

SITE 2 - A_F

	A in								B out								C in								D out								E in								F out										
	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS			
07:00	3	1	0	0	0	0	0	1	8	2	0	0	0	0	3	1	3	2	0	0	0	0	0	2	8	1	0	0	0	0	1	7	4	3	0	0	0	0	0	2	12	1	0	0	0	1	6	2			
07:15	3	1	0	0	0	0	0	1	10	3	0	0	0	0	2	0	4	2	0	0	0	0	1	1	16	1	0	0	0	0	1	6	5	2	0	0	0	0	0	2	3	15	1	0	0	0	1	6	2		
07:30	4	0	0	0	0	0	0	0	10	3	0	0	0	0	1	0	5	1	0	0	0	0	1	1	19	0	0	0	0	0	0	8	5	2	0	0	0	0	0	2	2	14	0	0	0	0	1	7	5		
07:45	3	1	0	0	0	0	0	0	14	4	0	0	0	0	3	1	7	1	0	0	0	0	2	2	22	0	0	0	0	0	0	6	7	3	1	0	0	0	0	0	2	3	14	0	0	0	0	1	9	8	
08:00	3	1	0	0	0	0	0	0	15	3	0	0	0	0	2	2	10	4	0	0	0	0	2	3	25	1	0	0	0	0	0	3	5	4	3	0	0	0	0	2	2	12	2	0	0	0	0	9	8		
08:15	10	7	1	0	0	0	2	1	20	2	0	0	0	0	5	3	10	4	0	0	0	0	1	4	17	1	0	0	0	0	0	3	3	5	3	0	0	0	0	2	2	9	2	0	0	0	0	10	7		
08:30	14	9	1	0	0	0	0	3	1	20	4	0	0	0	0	6	3	6	3	0	0	0	0	1	3	13	2	0	0	0	0	0	2	3	7	4	1	0	0	0	3	2	7	2	0	0	0	0	8	5	
08:45	15	11	1	0	0	0	0	4	1	19	6	0	0	0	0	5	2	7	3	0	0	0	0	1	2	11	2	0	0	0	0	1	0	5	3	1	0	0	0	3	1	7	2	0	0	0	0	3	1		
09:00	17	13	1	0	0	0	0	6	1	18	7	0	0	0	0	7	2	5	0	0	0	0	0	0	1	1	7	2	0	0	0	0	2	1	4	1	1	0	0	0	3	1	5	0	0	0	0	0	1	2	
09:15	9	7	0	0	0	0	0	4	0	11	7	0	0	0	0	4	1	3	0	0	0	0	0	1	0	5	2	0	0	0	0	2	1	3	1	1	0	0	0	2	1	0	0	0	0	0	0	0	2		
09:30	11	6	0	0	0	0	0	4	0	13	7	0	0	0	0	3	1	6	1	0	0	0	0	2	0	6	1	0	0	0	0	1	1	4	0	0	0	0	0	0	6	0	0	0	0	0	0	1			
09:45	13	3	0	0	0	0	0	7	1	14	10	0	0	0	0	2	1	5	3	0	0	0	0	0	4	6	9	2	0	0	0	0	0	1	2	7	1	0	0	0	0	2	4	6	1	0	0	0	0	0	2
15:00	15	2	0	0	0	0	0	11	1	20	10	0	0	0	0	2	0	12	3	0	0	0	0	6	6	15	1	0	0	0	0	0	1	11	1	0	0	0	0	4	7	8	1	0	0	0	0	2	4		
15:15	14	1	0	0	0	0	0	15	3	15	11	0	0	0	0	2	0	12	4	0	0	0	0	5	19	13	2	0	0	0	0	0	1	12	1	0	0	0	0	7	9	6	1	0	0	0	0	2	6		
15:30	11	2	0	0	0	0	0	11	2	13	9	0	0	0	0	3	0	12	2	0	0	0	0	3	3	12	2	0	0	0	0	0	1	0	12	0	0	0	0	5	6	7	0	0	0	0	0	2	6		
15:45	10	1	0	0	0	0	0	14	4	12	4	0	0	0	0	3	0	13	2	0	0	0	0	3	3	8	2	0	0	0	0	0	2	0	10	0	0	0	0	5	6	6	0	0	0	0	0	2	6		
16:00	9	1	0	0	0	0	0	9	4	8	5	0	0	0	0	1	0	10	2	0	0	0	0	2	5	8	2	0	0	0	0	0	2	0	7	0	0	0	0	3	3	3	0	1	0	0	0	0	5		
16:15	11	1	0	0	0	0	0	5	2	15	4	0	0	0	0	1	0	7	0	0	0	0	0	3	3	9	1	0	0	0	0	3	2	4	0	0	0	0	0	0	1	2	0	1	0	0	0	0	3		
16:30	18	1	0	0	0	0	0	7	3	18	5	0	0	0	0	0	0	8	0	0	0	0	0	5	3	8	0	0	0	0	0	2	3	2	0	0	0	0	0	0	3	0	1	0	0	0	0	2			
16:45	20	1	0	0	0	0	0	4	1	17	5	0	0	0	0	0	0	6	0	0	0	0	0	4	3	6	0	0	0	0	0	0	1	3	4	2	0	0	0	0	0	0	4	0	1	0	0	0	0	2	
17:00	22	1	0	0	0	0	0	4	1	16	3	0	0	0	0	3	2	6	0	0	0	0	0	6	1	4	0	0	0	0	0	0	1	3	4	2	0	0	0	0	1	0	4	1	0	0	0	0	0		
17:15	14	1	0	0	0	0	0	4	1	9	1	0	0	0	0	3	2	13	0	0	0	0	0	5	0	3	0	0	0	0	0	0	2	6	2	0	0	0	0	1	0	3	2	0	0	0	0	0	0		
17:30	11	0	0	0	0	0	0	3	0	5	0	0	0	0	0	3	2	17	0	0	0	0	0	2	0	4	0	0	0	0	0	0	0	1	1	8	2	0	0	0	0	1	0	3	2	0	0	0	0		
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Vehicles
arr dep

Pedestrians
arr dep

Cyclists
arr dep

Vehicles			
	Arr	Dep	Tot
AM	0.149	0.274	0.423
PM	0.19	0.143	0.333

168

Cyclists			
	Arr	Dep	Tot
AM	0.03	0.107	0.137
PM	0.065	0.024	0.089

69 17 52

20 5 15

18 4 14

Pedestrians			
	Arr	Dep	Tot
AM	0.03	0.107	0.137
PM	0.065	0.024	0.089

71 25 46

20 7 13

23 5 18

69 29 40

17 6 11

23 7 16

64 27 37

7 4 3

17 8 9

56 26 30

8 3 5

20 10 10

Pedestrians			
	Arr	Dep	Tot
AM	0.042	0.077	0.119
PM	0.012	0.03	0.042

35 15 20

4 0 4

12 6 6

46 21 25

3 0 3

10 6 4

54 25 29

16 11 5

16 13 3

81 38 43

19 14 5

25 21 4

74 38 36

28 21 7

31 27 4

67 35 32

17 11 6

25 19 6

59 33 26

19 13 6

29 22 7

45 26 19

17 12 5

17 14 3

48 22 26

11 6 5

12 8 4

57 28 29

11 6 5

14 12 2

57 30 27

9 4 5

9 8 1

56 32 24

7 2 5

15 11 4

48 33 15

5 1 4

13 10 3

48 36 12

3 0 3

10 6 4

54 39 15

4 1 3

17 12 5

SITE 3 - G_J



PROJECT NUMBER: 181111

DATE: WEDS 28TH NOV 2018

PROJECT DESCRIPTION: CAMBRIDGE - ACCESS - SITE 3

		G out								H in								I out								J in									
		CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS		
07:00	:07:15	3	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15	:07:30	4	2	1	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0		
07:30	:07:45	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0		
07:45	:08:00	6	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2		
TOTAL		16	2	1	0	0	0	1	4	5	2	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	2	2		
08:00	:08:15	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0		
08:15	:08:30	1	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	1		
08:30	:08:45	2	3	0	0	0	0	0	0	2	3	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	2	3	0	0	0	0	0	0	
08:45	:09:00	3	3	0	0	0	0	0	0	6	1	0	0	0	0	0	0	1	2	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
TOTAL		7	6	0	0	0	0	2	5	8	4	0	0	0	0	1	1	7	1	0	0	0	0	0	1	1	3	3	0	0	0	0	5	1	
09:00	:09:15	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	
09:15	:09:30	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
09:30	:09:45	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
09:45	:10:00	1	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
TOTAL		6	0	0	0	0	0	0	2	6	2	0	0	0	0	0	2	1	1	2	0	0	0	0	0	1	0	2	1	0	0	0	2	2	
PERIOD TOTAL		29	8	1	0	0	0	3	11	19	8	1	0	0	0	0	3	3	9	3	1	0	0	0	2	1	5	4	1	0	0	0	9	5	
15:00	:15:15	3	1	0	0	0	0	2	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:15	:15:30	1	2	0	0	0	0	1	6	4	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	
15:30	:15:45	3	0	0	0	0	0	1	0	6	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	
15:45	:16:00	5	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL		12	3	0	0	0	0	5	6	15	4	0	0	0	0	0	0	1	1	2	0	0	0	0	0	3	0	0	0	0	0	0	0	5	
16:00	:16:15	3	2	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	
16:15	:16:30	2	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	
16:30	:16:45	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
16:45	:17:00	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
TOTAL		8	2	0	0	0	0	1	2	9	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2	
17:00	:17:15	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15	:17:30	2	0	0	0	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
17:30	:17:45	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
17:45	:18:00	7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
TOTAL		14	0	0	0	0	1	4	1	5	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	
18:00	:18:15	6	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	
18:15	:18:30	5	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
18:30	:18:45	4	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	1	0	
TOTAL		34	5	0	0	0	0	1	10	9	29	6	0	0	0	0	1	1	2	4	3	0	0	0	0	0	1	5	2	1	0	0	0	1	7
PERIOD TOTAL		63	13	1	0	0	0	1	13	20	48	14	1	0	0	0	1	4	5	13	6	1	0	0	0	3	6	7	5	1	0	0	0	10	12
GRAND TOTAL		98								69								26								25									

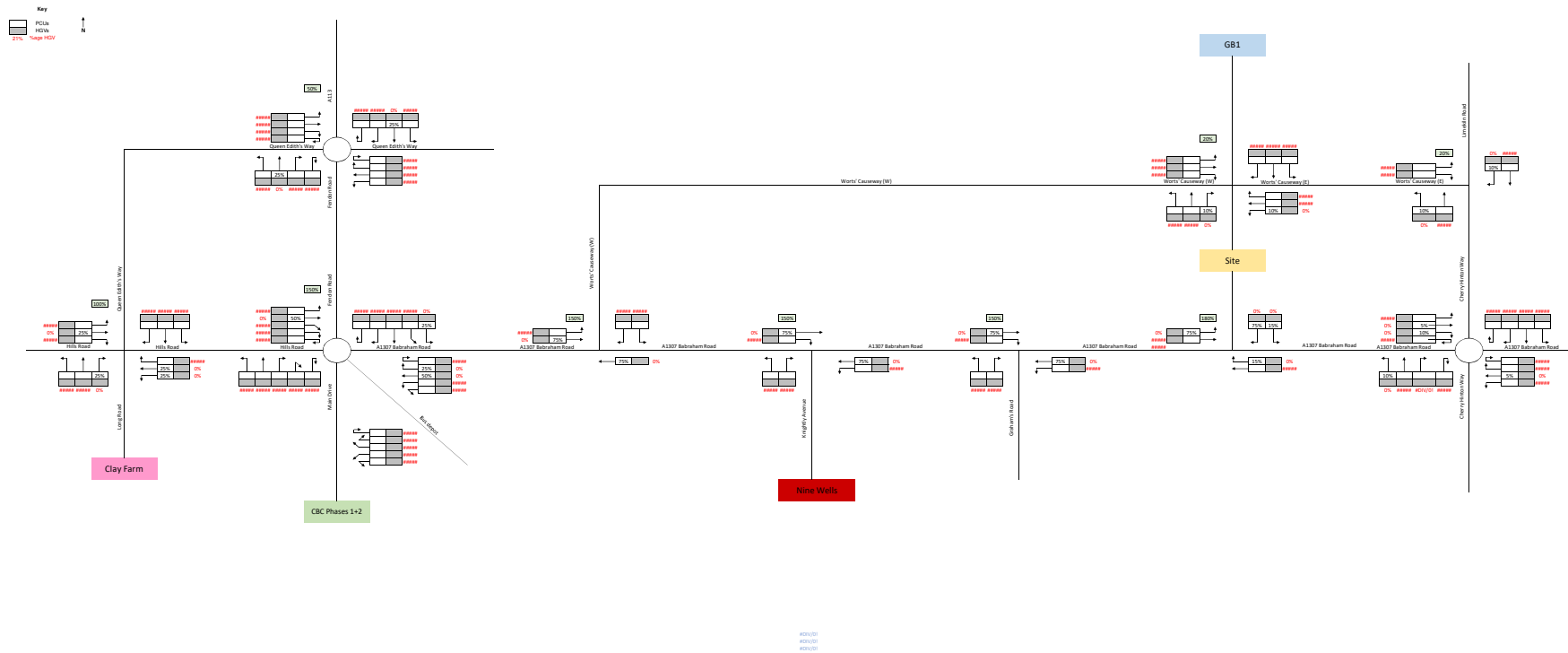
SITE 3 - G_J

	G out							H in							I out							J in													
	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS	CAR	LGV	OGV 1	OGV 2	PSV	M/C	CYCLE	PEDS			
07:00	16	2	1	0	0	0	1	4	5	2	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	2		
07:15	14	2	1	0	0	0	2	4	5	1	1	0	0	0	0	1	4	0	1	0	0	0	0	0	0	0	0	1	0	0	0	5	2		
07:30	11	0	0	0	0	0	2	7	4	0	0	0	0	0	0	1	4	0	1	0	0	0	0	1	0	1	0	0	0	0	7	3			
07:45	10	3	0	0	0	0	2	7	3	3	0	0	0	0	0	1	0	5	1	0	0	0	0	1	0	3	3	0	0	0	0	6	3		
08:00	7	6	0	0	0	0	2	5	8	4	0	0	0	0	0	1	1	7	1	0	0	0	0	1	1	3	3	0	0	0	0	5	1		
08:15	8	6	0	0	0	0	1	5	10	4	0	0	0	0	0	1	1	5	1	0	0	0	0	2	1	4	4	0	0	0	0	3	1		
08:30	8	6	0	0	0	0	0	1	11	5	0	0	0	0	0	1	1	5	2	0	0	0	0	1	1	4	4	0	0	0	0	1	1		
08:45	8	3	0	0	0	0	0	2	10	2	0	0	0	0	0	1	1	3	2	0	0	0	0	1	1	2	1	0	0	0	0	1	2		
09:00	6	0	0	0	0	0	0	2	6	2	0	0	0	0	0	2	1	1	2	0	0	0	0	0	1	0	2	1	0	0	0	0	2	2	
09:15	4	0	0	0	0	0	0	1	4	2	0	0	0	0	0	2	1	0	2	0	0	0	0	0	0	1	0	0	0	0	0	1	2		
09:30	6	1	0	0	0	0	2	1	6	1	0	0	0	0	0	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
09:45	5	3	0	0	0	0	3	6	9	2	0	0	0	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	
15:00	12	3	0	0	0	0	5	6	15	4	0	0	0	0	0	0	1	1	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	5	
15:15	12	4	0	0	0	0	3	8	14	5	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3	1	1	0	0	0	0	0	0	5	
15:30	13	2	0	0	0	0	3	2	11	5	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4	1	1	0	0	0	0	0	0	2	
15:45	11	2	0	0	0	0	2	2	9	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	
16:00	8	2	0	0	0	0	1	2	9	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	2	
16:15	5	0	0	0	0	0	2	1	9	1	0	0	0	0	1	0	1	3	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	
16:30	5	0	0	0	0	0	0	4	1	10	0	0	0	0	1	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
16:45	9	0	0	0	0	0	1	4	1	6	0	0	0	0	0	1	1	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	
17:00	14	0	0	0	0	0	1	4	1	5	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	0	
17:15	20	0	0	0	0	0	1	3	0	6	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1	3	0	0	0	0	0	1	0	
17:30	23	0	0	0	0	0	1	0	0	6	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	
17:45	22	0	0	0	0	0	5	0	6	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	1	

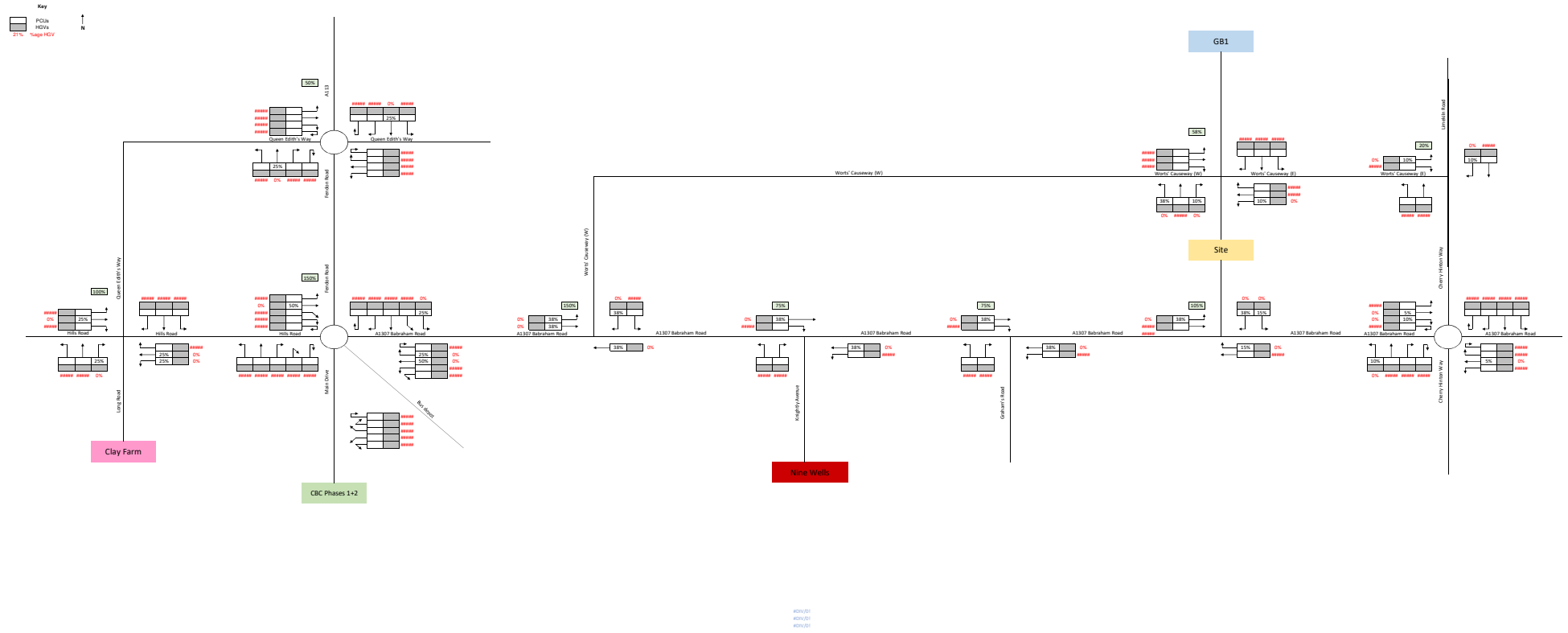
Vehicles			Pedestrians			Cyclists			62	ave		
arr	dep		arr	dep		arr	dep					
22	5	17	7	3	4	3	2	1				
23	5	18	7	3	4	7	5	2				
20	5	15	11	4	7	10	7	3				
21	6	15	10	3	7	10	7	3				
25	11	14	8	2	6	9	6	3				
27	14	13	8	2	6	7	4	3				
28	15	13	4	2	2	3	2	1				
23	12	11	6	3	3	3	2	1				
15	8	7	5	3	2	5	4	1				
9	5	4	4	3	1	3	3	0				
12	6	6	3	2	1	5	3	2				
14	9	5	11	5	6	5	2	3				
28	15	13	15	6	9	5	0	5				
28	15	13	17	6	11	3	0	3				
26	12	14	8	2	6	4	0	4				
22	10	12	4	1	3	3	0	3				
21	10	11	5	2	3	2	0	2				
17	9	8	5	3	2	3	0	3				
18	10	8	4	3	1	6	2	4				
17	6	11	4	2	2	6	2	4				
20	6	14	3	1	2	6	2	4				
31	9	22	1	0	1	6	3	3				
34	9	25	2	0	2	1	1	0				
34	10	24	3	1	2	6	1	5				
Vehicles			Pedestrians			Cyclists				Vehicles		
Arr	Dep	Tot	Arr	Dep	Tot	Arr	Dep	Tot		Arr	Dep	Tot
AM	0.226	0.21	0.435	AM	0.149	0.274	0.423	AM	0.032	0.097	0.129	
PM	0.087	0.226	0.323	PM	0.19	0.143	0.333	PM	0.016	0.032	0.049	
Average of two sites			Average of two sites			Average of two sites				Average of two sites		
Arr	Dep	Tot	Arr	Dep	Tot	Arr	Dep	Tot		Arr	Dep	Tot
AM	0.187	0.242	0.429	AM	0.04	0.09	0.124	AM	0.065	0.048	0.11	
PM	0.14	0.18	0.33	PM	0.01	0.03	0.05	PM	0.05	0.04	0.09	
cyclists			cyclists			cyclists				cyclists		
Arr	Dep	Tot	Arr	Dep	Tot	Arr	Dep	Tot		Arr	Dep	Tot
AM	0.065	0.048	0.11	AM	0.03	0.107	0.137	AM	0.065	0.024	0.089	
PM	0.032	0.065	0.097	PM	0.065	0.024	0.089	PM	0.065	0.024	0.089	

Appendix D - Development traffic flows

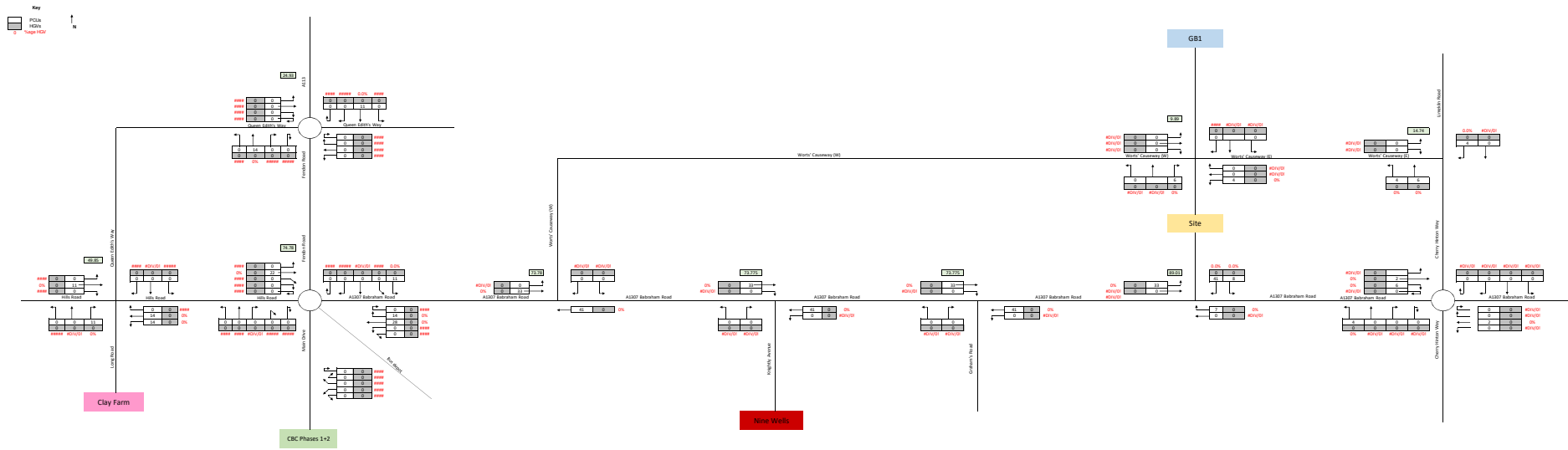
AM dev dist



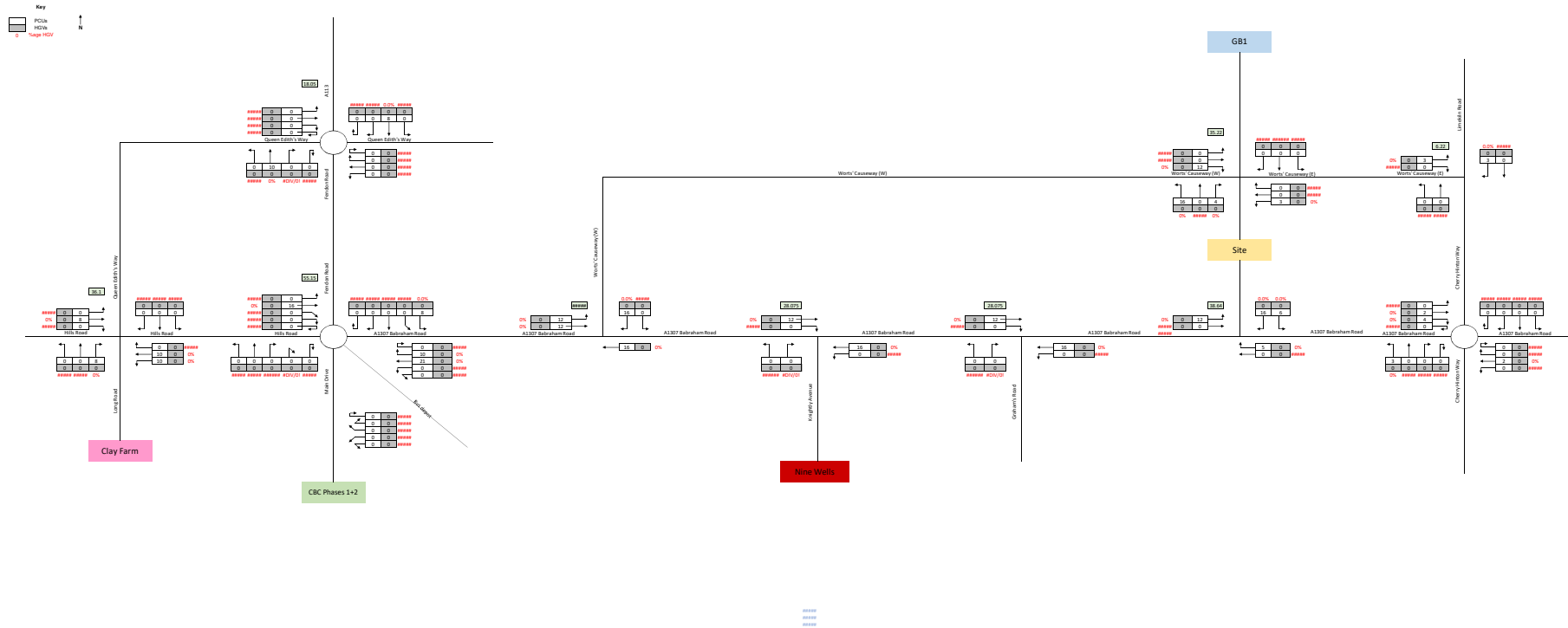
PM dev dist



[00000](#)
[00000](#)
[00000](#)



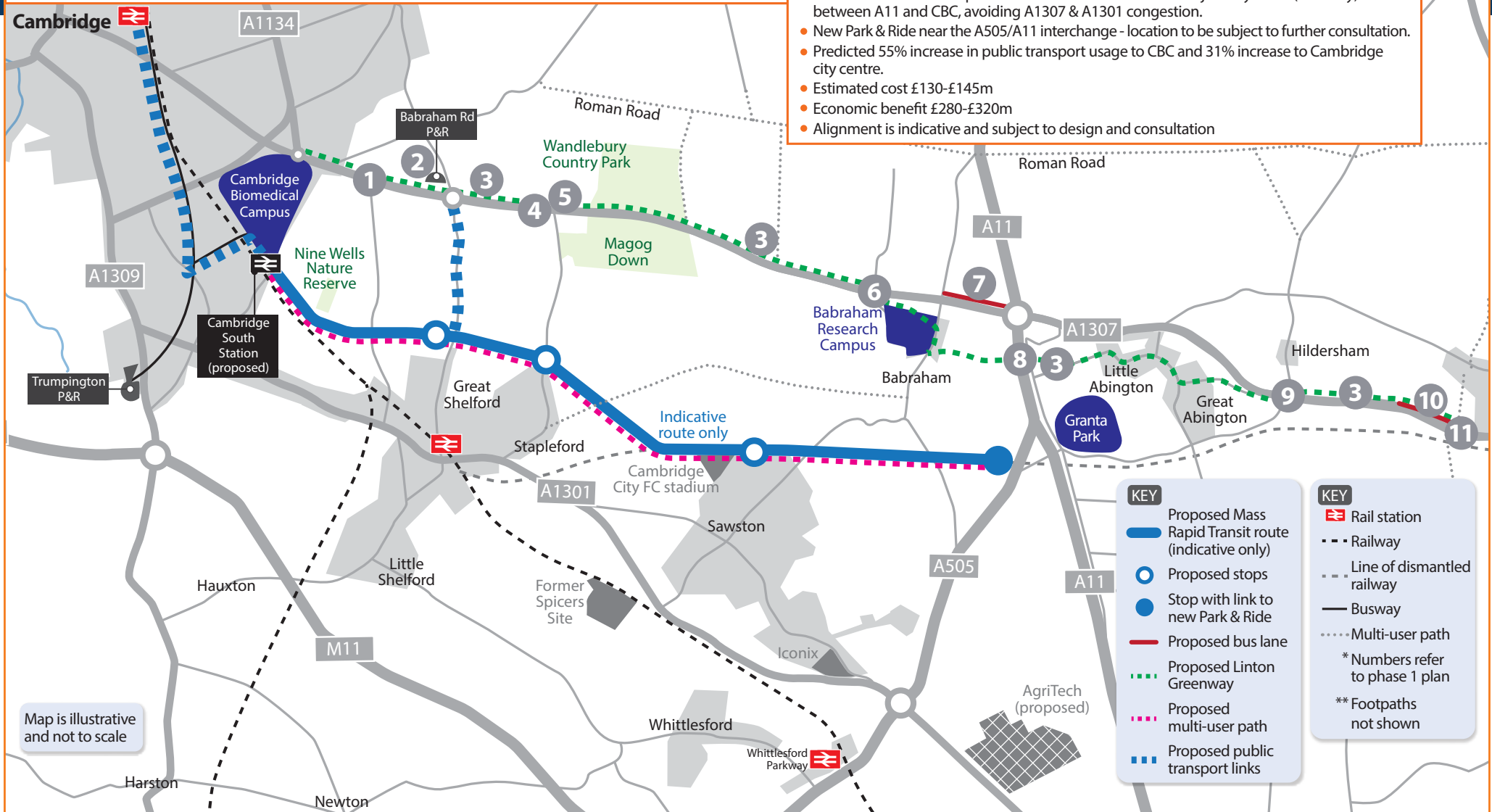
PM dev peak



Appendix E - Phase 2 of Greater Cambridge Partnership proposals

Strategy 1 – Mass Rapid Transit Route

A new dedicated Mass Rapid Transit route between the A11 and the Cambridge Biomedical Campus via Sawston, Stapleford, Great Shelford with onward connection to the city centre. It would partly follow the route of the dismantled railway line. The multi-user path alongside the proposed transport route could form part of the Sawston Greenway.



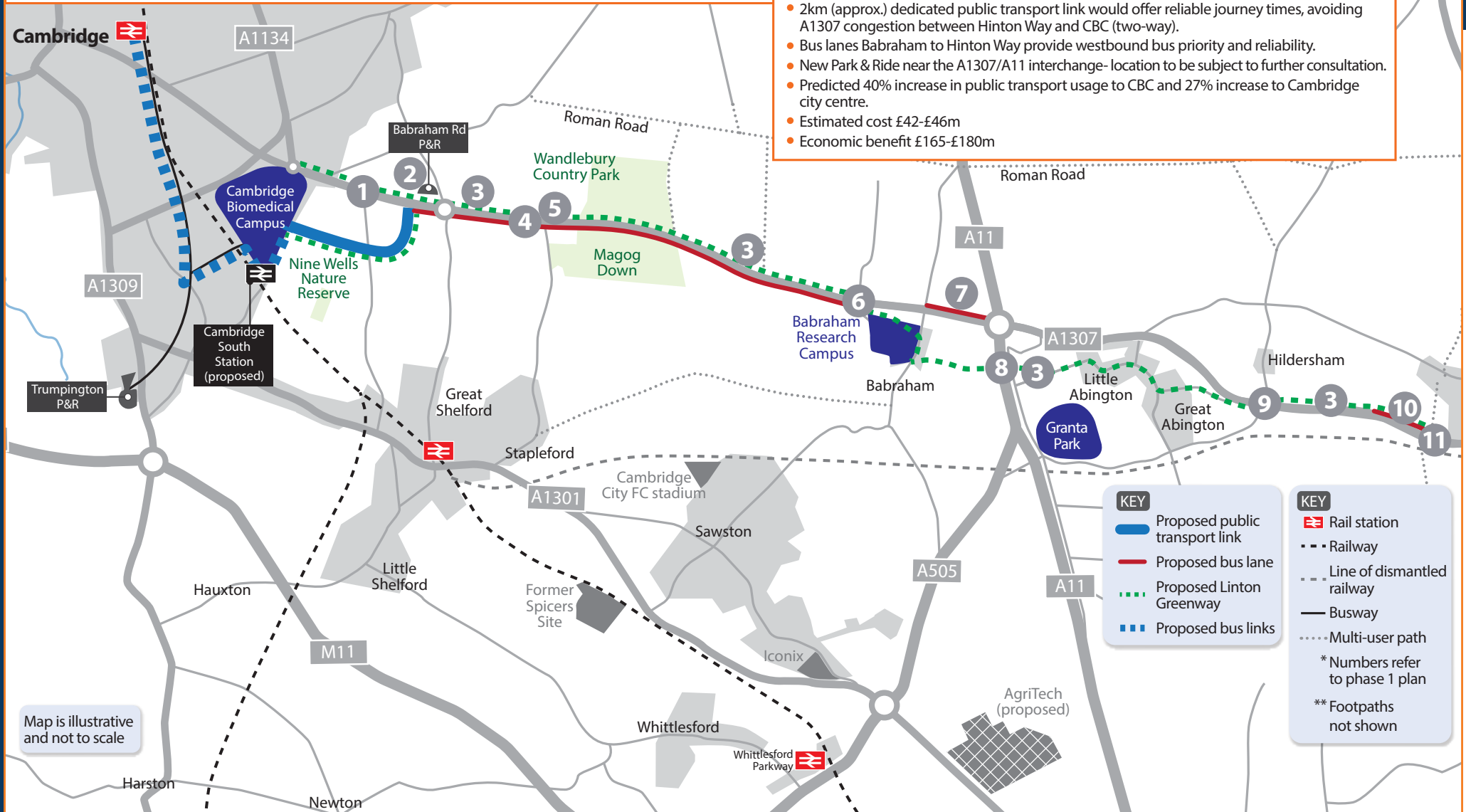
- 5-6 mins 8-10 mins
- Cambridge rail station (via Busway) CBC A11
- 8km dedicated Mass Rapid Transit route would offer reliable journey times (two-way) between A11 and CBC, avoiding A1307 & A1301 congestion.
 - New Park & Ride near the A505/A11 interchange - location to be subject to further consultation.
 - Predicted 55% increase in public transport usage to CBC and 31% increase to Cambridge city centre.
 - Estimated cost £130-£145m
 - Economic benefit £280-£320m
 - Alignment is indicative and subject to design and consultation

Typical layout of Mass Rapid Transit route with multi-user path alongside. Vehicles shown are electric-powered, advanced, rail-less trams.



Strategy 2 – Bus Lanes along A1307 & Public Transport Link to CBC

An inbound bus lane from Babraham Research Campus to Babraham Road Park & Ride and a new dedicated public transport link between the Park & Ride and Cambridge Biomedical Campus, with onward connection to the city centre.



- 5-6 mins 10-12 mins
- Cambridge rail station (via Busway) CBC A11
- 2km (approx.) dedicated public transport link would offer reliable journey times, avoiding A1307 congestion between Hinton Way and CBC (two-way).
 - Bus lanes Babraham to Hinton Way provide westbound bus priority and reliability.
 - New Park & Ride near the A1307/A11 interchange- location to be subject to further consultation.
 - Predicted 40% increase in public transport usage to CBC and 27% increase to Cambridge city centre.
 - Estimated cost £42-£46m
 - Economic benefit £165-£180m



Public transport link



Public transport link

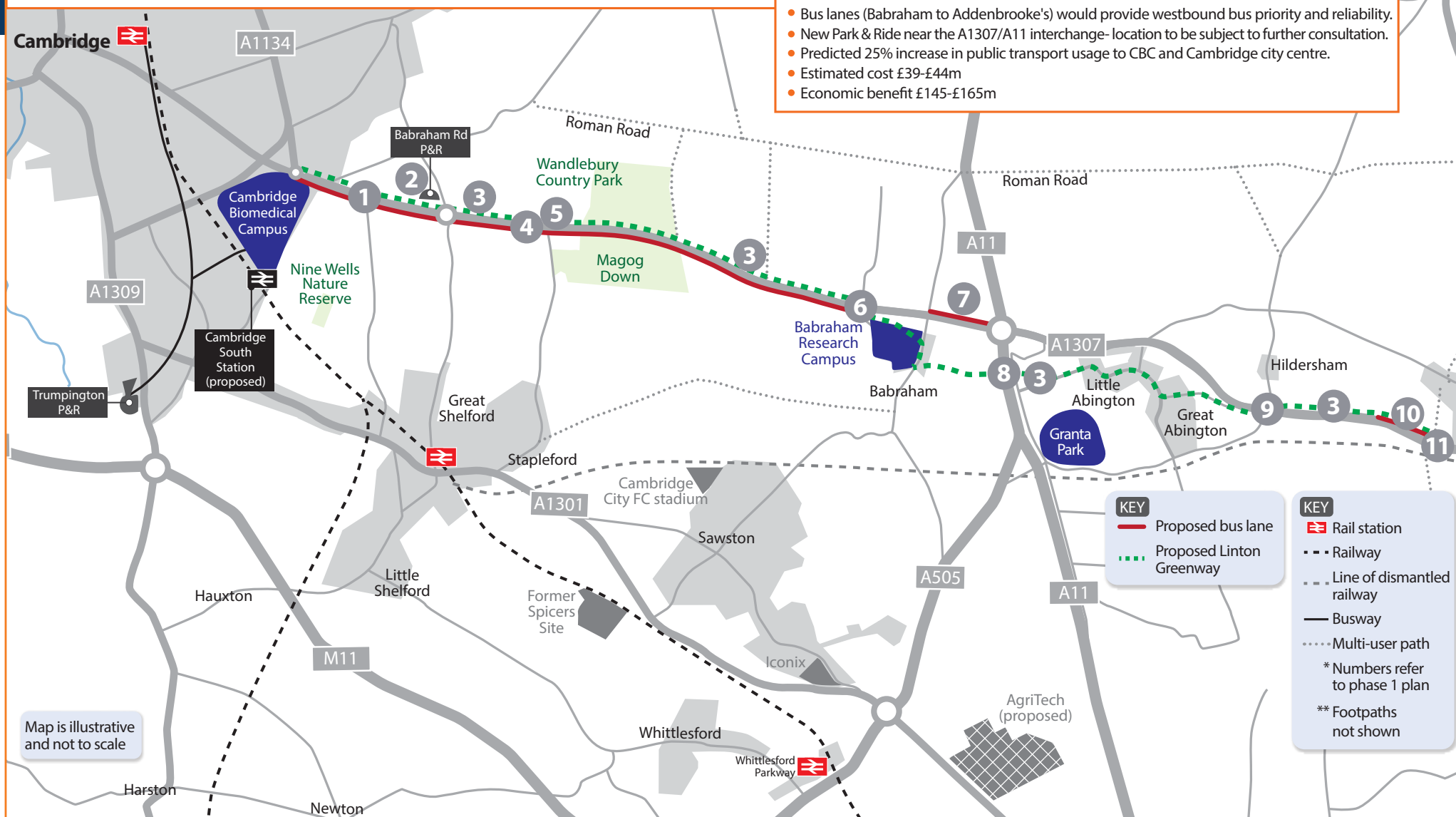


Bus lane along A1307

Typical layout of public transport link, which could form part of the metro network as well as the regular bus network.

Strategy 3 – Bus Lanes along A1307

Inbound bus lanes from Babraham Research Campus to the Addenbrooke's Hospital roundabout with onward connection to the city centre.



- 10 mins 12-15 mins
- Cambridge rail station (via Hills Rd) CBC A11
- Bus lanes (Babraham to Addenbrooke's) would provide westbound bus priority and reliability.
 - New Park & Ride near the A1307/A11 interchange- location to be subject to further consultation.
 - Predicted 25% increase in public transport usage to CBC and Cambridge city centre.
 - Estimated cost £39-£44m
 - Economic benefit £145-£165m

Typical layout of bus lanes on A1307



Near Wandlebury



Babraham Road near Addenbrooke's Hospital

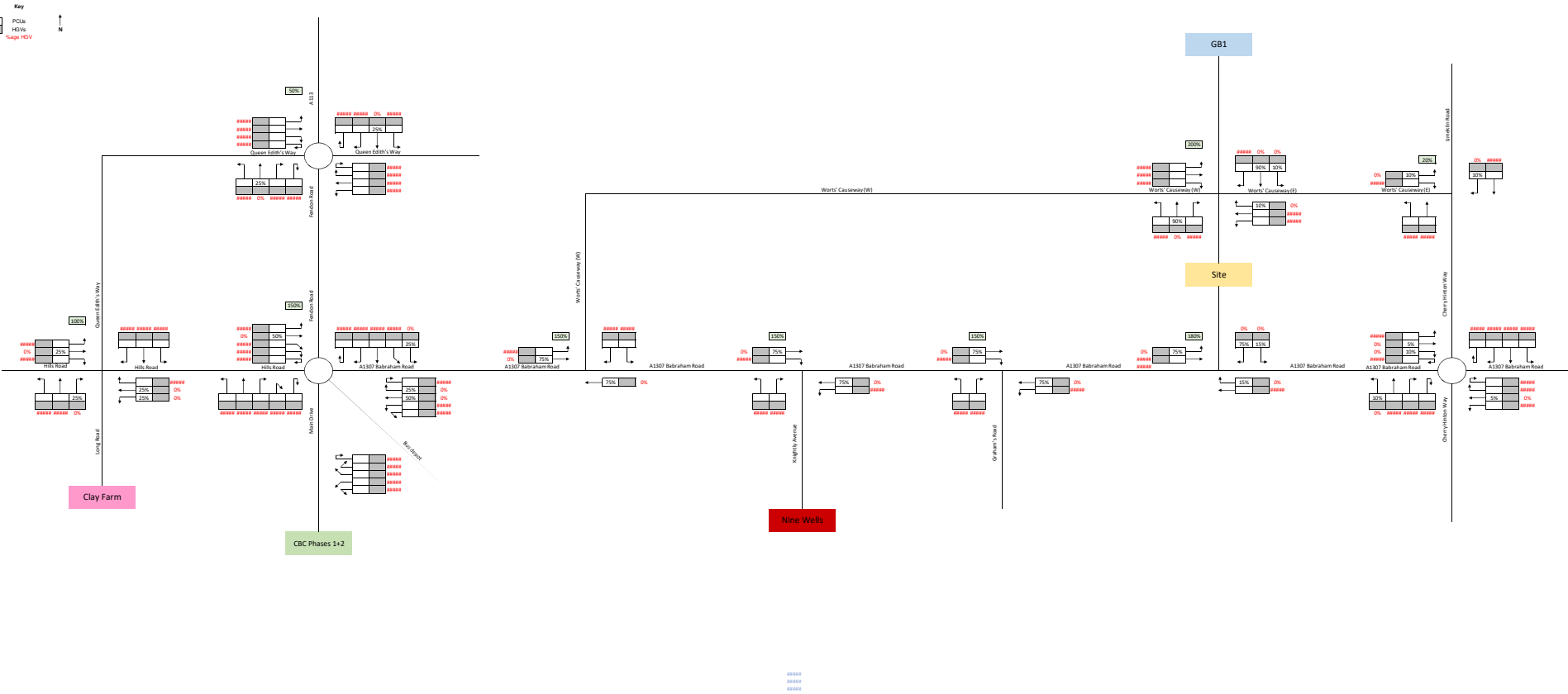
STRATEGY COMPARISON

	STRATEGY 1 Mass Rapid Transit Route	STRATEGY 2 Bus Lanes and Public Transport Link	STRATEGY 3 Bus Lanes
Journey times	Journey times A11 to CBC = 8-10 mins Onward journey time to Cambridge rail station via Busway 5-6 mins.	Journey times A11 to CBC = 10-12 mins Onward journey time to Cambridge rail station via Busway 5-6 mins.	Journey times A11 to CBC = 12-15 mins Onward journey time to Cambridge rail station via Hills Road 10 mins.
Reliability	8km segregated system expected to offer reliable journey times (two-way) between A11 and CBC, avoiding A1307 & A1301 congestion.	2km (approx.) segregated system expected to offer reliable journey times, avoiding A1307 congestion between Hinton Way and CBC (two-way). Bus lanes Babraham to Hinton Way provide Cambridge-bound bus priority and reliability.	Bus lanes provide Cambridge-bound bus priority and reliability from BRC to Addenbrooke's Hospital roundabout.
Projected mode shift	Predicted 55% increase in public transport use to CBC and 31% increase to Cambridge city centre.	Predicted 40% increase in public transport to CBC and 27% increase to Cambridge city centre.	Predicted 25% increase in public transport to CBC and Cambridge city centre.
Future proofing	Greatest degree of future proofing by means of segregated route. Cambridgeshire Autonomous Metro is an advanced tram like mass transit system with high capacity and frequent operation. This proposal can most effectively respond to future growth in transport demand.	The link to the CBC is segregated and free of traffic and could be part of the Cambridgeshire Autonomous Metro. On-highway bus lanes provide little opportunity for future proofing. Limited scope with on-highway bus lanes for advanced vehicles and mass transit, and limited segregation, which may require further transport interventions in the future.	On-highway bus lanes provide little opportunity for future proofing. Limited scope with on-highway bus lanes for advanced vehicles and mass transit, and limited segregation, which may require further transport interventions in the future.
Multi-user path effects	The route includes a segregated direct multi-user path alongside – likely to significantly enhance accessibility and uptake of active travel. This could form part of the proposed Sawston Greenway.	The link to CBC includes a segregated direct multi-user route alongside – likely to enhance active travel to work. Improved multi-user connectivity between Cambridge and Linton. This would form part of the proposed Linton Greenway.	Improved multi-user connectivity between Cambridge and Linton. This would form part of the proposed Linton Greenway.
Traffic impacts	Morning peak car mode share A11 to CBC expected to reduce from 46% to 29%.	Morning peak car mode share A11 to CBC expected to reduce from 46% to 31%.	Morning peak car mode share A11 to CBC expected to reduce from 46% to 33%.
Cost & economic return	Estimated cost £130-£145m Economic benefit £280-£320m	Estimated cost £42-£46m Economic benefit £165-£180m	Estimated cost £39-£44m Economic benefit £145-£165m
Land use & property	Approximately 25-30 Ha of agricultural land required. Significant impact on agricultural land, and existing disused railway. No impact on residential land. Approximately 15 to 20 Ha of land required for Park & Ride and stops. New route in green belt.	Approximately 6-8 Ha of agricultural land required for bus-only road. Widening of existing road for bus lanes including Magog Trust land at Wandlebury. Approximately 12 to 15 Ha of land required for Park & Ride. No impact on residential land. Limited impact on green belt (excludes new Park & Ride site).	Widening of existing road bus lanes including Magog Trust land at Wandlebury. Approximately 12 to 15 Ha of land required for Park & Ride. No impact on residential land but on frontage access on Babraham Road. Limited impact on green belt (excludes new Park & Ride site).
Ecology & arboriculture	Majority of works in open landscape with limited impact on existing trees and ecological features. Close to Nine Wells Nature Reserve. Impact mitigation by creating new tree belts and ecological mitigation areas.	CBC link in open landscape with minimal ecological impacts. Close to Nine Wells Nature Reserve. Loss of roadside hedges and trees for bus lane construction between Hinton Way and Babraham. Impact mitigation by creating new tree belts, hedges and ecological mitigation areas.	Moderate ecological and arboricultural effects due to loss of verges and crown lifting of trees required to enable widening of carriageway between Granham's Road and Addenbrooke's. Loss of roadside hedges and trees for bus lane construction. Impact mitigation by creating new tree belts, hedges and ecological mitigation areas.

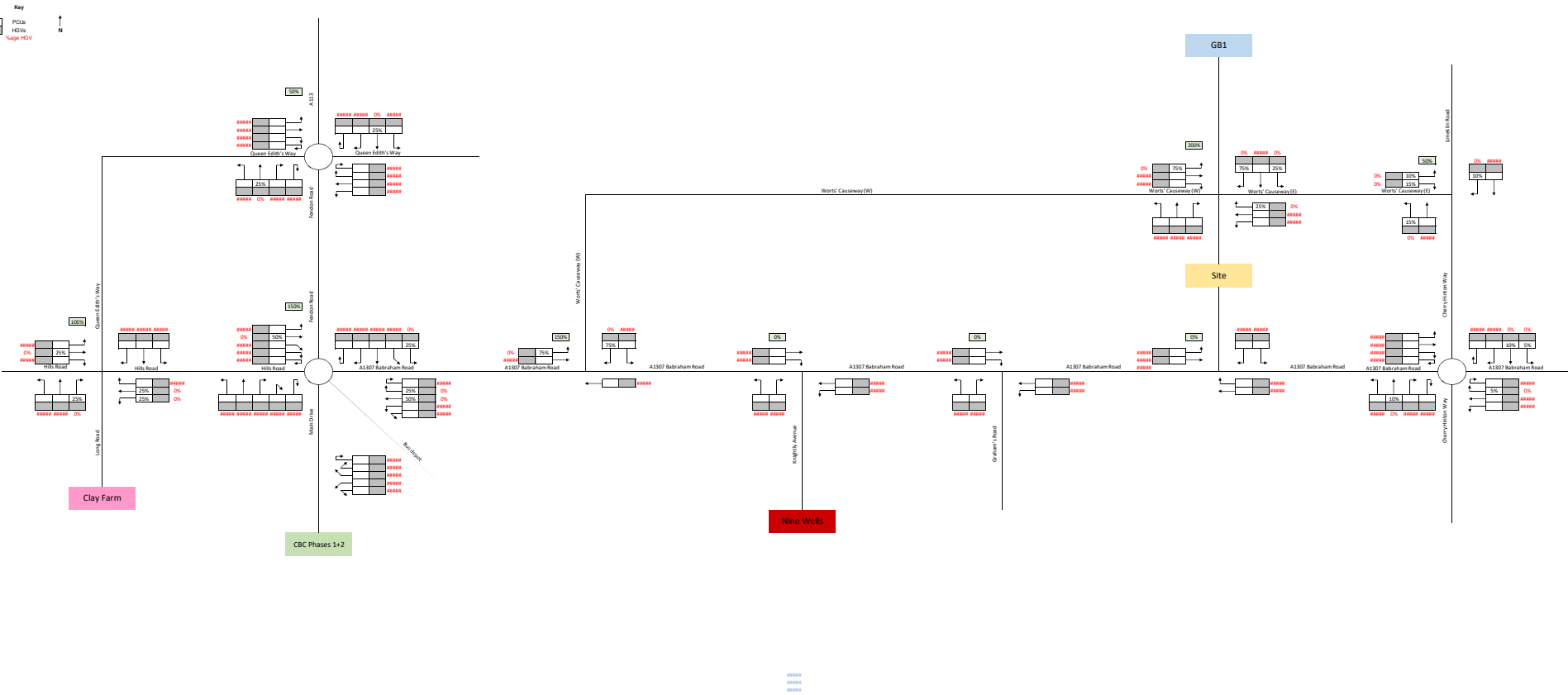
	STRATEGY 1 Mass Rapid Transit Route	STRATEGY 2 Bus Lanes and Public Transport Link	STRATEGY 3 Bus Lanes
Construction and potential disruption	Traffic management required during construction of on-highway bus lanes, junction improvements, underpass and multi-user routes in all strategies. Mass Rapid Transit route is in open landscape and away from public highways, with minimal disruption to traffic except during tie-in works. Major works required to construct infrastructure.	Traffic management required during construction of bus lanes, junction improvements, underpass and multi-user routes in all strategies. CBC link can be constructed in open landscape away from public highways, with minimal disruption to traffic except during tie-in works. Major work to construct long bus lane sections between Babraham and Babraham road P&R.	Traffic management required during construction of bus lanes, junction improvements, underpass, and multi-user routes. Major work to construct long bus lane sections between Babraham and Babraham road P&R.
Noise and air quality	Positive effects on air quality along A1307 and A1301 and central Cambridge Air Quality Management Area due to improved flow and reduced traffic and congestion. Creates a new noise corridor in open landscape close to built-up areas. Would need new fleet of vehicles with improved emissions and noise performance. Potential for electric-powered vehicles to reduce noise and pollution.	Positive effects on air quality along A1307 and central Cambridge Air Quality Management Area due to improved flow and reduced traffic and congestion. CBC link creates a new noise corridor in open landscape but sufficiently separated from sensitive receptors.	Slight improvement in air quality along A1307 and central Cambridge. Air Quality Management Area due to improved flow and reduced traffic and congestion.
Visual impact & heritage	Works predominantly within Green Belt land in open landscape, expected to require some new road construction, stops, parking/drop off areas, and possible flood mitigation ponds. Likely to be highly visible in longer views from Gog Magog Hills during early stages before landscaping matures. Impact mitigation by creating new tree belts, and ecological mitigation areas. Opportunity to enhance local landscape and integrate with existing features. Consideration given to sense of place and amenity of multi-user route contributing positively to existing landscape and heritage features. Sensitivity of heritage and amenity aspects of Wandlebury and Gog Magog Hills to be addressed.	CBC link within Green Belt, but follows existing field boundary already flanked by trees and hedges, so less visible in longer views from Gog Magog Hills. Reallocation of road space minimises land take and visual impact close to sensitive landscape at Wandlebury and Gog Magog Hills.	Reallocation of road space minimises land take and visual impact close to sensitive landscape at Wandlebury and Gog Magog Hills.

Appendix F - Committed development traffic flows

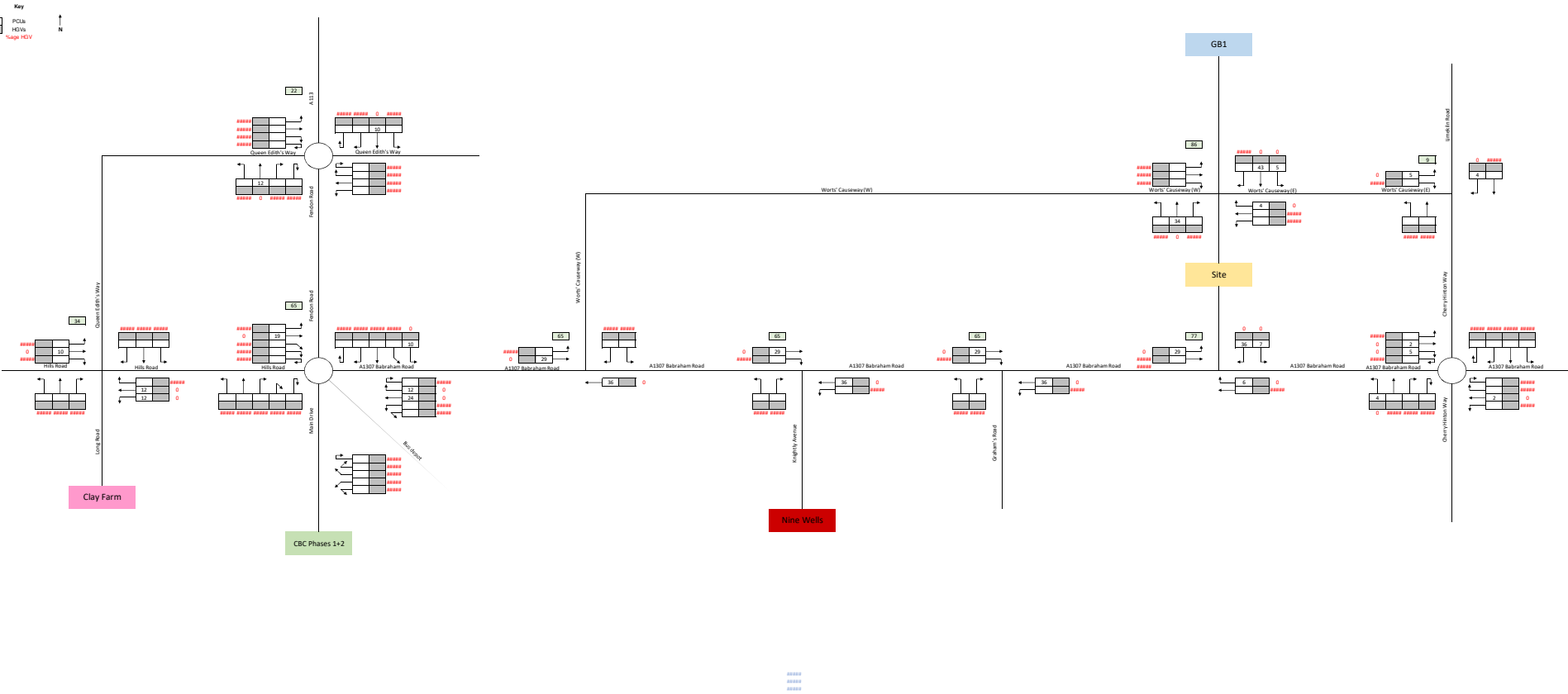
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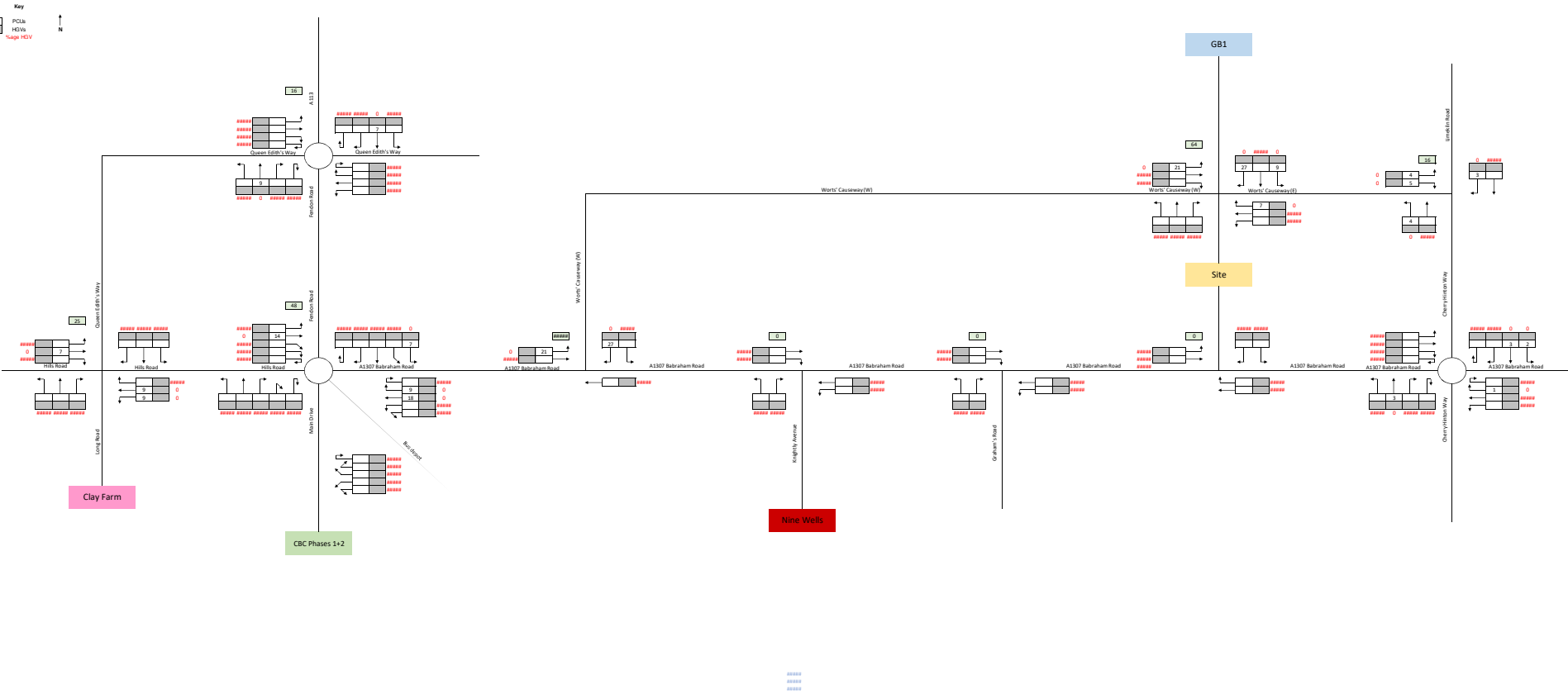
PM GB1 dist



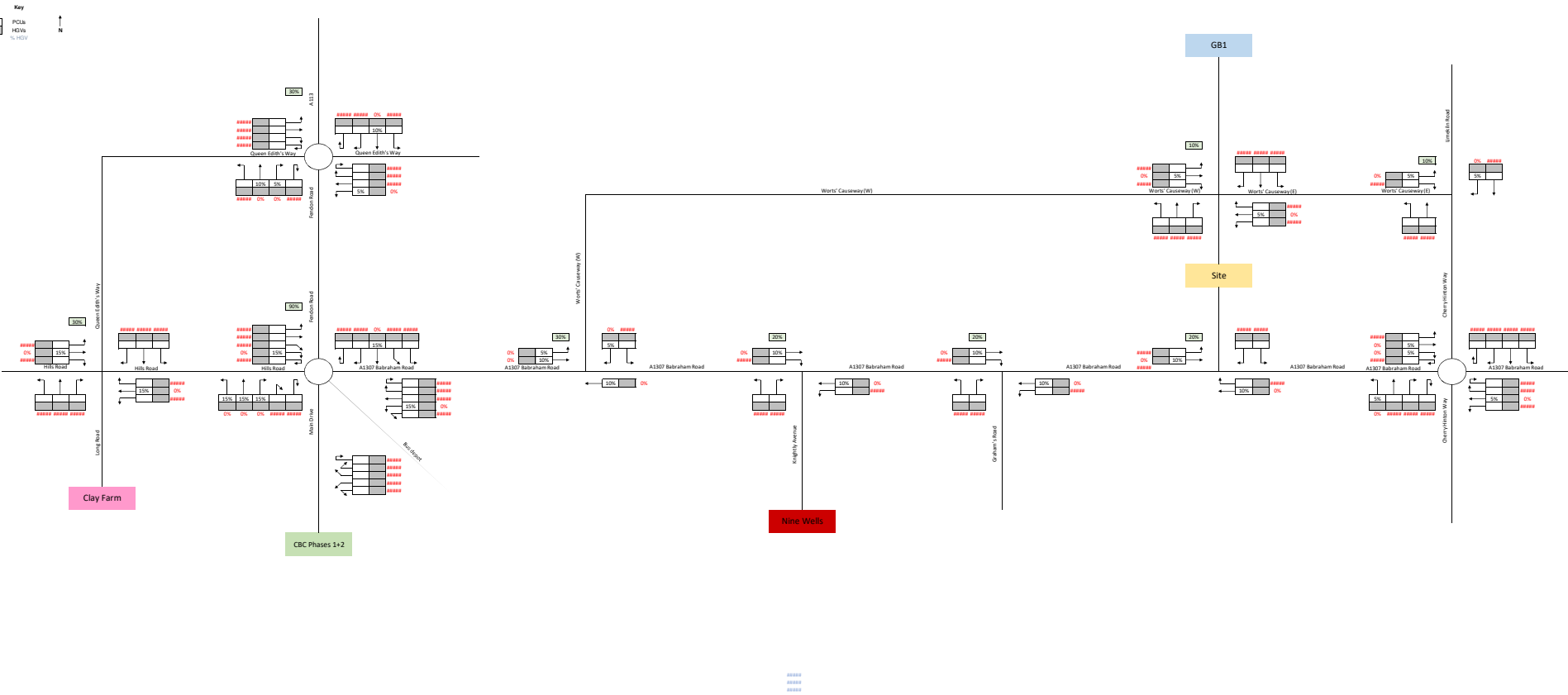
AM GB1



PM GB1

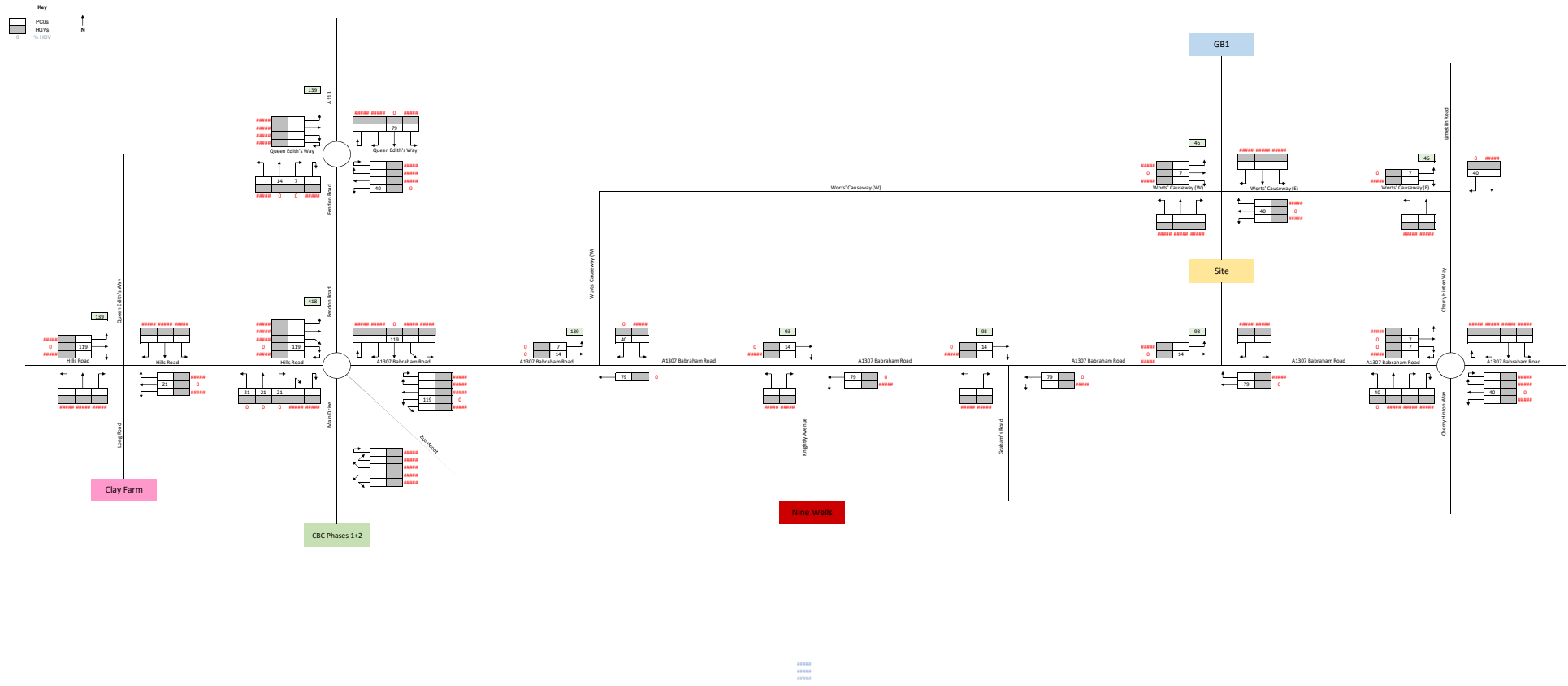


AM&PM CBC dist



AM&PM CBC dist

AM CBC P1

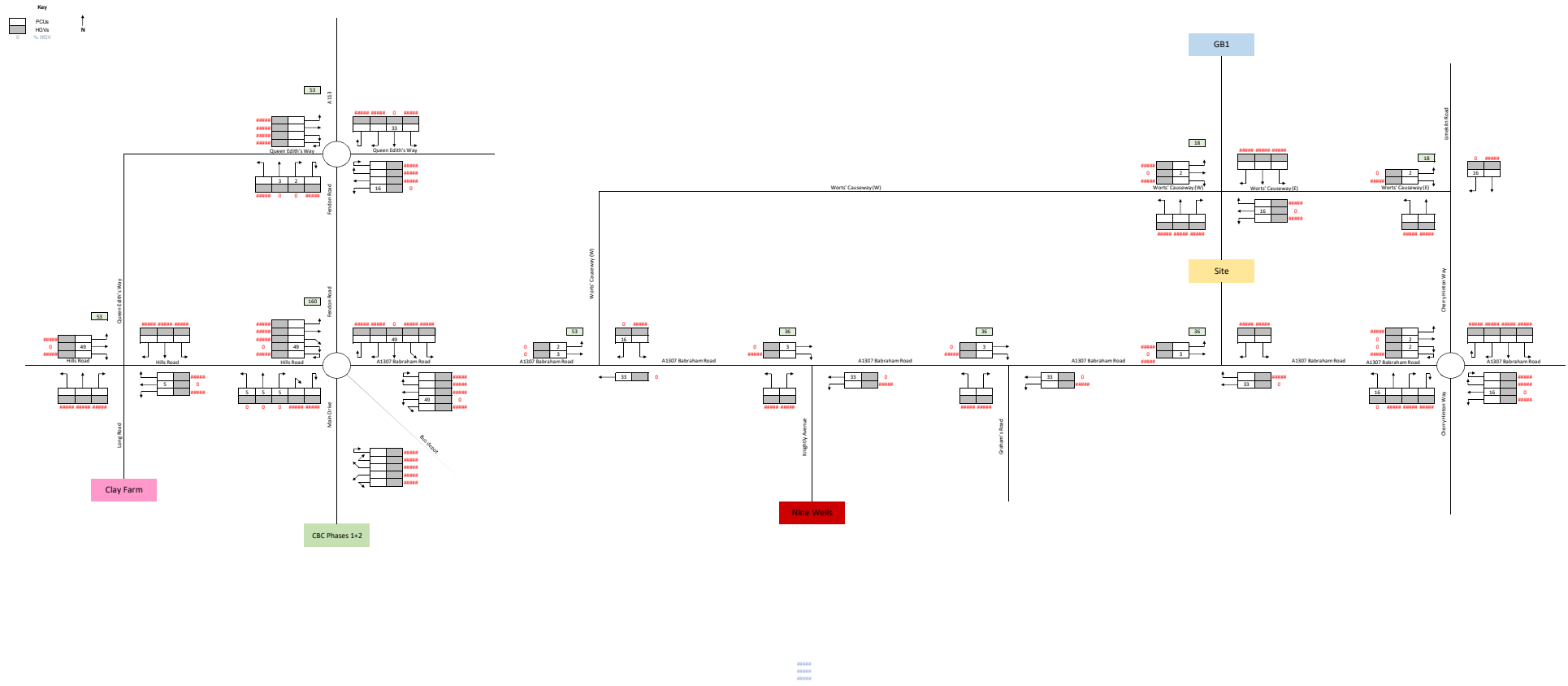


AM CBC P1

PM CBC P1

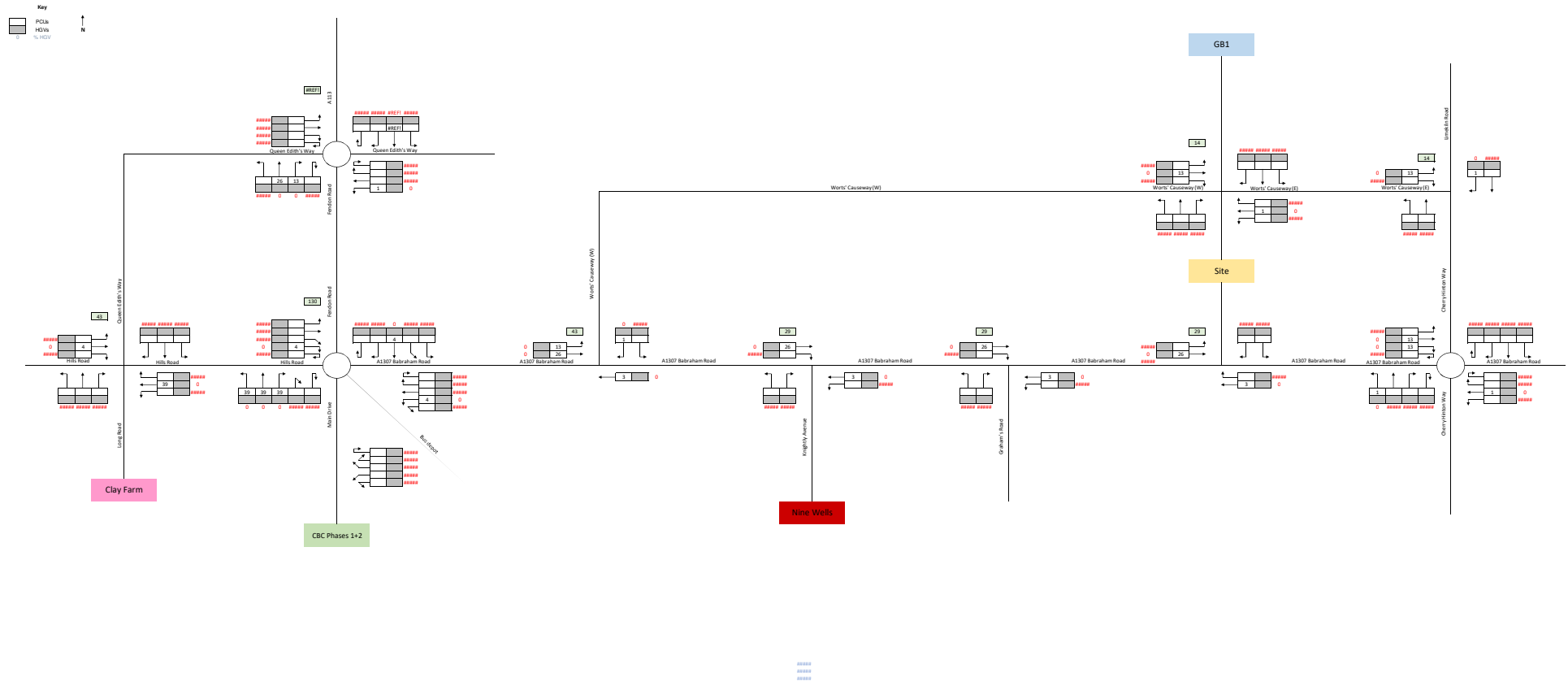


AM CBC P2

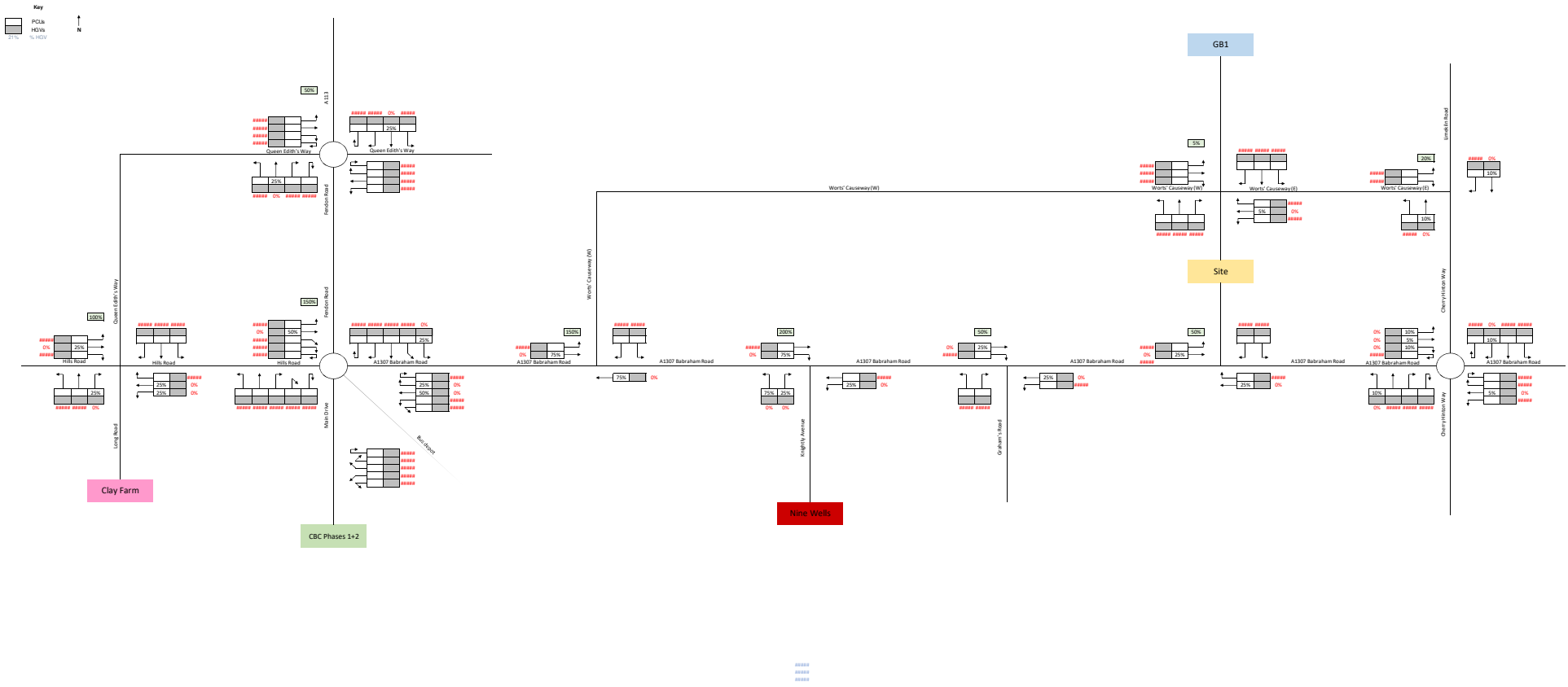


AM CBC P2

PM CBC P2



AM&PM Nine wells dist

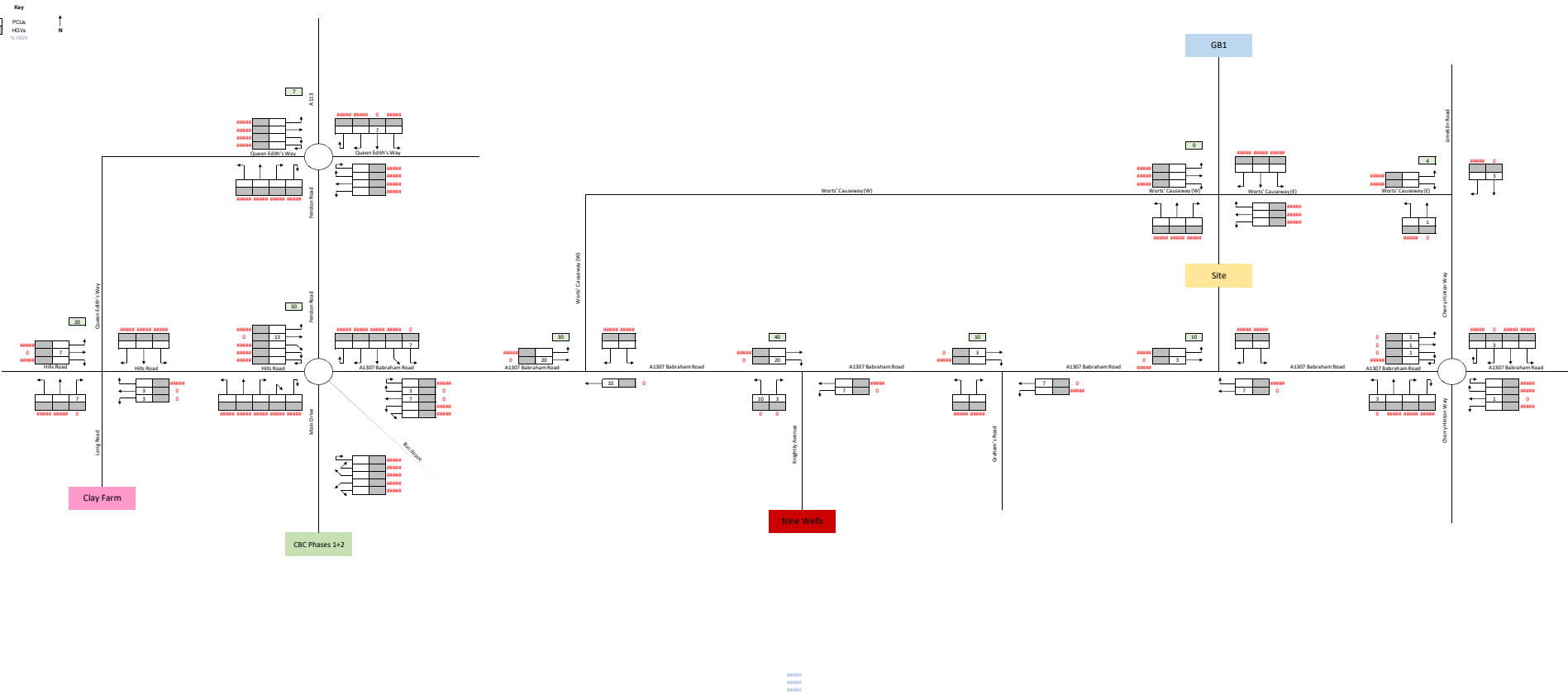


AM&PM Nine wells dist

AM Nine wells

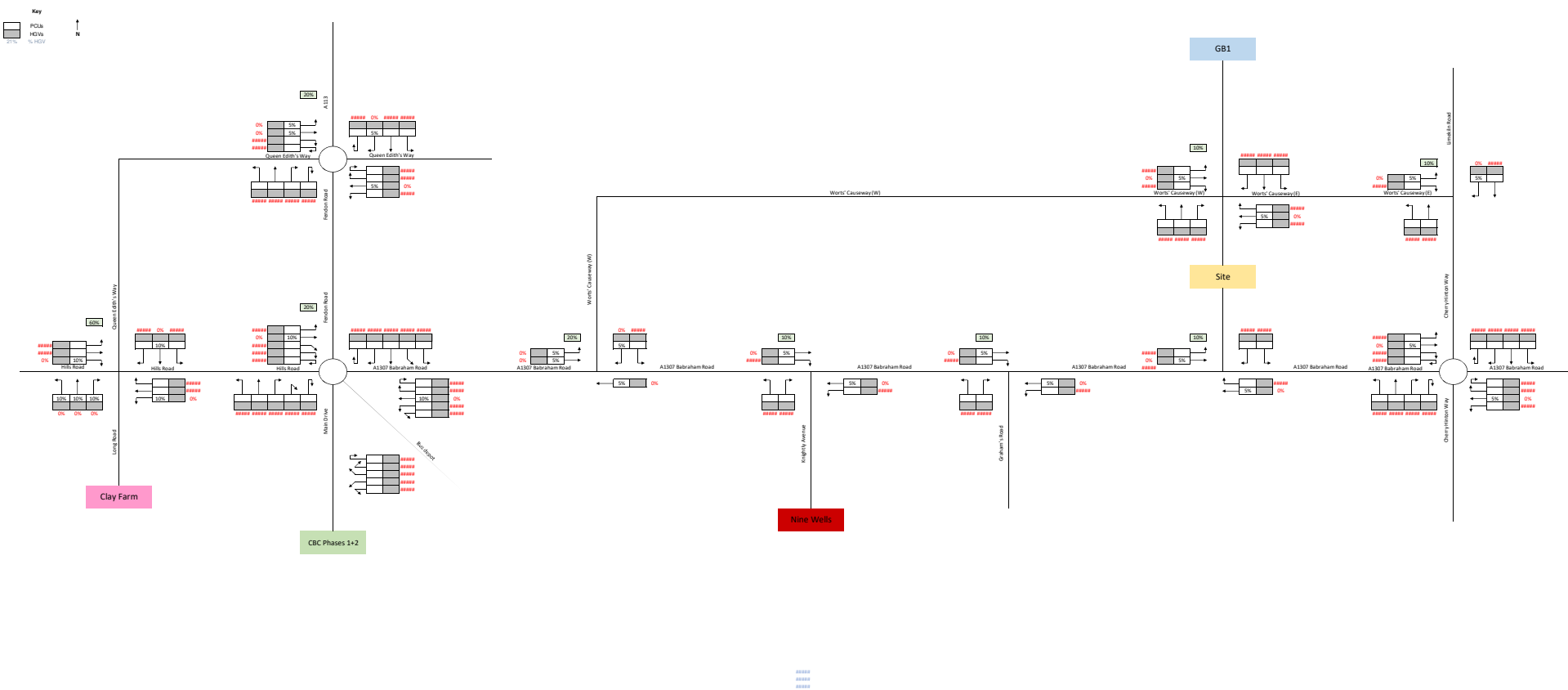


PM Nine wells



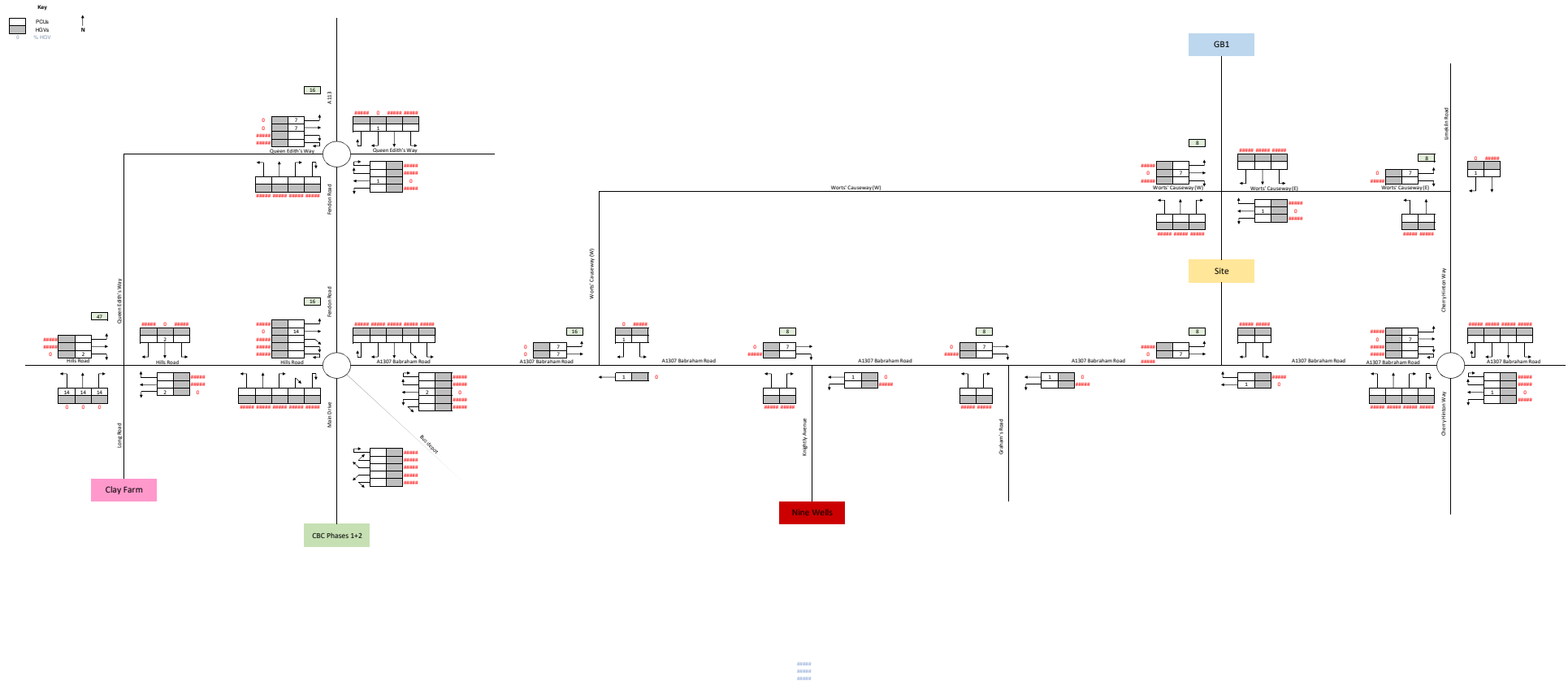
PM Nine wells

AM&PM Clay farm dist



AM&PM Clay farm dist

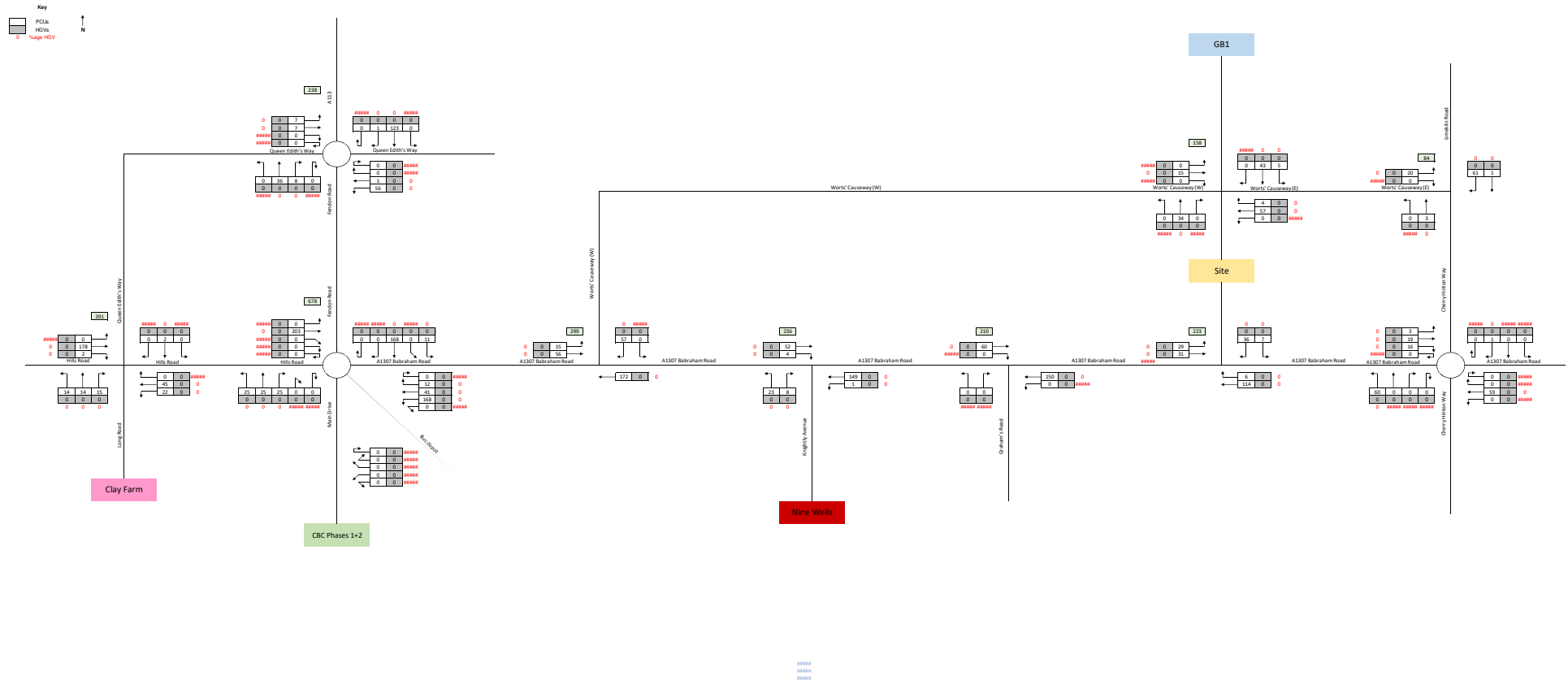
AM Clay farm



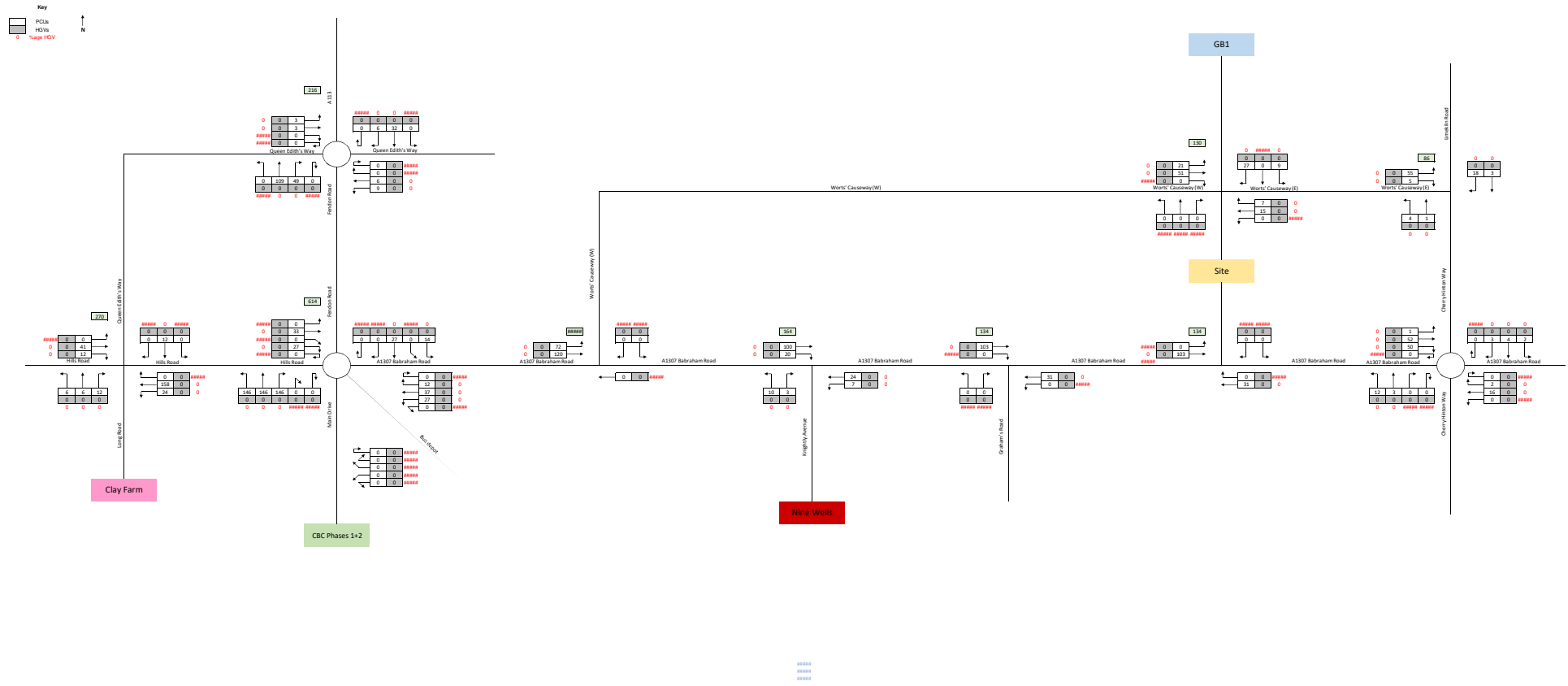
PM Clay farm



AM comm dev

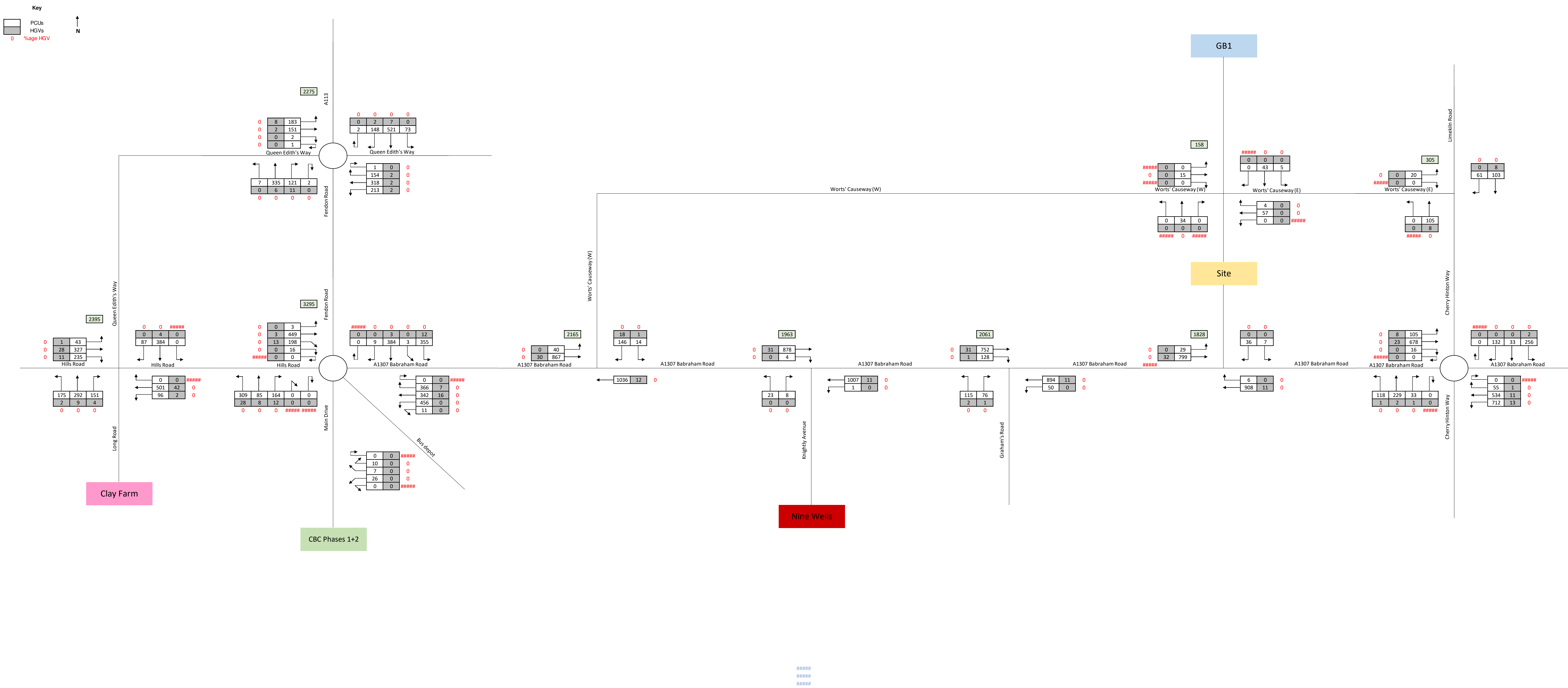


PM comm dev

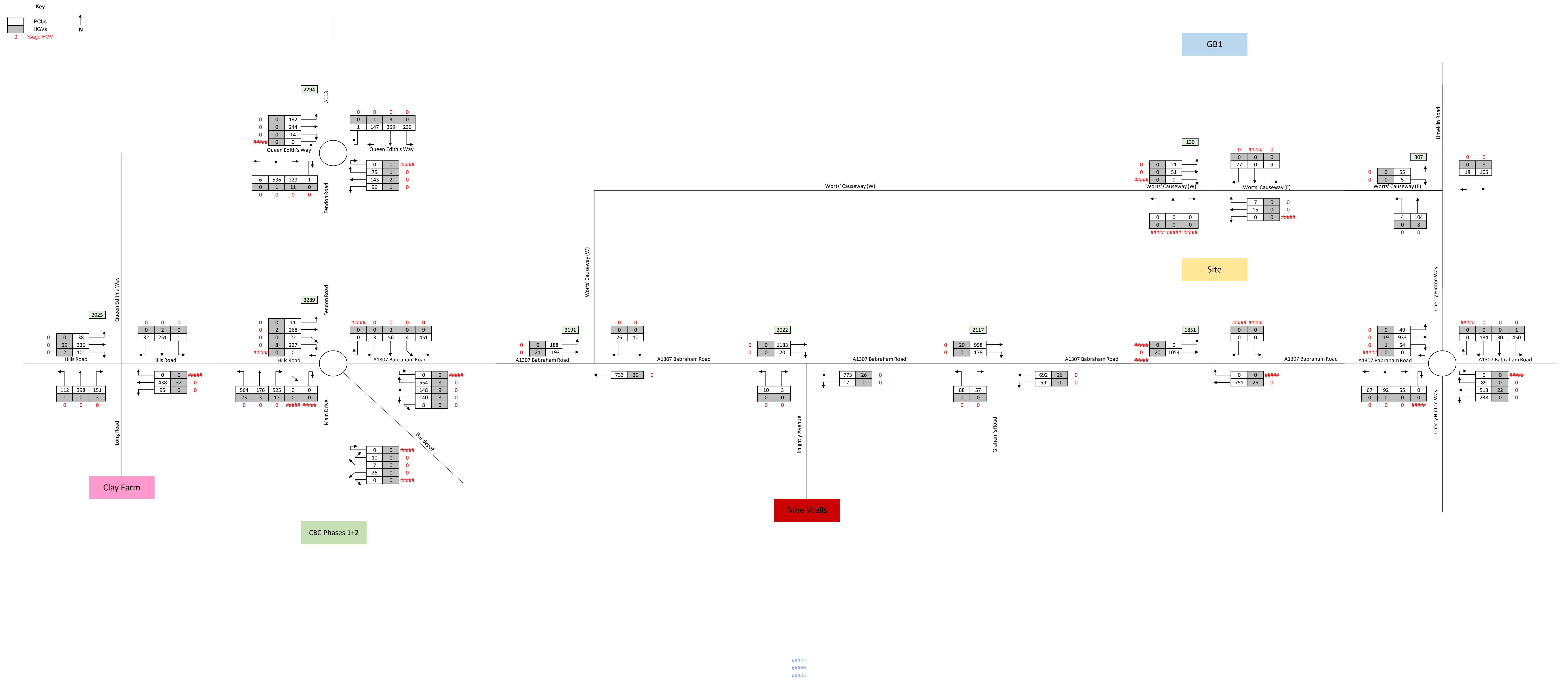


Appendix G - Final future traffic flows (Base + committed + development)

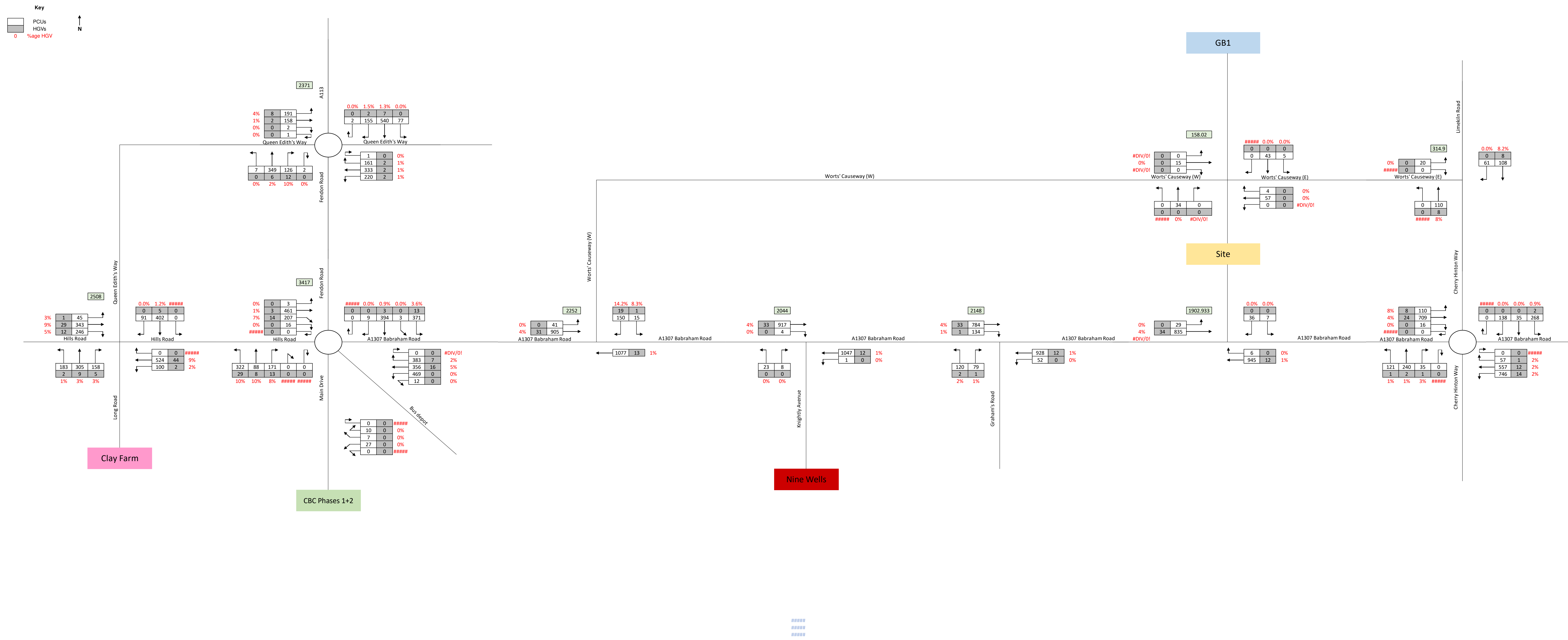
AM Base 2024 + comm



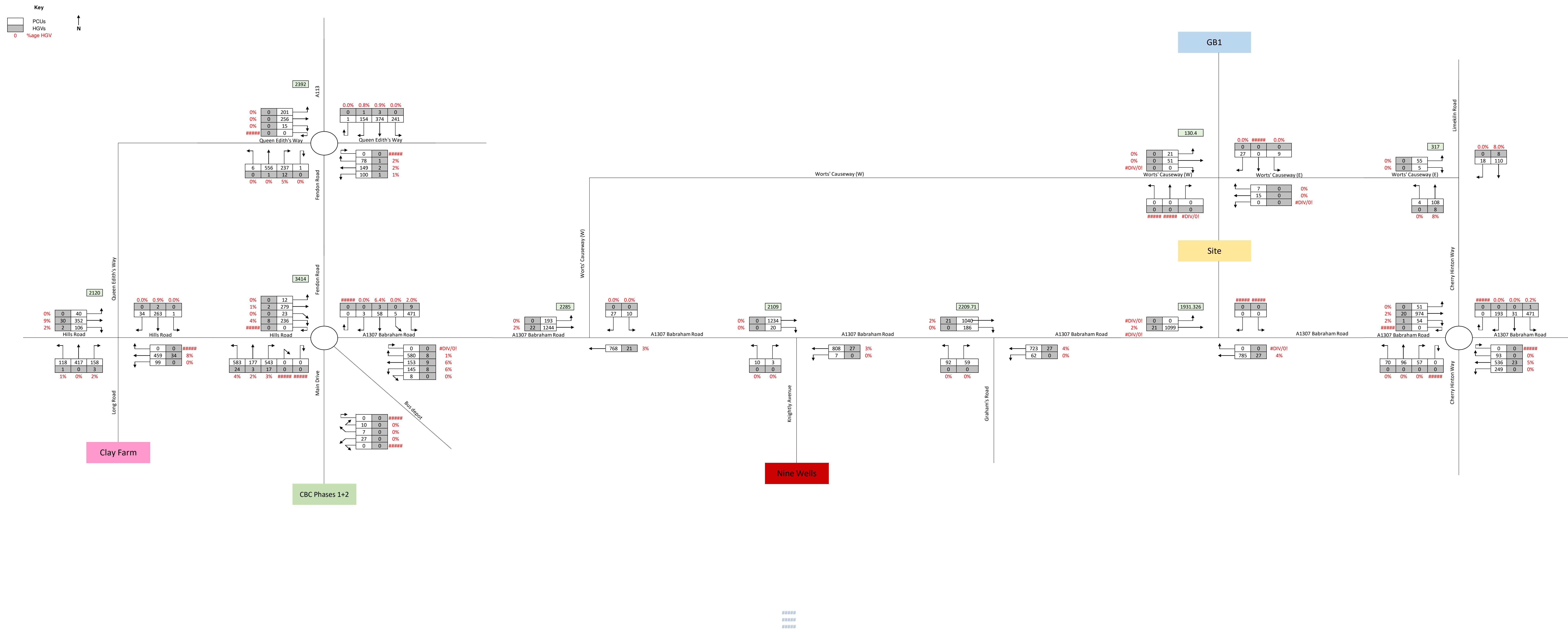
PM Base 2024 + comm



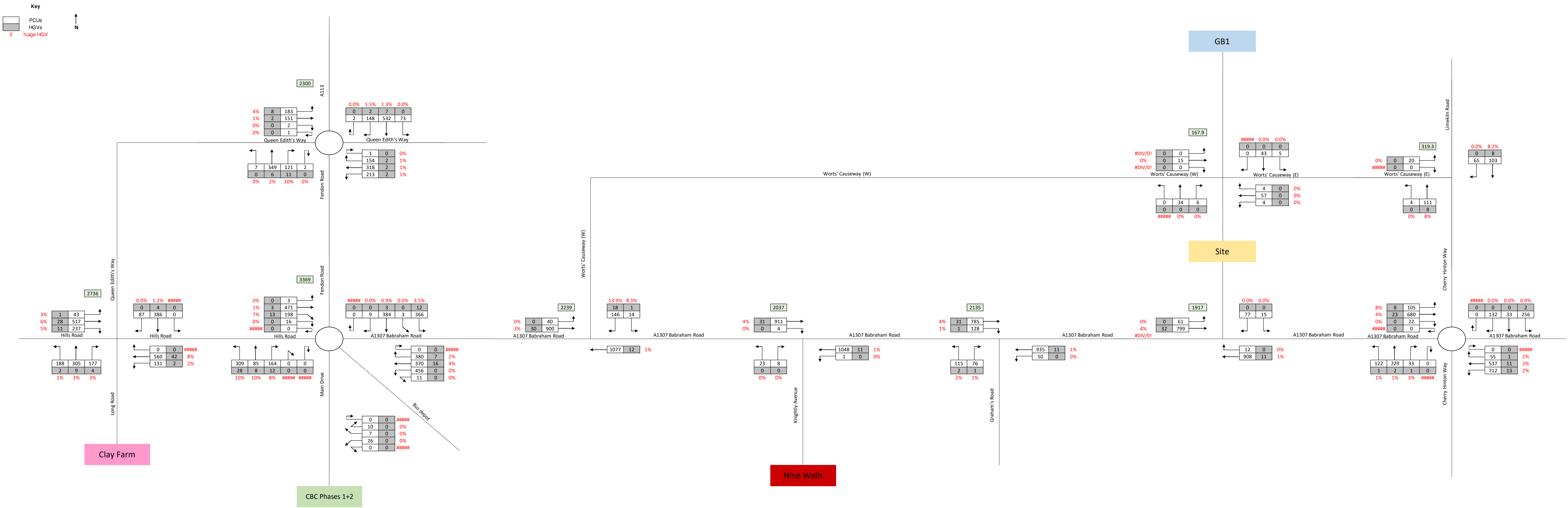
AM Base 2029 + comm



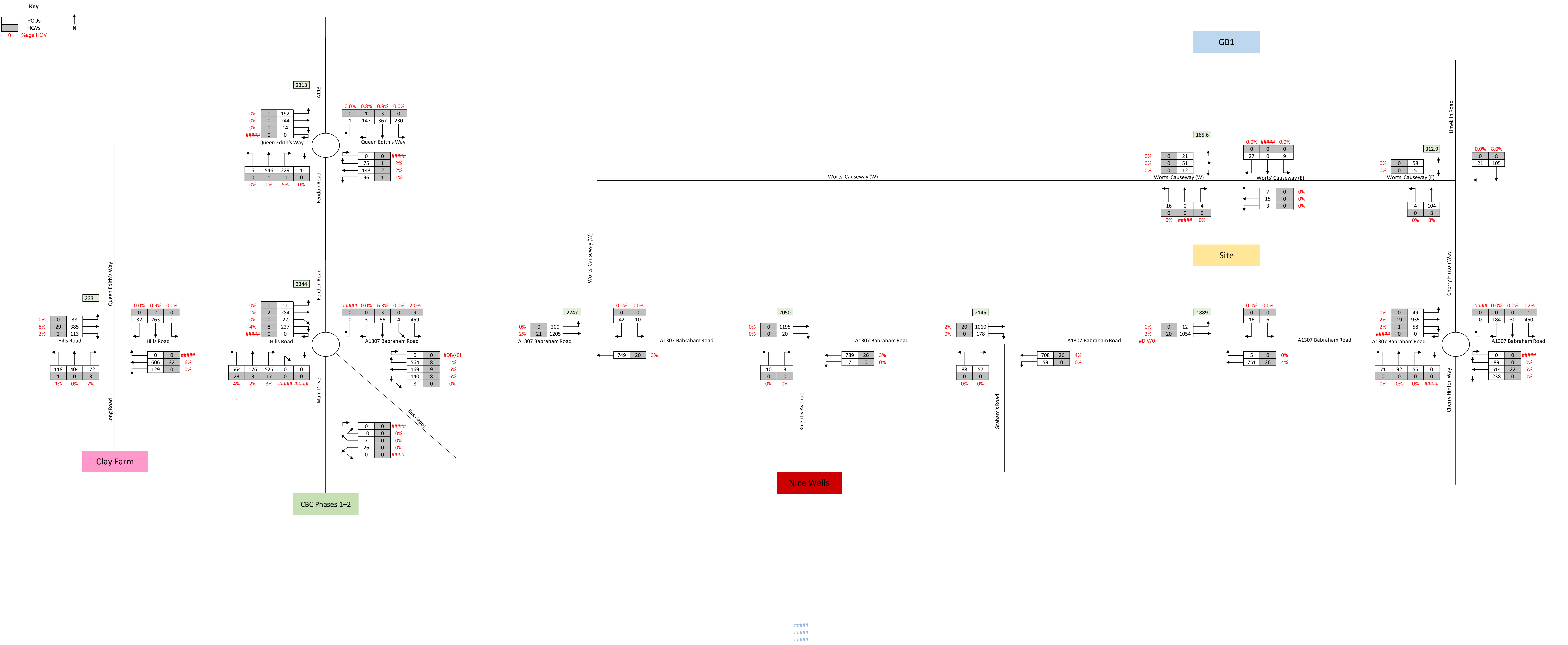
PM Base 2029 + comm



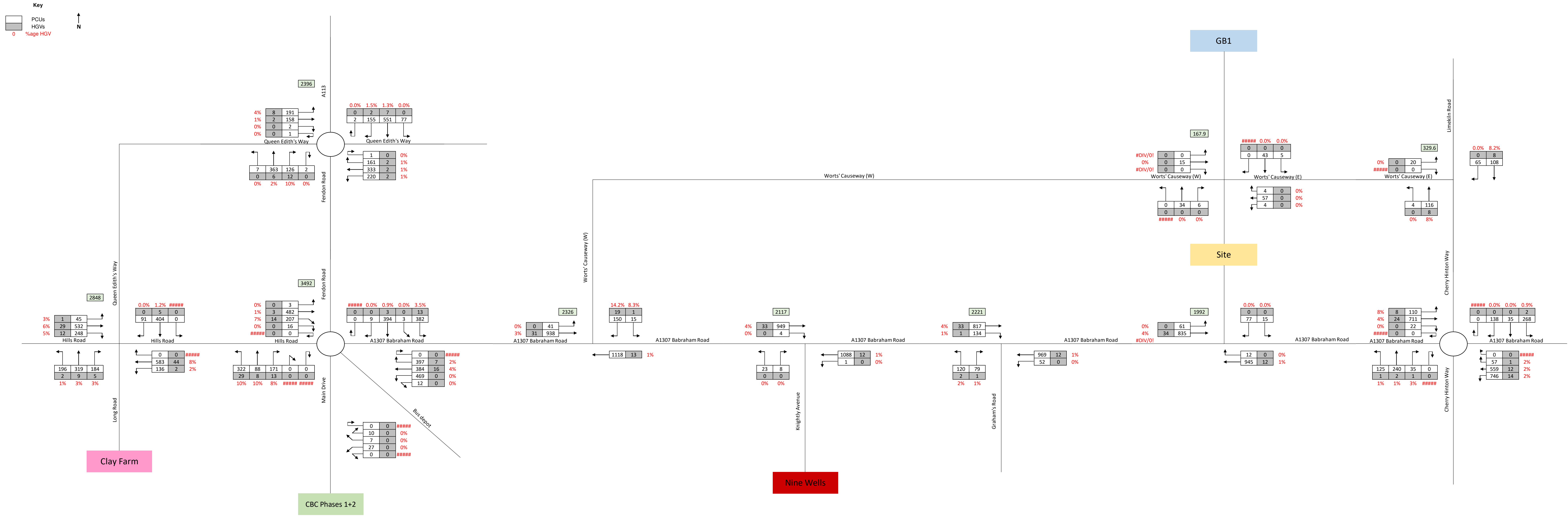
AM Base 2024 + comm + dev



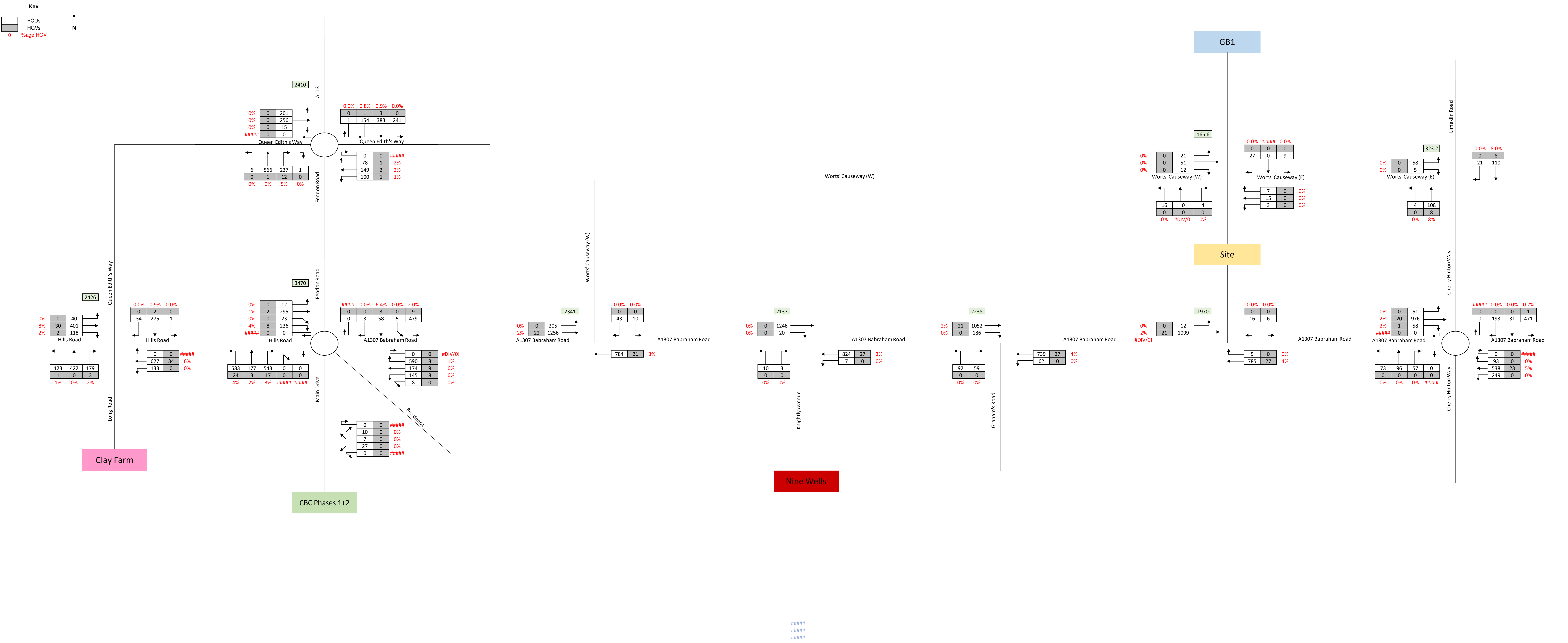
PM Base 2024 + comm + dev



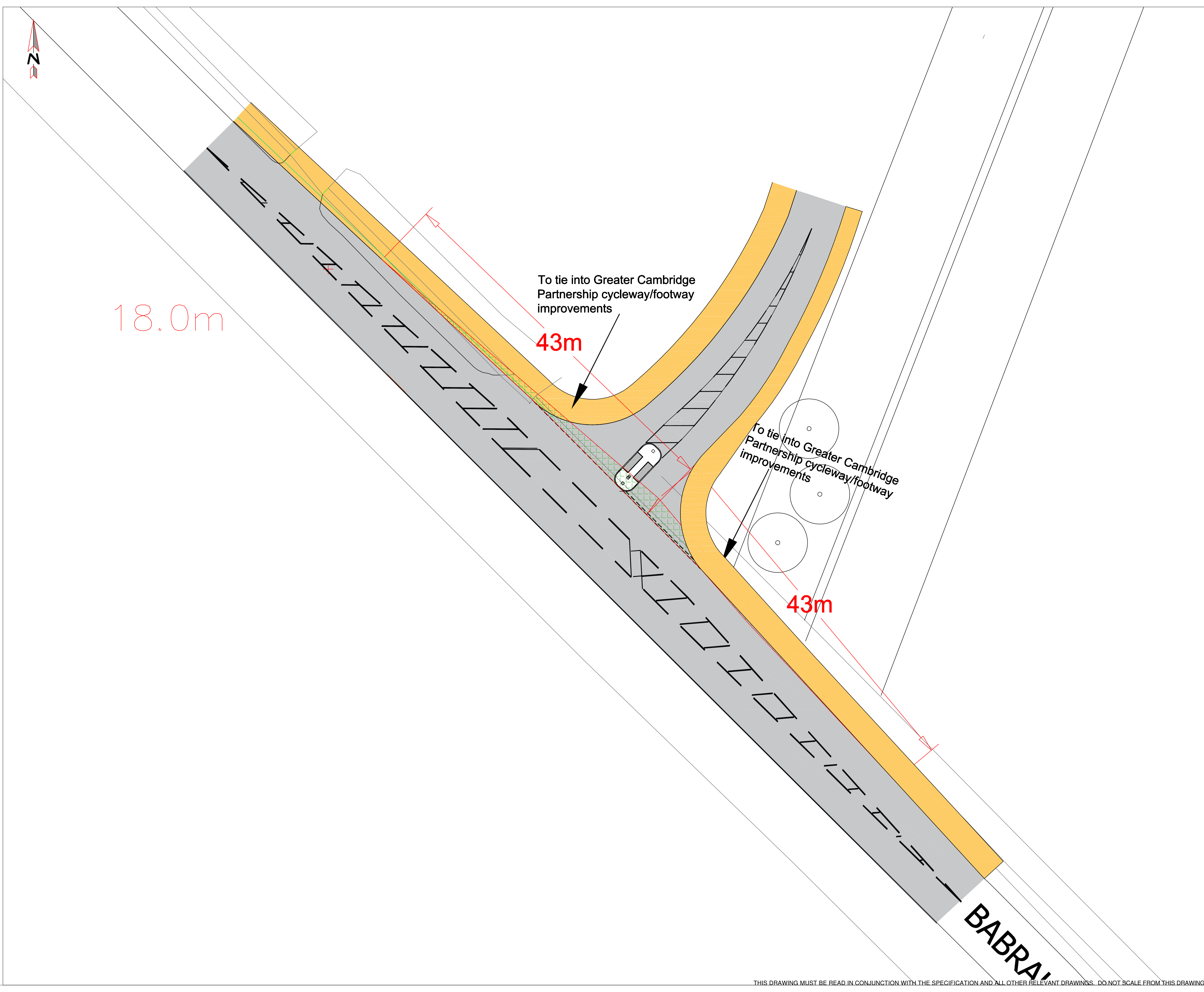
AM Base 2029 + comm + dev



PM Base 2029 + comm + dev



Appendix H - Proposed site access onto Babraham Road



GENERAL NOTES

1. This drawing to be read in conjunction with all relevant Conisbee engineering drawings.

LEGEND

NOT FOR CONSTRUCTION

Rev	Date	Description	Drawn	Check
-----	------	-------------	-------	-------

conisbee

Consulting Structural Engineers
Consulting Civil Engineers

1-5 Offord St
London N1 1DH
Tel: 020 7700 6666
Fax: 020 7700 6686
design@conisbee.co.uk
www.conisbee.co.uk

Drawing Status

PRELIMINARY

Date

01/08/2019

Scale

1:200@A1

Project

Worts' Causeway, Cambridge
Lot GB2

Drawn

CDB

Engineer

HLJ

Project No

180724

Title

Proposed access onto
Babraham Road - visibility splay

Client Project No

Drawing No

180724-X-00-DR-C-3032

Revision

A

Junctions 9							
PICADY 9 - Priority Intersection Module							
Version: 9.5.0.6896 © Copyright TRL Limited, 2018							
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: Site access.j9

Path: Z:\Lime\Projects\2018\18173 Worts Causeway, Cambs\Analysis\Junction capacity analysis\Amended PM dev flows

Report generation date: 05/07/2019 12:48:54

»2024 + com + dev, AM

»2024 + com + dev, PM

»2029 + com + dev, AM

»2029 + com + dev, PM

Summary of junction performance

	AM					PM				
	Q (PCU)	Delay (s)	RFC	LOS	Res Cap	Q (PCU)	Delay (s)	RFC	LOS	Res Cap
2024 + com + dev										
Stream B-AC	1.1	41.40	0.54	E	-3 %	0.2	24.96	0.14	C	10 %
Stream C-AB	0.0	8.14	0.03	A	[Stream B-AC]	0.0	9.47	0.01	A	[Stream B-AC]
2029 + com + dev										
Stream B-AC	1.3	49.45	0.59	E	-7 %	0.2	28.29	0.16	D	6 %
Stream C-AB	0.0	8.27	0.03	A	[Stream B-AC]	0.0	9.74	0.02	A	[Stream B-AC]

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle. Res Cap 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	20/03/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DESKTOP-U7G8RPA\Andy
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Q Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Av. Delay threshold (s)	Q 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
D1	2024 + com + dev	AM	ONE HOUR	08:00	09:30	15	✓
D2	2024 + com + dev	PM	ONE HOUR	17:00	18:30	15	✓
D3	2029 + com + dev	AM	ONE HOUR	08:00	09:30	15	✓
D4	2029 + com + dev	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

2024 + com + dev, 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	untitled	T-Junction	Two-way		2.09	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	-3	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Babraham Road North		Major
B	Site access		Minor
C	Babraham Road South		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	7.83			120.0	✓	1.00

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	3.02	20	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	495	0.083	0.210	0.132	0.300
1	B-C	638	0.090	0.227	-	-
1	C-B	643	0.229	0.229	-	-

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
D1	2024 + com + dev	AM	ONE HOUR	08:00	09:30	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	Av. Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	860	100.000
B		ONE HOUR	✓	92	100.000
C		ONE HOUR	✓	920	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	61	799
	B	77	0	15
	C	908	12	0

Vehicle Mix

HV %s

	To			
		A	B	C
	A	0	5	0
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.54	41.40	1.1	E	84	127
C-AB	0.03	8.14	0.0	A	12	17
C-A					833	1249
A-B					56	84
A-C					733	1100

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	69	17	294	0.236	68	0.0	0.3	15.871	C
C-AB	9	2	507	0.018	9	0.0	0.0	7.229	A
C-A	683	171			683				
A-B	46	11			46				
A-C	602	150			602				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	83	21	250	0.331	82	0.3	0.5	21.369	C
C-AB	11	3	485	0.023	11	0.0	0.0	7.604	A
C-A	816	204			816				
A-B	55	14			55				
A-C	718	180			718				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	101	25	188	0.540	99	0.5	1.1	39.575	E
C-AB	14	4	457	0.031	14	0.0	0.0	8.136	A
C-A	999	250			999				
A-B	67	17			67				
A-C	880	220			880				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	101	25	188	0.540	101	1.1	1.1	41.403	E
C-AB	14	4	457	0.031	14	0.0	0.0	8.137	A
C-A	999	250			999				
A-B	67	17			67				
A-C	880	220			880				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	83	21	250	0.331	85	1.1	0.5	22.182	C
C-AB	11	3	485	0.023	11	0.0	0.0	7.608	A
C-A	816	204			816				
A-B	55	14			55				
A-C	718	180			718				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	69	17	294	0.236	70	0.5	0.3	16.151	C
C-AB	9	2	507	0.018	9	0.0	0.0	7.233	A
C-A	683	171			683				
A-B	46	11			46				
A-C	602	150			602				

2024 + com + dev, 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	untitled	T-Junction	Two-way		0.32	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	10	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
D2	2024 + com + dev	PM	ONE HOUR	17:00	18:30	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	Av. Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1066	100.000
B		ONE HOUR	✓	22	100.000
C		ONE HOUR	✓	756	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	12	1054
	B	16	0	6
	C	751	5	0

Vehicle Mix

HV %s

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (PCU)	Max LOS	Av. Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.14	24.96	0.2	C	20	30
C-AB	0.01	9.47	0.0	A	5	7
C-A					689	1034
A-B					11	17
A-C					967	1451

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	4	287	0.058	16	0.0	0.1	13.284	B
C-AB	4	0.95	464	0.008	4	0.0	0.0	7.826	A
C-A	565	141			565				
A-B	9	2			9				
A-C	794	198			794				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	238	0.083	20	0.1	0.1	16.459	C
C-AB	5	1	431	0.011	5	0.0	0.0	8.452	A
C-A	675	169			675				
A-B	11	3			11				
A-C	948	237			948				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	168	0.144	24	0.1	0.2	24.860	C
C-AB	6	1	386	0.015	6	0.0	0.0	9.469	A
C-A	827	207			827				
A-B	13	3			13				
A-C	1160	290			1160				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	168	0.144	24	0.2	0.2	24.960	C
C-AB	6	1	386	0.015	6	0.0	0.0	9.471	A
C-A	827	207			827				
A-B	13	3			13				
A-C	1160	290			1160				