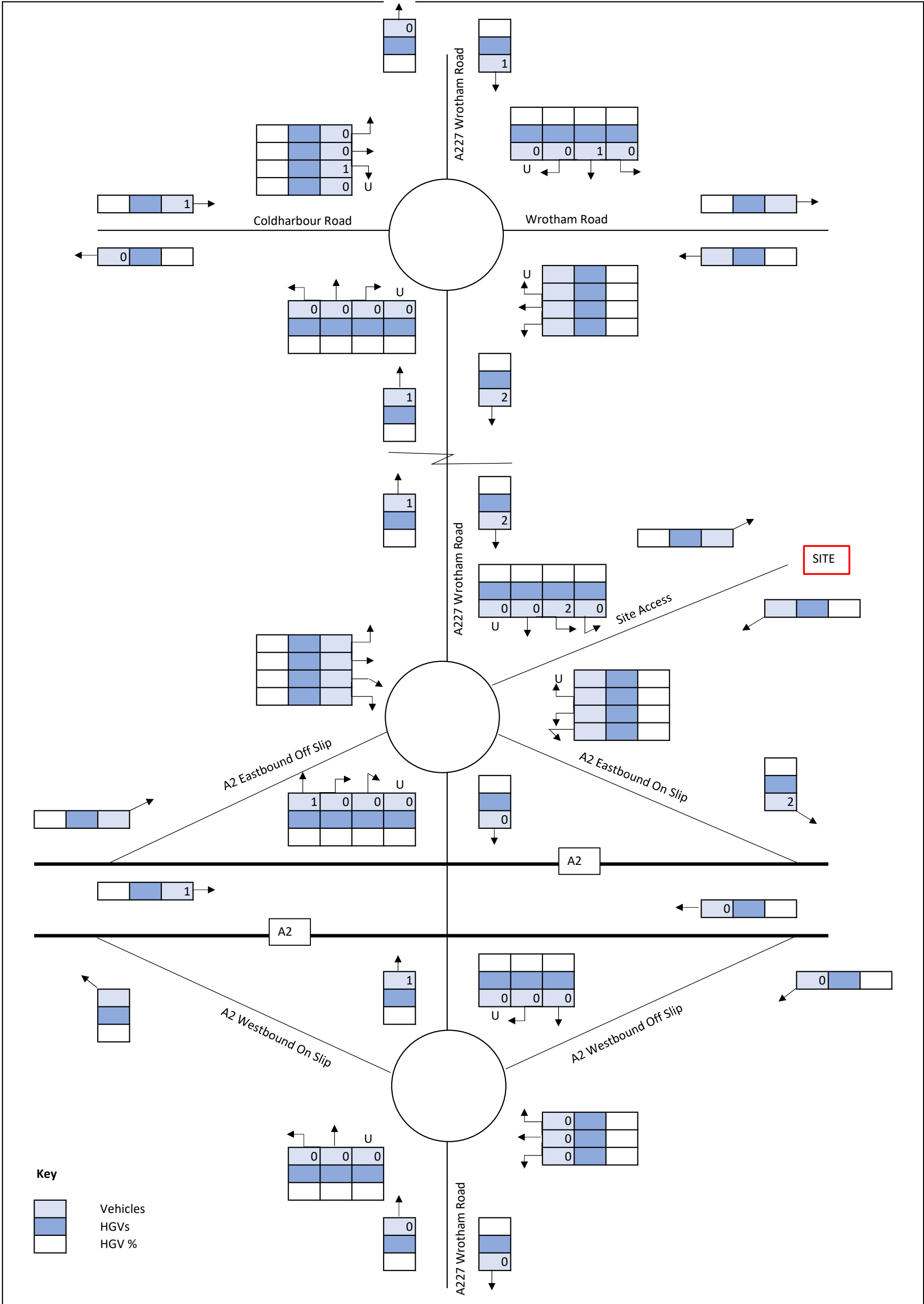
Date:
Oct-24



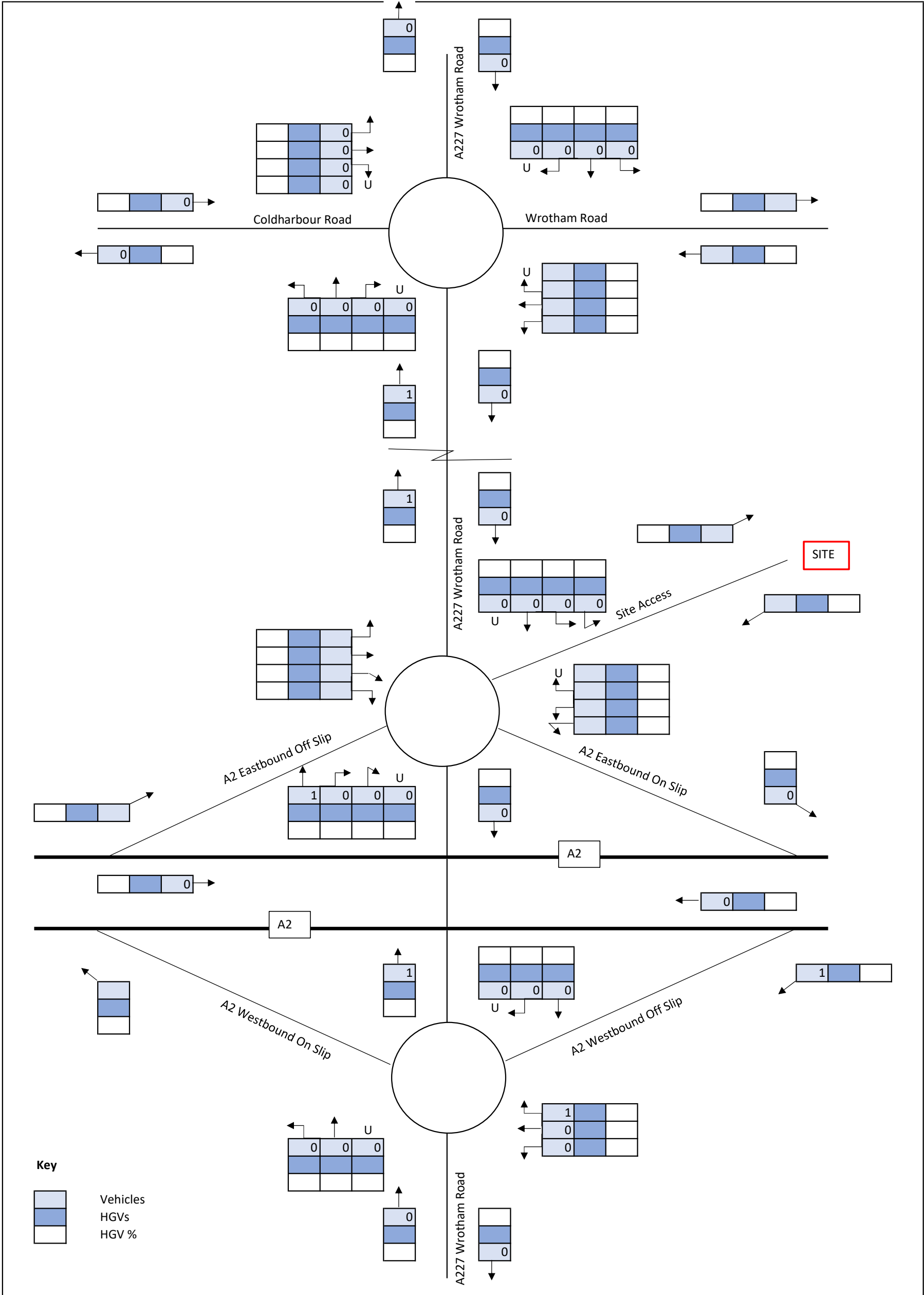
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 5 Comm Dev - Northfleet Embankment West AM (EDC/17/0038) Opening Year (2025) Resi Only	Job No: 22052
		Figure No: Figure 58	Date: Oct-24

**Notes:**

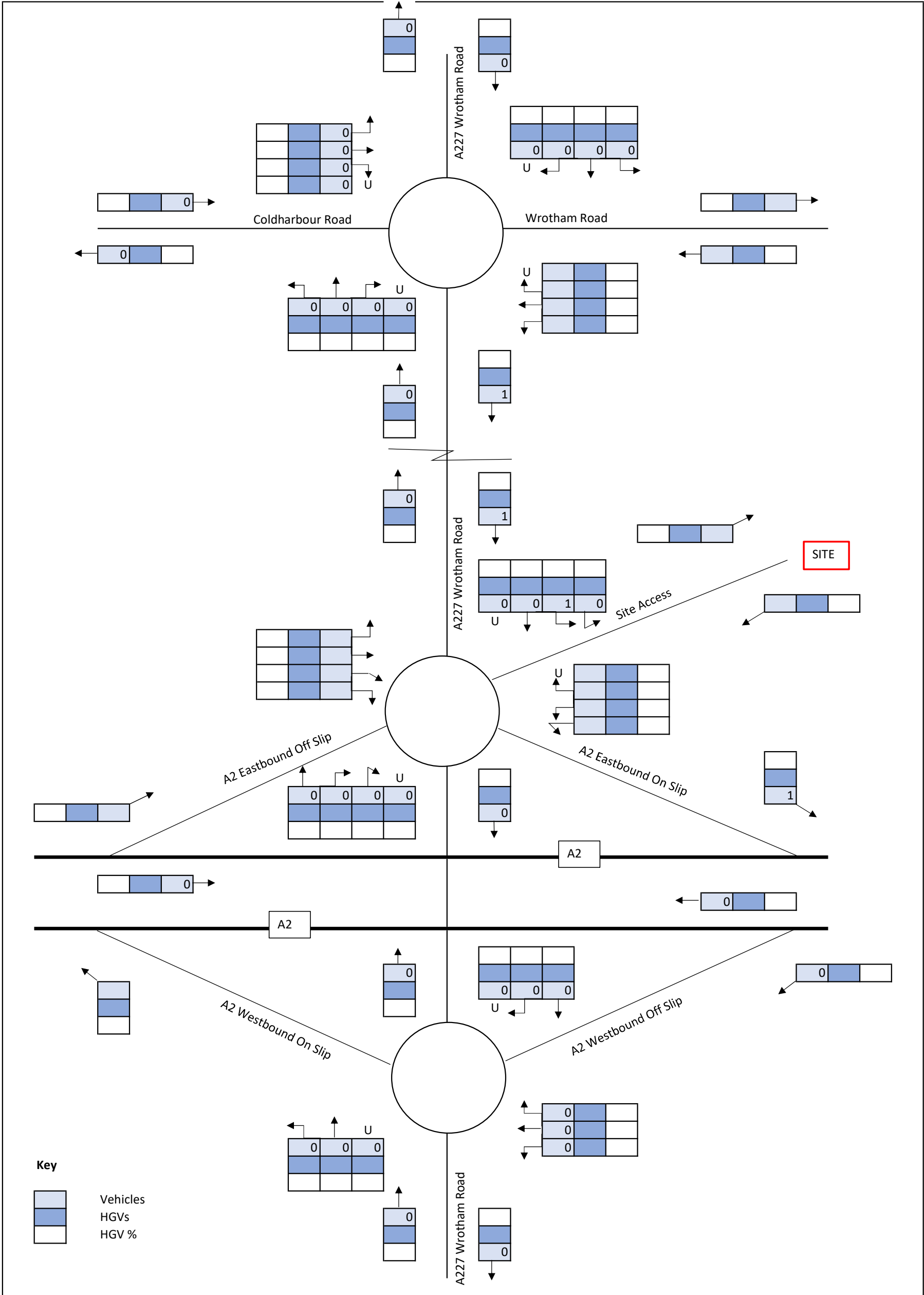
Scale: NTS



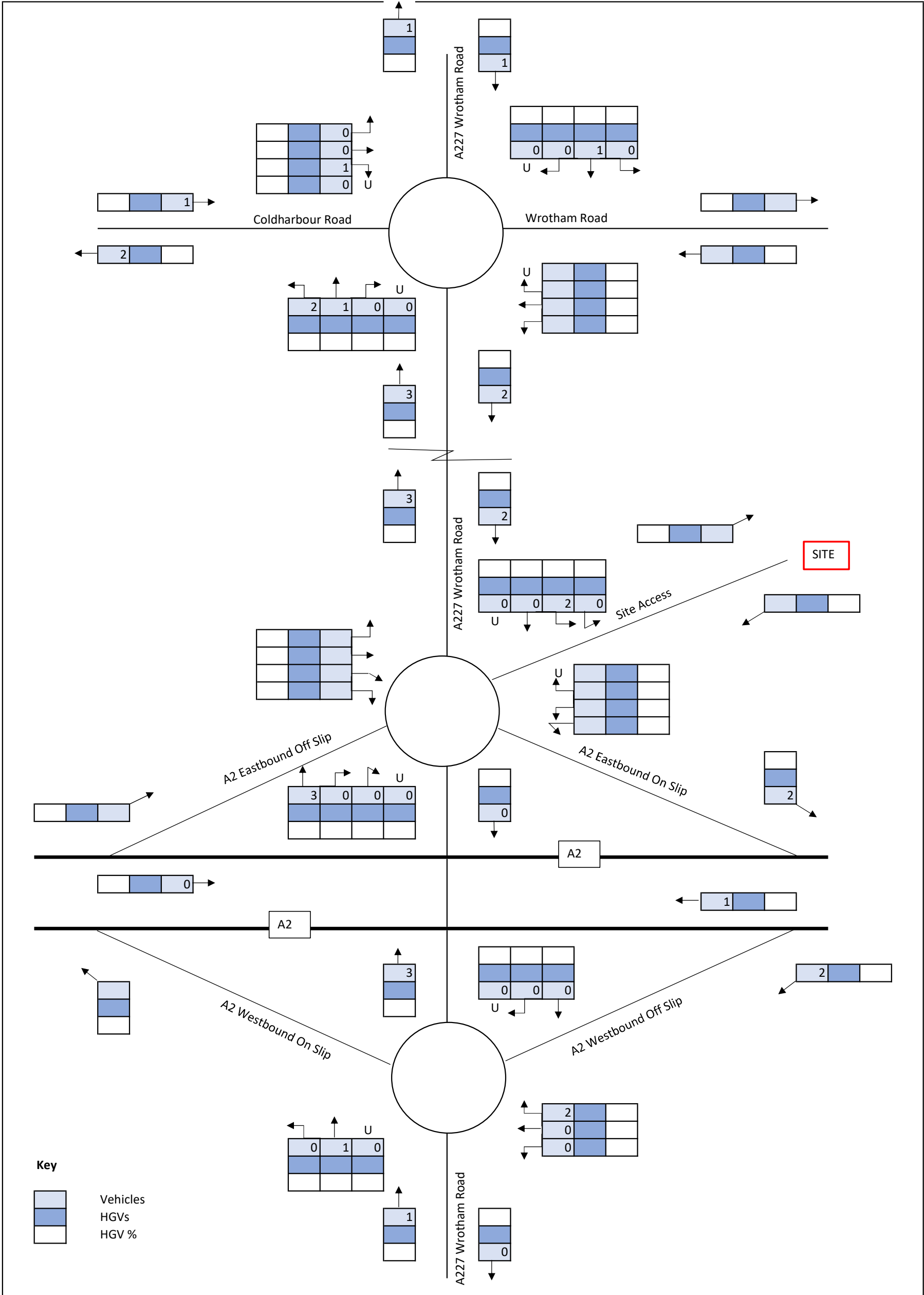
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 5 Comm Dev - Northfleet Embankment West AM (EDC/17/0038) Future Year (2028) Resi Only	Job No: 22052
		Figure No: Figure 60	Date: Oct-24



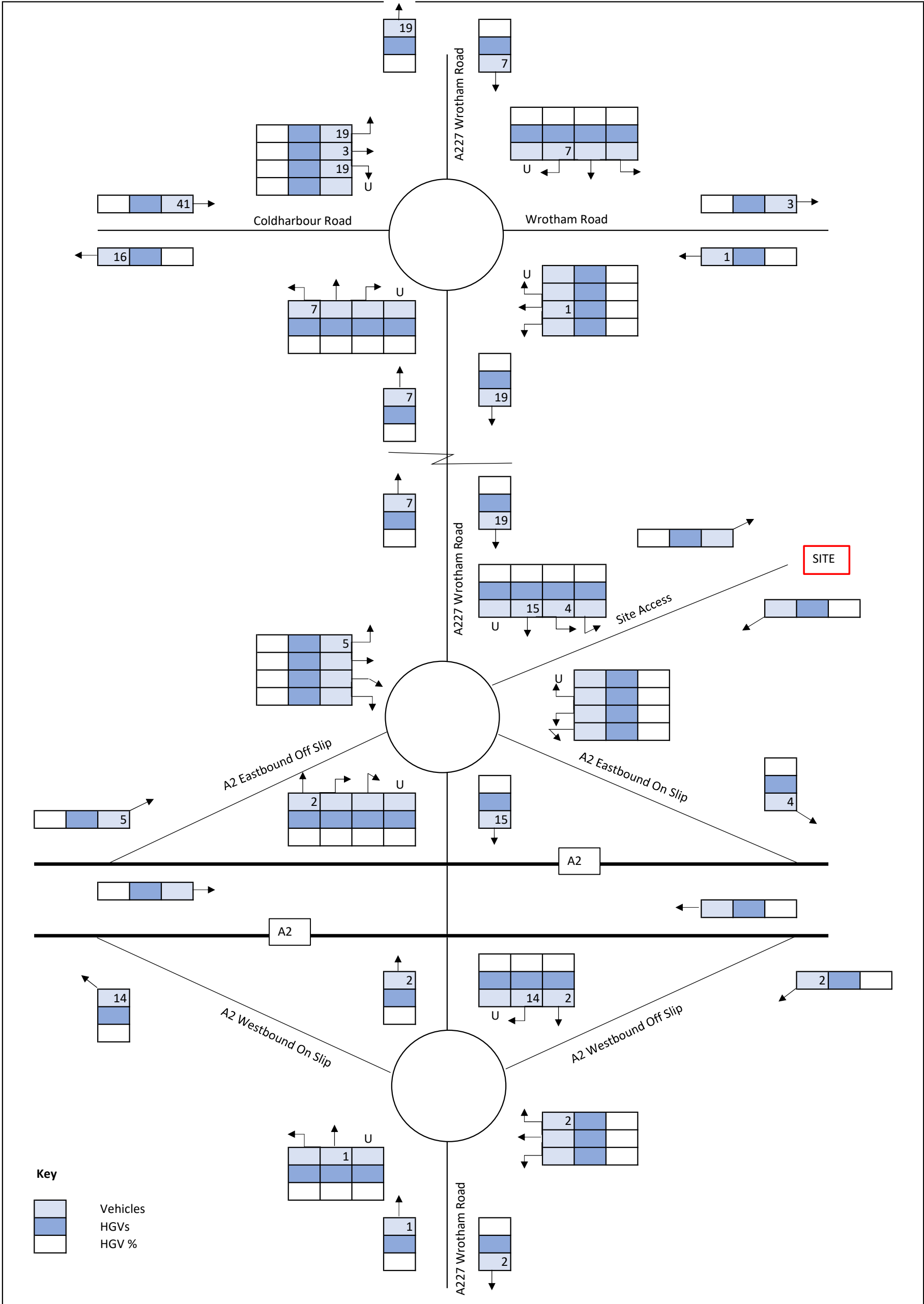
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 5 Comm Dev - Northfleet Embankment West AM (EDC/17/0038) Opening Year (2025) School Only	Job No: 22052
		Figure No: Figure 62	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 5 Comm Dev - Northfleet Embankment West PM (EDC/17/0038) Opening Year (2025) School Only	Job No: 22052
		Figure No: Figure 63	Date: Oct-24

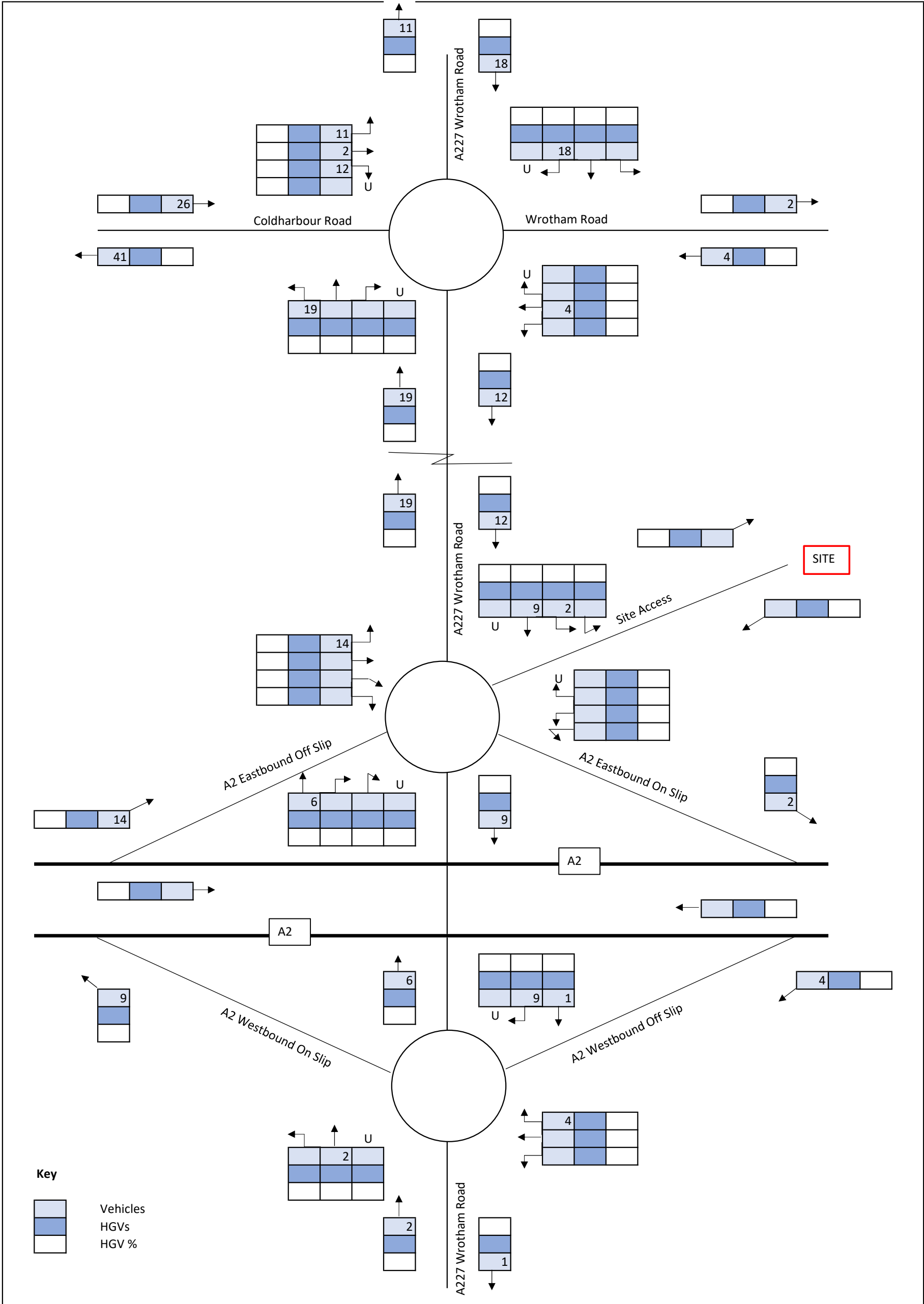


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 5 Comm Dev - Northfleet Embankment West AM (EDC/17/0038) Future Year (2028) School Only	Job No: 22052
		Figure No: Figure 64	Date: Oct-24



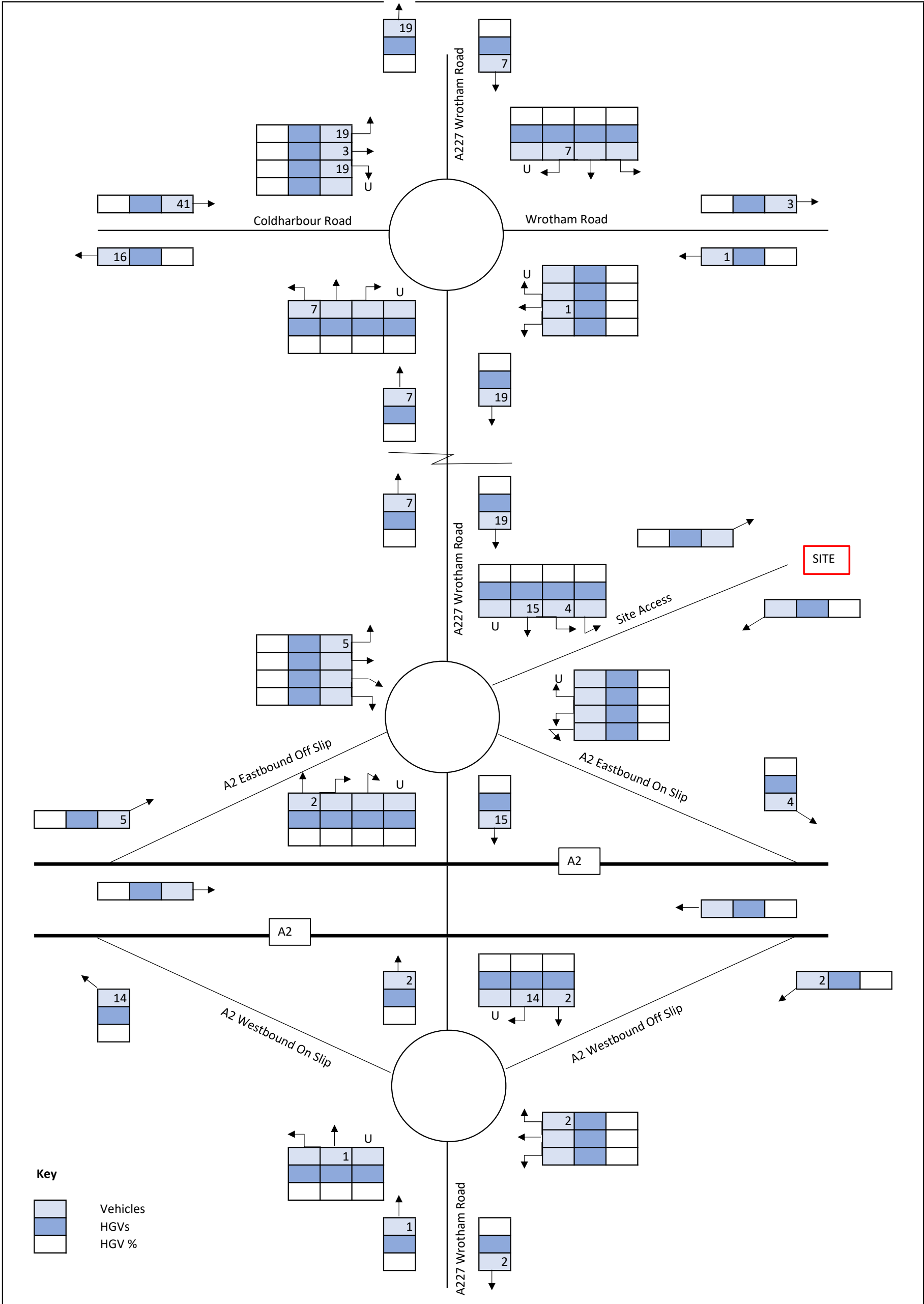
Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 6 Comm Dev - Coldharbour AM (20141214) Opening Year (2025)	Job No: 22052
Figure No: Figure 66	Date: Oct-24



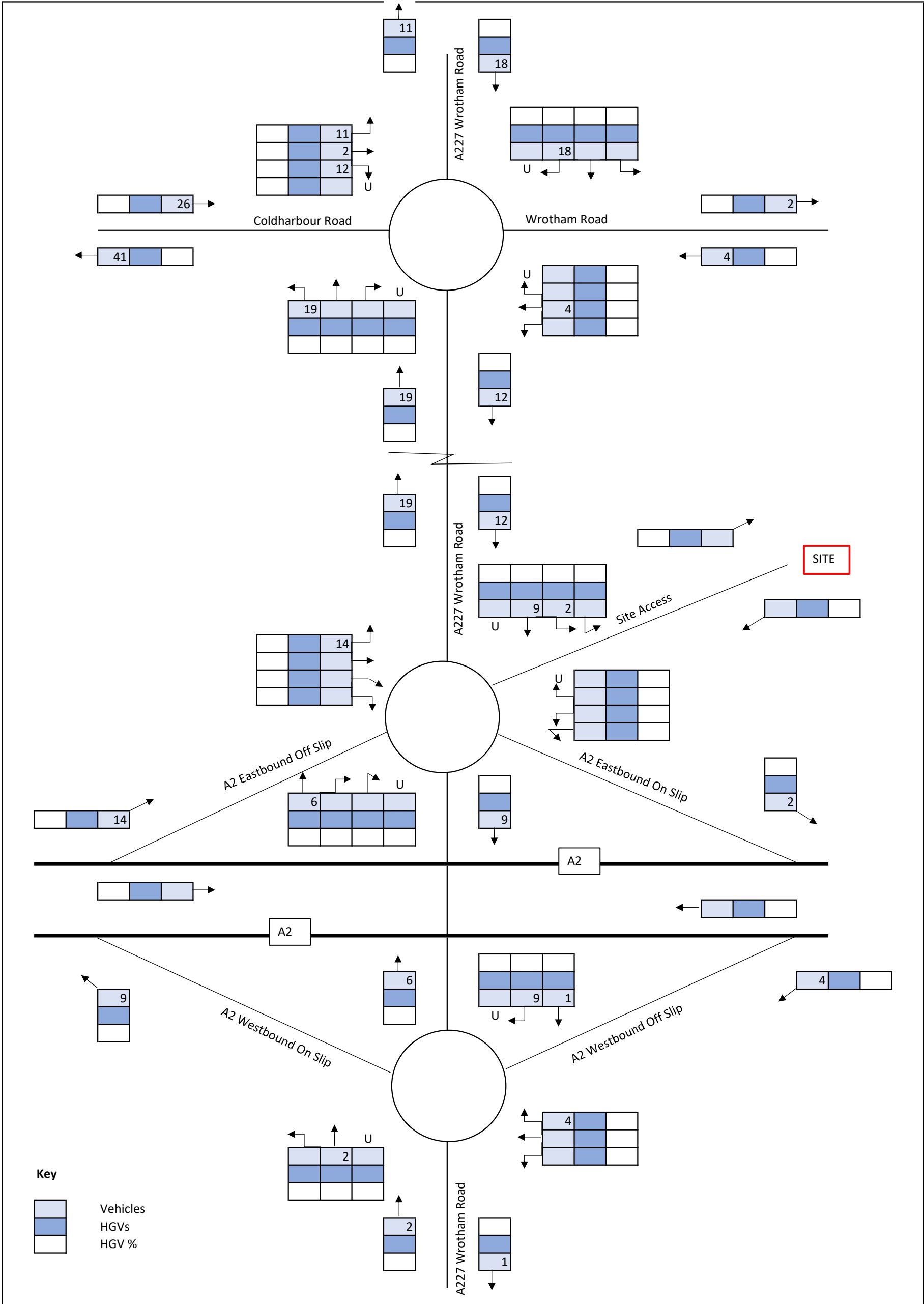
Notes:

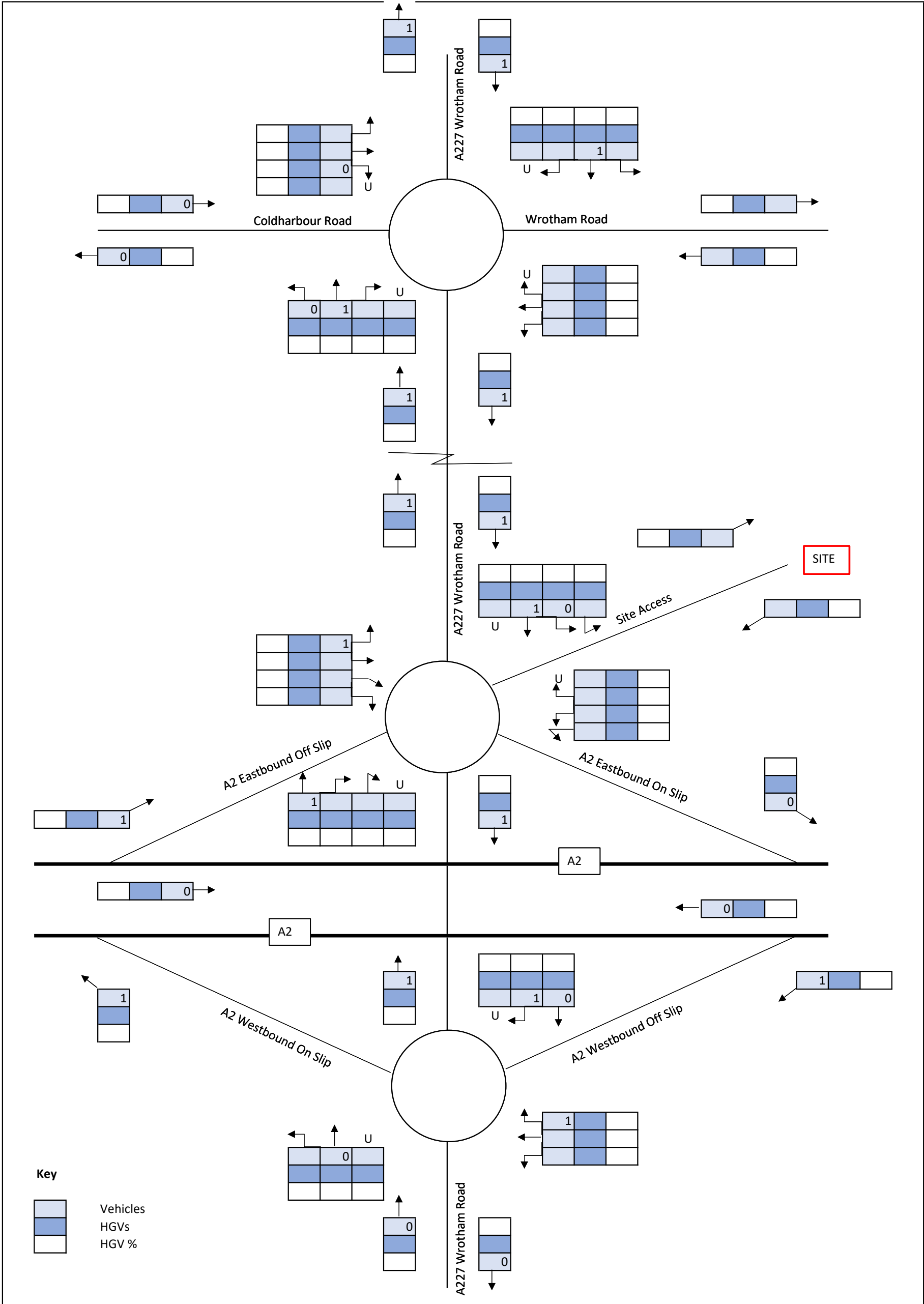
Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 6 Comm Dev - Coldharbour PM (20141214) Opening Year (2025)	Job No: 22052
Figure No: Figure 67	Date: Oct-24



Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 6 Comm Dev - Coldharbour AM (20141214) Future Year (2028)	Job No: 22052
Figure No: Figure 68	Date: Oct-24





Notes:

Job Title:
BP Tollgate, Gravesend

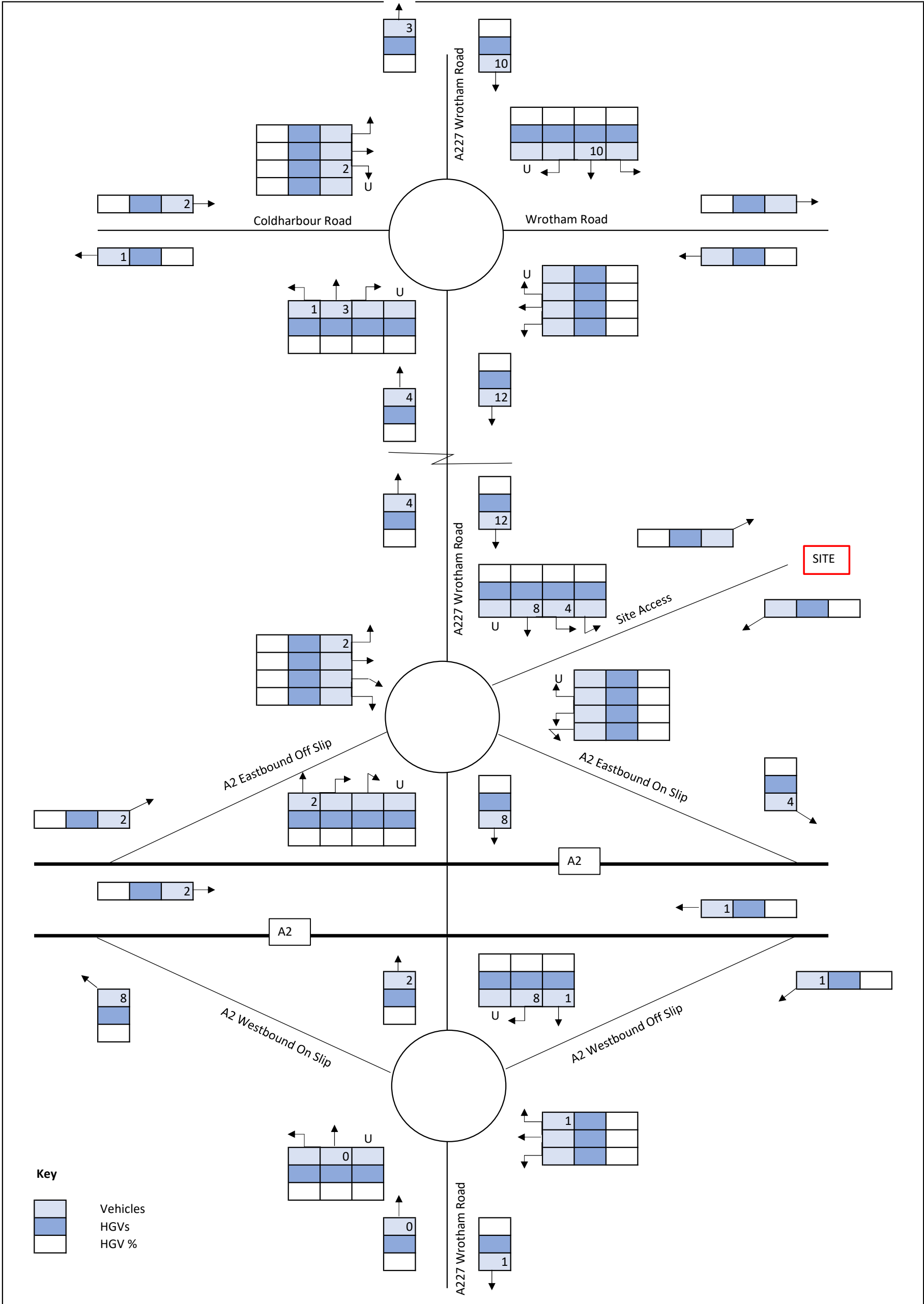
Scale:
NTS

Drawing Title:
Site 7 Comm Dev - The Charter PM
(20200343) Future Year (2028)

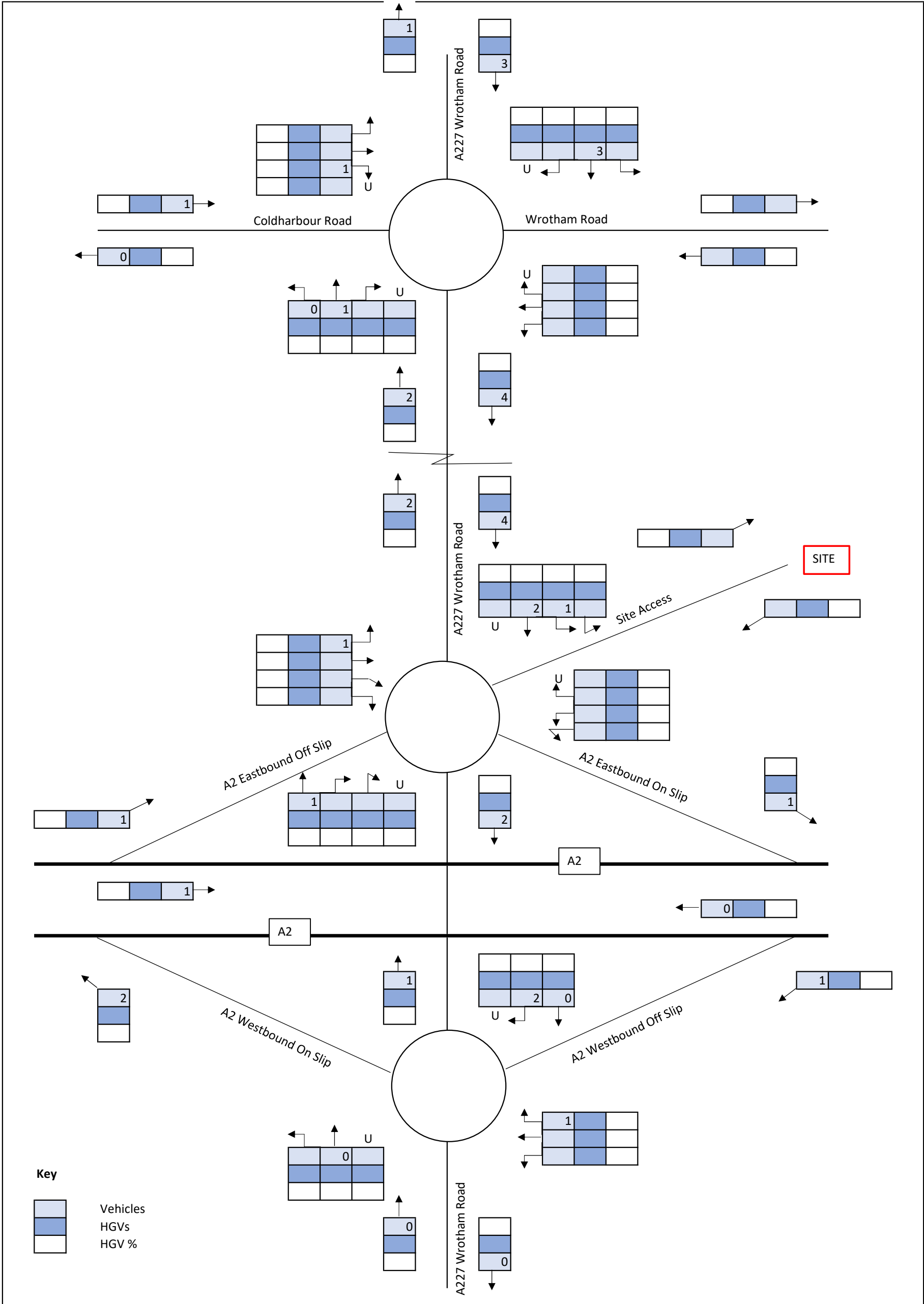
Job No:
22052

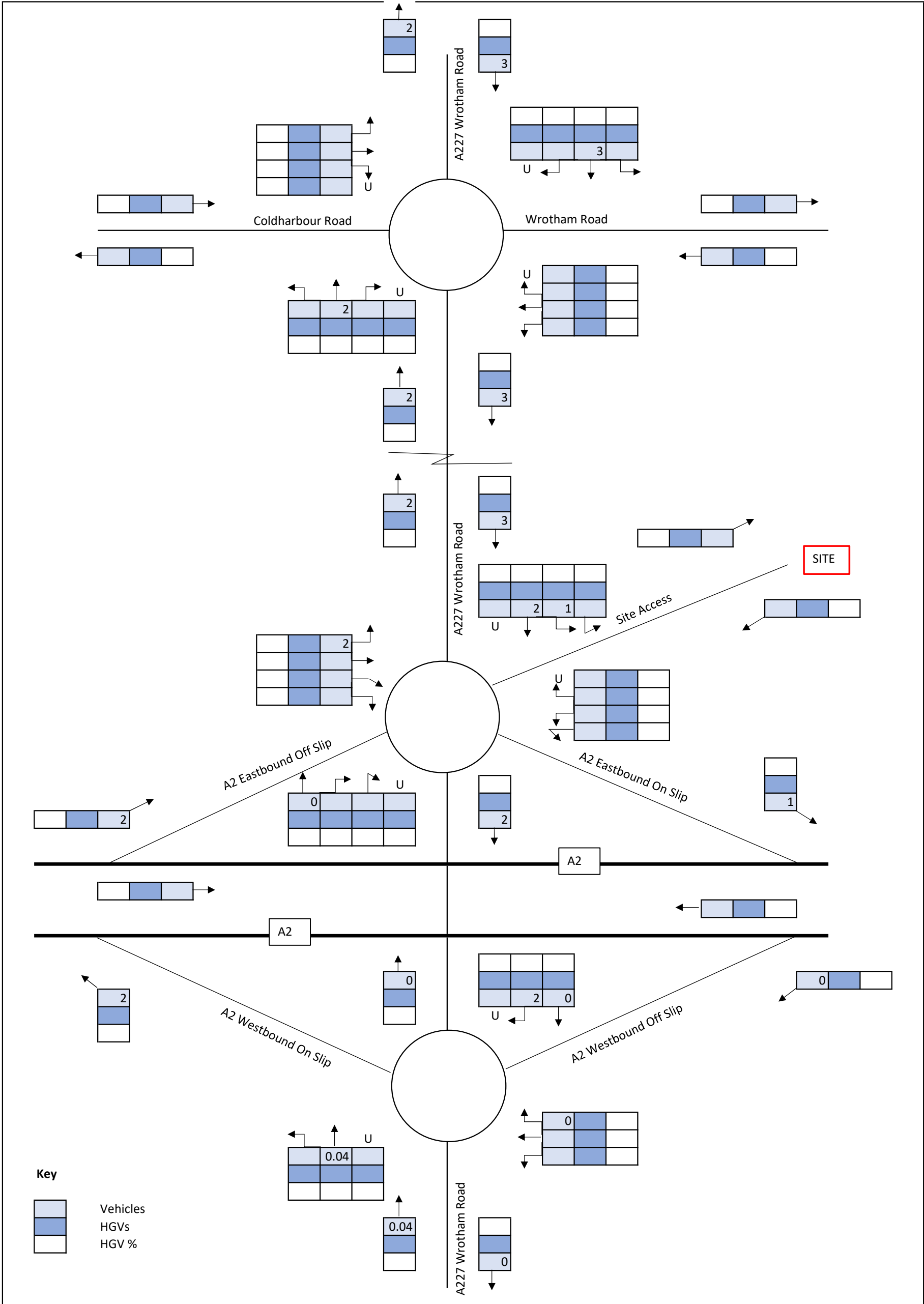
Figure No:
Figure 73

Date:
Oct-24

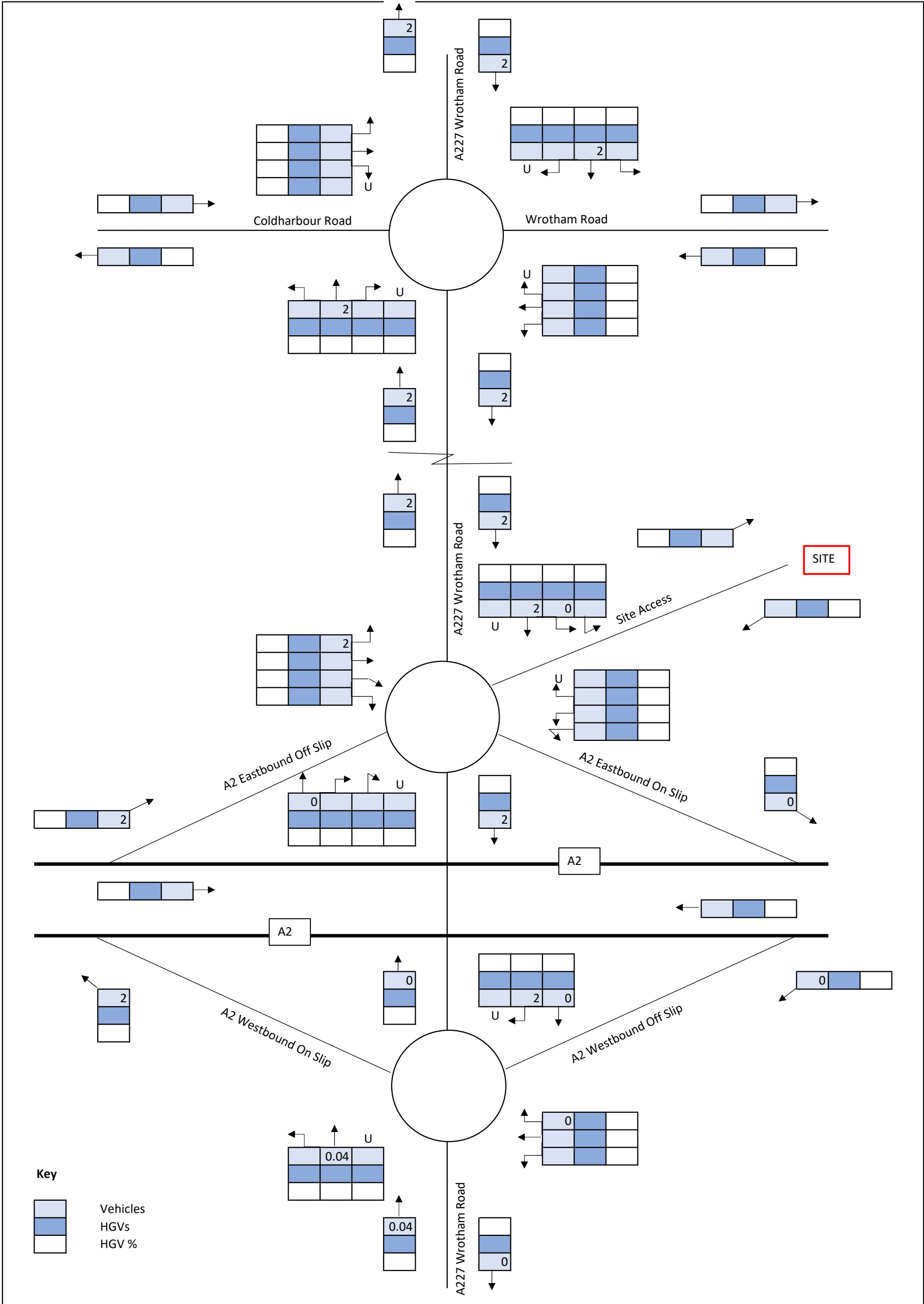


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 8 Comm Dev - Clifton Slipways AM (20191122) Future Year (2028)	Job No: 22052
		Figure No: Figure 74	Date: Oct-24

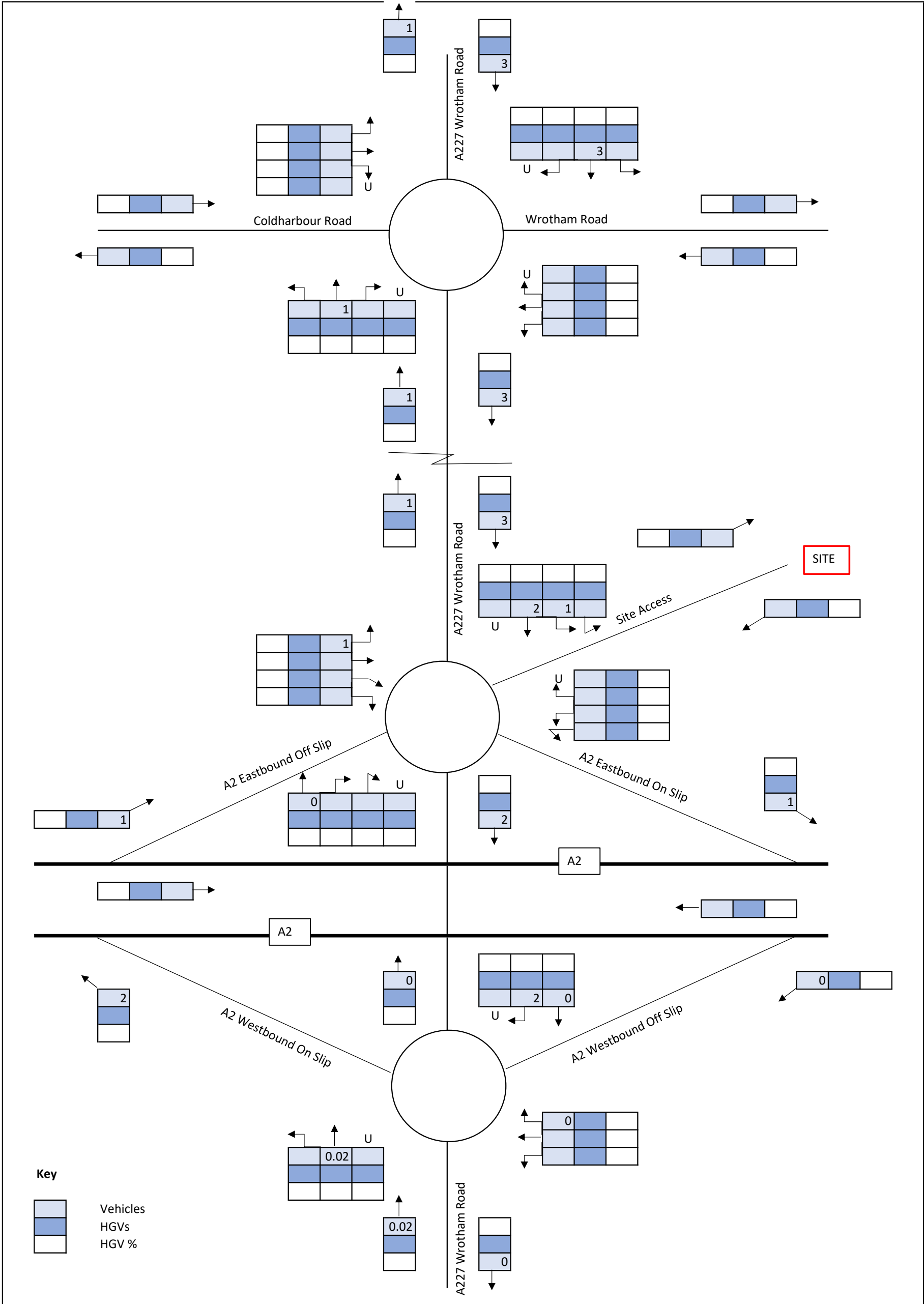




	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 14 Comm Dev - Police Station AM (20220432) Future Year (2028)	Job No: 22052
		Figure No: Figure 78	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 14 Comm Dev - Police Station PM (20220432) Future Year (2028)	Job No: 22052
		Figure No: Figure 79	Date: Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

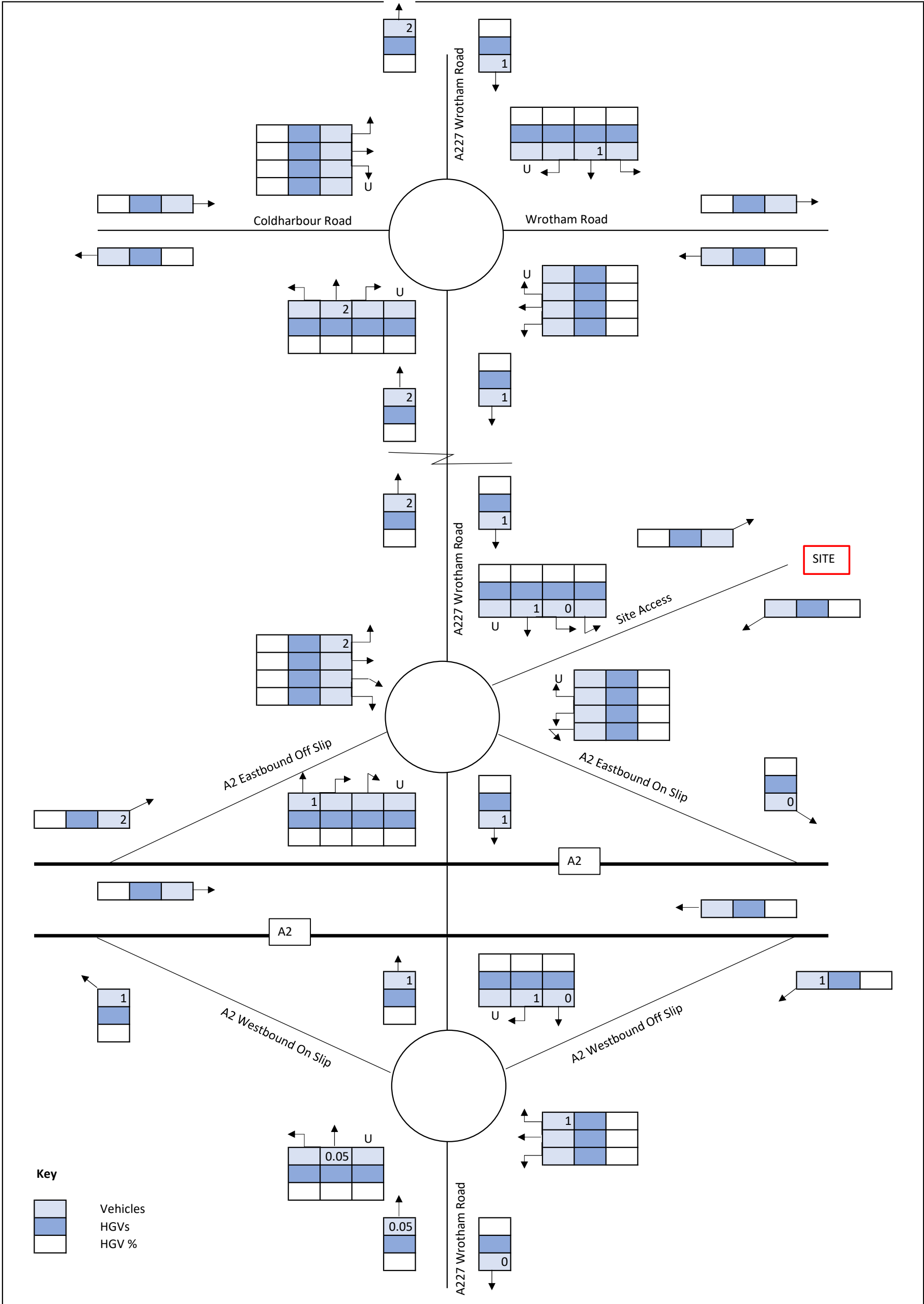
Scale:
NTS

Drawing Title:
Site 15 Comm Dev - E.H. Cottages AM
(20210672) Opening Year (2025)

Job No:
22052

Figure No:
Figure 80

Date:
Oct-24



Key



Vehicles
HGVs
HGV %

Notes:

Job Title:
BP Tollgate, Gravesend

Scale:
NTS

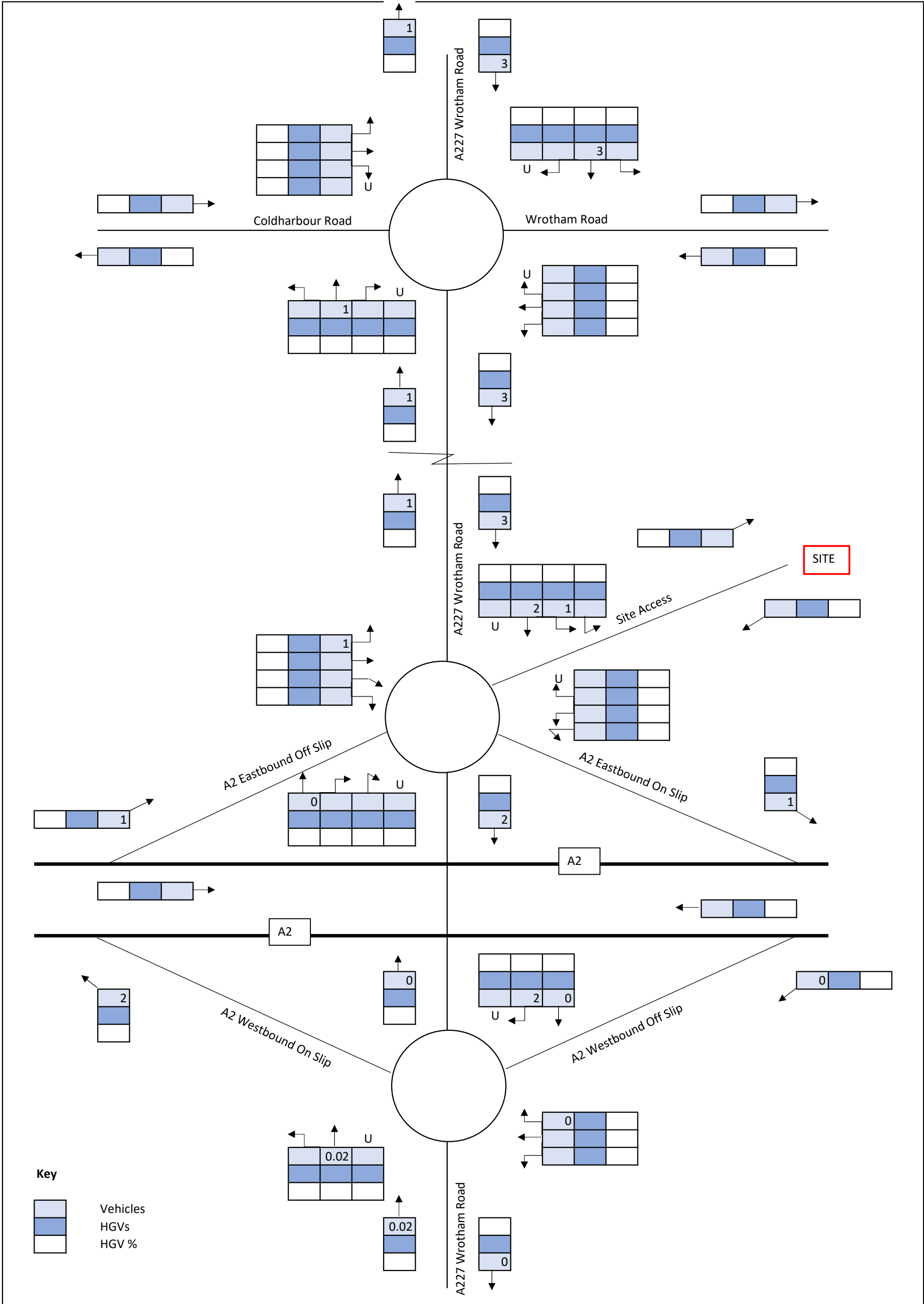
Drawing Title:
Site 15 Comm Dev - E.H. Cottages PM
(20210672) Opening Year (2025)

Job No:
22052

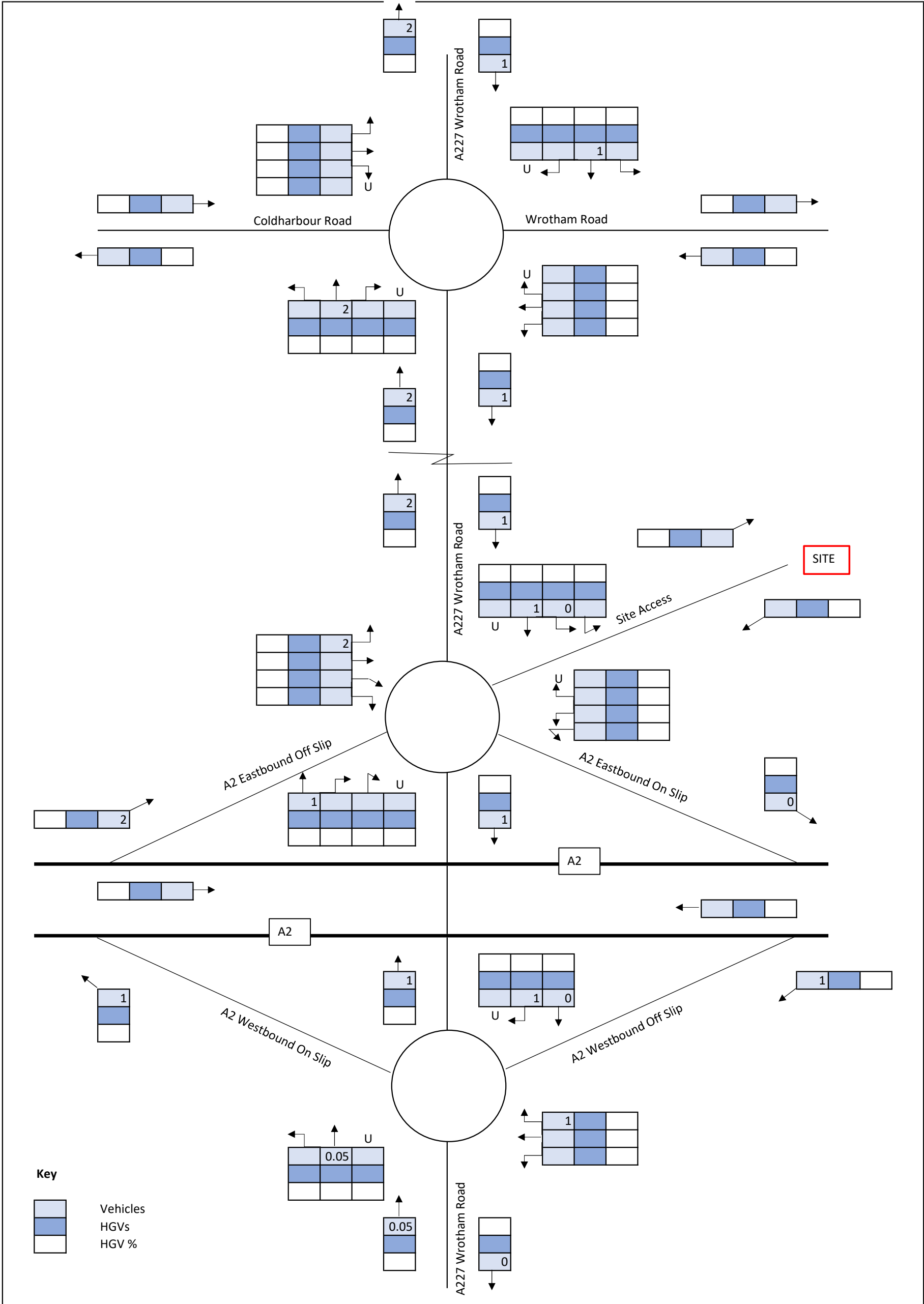
Figure No:
Figure 81

Date:
Oct-24

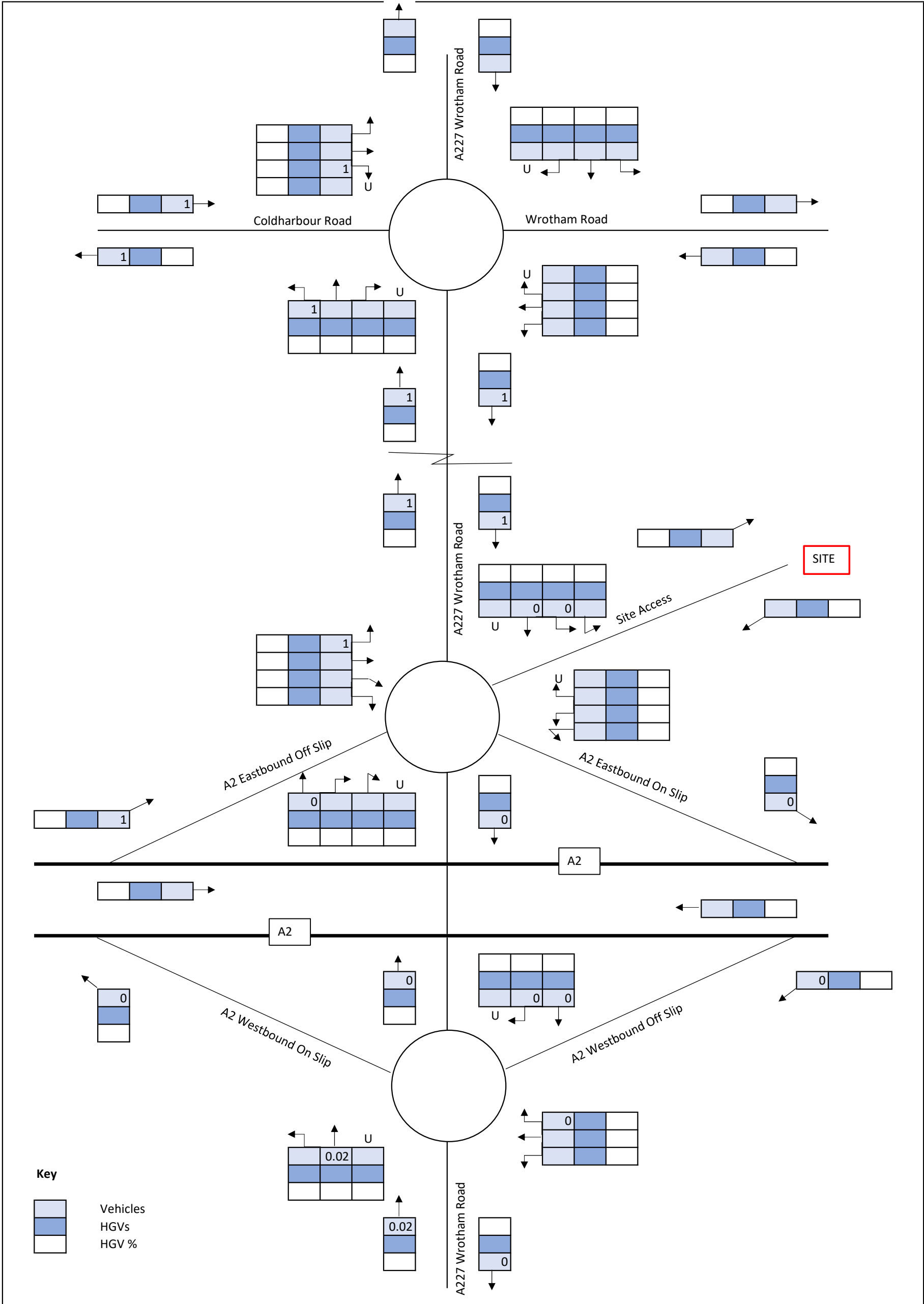




	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 15 Comm Dev - E.H. Cottages AM (20210672) Future Year (2028)	Job No: 22052
		Figure No: Figure 82	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 15 Comm Dev - E.H. Cottages PM (20210672) Future Year (2028)	Job No: 22052
		Figure No: Figure 83	Date: Oct-24



Key



Vehicles
HGVs
HGV %

Notes:

Job Title:
BP Tollgate, Gravesend

Scale:
NTS

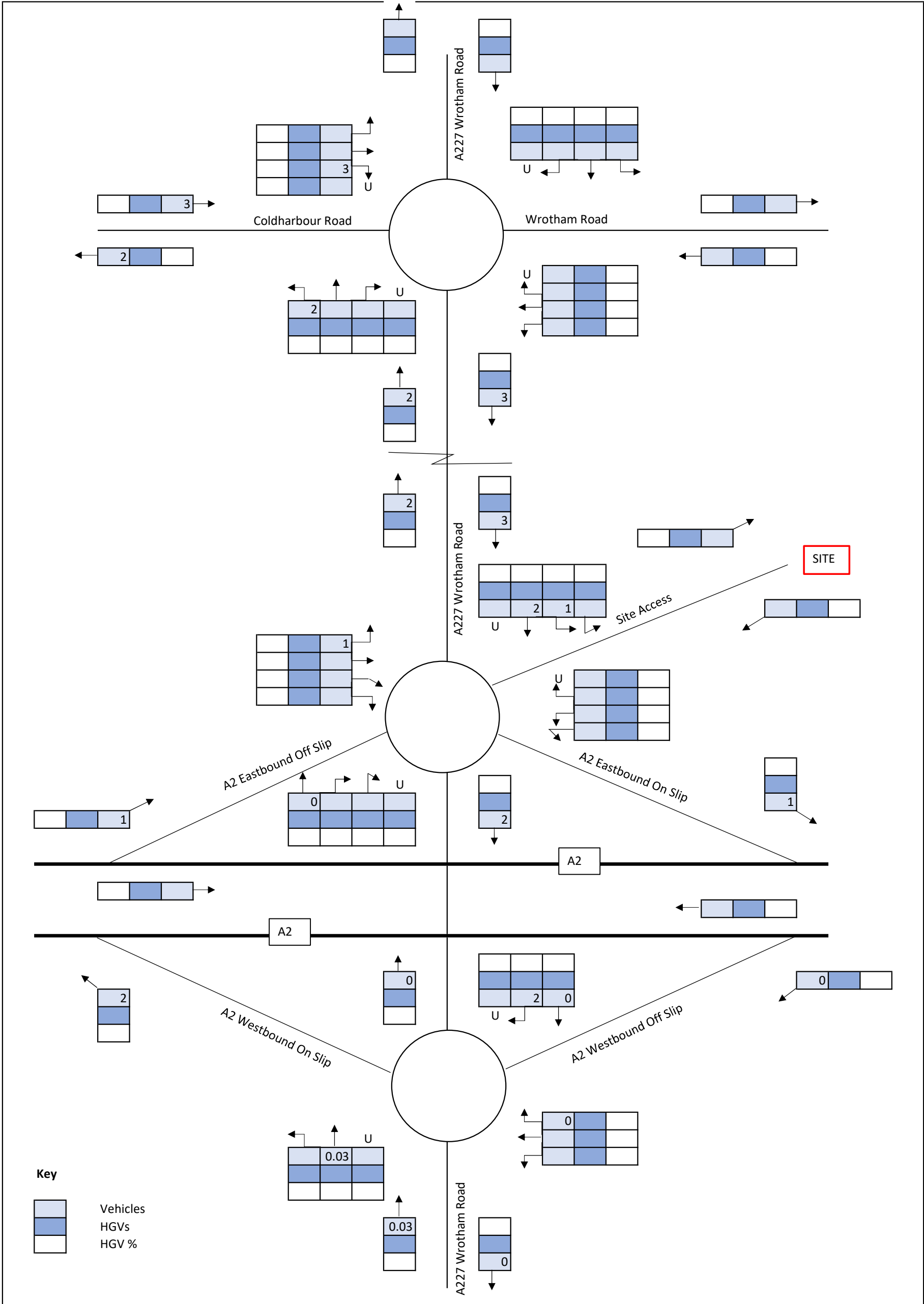
Drawing Title:
Site 16 Comm Dev - Battle of Britain AM
(20221251) Future Year (2028)

Job No:
22052

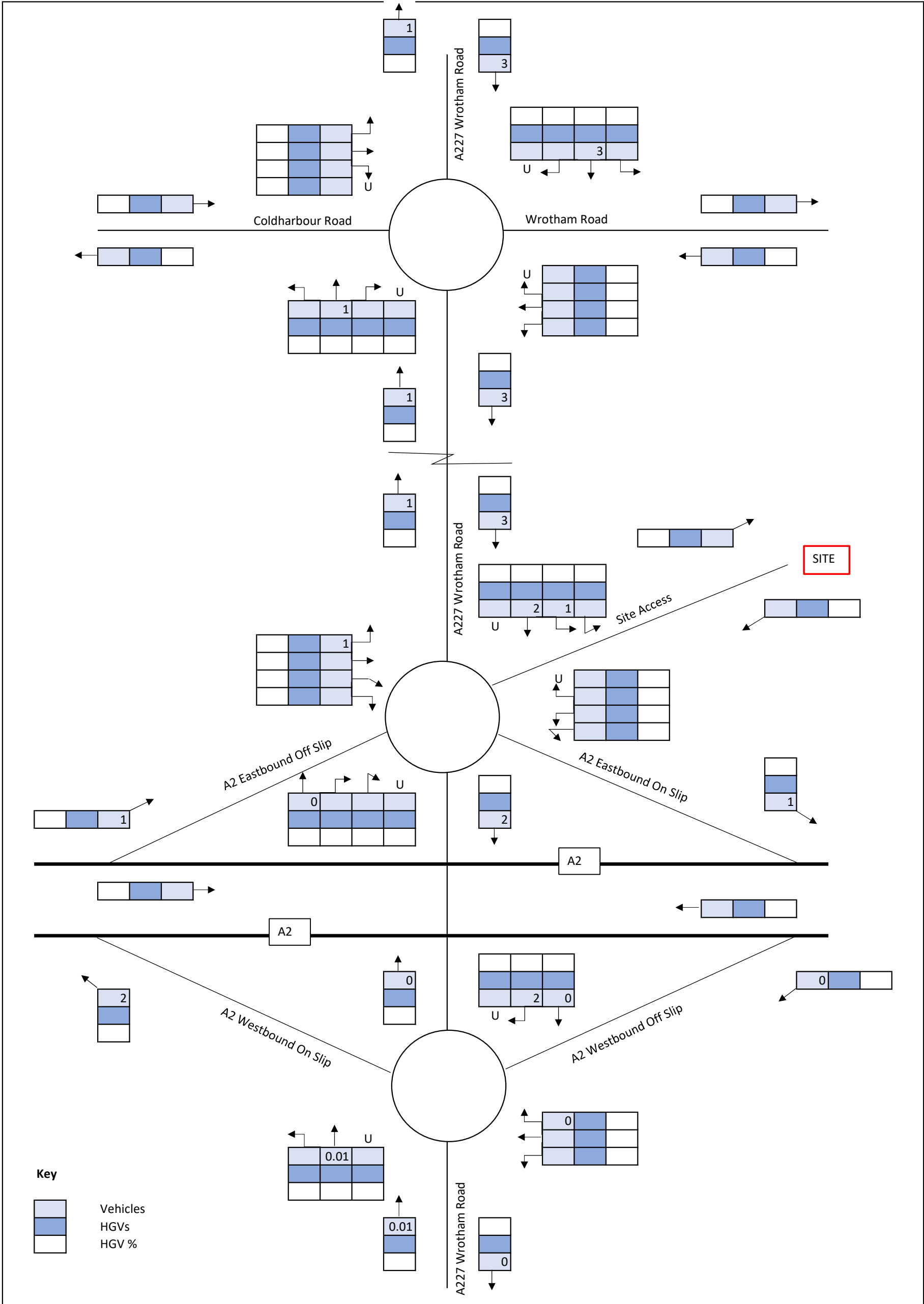
Figure No:
Figure 84

Date:
Oct-24

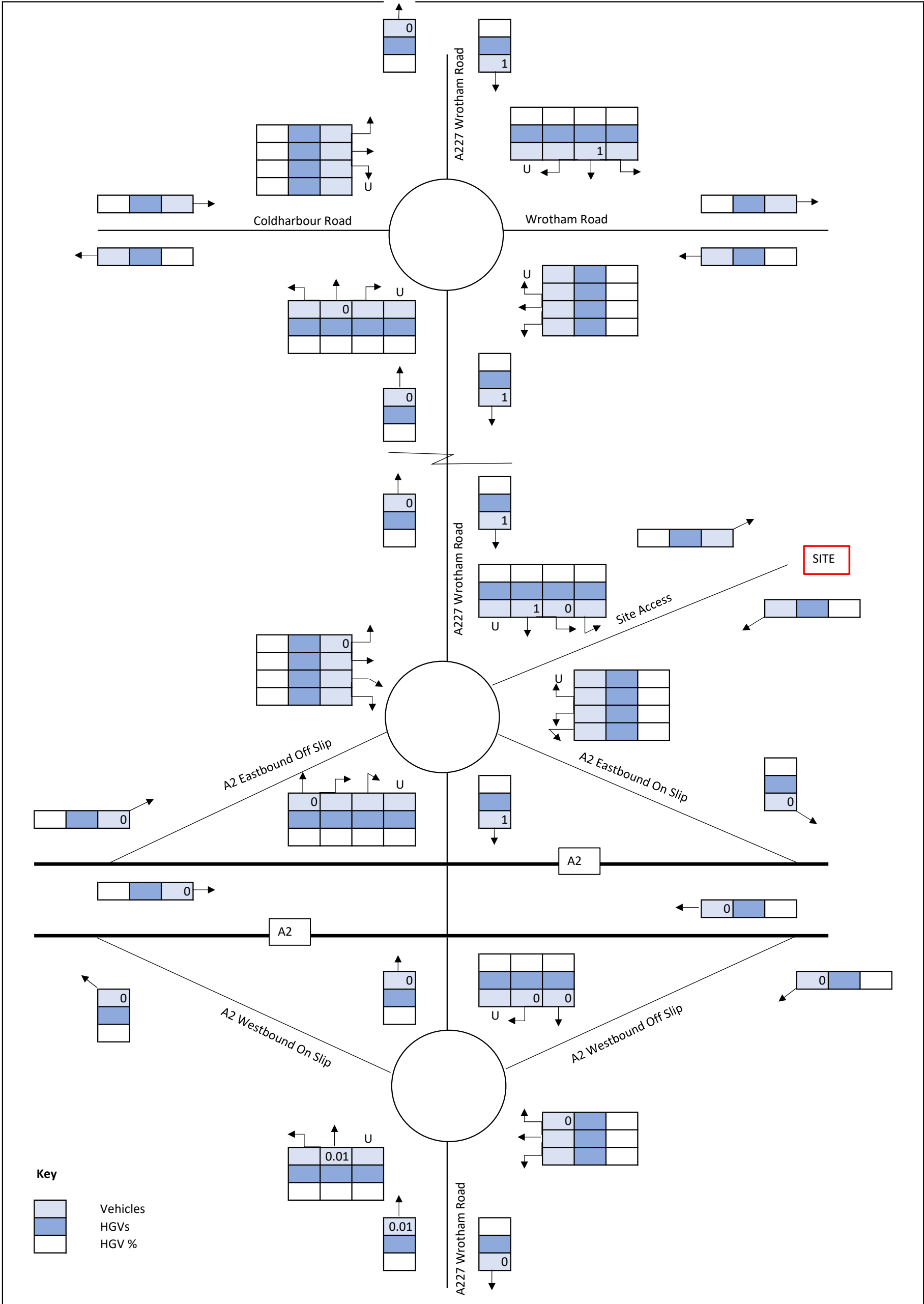


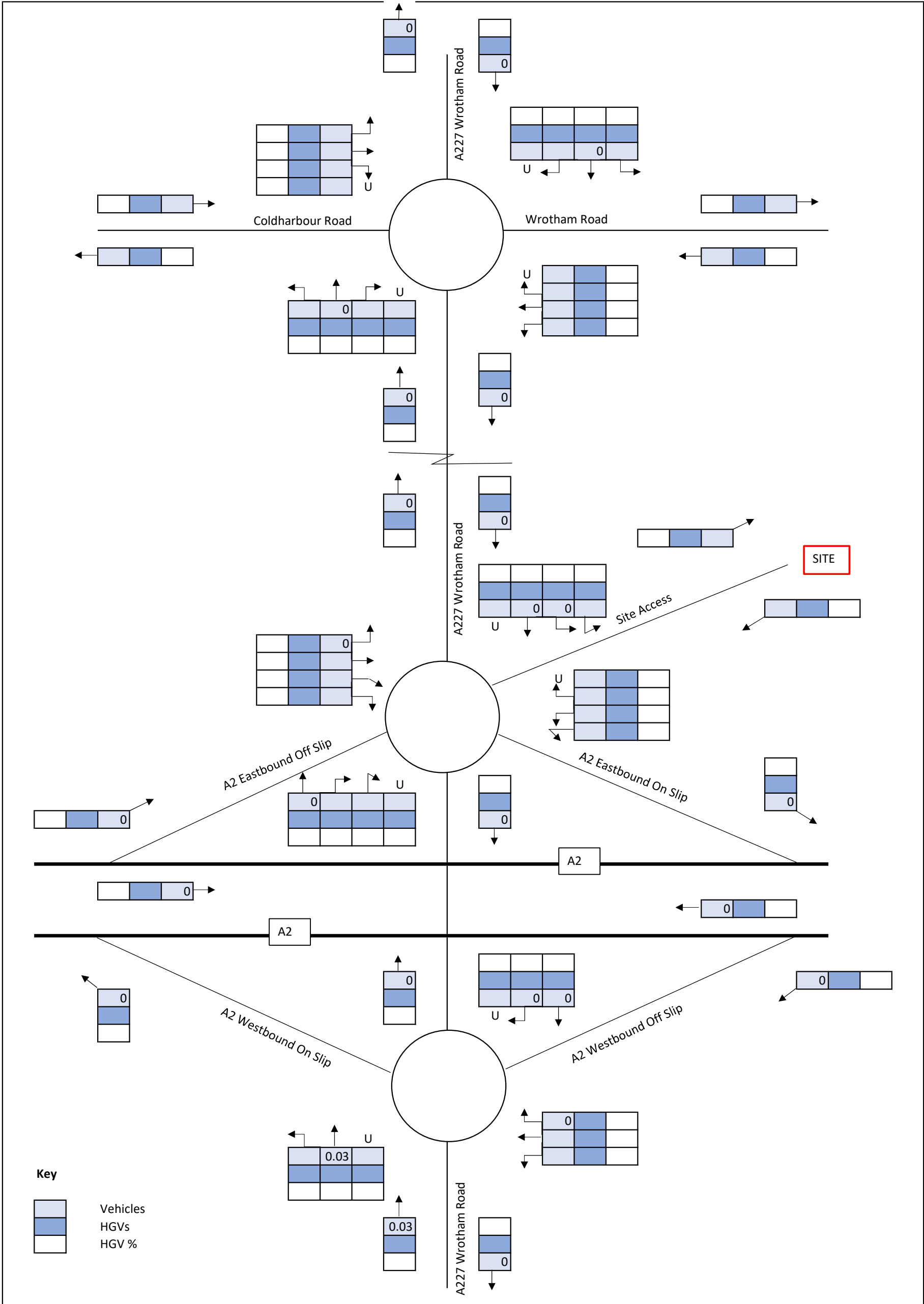


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 16 Comm Dev - Battle of Britain PM (20221251) Future Year (2028)	Job No: 22052
		Figure No: Figure 85	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 17 Comm Dev - 24 Stone St AM (20211196) Future Year (2028)	Job No: 22052
		Figure No: Figure 86	Date: Oct-24





Key

- Vehicles
- HGVs
- HGV %

Notes:

Job Title:
BP Tollgate, Gravesend

Scale:
NTS

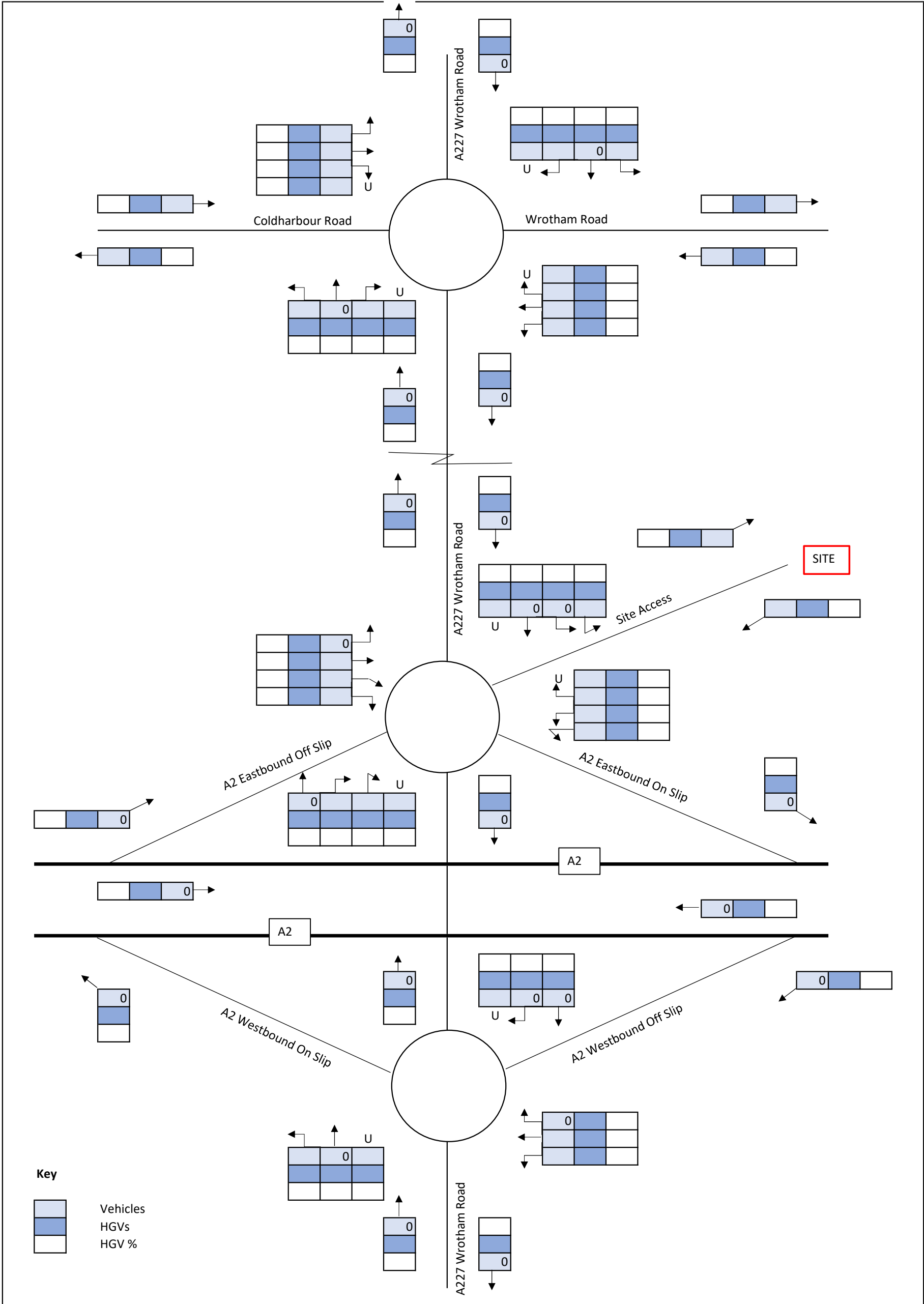
Drawing Title:
Site 20 Comm Dev - Builders Yard PM
(20190520) Future Year (2028)

Job No:
22052

Figure No:
Figure 89

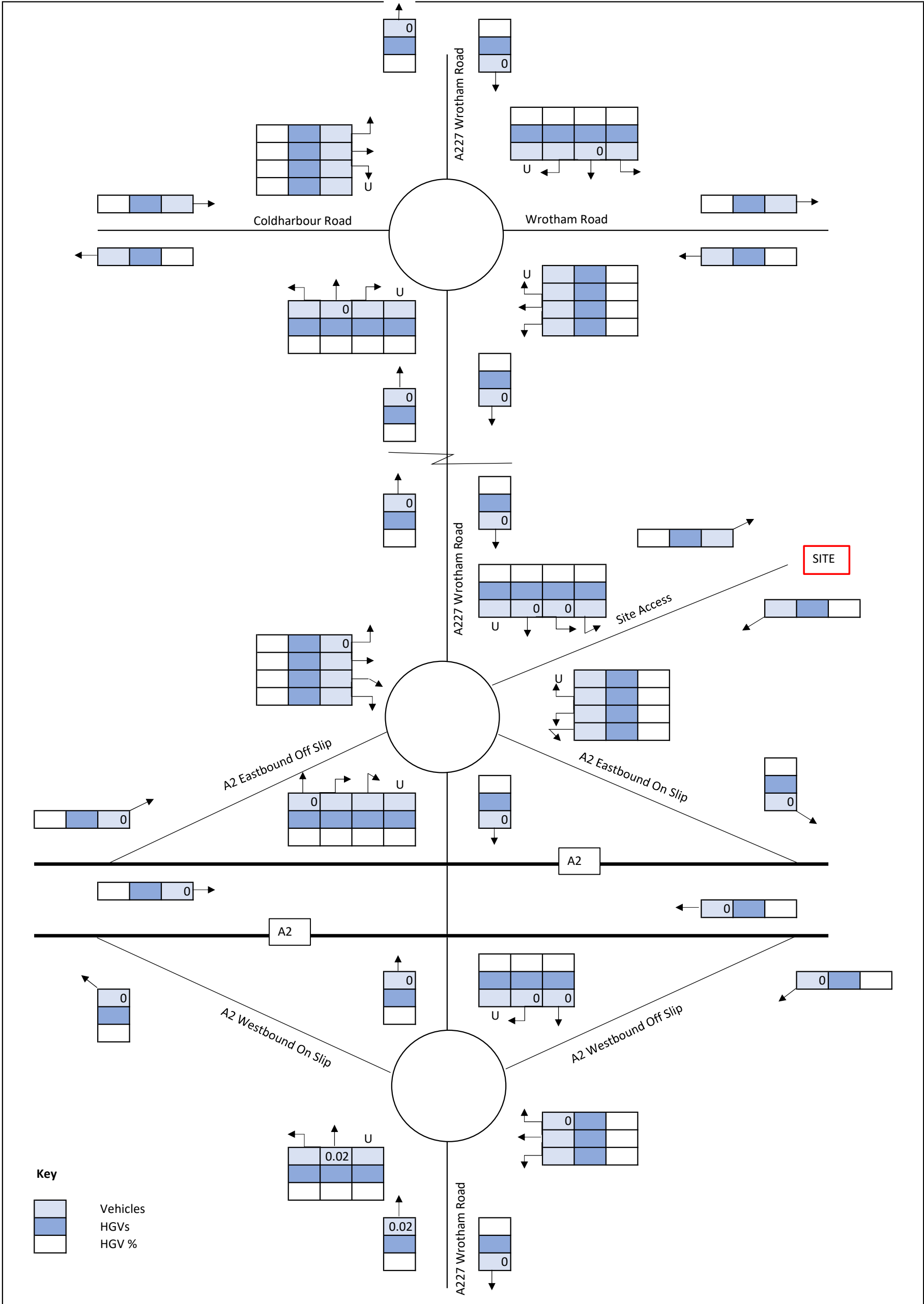
Date:
Oct-24





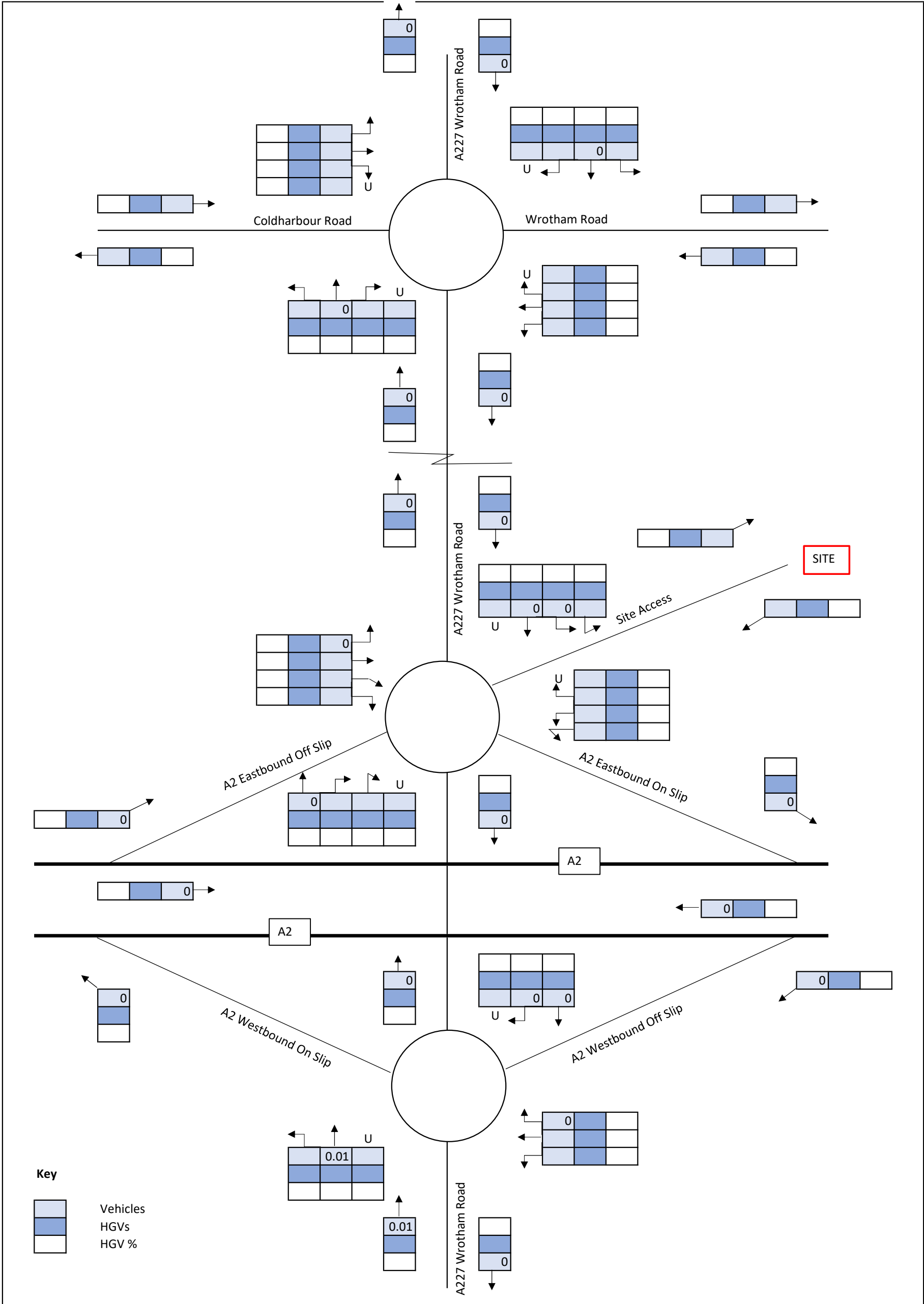
Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 23 Comm Dev - 270-340 Valley Drive AM (20190155) Opening Year (2025)	Job No: 22052
Figure No: Figure 90	Date: Oct-24



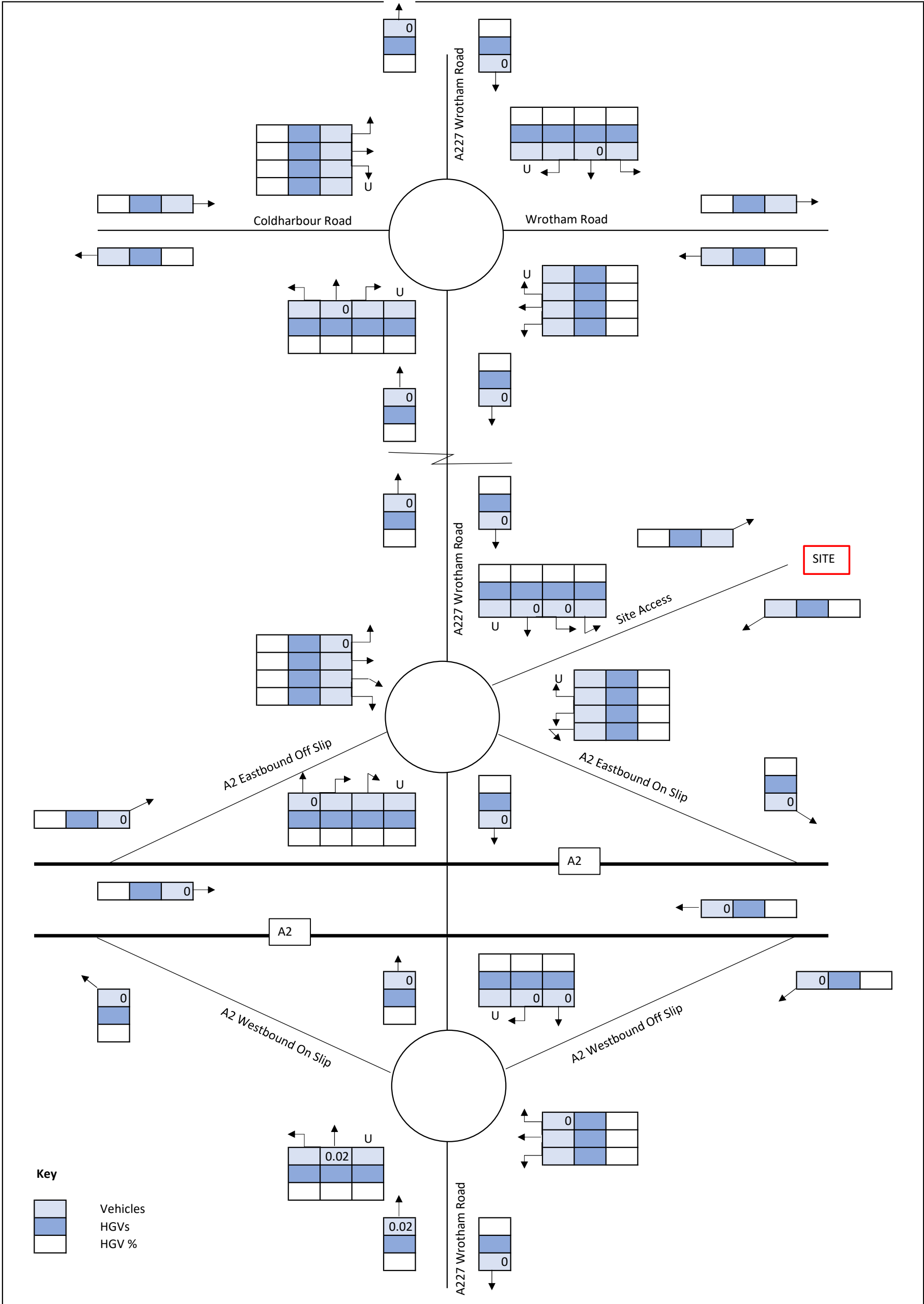
Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 23 Comm Dev - 270-340 Valley Drive PM (20190155) Opening Year (2025)	Job No: 22052
Figure No: Figure 91	Date: Oct-24

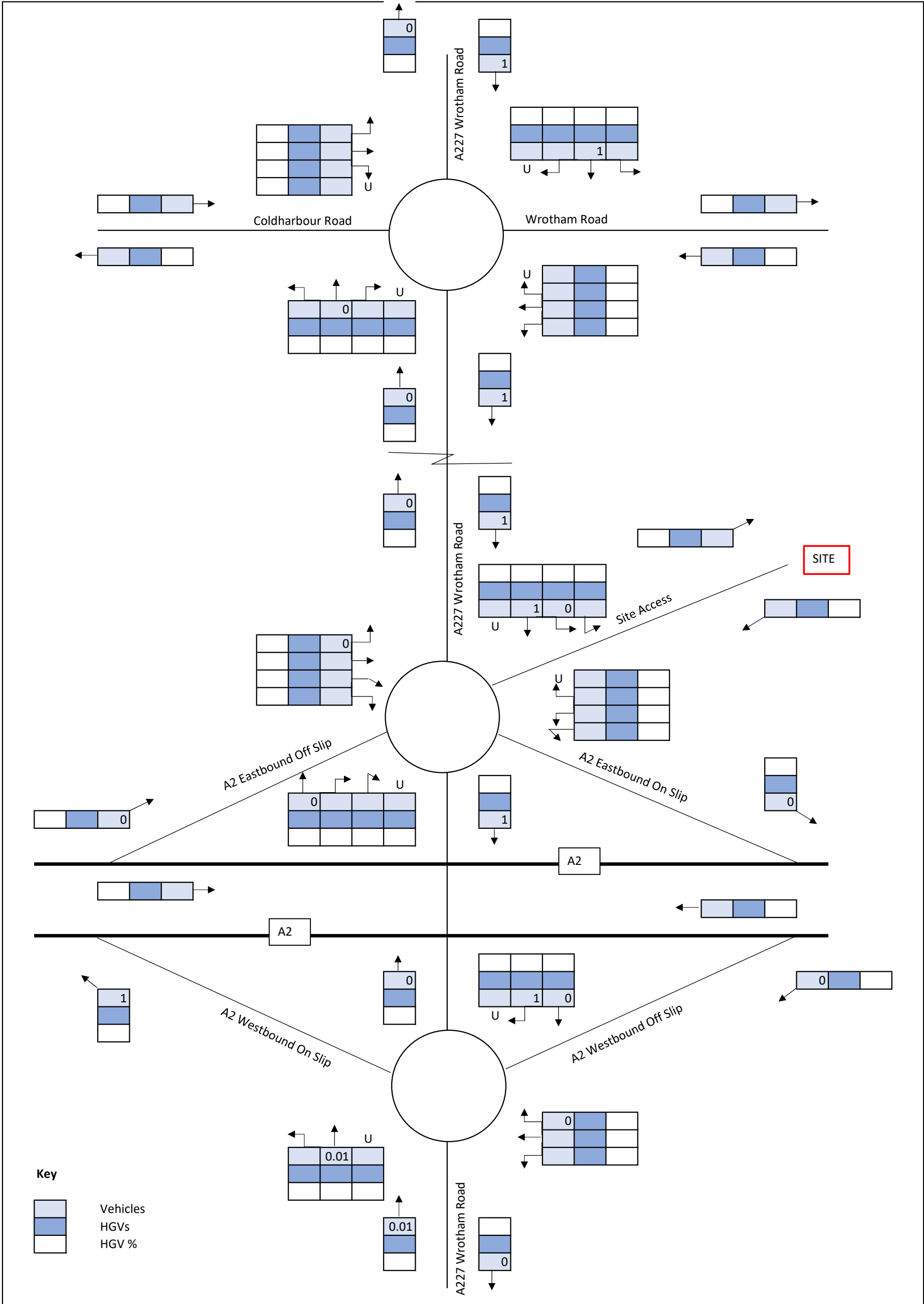


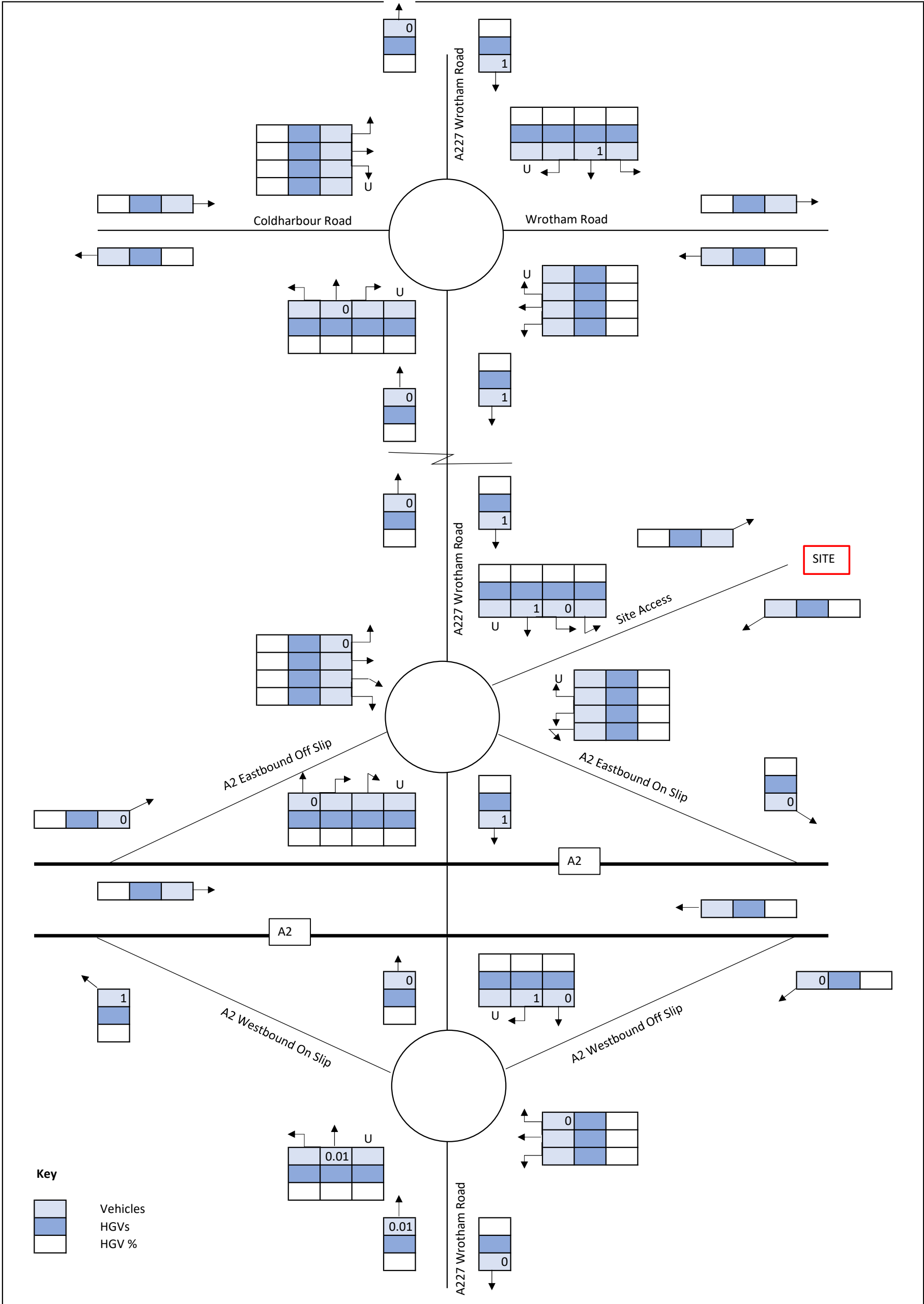
Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 23 Comm Dev - 270-340 Valley Drive AM (20190155) Future Year (2028)	Job No: 22052
Figure No: Figure 92	Date: Oct-24

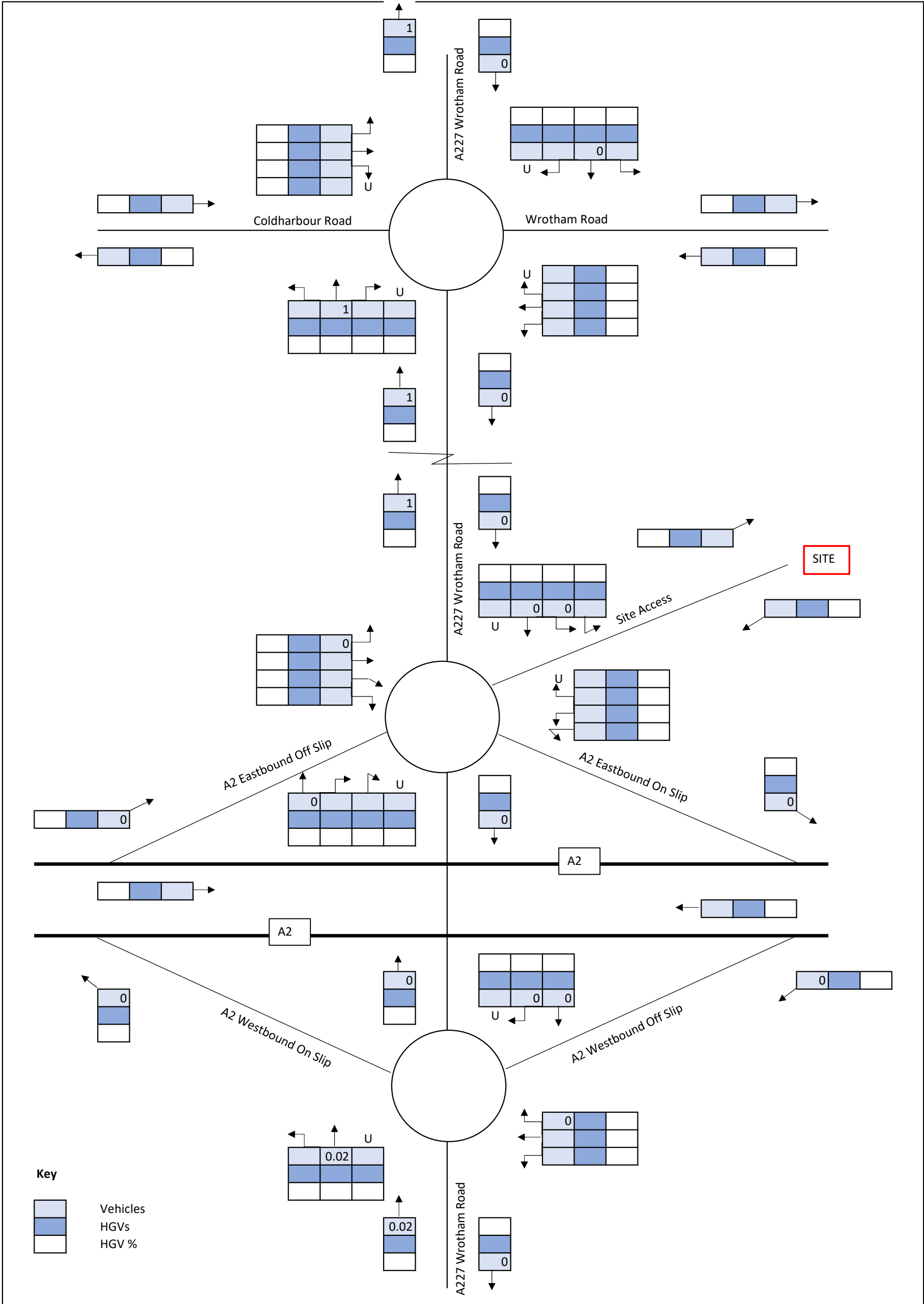


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 23 Comm Dev - 270-340 Valley Drive PM (20190155) Future Year (2028)	Job No: 22052
		Figure No: Figure 93	Date: Oct-24

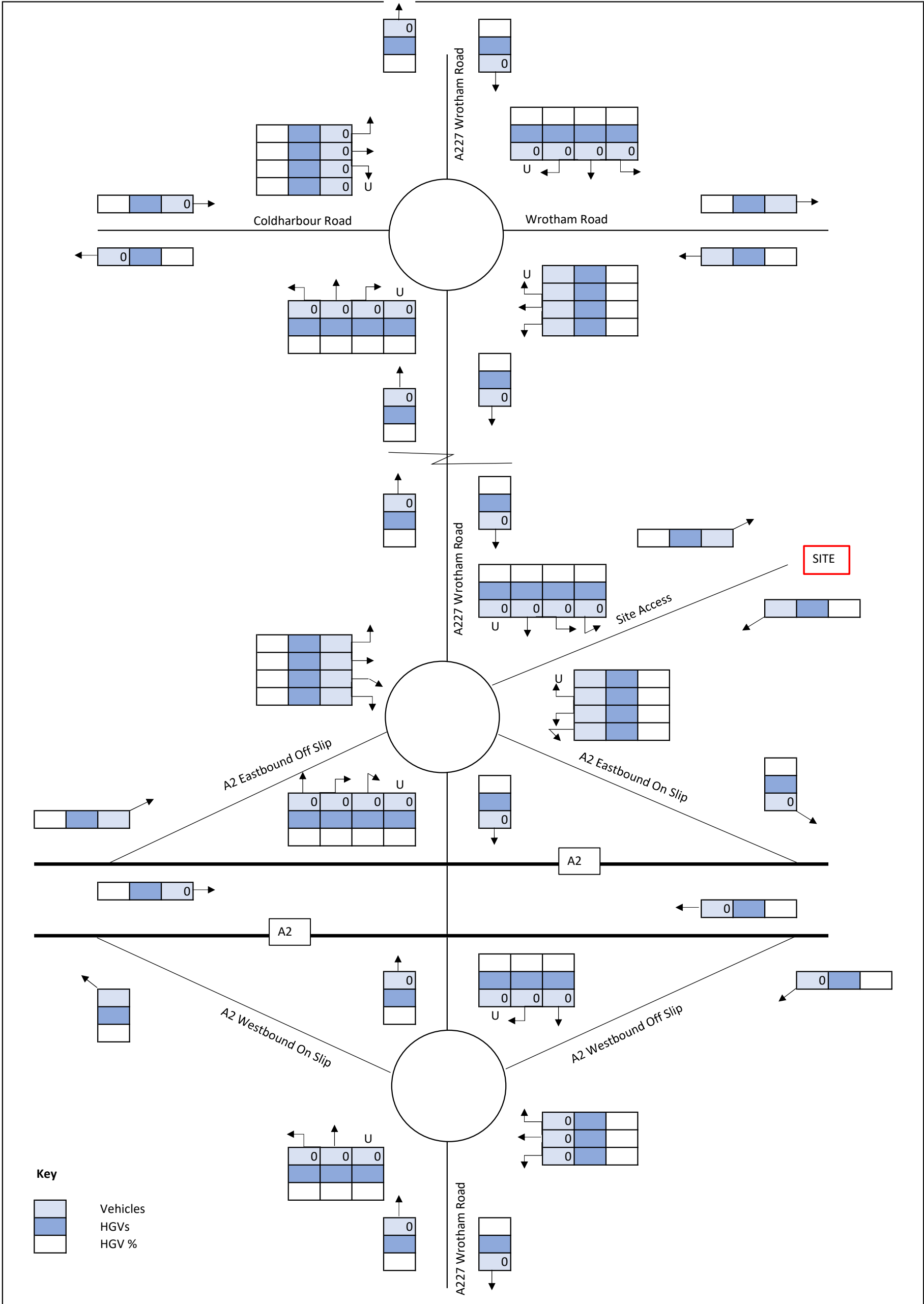


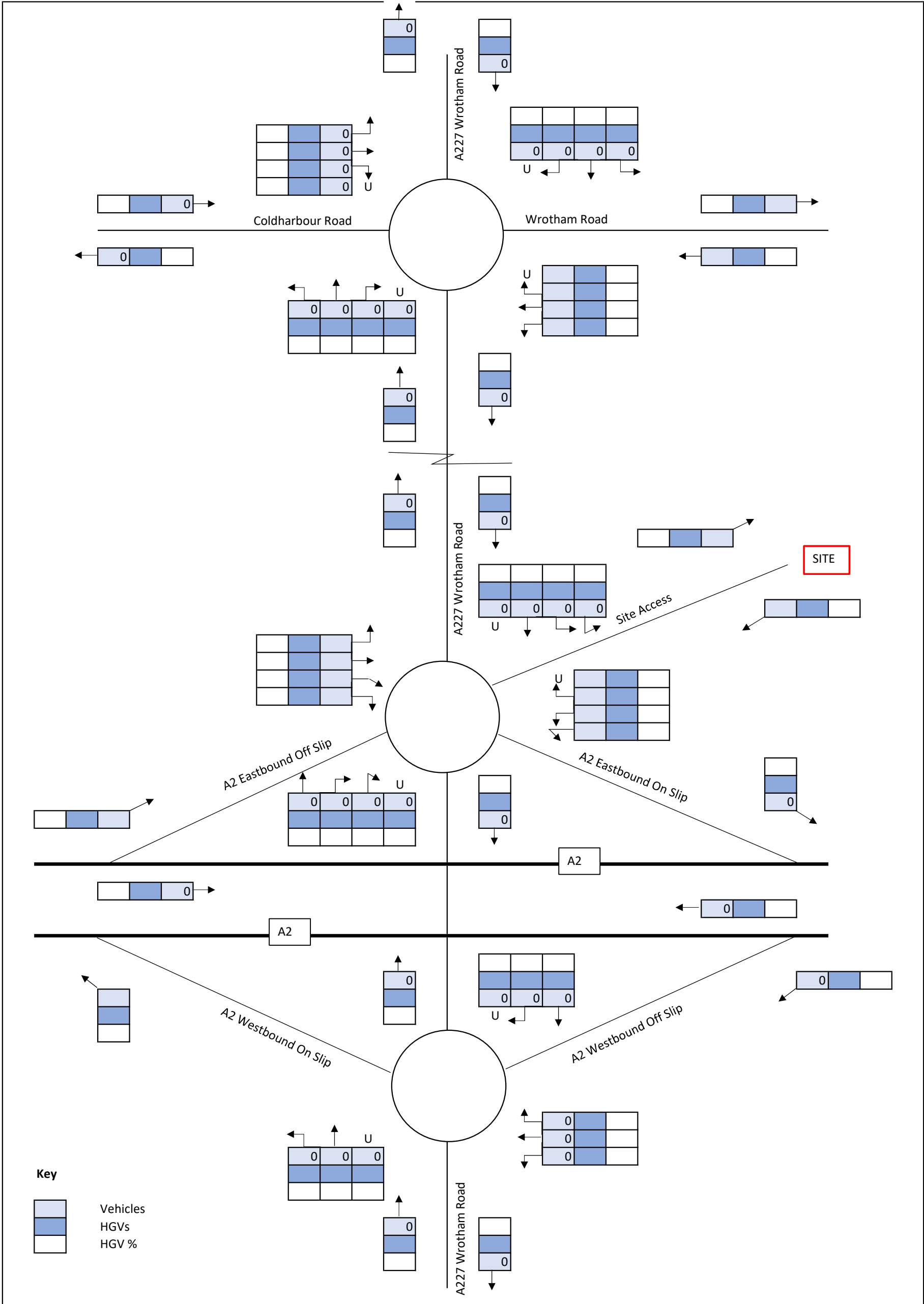


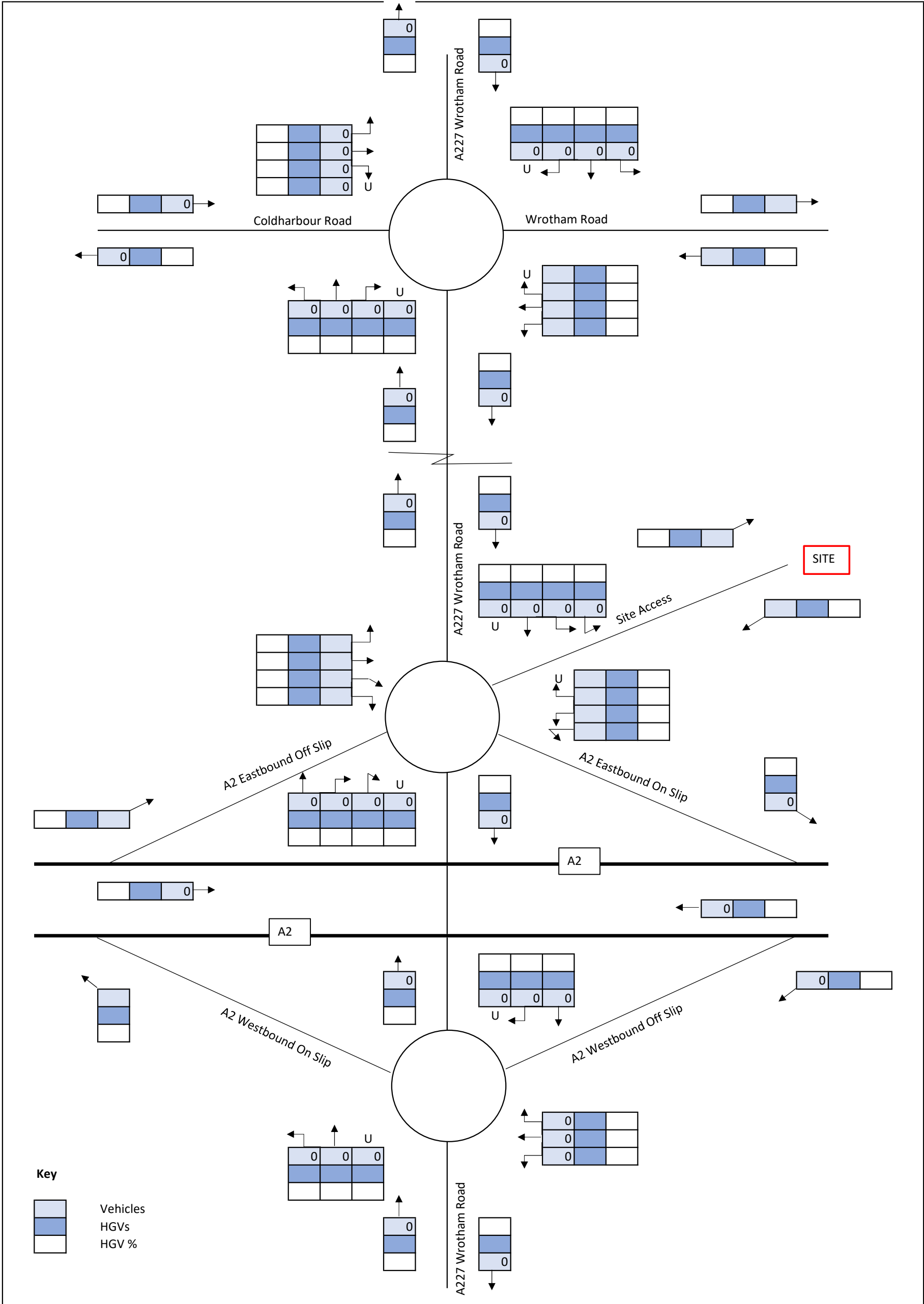
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 24 Comm Dev - Job Centre AM (20210291) Future Year (2028)	Job No: 22052
		Figure No: Figure 96	Date: Oct-24



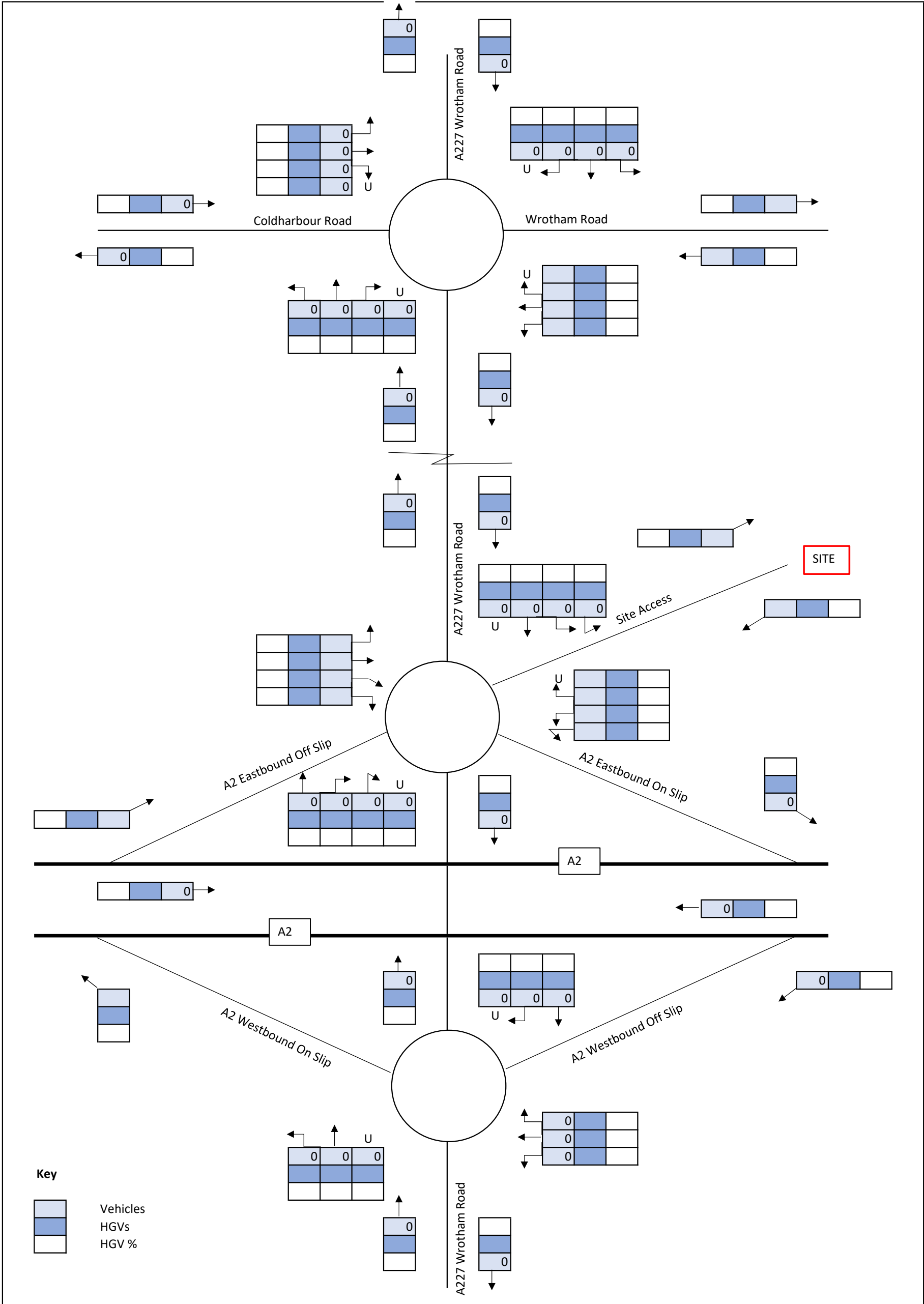
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 24 Comm Dev - Job Centre PM (20210291) Future Year (2028)	Job No: 22052
		Figure No: Figure 97	Date: Oct-24







	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 26 Comm Dev - 3 & 4 London Road AM (20130957) Opening Year (2025)	Job No: 22052
		Figure No: Figure 100	Date: Oct-24



Key



Vehicles
HGVs
HGV %

Notes:

Job Title:
BP Tollgate, Gravesend

Scale:
NTS

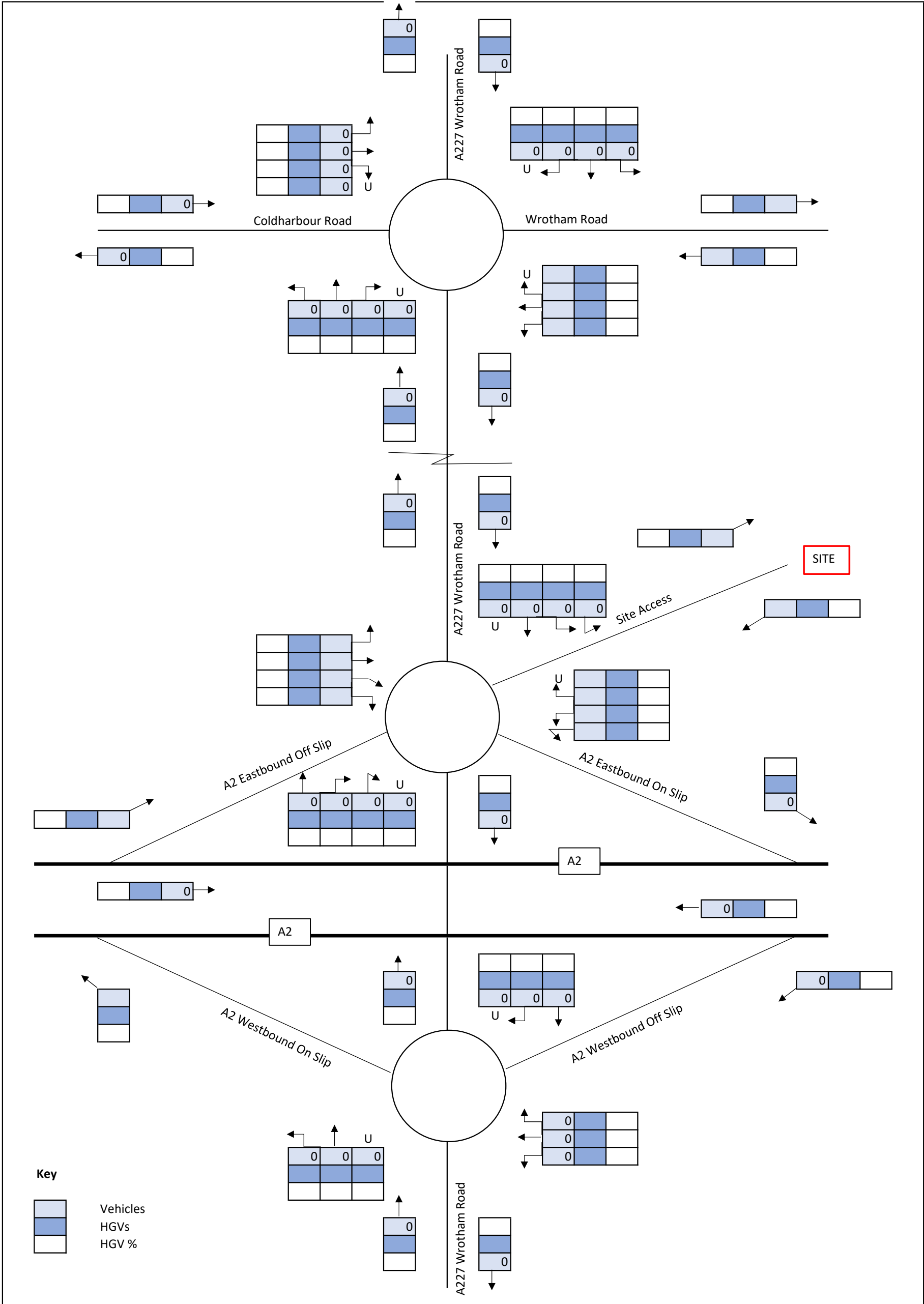
Drawing Title:
Site 26 Comm Dev - 3 & 4 London Road PM
(20130957) Opening Year (2025)

Job No:
22052

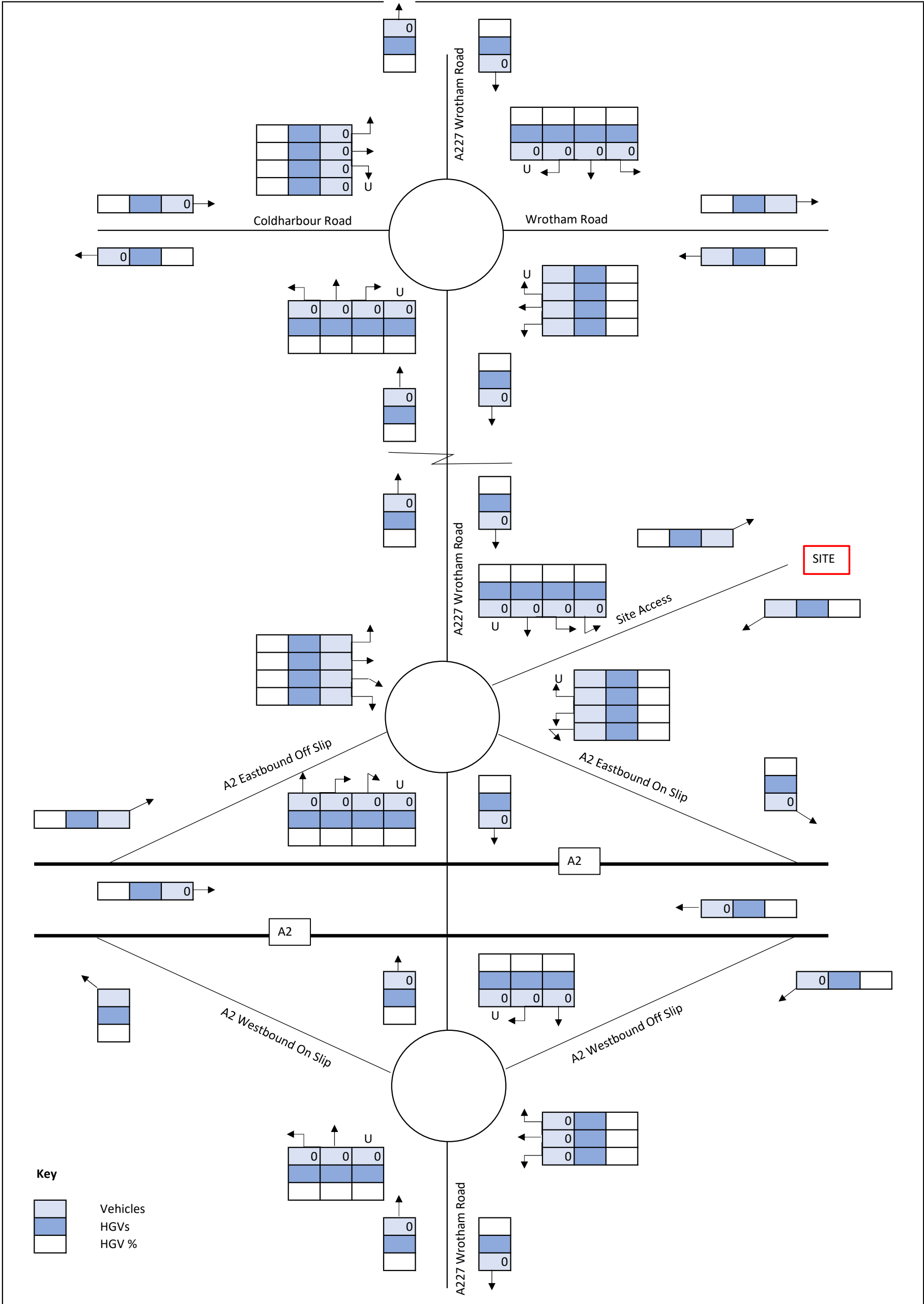
Figure No:
Figure 101

Date:
Oct-24

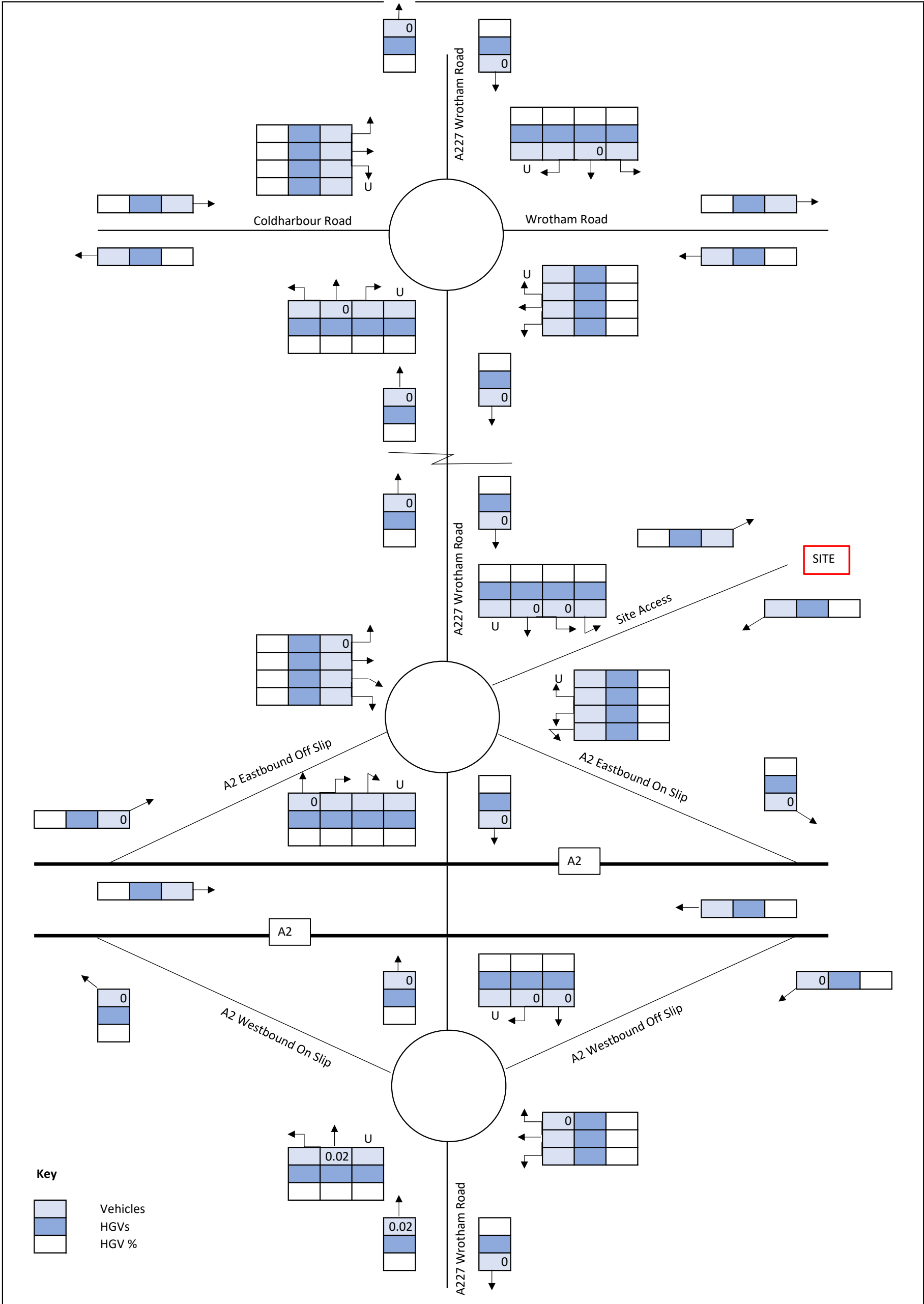




	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 26 Comm Dev - 3 & 4 London Road AM (20130957) Future Year (2028)	Job No: 22052
		Figure No: Figure 102	Date: Oct-24



Date:	Oct-24
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Key



Vehicles
HGVs
HGV %

Notes:

Job Title:
BP Tollgate, Gravesend

Scale:
NTS

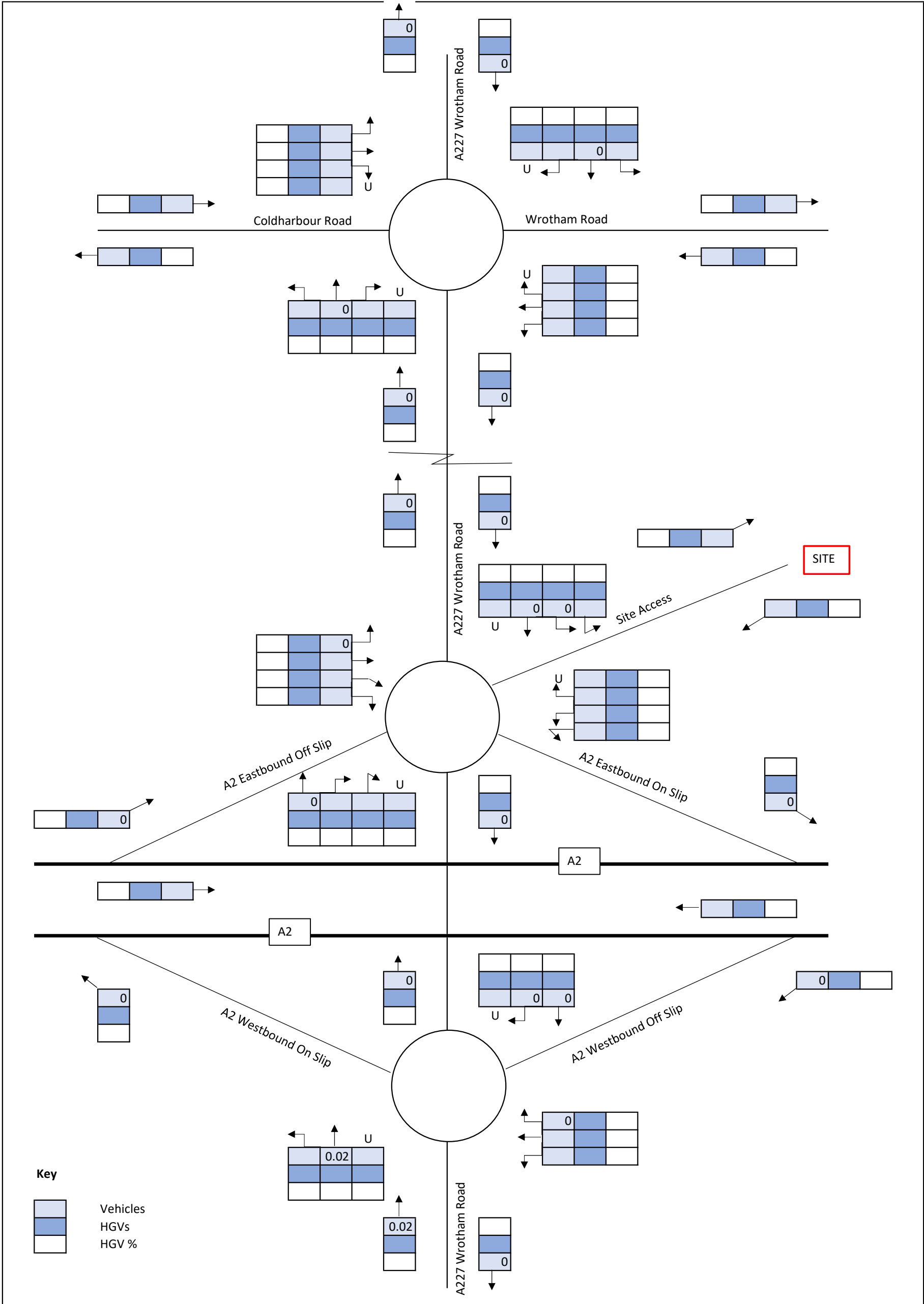
Drawing Title:
Site 27 Comm Dev - 168 Parrock St PM
(20181222) Opening Year (2025)

Job No:
22052

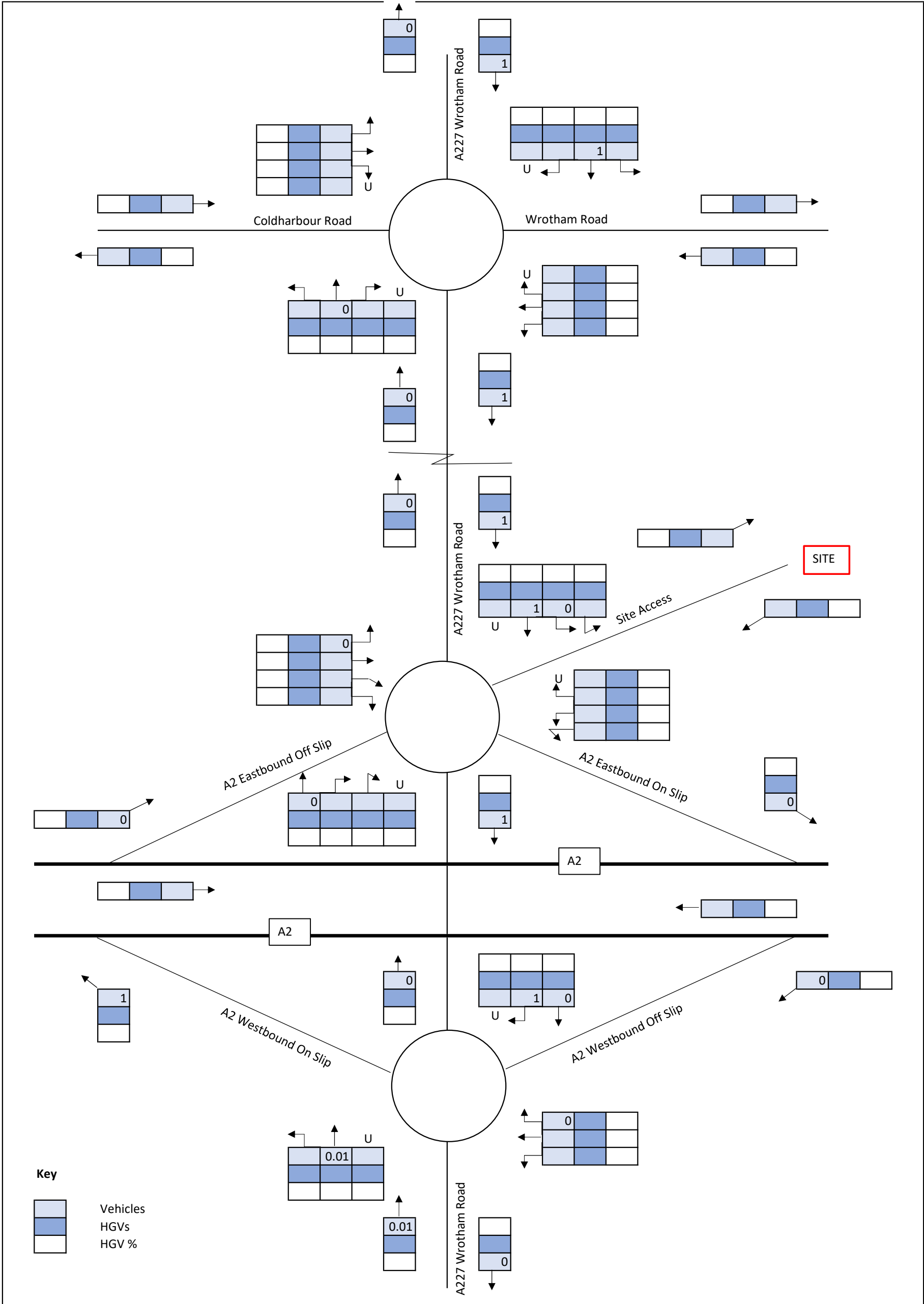
Figure No:
Figure 105

Date:
Oct-24



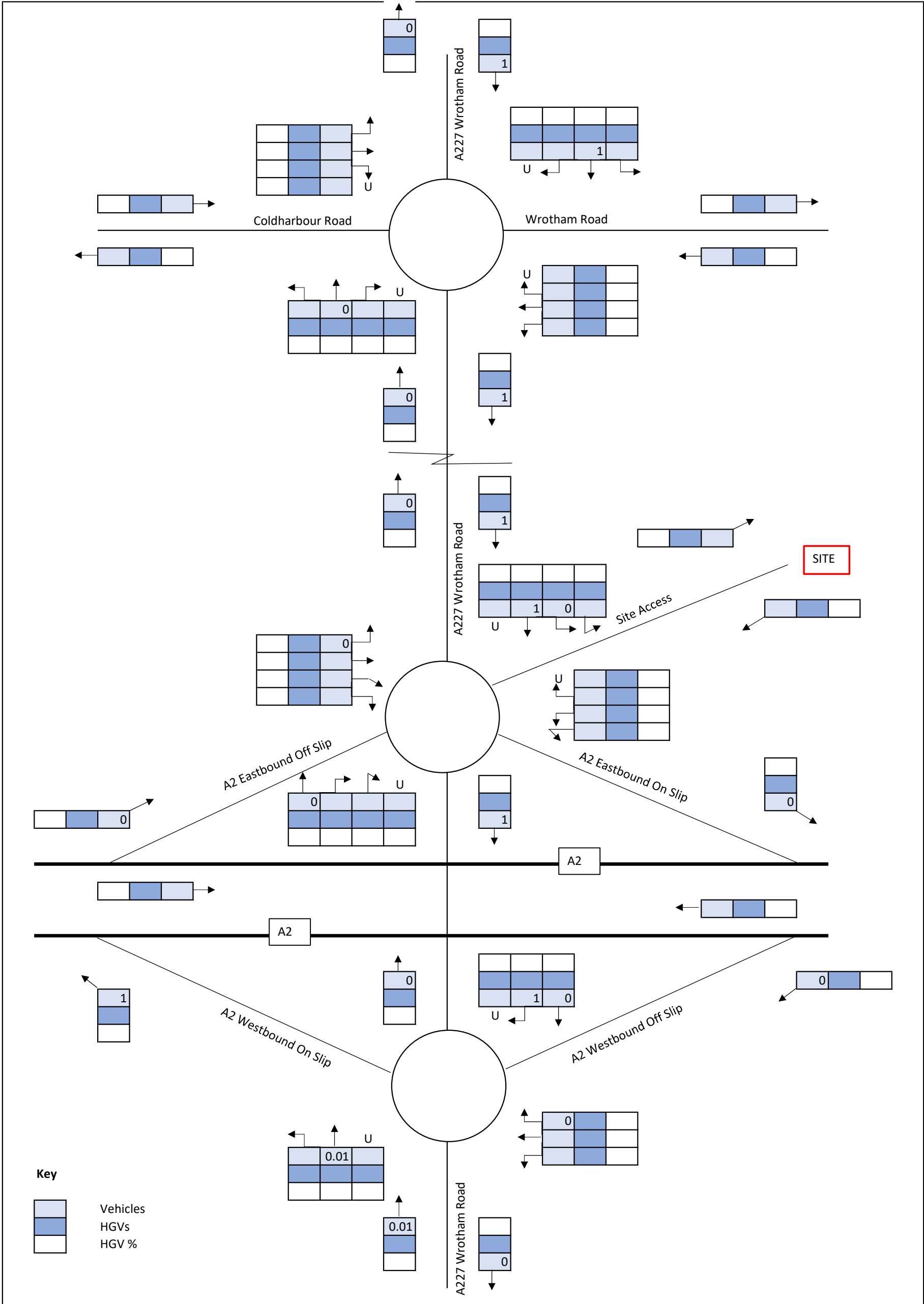


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 27 Comm Dev - 168 Parrock St PM (20181222) Future Year (2028)	Job No: 22052
		Figure No: Figure 107	Date: Oct-24

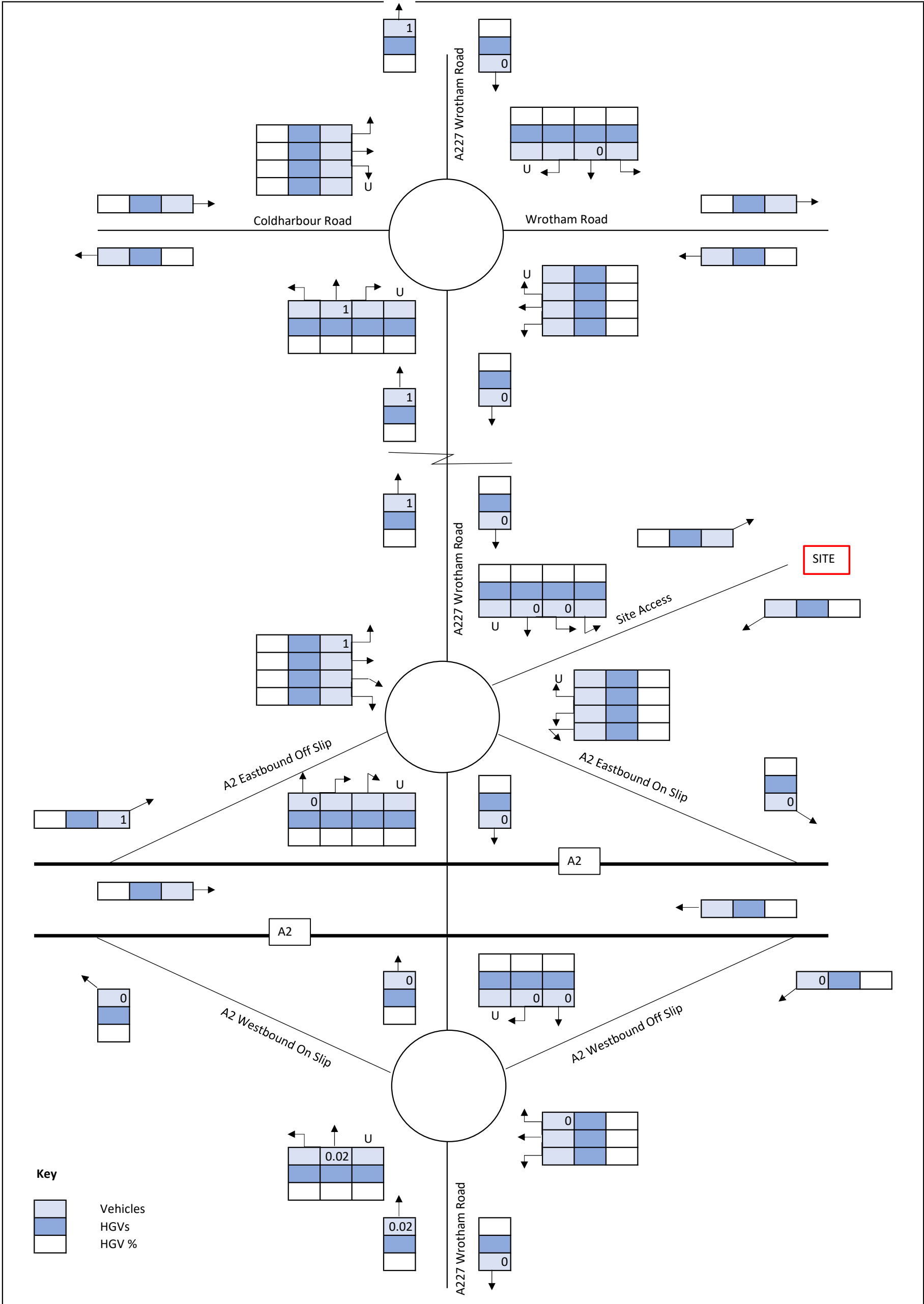


Notes:

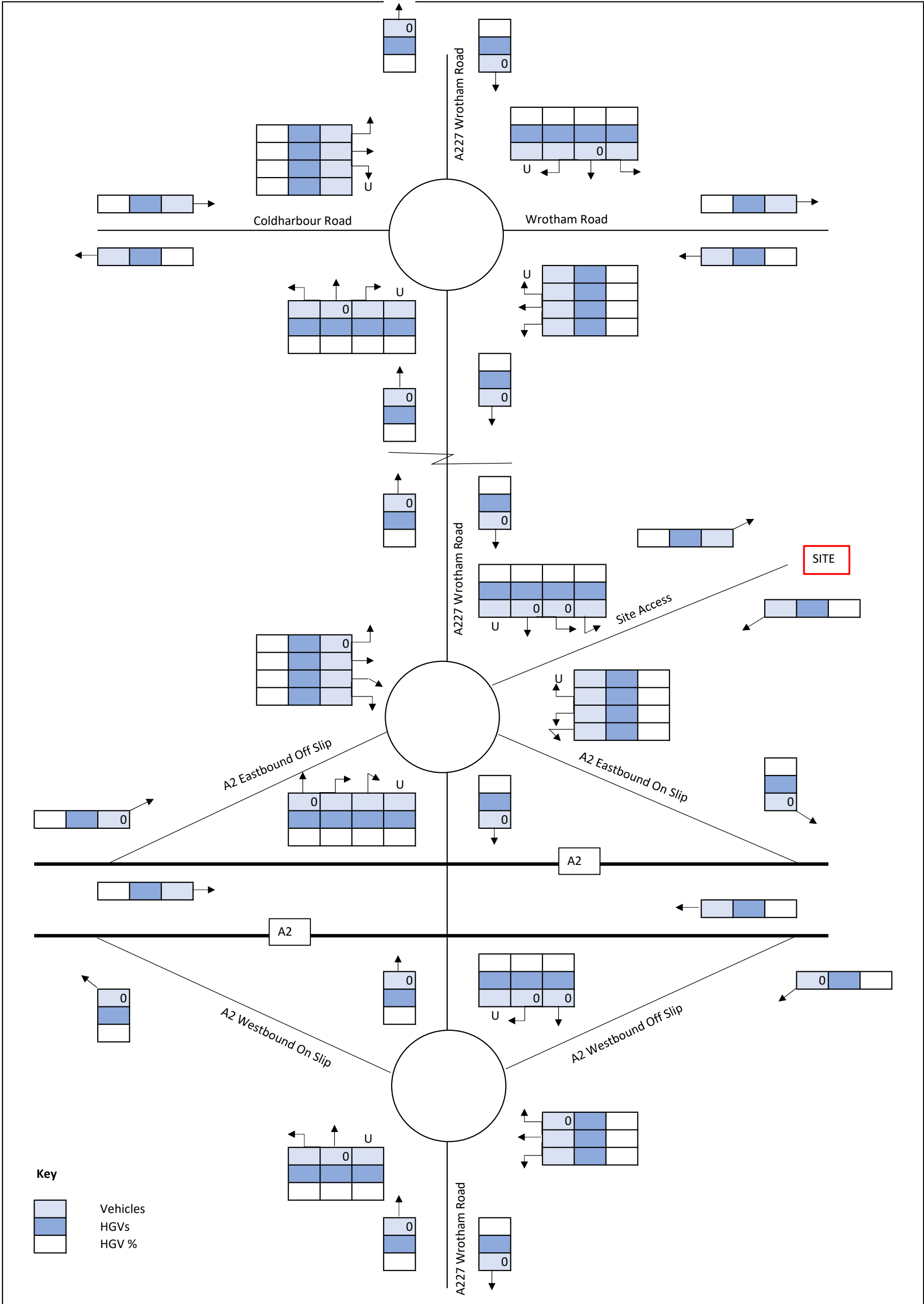
Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 28 Comm Dev - Man of Kent AM (20201225) Opening Year (2025)	Job No: 22052
Figure No: Figure 108	Date: Oct-24

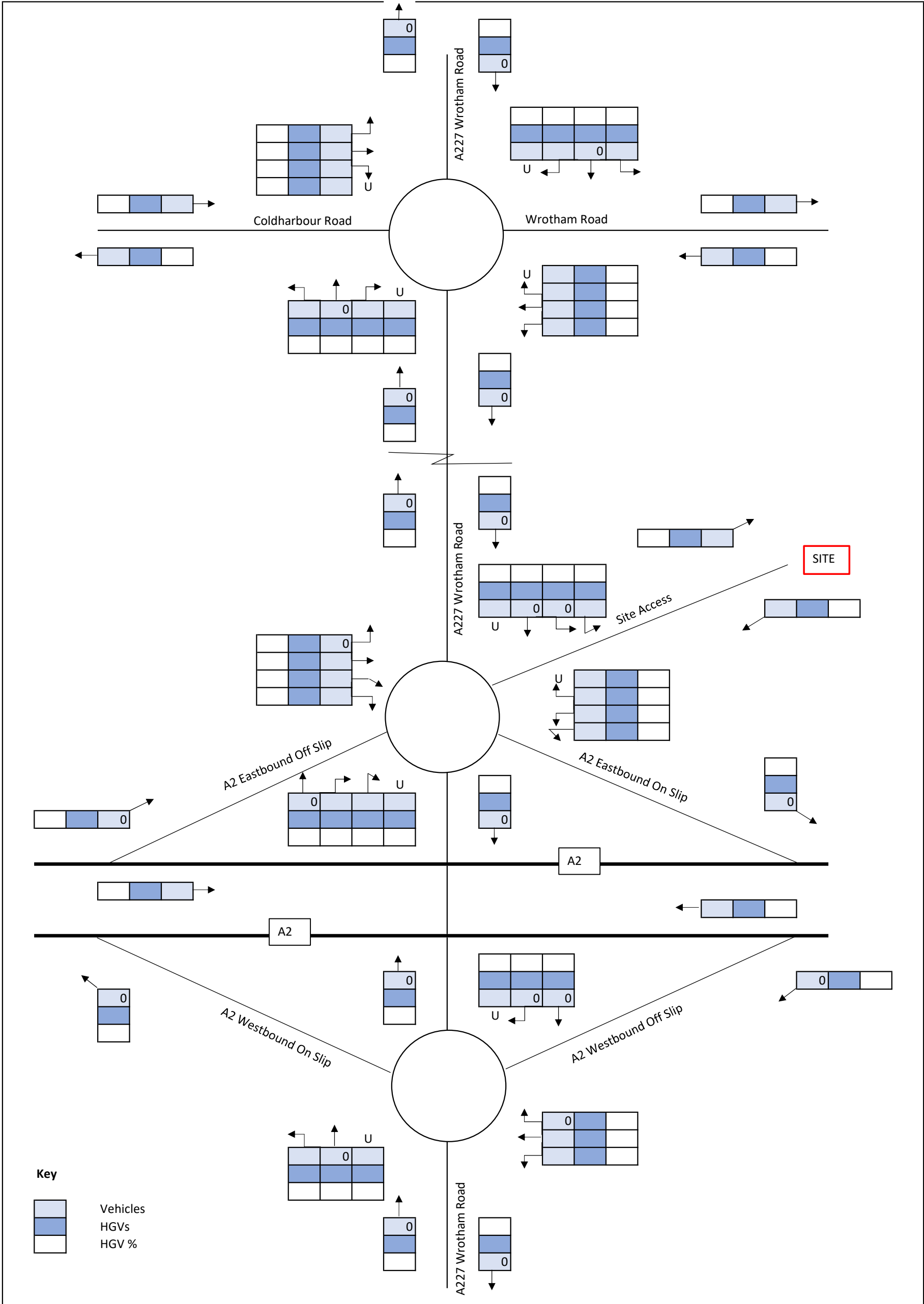


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 28 Comm Dev - Man of Kent AM (20201225) Future Year (2028)	Job No: 22052
		Figure No: Figure 110	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 28 Comm Dev - Man of Kent PM (20201225) Future Year (2028)	Job No: 22052
		Figure No: Figure 111	Date: Oct-24





Key



Vehicles
HGVs
HGV %

Notes:

Job Title:
BP Tollgate, Gravesend

Scale:
NTS

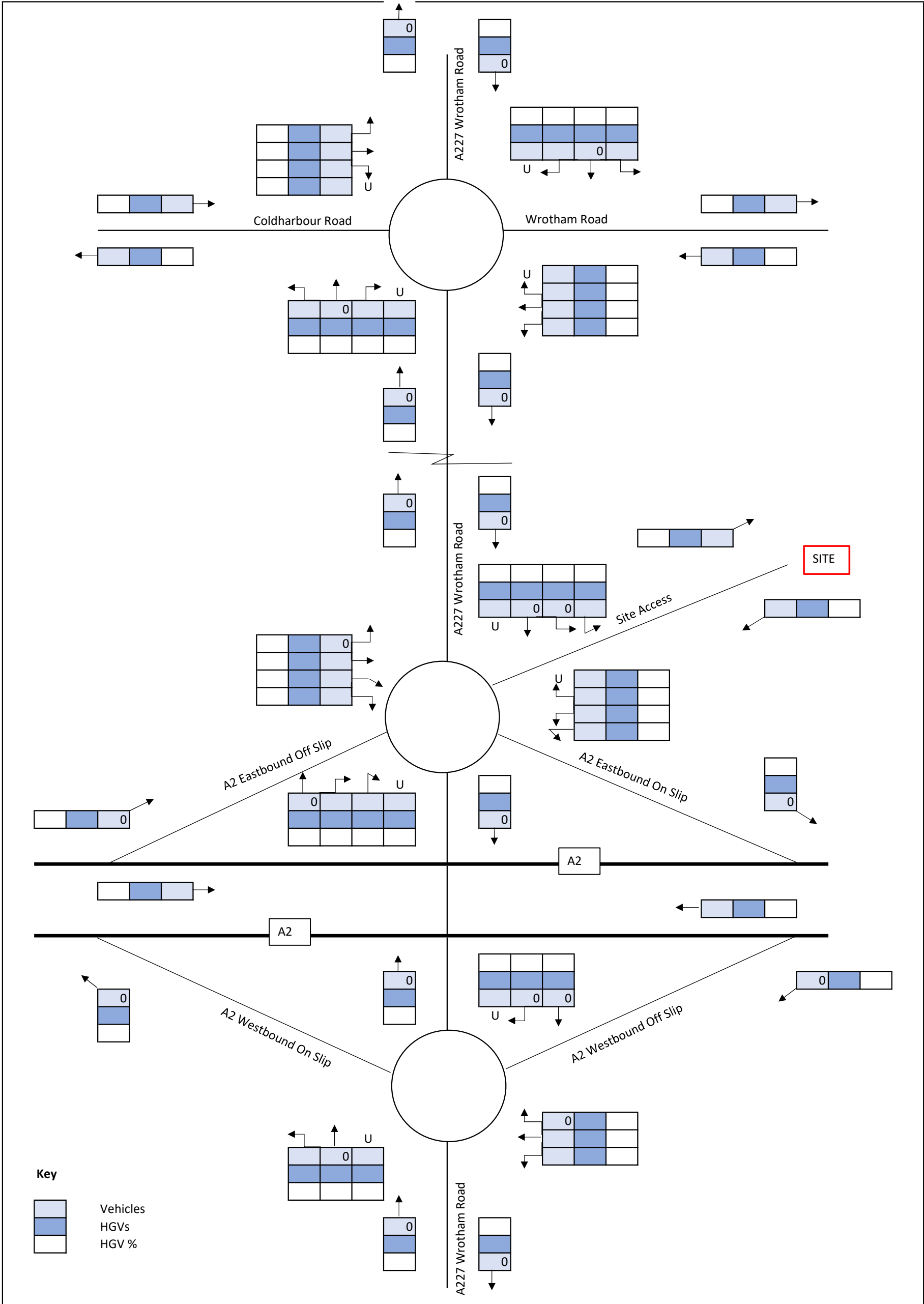
Drawing Title:
Site 29 Comm Dev - Shawline House PM
(20170688) Future Year (2028)

Job No:
22052

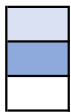
Figure No:
Figure 113

Date:
Oct-24





Key



Vehicles
HGVs
HGV %



Notes:

Job Title:

BP Tollgate, Gravesend

Scale:

NTS

Drawing Title:

Site 30 Comm Dev - Queen St AM
(20210215) Opening Year (2025)

Job No:

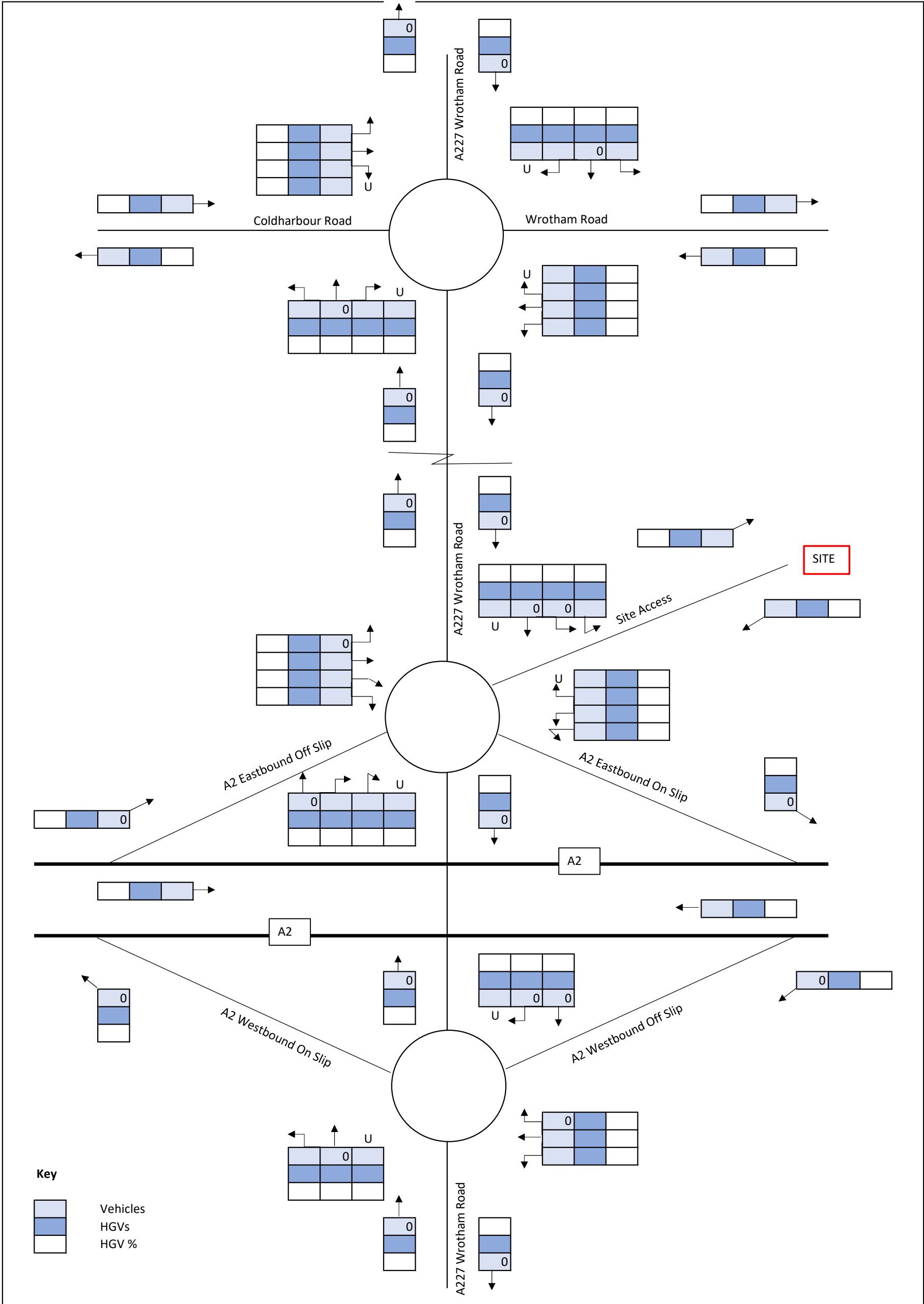
22052

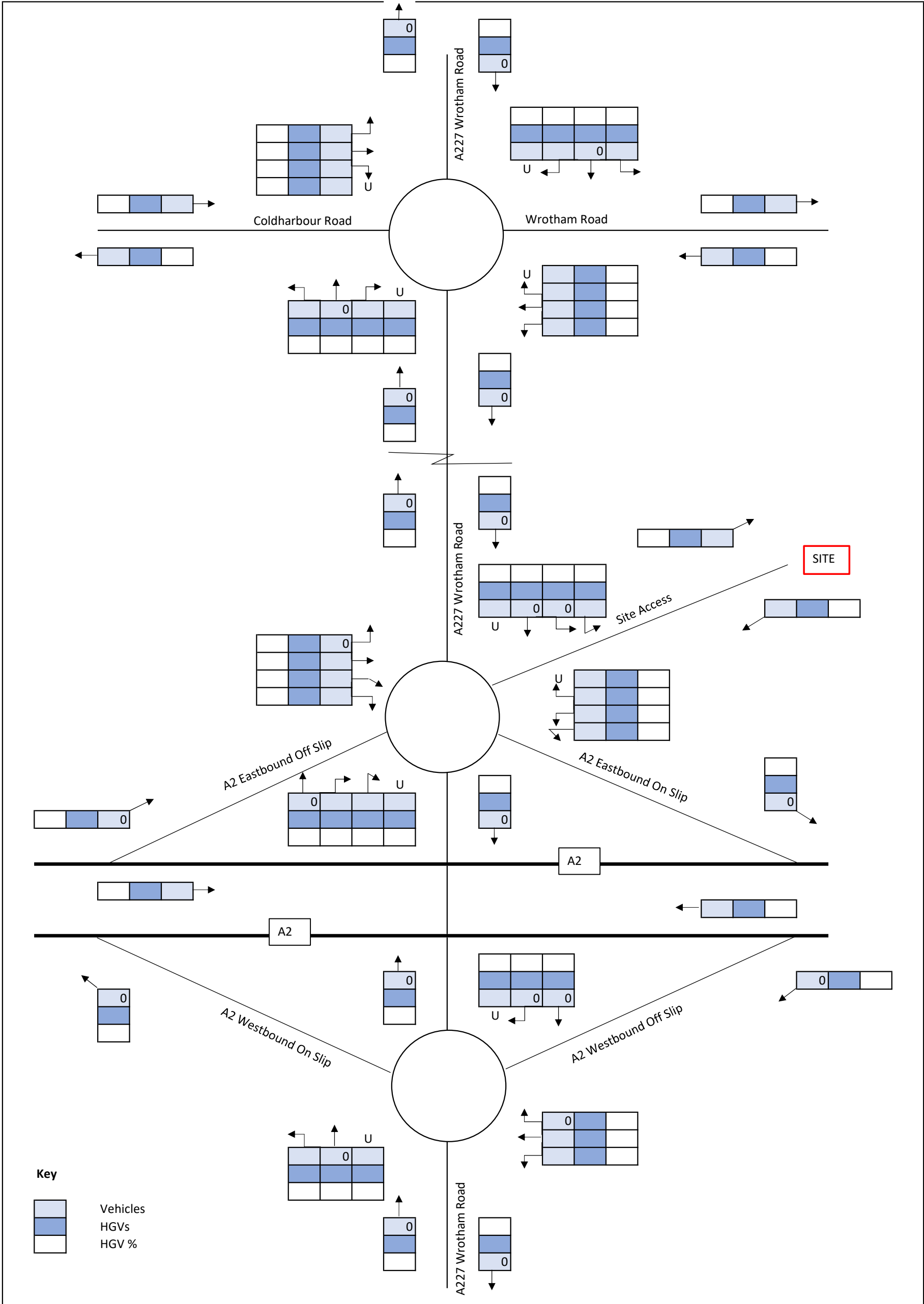
Figure No:

Figure 114

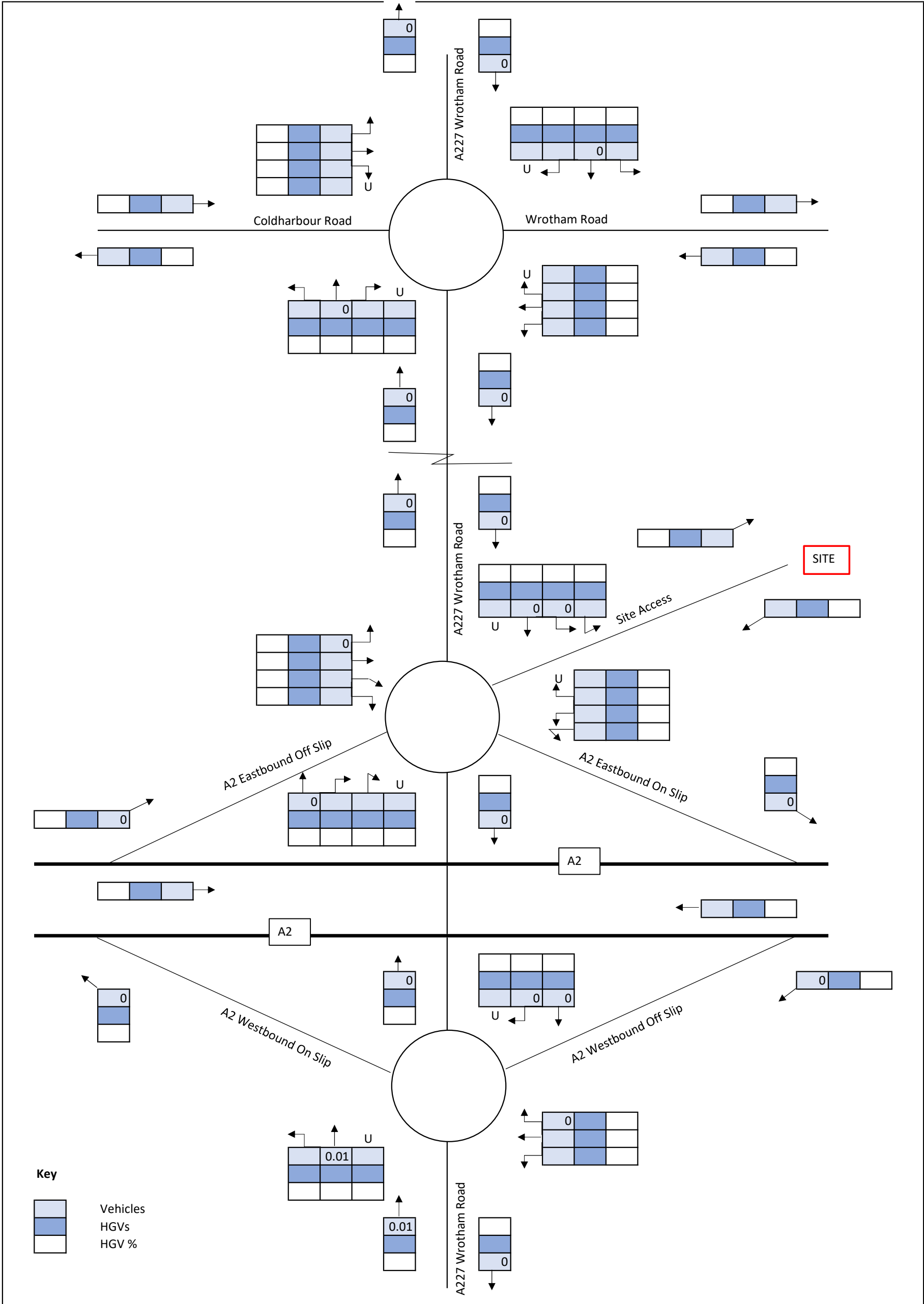
Date:

Oct-24

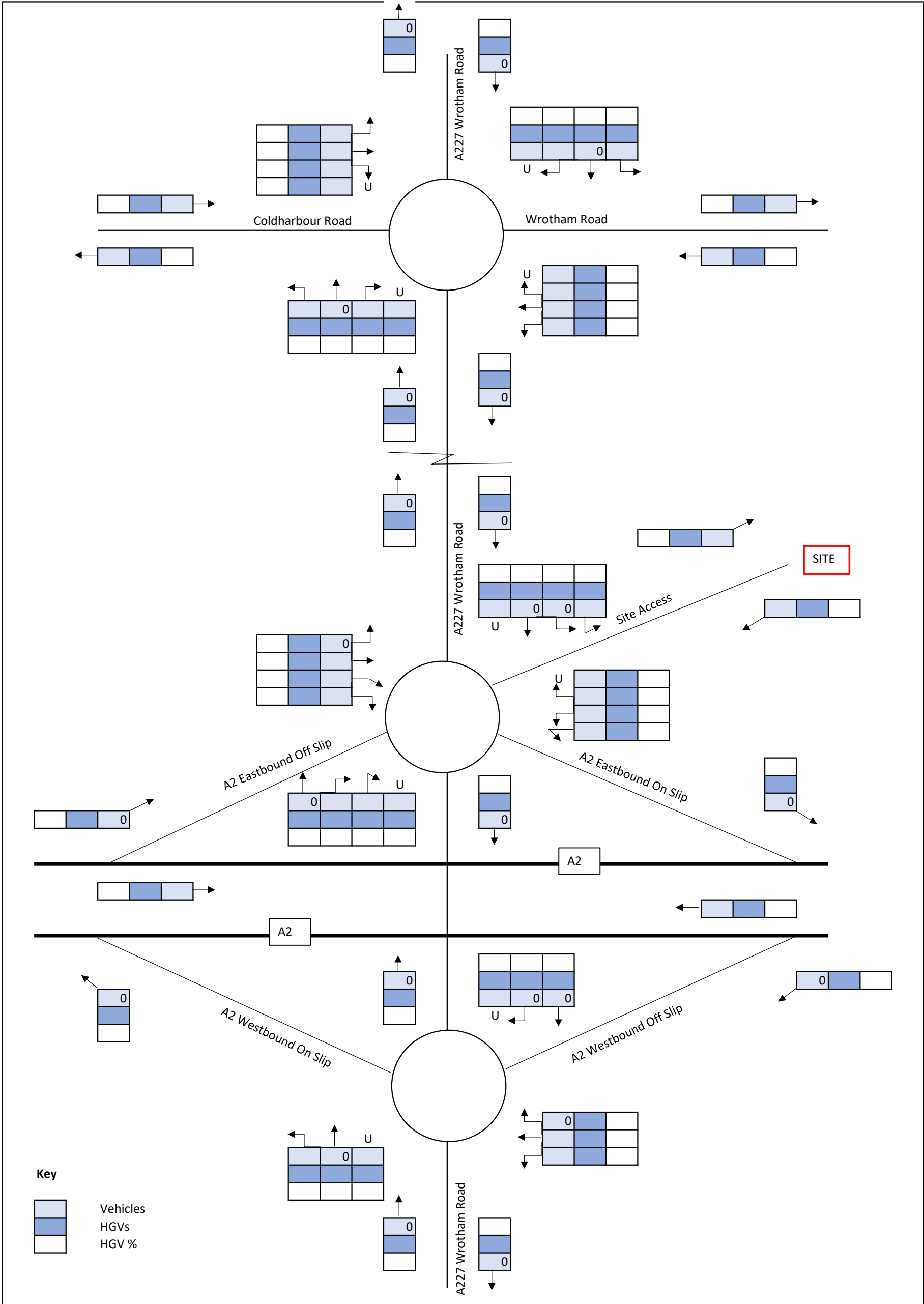


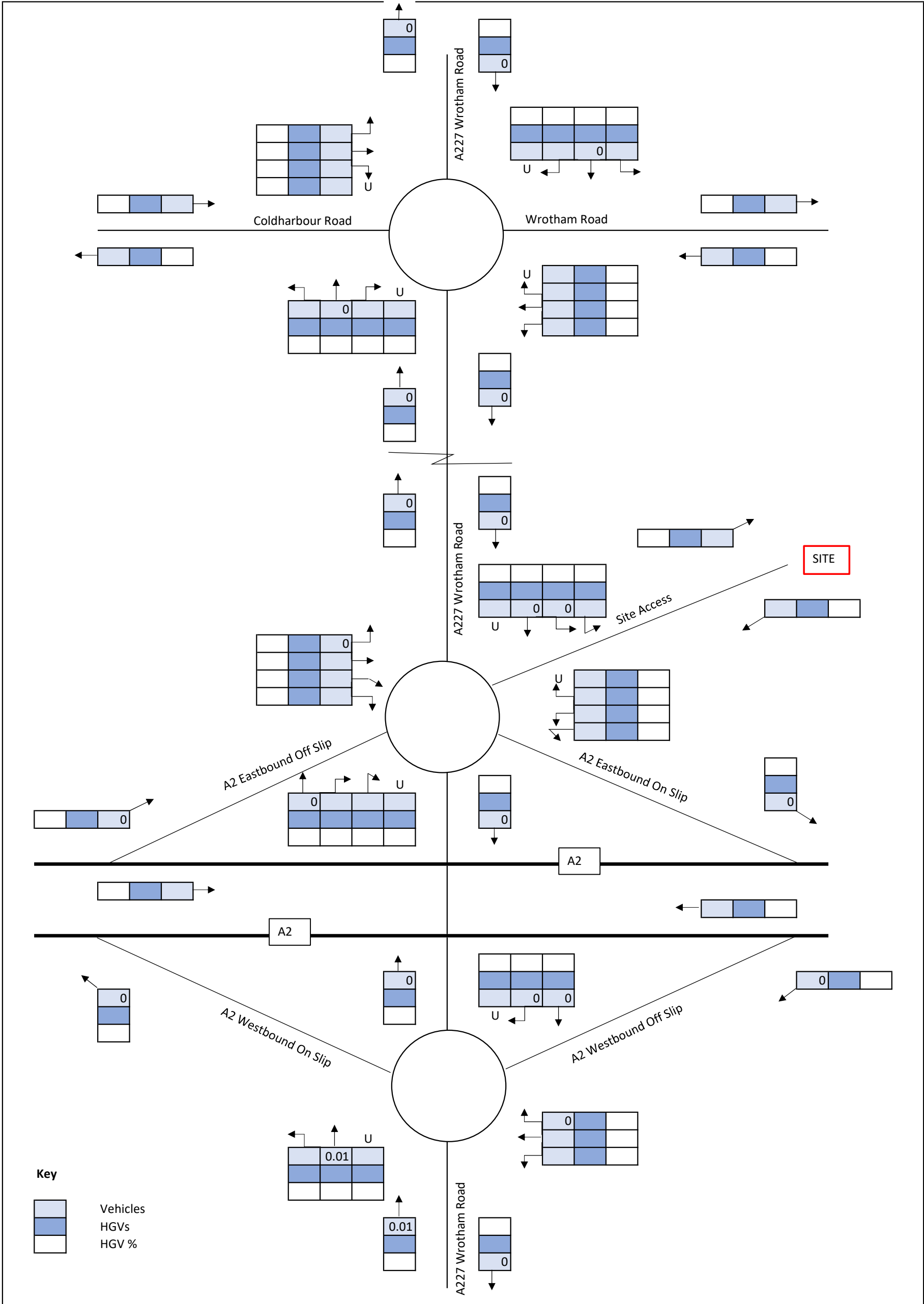


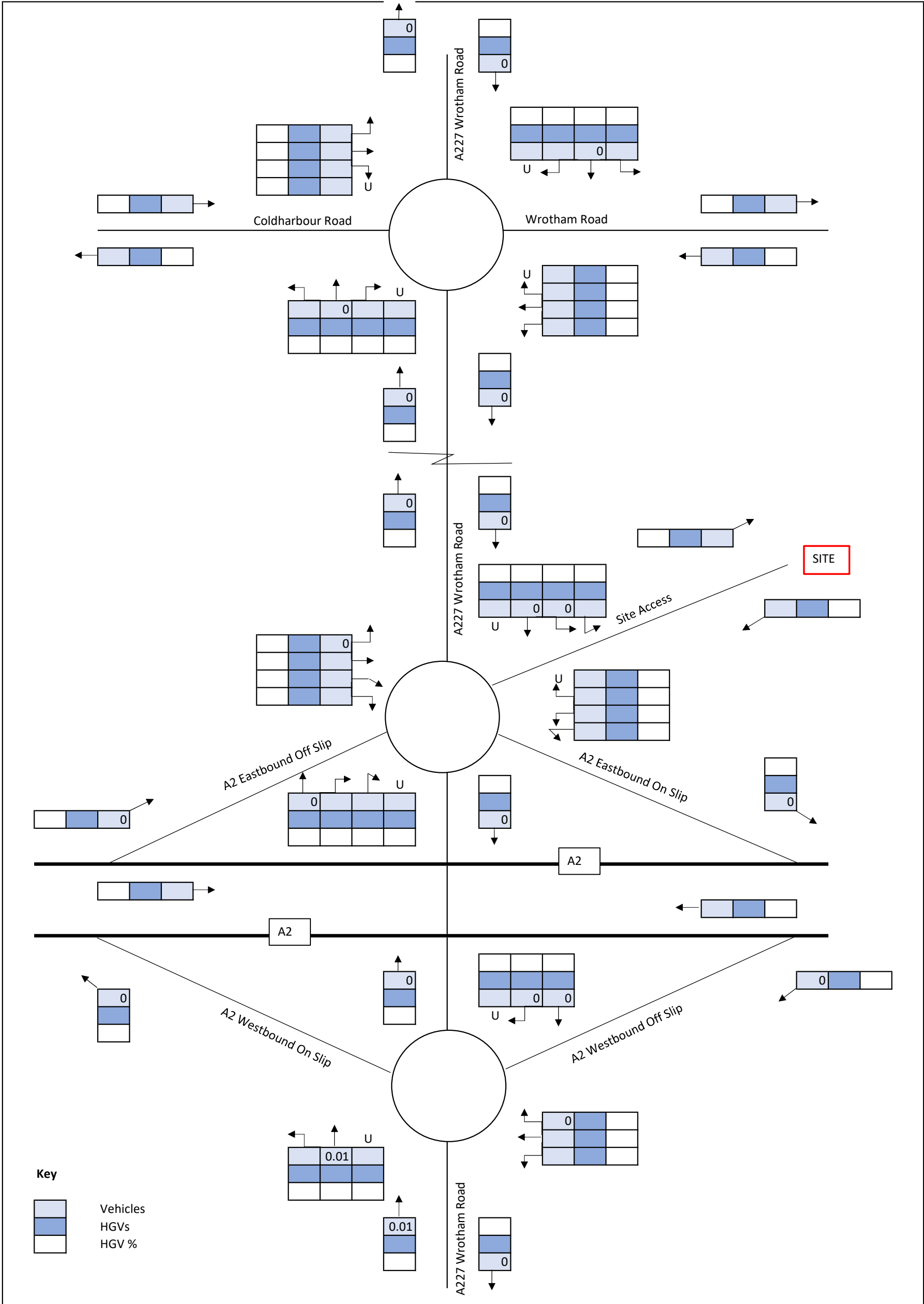
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 30 Comm Dev - Queen St AM (20210215) Future Year (2028)	Job No: 22052
		Figure No: Figure 116	Date: Oct-24

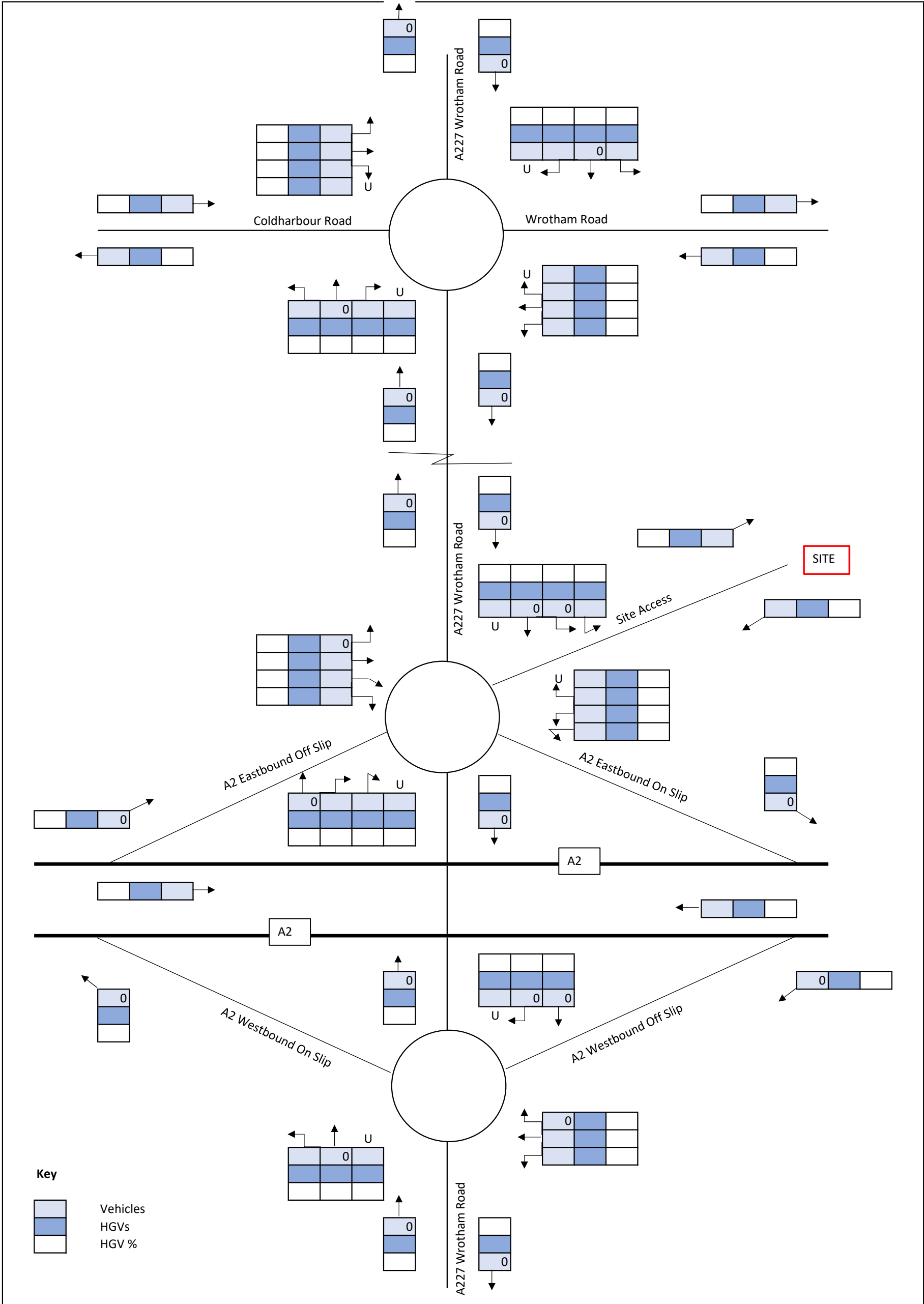


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 30 Comm Dev - Queen St PM (20210215) Future Year (2028)	Job No: 22052
		Figure No: Figure 117	Date: Oct-24

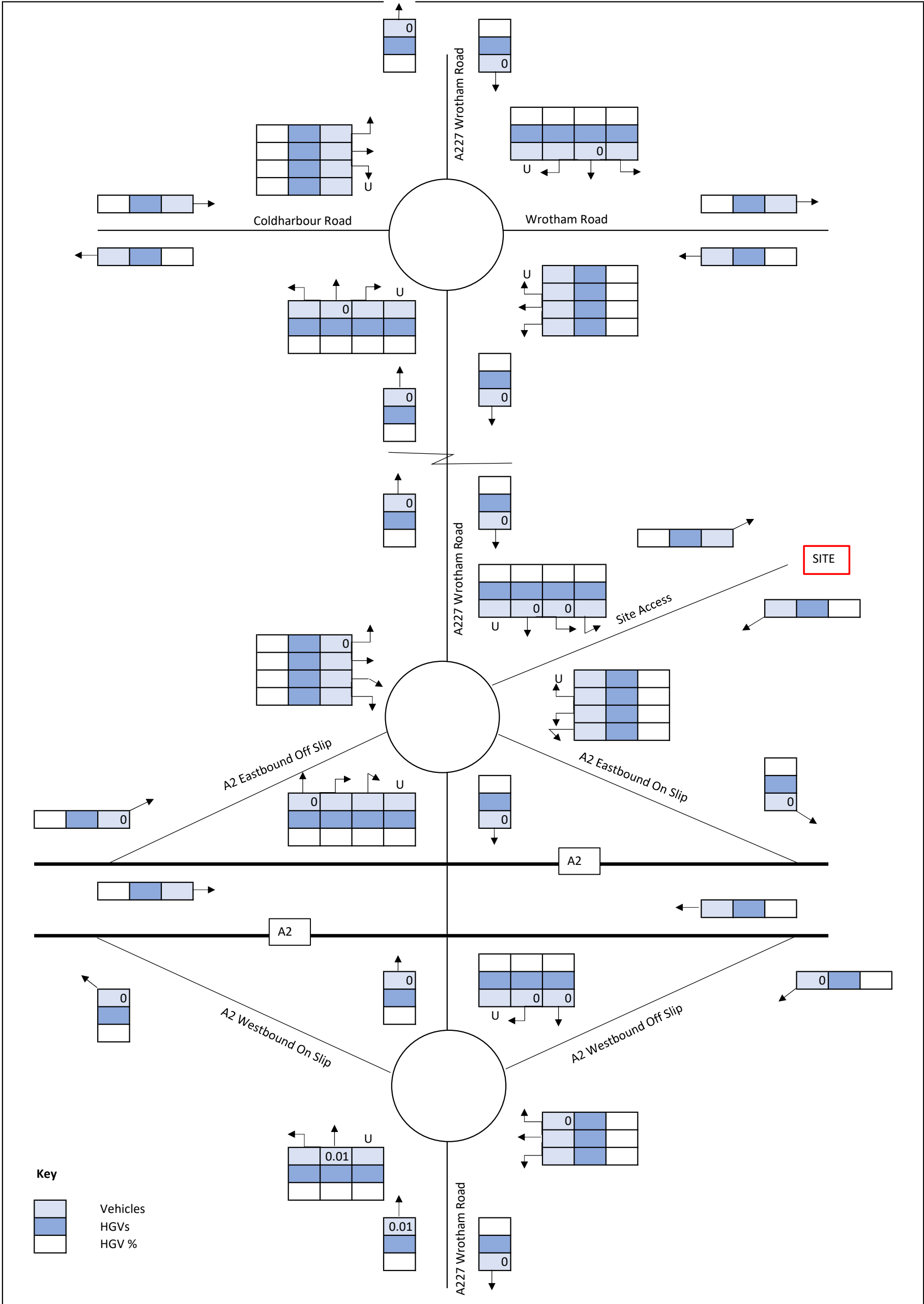




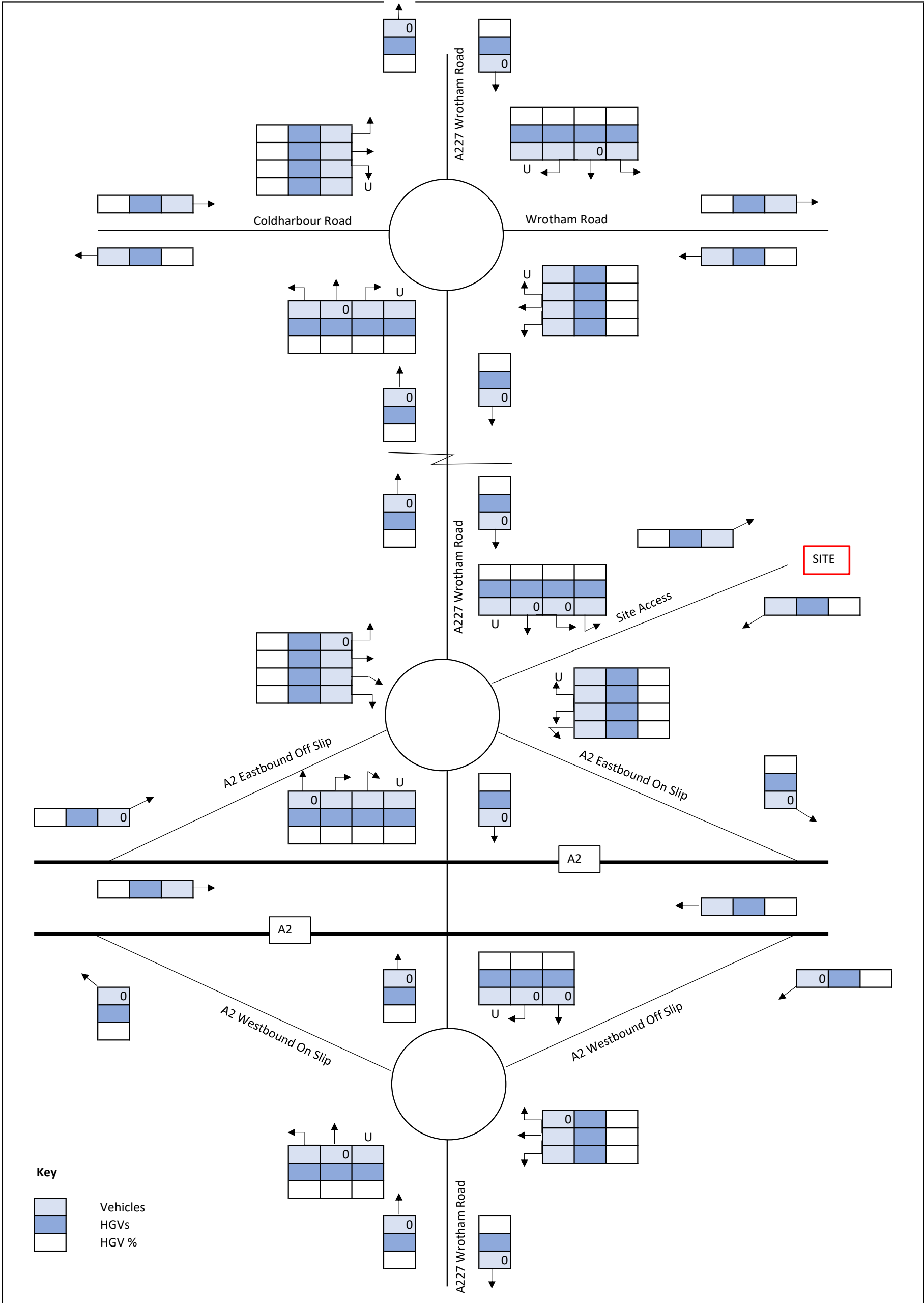




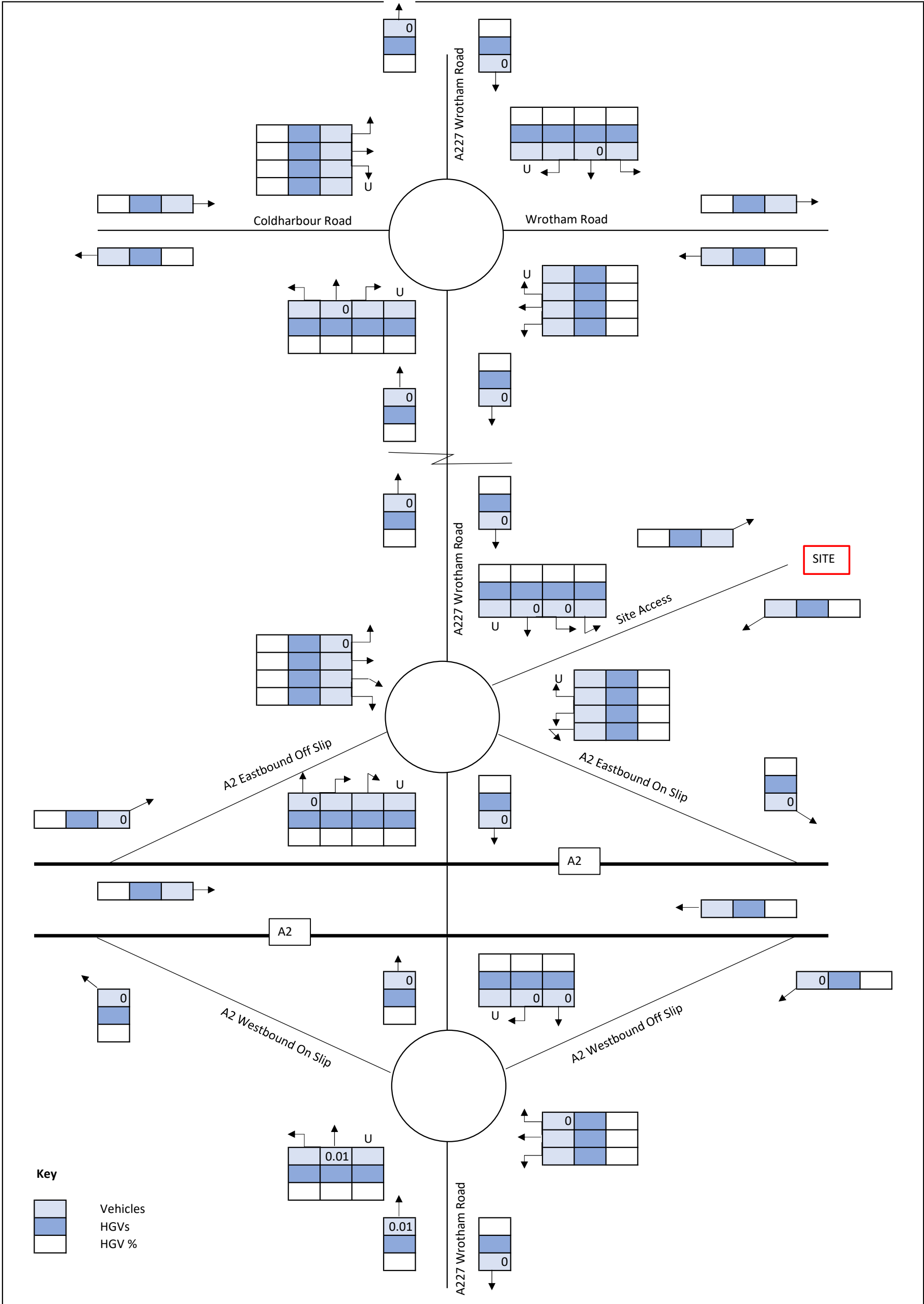
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 33 Comm Dev - 31-33 High St AM (20200302) Opening Year (2025)	Job No: 22052
		Figure No: Figure 122	Date: Oct-24



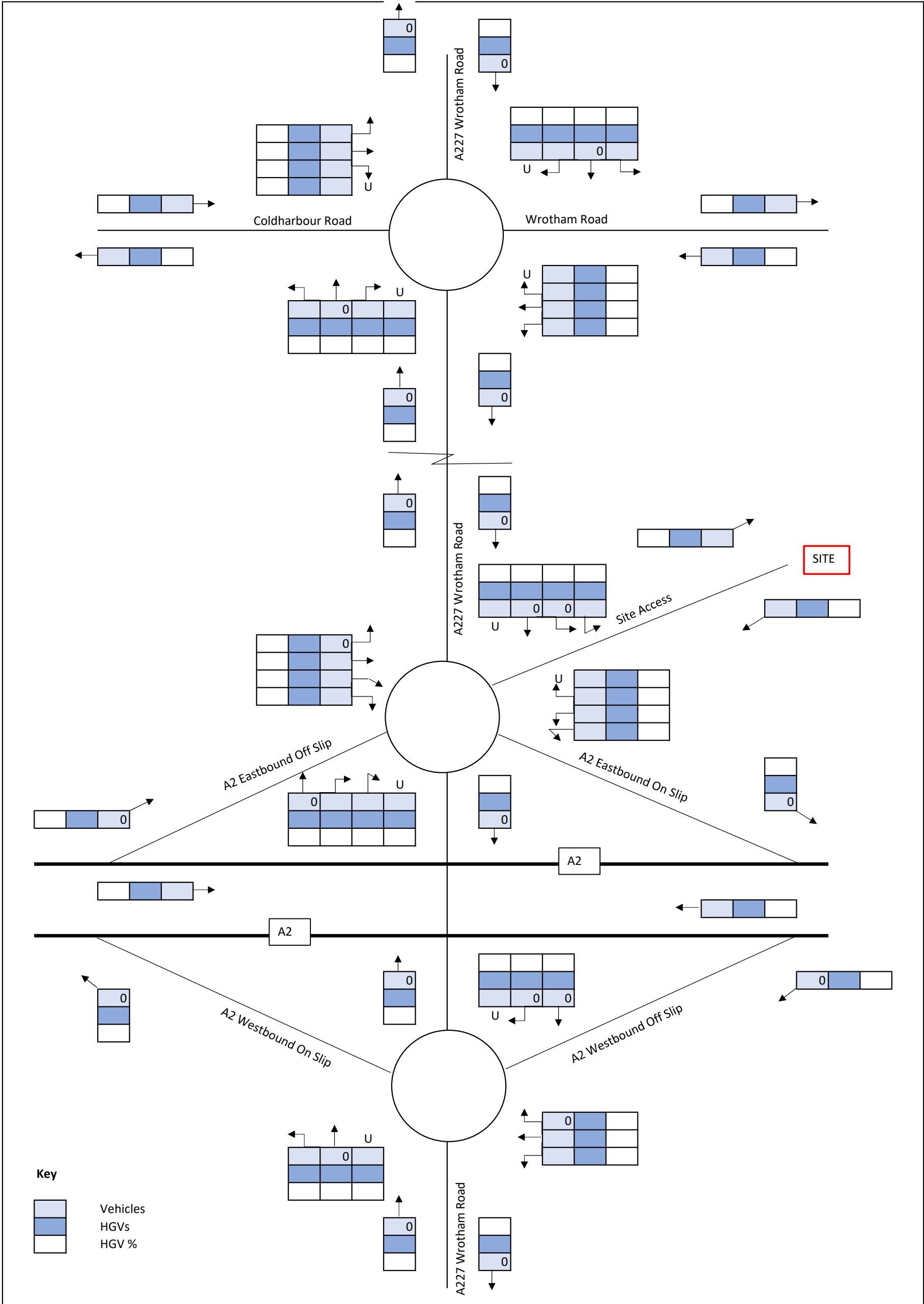
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 33 Comm Dev - 31-33 High St PM (20200302) Opening Year (2025)	Job No: 22052
		Figure No: Figure 123	Date: Oct-24



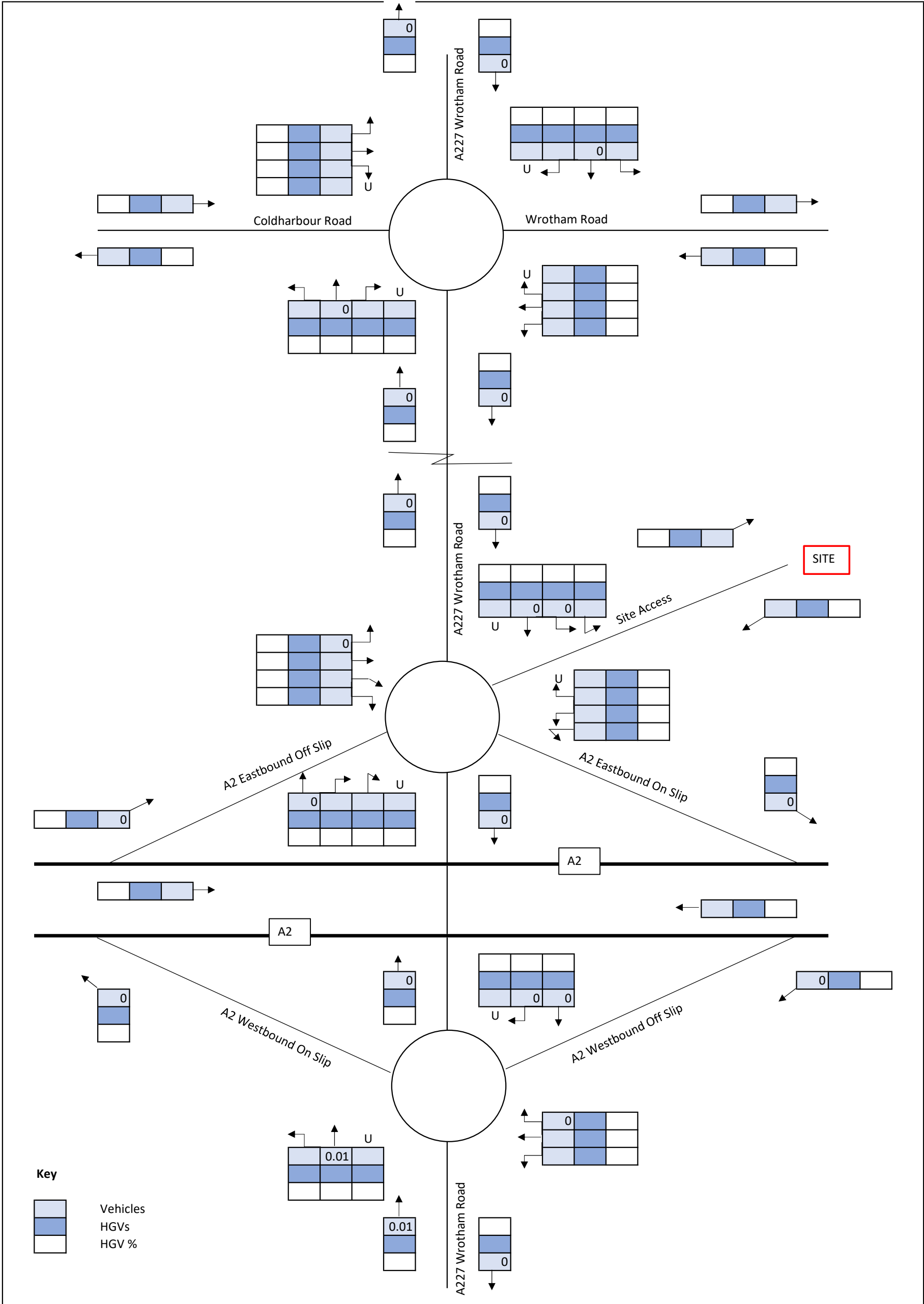
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 33 Comm Dev - 31-33 High St AM (20200302) Future Year (2028)	Job No: 22052
		Figure No: Figure 124	Date: Oct-24



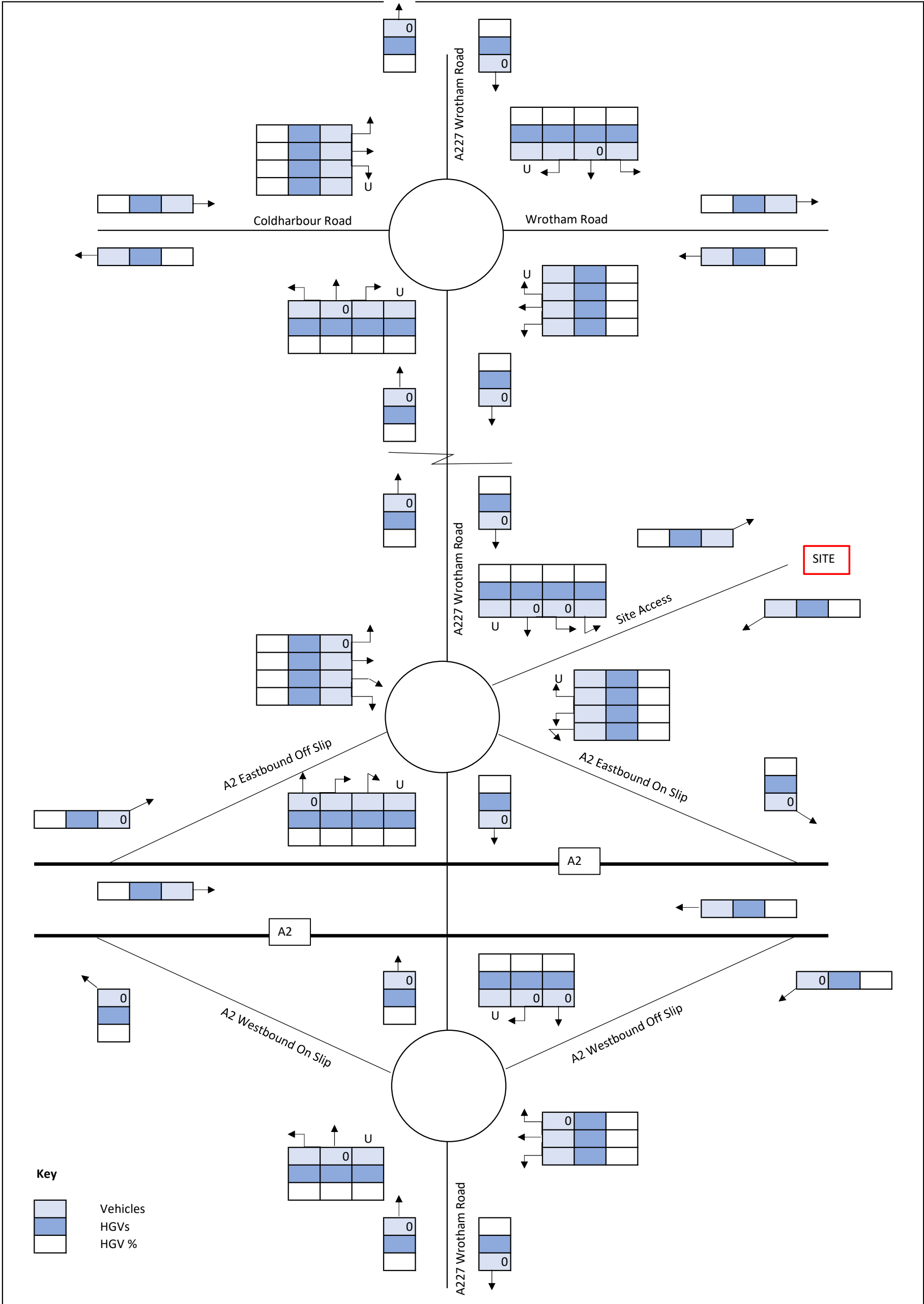
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 33 Comm Dev - 31-33 High St PM (20200302) Future Year (2028)	Job No: 22052
		Figure No: Figure 125	Date: Oct-24



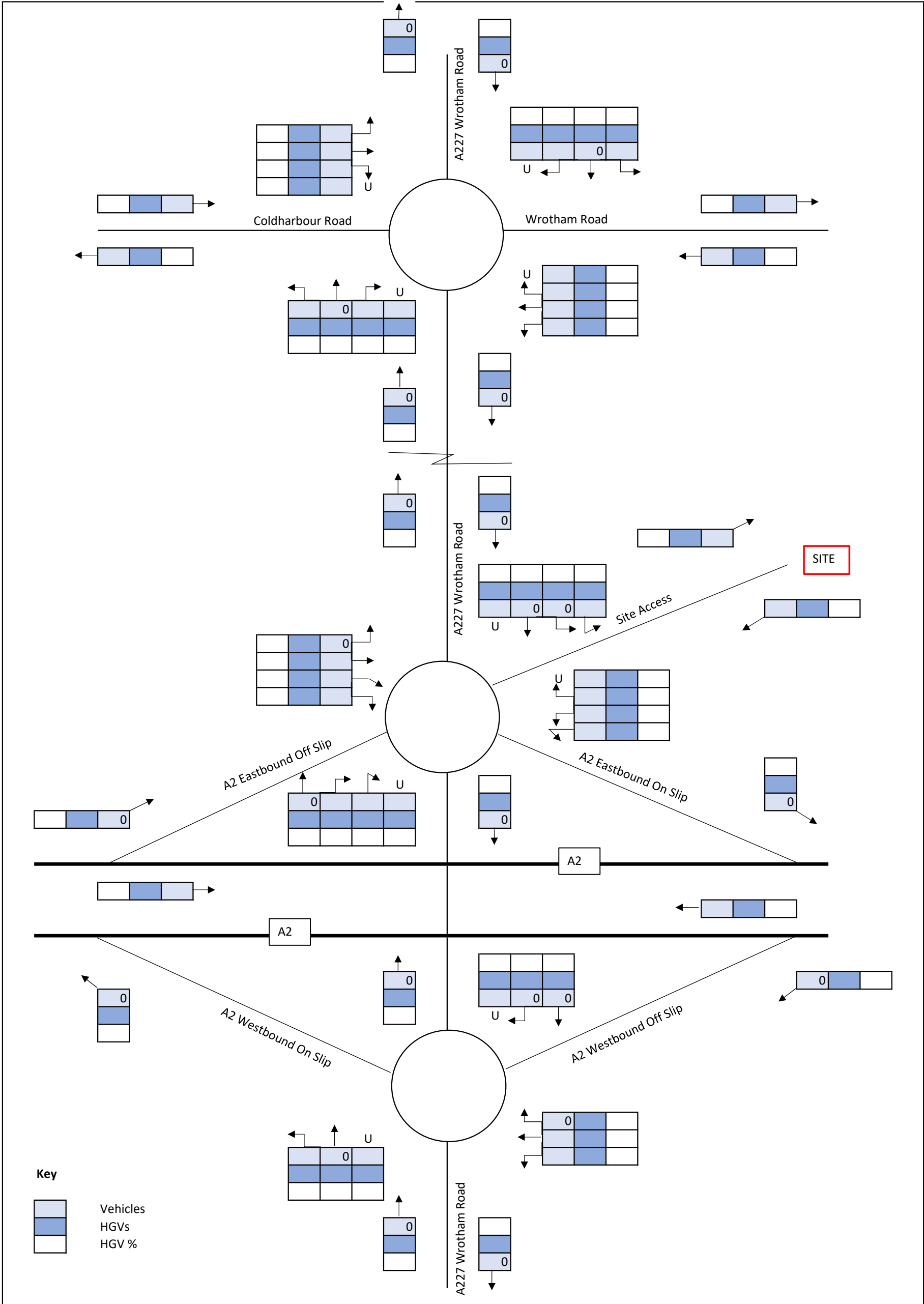
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 34 Comm Dev - St Johns Amb AM (20200561) Opening Year (2025)	Job No: 22052
		Figure No: Figure 126	Date: Oct-24

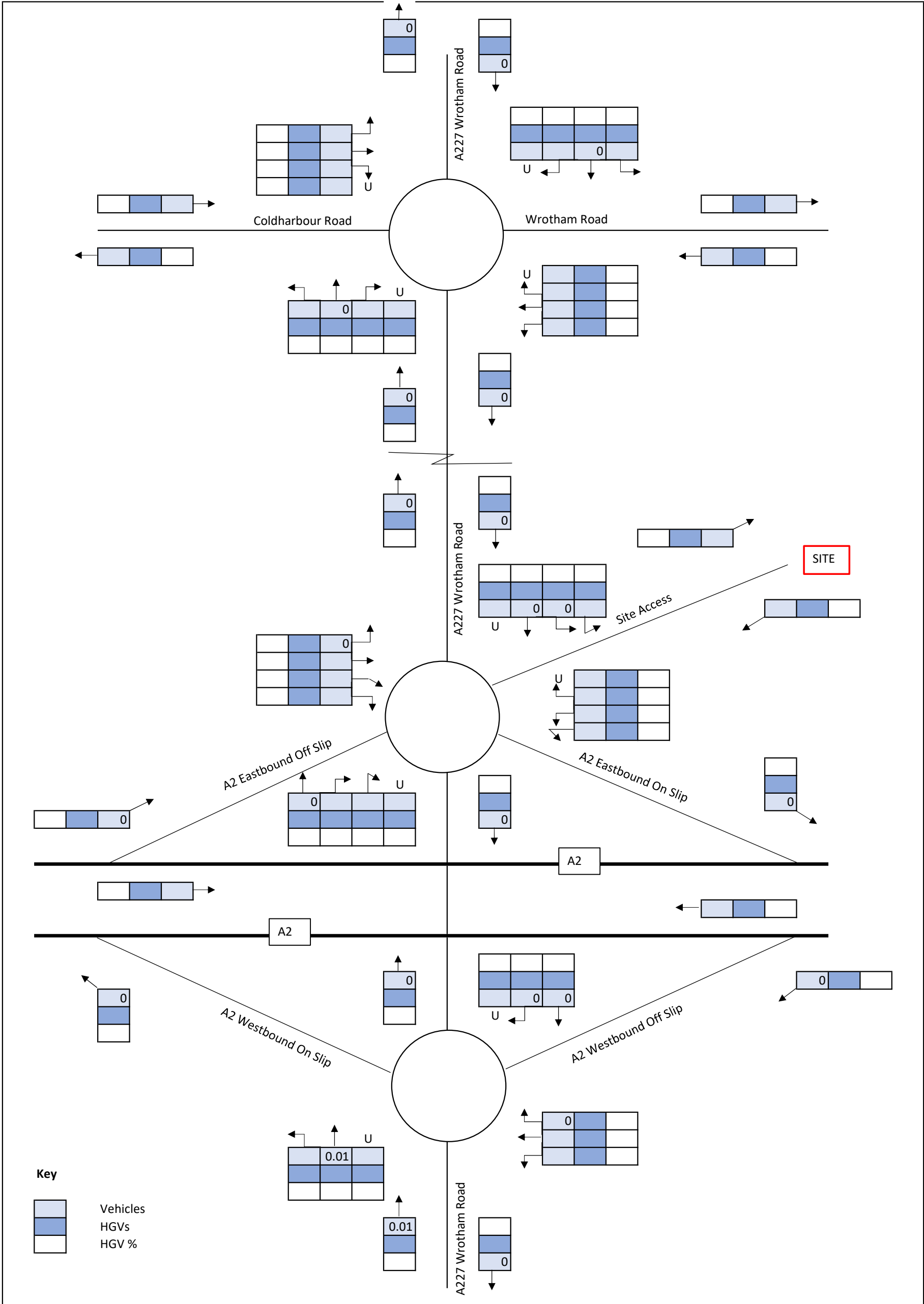


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 34 Comm Dev - St Johns Amb PM (20200561) Opening Year (2025)	Job No: 22052
		Figure No: Figure 127	Date: Oct-24



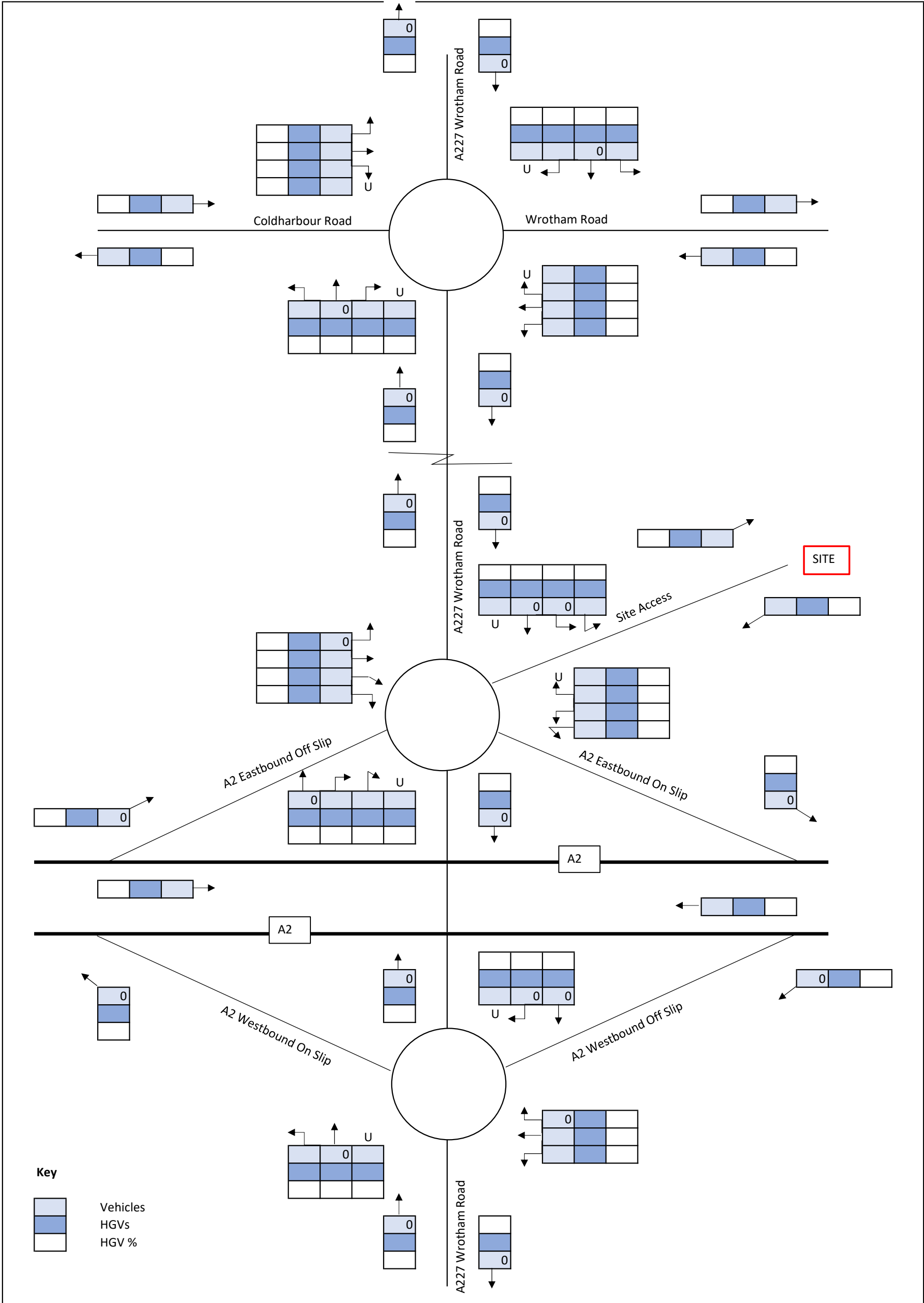
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 34 Comm Dev - St Johns Amb AM (20200561) Future Year (2028)	Job No: 22052
		Figure No: Figure 128	Date: Oct-24



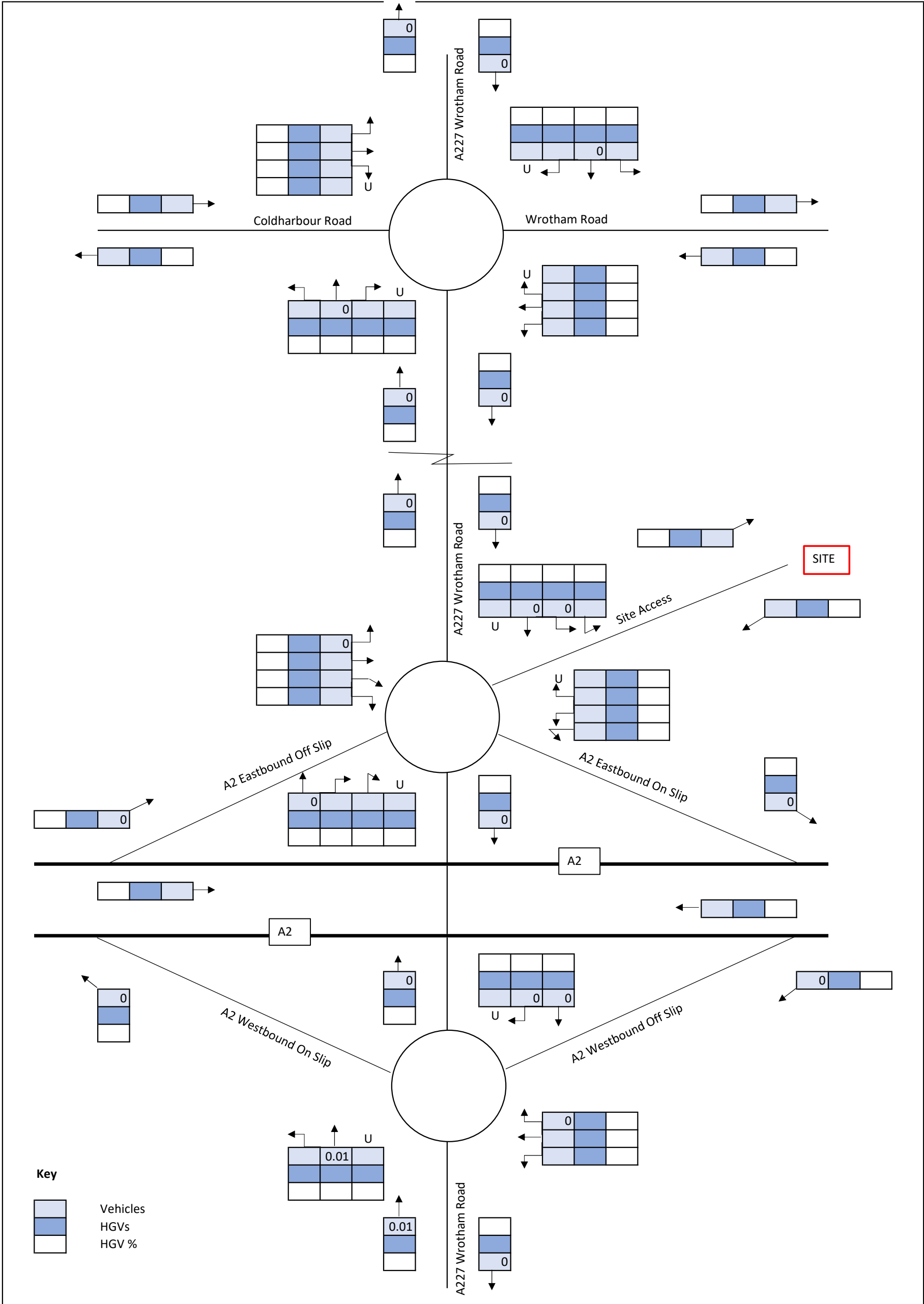


Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 36 Comm Dev - 27-28 High St PM (20200412) Opening Year (2025)	Job No: 22052
Figure No: Figure 131	Date: Oct-24

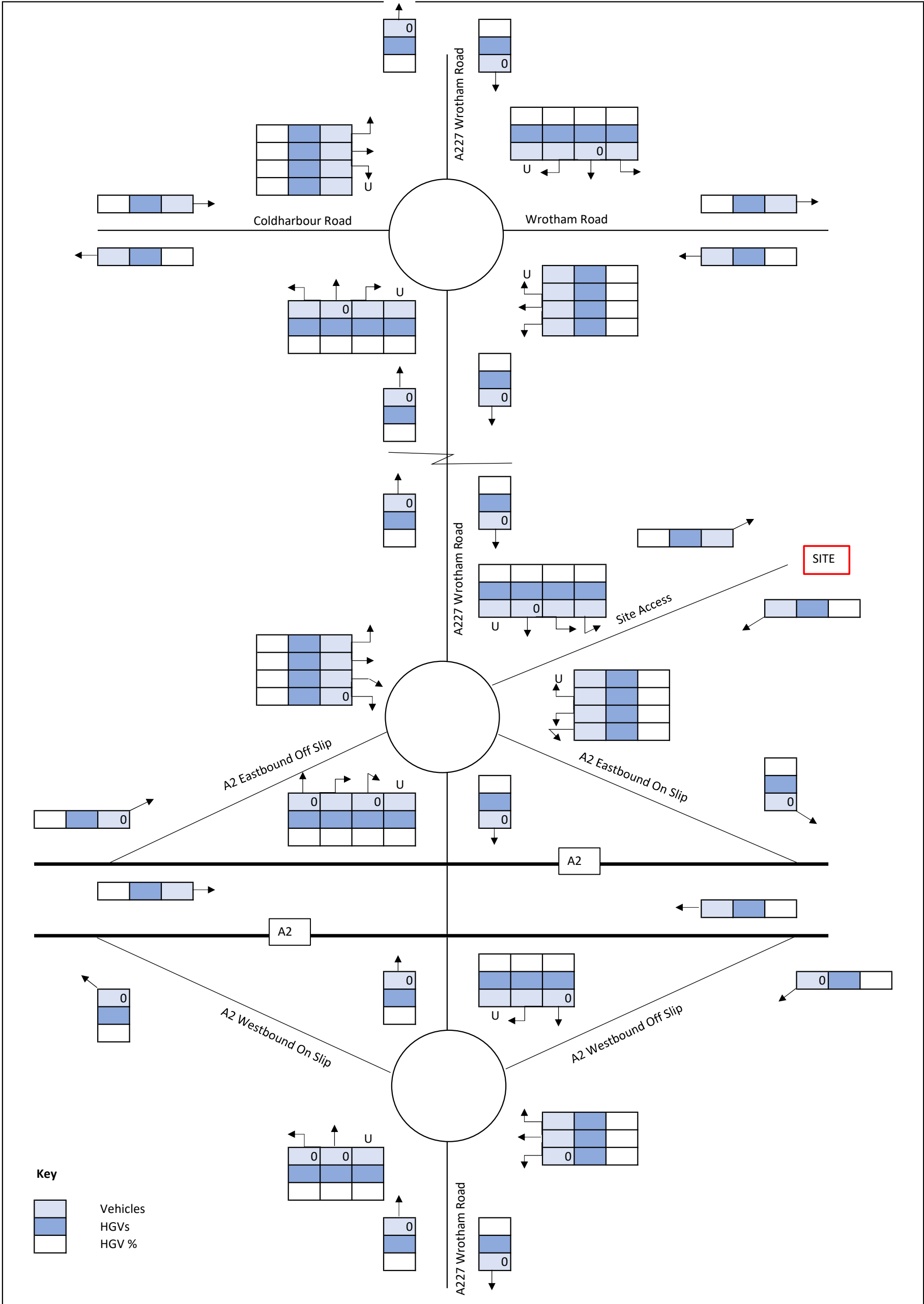


Notes:	Job Title:	Scale:
	BP Tollgate, Gravesend	NTS
	Drawing Title:	Job No:
	Site 36 Comm Dev - 27-28 High St AM (20200412) Future Year (2028)	22052
	Figure No:	Date:
	Figure 132	Oct-24

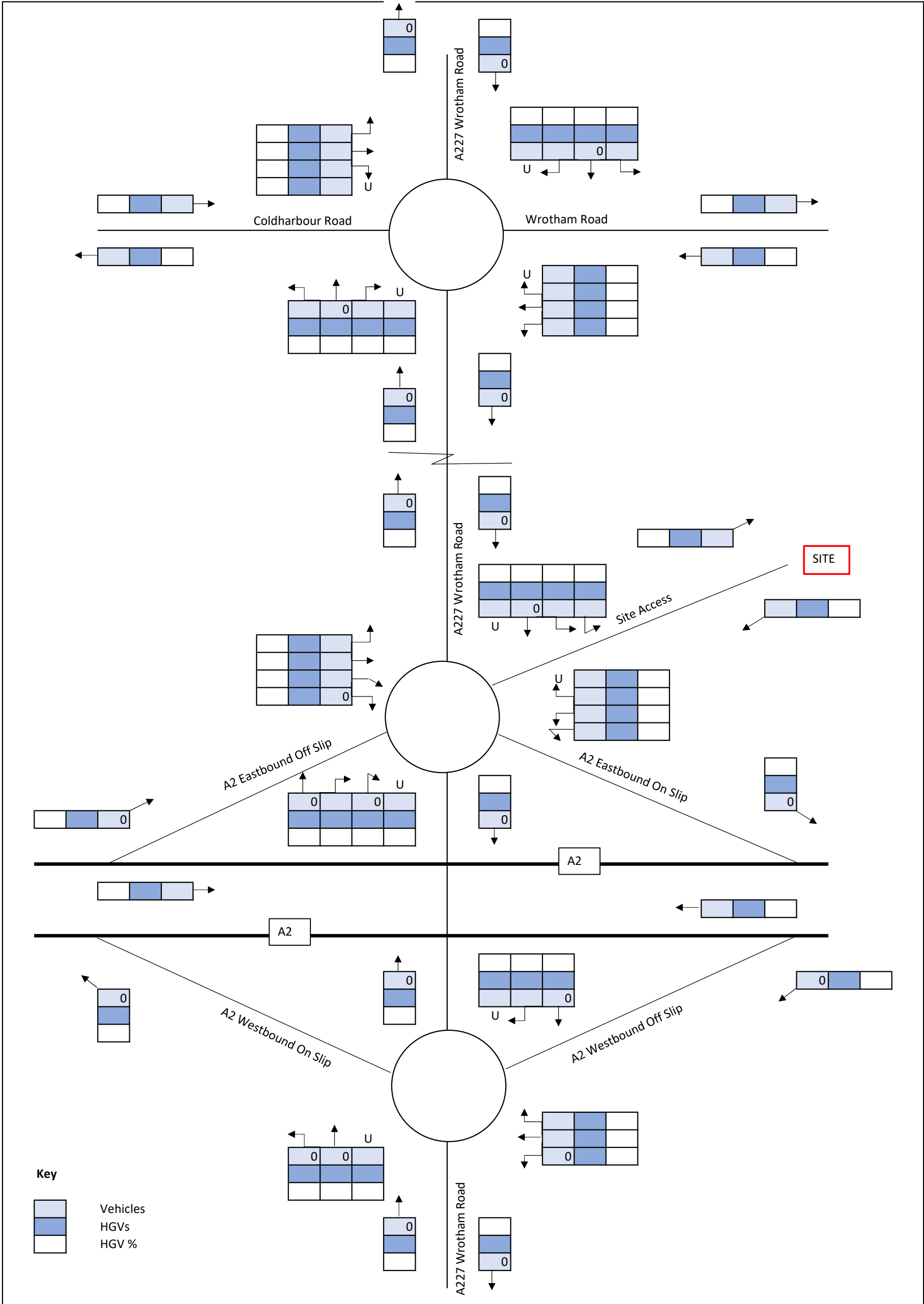


Notes:

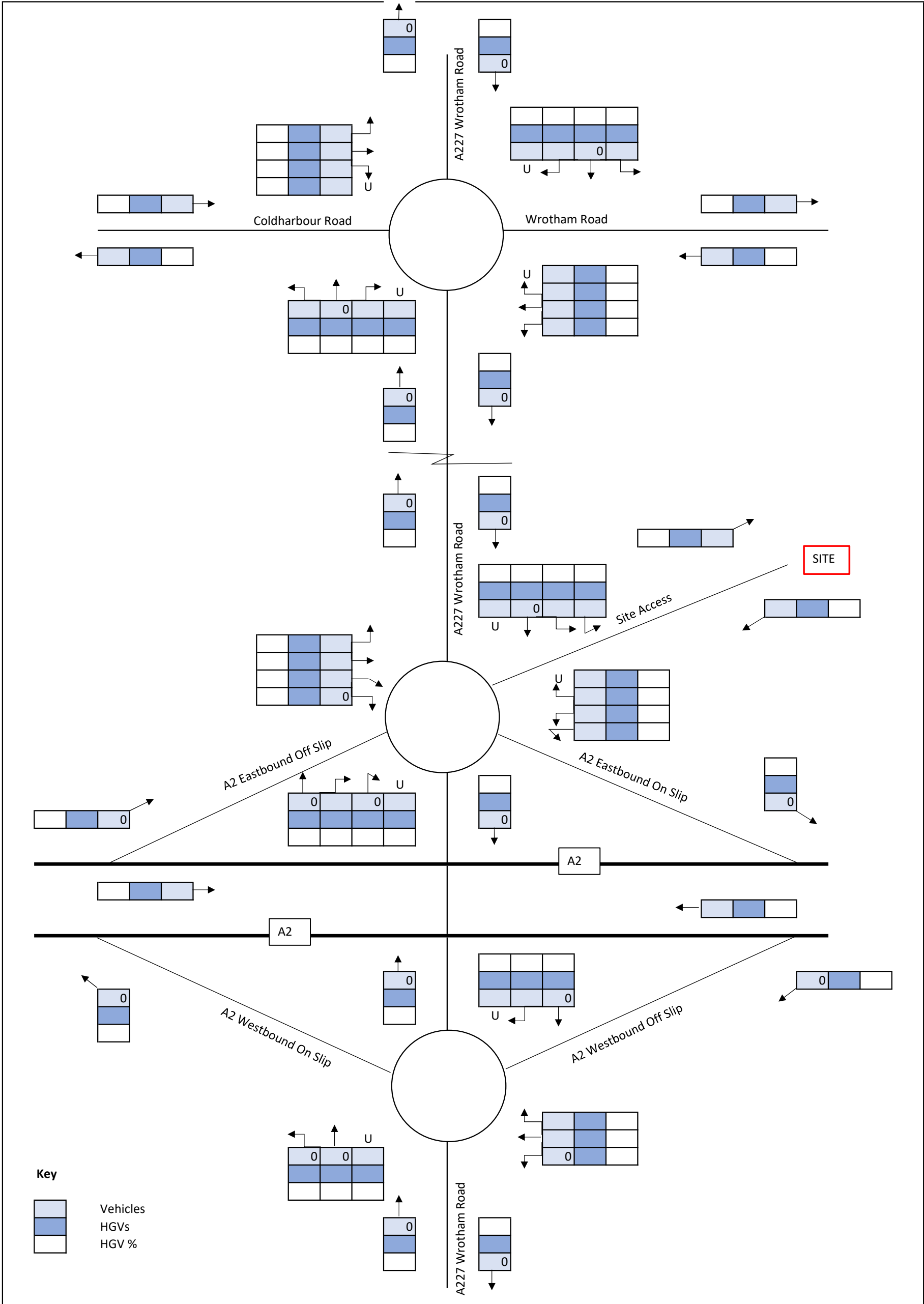
Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 36 Comm Dev - 27-28 High St PM (20200412) Future Year (2028)	Job No: 22052
Figure No: Figure 133	Date: Oct-24



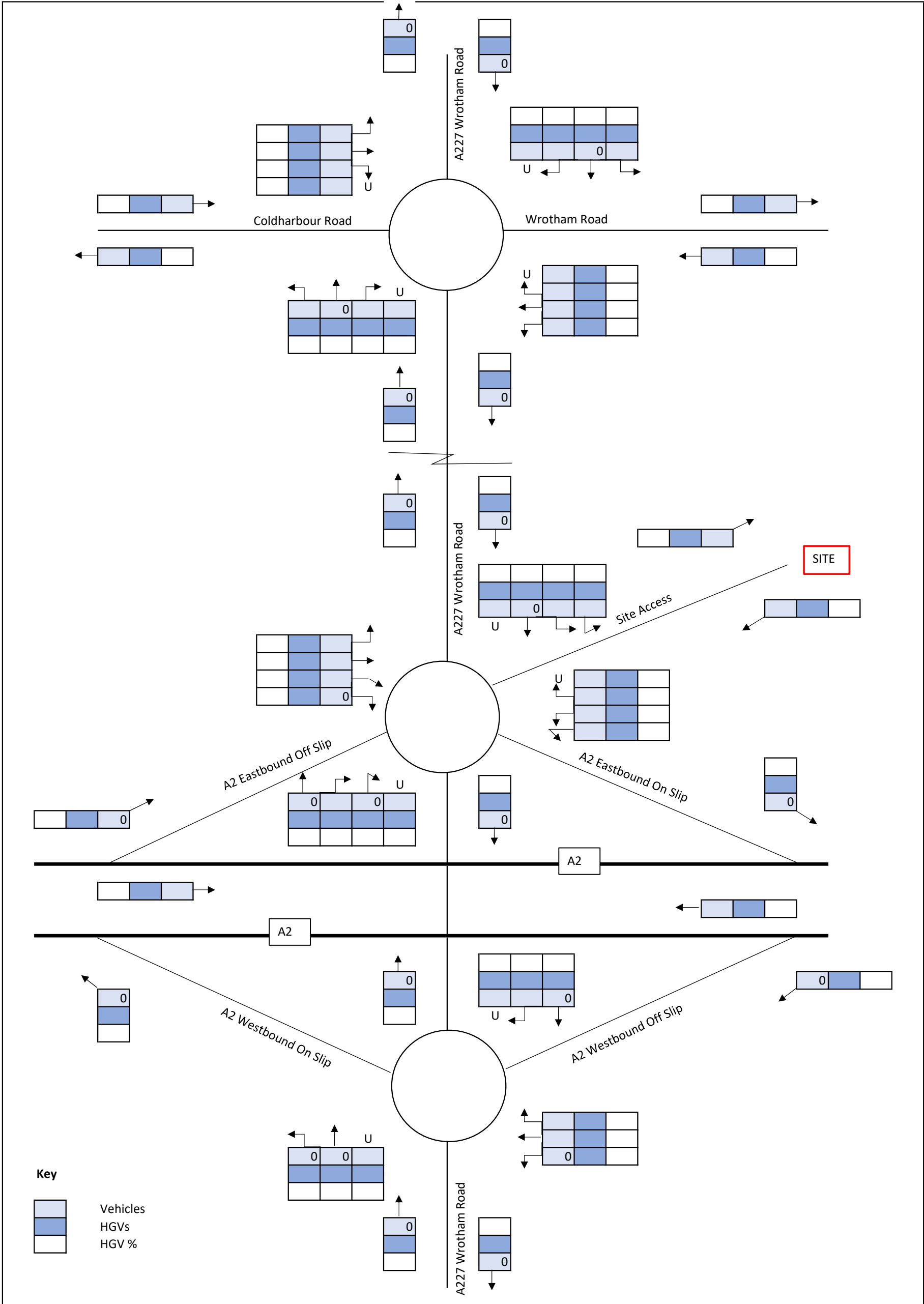
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 37 Comm Dev - Heron Hill AM (20180163) Opening Year (2025)	Job No: 22052
		Figure No: Figure 134	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 37 Comm Dev - Heron Hill PM (20180163) Opening Year (2025)	Job No: 22052
		Figure No: Figure 135	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 37 Comm Dev - Heron Hill AM (20180163) Future Year (2028)	Job No: 22052
		Figure No: Figure 136	Date: Oct-24



Key



Vehicles
HGVs
HGV %

Notes:

Job Title:
BP Tollgate, Gravesend

Scale:
NTS

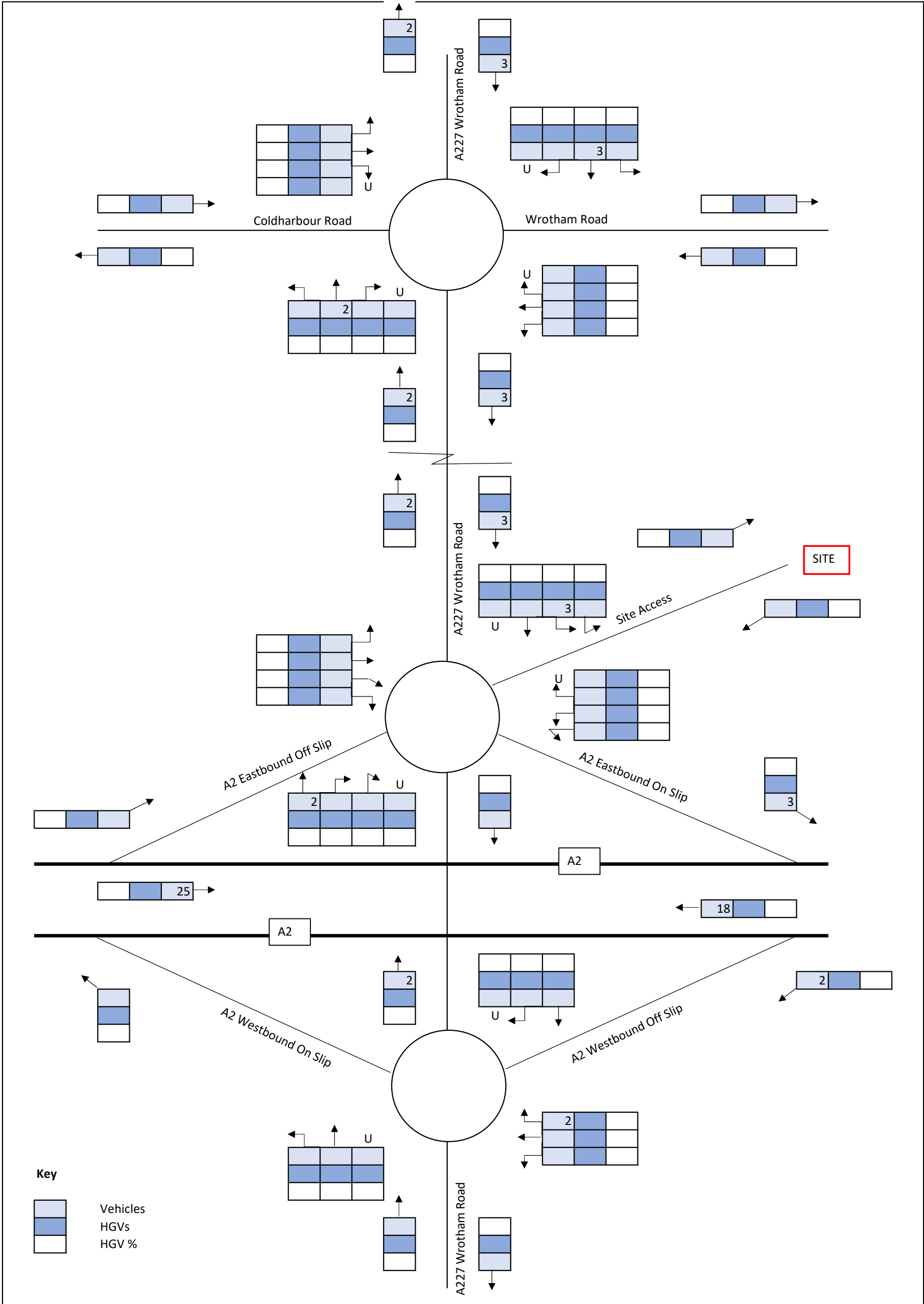
Drawing Title:
Site 37 Comm Dev - Heron Hill PM
(20180163) Future Year (2028)

Job No:
22052

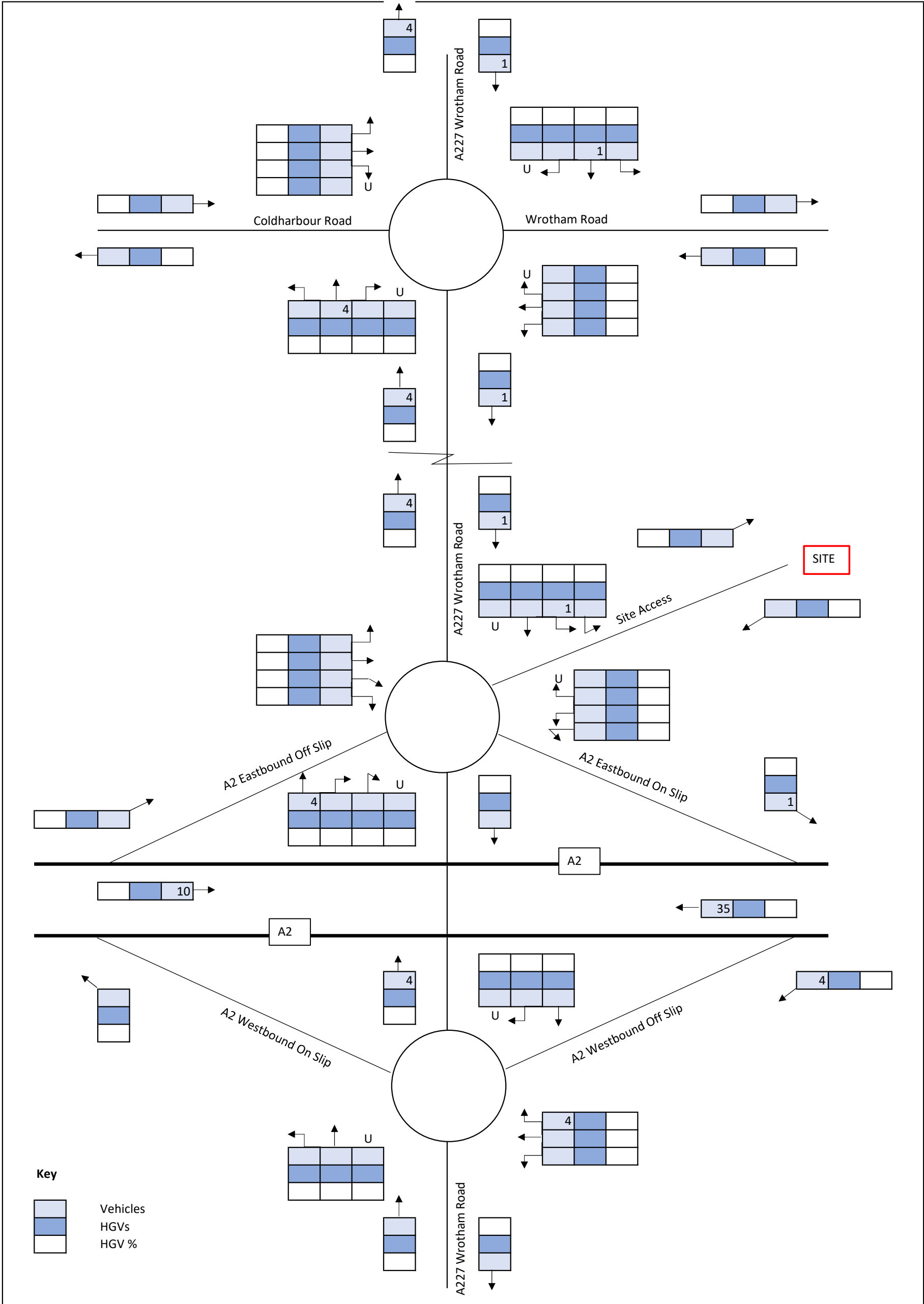
Figure No:
Figure 137

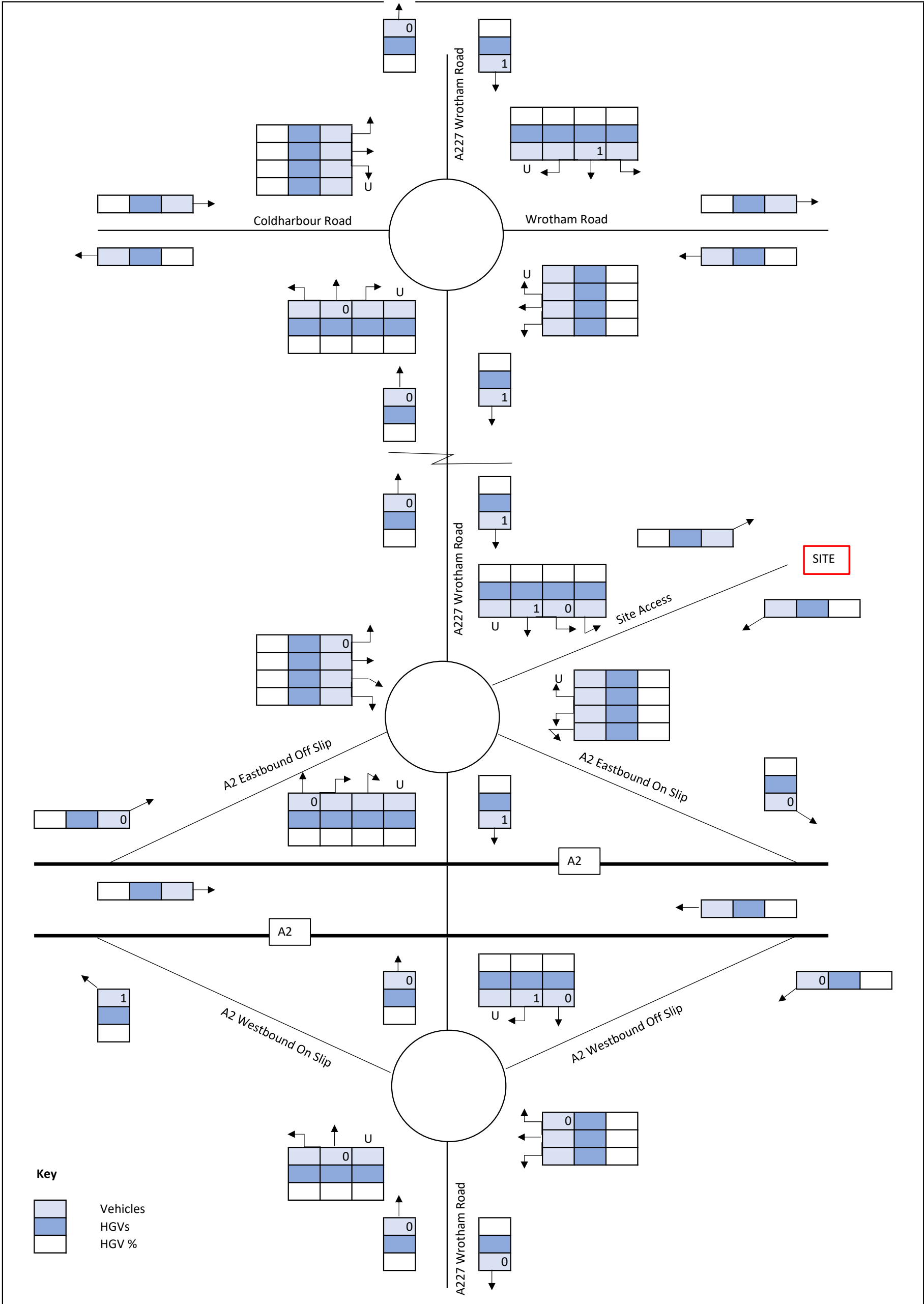
Date:
Oct-24



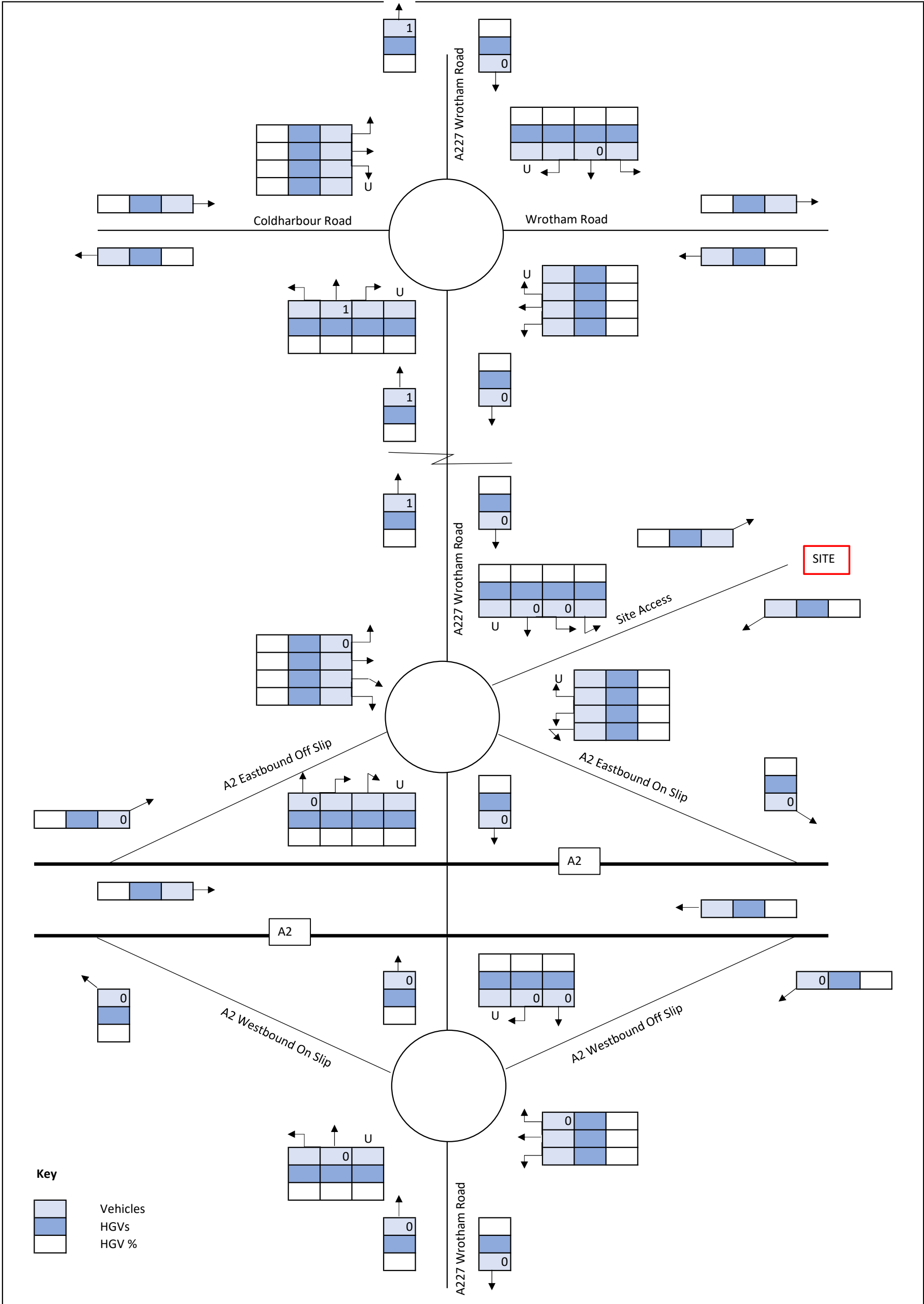


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 39 Comm Dev - Nuralite In Es AM (20190290) Future Year (2028)	Job No: 22052
		Figure No: Figure 138	Date: Oct-24

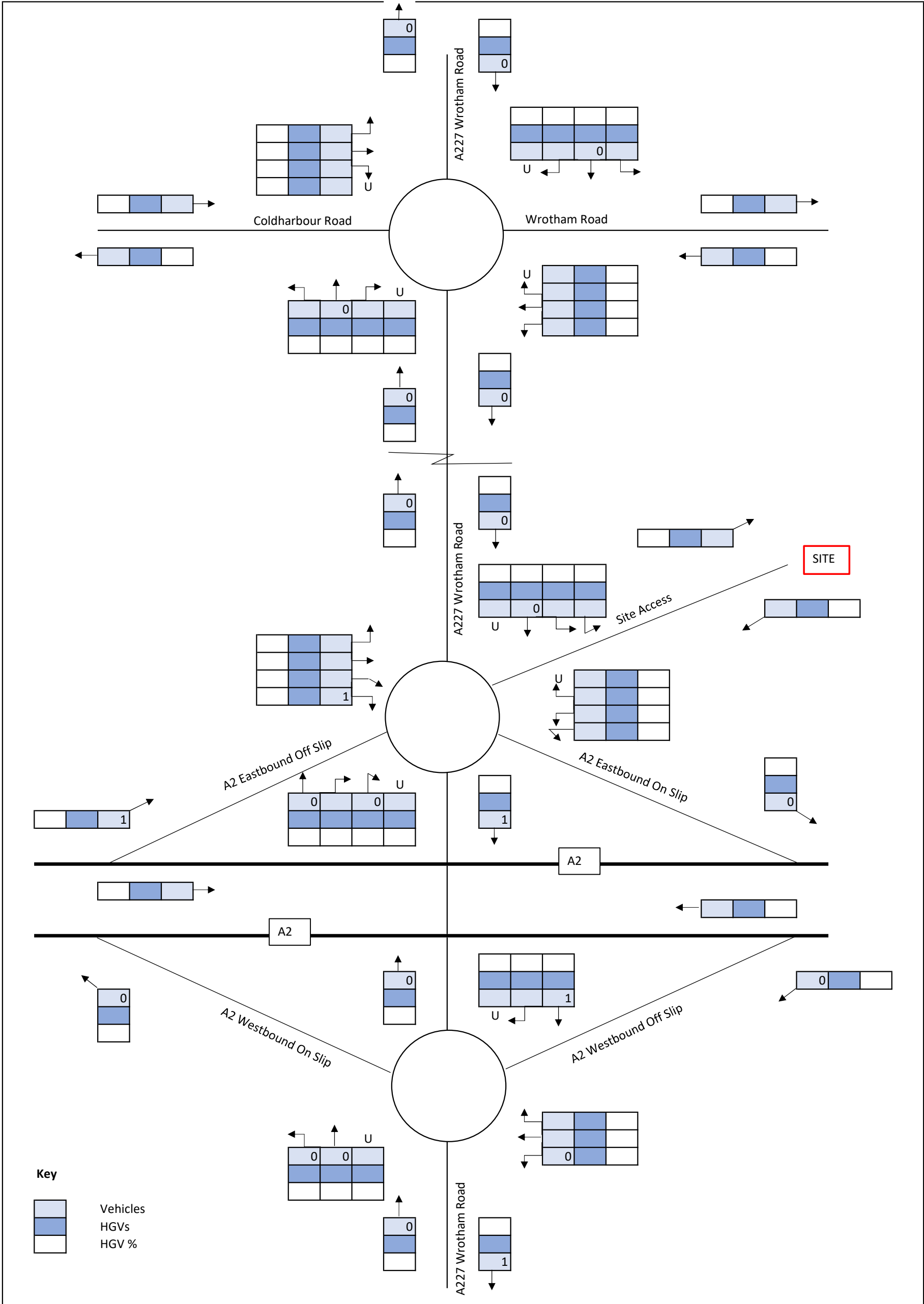


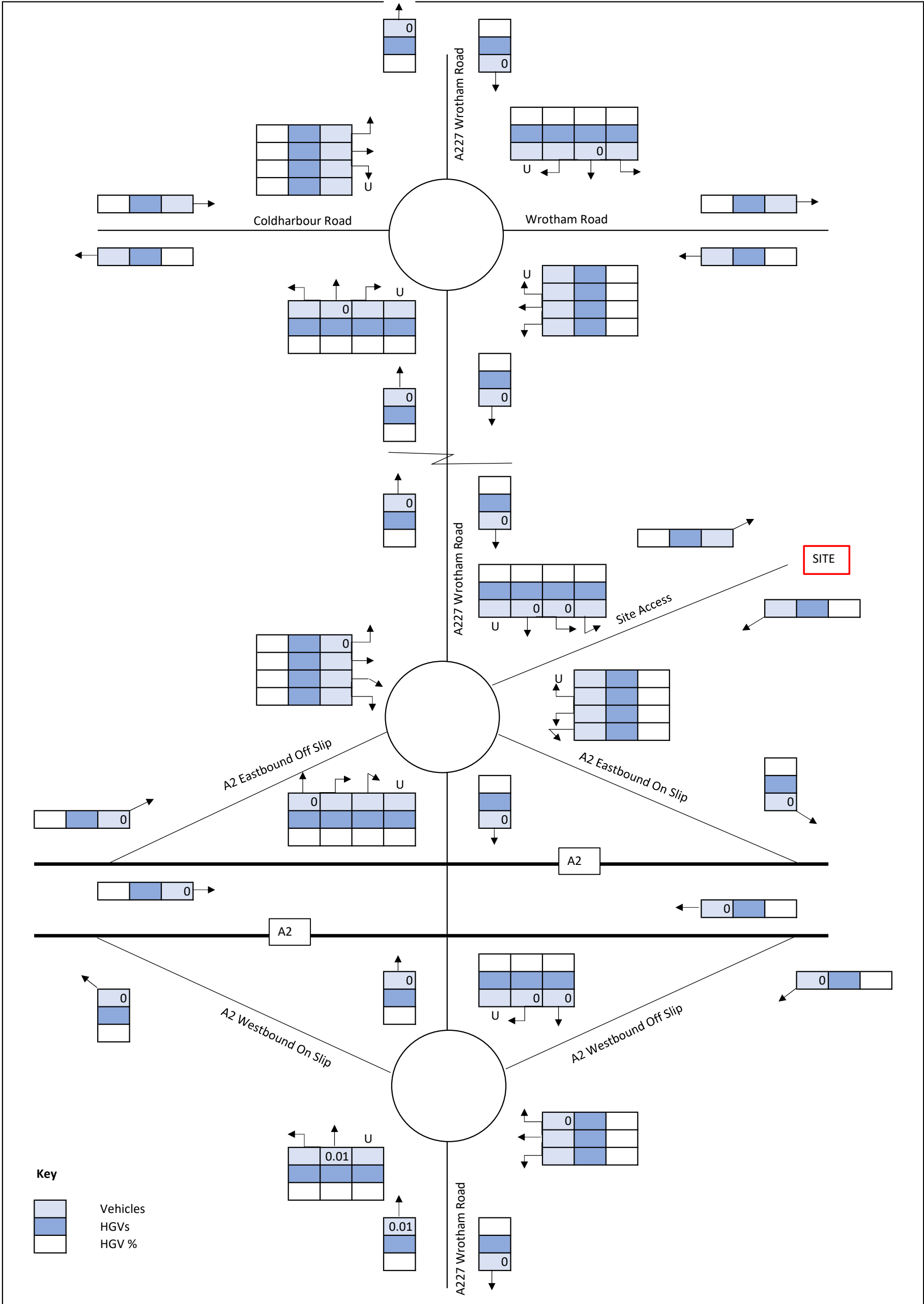


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 40 Comm Dev - 139-140 Parrock St AM (20230019) Future Year (2028)	Job No: 22052
		Figure No: Figure 140	Date: Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 40 Comm Dev - 139-140 Parrock St PM (20230019) Future Year (2028)	Job No: 22052
		Figure No: Figure 141	Date: Oct-24





Notes:

Job Title:
BP Tollgate, Gravesend

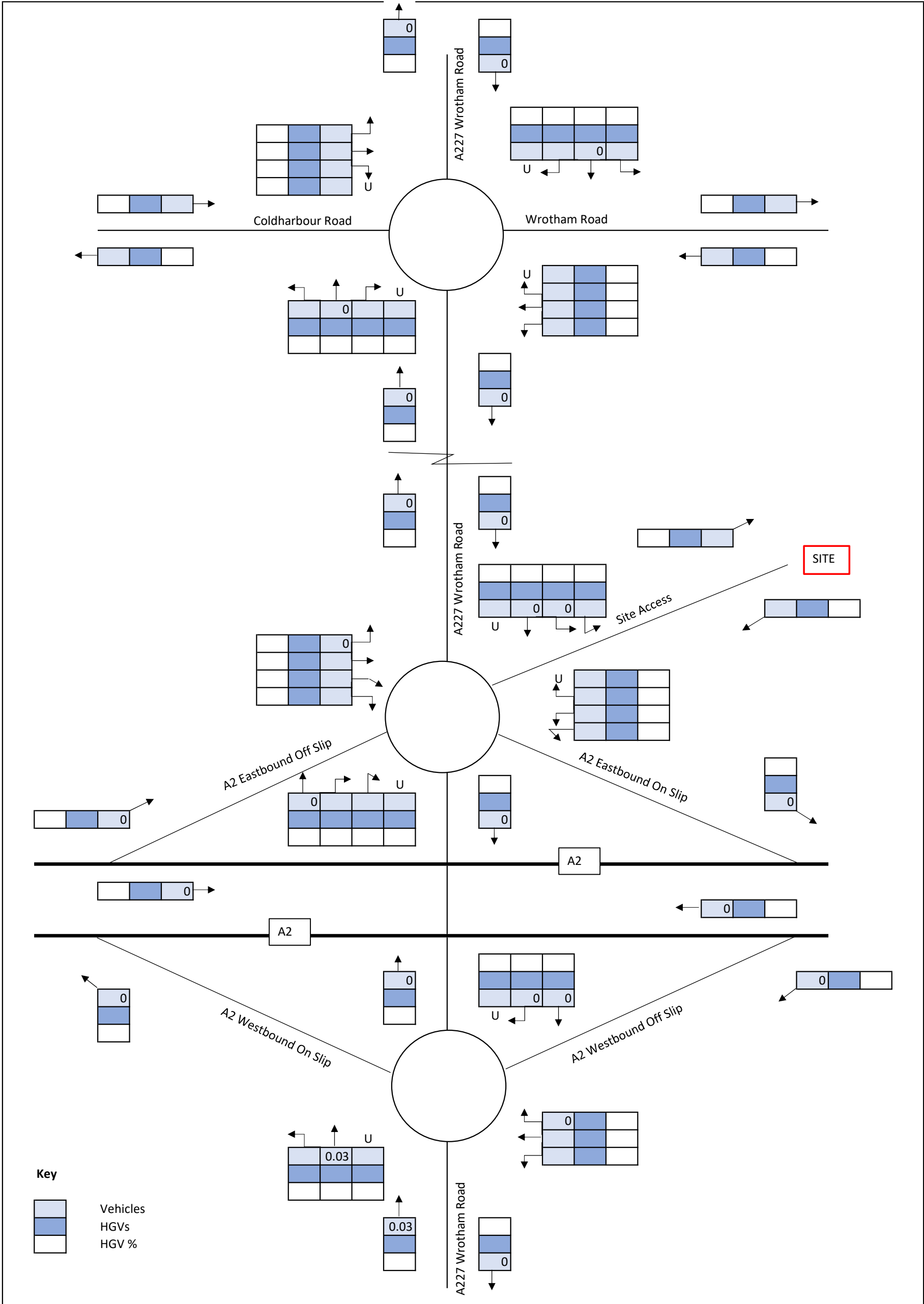
Scale:
NTS

Drawing Title:
Site 44 Comm Dev - Worcester CI AM
(20220431) Future Year (2028)

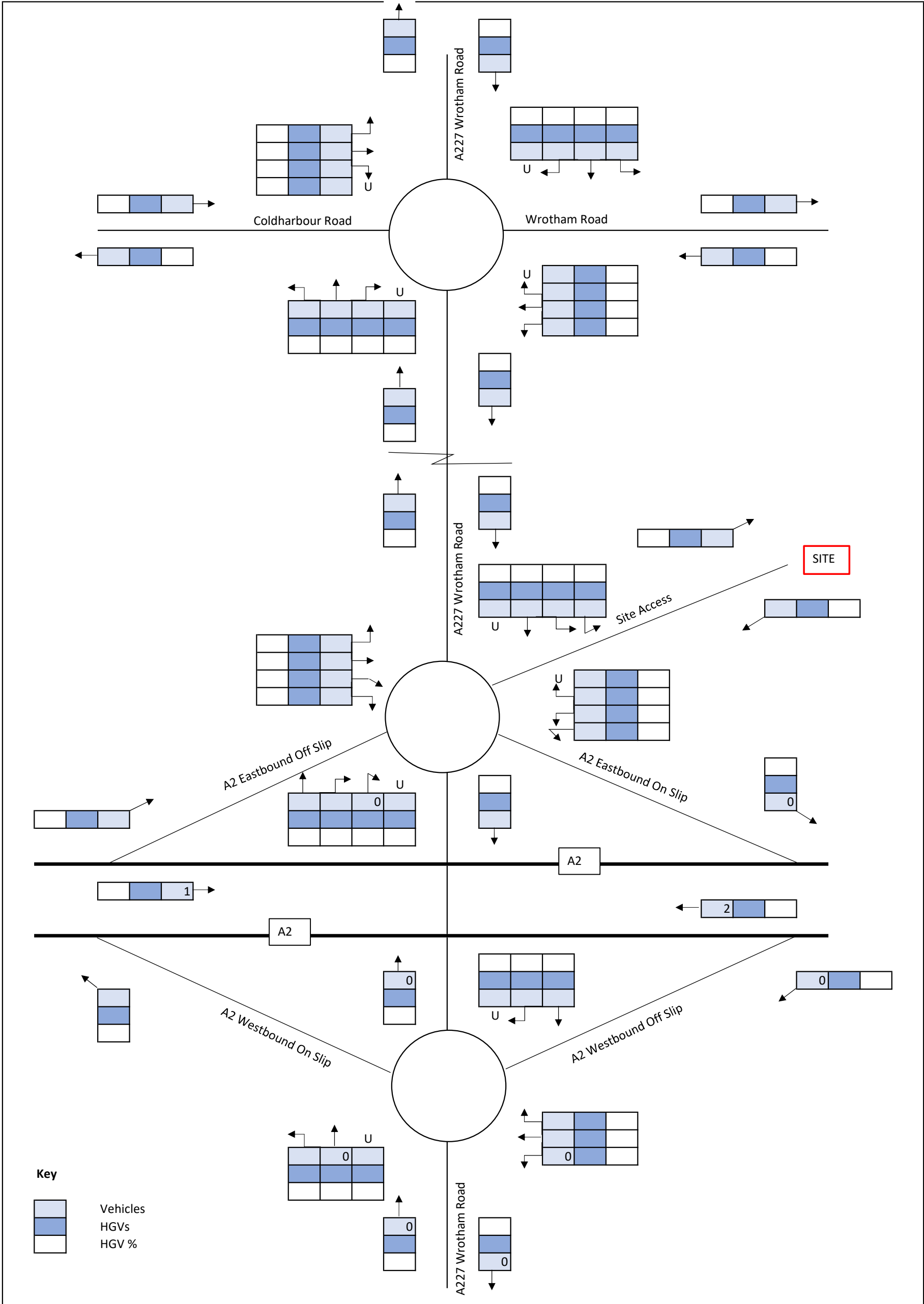
Job No:
22052

Figure No:
Figure 147

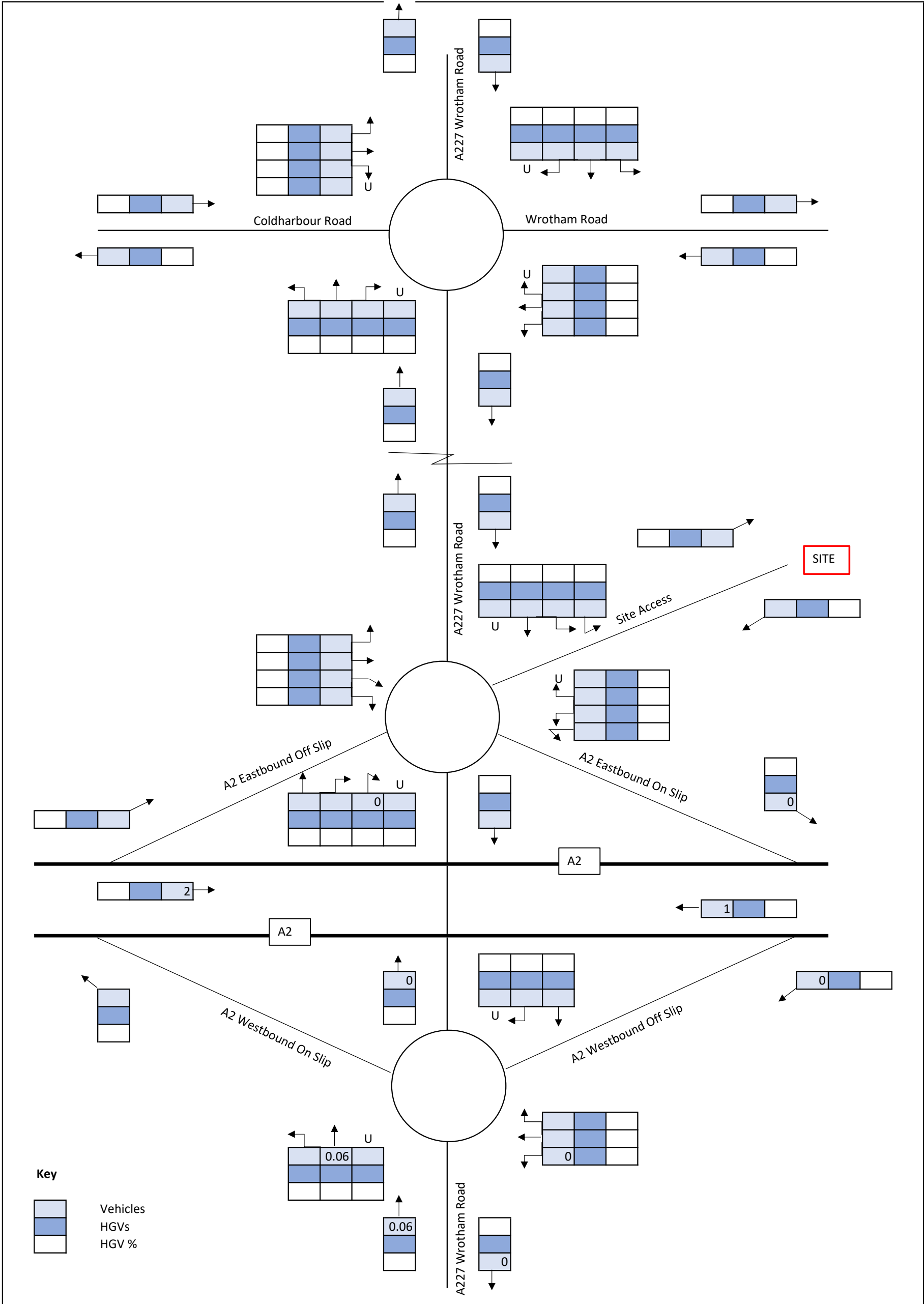
Date:
Oct-24

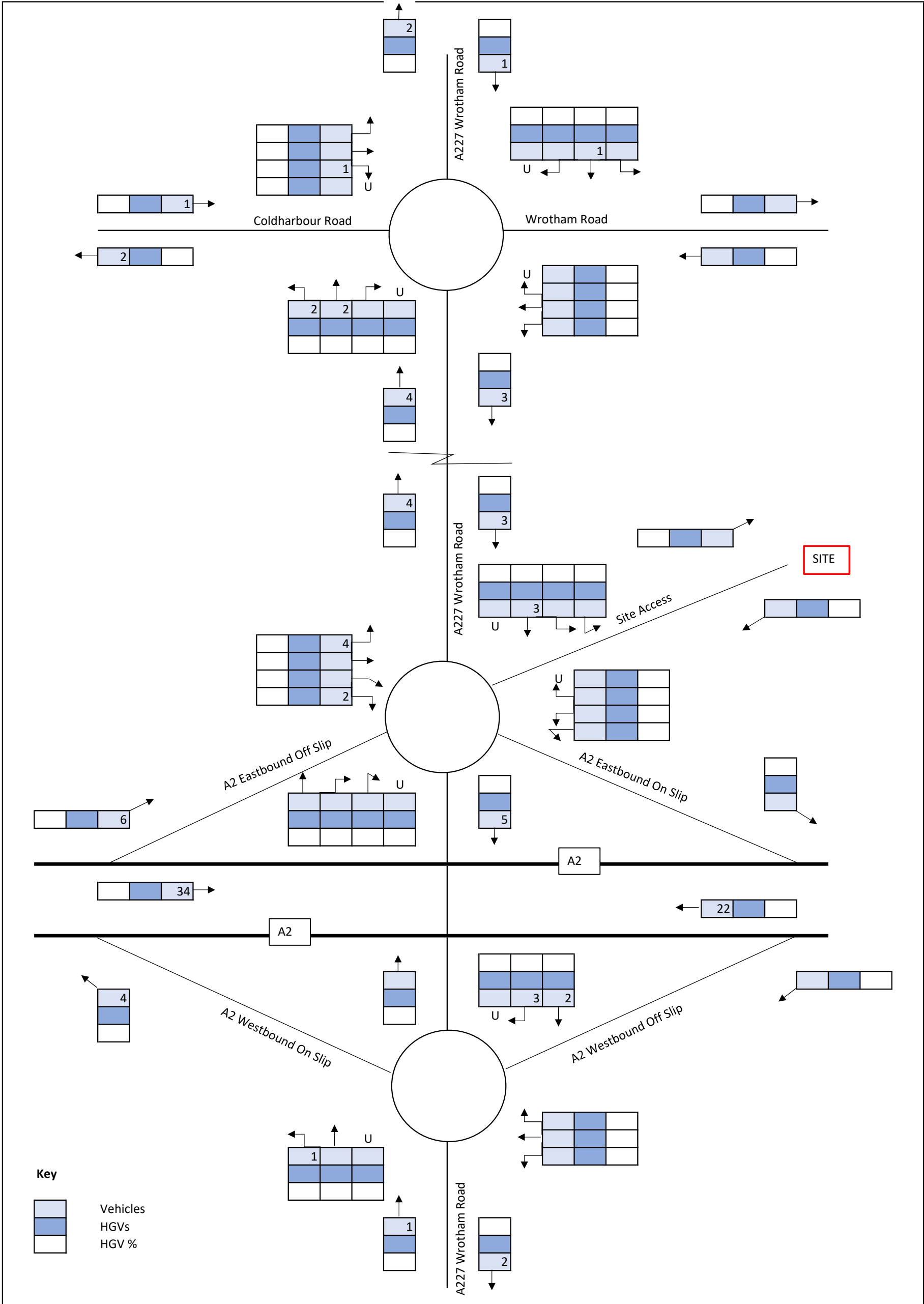


	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 44 Comm Dev - Worcester CI PM (20220431) Future Year (2028)	Job No: 22052
		Figure No: Figure 148	Date: Oct-24



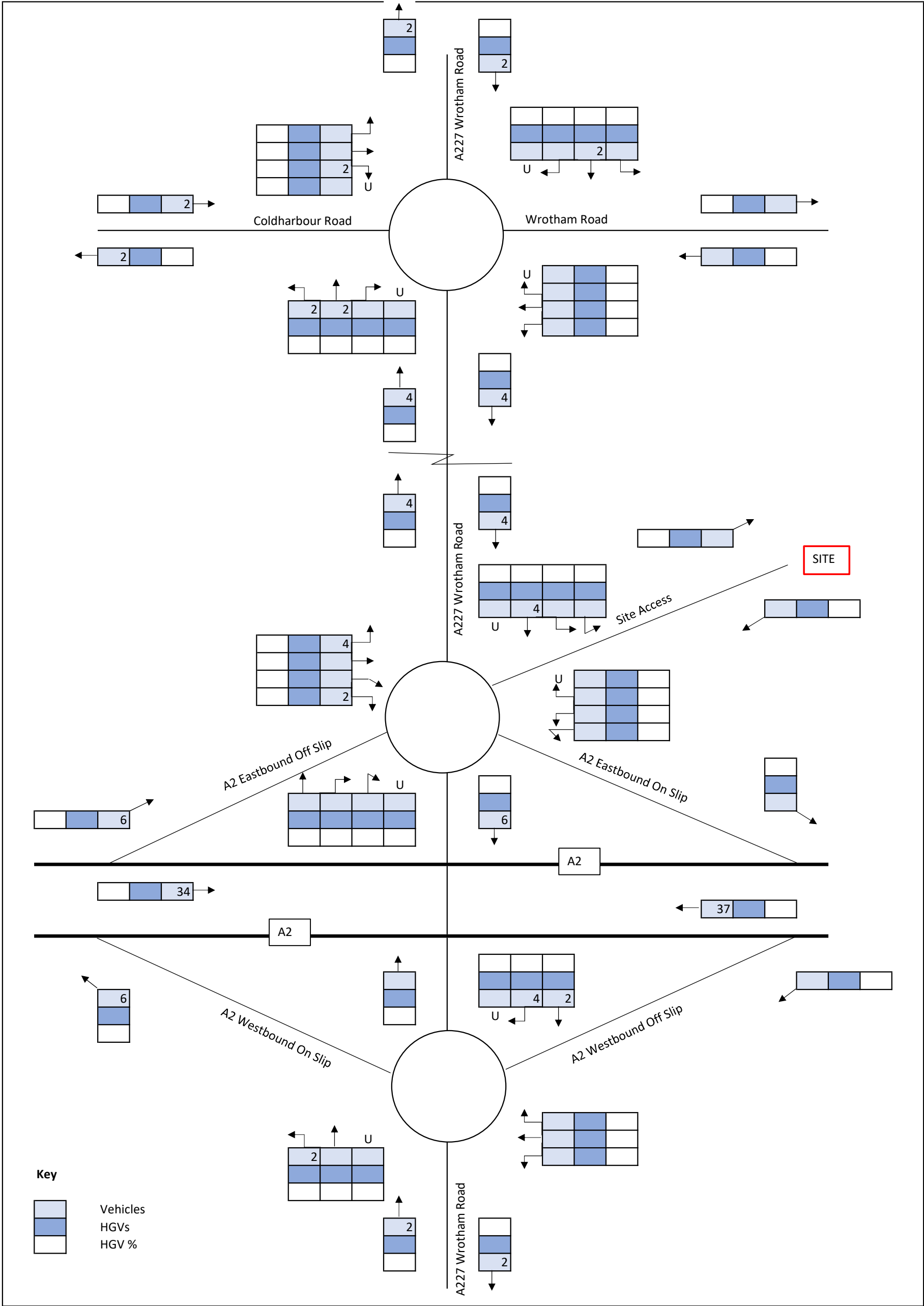
	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Site 46 Comm Dev - Columbas CI AM (20221179) Future Year (2028)	Job No: 22052
		Figure No: Figure 149	Date: Oct-24





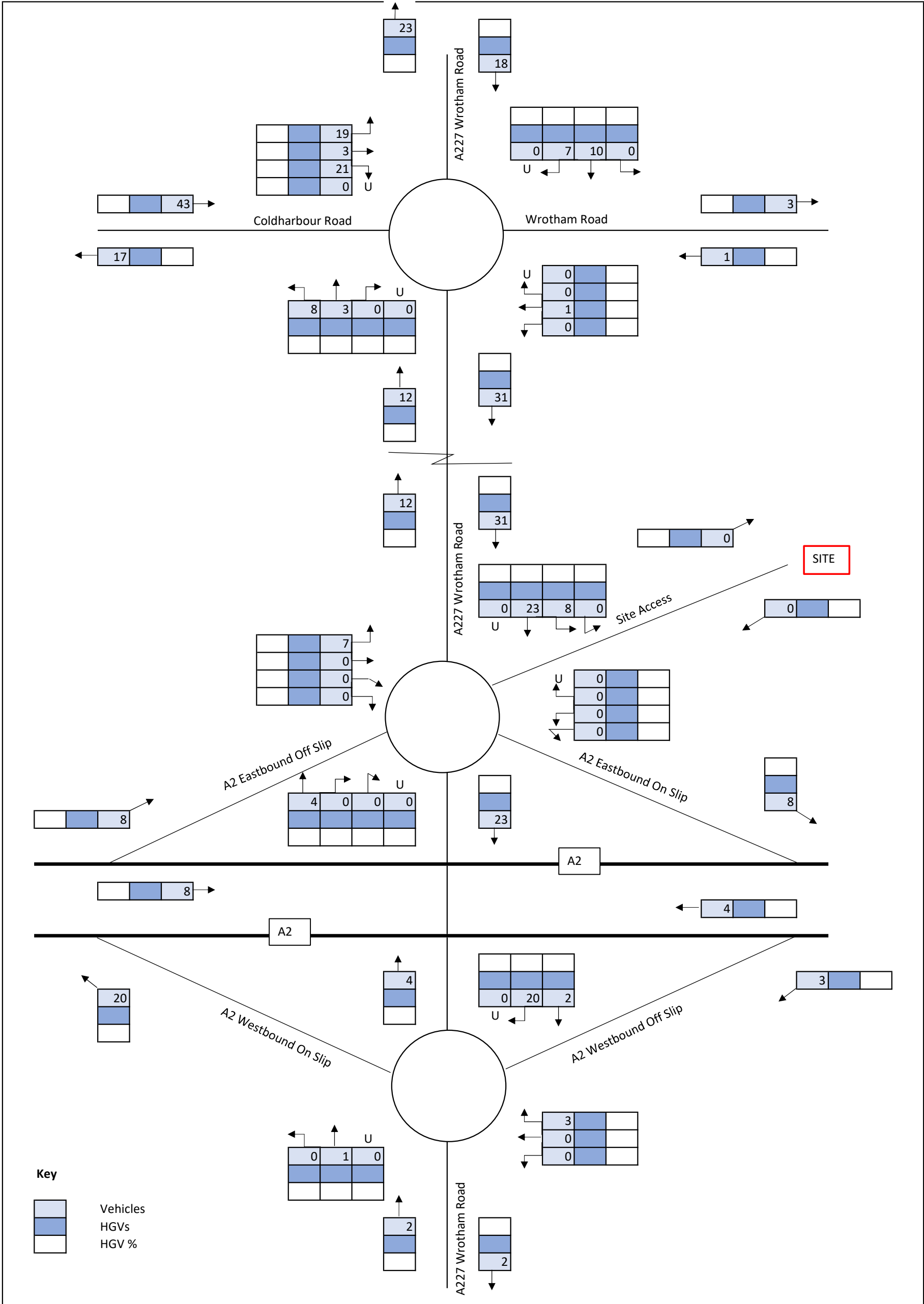
Notes:

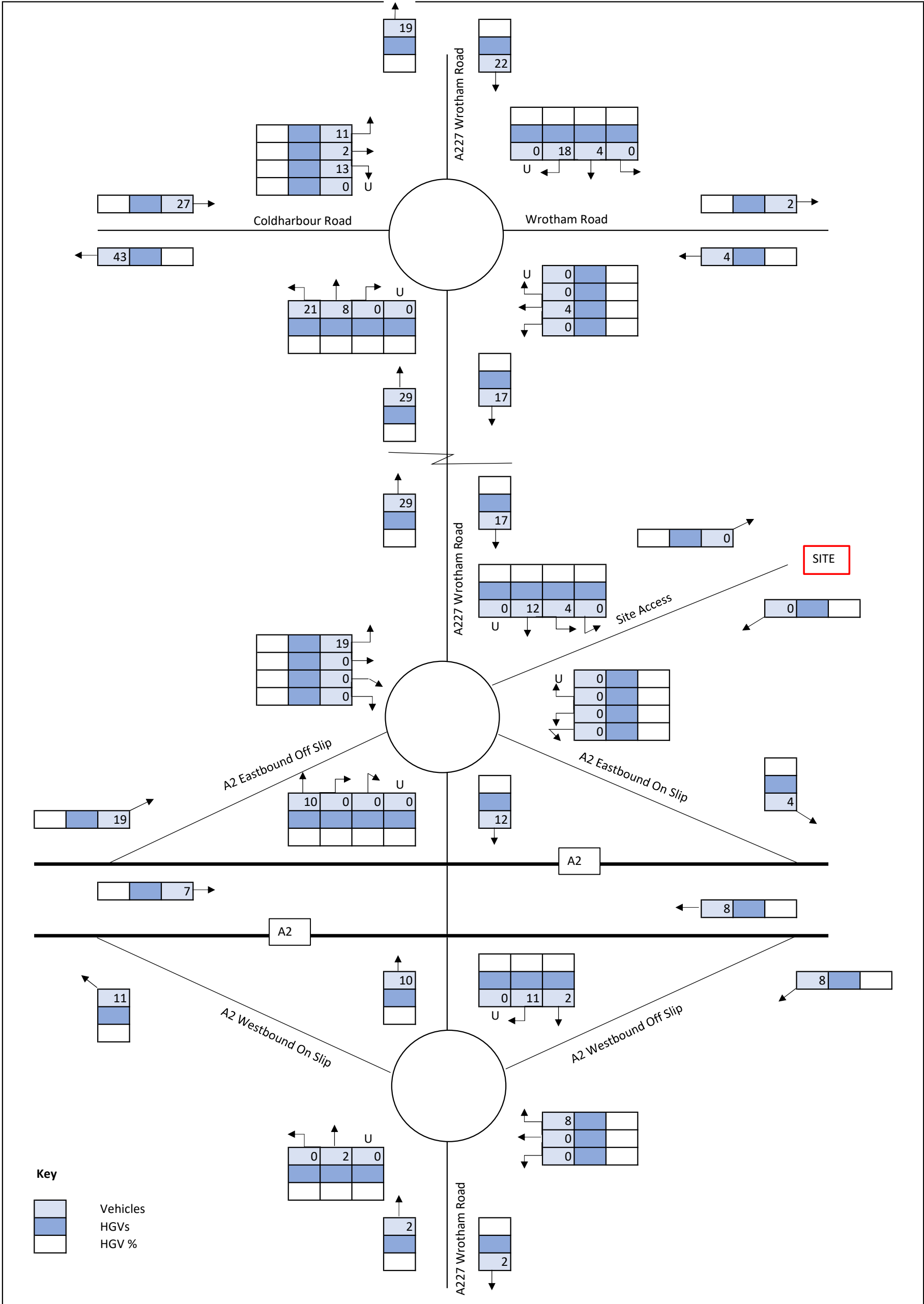
Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 47 Comm Dev - Harbourside AM (20221064) Future Year (2028)	Job No: 22052
Figure No: Figure 151	Date: Oct-24



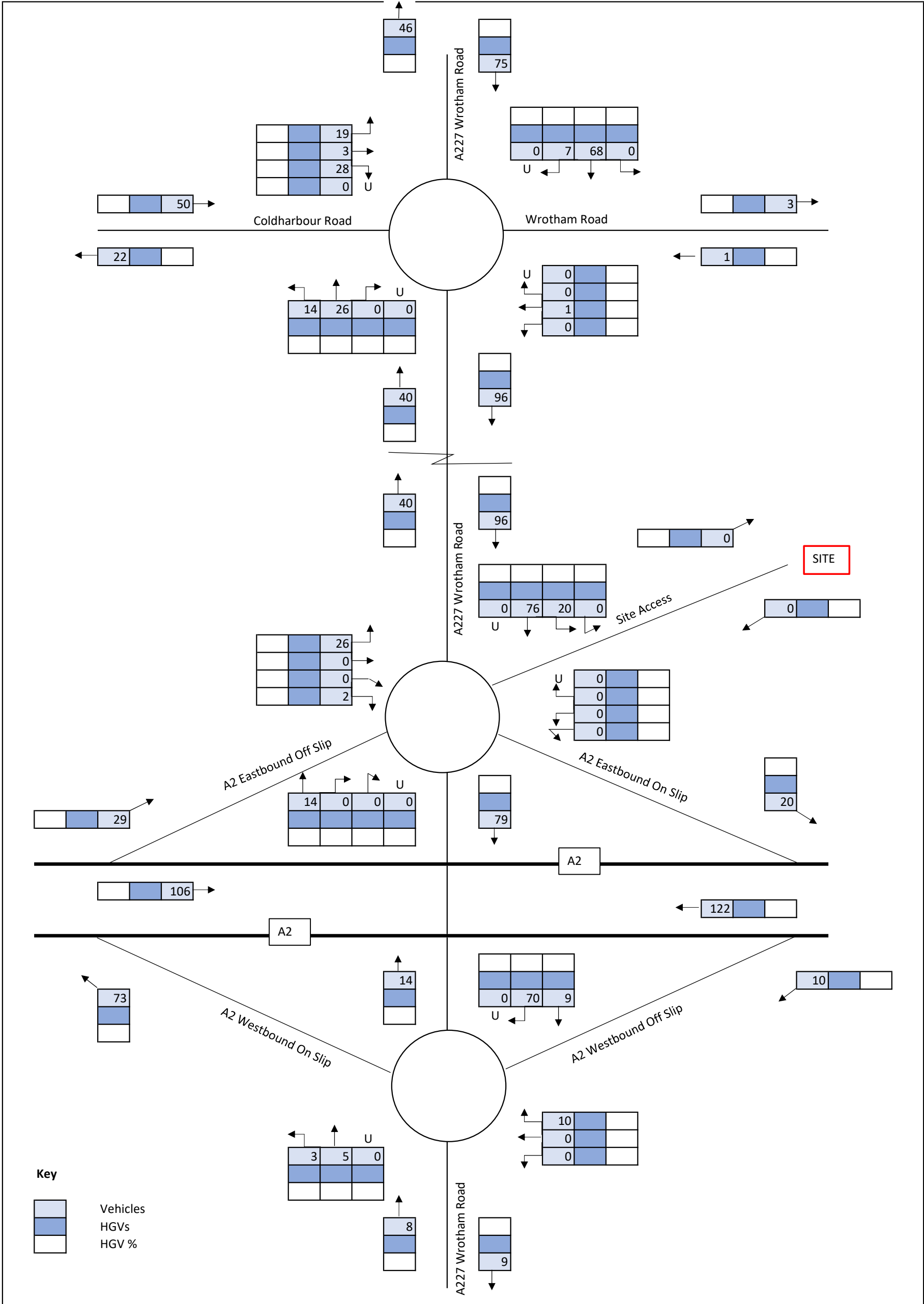
Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Site 47 Comm Dev - Harbourside PM (20221064) Future Year (2028)	Job No: 22052
Figure No: Figure 152	Date: Oct-24





	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: Total Comm Dev - PM Peak - Opening Year (2025)	Job No: 22052
		Figure No: Figure 154	Date: Oct-24



Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: Total Comm Dev - AM Peak - Future Year (2028)	Job No: 22052
Figure No: Figure 155	Date: Oct-24

The diagram illustrates the traffic flow at the A2 and A227 Wrotham Road roundabout. It includes a key for vehicle types and counts, and a detailed layout of the roundabout with traffic flow data.

Key:

- Vehicles (represented by a light blue box)
- HGVs (represented by a dark blue box)
- HGV % (represented by a white box)

Traffic Flow Data:

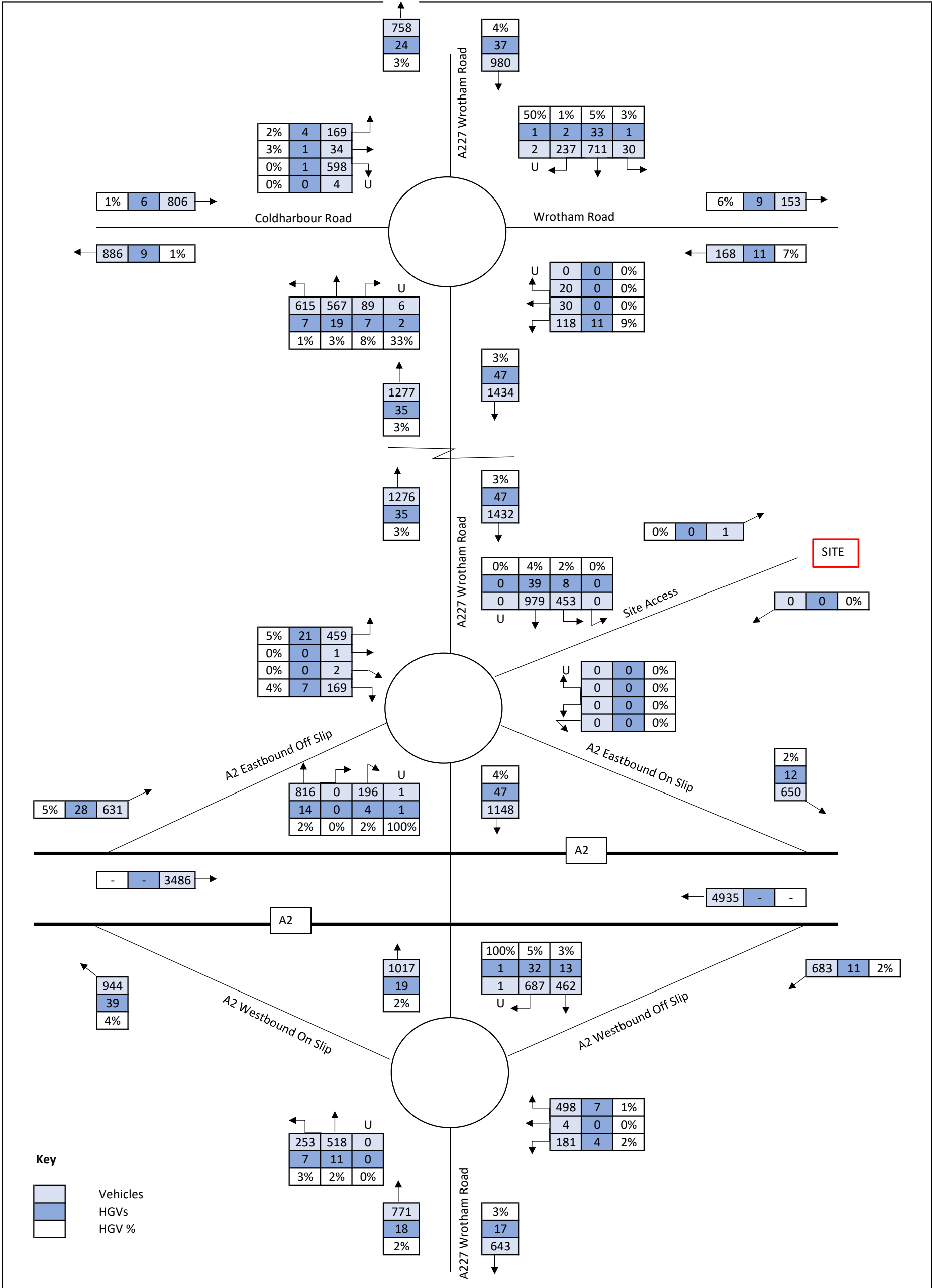
Approaches:

- A227 Wrotham Road (North):**
 - Approach: 74 Vehicles, 58 HGVs, 0 HGV %
 - Exit: 0 Vehicles, 18 HGVs, 40 HGV %
- Coldharbour Road (West):**
 - Approach: 51 Vehicles, 35 HGVs, 0 HGV %
 - Exit: 29 Vehicles, 62 HGVs, 0 HGV %
- Wrotham Road (East):**
 - Approach: 4 Vehicles, 2 HGVs, 0 HGV %
 - Exit: 0 Vehicles, 4 HGVs, 0 HGV %
- A227 Wrotham Road (South):**
 - Approach: 91 Vehicles, 91 HGVs, 0 HGV %
 - Exit: 0 Vehicles, 49 HGVs, 11 HGV %
- A2 (South):**
 - Approach: 121 Vehicles, 132 HGVs, 0 HGV %
 - Exit: 19 Vehicles, 0 HGVs, 0 HGV %
- A227 Wrotham Road (North):**
 - Approach: 31 Vehicles, 31 HGVs, 0 HGV %
 - Exit: 3 Vehicles, 12 HGVs, 0 HGV %
- A227 Wrotham Road (South):**
 - Approach: 14 Vehicles, 14 HGVs, 0 HGV %
 - Exit: 0 Vehicles, 45 HGVs, 8 HGV %
- A2 (North):**
 - Approach: 64 Vehicles, 64 HGVs, 0 HGV %
 - Exit: 31 Vehicles, 0 HGVs, 0 HGV %
- A227 Wrotham Road (East):**
 - Approach: 12 Vehicles, 12 HGVs, 0 HGV %
 - Exit: 0 Vehicles, 0 HGVs, 0 HGV %
- A227 Wrotham Road (West):**
 - Approach: 0 Vehicles, 0 HGVs, 0 HGV %
 - Exit: 0 Vehicles, 0 HGVs, 0 HGV %

Other Features:

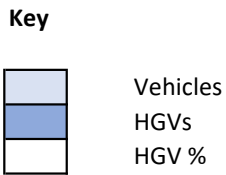
- Site Access:** A red box labeled "SITE" is located near the A227 Wrotham Road (East) approach.
- Off Slips:** A2 Eastbound Off Slip and A2 Westbound Off Slip are shown.
- On Slips:** A2 Eastbound On Slip and A2 Westbound On Slip are shown.

APPENDIX F – TRAFFIC FLOWS DIAGRAMS – JUNCTION CAPACITY ASSESSMENTS



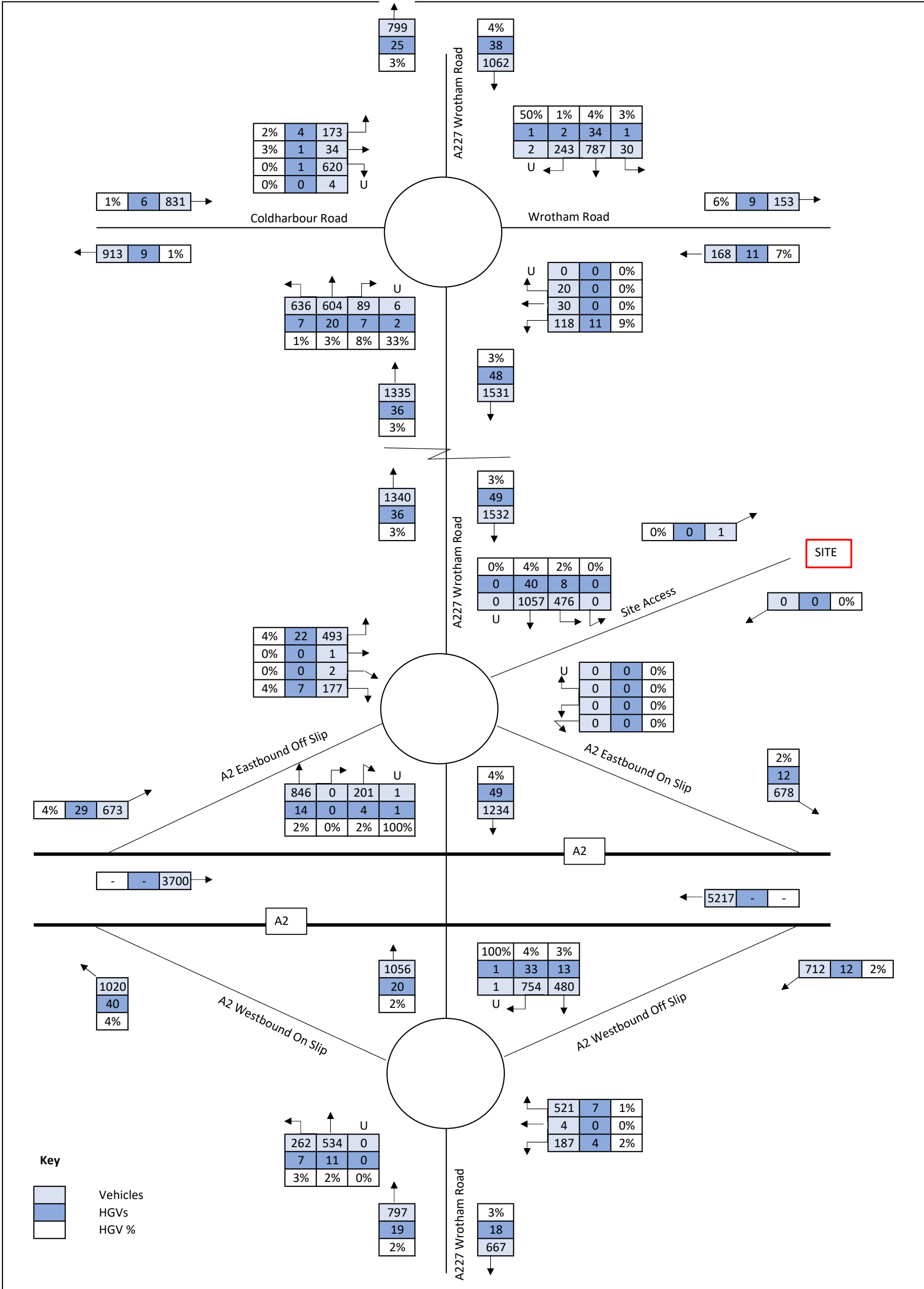
Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: 2025 Base + Committed Development (Do Nothing) - AM Peak	Job No: 22052
Figure No: Figure 157	Date: Oct-24



Job Title:	BP Tollgate, Gravesend
Drawing Title:	2025 Base + Committed Development (Do Nothing) - PM Peak
Figure No:	Figure 158

Scale:	NTS
Job No:	22052
Date:	Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

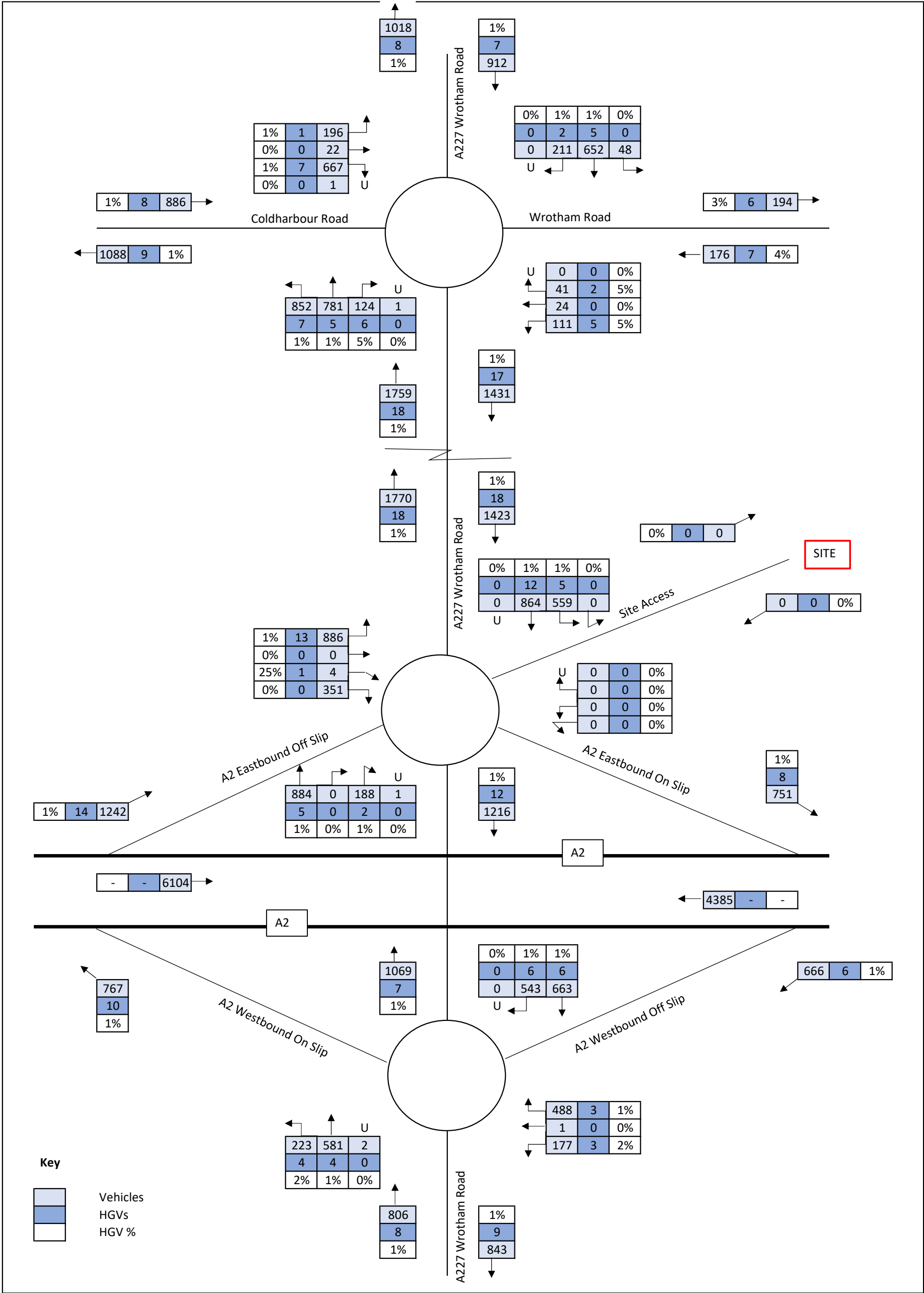
Drawing Title:
2028 Base + Committed Development
(Do Nothing) - AM Peak

Figure No:
Figure 159

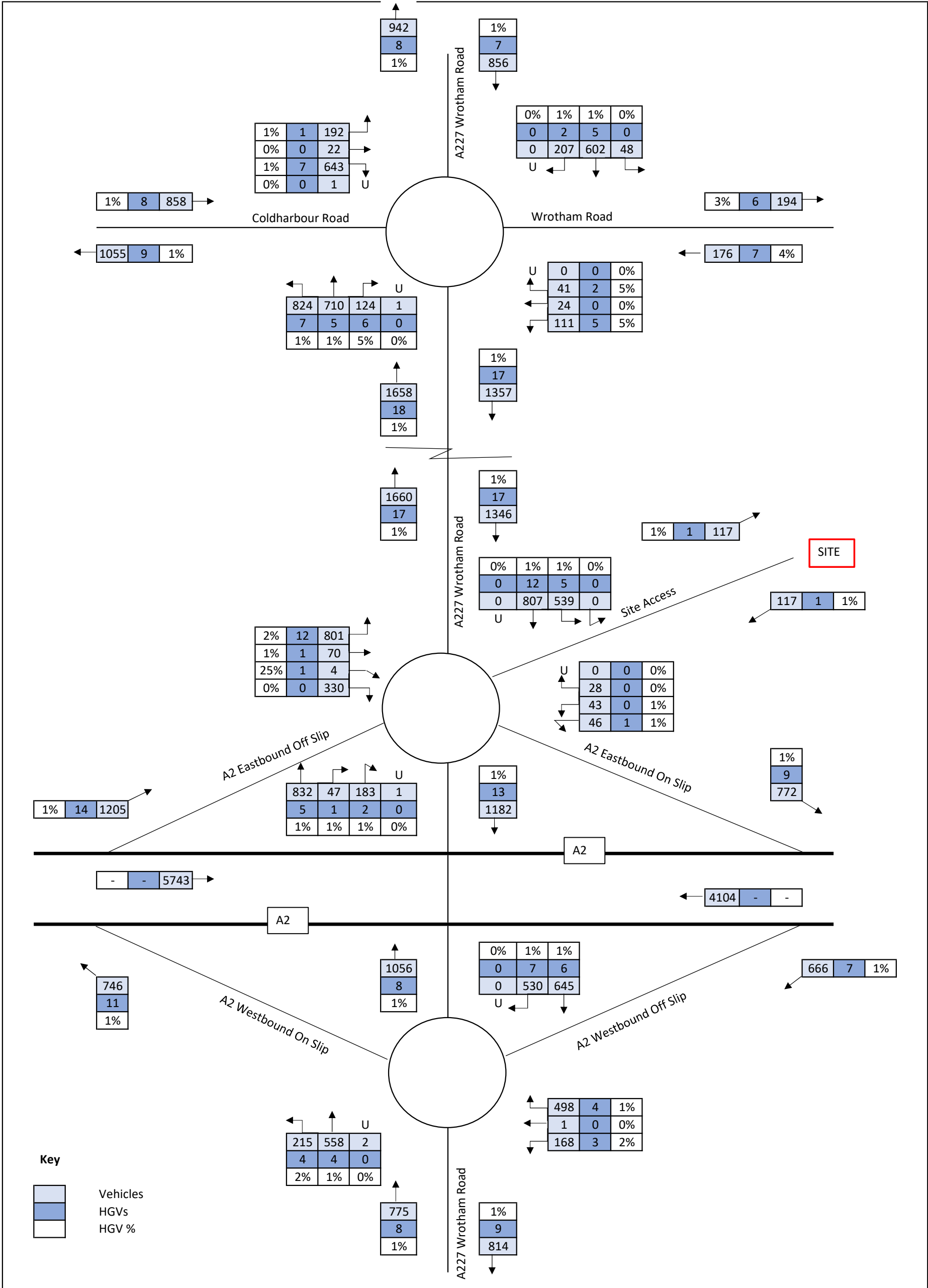
Scale:
NTS

Job No:
22052

Date:
Oct-24



Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
	Drawing Title: 2028 Base + Committed Development (Do Nothing) - PM Peak	Job No: 22052
	Figure No: Figure 160	Date: Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

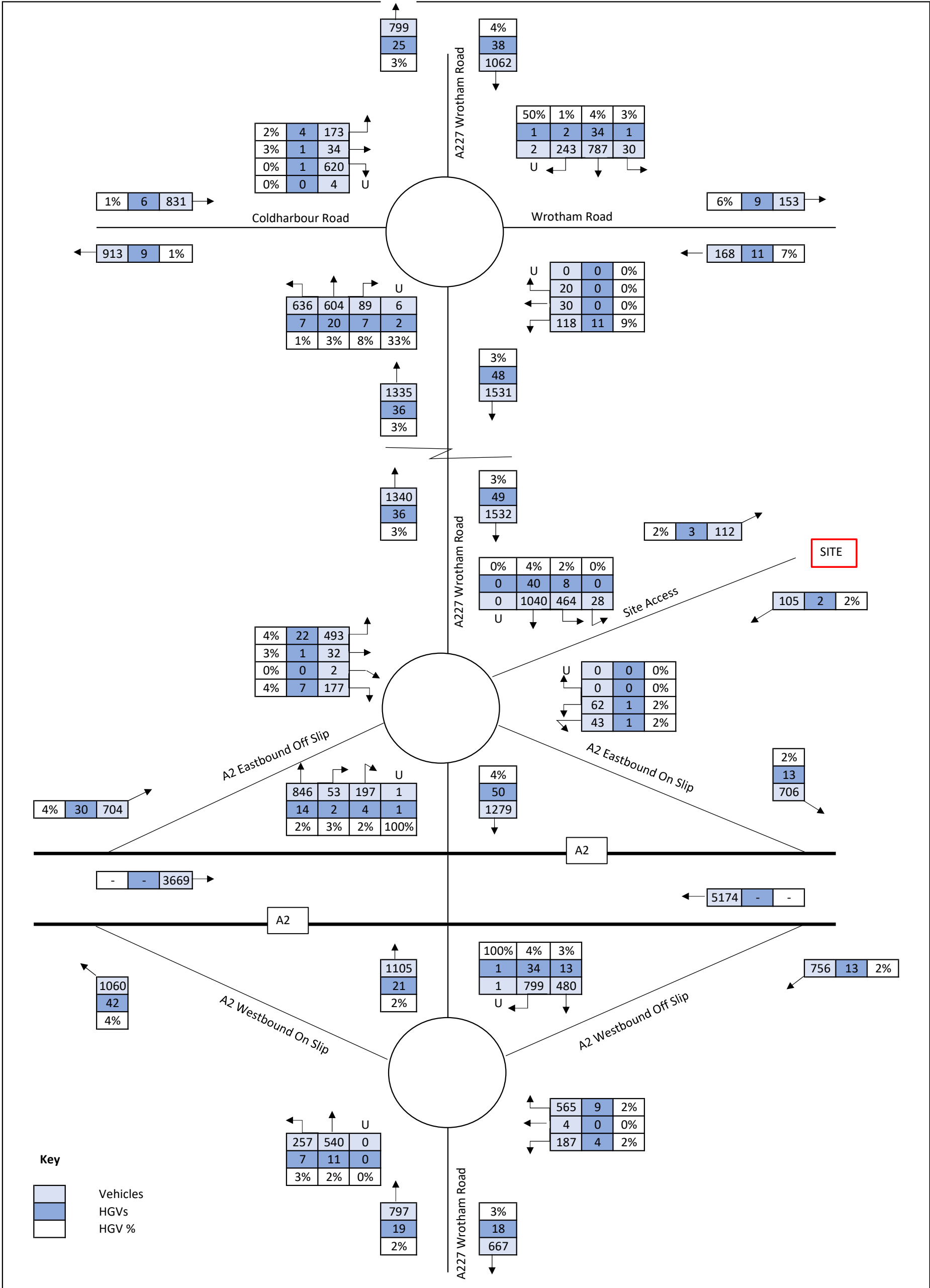
Scale:
NTS

Drawing Title:
2025 Base + CD + Development (Do
Minimum) - PM Peak

Job No:
22052

Figure No:
Figure 162

Date:
Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

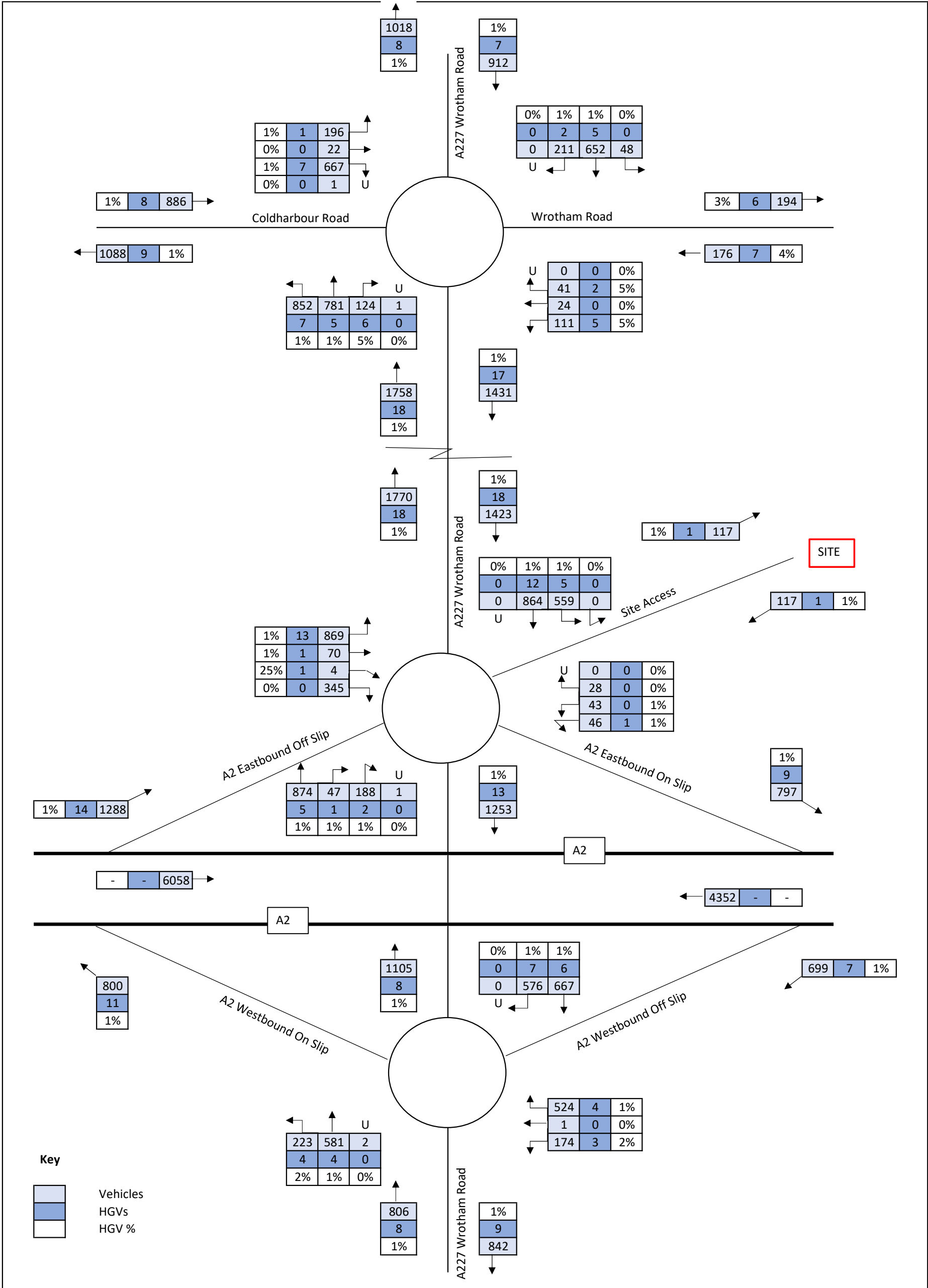
Scale:
NTS

Drawing Title:
2028 Base + CD + Development (Do
Minimum) - AM Peak

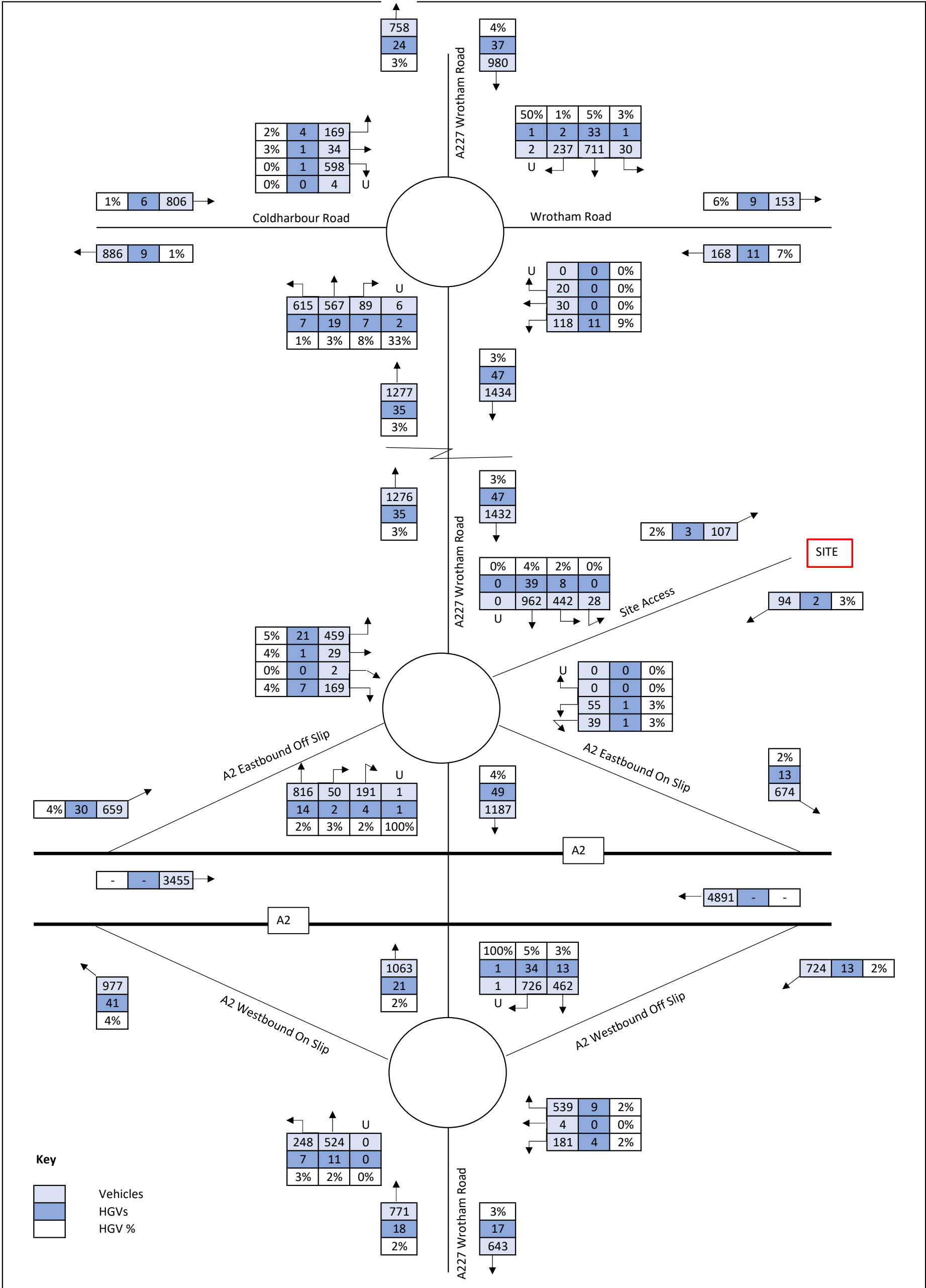
Job No:
22052

Figure No:
Figure 163

Date:
Oct-24



	Notes:	Job Title: BP Tollgate, Gravesend	Scale: NTS
		Drawing Title: 2028 Base + CD + Development (Do Minimum) - PM Peak	Job No: 22052
		Figure No: Figure 164	Date: Oct-24



Notes:

Job Title:
BP Tollgate, Gravesend

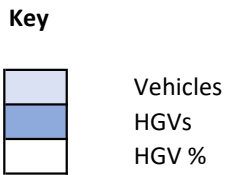
Drawing Title:
2025 Do Minimum Sensitivity - AM Peak

Figure No:
Figure 165

Scale:
NTS

Job No:
22052

Date:
Oct-24



Job Title:
BP Tollgate, Gravesend

Scale: NTS

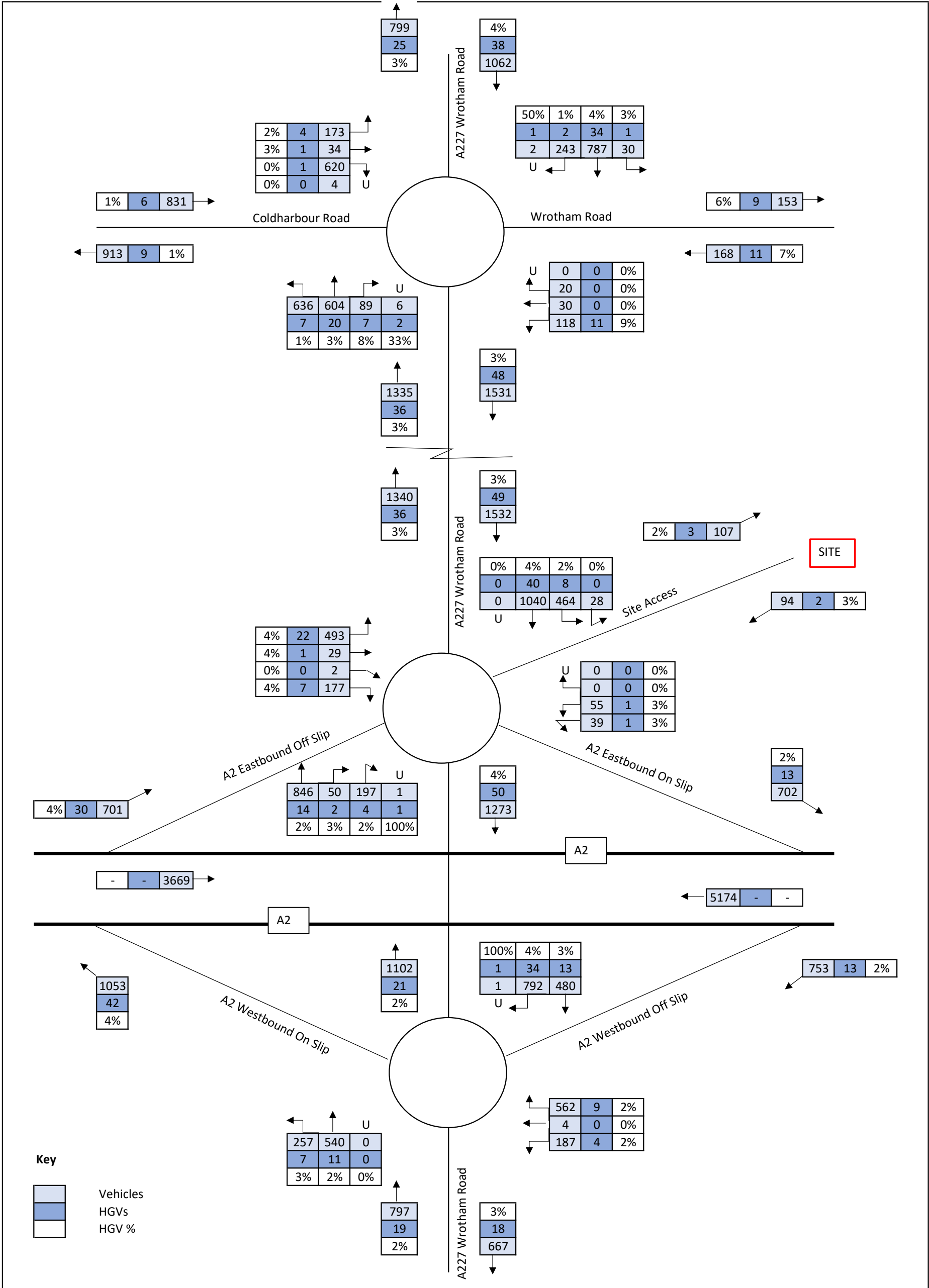
Drawing Title:
2025 Do Minimum Sensitivity - PM Peak

Job No:
22052

Figure No: Figure 166

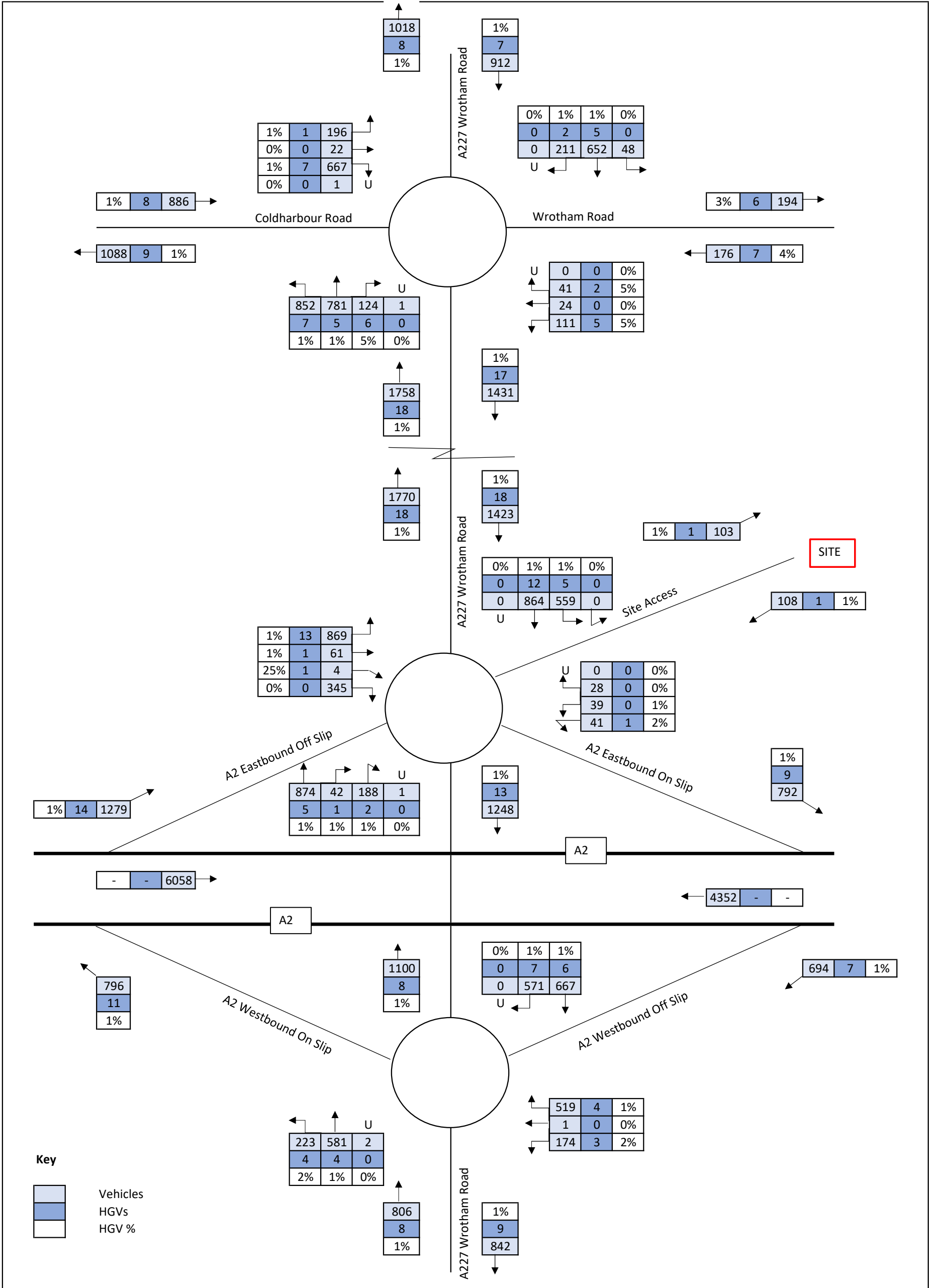
Date: Oct-24





Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: 2028 Do Minimum Sensitivity - AM Peak	Job No: 22052
Figure No: Figure 167	Date: Oct-24



Notes:

Job Title: BP Tollgate, Gravesend	Scale: NTS
Drawing Title: 2028 Do Minimum Sensitivity - PM Peak	Job No: 22052
Figure No: Figure 168	Date: Oct-24

APPENDIX G – A227 WROTHAM ROAD / A2 EASTBOUND SLIP ROAD / SITE ACCESS ROUNDABOUT – 2023 ARCADY REPORT

Junctions 9									
ARCADY 9 - Roundabout Module									
Version: 9.5.1.7462 © Copyright TRL Limited, 2019									
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk									
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution									

Filename: A227_A2 EB Slips_Site Access RB 2023.j9

Path: M:\Projects\2022\22052 - BP Tollgate, Gravesend\07. Technical\07.02 Modelling\ARCADY

Report generation date: 03/05/2024 12:23:29

»2023, AM

»2023, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2023										
Arm A227N	D1	4.8	11.54	0.83	B	D2	4.4	11.09	0.82	B
Arm SA		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Arm A227S		0.8	2.63	0.45	A		0.8	2.60	0.45	A
Arm A20FF		0.5	2.85	0.35	A		1.6	4.72	0.62	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

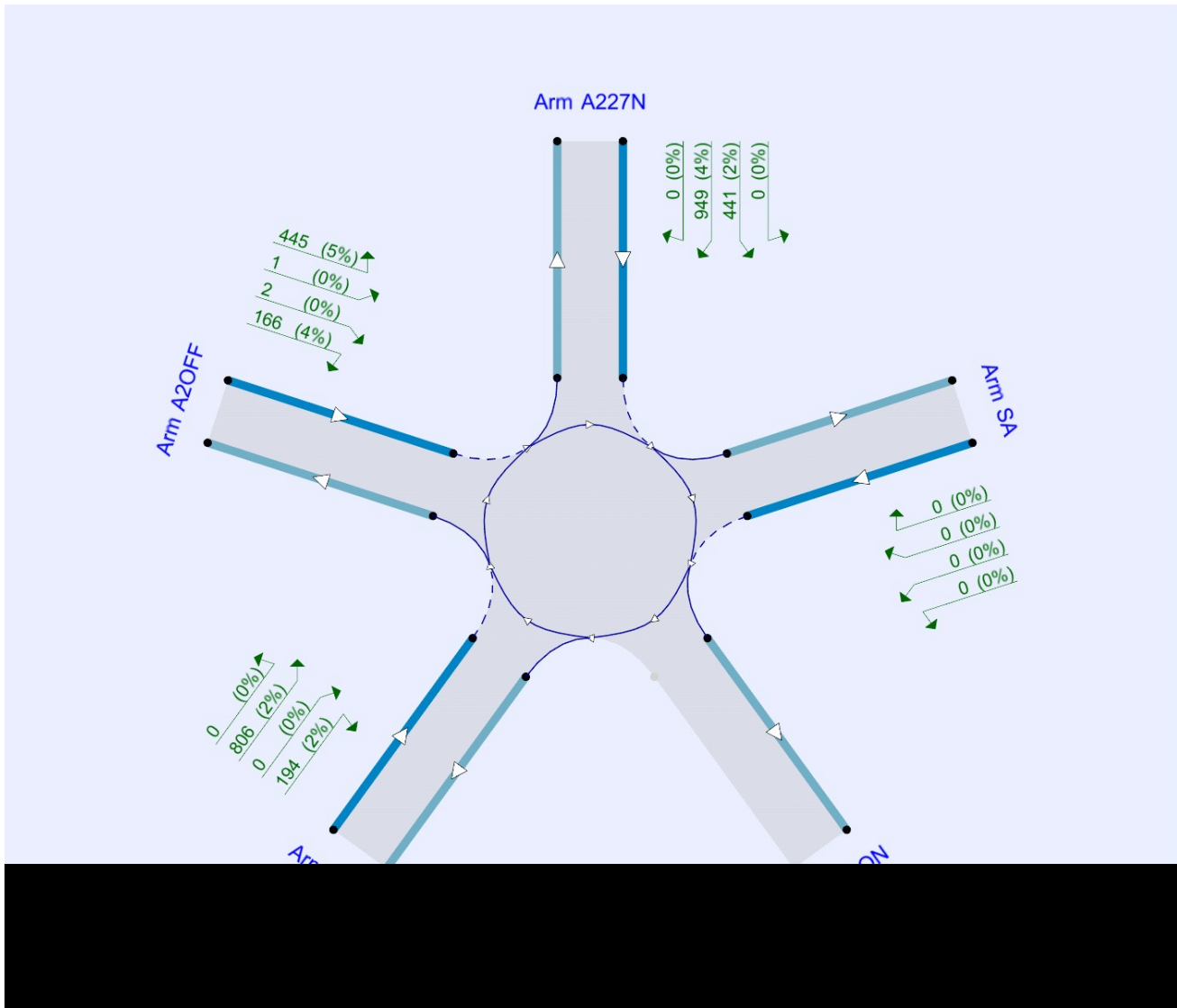
File summary

File Description

Title	
Location	
Site number	
Date	28/03/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MARKIDES\Markides Associates
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

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
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 segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2023, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	6.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A227N	A227 Wrotham Road (N)	
SA	Site Access	
A2ON	A2 EB On Slip	
A227S	A227 Wrotham Road (S)	
A2OFF	A2 EB Off Slip	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A227N	4.60	9.30	22.1	48.8	63.9	50.0	
SA	3.10	5.50	5.4	12.7	63.9	59.0	
A2ON							✓
A227S	7.10	9.30	17.9	31.1	63.9	47.0	
A2OFF	7.00	10.20	17.9	40.0	63.9	24.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A227N	0.600	2150
SA	0.400	1080
A2ON		
A227S	0.662	2521
A2OFF	0.741	2862

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 segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1390	100.000
SA		ONE HOUR	✓	0	100.000
A2ON					
A227S		ONE HOUR	✓	1001	100.000
A2OFF		ONE HOUR	✓	614	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	441	949	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	806	0	194	1	0
	A2OFF	445	1	2	166	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	0	2	100	0
	A2OFF	5	0	0	4	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)
A227N	0.83	11.54	4.8	B	1275	1913
SA	0.00	0.00	0.0	A	0	0
A2ON						
A227S	0.45	2.63	0.8	A	919	1378
A2OFF	0.35	2.85	0.5	A	563	845

Main Results for each time segment

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
A227N	1046	262	273	1917	0.546	1042	940	0.0	1.2	4.093	A
SA	0	0	1314	537	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			837				478				
A227S	754	188	0	2469	0.305	752	837	0.0	0.4	2.095	A
A2OFF	462	116	752	2190	0.211	461	0	0.0	0.3	2.081	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
A227N	1250	312	327	1884	0.663	1247	1124	1.2	1.9	5.619	A
SA	0	0	1573	430	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1001				572				
A227S	900	225	0	2469	0.365	899	1001	0.4	0.6	2.294	A
A2OFF	552	138	899	2084	0.265	552	0	0.3	0.4	2.349	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
A227N	1530	383	400	1840	0.832	1520	1376	1.9	4.6	10.875	B
SA	0	0	1919	287	0.000	0	1	0.0	0.0	0.000	A
A2ON			1221				698				
A227S	1102	276	0	2469	0.446	1101	1221	0.6	0.8	2.631	A
A2OFF	676	169	1101	1938	0.349	675	0	0.4	0.5	2.850	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
A227N	1530	383	401	1840	0.832	1530	1377	4.6	4.8	11.537	B
SA	0	0	1929	283	0.000	0	1	0.0	0.0	0.000	A
A2ON			1228				701				
A227S	1102	276	0	2469	0.446	1102	1228	0.8	0.8	2.633	A
A2OFF	676	169	1102	1937	0.349	676	0	0.5	0.5	2.853	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
A227N	1250	312	328	1884	0.663	1261	1126	4.8	2.0	5.872	A
SA	0	0	1587	424	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1011				576				
A227S	900	225	0	2469	0.365	901	1011	0.8	0.6	2.296	A
A2OFF	552	138	901	2083	0.265	553	0	0.5	0.4	2.355	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
A227N	1046	262	274	1916	0.546	1050	943	2.0	1.2	4.171	A
SA	0	0	1323	533	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			842				481				
A227S	754	188	0	2469	0.305	754	842	0.6	0.4	2.101	A
A2OFF	462	116	754	2189	0.211	463	0	0.4	0.3	2.086	A

2023, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	6.55	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1321	100.000
SA		ONE HOUR	✓	0	100.000
A2ON					
A227S		ONE HOUR	✓	1010	100.000
A2OFF		ONE HOUR	✓	1124	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	531	790	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	827	0	182	1	0
	A2OFF	788	0	4	332	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	1	2	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	0	1	0	0
	A2OFF	2	0	25	0	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)
A227N	0.82	11.09	4.4	B	1212	1818
SA	0.00	0.00	0.0	A	0	0
A2ON						
A227S	0.45	2.60	0.8	A	927	1390
A2OFF	0.62	4.72	1.6	A	1031	1547

Main Results for each time segment

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
A227N	995	249	390	1885	0.528	990	1213	0.0	1.1	4.004	A
SA	0	0	1380	521	0.000	0	0	0.0	0.0	0.000	A
A2ON			842				538				
A227S	760	190	0	2496	0.305	759	842	0.0	0.4	2.071	A
A2OFF	846	212	759	2261	0.374	844	0	0.0	0.6	2.536	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
A227N	1188	297	466	1840	0.646	1185	1451	1.1	1.8	5.475	A
SA	0	0	1651	411	0.000	0	0	0.0	0.0	0.000	A
A2ON			1008				643				
A227S	908	227	0	2496	0.364	907	1008	0.4	0.6	2.267	A
A2OFF	1010	253	907	2151	0.470	1009	0	0.6	0.9	3.150	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
A227N	1454	364	570	1778	0.818	1445	1775	1.8	4.2	10.514	B
SA	0	0	2015	264	0.000	0	0	0.0	0.0	0.000	A
A2ON			1230				785				
A227S	1112	278	0	2496	0.446	1111	1230	0.6	0.8	2.599	A
A2OFF	1238	309	1111	2001	0.619	1235	0	0.9	1.6	4.681	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
A227N	1454	364	571	1777	0.818	1454	1778	4.2	4.4	11.094	B
SA	0	0	2025	260	0.000	0	0	0.0	0.0	0.000	A
A2ON			1236				789				
A227S	1112	278	0	2496	0.446	1112	1236	0.8	0.8	2.601	A
A2OFF	1238	309	1112	2000	0.619	1238	0	1.6	1.6	4.720	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
A227N	1188	297	468	1839	0.646	1198	1455	4.4	1.9	5.702	A
SA	0	0	1665	406	0.000	0	0	0.0	0.0	0.000	A
A2ON			1016				649				
A227S	908	227	0	2496	0.364	909	1016	0.8	0.6	2.269	A
A2OFF	1010	253	909	2150	0.470	1013	0	1.6	0.9	3.177	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
A227N	995	249	391	1884	0.528	997	1217	1.9	1.1	4.073	A
SA	0	0	1389	518	0.000	0	0	0.0	0.0	0.000	A
A2ON			848				541				
A227S	760	190	0	2496	0.305	761	848	0.6	0.4	2.077	A
A2OFF	846	212	761	2259	0.375	847	0	0.9	0.6	2.554	A

APPENDIX H - A227 WROTHAM ROAD / A2 EASTBOUND SLIP ROAD / SITE ACCESS ROUNDABOUT – ARCADY REPORT

Junctions 9	
ARCADY 9 - Roundabout Module	
Version: 9.5.1.7462 © Copyright TRL Limited, 2019	
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk	
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Filename: A227_A2 EB Slips_Site Access RB Intercept.j9

Path: M:\Projects\2022\22052 - BP Tollgate, Gravesend\07. Technical\07.02 Modelling\ARCADY

Report generation date: 15/10/2024 11:51:12

»2023, AM
 »2023, PM
 »2025 Do Nothing, AM
 »2025 Do Nothing, PM
 »2025 Do Minimum, AM
 »2025 Do Minimum, PM
 »2025 Do Minimum Residual, AM
 »2025 Do Minimum Residual, PM
 »2028 Do Nothing, AM
 »2028 Do Nothing, PM
 »2028 Do Minimum, AM
 »2028 Do Minimum, PM
 »2028 Do Minimum Residual, AM
 »2028 Do Minimum Residual, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2023									
Arm A227N	D1	1.5	3.48	0.60	A	D2	1.4	3.39	0.58	A
Arm SA		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Arm A227S		0.8	2.63	0.45	A		0.8	2.60	0.45	A
Arm A2OFF		0.5	2.85	0.35	A		1.6	4.72	0.62	A
	2025 Do Nothing									
Arm A227N	D3	1.6	3.65	0.62	A	D4	1.4	3.45	0.59	A
Arm SA		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Arm A227S		0.8	2.66	0.45	A		0.8	2.63	0.45	A
Arm A2OFF		0.6	2.92	0.36	A		1.7	4.97	0.64	A
	2025 Do Minimum									
Arm A227N	D5	1.7	3.85	0.63	A	D6	1.5	3.70	0.60	A
Arm SA		0.7	23.16	0.43	C		1.0	29.49	0.51	D
Arm A227S		0.9	2.77	0.47	A		0.9	2.76	0.47	A
Arm A2OFF		0.6	3.10	0.39	A		2.2	5.91	0.69	A
	2025 Do Minimum Residual									
Arm A227N	D7	1.7	3.83	0.63	A	D8	1.5	3.67	0.60	A
Arm SA		0.6	21.84	0.39	C		0.9	27.49	0.48	D
Arm A227S		0.9	2.76	0.47	A		0.9	2.75	0.47	A
Arm A2OFF		0.6	3.09	0.38	A		2.1	5.78	0.68	A
	2028 Do Nothing									
Arm A227N	D9	1.9	4.16	0.66	A	D10	1.6	3.80	0.62	A
Arm SA		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Arm A227S		0.9	2.74	0.47	A		0.9	2.74	0.47	A
Arm A2OFF		0.6	3.07	0.39	A		2.3	6.04	0.70	A
	2028 Do Minimum									
Arm A227N	D11	2.1	4.41	0.67	A	D12	1.8	4.12	0.64	A
Arm SA		1.1	34.31	0.53	D		1.5	44.92	0.62	E
Arm A227S		1.0	2.86	0.49	A		1.0	2.87	0.49	A
Arm A2OFF		0.7	3.27	0.41	A		2.8	7.32	0.74	A
	2028 Do Minimum Residual									
Arm A227N	D13	2.0	4.39	0.67	A	D14	1.8	4.08	0.64	A
Arm SA		0.9	31.39	0.48	D		1.3	40.47	0.57	E
Arm A227S		1.0	2.85	0.49	A		1.0	2.86	0.49	A
Arm A2OFF		0.7	3.26	0.41	A		2.7	7.11	0.74	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

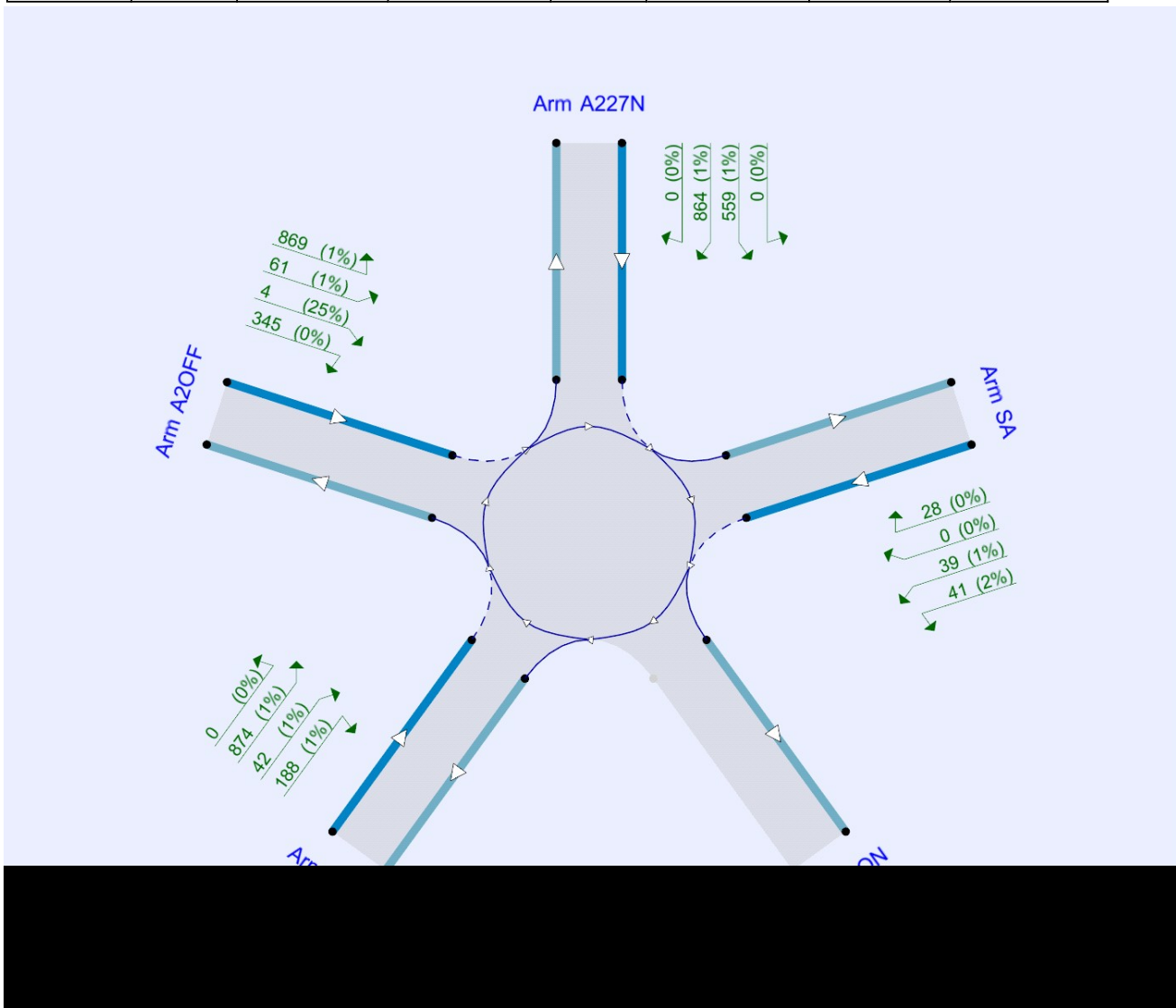
File summary

File Description

Title	
Location	
Site number	
Date	28/03/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MARKIDES\Markides Associates
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

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
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 segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2025 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓
D4	2025 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓
D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓
D9	2028 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓
D10	2028 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
AL	✓	100.000	100.000

2023, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.07	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A227N	A227 Wrotham Road (N)	
SA	Site Access	
A2ON	A2 EB On Slip	
A227S	A227 Wrotham Road (S)	
A2OFF	A2 EB Off Slip	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A227N	4.60	9.30	22.1	48.8	63.9	50.0	
SA	3.10	5.50	5.4	12.7	63.9	59.0	
A2ON							✓
A227S	7.10	9.30	17.9	31.1	63.9	47.0	
A2OFF	7.00	10.20	17.9	40.0	63.9	24.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A227N	Direct	Queue Survey	750
SA	None		
A2ON			
A227S	None		
A2OFF	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A227N	0.600	2900
SA	0.400	1080
A2ON		
A227S	0.662	2521
A2OFF	0.741	2862

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 segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1390	100.000
SA		ONE HOUR	✓	0	100.000
A20N					
A227S		ONE HOUR	✓	1001	100.000
A20FF		ONE HOUR	✓	614	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A20N	A227S	A20FF
From	A227N	0	0	441	949	0
	SA	0	0	0	0	0
	A20N	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	806	0	194	1	0
	A20FF	445	1	2	166	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A20N	A227S	A20FF
From	A227N	0	0	2	4	0
	SA	0	0	0	0	0
	A20N	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	0	2	100	0
	A20FF	5	0	0	4	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)
A227N	0.60	3.48	1.5	A	1275	1913
SA	0.00	0.00	0.0	A	0	0
A20N						
A227S	0.45	2.63	0.8	A	919	1378
A20FF	0.35	2.85	0.5	A	563	845

Main Results for each time segment

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
A227N	1046	262	273	2642	0.396	1044	940	0.0	0.7	2.248	A
SA	0	0	1317	536	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			838				478				
A227S	754	188	0	2469	0.305	752	838	0.0	0.4	2.095	A
A2OFF	462	116	752	2190	0.211	461	0	0.0	0.3	2.081	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
A227N	1250	312	327	2610	0.479	1249	1124	0.7	0.9	2.643	A
SA	0	0	1575	429	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1002				572				
A227S	900	225	0	2469	0.365	899	1002	0.4	0.6	2.294	A
A2OFF	552	138	899	2084	0.265	552	0	0.3	0.4	2.349	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
A227N	1530	383	400	2566	0.596	1528	1376	0.9	1.5	3.461	A
SA	0	0	1928	284	0.000	0	1	0.0	0.0	0.000	A
A2ON			1227				700				
A227S	1102	276	0	2469	0.446	1101	1227	0.6	0.8	2.631	A
A2OFF	676	169	1101	1938	0.349	675	0	0.4	0.5	2.850	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
A227N	1530	383	401	2566	0.596	1530	1377	1.5	1.5	3.476	A
SA	0	0	1930	283	0.000	0	1	0.0	0.0	0.000	A
A2ON			1229				701				
A227S	1102	276	0	2469	0.446	1102	1229	0.8	0.8	2.633	A
A2OFF	676	169	1102	1937	0.349	676	0	0.5	0.5	2.853	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
A227N	1250	312	328	2610	0.479	1252	1126	1.5	0.9	2.657	A
SA	0	0	1578	428	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1005				574				
A227S	900	225	0	2469	0.365	901	1005	0.8	0.6	2.296	A
A2OFF	552	138	901	2083	0.265	553	0	0.5	0.4	2.355	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
A227N	1046	262	274	2642	0.396	1048	943	0.9	0.7	2.261	A
SA	0	0	1321	534	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			841				480				
A227S	754	188	0	2469	0.305	754	841	0.6	0.4	2.101	A
A2OFF	462	116	754	2189	0.211	463	0	0.4	0.3	2.086	A

2023, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1321	100.000
SA		ONE HOUR	✓	0	100.000
A2ON					
A227S		ONE HOUR	✓	1010	100.000
A2OFF		ONE HOUR	✓	1124	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	531	790	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	827	0	182	1	0
	A2OFF	788	0	4	332	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
A227N	0	0	1	2	0	
SA	0	0	0	0	0	
A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	
A227S	1	0	1	0	0	
A2OFF	2	0	25	0	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)
A227N	0.58	3.39	1.4	A	1212	1818
SA	0.00	0.00	0.0	A	0	0
A2ON						
A227S	0.45	2.60	0.8	A	927	1390
A2OFF	0.62	4.72	1.6	A	1031	1547

Main Results for each time segment

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
A227N	995	249	390	2623	0.379	992	1213	0.0	0.6	2.204	A
SA	0	0	1382	520	0.000	0	0	0.0	0.0	0.000	A
A2ON			843				538				
A227S	760	190	0	2496	0.305	759	843	0.0	0.4	2.071	A
A2OFF	846	212	759	2261	0.374	844	0	0.0	0.6	2.536	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
A227N	1188	297	466	2578	0.461	1187	1451	0.6	0.8	2.586	A
SA	0	0	1653	411	0.000	0	0	0.0	0.0	0.000	A
A2ON			1009				644				
A227S	908	227	0	2496	0.364	907	1009	0.4	0.6	2.267	A
A2OFF	1010	253	907	2151	0.470	1009	0	0.6	0.9	3.150	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
A227N	1454	364	570	2516	0.578	1452	1775	0.8	1.4	3.380	A
SA	0	0	2023	261	0.000	0	0	0.0	0.0	0.000	A
A2ON			1234				788				
A227S	1112	278	0	2496	0.446	1111	1234	0.6	0.8	2.599	A
A2OFF	1238	309	1111	2001	0.619	1235	0	0.9	1.6	4.681	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
A227N	1454	364	571	2515	0.578	1454	1778	1.4	1.4	3.392	A
SA	0	0	2026	259	0.000	0	0	0.0	0.0	0.000	A
A2ON			1236				789				
A227S	1112	278	0	2496	0.446	1112	1236	0.8	0.8	2.601	A
A2OFF	1238	309	1112	2000	0.619	1238	0	1.6	1.6	4.720	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
A227N	1188	297	468	2577	0.461	1190	1455	1.4	0.9	2.600	A
SA	0	0	1657	409	0.000	0	0	0.0	0.0	0.000	A
A2ON			1012				646				
A227S	908	227	0	2496	0.364	909	1012	0.8	0.6	2.269	A
A2OFF	1010	253	909	2150	0.470	1013	0	1.6	0.9	3.177	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
A227N	995	249	391	2622	0.379	996	1217	0.9	0.6	2.215	A
SA	0	0	1387	518	0.000	0	0	0.0	0.0	0.000	A
A2ON			846				540				
A227S	760	190	0	2496	0.305	761	846	0.6	0.4	2.077	A
A2OFF	846	212	761	2259	0.375	847	0	0.9	0.6	2.554	A

2025 Do Nothing, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1432	100.000
SA		ONE HOUR	✓	0	100.000
A2ON					
A227S		ONE HOUR	✓	1013	100.000
A2OFF		ONE HOUR	✓	631	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	453	979	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	816	0	196	1	0
	A2OFF	459	1	2	169	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	0	2	100	0
	A2OFF	5	0	0	4	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)
A227N	0.62	3.65	1.6	A	1314	1971
SA	0.00	0.00	0.0	A	0	0
A2ON						
A227S	0.45	2.66	0.8	A	930	1394
A2OFF	0.36	2.92	0.6	A	579	869

Main Results for each time segment

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
A227N	1078	270	277	2640	0.408	1075	958	0.0	0.7	2.297	A
SA	0	0	1352	522	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			863				489				
A227S	763	191	0	2469	0.309	761	863	0.0	0.4	2.106	A
A2OFF	475	119	761	2184	0.218	474	0	0.0	0.3	2.105	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
A227N	1287	322	332	2607	0.494	1286	1145	0.7	1.0	2.722	A
SA	0	0	1617	412	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1032				585				
A227S	911	228	0	2469	0.369	910	1032	0.4	0.6	2.310	A
A2OFF	567	142	910	2076	0.273	567	0	0.3	0.4	2.385	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
A227N	1577	394	406	2563	0.615	1574	1402	1.0	1.6	3.633	A
SA	0	0	1979	262	0.000	0	1	0.0	0.0	0.000	A
A2ON			1263				716				
A227S	1115	279	0	2469	0.452	1114	1263	0.6	0.8	2.657	A
A2OFF	695	174	1114	1928	0.360	694	0	0.4	0.6	2.915	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
A227N	1577	394	406	2562	0.615	1577	1404	1.6	1.6	3.651	A
SA	0	0	1982	261	0.000	0	1	0.0	0.0	0.000	A
A2ON			1265				717				
A227S	1115	279	0	2469	0.452	1115	1265	0.8	0.8	2.659	A
A2OFF	695	174	1115	1928	0.360	695	0	0.6	0.6	2.919	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
A227N	1287	322	332	2607	0.494	1290	1147	1.6	1.0	2.737	A
SA	0	0	1621	410	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1035				586				
A227S	911	228	0	2469	0.369	912	1035	0.8	0.6	2.314	A
A2OFF	567	142	912	2075	0.273	568	0	0.6	0.4	2.391	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
A227N	1078	270	278	2639	0.408	1079	961	1.0	0.7	2.308	A
SA	0	0	1356	520	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			866				491				
A227S	763	191	0	2469	0.309	763	866	0.6	0.4	2.112	A
A2OFF	475	119	763	2182	0.218	475	0	0.4	0.3	2.111	A

2025 Do Nothing, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1346	100.000
SA		ONE HOUR	✓	0	100.000
A2ON					
A227S		ONE HOUR	✓	1026	100.000
A2OFF		ONE HOUR	✓	1159	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	539	807	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	842	0	183	1	0
	A2OFF	818	0	4	337	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	1	1	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	0	1	0	0
	A2OFF	1	0	25	0	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)
A227N	0.59	3.45	1.4	A	1235	1853
SA	0.00	0.00	0.0	A	0	0
A2ON						
A227S	0.45	2.63	0.8	A	941	1412
A2OFF	0.64	4.97	1.7	A	1064	1595

Main Results for each time segment

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
A227N	1013	253	394	2636	0.384	1011	1247	0.0	0.6	2.212	A
SA	0	0	1405	513	0.000	0	0	0.0	0.0	0.000	A
A2ON			860				545				
A227S	772	193	0	2496	0.310	771	860	0.0	0.4	2.085	A
A2OFF	873	218	771	2267	0.385	870	0	0.0	0.6	2.572	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
A227N	1210	303	472	2590	0.467	1209	1491	0.6	0.9	2.606	A
SA	0	0	1681	402	0.000	0	0	0.0	0.0	0.000	A
A2ON			1028				652				
A227S	922	231	0	2496	0.370	922	1028	0.4	0.6	2.287	A
A2OFF	1042	260	922	2155	0.483	1041	0	0.6	0.9	3.227	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
A227N	1482	370	577	2527	0.586	1480	1825	0.9	1.4	3.431	A
SA	0	0	2057	250	0.000	0	0	0.0	0.0	0.000	A
A2ON			1258				798				
A227S	1130	282	0	2496	0.453	1129	1258	0.6	0.8	2.632	A
A2OFF	1276	319	1129	2002	0.638	1273	0	0.9	1.7	4.918	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
A227N	1482	370	578	2526	0.587	1482	1828	1.4	1.4	3.446	A
SA	0	0	2060	249	0.000	0	0	0.0	0.0	0.000	A
A2ON			1261				799				
A227S	1130	282	0	2496	0.453	1130	1261	0.8	0.8	2.635	A
A2OFF	1276	319	1130	2001	0.638	1276	0	1.7	1.7	4.966	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
A227N	1210	303	473	2589	0.467	1212	1495	1.4	0.9	2.620	A
SA	0	0	1685	400	0.000	0	0	0.0	0.0	0.000	A
A2ON			1032				654				
A227S	922	231	0	2496	0.370	923	1032	0.8	0.6	2.292	A
A2OFF	1042	260	923	2154	0.484	1045	0	1.7	0.9	3.254	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
A227N	1013	253	396	2635	0.385	1014	1251	0.9	0.6	2.222	A
SA	0	0	1410	511	0.000	0	0	0.0	0.0	0.000	A
A2ON			863				547				
A227S	772	193	0	2496	0.310	773	863	0.6	0.4	2.091	A
A2OFF	873	218	773	2266	0.385	874	0	0.9	0.6	2.588	A

2025 Do Minimum, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1432	100.000
SA		ONE HOUR	✓	105	100.000
A2ON					
A227S		ONE HOUR	✓	1061	100.000
A2OFF		ONE HOUR	✓	662	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	28	442	962	0
	SA	0	0	43	62	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	816	53	191	1	0
	A2OFF	459	32	2	169	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
A227N	0	0	2	4	0	
SA	0	0	2	2	0	
A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	
A227S	2	3	2	100	0	
A2OFF	5	3	0	4	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)
A227N	0.63	3.85	1.7	A	1314	1971
SA	0.43	23.16	0.7	C	96	145
A2ON						
A227S	0.47	2.77	0.9	A	974	1460
A2OFF	0.39	3.10	0.6	A	607	911

Main Results for each time segment

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
A227N	1078	270	336	2606	0.414	1075	958	0.0	0.7	2.348	A
SA	79	20	1327	521	0.152	78	85	0.0	0.2	8.113	A
A2ON			896				509				
A227S	799	200	0	2468	0.324	797	896	0.0	0.5	2.153	A
A2OFF	498	125	797	2159	0.231	497	0	0.0	0.3	2.165	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
A227N	1287	322	402	2566	0.502	1286	1145	0.7	1.0	2.809	A
SA	94	24	1587	416	0.227	94	102	0.2	0.3	11.164	B
A2ON			1072				609				
A227S	954	238	0	2468	0.387	953	1072	0.5	0.6	2.375	A
A2OFF	595	149	953	2046	0.291	595	0	0.3	0.4	2.480	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
A227N	1577	394	493	2512	0.628	1574	1402	1.0	1.7	3.826	A
SA	116	29	1942	272	0.425	114	124	0.3	0.7	22.541	C
A2ON			1312				745				
A227S	1168	292	0	2468	0.473	1167	1312	0.6	0.9	2.765	A
A2OFF	729	182	1167	1891	0.385	728	0	0.4	0.6	3.093	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
A227N	1577	394	493	2512	0.628	1577	1404	1.7	1.7	3.849	A
SA	116	29	1945	271	0.427	116	124	0.7	0.7	23.159	C
A2ON			1315				746				
A227S	1168	292	0	2468	0.473	1168	1315	0.9	0.9	2.769	A
A2OFF	729	182	1168	1890	0.386	729	0	0.6	0.6	3.098	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
A227N	1287	322	403	2566	0.502	1290	1148	1.7	1.0	2.829	A
SA	94	24	1592	414	0.228	96	102	0.7	0.3	11.379	B
A2ON			1076				611				
A227S	954	238	0	2468	0.387	955	1076	0.9	0.6	2.380	A
A2OFF	595	149	955	2045	0.291	596	0	0.6	0.4	2.487	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
A227N	1078	270	338	2605	0.414	1079	961	1.0	0.7	2.360	A
SA	79	20	1332	519	0.152	80	85	0.3	0.2	8.194	A
A2ON			900				511				
A227S	799	200	0	2468	0.324	799	900	0.6	0.5	2.158	A
A2OFF	498	125	799	2157	0.231	499	0	0.4	0.3	2.171	A

2025 Do Minimum, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.96	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1346	100.000
SA		ONE HOUR	✓	117	100.000
A2ON					
A227S		ONE HOUR	✓	1063	100.000
A2OFF		ONE HOUR	✓	1205	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	539	807	0
	SA	28	0	46	43	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	832	47	183	1	0
	A2OFF	801	70	4	330	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
	A227N	0	0	1	1	0
	SA	0	0	1	1	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	1	1	0	0
	A2OFF	2	1	25	0	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)
A227N	0.60	3.70	1.5	A	1235	1853
SA	0.51	29.49	1.0	D	107	161
A2ON						
A227S	0.47	2.76	0.9	A	975	1463
A2OFF	0.69	5.91	2.2	A	1106	1659

Main Results for each time segment

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
A227N	1013	253	477	2586	0.392	1011	1247	0.0	0.6	2.280	A
SA	88	22	1400	512	0.172	87	88	0.0	0.2	8.469	A
A2ON			907				580				
A227S	800	200	21	2482	0.322	798	887	0.0	0.5	2.137	A
A2OFF	907	227	819	2216	0.409	904	0	0.0	0.7	2.738	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
A227N	1210	303	570	2531	0.478	1209	1492	0.6	0.9	2.721	A
SA	105	26	1674	402	0.262	105	105	0.2	0.3	12.094	B
A2ON			1085				693				
A227S	956	239	25	2479	0.385	955	1060	0.5	0.6	2.360	A
A2OFF	1083	271	980	2098	0.516	1082	0	0.7	1.1	3.538	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
A227N	1482	370	697	2454	0.604	1480	1824	0.9	1.5	3.683	A
SA	129	32	2049	252	0.512	126	129	0.3	1.0	28.129	D
A2ON			1327				848				
A227S	1170	293	30	2476	0.473	1169	1297	0.6	0.9	2.752	A
A2OFF	1327	332	1200	1936	0.685	1322	0	1.1	2.1	5.824	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
A227N	1482	370	699	2453	0.604	1482	1829	1.5	1.5	3.704	A
SA	129	32	2052	250	0.515	129	129	1.0	1.0	29.489	D
A2ON			1331				850				
A227S	1170	293	31	2475	0.473	1170	1300	0.9	0.9	2.758	A
A2OFF	1327	332	1201	1935	0.686	1327	0	2.1	2.2	5.914	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
A227N	1210	303	573	2529	0.478	1212	1498	1.5	0.9	2.740	A
SA	105	26	1679	400	0.263	108	105	1.0	0.4	12.444	B
A2ON			1091				696				
A227S	956	239	26	2479	0.386	957	1065	0.9	0.6	2.366	A
A2OFF	1083	271	982	2096	0.517	1088	0	2.2	1.1	3.586	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
A227N	1013	253	479	2585	0.392	1014	1252	0.9	0.6	2.294	A
SA	88	22	1405	509	0.173	89	88	0.4	0.2	8.567	A
A2ON			912				582				
A227S	800	200	21	2482	0.322	801	890	0.6	0.5	2.142	A
A2OFF	907	227	822	2214	0.410	909	0	1.1	0.7	2.761	A

2025 Do Minimum Residual, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1432	100.000
SA		ONE HOUR	✓	94	100.000
A2ON					
A227S		ONE HOUR	✓	1058	100.000
A2OFF		ONE HOUR	✓	659	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	28	442	962	0
	SA	0	0	39	55	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	816	50	191	1	0
	A2OFF	459	29	2	169	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	3	3	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	3	2	100	0
	A2OFF	5	4	0	4	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)
A227N	0.63	3.83	1.7	A	1314	1971
SA	0.39	21.84	0.6	C	86	129
A2ON						
A227S	0.47	2.76	0.9	A	971	1456
A2OFF	0.38	3.09	0.6	A	605	907

Main Results for each time segment

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
A227N	1078	270	332	2608	0.413	1075	958	0.0	0.7	2.344	A
SA	71	18	1327	516	0.137	70	80	0.0	0.2	8.058	A
A2ON			891				506				
A227S	797	199	0	2468	0.323	795	891	0.0	0.5	2.150	A
A2OFF	496	124	795	2160	0.230	495	0	0.0	0.3	2.162	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
A227N	1287	322	397	2569	0.501	1286	1145	0.7	1.0	2.803	A
SA	85	21	1587	412	0.205	84	96	0.2	0.3	10.969	B
A2ON			1066				605				
A227S	951	238	0	2468	0.385	951	1066	0.5	0.6	2.371	A
A2OFF	592	148	951	2047	0.289	592	0	0.3	0.4	2.474	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
A227N	1577	394	486	2516	0.627	1574	1402	1.0	1.7	3.810	A
SA	103	26	1942	269	0.384	102	118	0.3	0.6	21.353	C
A2ON			1304				741				
A227S	1165	291	0	2468	0.472	1164	1304	0.6	0.9	2.758	A
A2OFF	726	181	1164	1893	0.383	725	0	0.4	0.6	3.081	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
A227N	1577	394	487	2516	0.627	1577	1404	1.7	1.7	3.833	A
SA	103	26	1945	268	0.386	103	118	0.6	0.6	21.836	C
A2ON			1307				742				
A227S	1165	291	0	2468	0.472	1165	1307	0.9	0.9	2.762	A
A2OFF	726	181	1165	1892	0.384	726	0	0.6	0.6	3.085	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
A227N	1287	322	398	2569	0.501	1290	1148	1.7	1.0	2.820	A
SA	85	21	1591	410	0.206	86	96	0.6	0.3	11.151	B
A2ON			1070				607				
A227S	951	238	0	2468	0.385	952	1070	0.9	0.6	2.378	A
A2OFF	592	148	952	2046	0.290	593	0	0.6	0.4	2.481	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
A227N	1078	270	333	2608	0.413	1079	961	1.0	0.7	2.358	A
SA	71	18	1332	514	0.138	71	81	0.3	0.2	8.132	A
A2ON			895				508				
A227S	797	199	0	2468	0.323	797	895	0.6	0.5	2.155	A
A2OFF	496	124	797	2158	0.230	497	0	0.4	0.3	2.169	A

2025 Do Minimum Residual, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1346	100.000
SA		ONE HOUR	✓	108	100.000
A2ON					
A227S		ONE HOUR	✓	1058	100.000
A2OFF		ONE HOUR	✓	1196	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	539	807	0
	SA	28	0	41	39	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	832	42	183	1	0
	A2OFF	801	61	4	330	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
	A227N	0	0	1	1	0
	SA	0	0	2	1	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	1	1	0	0
	A2OFF	2	1	25	0	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)
A227N	0.60	3.67	1.5	A	1235	1853
SA	0.48	27.49	0.9	D	99	149
A2ON						
A227S	0.47	2.75	0.9	A	971	1456
A2OFF	0.68	5.78	2.1	A	1097	1646

Main Results for each time segment

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
A227N	1013	253	466	2593	0.391	1011	1247	0.0	0.6	2.271	A
SA	81	20	1400	510	0.160	81	77	0.0	0.2	8.374	A
A2ON			904				576				
A227S	797	199	21	2482	0.321	795	884	0.0	0.5	2.132	A
A2OFF	900	225	816	2219	0.406	898	0	0.0	0.7	2.718	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
A227N	1210	303	558	2538	0.477	1209	1492	0.6	0.9	2.705	A
SA	97	24	1674	400	0.243	97	92	0.2	0.3	11.833	B
A2ON			1082				689				
A227S	951	238	25	2479	0.384	951	1057	0.5	0.6	2.353	A
A2OFF	1075	269	976	2101	0.512	1074	0	0.7	1.0	3.499	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
A227N	1482	370	682	2464	0.602	1480	1825	0.9	1.5	3.649	A
SA	119	30	2049	251	0.474	117	113	0.3	0.9	26.428	D
A2ON			1323				843				
A227S	1165	291	30	2476	0.471	1164	1293	0.6	0.9	2.741	A
A2OFF	1317	329	1194	1940	0.679	1313	0	1.0	2.1	5.699	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
A227N	1482	370	684	2463	0.602	1482	1829	1.5	1.5	3.669	A
SA	119	30	2052	249	0.477	119	113	0.9	0.9	27.488	D
A2ON			1327				844				
A227S	1165	291	31	2475	0.471	1165	1296	0.9	0.9	2.746	A
A2OFF	1317	329	1196	1939	0.679	1317	0	2.1	2.1	5.782	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
A227N	1210	303	560	2537	0.477	1212	1497	1.5	0.9	2.724	A
SA	97	24	1679	398	0.244	99	93	0.9	0.3	12.132	B
A2ON			1087				691				
A227S	951	238	26	2479	0.384	952	1061	0.9	0.6	2.359	A
A2OFF	1075	269	978	2100	0.512	1079	0	2.1	1.1	3.544	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
A227N	1013	253	468	2592	0.391	1014	1252	0.9	0.6	2.283	A
SA	81	20	1405	508	0.160	82	78	0.3	0.2	8.464	A
A2ON			909				578				
A227S	797	199	21	2482	0.321	797	887	0.6	0.5	2.139	A
A2OFF	900	225	818	2217	0.406	902	0	1.1	0.7	2.741	A

2028 Do Nothing, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2028 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1533	100.000
SA		ONE HOUR	✓	0	100.000
A2ON					
A227S		ONE HOUR	✓	1048	100.000
A2OFF		ONE HOUR	✓	673	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	476	1057	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	846	0	201	1	0
	A2OFF	493	1	2	177	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	0	2	100	0
	A2OFF	4	0	0	4	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)
A227N	0.66	4.16	1.9	A	1407	2110
SA	0.00	0.00	0.0	A	0	0
A2ON						
A227S	0.47	2.74	0.9	A	962	1442
A2OFF	0.39	3.07	0.6	A	618	926

Main Results for each time segment

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
A227N	1154	289	287	2634	0.438	1151	1006	0.0	0.8	2.423	A
SA	0	0	1437	486	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			927				510				
A227S	789	197	0	2469	0.320	787	927	0.0	0.5	2.139	A
A2OFF	507	127	787	2180	0.232	505	0	0.0	0.3	2.149	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
A227N	1378	345	343	2600	0.530	1377	1203	0.8	1.1	2.941	A
SA	0	0	1719	370	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1109				610				
A227S	942	236	0	2469	0.382	942	1109	0.5	0.6	2.357	A
A2OFF	605	151	942	2068	0.293	605	0	0.3	0.4	2.461	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
A227N	1688	422	420	2554	0.661	1685	1473	1.1	1.9	4.127	A
SA	0	0	2104	211	0.000	0	1	0.0	0.0	0.000	A
A2ON			1357				746				
A227S	1154	288	0	2469	0.467	1153	1357	0.6	0.9	2.732	A
A2OFF	741	185	1153	1914	0.387	740	0	0.4	0.6	3.066	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
A227N	1688	422	421	2554	0.661	1688	1474	1.9	1.9	4.158	A
SA	0	0	2107	209	0.000	0	1	0.0	0.0	0.000	A
A2ON			1360				748				
A227S	1154	288	0	2469	0.467	1154	1360	0.9	0.9	2.737	A
A2OFF	741	185	1154	1913	0.387	741	0	0.6	0.6	3.070	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
A227N	1378	345	344	2600	0.530	1381	1205	1.9	1.1	2.964	A
SA	0	0	1724	368	0.000	0	0.90	0.0	0.0	0.000	A
A2ON			1113				612				
A227S	942	236	0	2469	0.382	943	1113	0.9	0.6	2.360	A
A2OFF	605	151	943	2066	0.293	606	0	0.6	0.4	2.465	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
A227N	1154	289	288	2633	0.438	1156	1009	1.1	0.8	2.438	A
SA	0	0	1443	484	0.000	0	0.75	0.0	0.0	0.000	A
A2ON			931				512				
A227S	789	197	0	2469	0.320	790	931	0.6	0.5	2.145	A
A2OFF	507	127	790	2178	0.233	507	0	0.4	0.3	2.156	A

2028 Do Nothing, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.24	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2028 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1423	100.000
SA		ONE HOUR	✓	0	100.000
A2ON					
A227S		ONE HOUR	✓	1073	100.000
A2OFF		ONE HOUR	✓	1241	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	559	864	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	884	0	188	1	0
	A2OFF	886	0	4	351	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	1	1	0
	SA	0	0	0	0	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	0	1	0	0
	A2OFF	1	0	25	0	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)
A227N	0.62	3.80	1.6	A	1306	1959
SA	0.00	0.00	0.0	A	0	0
A2ON						
A227S	0.47	2.74	0.9	A	985	1477
A2OFF	0.70	6.04	2.3	A	1139	1708

Main Results for each time segment

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
A227N	1071	268	408	2628	0.408	1069	1329	0.0	0.7	2.305	A
SA	0	0	1477	484	0.000	0	0	0.0	0.0	0.000	A
A2ON			913				564				
A227S	808	202	0	2496	0.324	806	913	0.0	0.5	2.129	A
A2OFF	934	234	806	2241	0.417	931	0	0.0	0.7	2.743	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
A227N	1279	320	488	2580	0.496	1278	1590	0.7	1.0	2.763	A
SA	0	0	1767	368	0.000	0	0	0.0	0.0	0.000	A
A2ON			1092				675				
A227S	965	241	0	2496	0.387	964	1092	0.5	0.6	2.349	A
A2OFF	1116	279	964	2124	0.525	1114	0	0.7	1.1	3.561	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
A227N	1567	392	597	2515	0.623	1564	1945	1.0	1.6	3.776	A
SA	0	0	2162	208	0.000	0	0	0.0	0.0	0.000	A
A2ON			1336				826				
A227S	1181	295	0	2496	0.473	1180	1336	0.6	0.9	2.734	A
A2OFF	1366	342	1180	1963	0.696	1362	0	1.1	2.2	5.940	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
A227N	1567	392	599	2514	0.623	1567	1949	1.6	1.6	3.800	A
SA	0	0	2166	207	0.000	0	0	0.0	0.0	0.000	A
A2ON			1339				827				
A227S	1181	295	0	2496	0.473	1181	1339	0.9	0.9	2.738	A
A2OFF	1366	342	1181	1962	0.696	1366	0	2.2	2.3	6.036	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
A227N	1279	320	491	2578	0.496	1282	1595	1.6	1.0	2.781	A
SA	0	0	1772	365	0.000	0	0	0.0	0.0	0.000	A
A2ON			1096				676				
A227S	965	241	0	2496	0.387	966	1096	0.9	0.6	2.354	A
A2OFF	1116	279	966	2123	0.526	1120	0	2.3	1.1	3.606	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
A227N	1071	268	410	2627	0.408	1073	1334	1.0	0.7	2.319	A
SA	0	0	1483	482	0.000	0	0	0.0	0.0	0.000	A
A2ON			917				566				
A227S	808	202	0	2496	0.324	808	917	0.6	0.5	2.134	A
A2OFF	934	234	808	2239	0.417	936	0	1.1	0.7	2.764	A

2028 Do Minimum, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1532	100.000
SA		ONE HOUR	✓	105	100.000
A2ON					
A227S		ONE HOUR	✓	1097	100.000
A2OFF		ONE HOUR	✓	704	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	28	464	1040	0
	SA	0	0	43	62	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	846	53	197	1	0
	A2OFF	493	32	2	177	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	2	2	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	3	2	100	0
	A2OFF	4	3	0	4	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)
A227N	0.67	4.41	2.1	A	1406	2109
SA	0.53	34.31	1.1	D	96	145
A2ON						
A227S	0.49	2.86	1.0	A	1007	1510
A2OFF	0.41	3.27	0.7	A	646	969

Main Results for each time segment

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
A227N	1153	288	347	2599	0.444	1150	1006	0.0	0.8	2.479	A
SA	79	20	1412	487	0.162	78	85	0.0	0.2	8.800	A
A2ON			961				530				
A227S	826	206	0	2468	0.335	824	961	0.0	0.5	2.187	A
A2OFF	530	133	824	2154	0.246	529	0	0.0	0.3	2.213	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
A227N	1377	344	415	2558	0.538	1376	1203	0.8	1.2	3.040	A
SA	94	24	1689	374	0.252	94	102	0.2	0.3	12.802	B
A2ON			1149				634				
A227S	986	247	0	2468	0.400	986	1149	0.5	0.7	2.427	A
A2OFF	633	158	986	2036	0.311	632	0	0.3	0.4	2.565	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
A227N	1687	422	508	2503	0.674	1683	1473	1.2	2.0	4.377	A
SA	116	29	2067	221	0.522	113	124	0.3	1.0	32.397	D
A2ON			1405				775				
A227S	1208	302	0	2468	0.489	1207	1405	0.7	1.0	2.852	A
A2OFF	775	194	1207	1875	0.413	774	0	0.4	0.7	3.267	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
A227N	1687	422	509	2502	0.674	1687	1474	2.0	2.1	4.414	A
SA	116	29	2071	220	0.526	115	124	1.0	1.1	34.315	D
A2ON			1409				777				
A227S	1208	302	0	2468	0.489	1208	1409	1.0	1.0	2.856	A
A2OFF	775	194	1208	1874	0.414	775	0	0.7	0.7	3.274	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
A227N	1377	344	416	2558	0.538	1381	1205	2.1	1.2	3.069	A
SA	94	24	1695	372	0.254	97	102	1.1	0.3	13.222	B
A2ON			1155				637				
A227S	986	247	0	2468	0.400	987	1155	1.0	0.7	2.435	A
A2OFF	633	158	987	2035	0.311	634	0	0.7	0.5	2.571	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
A227N	1153	288	348	2598	0.444	1155	1009	1.2	0.8	2.495	A
SA	79	20	1418	484	0.163	80	85	0.3	0.2	8.905	A
A2ON			965				532				
A227S	826	206	0	2468	0.335	827	965	0.7	0.5	2.195	A
A2OFF	530	133	827	2152	0.246	531	0	0.5	0.3	2.222	A

2028 Do Minimum, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	6.02	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1423	100.000
SA		ONE HOUR	✓	117	100.000
A2ON					
A227S		ONE HOUR	✓	1110	100.000
A2OFF		ONE HOUR	✓	1288	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	559	864	0
	SA	28	0	46	43	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	874	47	188	1	0
	A2OFF	869	70	4	345	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
	A227N	0	0	1	1	0
	SA	0	0	1	1	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	1	1	0	0
	A2OFF	1	1	25	0	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)
A227N	0.64	4.12	1.8	A	1306	1959
SA	0.62	44.92	1.5	E	107	161
A2ON						
A227S	0.49	2.87	1.0	A	1019	1528
A2OFF	0.74	7.32	2.8	A	1182	1773

Main Results for each time segment

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
A227N	1071	268	492	2578	0.416	1068	1329	0.0	0.7	2.382	A
SA	88	22	1472	482	0.183	87	88	0.0	0.2	9.087	A
A2ON			961				598				
A227S	836	209	21	2482	0.337	834	940	0.0	0.5	2.181	A
A2OFF	970	242	855	2205	0.440	967	0	0.0	0.8	2.900	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
A227N	1279	320	588	2520	0.508	1278	1590	0.7	1.0	2.896	A
SA	105	26	1761	367	0.287	104	105	0.2	0.4	13.679	B
A2ON			1150				716				
A227S	998	249	25	2479	0.403	997	1125	0.5	0.7	2.427	A
A2OFF	1158	289	1022	2081	0.557	1156	0	0.8	1.2	3.886	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
A227N	1567	392	719	2442	0.642	1564	1944	1.0	1.8	4.087	A
SA	129	32	2154	210	0.615	125	128	0.4	1.4	40.669	E
A2ON			1404				874				
A227S	1222	306	30	2476	0.494	1221	1375	0.7	1.0	2.865	A
A2OFF	1418	355	1251	1911	0.742	1412	0	1.2	2.8	7.126	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
A227N	1567	392	721	2440	0.642	1567	1950	1.8	1.8	4.120	A
SA	129	32	2159	208	0.620	128	129	1.4	1.5	44.923	E
A2ON			1410				877				
A227S	1222	306	31	2475	0.494	1222	1379	1.0	1.0	2.871	A
A2OFF	1418	355	1253	1909	0.743	1418	0	2.8	2.8	7.317	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
A227N	1279	320	591	2518	0.508	1282	1598	1.8	1.0	2.921	A
SA	105	26	1768	364	0.289	110	106	1.5	0.4	14.375	B
A2ON			1158				720				
A227S	998	249	26	2478	0.403	999	1132	1.0	0.7	2.436	A
A2OFF	1158	289	1025	2078	0.557	1164	0	2.8	1.3	3.964	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
A227N	1071	268	494	2576	0.416	1073	1335	1.0	0.7	2.397	A
SA	88	22	1478	480	0.183	89	88	0.4	0.2	9.219	A
A2ON			966				601				
A227S	836	209	21	2482	0.337	836	945	0.7	0.5	2.190	A
A2OFF	970	242	858	2203	0.440	972	0	1.3	0.8	2.928	A

2028 Do Minimum Residual, 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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1532	100.000
SA		ONE HOUR	✓	94	100.000
A2ON					
A227S		ONE HOUR	✓	1094	100.000
A2OFF		ONE HOUR	✓	701	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	28	464	1040	0
	SA	0	0	39	55	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	846	50	197	1	0
	A2OFF	493	29	2	177	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	3	3	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	3	2	100	0
	A2OFF	4	4	0	4	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)
A227N	0.67	4.39	2.0	A	1406	2109
SA	0.48	31.39	0.9	D	86	129
A2ON						
A227S	0.49	2.85	1.0	A	1004	1506
A2OFF	0.41	3.26	0.7	A	643	965

Main Results for each time segment

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
A227N	1153	288	342	2602	0.443	1150	1006	0.0	0.8	2.475	A
SA	71	18	1412	482	0.147	70	80	0.0	0.2	8.727	A
A2ON			955				527				
A227S	824	206	0	2468	0.334	822	955	0.0	0.5	2.184	A
A2OFF	528	132	822	2154	0.245	526	0	0.0	0.3	2.209	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
A227N	1377	344	410	2561	0.538	1376	1203	0.8	1.2	3.032	A
SA	85	21	1689	371	0.228	84	96	0.2	0.3	12.530	B
A2ON			1143				630				
A227S	983	246	0	2468	0.399	983	1143	0.5	0.7	2.423	A
A2OFF	630	158	983	2037	0.309	630	0	0.3	0.4	2.558	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
A227N	1687	422	502	2506	0.673	1683	1473	1.2	2.0	4.356	A
SA	103	26	2067	219	0.472	101	118	0.3	0.8	29.983	D
A2ON			1398				771				
A227S	1205	301	0	2468	0.488	1203	1398	0.7	0.9	2.844	A
A2OFF	772	193	1203	1877	0.411	771	0	0.4	0.7	3.252	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
A227N	1687	422	502	2506	0.673	1687	1474	2.0	2.0	4.394	A
SA	103	26	2071	218	0.475	103	118	0.8	0.9	31.387	D
A2ON			1401				773				
A227S	1205	301	0	2468	0.488	1205	1401	0.9	1.0	2.849	A
A2OFF	772	193	1205	1876	0.411	772	0	0.7	0.7	3.260	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
A227N	1377	344	410	2561	0.538	1381	1205	2.0	1.2	3.061	A
SA	85	21	1695	369	0.229	87	96	0.9	0.3	12.872	B
A2ON			1148				633				
A227S	983	246	0	2468	0.399	985	1148	1.0	0.7	2.428	A
A2OFF	630	158	985	2036	0.310	631	0	0.7	0.5	2.564	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
A227N	1153	288	344	2601	0.443	1155	1009	1.2	0.8	2.491	A
SA	71	18	1418	480	0.148	71	81	0.3	0.2	8.824	A
A2ON			960				529				
A227S	824	206	0	2468	0.334	824	960	0.7	0.5	2.192	A
A2OFF	528	132	824	2152	0.245	528	0	0.5	0.3	2.216	A

2028 Do Minimum Residual, PM

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	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	5.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1423	100.000
SA		ONE HOUR	✓	108	100.000
A2ON					
A227S		ONE HOUR	✓	1105	100.000
A2OFF		ONE HOUR	✓	1279	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	559	864	0
	SA	28	0	41	39	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	874	42	188	1	0
	A2OFF	869	61	4	345	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	1	1	0
	SA	0	0	2	1	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	1	1	0	0
	A2OFF	1	1	25	0	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)
A227N	0.64	4.08	1.8	A	1306	1959
SA	0.57	40.47	1.3	E	99	149
A2ON						
A227S	0.49	2.86	1.0	A	1014	1521
A2OFF	0.74	7.11	2.7	A	1174	1760

Main Results for each time segment

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
A227N	1071	268	481	2584	0.415	1068	1329	0.0	0.7	2.372	A
SA	81	20	1472	481	0.169	81	77	0.0	0.2	8.976	A
A2ON			958				594				
A227S	832	208	21	2482	0.335	830	937	0.0	0.5	2.176	A
A2OFF	963	241	851	2208	0.436	960	0	0.0	0.8	2.877	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
A227N	1279	320	576	2527	0.506	1278	1590	0.7	1.0	2.879	A
SA	97	24	1761	366	0.266	96	92	0.2	0.4	13.345	B
A2ON			1146				711				
A227S	993	248	25	2479	0.401	993	1121	0.5	0.7	2.420	A
A2OFF	1150	287	1018	2084	0.552	1148	0	0.8	1.2	3.840	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
A227N	1567	392	704	2451	0.639	1564	1944	1.0	1.8	4.046	A
SA	119	30	2154	209	0.570	115	113	0.4	1.2	37.365	E
A2ON			1401				869				
A227S	1217	304	30	2476	0.491	1215	1371	0.7	1.0	2.853	A
A2OFF	1408	352	1245	1915	0.735	1402	0	1.2	2.7	6.941	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
A227N	1567	392	706	2450	0.640	1567	1950	1.8	1.8	4.077	A
SA	119	30	2159	207	0.575	119	113	1.2	1.3	40.474	E
A2ON			1406				872				
A227S	1217	304	31	2475	0.491	1217	1375	1.0	1.0	2.859	A
A2OFF	1408	352	1247	1914	0.736	1408	0	2.7	2.7	7.114	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
A227N	1279	320	578	2526	0.506	1282	1598	1.8	1.0	2.903	A
SA	97	24	1768	363	0.267	101	93	1.3	0.4	13.905	B
A2ON			1154				715				
A227S	993	248	26	2478	0.401	995	1128	1.0	0.7	2.429	A
A2OFF	1150	287	1021	2082	0.552	1156	0	2.7	1.2	3.913	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
A227N	1071	268	483	2583	0.415	1073	1335	1.0	0.7	2.387	A
SA	81	20	1478	478	0.170	82	78	0.4	0.2	9.097	A
A2ON			963				597				
A227S	832	208	21	2482	0.335	833	942	0.7	0.5	2.183	A
A2OFF	963	241	854	2205	0.437	965	0	1.2	0.8	2.907	A

APPENDIX I – A227 WROTHAM ROAD / A2 WESTBOUND SLIP ROAD ROUNDABOUT – 2023 ARCADY REPORT

Junctions 9									
ARCADY 9 - Roundabout Module									
Version: 9.5.1.7462 © Copyright TRL Limited, 2019									
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution									

Filename: A227_A2 WB Slips RB 2023.j9

Path: M:\Projects\2022\22052 - BP Tollgate, Gravesend\07. Technical\07.02 Modelling\ARCADY

Report generation date: 03/05/2024 12:25:35

»2023, AM

»2023, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2023										
Arm A227N	D1	1.2	3.43	0.54	A	D2	1.1	3.20	0.52	A
Arm A20FF		1.4	6.95	0.59	A		1.1	6.02	0.53	A
Arm A227S		1.8	7.67	0.64	A		1.3	5.55	0.57	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

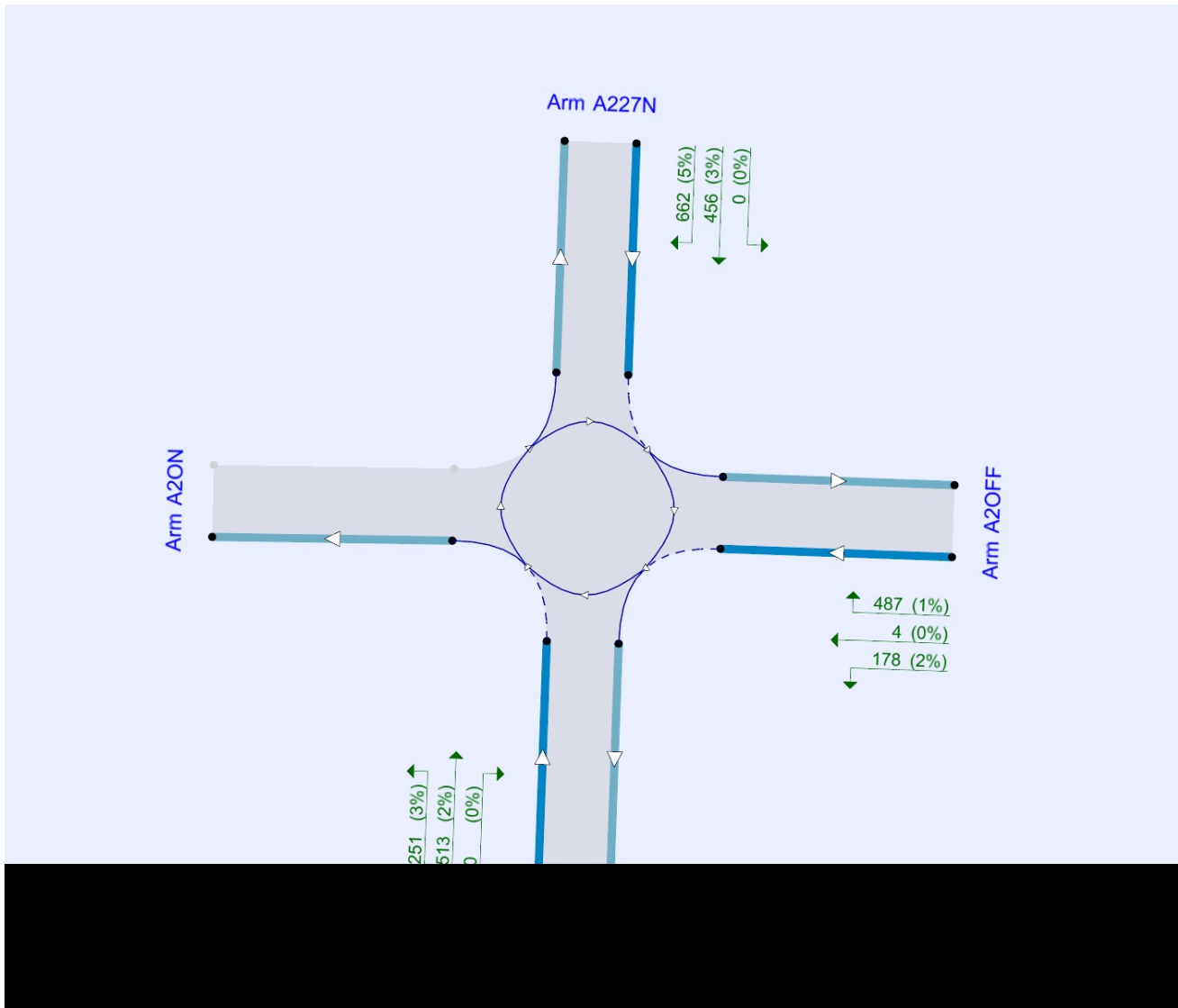
File summary

File Description

Title	
Location	
Site number	
Date	28/03/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MARKIDES\Markides Associates
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

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
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 segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2023, 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	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	5.60	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A227N	A227 Wrotham Road (N)	
A2OFF	A2 WB Off Slip	
A227S	A227 Wrotham Road (S)	
A2ON	A2 WB On Slip	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A227N	7.60	8.10	6.9	20.8	59.9	36.0	
A2OFF	6.10	8.50	10.2	19.1	59.9	60.0	
A227S	4.90	9.20	22.2	24.1	59.9	49.0	
A2ON							✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A227N	0.671	2380
A2OFF	0.586	2022
A227S	0.622	2157
A2ON		

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 segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1119	100.000
A2OFF		ONE HOUR	✓	669	100.000
A227S		ONE HOUR	✓	764	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	456	662
	A2OFF	487	0	178	4
	A227S	513	0	0	251
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	100	0	3	5
	A2OFF	1	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

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)
A227N	0.54	3.43	1.2	A	1027	1540
A2OFF	0.59	6.95	1.4	A	614	921
A227S	0.64	7.67	1.8	A	701	1052
A2ON						

Main Results for each time segment

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
A227N	842	211	0	2282	0.369	840	751	0.0	0.6	2.491	A
A2OFF	504	126	840	1491	0.338	502	0	0.0	0.5	3.632	A
A227S	575	144	866	1564	0.368	573	476	0.0	0.6	3.624	A
A2ON			751				688				

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
A227N	1006	251	0	2282	0.441	1005	898	0.6	0.8	2.817	A
A2OFF	601	150	1005	1391	0.432	600	0	0.5	0.8	4.547	A
A227S	687	172	1036	1457	0.471	686	569	0.6	0.9	4.658	A
A2ON			898				823				

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
A227N	1232	308	0	2282	0.540	1231	1098	0.8	1.2	3.418	A
A2OFF	737	184	1231	1255	0.587	734	0	0.8	1.4	6.872	A
A227S	841	210	1268	1312	0.641	838	697	0.9	1.7	7.539	A
A2ON			1098				1008				

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
A227N	1232	308	0	2282	0.540	1232	1102	1.2	1.2	3.426	A
A2OFF	737	184	1232	1254	0.587	737	0	1.4	1.4	6.949	A
A227S	841	210	1271	1310	0.642	841	698	1.7	1.8	7.674	A
A2ON			1102				1010				

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
A227N	1006	251	0	2282	0.441	1007	904	1.2	0.8	2.826	A
A2OFF	601	150	1007	1390	0.433	604	0	1.4	0.8	4.596	A
A227S	687	172	1040	1455	0.472	690	571	1.8	0.9	4.730	A
A2ON			904				826				

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
A227N	842	211	0	2282	0.369	843	755	0.8	0.6	2.504	A
A2OFF	504	126	843	1489	0.338	505	0	0.8	0.5	3.661	A
A227S	575	144	870	1562	0.368	576	478	0.9	0.6	3.658	A
A2ON			755				691				

2023, PM

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	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	4.62	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1118	100.000
A2OFF		ONE HOUR	✓	617	100.000
A227S		ONE HOUR	✓	768	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	635	483
	A2OFF	447	0	169	1
	A227S	552	0	2	214
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	1	1
	A2OFF	1	0	2	0
	A227S	1	0	0	2
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

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)
A227N	0.52	3.20	1.1	A	1026	1539
A2OFF	0.53	6.02	1.1	A	566	849
A227S	0.57	5.55	1.3	A	705	1057
A2ON						

Main Results for each time segment

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
A227N	842	210	2	2355	0.357	839	749	0.0	0.6	2.372	A
A2OFF	465	116	841	1506	0.308	463	0	0.0	0.4	3.445	A
A227S	578	145	699	1697	0.341	576	605	0.0	0.5	3.207	A
A2ON			751				524				

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
A227N	1005	251	2	2355	0.427	1004	897	0.6	0.7	2.663	A
A2OFF	555	139	1006	1409	0.394	554	0	0.4	0.6	4.205	A
A227S	690	173	836	1612	0.428	689	724	0.5	0.7	3.900	A
A2ON			899				627				

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
A227N	1231	308	2	2355	0.523	1230	1097	0.7	1.1	3.194	A
A2OFF	679	170	1232	1278	0.532	677	0	0.6	1.1	5.978	A
A227S	846	211	1023	1496	0.565	843	886	0.7	1.3	5.502	A
A2ON			1099				767				

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
A227N	1231	308	2	2355	0.523	1231	1100	1.1	1.1	3.202	A
A2OFF	679	170	1233	1277	0.532	679	0	1.1	1.1	6.024	A
A227S	846	211	1025	1494	0.566	846	887	1.3	1.3	5.547	A
A2ON			1102				768				

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
A227N	1005	251	2	2355	0.427	1006	901	1.1	0.7	2.671	A
A2OFF	555	139	1008	1408	0.394	557	0	1.1	0.7	4.236	A
A227S	690	173	839	1610	0.429	693	726	1.3	0.8	3.935	A
A2ON			903				629				

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
A227N	842	210	2	2355	0.357	842	753	0.7	0.6	2.382	A
A2OFF	465	116	844	1504	0.309	465	0	0.7	0.4	3.470	A
A227S	578	145	702	1695	0.341	579	607	0.8	0.5	3.231	A
A2ON			755				526				