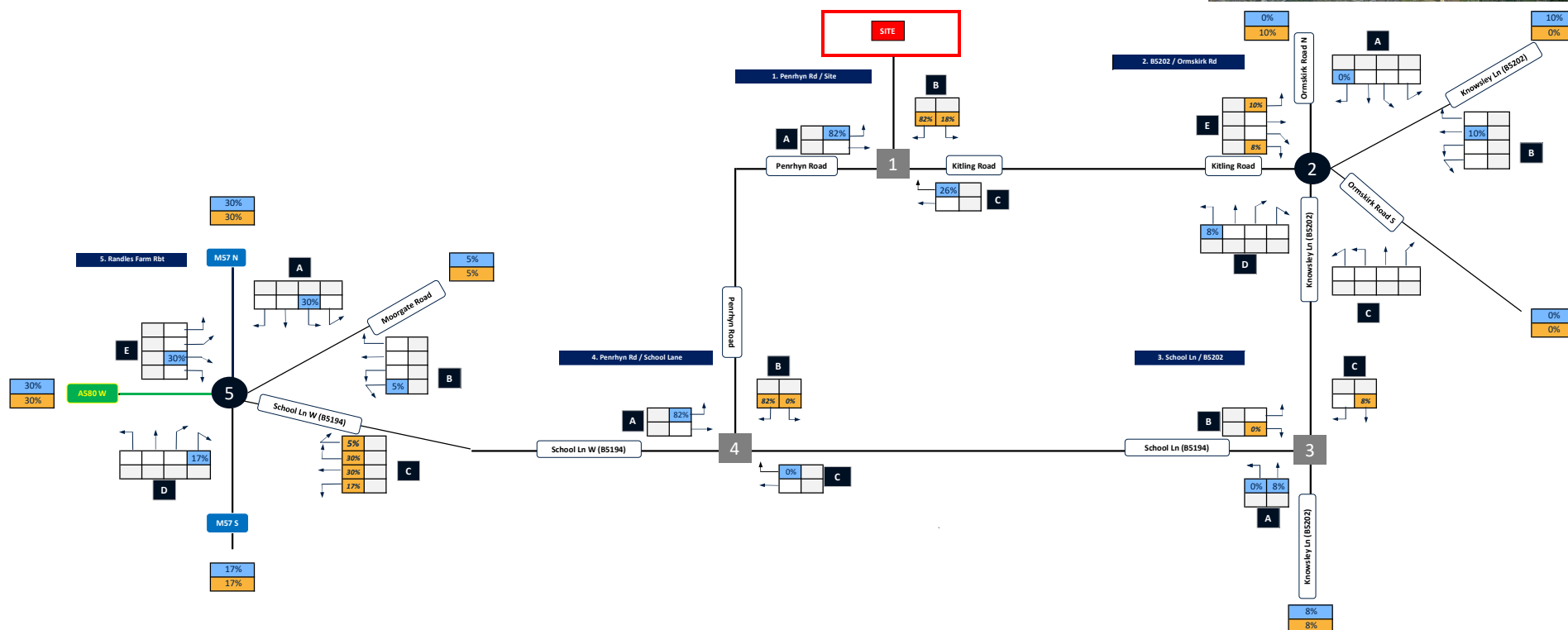
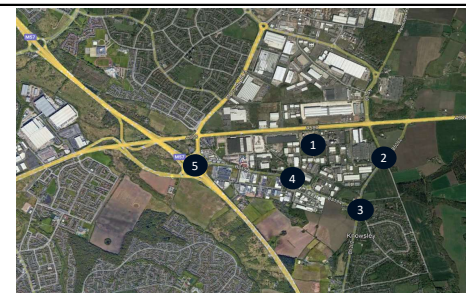
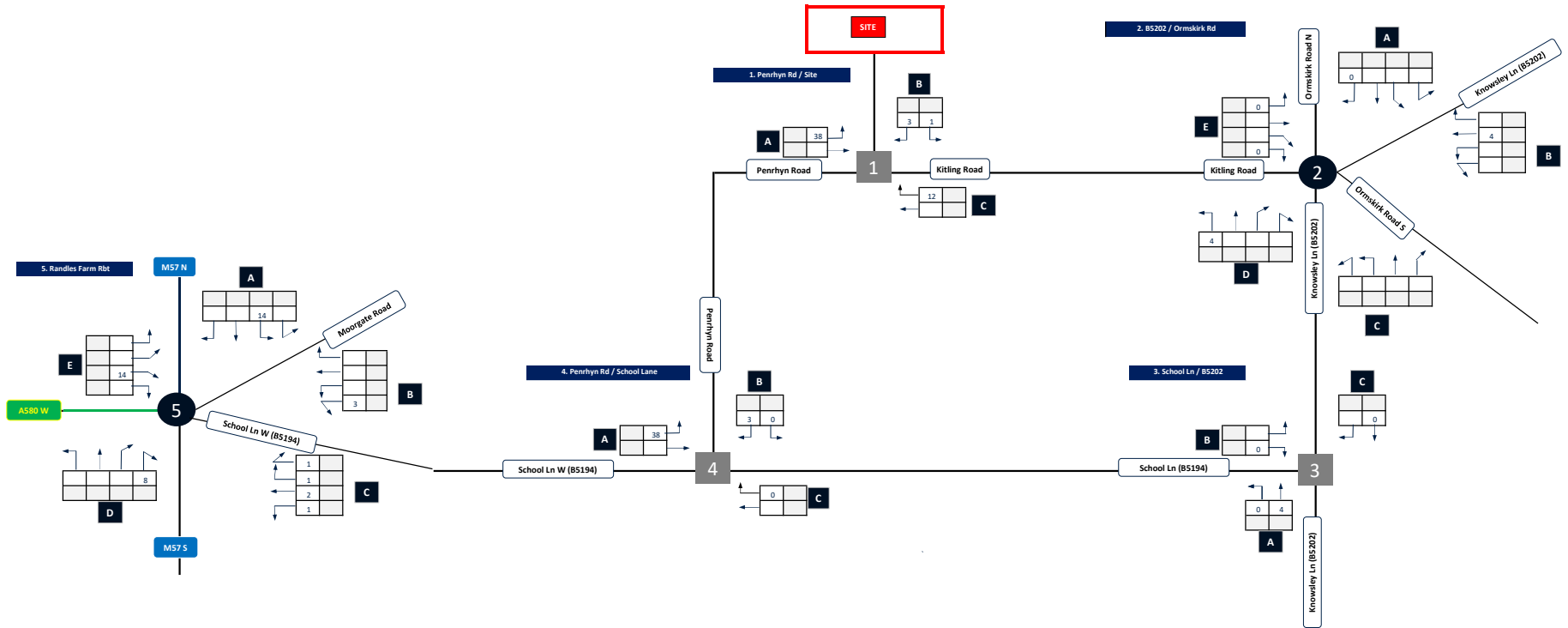


KEY
 12 Arrivals
 22 Departures



KEY	
12	Total Vehicles
12	HGVs



	In	Out
Light	46	4
HGV	2	1
Total	48	5

NOTES:

Differences due to rounding

PROJECT:

Penrhyn Road, Knowsley Business Park

TIME PERIOD:

AM Peak Hour (07:00 - 08:00)

DATE:

November 2021

JOB NUMBER:

C21054

PLAN TITLE:

Traffic Figure Diagrams

Proposed Trip Assignment (Lights)

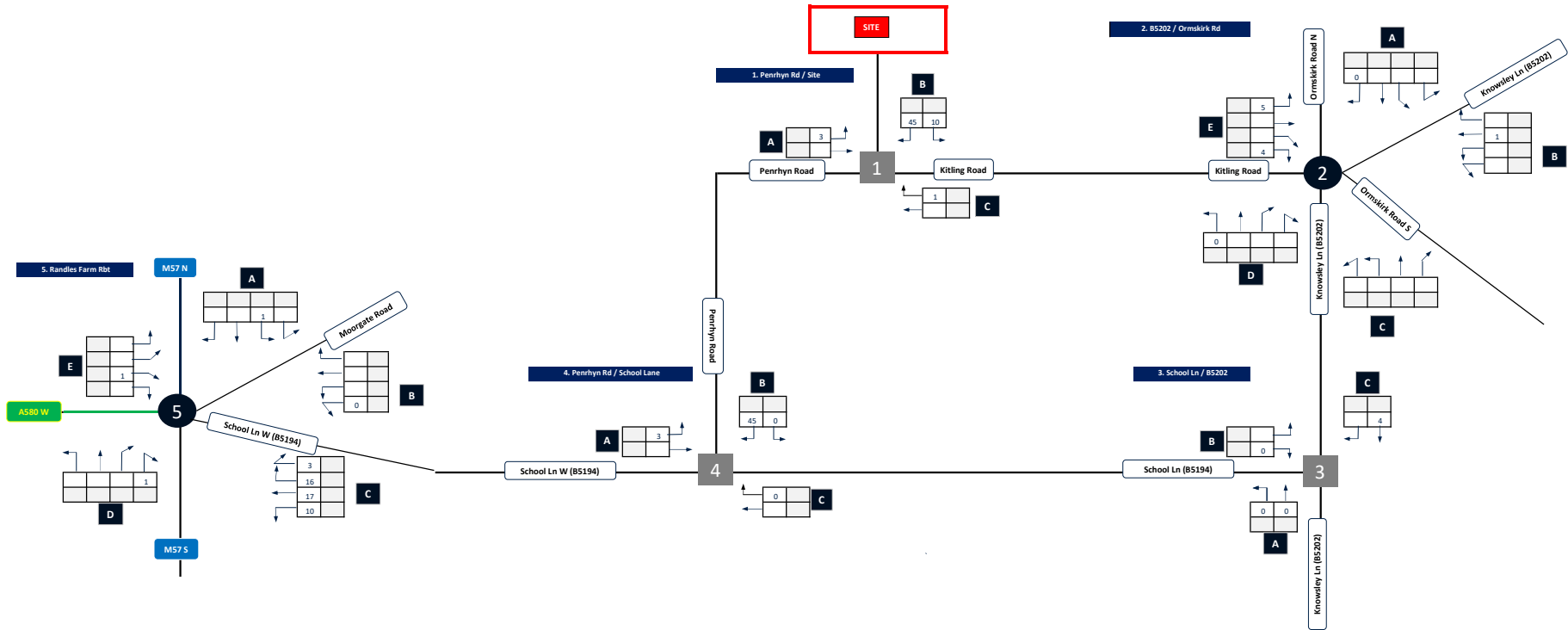
DRAWN BY:

GP

FIGURE:

003

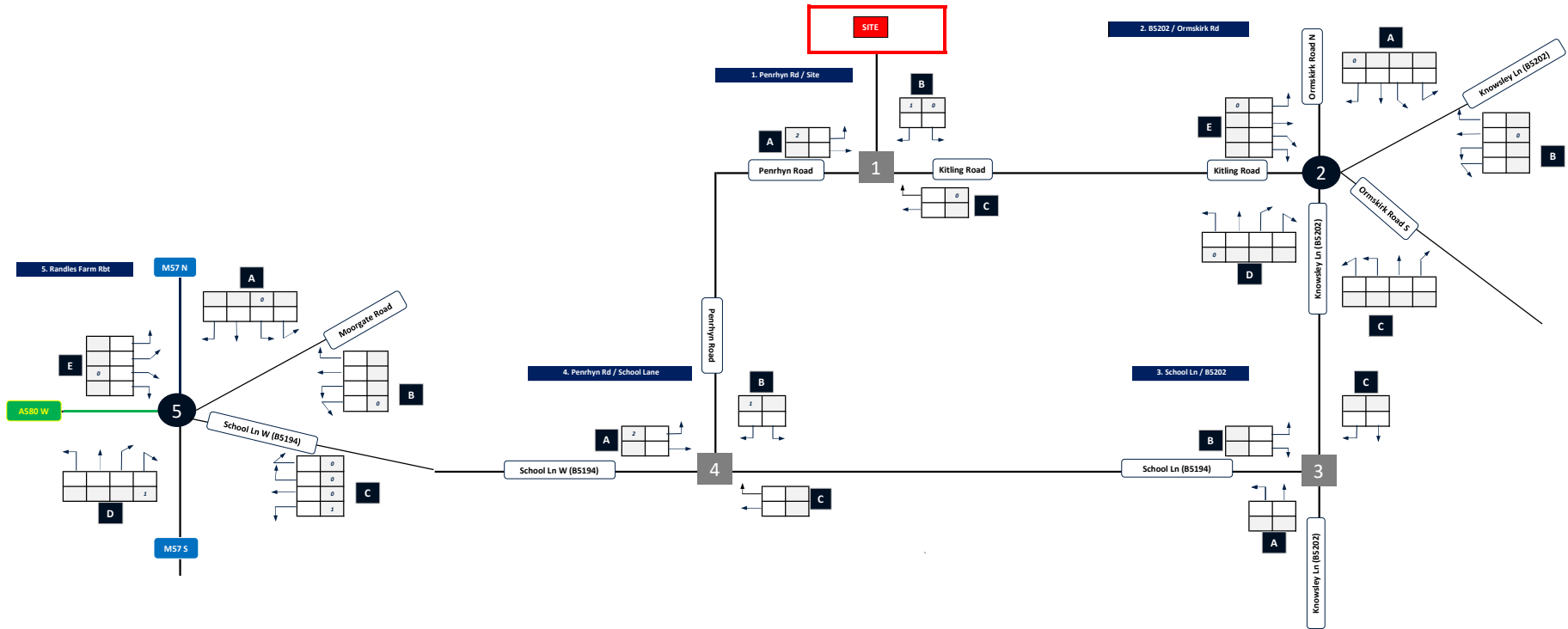
KEY	
12	Total Vehicles
12	HGVs



	In	Out
Light	4	55
HGV	1	2
Total	5	57

NOTES:
Differences due to rounding
Afternoon Peak for development is 1600:1700 which is different to the background flow peak hours - the two will be combined for a worst case

KEY	
12	Total Vehicles
12	HGVs



	In	Out
Light	46	4
HGV	2	1
Total	48	5

NOTES:

Differences due to rounding

PROJECT:

Penrhyn Road, Knowsley Business Park

TIME PERIOD:

AM Peak Hour (07:00 - 08:00)

DATE:

November 2021

JOB NUMBER:

C21054

PLAN TITLE:

Traffic Figure Diagrams

Proposed Trip Assignment (HGV's)

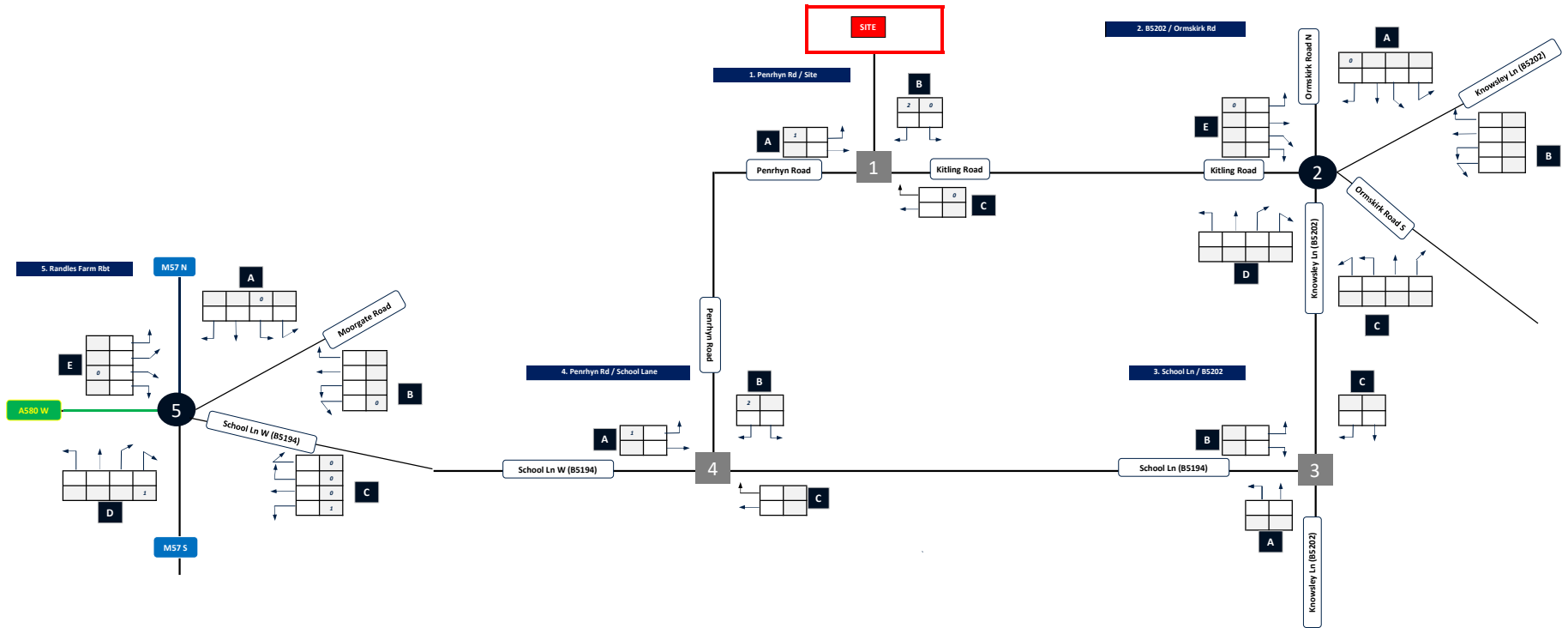
DRAWN BY:

GP

FIGURE:

004

KEY	
12	Total Vehicles
12	HGVs



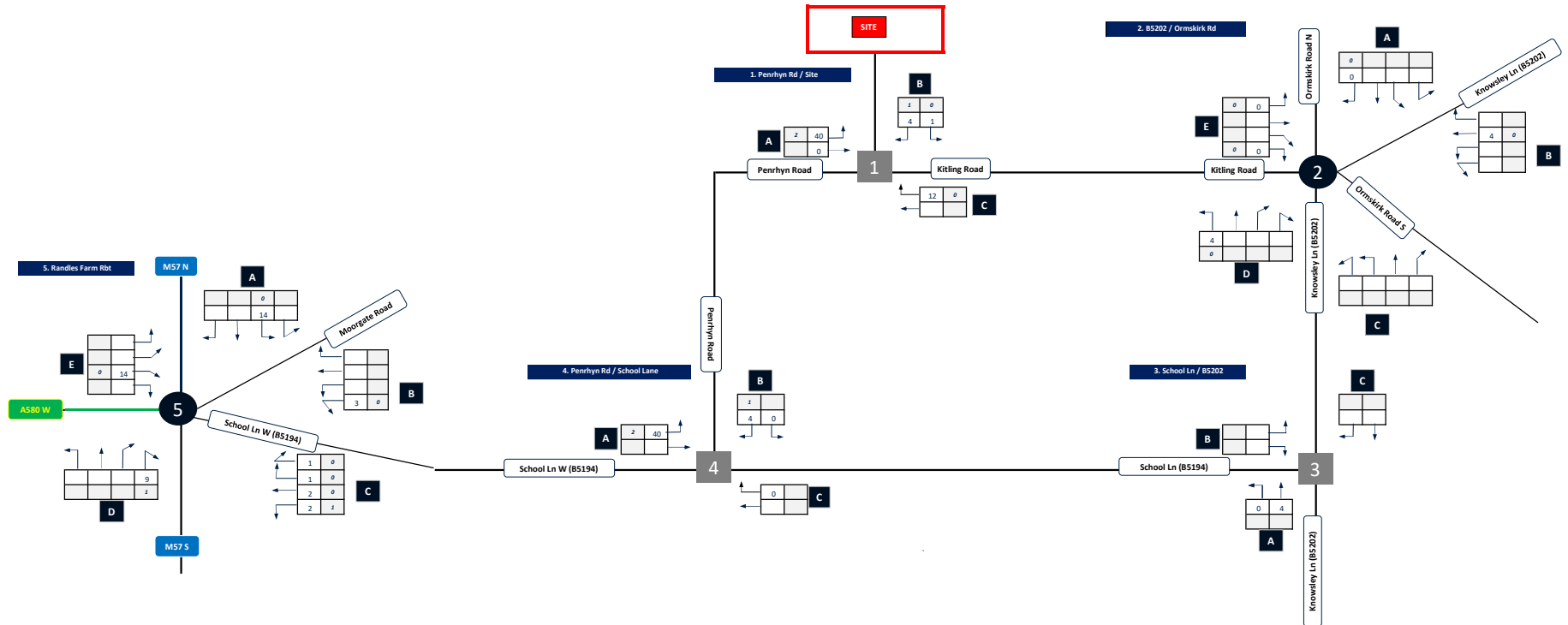
	In	Out
Light	4	55
HGV	1	2
Total	5	57

NOTES:

Differences due to rounding
 Afternoon Peak for development is 1600:1700 which is different to the background flow peak hours - the two will be combined for a worst case

PROJECT:		PLAN TITLE:	
Penrhyn Road, Knowsley Business Park		Traffic Figure Diagrams	
TIME PERIOD:		Proposed Trip Assignment (HGV's)	
PM Peak Hour (16:00 - 17:00)			
DATE:	JOB NUMBER:	DRAWN BY:	FIGURE:
November 2021	C21054	GP	006

KEY	
12	Total Vehicles
12	HGVs



	In	Out
Light	4	55
HGV	1	2
Total	5	57

NOTES:

Differences due to rounding

PROJECT:

Penrhyn Road, Knowsley Business Park

TIME PERIOD:

AM Peak Hour (07:00 - 08:00)

DATE:

November 2021

JOB NUMBER:

C21054

PLAN TITLE:

Traffic Figure Diagrams

Proposed Trip Assignment (Total Trips and HGV's)

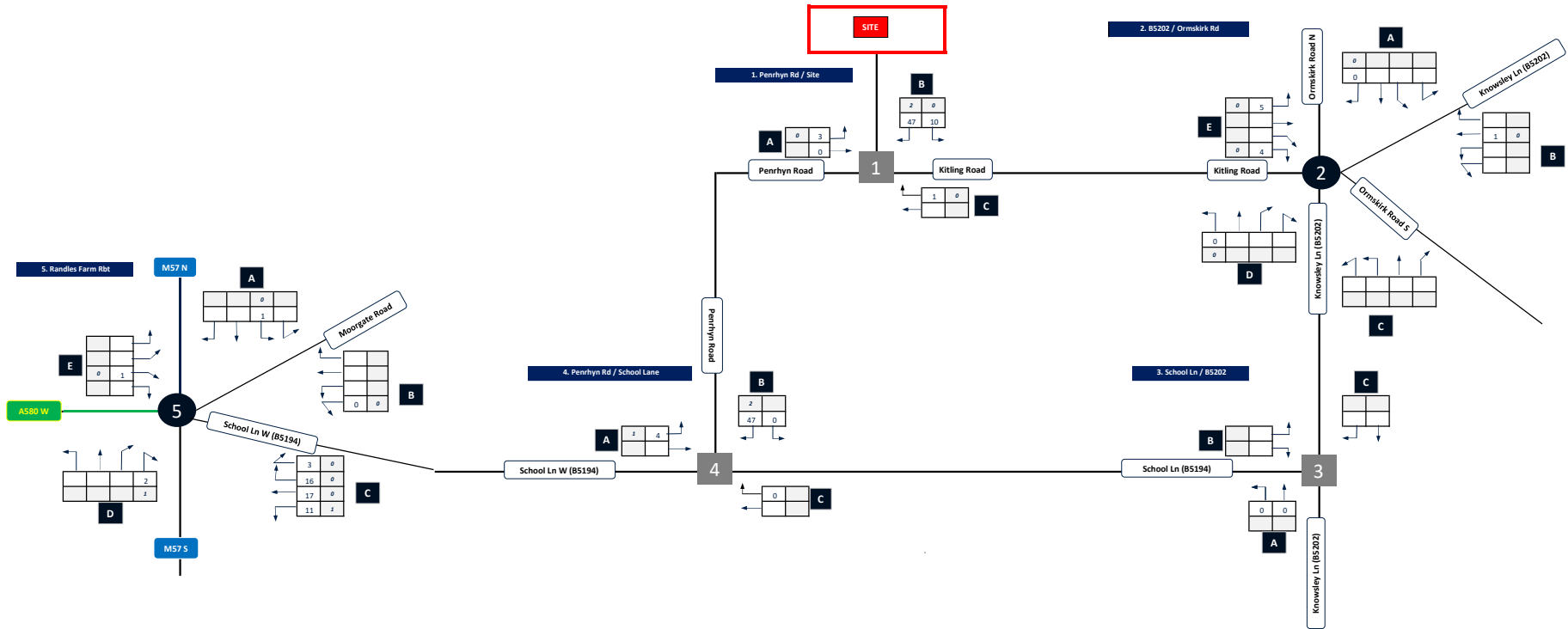
DRAWN BY:

GP

FIGURE:

007

KEY	
12	Total Vehicles
12	HGVs



	In	Out
Light	4	55
HGV	1	2
Total	5	57

NOTES:

Differences due to rounding

PROJECT:

Penrhyn Road, Knowsley Business Park

TIME PERIOD:

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

DATE:

November 2021

JOB NUMBER:

C21054

PLAN TITLE:

Traffic Figure Diagrams

Proposed Trip Assignment (Total Trips and HGV's)

DRAWN BY:

GP

FIGURE:

008

Appendix M Junctions 9 Model Outputs

Junctions 9											
PICADY 9 - Priority Intersection 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: Penrhyn Road Site Access - v.2.j9

Path: C:\Users\beth1\EvokeTransport\Evoke Transport\Evoke Projects - Documents\R-21-0176 Penrhyn Road, Knowsley\30 Technical\31 Modelling

Report generation date: 17/12/2021 14:53:51

»2031 Base + Development, AM

»2031 Base + Development, PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
2031 Base + Development												
Stream B-AC	D3	0.0	8.83	0.01	A	900 %	D4	0.1	8.48	0.13	A	451 %
Stream C-AB		0.0	5.86	0.02	A	[]		0.0	5.54	0.00	A	[Stream B-AC]

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	01/12/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DESKTOP-IQT85C8\beth1
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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	Delay	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
D3	2031 Base + Development	AM	ONE HOUR	06:45	08:15	15	✓
D4	2031 Base + Development	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

2031 Base + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way		1.16	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	900	

Arms

Arms

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

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.30			100.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	20	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	494	0.085	0.215	0.135	0.306
B-C	637	0.092	0.233	-	-
C-B	632	0.231	0.231	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Development	AM	ONE HOUR	06:45	08:15	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 (%)
A		ONE HOUR	✓	68	100.000
B		ONE HOUR	✓	5	100.000
C		ONE HOUR	✓	32	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	40	28
	B	4	0	1
	C	20	12	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	5	0
	B	25	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.01	8.83	0.0	A	5	7
C-AB	0.02	5.86	0.0	A	11	17
C-A					18	27
A-B					37	55
A-C					26	39

Main Results for each time segment

06:45 - 07:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	418	0.009	4	0.0	0.0	8.693	A
C-AB	9	2	630	0.015	9	0.0	0.0	5.802	A
C-A	15	4			15				
A-B	30	8			30				
A-C	21	5			21				

07:00 - 07:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	416	0.011	4	0.0	0.0	8.748	A
C-AB	11	3	629	0.018	11	0.0	0.0	5.824	A
C-A	18	4			18				
A-B	36	9			36				
A-C	25	6			25				

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	6	1	413	0.013	5	0.0	0.0	8.826	A
C-AB	14	3	629	0.022	14	0.0	0.0	5.854	A
C-A	22	5			22				
A-B	44	11			44				
A-C	31	8			31				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	6	1	413	0.013	6	0.0	0.0	8.826	A
C-AB	14	3	629	0.022	14	0.0	0.0	5.856	A
C-A	22	5			22				
A-B	44	11			44				
A-C	31	8			31				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	416	0.011	5	0.0	0.0	8.749	A
C-AB	11	3	629	0.018	11	0.0	0.0	5.824	A
C-A	18	4			18				
A-B	36	9			36				
A-C	25	6			25				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	418	0.009	4	0.0	0.0	8.694	A
C-AB	9	2	630	0.015	9	0.0	0.0	5.805	A
C-A	15	4			15				
A-B	30	8			30				
A-C	21	5			21				

2031 Base + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way		4.11	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	451	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Development	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 (%)
A		ONE HOUR	✓	16	100.000
B		ONE HOUR	✓	57	100.000
C		ONE HOUR	✓	47	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	3	13
	B	47	0	10
	C	46	1	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	4	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.13	8.48	0.1	A	52	78
C-AB	0.00	5.54	0.0	A	0.98	1
C-A					42	63
A-B					3	4
A-C					12	18

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	43	11	490	0.087	43	0.0	0.1	8.030	A
C-AB	0.80	0.20	651	0.001	0.79	0.0	0.0	5.532	A
C-A	35	9			35				
A-B	2	0.56			2				
A-C	10	2			10				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	51	13	489	0.105	51	0.1	0.1	8.216	A
C-AB	0.96	0.24	655	0.001	0.96	0.0	0.0	5.501	A
C-A	41	10			41				
A-B	3	0.67			3				
A-C	12	3			12				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	63	16	487	0.129	63	0.1	0.1	8.472	A
C-AB	1	0.30	660	0.002	1	0.0	0.0	5.459	A
C-A	51	13			51				
A-B	3	0.83			3				
A-C	14	4			14				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	63	16	487	0.129	63	0.1	0.1	8.477	A
C-AB	1	0.30	660	0.002	1	0.0	0.0	5.460	A
C-A	51	13			51				
A-B	3	0.83			3				
A-C	14	4			14				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	51	13	489	0.105	51	0.1	0.1	8.226	A
C-AB	0.96	0.24	655	0.001	0.96	0.0	0.0	5.505	A
C-A	41	10			41				
A-B	3	0.67			3				
A-C	12	3			12				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	43	11	490	0.087	43	0.1	0.1	8.046	A
C-AB	0.80	0.20	651	0.001	0.80	0.0	0.0	5.535	A
C-A	35	9			35				
A-B	2	0.56			2				
A-C	10	2			10				