

Appendix 63

AECOM SATURN Summary Report

Project:	Peel Hall	Job No:	60487959
Subject:	SATURN Modelling Results		
Prepared by:	Chris Peachey	Date:	28/09/2017
Checked by:	Catherine Zoeflig	Date:	28/09/2017
Approved by:	Catherine Zoeflig	Date:	28/09/2017

Introduction

Following the production of the extended M62 Junction 9 VISSIM model, AECOM were commissioned by SATNAM Millennium (SM) (Under the instruction of Highgate Transportation (HTp)) to produce a SATURN model for the same modelled area.

This Technical Note has been developed to provide a clear summary of the impact of the development proposals, on the local highway network, at the future years. The results from the following scenarios have been considered in order to identify the specific impacts of the development traffic upon each junction arm:

- a. Do Something (Base + committed + growth + development) (AM and PM) 2025 (Part-build out development profile (information on part-build out to be supplied by Highgate)),
- b. Do Something (Base + committed + growth + development) (AM and PM) 2030 (Full development profile), and
- c. Sensitivity test for 'with development' in 2030 (Full development profile) to test for a full through route scenario between the A49 and Mill Lane/Blackbrook Avenue open for all traffic. (Base + committed + growth + Development + through route). (AM and PM).

Results

The results of the SATURN modelling are presented, (As Volume over Capacity (VoCs) and Queues (Qs)), within the figures contained within Appendix A at the end of this report.

Links with a VoC below 85% are considered to be operating within capacity, with an additional 15% reserve capacity to cope with any increases in traffic flows. Therefore, any links with a VoC % above 85 have been highlighted as they are in danger of becoming over saturated, since they do not have any additional reserve capacity to cope with increases in traffic volumes. Where a junction is operating over capacity with a value over 85% we would expect to observe issues relating to increases in delay, queueing, and blocking back.

In summary the junctions affected include:

- 3) Junction 9 M62,
- 5) A49/Sandy Lane West,
- 6) A49/A50,
- 8) Blackbrook Ave/Insall Rd/Hilden Rd,
- 10) A49/ Birch Ave,
- 15) A50 Orford Green/ Poplars Ave,
- 20) Capesthorpe Rd/ Poplars Ave,
- 23) Capesthorpe Rd/ Blackbrook Ave/ Enfield Park Rd,
- 24) Birchwood Way/ Blackbrook Ave,
- 25) Enfield Park Rd/ Crab Lane,
- 27) Birchwood Way/ Oakwood Gate, and
- PH6) Through Route joining the A49

Direct Tel: +44 (0)161 602 7527
T +44 (0)161 601 1700
F +44 (0)161 601 1799
E frank.mohan@aecom.com
www.aecom.com

6th Floor
One New York Street
Manchester
M1 4HD
United Kingdom

The following paragraphs identify specifically where the addition of the development traffic results in an increase in VoCs or Qs:

a. 2025 AM (With Development)

The following junctions and arms have been identified to be experiencing higher levels of VoC and queueing compared to the 2025 AM Do Minimum scenario.

- **Junction 6** - A49/A50 Additional saturation forecast on arms C (A50 East) and D (A49 south);
- **Junction 24** - Birchwood Way / Blackbrook Ave – Arm C (Birchwood Way East); and
- **Junction 27** - Birchwood Way/ Oakwood Gate – Arm B (Birchwood Park Avenue).

b. 2025 PM (With Development)

The following junctions and arms have been identified to be experiencing higher levels of VoC and queueing compared to the 2025 PM Do Minimum scenario.

- **Junction 8** - Blackbrook Ave/ Insall Rd/ Hilden Rd – Arms A (Hilden Road) and C (Insall Road);
- **Junction 15** - A50 Orford Green/ Poplars Avenue – Arm C (A50 from Orford Road roundabout);
- **Junction 20** - Capesthorpe Road/ Poplars – Arm C (Poplars Avenue South);
- **Junction 24** - Birchwood Way/ Blackbrook Ave – Arms A (Birchwood Way West), B (Blackbrook Ave North), and C (Birchwood Way East);
- **Junction 25** - Enfield Park Road/ Crab Lane – B (Crab Lane); and
- **Junction 27** - Birchwood Way/ Oakwood Gate – Arm B (Birchwood Park Avenue).

c. 2030 AM (With Development)

The following junctions and arms have been identified to be experiencing higher levels of VoC and queueing compared to the 2030 AM Do Minimum scenario.

- **Junction 3** - M62 J9 – Arms A (East off slip), B (A49 North), and C (M62 West off slip);
- **Junction 15** - A50 Orford Green/ Poplars Ave – B (Poplars Avenue); and
- **Junction 23** - Capesthorpe/Blackbrook Ave/ Enfield Park Rd – B (Blackbrook Ave North); and
- **Junction 27** - Birchwood Way/ Oakwood Gate – Arm A (Birchwood Park Avenue), Arm C (Birchwood Avenue East), and D (Oakwood Gate).

d. 2030 PM (With Development)

The following junctions and arms have been identified to be experiencing higher levels of VoC and queueing compared to the 2030 PM Do Minimum scenario.

- **Junction 3** - M62 J9 – Arms A (East off slip), B (A49 North), and C (M62 West off slip);
- **Junction 5** - A49/ Sandy Lane West – Arms B (A49 north) and C (Sandy Lane W);
- **Junction 8** - Blackbrook Ave/ Insall Rd/ Hilden Rd – Arm B (Blackbrook North);
- **Junction 15** - A50 Orford Green/ Poplars Ave – Arm C (A50 from Orford Road);
- **Junction 20** - Capesthorpe Road/ Poplars – Arms C (Poplars South) and D (Capesthorpe South);
- **Junction 23** - Capesthorpe/Blackbrook Ave/ Enfield Park Rd – Arm C (Enfield Park Rd);
- **Junction 24** - Birchwood Way/ Blackbrook Ave – Arms A (Birchwood Way West) and B (Blackbrook Ave North);
- **Junction 25** - Enfield Park Road/ Crab Lane – Arm B (Crab Lane); and
- **Junction 27** - Birchwood Way/ Oakwood Gate – Arm C (Birchwood Avenue East) and D (Oakwood Gate).

e. AM Through Route (With Development)

The Through Route option within SATURN on the A49 North has been modelled as a two lane entry. The following junctions and arms have been identified to be experiencing higher levels of VoC and queueing compared to the 2030 AM Do Something scenario.

- **Junction 10** - A49/ Birch Ave –Arm A (A49 North); and
- **PH6 – Through Route joining the A49** – Arm A (A49 North)

f. PM Through Route (With Development)

The following junctions and arms have been identified to be experiencing higher levels of VoC and queueing compared to the 2030 PM Do Something scenario.

- **PH5 – Through Route joining Blackbrook Avenue** - Arm C (Blackbrook Avenue South)
- **PH6 – Through Route joining the A49** - Arm C (A49 South)

Conclusion

It is therefore suggested that the aforementioned junctions would benefit from further, more detailed modelling analysis, if necessary (Subject to further discussions with Warrington Borough Council (WBC)).

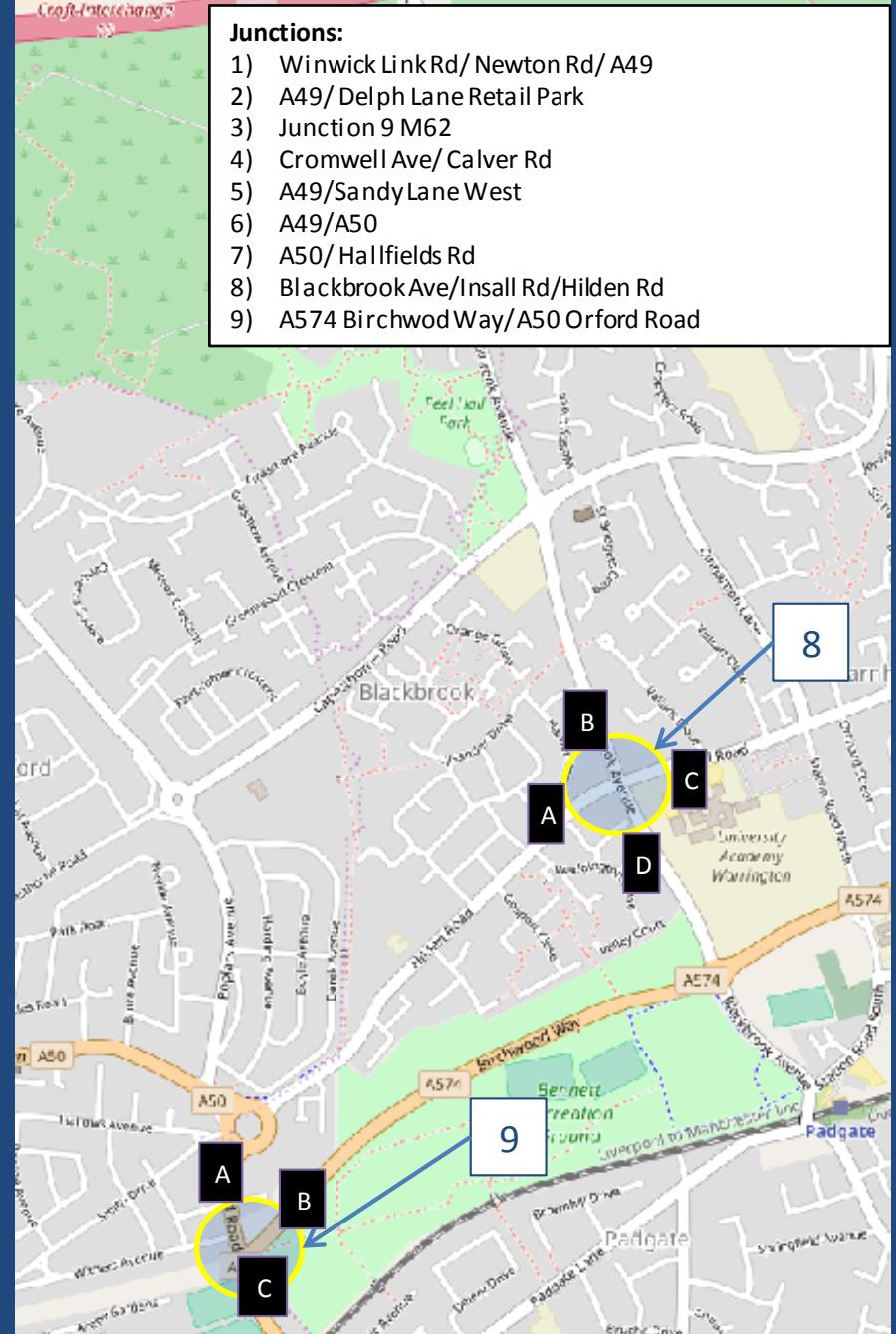
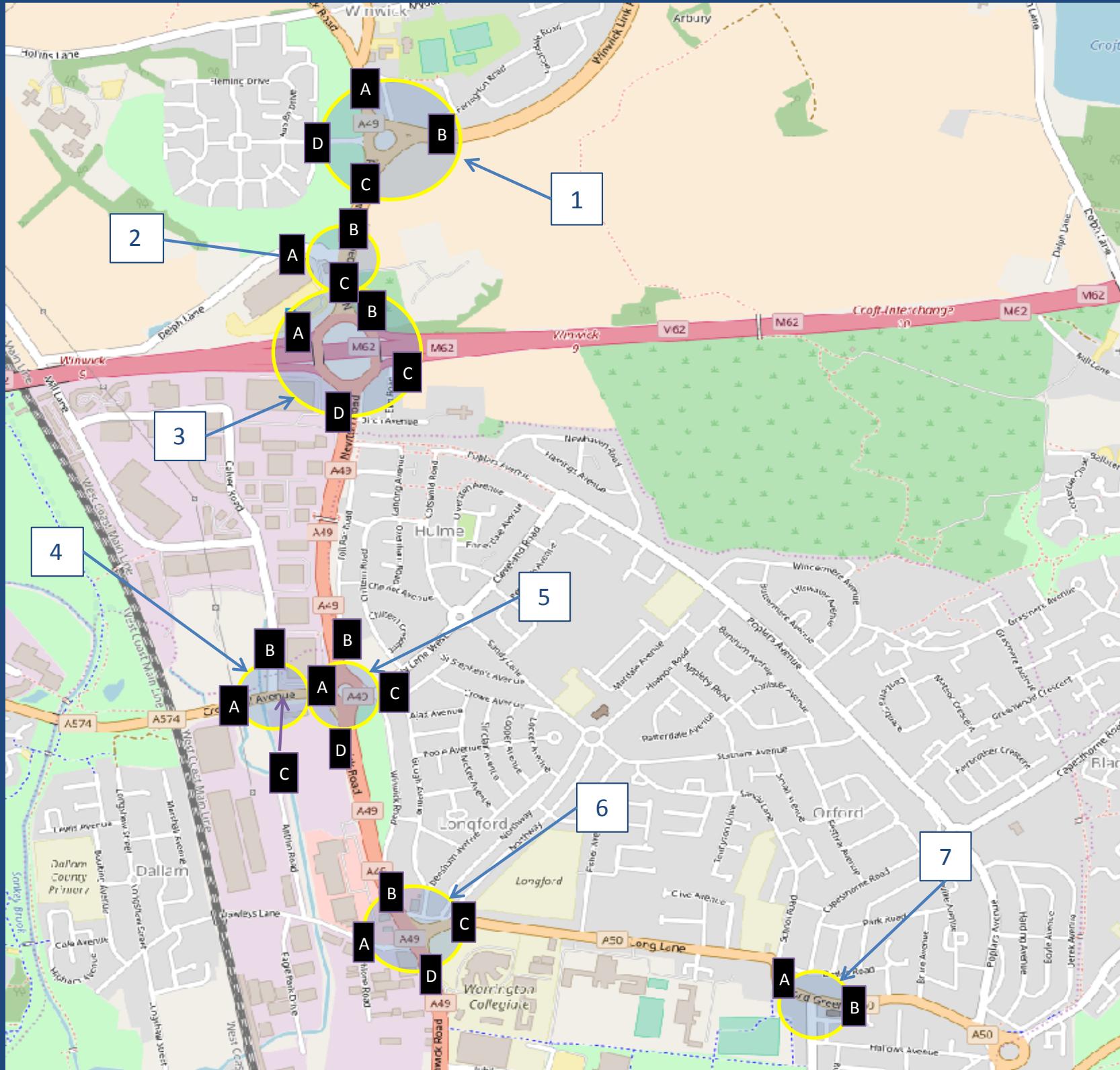
Appendix A – SATURN Model Results

BASE YEAR SIGNALISED JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

Junctions:

- 1) Winwick Link Rd/ Newton Rd/ A49
- 2) A49/ Delph Lane Retail Park
- 3) Junction 9 M62
- 4) Cromwell Ave/ Calver Rd
- 5) A49/Sandy Lane West
- 6) A49/A50
- 7) A50/ Halfields Rd
- 8) Blackbrook Ave/ Insal Rd/ Hilden Rd
- 9) A574 Birchwod Way/ A50 Orford Road



Junction 1	Junction 2	Junction 3	Junction 4	Junction 5	Junction 6	Junction 7	Junction 8	Junction 9
AM A: VoC=61, Q=3 B: VoC=54, Q=2 C: VoC=96, Q=5 D: VoC=20, Q=1	AM A: VoC=30, Q=3 B: VoC=50, Q=4 C: VoC=59, Q=4	AM A: VoC=82, Q=17 B: VoC=102, Q=21 C: VoC=61, Q=3 D: VoC=80, Q=6	AM A: VoC=73, Q=5 B: VoC=51, Q=1 C: VoC=31, Q=1	AM A: VoC=62, Q=7 B: VoC=85, Q=66 C: VoC=34, Q=2 D: VoC=25, Q=0	AM A: VoC=28, Q=3 B: VoC=102, Q=59 C: VoC=63, Q=6 D: VoC=66, Q=11	AM A: VoC=34, Q=1 B: VoC=69, Q=5	AM A: VoC=77, Q=2 B: VoC=60, Q=5 C: VoC=66, Q=4 D: VoC=12, Q=4	AM A: VoC 35, Q=0 B: VoC 14, Q=2 C: VoC 35, Q=3
PMVoC A: VoC=75, Q=3 B: VoC=87, Q=4 C: VoC=90, Q=6 D: VoC=12, Q=0	PM A: VoC=31, Q=3 B: VoC=57, Q=6 C: VoC=95, Q=10	PM A: VoC=99, Q=25 B: VoC=104, Q=31 C: VoC=43, Q=2 D: VoC=87, Q=40	PM A: VoC=51, Q=3 B: VoC=67, Q=2 C: VoC=48, Q=1	PM A: VoC=37, Q=4 B: VoC=83, Q=9 C: VoC=58, Q=3 D: VoC=40, Q=0	PM A: VoC=46, Q=9 B: VoC=68, Q=20 C: VoC=43, Q=4 D: VoC=90, Q=18	PM A: VoC=32, Q=3 B: VoC=27, Q=5	PM A: VoC=73, Q=4 B: VoC=58, Q=4 C: VoC=90, Q=4 D: VoC=68, Q=4	PM A: VoC=35, Q=0 B: VoC=43, Q=3 C: VoC=48, Q=3

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)

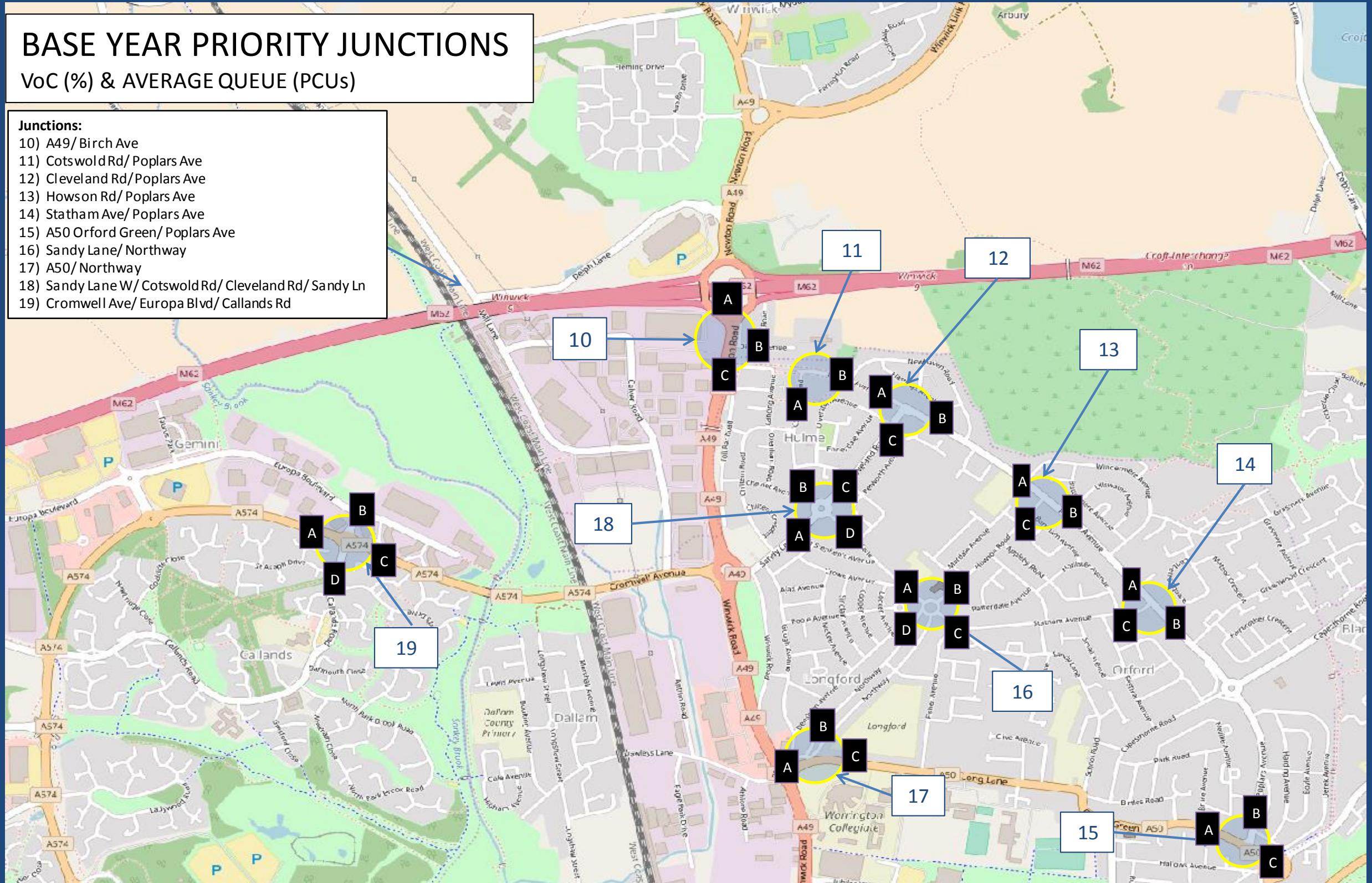


BASE YEAR PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

Junctions:

- 10) A49/ Birch Ave
- 11) Cotswold Rd/ Poplars Ave
- 12) Cleveland Rd/ Poplars Ave
- 13) Howson Rd/ Poplars Ave
- 14) Statham Ave/ Poplars Ave
- 15) A50 Orford Green/ Poplars Ave
- 16) Sandy Lane/ Northway
- 17) A50/ Northway
- 18) Sandy Lane W/ Cotswold Rd/ Cleveland Rd/ Sandy Ln
- 19) Cromwell Ave/ Europa Blvd/ Callands Rd



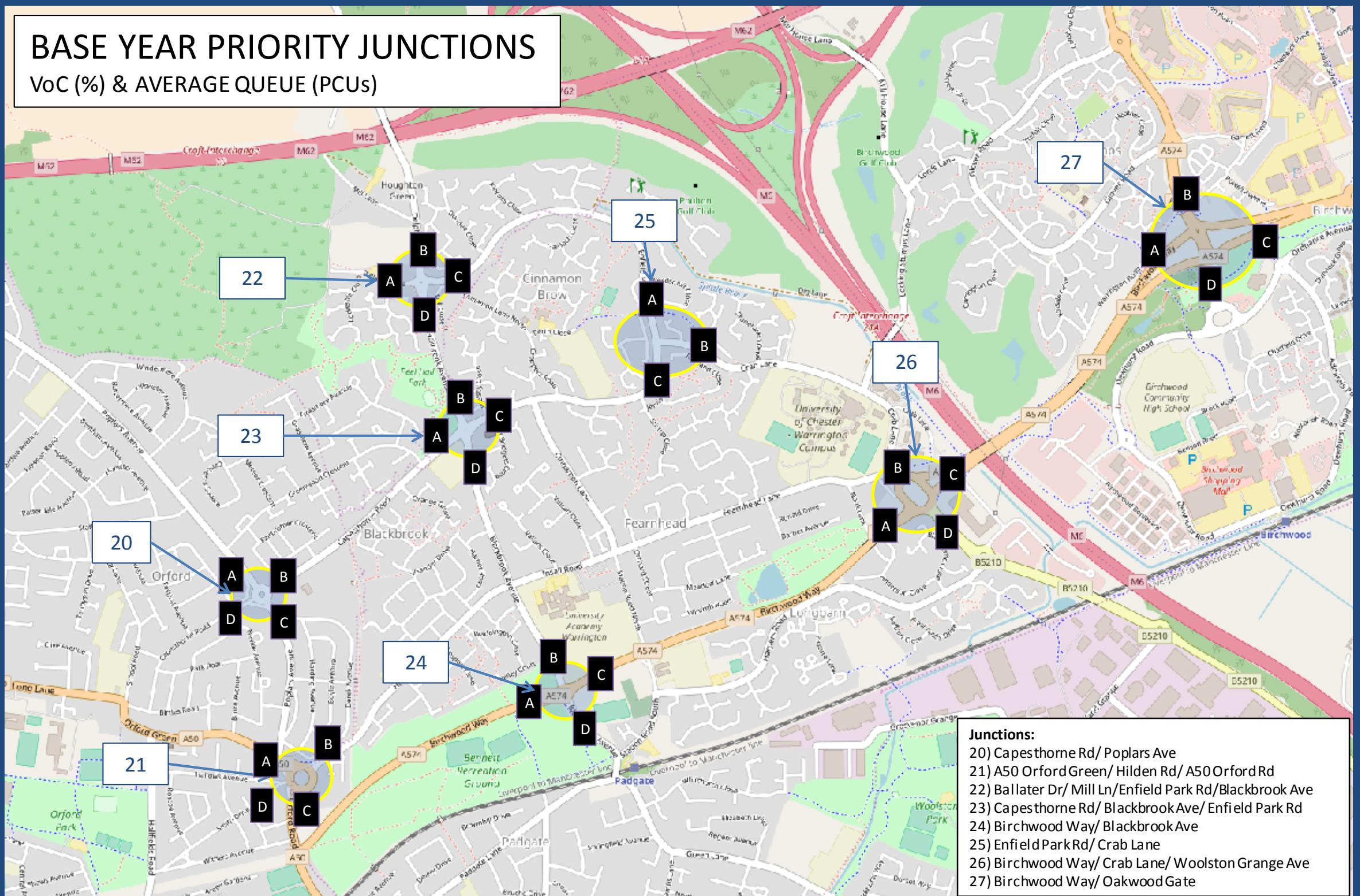
Junction 10	Junction 11	Junction 12	Junction 13	Junction 14	Junction 15	Junction 16	Junction 17	Junction 18	Junction 19
AM A:VoC=49,Q=0 B:VoC=12,Q=0 C:VoC=36,Q=0	AM A:VoC=1,Q=0 B:VoC=1,Q=0	AM A:VoC=4,Q=0 B:VoC=12,Q=0 C:VoC=44,Q=0	AM A:VoC=16,Q=0 B:VoC=11,Q=0 C:VoC=20,Q=0	AM A:VoC=17,Q=0 B:VoC=8,Q=0 C:VoC=4,Q=0	AM A:VoC=19,Q=0 B:VoC=78,Q=1 C:VoC=47,Q=0	AM A:VoC=11,Q=0, B:VoC=10,Q=0 C:VoC=7,Q=0 D:VoC=5,Q=0	AM A:VoC=17,Q=0 B:VoC=16,Q=0 C:VoC=29,Q=0	AM A:VoC=15,Q=0 B:VoC=20,Q=0 C:VoC=7,Q=0 D:VoC=36,Q=0	AM A:VoC=22, Q=0 B:VoC=16,Q=0 C:VoC=40,Q=0 D:VoC=24,Q=0
PM A:VoC=36,Q=0 B:VoC=5,Q=0 C:VoC=47,Q=0	PM A:VoC=0,Q=0 B:VoC=0,Q=0	PM A:VoC=3,Q=0 B:VoC=18,Q=0 C:VoC=40,Q=0	PM A:VoC=16,Q=0 B:VoC=19,Q=0 C:VoC=10,Q=0	PM A:VoC=15,Q=0 B:VoC=14,Q=0 C:VoC=5,Q=0	PM A:VoC=34,Q=0 B:VoC=39,Q=0 C:VoC=57,Q=1	PM A:VoC=9,Q=0 B:VoC=10,Q=0 C:VoC=11,Q=0 D:VoC=16,Q=0	PM A:VoC=31,Q=0 B:VoC=4,Q=0 C:VoC=32,Q=0	PM A:VoC=9,Q=0 B:VoC=29,Q=0 C:VoC=14,Q=0 D:VoC=36,Q=0	PM A:VoC=22,Q=0 B:VoC=19,Q=0 C:VoC=63,Q=0 D:VoC=12,Q=0

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)



BASE YEAR PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



- Junctions:**
- 20) Capes thorne Rd/ Poplars Ave
 - 21) A50 Orford Green/ Hilden Rd/ A50 Orford Rd
 - 22) Ballater Dr/ Mill Ln/ Enfield Park Rd/ Blackbrook Ave
 - 23) Capes thorne Rd/ Blackbrook Ave/ Enfield Park Rd
 - 24) Birchwood Way/ Blackbrook Ave
 - 25) Enfield Park Rd/ Crab Lane
 - 26) Birchwood Way/ Crab Lane/ Woolston Grange Ave
 - 27) Birchwood Way/ Oakwood Gate

Junction 20	Junction 21	Junction 22	Junction 23	Junction 24	Junction 25	Junction 26	Junction 27
AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=38,Q=0	A:VoC=49,Q=0	A:VoC=6,Q=0	A:VoC=24,Q=0	A:VoC=73,Q=0	A:VoC=0,Q=0	A:VoC=38, Q=0	A:VoC=83,Q=1
B:VoC=45,Q=0	B:VoC=40, Q=0	B:VoC=36,Q=0	B:VoC=39,Q=0	B:VoC=38,Q=1	B:VoC=25,Q=0	B:Voc= 49,Q=1	B:VoC=70,Q=1
C:VoC=20,Q=0	C:VoC=44,Q=0	C:VoC=14,Q=0	C:VoC=26,Q=0	C:VoC=56,Q=0	C:VoC=38,Q=0	C:VoC=54,Q=0	C:VoC=62,Q=1
D:VoC=22,Q=0	D:VoC=20,Q=0	D:VoC=10,Q=0	D:Voc=17,Q=0	D:VoC=65,Q=0		D:VoC=74,Q=1	D:VoC=78,Q=2
PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=25,Q=0	A:VoC=48,Q=0	A:VoC=2,Q=0	A:VoC=30,Q=0	A:VoC=61,Q=0	A:VoC=0,Q=0	A:VoC=28,Q=0	A:VoC=51,Q=0
B:VoC=48,Q=0	B:VoC=32,Q=0	B:VoC=20,Q=0	B:VoC=22,Q=0	B:VoC=44,Q=0	B:VoC=37,Q=0	B:VoC=49,Q=1	B:VoC=56,Q=1
C:VoC=7,Q=0	C:VoC=47,Q=0	C:VoC=18,Q=0	C:VoC=30,Q=0	C:VoC=83,Q=1	C:VoC=44,Q=0	C:VoC=57,Q=1	C:VoC=83,Q=2
D:VoC=25,Q=0	D:VoC=36,Q=0	D:VoC=27,Q=0	D:VoC=25,Q=0	D:VoC=62,Q=1		D:VoC=36,Q=1	D:VoC=173,Q=135

Key:
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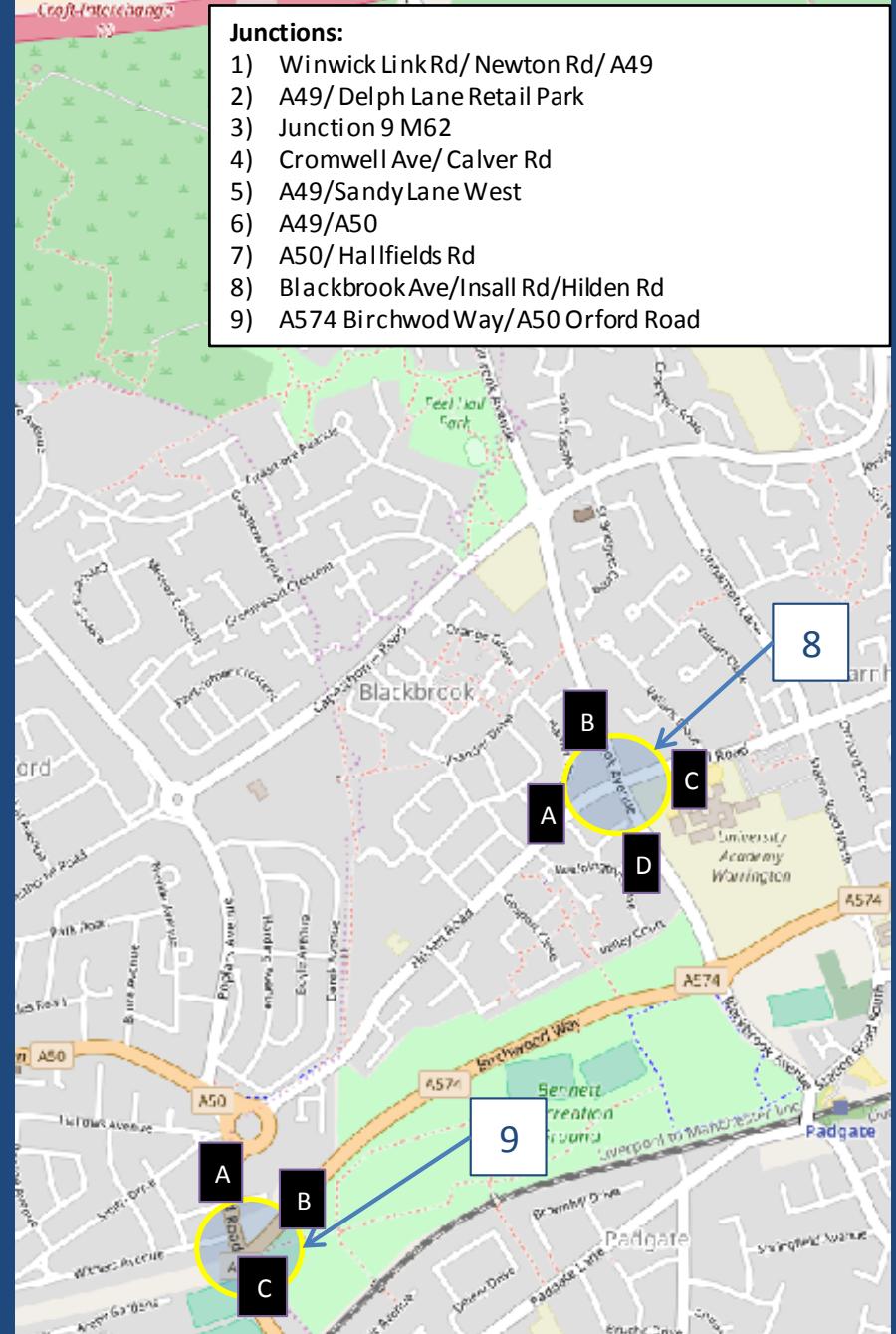
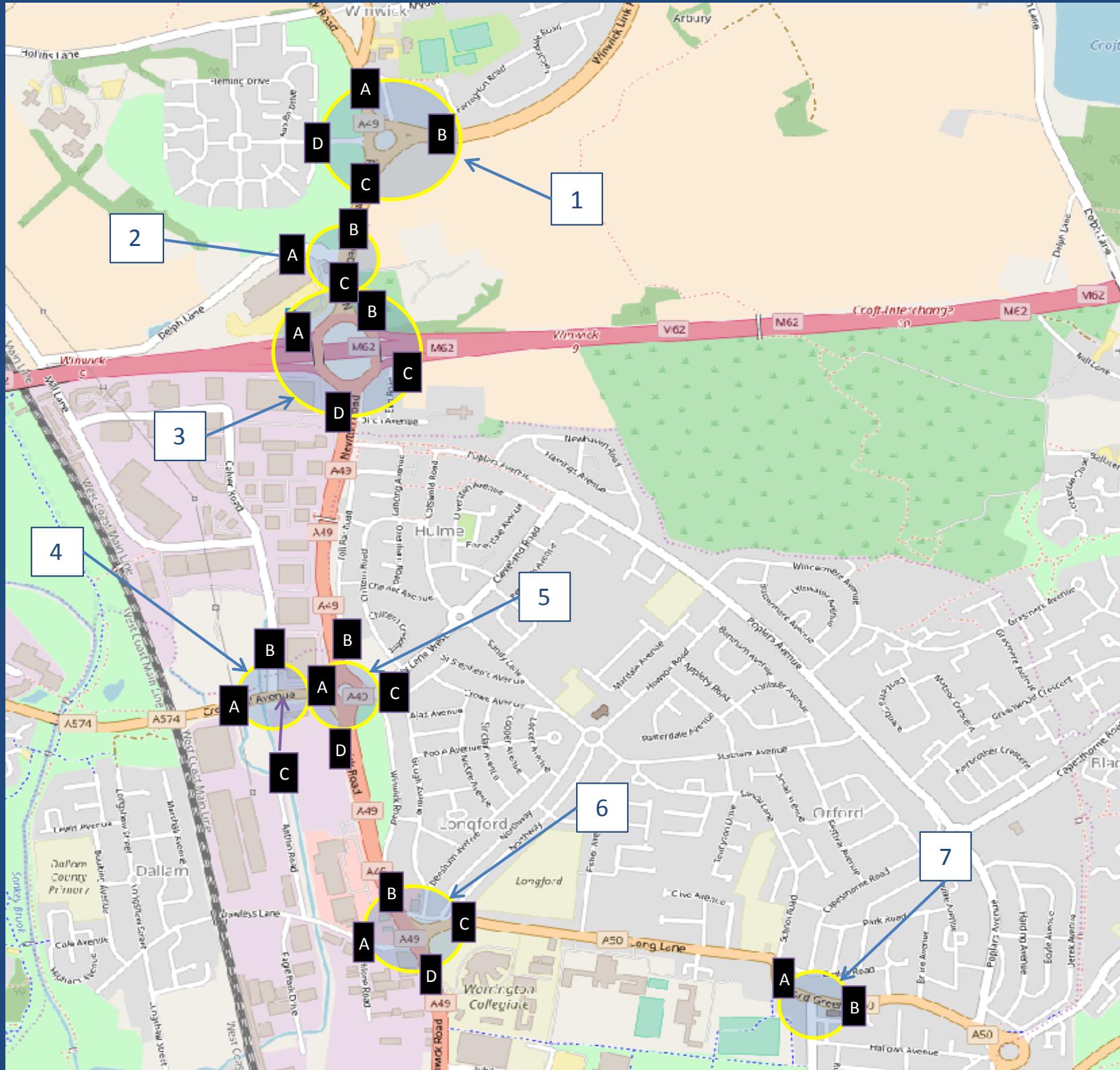


2025 DO MIN SIGNALISED JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

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- 9) A574 Birchwod Way/A50 Orford Road



Junction 1	Junction 2	Junction 3	Junction 4	Junction 5	Junction 6	Junction 7	Junction 8	Junction 9
AM A: VoC=69, Q=3 B: VoC=63, Q=3 C: VoC=107, Q=46 D: VoC=23, Q=1	AM A: VoC=42, Q=14 B: VoC=103, Q=29 C: VoC=99, Q=4	AM A: VoC=97, Q=21 B: VoC=109, Q=71 C: VoC=71, Q=4 D: VoC=91, Q=15	AM A: VoC=86, Q=6 B: VoC=60, Q=2 C: VoC=36, Q=1	AM A: VoC=74, Q=16 B: VoC=92, Q=96 C: VoC=40, Q=2 D: VoC=30, Q=0	AM A: VoC=20, Q=2 B: VoC=100, Q=84 C: VoC=82, Q=8 D: VoC=78, Q=21	AM A: VoC=39, Q=2 B: VoC=82, Q=6	AM A: VoC=46, Q=3 B: VoC=86, Q=6 C: VoC=73, Q=5 D: VoC=92, Q=5	AM A: VoC=42, Q=4 B: VoC=40, Q=3 C: VoC=52, Q=4
PM A: VoC=74, Q=3 B: VoC=102, Q=13 C: VoC=104, Q=41 D: VoC=14, Q=0	PM A: VoC=36, Q=3 B: VoC=59, Q=6 C: VoC=97, Q=11	PM A: VoC=135, Q=78 B: VoC=106, Q=49 C: VoC=50, Q=2 D: VoC=101, Q=109	PM A: VoC=59, Q=3 B: VoC=78, Q=2 C: VoC=55, Q=1	PM A: VoC=43, Q=5 B: VoC=90, Q=10 C: VoC=80, Q=4 D: VoC=45, Q=0	PM A: VoC=36, Q=4 B: VoC=67, Q=13 C: VoC=50, Q=5 D: VoC=105, Q=65	PM A: VoC=77, Q=4 B: VoC=71, Q=5	PM A: VoC=83, Q=5 B: VoC=72, Q=5 C: VoC=100, Q=4 D: VoC=72, Q=5	PM A: VoC=46, Q=3 B: VoC=46, Q=3 C: VoC=64, Q=5

Key:
VoC – Value over Cost (%)
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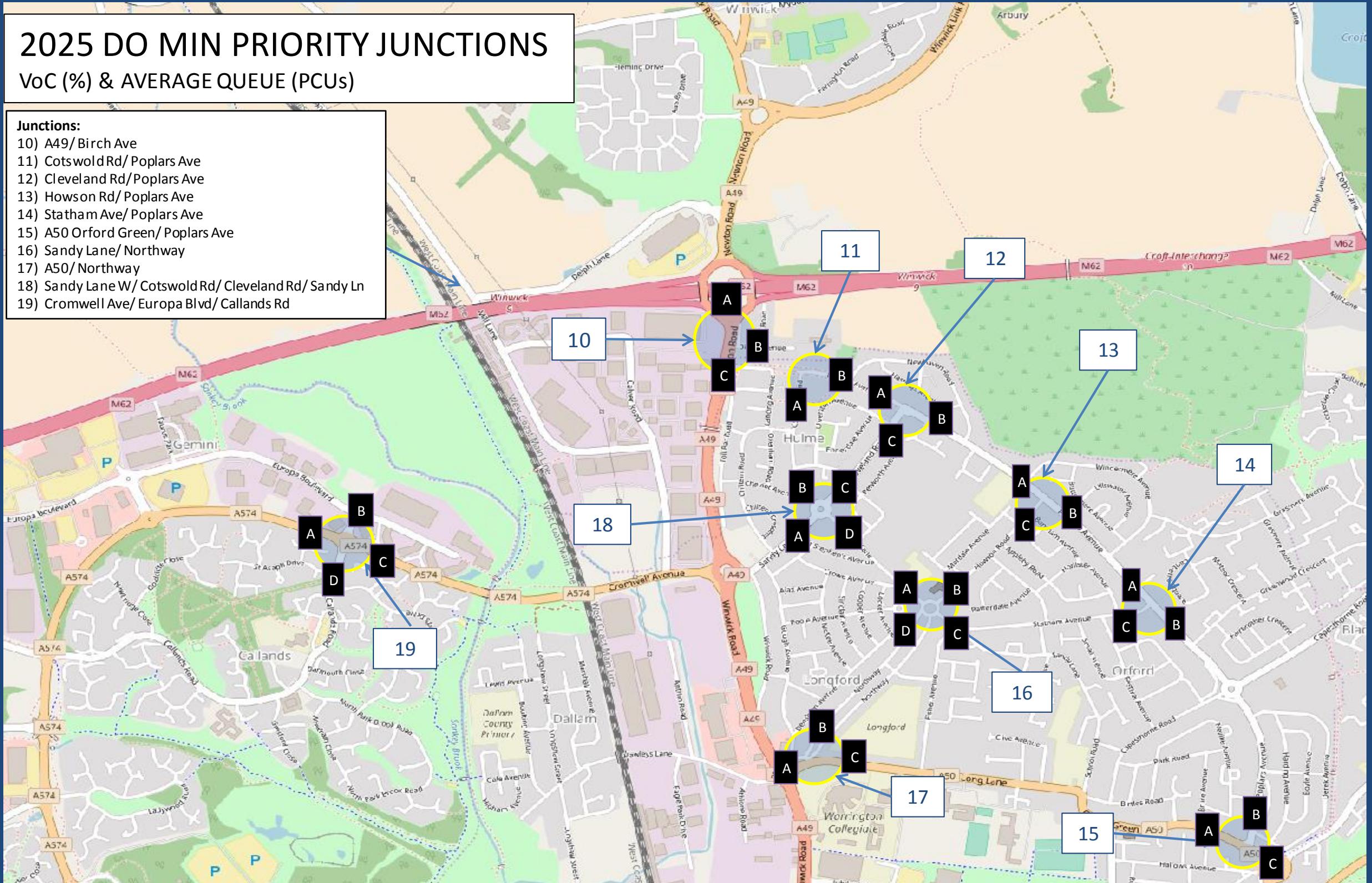


2025 DO MIN PRIORITY JUNCTIONS

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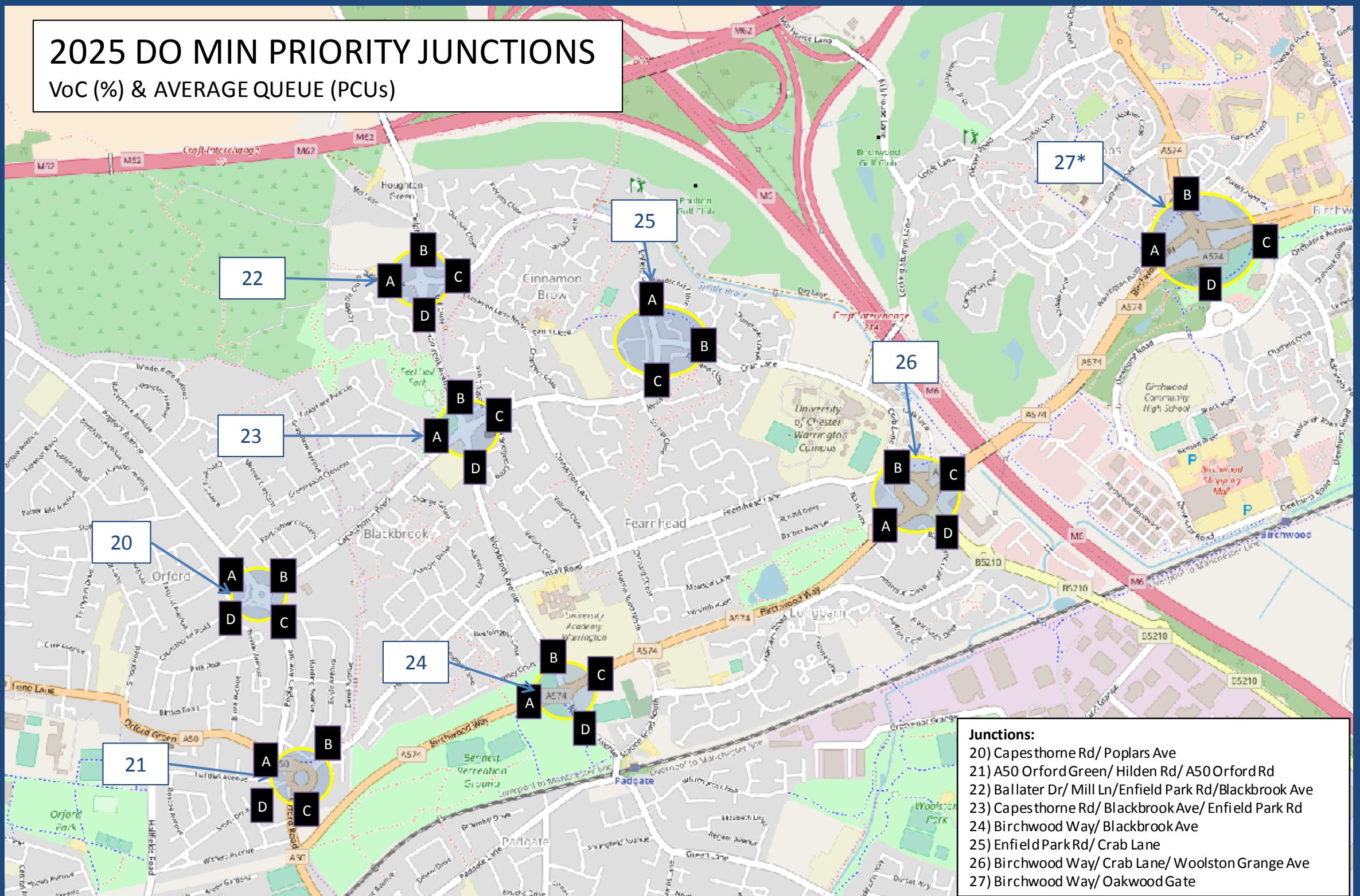
Junction	AM	PM
Junction 10	A:VoC=53,Q=0 B:VoC=17,Q=0 C:VoC=40,Q=0	A:VoC=39,Q=0 B:VoC=6,Q=0 C:VoC=54,Q=0
Junction 11	A:VoC=1,Q=0 B:VoC=1,Q=0	A:VoC=1,Q=0 B:VoC=1,Q=0
Junction 12	A:VoC=5,Q=0 B:VoC=62,Q=0 C:VoC=15,Q=0	A:VoC=4,Q=0 B:VoC=46,Q=0 C:VoC=28,Q=0
Junction 13	A:VoC=21,Q=0 B:VoC=16,Q=0 C:VoC=27,Q=0	A:VoC=19,Q=0 B:VoC=30,Q=0 C:VoC=20,Q=0
Junction 14	A:VoC=21,Q=0 B:VoC=11,Q=0 C:VoC=6,Q=0	A:VoC=19,Q=0 B:VoC=25,Q=0 C:VoC=6,Q=0
Junction 15	A:VoC=22,Q=0 B:VoC=97,Q=3 C:VoC=70,Q=1	A:VoC=42,Q=0 B:VoC=47,Q=0 C:VoC=73,Q=0
Junction 16	A:VoC=19,Q=0 B:VoC=16,Q=0 C:VoC=9,Q=0 D:VoC=3,Q=0	A:VoC=14,Q=0 B:VoC=14,Q=0 C:VoC=13,Q=0 D:VoC=16,Q=0
Junction 17	A:VoC=16,Q=0 B:VoC=31,Q=0 C:VoC=35,Q=0	A:VoC=36,Q=0 B:VoC=6,Q=0 C:VoC=38,Q=0
Junction 18	A:VoC=58,Q=0 B:VoC=27,Q=0 C:VoC=8,Q=0 D:VoC=20,Q=0	A:VoC=46,Q=0 B:VoC=12,Q=0 C:VoC=48,Q=0 D:VoC=19,Q=0
Junction 19	A:VoC=26,Q=0 B:VoC=21,Q=0 C:VoC=46,Q=0 D:VoC=29,Q=0	A:VoC=25,Q=0 B:VoC=23,Q=0 C:VoC=71,Q=0 D:VoC=17,Q=0

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)



2025 DO MIN PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



- Junctions:**
- 20) Capes thorne Rd/ Poplars Ave
 - 21) A50 Orford Green/ Hilden Rd/ A50 Orford Rd
 - 22) Ballater Dr/ Mill Ln/Enfield Park Rd/Blackbrook Ave
 - 23) Capes thorne Rd/ Blackbrook Ave/ Enfield Park Rd
 - 24) Birchwood Way/ Blackbrook Ave
 - 25) Enfield Park Rd/ Crab Lane
 - 26) Birchwood Way/ Crab Lane/ Woolston Grange Ave
 - 27) Birchwood Way/ Oakwood Gate

Junction 20	Junction 21	Junction 22	Junction 23	Junction 24	Junction 25	Junction 26	Junction 27*
AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=52,Q=0	A:VoC=60,Q=0	A:VoC=8,Q=0	A:VoC=35,Q=0	A:VoC=77,Q=1	A:VoC=0,Q=0	A:VoC=39, Q=0	A*:VoC=92, Q=5
B:VoC=59,Q=0	B:VoC=58, Q=1	B:VoC=43,Q=0	B:VoC=51,Q=0	B:VoC=90, Q=3	B:VoC=29,Q=0	B:Voc=85, Q=3	B:VoC=68,Q=1
C:VoC=28,Q=0	C:VoC=69,Q=0	C:VoC=18,Q=0	C:VoC=24,Q=0	C:VoC=58,Q=2	C:VoC=50,Q=0	C:VoC=59,Q=0	C:VoC=86,Q=3
D:VoC=28,Q=0	D:VoC=29,Q=0	D:VoC=16,Q=0	D:Voc=22,Q=0	D:VoC=69,Q=1		D:VoC=90,Q=0	D:VoC=134,Q=101
PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=35,Q=0	A:VoC=59,Q=0	A:VoC=3,Q=0	A:VoC=40,Q=0	A:VoC=79,Q=1	A:VoC=43,Q=0	A:VoC=37,Q=0	A:VoC=70,Q=3
B::VoC=73,Q=0	B:VoC=45,Q=0	B:VoC=33,Q=0	B:VoC=36,Q=0	B:VoC=73,Q=1	B:VoC=0,Q=0	B:VoC=74,Q=2	B:VoC=52,Q=1
C:VoC=58,Q=0	C:VoC=58,Q=0	C:VoC=24,Q=0	C:VoC=48,Q=0	C:VoC=109,Q=18	C:VoC=64Q=0	C::VoC=57,Q=2	C:VoC=122,Q=119
D:VoC=35,Q=0	D:VoC=50,Q=1	D:VoC=38,Q=0	D:VoC=36,Q=0	D:VoC=78,Q=1		D:VoC=42,Q=0	D:VoC=294,Q=273

Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)
 * = Signalised in future years

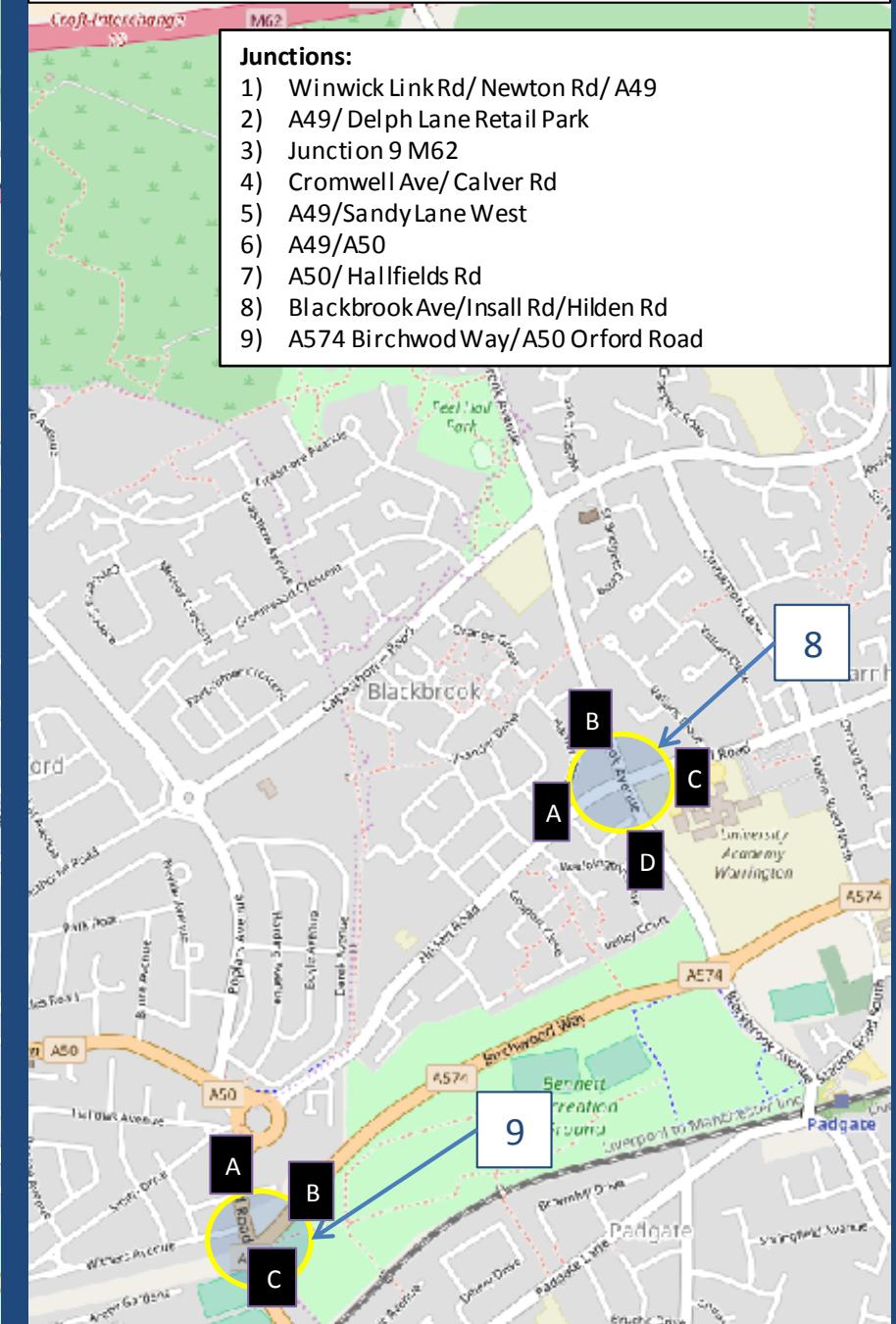
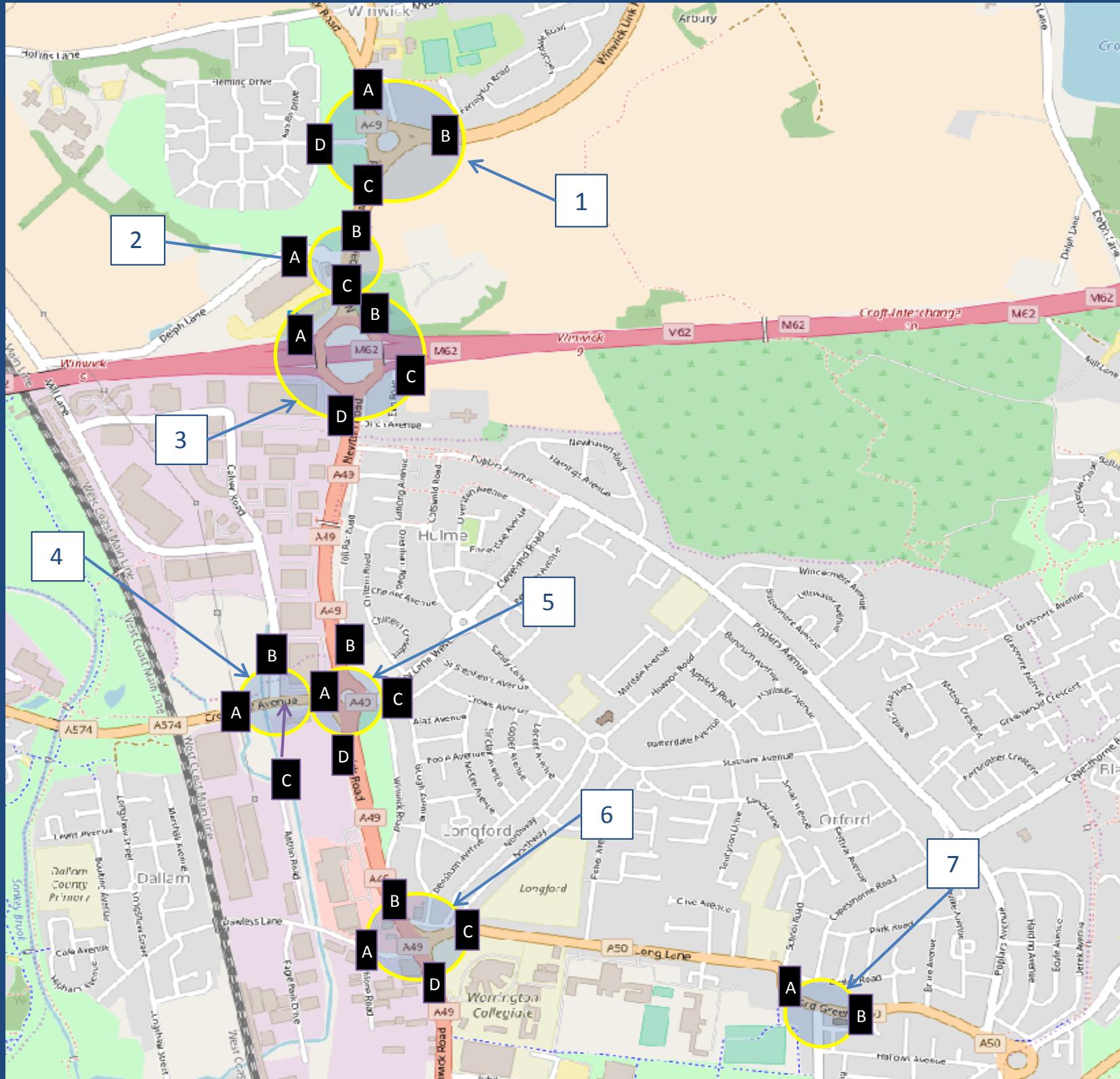


2030 DO MIN SIGNALISED JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

Junctions:

- 1) Winwick Link Rd/ Newton Rd/ A49
- 2) A49/ Delph Lane Retail Park
- 3) Junction 9 M62
- 4) Cromwell Ave/ Calver Rd
- 5) A49/Sandy Lane West
- 6) A49/A50
- 7) A50/ Halfields Rd
- 8) Blackbrook Ave/ Insall Rd/ Hilden Rd
- 9) A574 Birchwod Way/ A50 Orford Road



Junction 1	Junction 2	Junction 3	Junction 4	Junction 5	Junction 6	Junction 7	Junction 8	Junction 9
AM A: VoC=70, Q=3 B: VoC=66, Q=3 C: VoC=107, Q=50 D: VoC=24, Q=1	AM A: VoC=44, Q=18 B: VoC=106, Q=55 C: VoC=99, Q=5	AM A: VoC=101, Q=22 B: VoC=109, Q=71 C: VoC=74, Q=4 D: VoC=94, Q=36	AM A: VoC=89, Q=6 B: VoC=62, Q=2 C: VoC=37, Q=1	AM A: VoC=76, Q=34 B: VoC=95, Q=103 C: VoC=42, Q=2 D: VoC=32, Q=0	AM A: VoC=21, Q=3 B: VoC=99, Q=82 C: VoC=87, Q=9 D: VoC=81, Q=23	AM A: VoC=40, Q=2 B: VoC=84, Q=6	AM A: VoC=63, Q=4 B: VoC=89, Q=6 C: VoC=77, Q=6 D: VoC=93, Q=5	AM A: VoC=40, Q=4 B: VoC=41, Q=3 C: VoC=54, Q=4
PM A: VoC=74, Q=3 B: VoC=106, Q=34 C: VoC=106, Q=54 D: VoC=14, Q=0	PM A: VoC=37, Q=3 B: VoC=58, Q=6 C: VoC=98, Q=11	PM A: VoC=119, Q=100 B: VoC=105, Q=45 C: VoC=52, Q=2 D: VoC=104, Q=121	PM A: VoC=62, Q=4 B: VoC=81, Q=2 C: VoC=56, Q=1	PM A: VoC=45, Q=5 B: VoC=92, Q=10 C: VoC=86, Q=5 D: VoC=45, Q=0	PM A: VoC=36, Q=4 B: VoC=69, Q=14 C: VoC=52, Q=5 D: VoC=108, Q=103	PM A: VoC=78, Q=5 B: VoC=73, Q=5	PM A: VoC=86, Q=5 B: VoC=76, Q=5 C: VoC=101, Q=6 D: VoC=75, Q=5	PM A: VoC=47, Q=4 B: VoC=45, Q=3 C: VoC=67, Q=5

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)

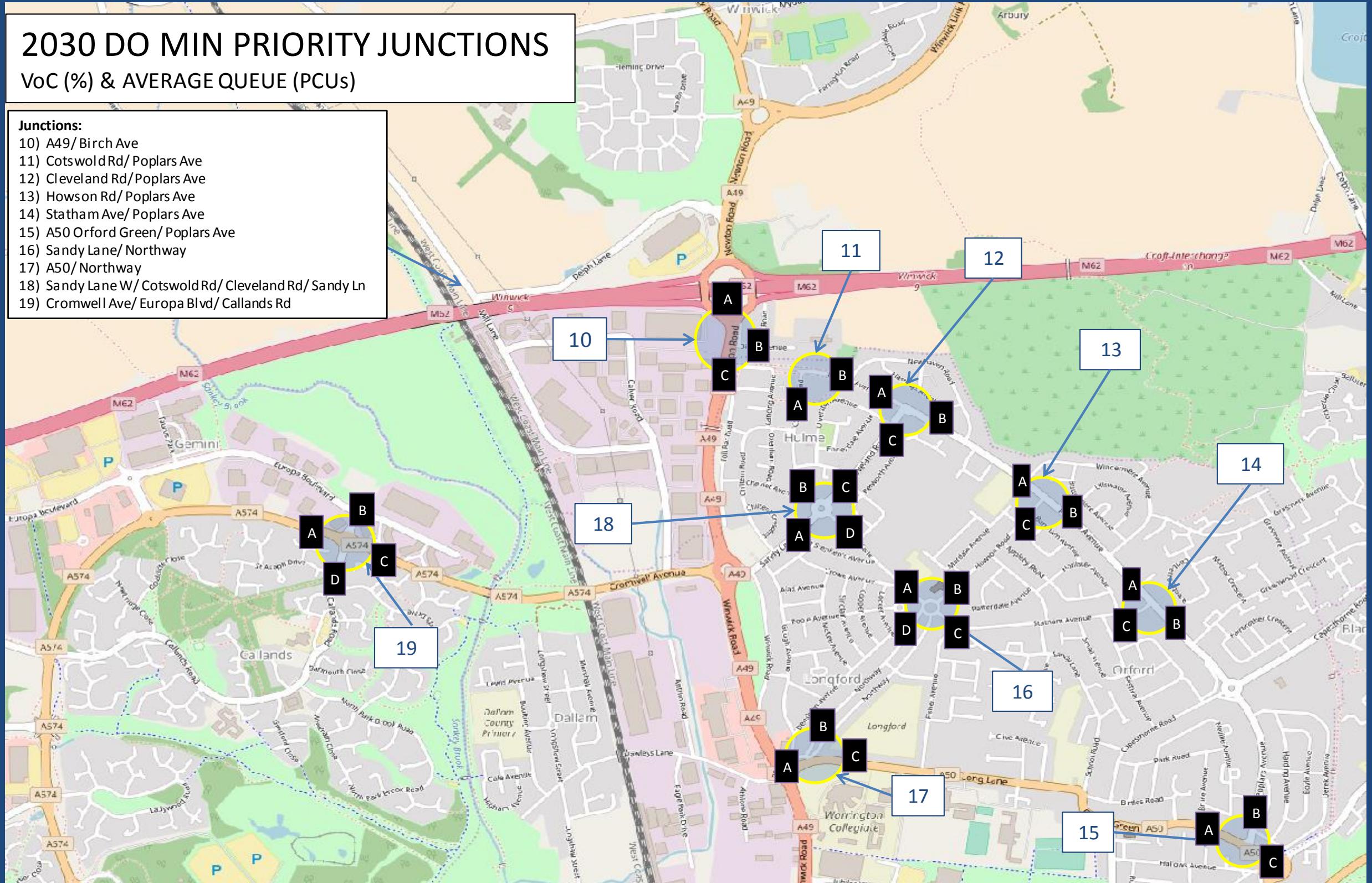


2030 DO MIN PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

Junctions:

- 10) A49/Birch Ave
- 11) Cotswold Rd/Poplars Ave
- 12) Cleveland Rd/Poplars Ave
- 13) Howson Rd/Poplars Ave
- 14) Statham Ave/Poplars Ave
- 15) A50 Orford Green/Poplars Ave
- 16) Sandy Lane/Northway
- 17) A50/Northway
- 18) Sandy Lane W/ Cotswold Rd/ Cleveland Rd/ Sandy Ln
- 19) Cromwell Ave/ Europa Blvd/ Callands Rd



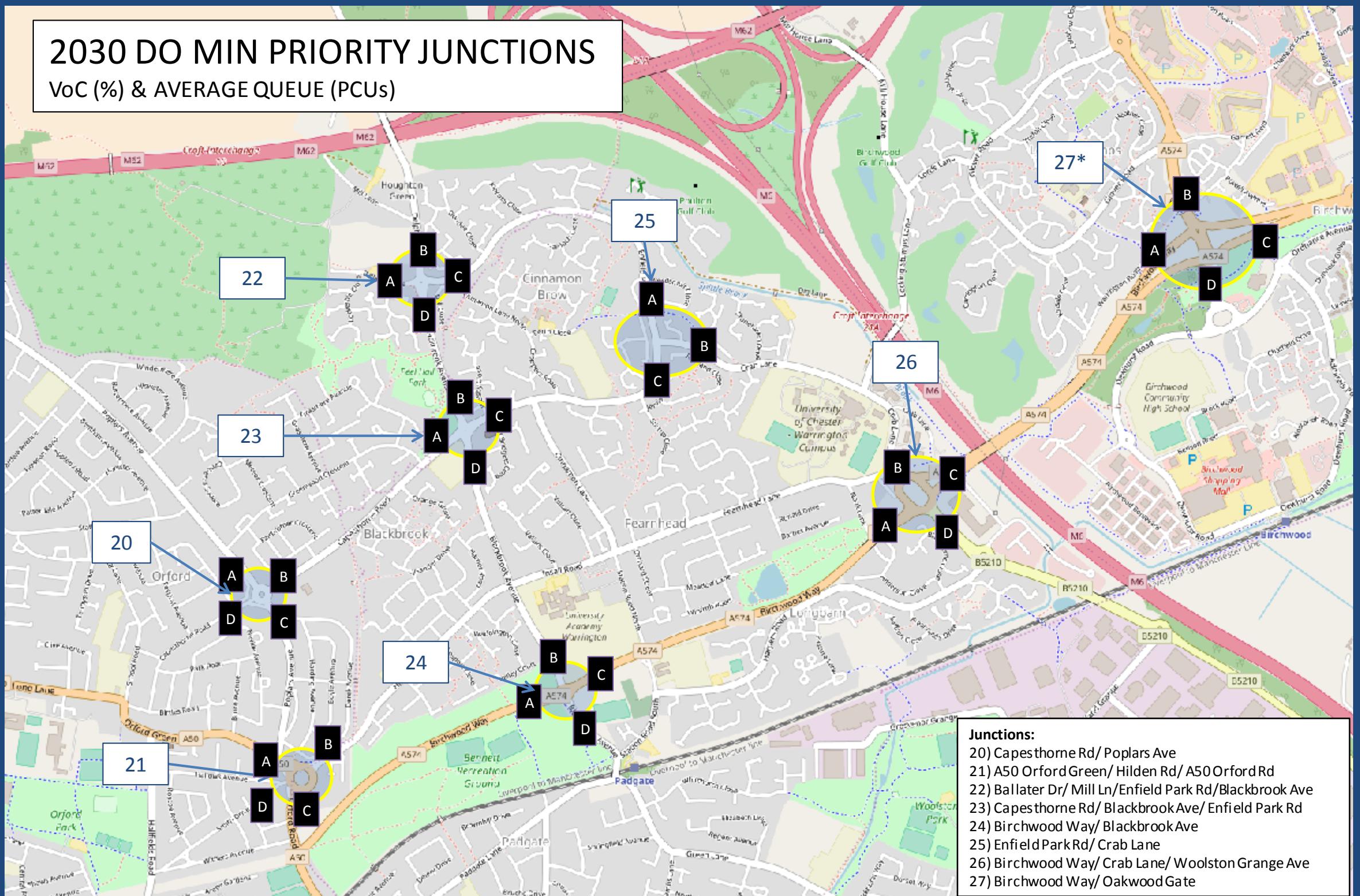
Junction 10	Junction 11	Junction 12	Junction 13	Junction 14	Junction 15	Junction 16	Junction 17	Junction 18	Junction 19
AM A:VoC=42,Q=0 B:VoC=54,Q=0 C:VoC=19,Q=0	AM A:VoC=1,Q=0 B:VoC=1,Q=0	AM A:VoC=5,Q=0 B:VoC=16,Q=0 C:VoC=67,Q=0	AM A:VoC=22,Q=0 B:VoC=17,Q=0 C:VoC=28,Q=0	AM A:VoC=23,Q=0 B:VoC=11,Q=0 C:VoC=6,Q=0	AM A:VoC=22,Q=0 B:VoC=31,Q=0 C:VoC=76,Q=0	AM A:VoC=22,Q=0, B:VoC=17,Q=0 C:VoC=9,Q=0 D:VoC=3,Q=0	AM A:VoC=16,Q=0 B:VoC=36,Q=1 C:VoC=36,Q=0	AM A:VoC=64,Q=0 B:VoC=21,Q=0 C:VoC=29,Q=0 D:VoC=8,Q=0	AM A:VoC=27, Q=0 B:VoC=23,Q=0 C:VoC=47,Q=0 D:VoC=30,Q=0
PM A:VoC=40,Q=0 B:VoC=7, Q=0 C:VoC=55,Q=0	PM A:VoC=1,Q=0 B:VoC=1,Q=0	PM A:VoC=4,Q=0 B:VoC=31,Q=0 C:VoC=47,Q=0	PM A:VoC=20,Q=0 B:VoC=32,Q=0 C:VoC=25,Q=0	PM A:VoC=20,Q=0 B:VoC=27,Q=0 C:VoC=6,Q=0	PM A:VoC=42,Q=0 B:VoC=54,Q=0 C:VoC=74,Q=1	PM A:VoC=15,Q=0 B:VoC=14,Q=0 C:VoC=13,Q=0 D:VoC=17,Q=0	PM A:VoC=37,Q=0 B:VoC=9,Q=0 C:VoC=39,Q=0	PM A:VoC=48,Q=0 B:VoC=12,Q=0 C:VoC=52,Q=0 D:VoC=21,Q=0	PM A:VoC=26,Q=0 B:VoC=24,Q=0 C:VoC=73,Q=1 D:VoC=18,Q=0

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)



2030 DO MIN PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



- Junctions:**
- 20) Capes thorne Rd/ Poplars Ave
 - 21) A50 Orford Green/ Hilden Rd/ A50 Orford Rd
 - 22) Ballater Dr/ Mill Ln/Enfield Park Rd/Blackbrook Ave
 - 23) Capes thorne Rd/ Blackbrook Ave/ Enfield Park Rd
 - 24) Birchwood Way/ Blackbrook Ave
 - 25) Enfield Park Rd/ Crab Lane
 - 26) Birchwood Way/ Crab Lane/ Woolston Grange Ave
 - 27) Birchwood Way/ Oakwood Gate

Junction 20	Junction 21	Junction 22	Junction 23	Junction 24	Junction 25	Junction 26	Junction 27*
AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=29,Q=0	A:VoC=61,Q=0	A:VoC=8,Q=0	A:VoC=38,Q=0	A:VoC=74,Q=1	A:VoC=53,Q=0	A:VoC=38, Q=0	A*:VoC=95,Q=5
B:VoC=56,Q=0	B:VoC=58, Q=1	B:VoC=43,Q=0	B:VoC=53,Q=0	B:VoC=90, Q=3	B:VoC=0, Q=0	B:Voc=95 ,Q=5	B:VoC2,Q=2
C:VoC=61,Q=0	C:VoC=62,Q=1	C:VoC=18,Q=0	C:VoC=34,Q=0	C:VoC=88, Q=2	C:VoC=30, Q=0	C:VoC=59,Q=0	C:VoC=92,Q=4
D:VoC=31,Q=0	D:VoC=31,Q=0	D:VoC=17,Q=0	D:Voc=24,Q=0	D:VoC=72,Q=1		D:VoC=64,Q=0	D:VoC=154,Q=142
PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=38,Q=0	A:VoC=62,Q=0	A:VoC=3,Q=0	A:VoC=42,Q=0	A:VoC=83,Q=1	A:VoC=0, Q=0	A:VoC=38,Q=0	A:VoC=72,Q=3
B::VoC=83,Q=0	B:VoC=50,Q=0	B:VoC=35,Q=0	B:VoC=39,Q=0	B:VoC=80,Q=2	B:VoC=18,Q=0	B:VoC=78,Q=2	B:VoC=55,Q=1
C:VoC=61,Q=1	C:VoC=59,Q=0	C:VoC=25,Q=0	C:VoC=55,Q=0	C:VoC=103,Q=23	C:VoC=44,Q=0	C::VoC=57,Q=0	C:VoC=131,Q=162
D:VoC=38,Q=1	D:VoC=53,Q=1	D:VoC=40,Q=0	D:VoC=41,Q=0	D:VoC=79,Q=1		D:VoC=44,Q=0	D:VoC=305,Q=287

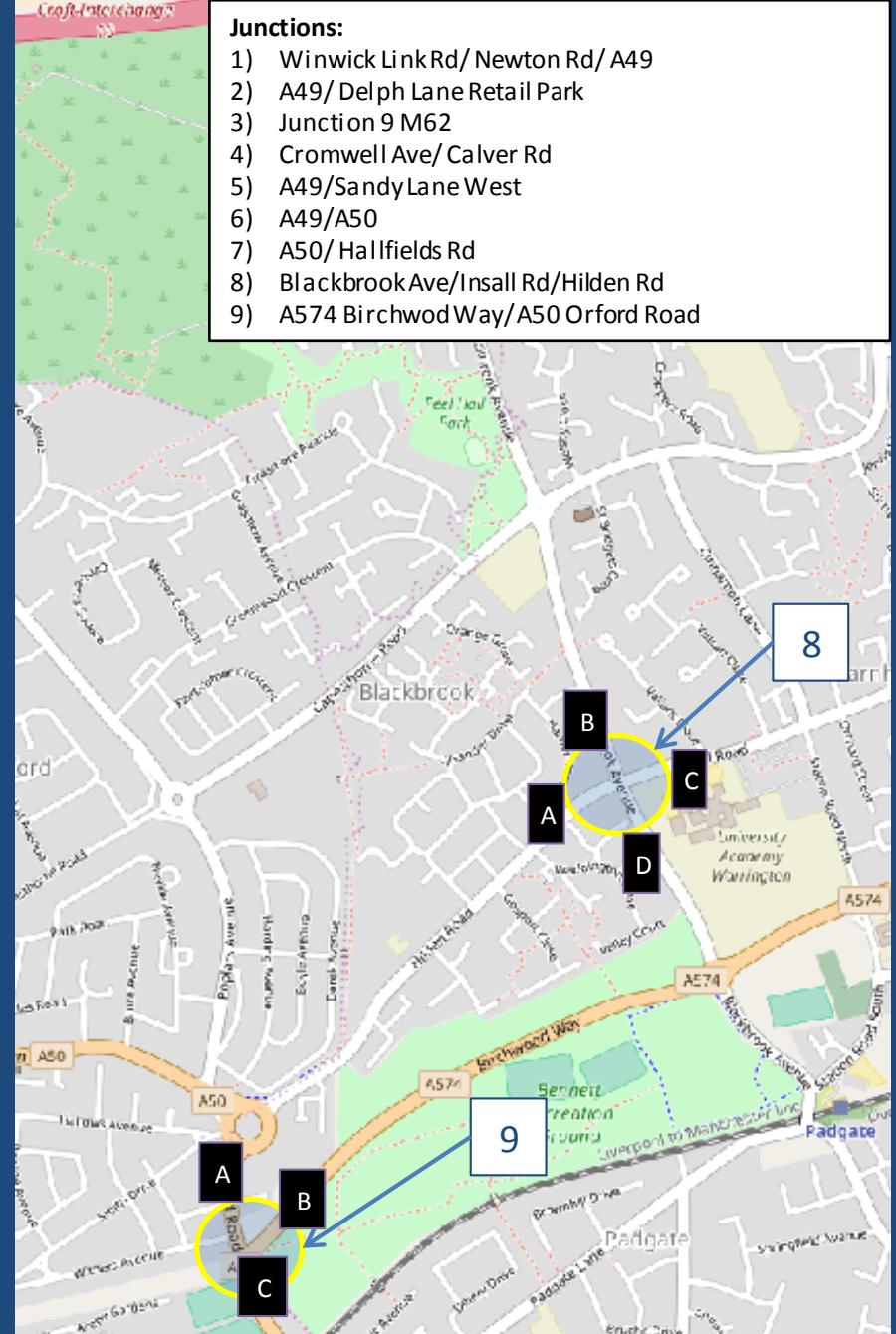
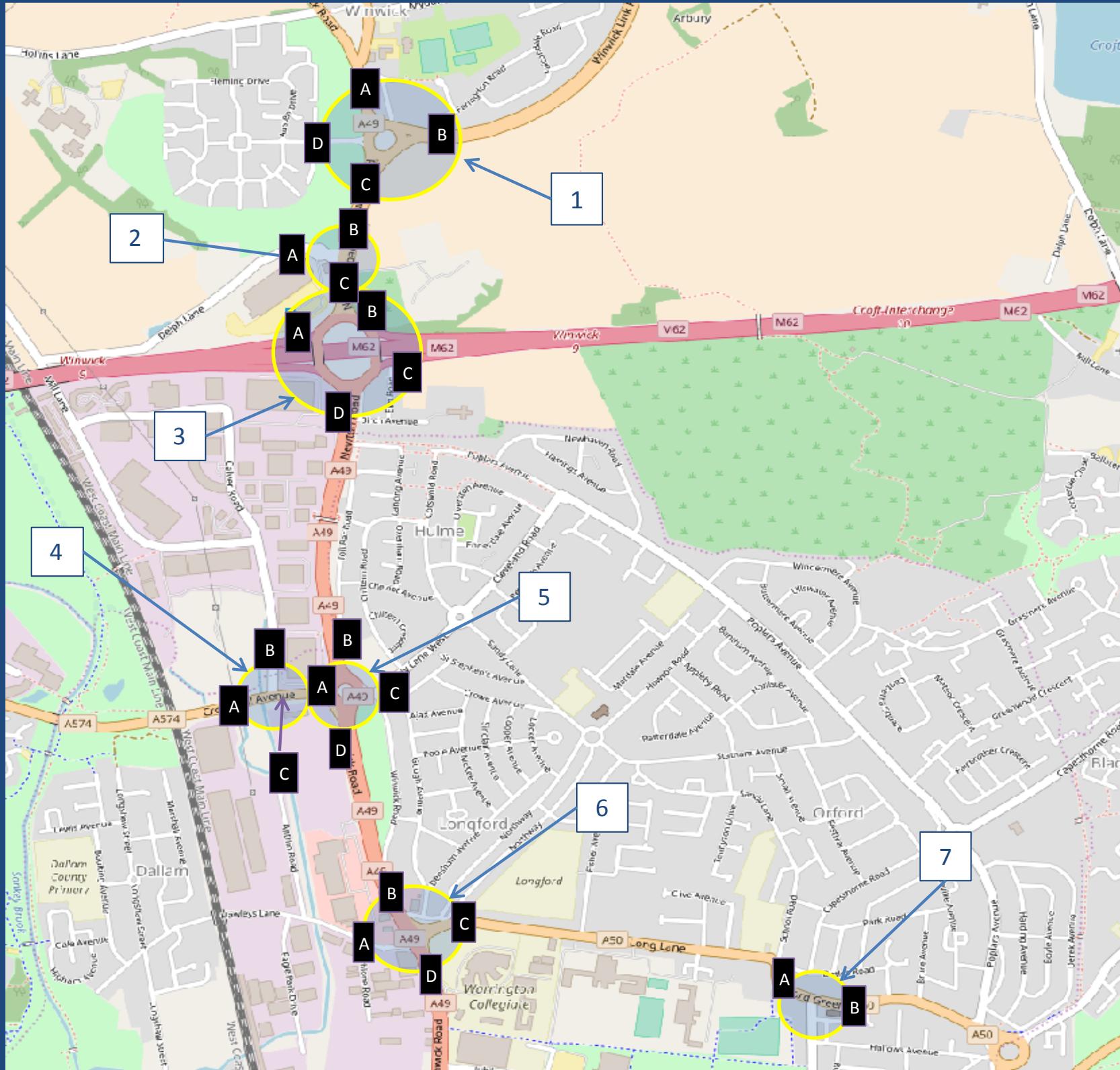
Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)
 * = Signalised in future years



2025 DO SOMETHING SIGNALISED JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

- Junctions:**
- 1) Winwick Link Rd/ Newton Rd/ A49
 - 2) A49/ Delph Lane Retail Park
 - 3) Junction 9 M62
 - 4) Cromwell Ave/ Calver Rd
 - 5) A49/Sandy Lane West
 - 6) A49/A50
 - 7) A50/ Hallfields Rd
 - 8) Blackbrook Ave/Insal Rd/Hilden Rd
 - 9) A574 Birchwod Way/A50 Orford Road



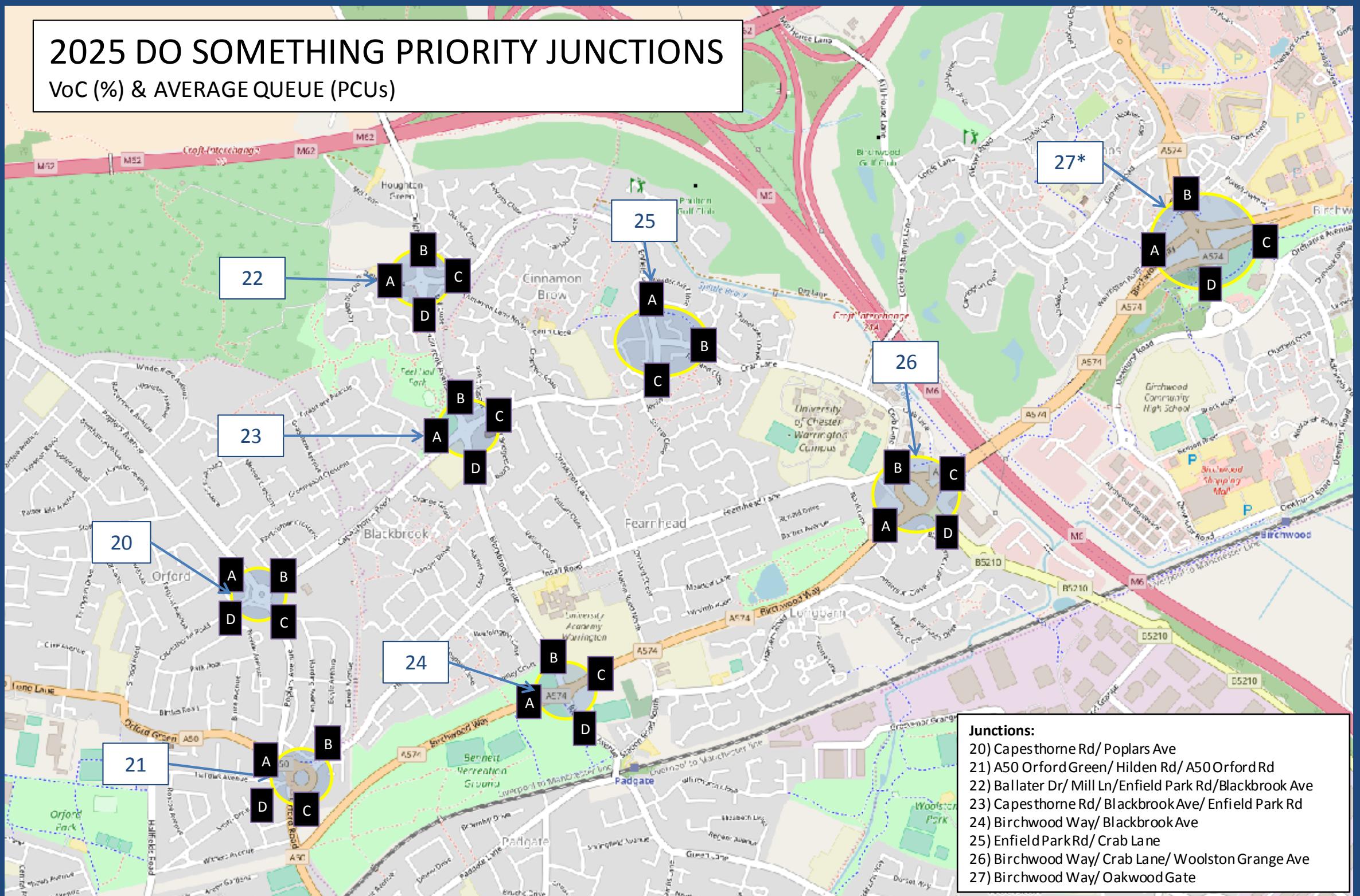
Junction 1	Junction 2	Junction 3	Junction 4	Junction 5	Junction 6	Junction 7	Junction 8	Junction 9
AM A: VoC=71, Q=3 B: VoC=64, Q=3 C: VoC=107, Q=46 D: VoC=23, Q=1	AM A: VoC=42, Q=16 B: VoC=105, Q=47 C: VoC=66, Q=5	AM A: VoC=98, Q=21 B: VoC=109, Q=71 C: VoC=72, Q=4 D: VoC=93, Q=18	AM A: VoC=90, Q=6 B: VoC=60, Q=2 C: VoC=37, Q=1	AM A: VoC=76, Q=39 B: VoC=94, Q=93 C: VoC=49, Q=3 D: VoC=31, Q=0	AM A: VoC=20, Q=2 B: VoC=100, Q=90 C: VoC=83, Q=9 D: VoC=81, Q=22	AM A: VoC=40, Q=2 B: VoC=82, Q=6	AM A: VoC=52, Q=0 B: VoC=99, Q=1 C: VoC=80, Q=0 D: VoC=93, Q=0	AM A: VoC=43, Q=4 B: VoC=42, Q=3 C: VoC=54, Q=4
PMVoC A: VoC=75, Q=3 B: VoC=102, Q=16 C: VoC=104, Q=38 D: VoC=14, Q=0	PM A: VoC=36, Q=3 B: VoC=59, Q=6 C: VoC=96, Q=10	PM A: VoC=117, Q=89 B: VoC=107, Q=52 C: VoC=51, Q=2 D: VoC=106, Q=143	PM A: VoC=60, Q=4 B: VoC=78, Q=2 C: VoC=56, Q=1	PM A: VoC=44, Q=5 B: VoC=91, Q=10 C: VoC=97, Q=6 D: VoC=45, Q=0	PM A: VoC=36, Q=4 B: VoC=69, Q=14 C: VoC=51, Q=5 D: VoC=106, Q=80	PM A: VoC=75, Q=4 B: VoC=73, Q=5	PM A: VoC=91, Q=5 B: VoC=85, Q=6 C: VoC=103, Q=8 D: VoC=82, Q=5	PM A: VoC=50, Q=4 B: VoC=45, Q=3 C: VoC=74, Q=9

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)



2025 DO SOMETHING PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



- Junctions:**
- 20) Capesothorne Rd/ Poplars Ave
 - 21) A50 Orford Green/ Hilden Rd/ A50 Orford Rd
 - 22) Ballater Dr/ Mill Ln/Enfield Park Rd/Blackbrook Ave
 - 23) Capesothorne Rd/ Blackbrook Ave/ Enfield Park Rd
 - 24) Birchwood Way/ Blackbrook Ave
 - 25) Enfield Park Rd/ Crab Lane
 - 26) Birchwood Way/ Crab Lane/ Woolston Grange Ave
 - 27) Birchwood Way/ Oakwood Gate

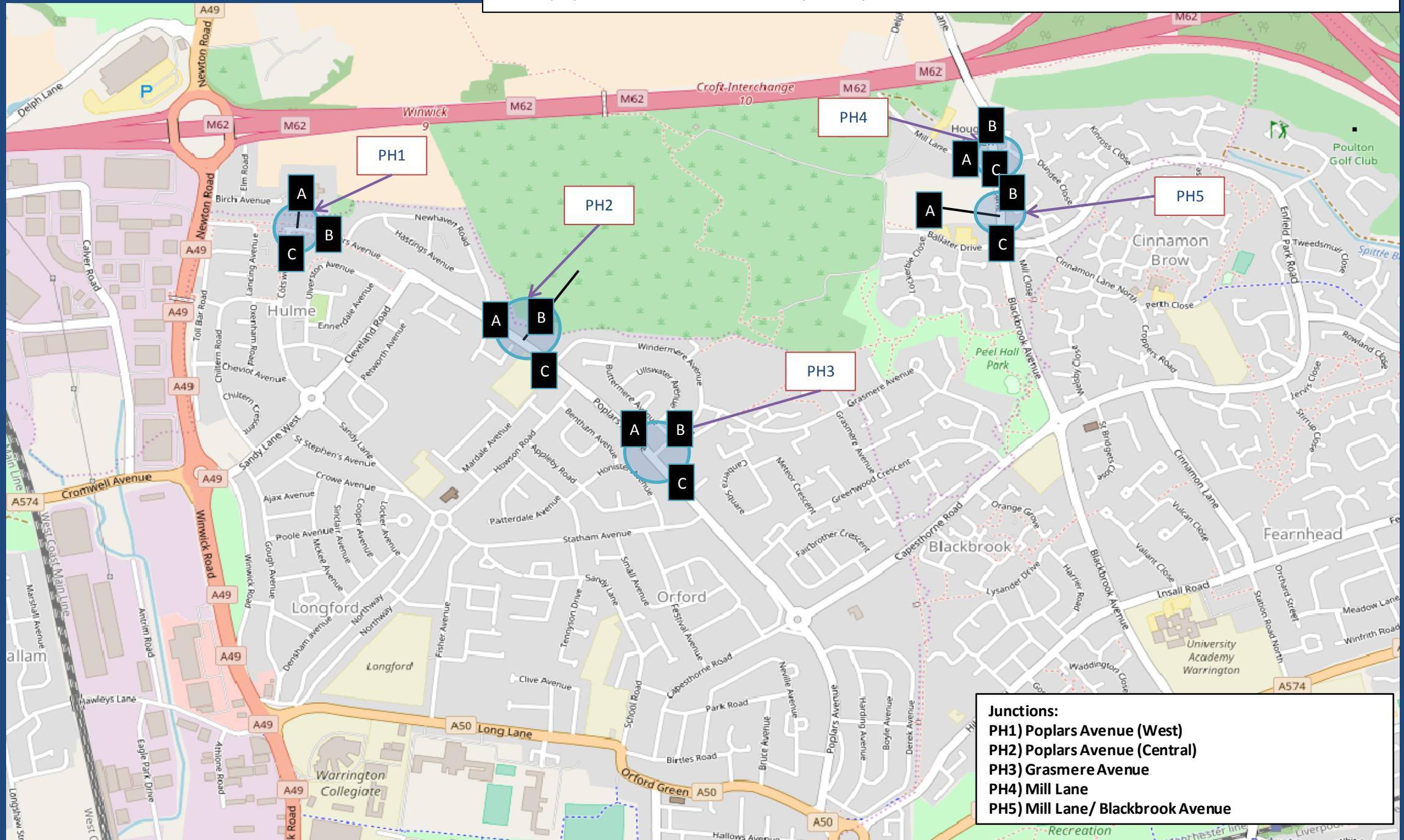
Junction 20	Junction 21	Junction 22	Junction 23	Junction 24	Junction 25	Junction 26	Junction 27*
AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=66,Q=0	A:VoC=61,Q=0	A:VoC=8,Q=0	A:VoC=42,Q=0	A:VoC=76,Q=1	A:VoC=0,Q=0	A:VoC=38, Q=0	A*:VoC=95,Q=5
B:VoC=69,Q=0	B:VoC=59, Q=1	B:VoC=54,Q=0	B:VoC=68,Q=1	B:VoC=97,Q=5	B:VoC=32,Q=0	B:Voc=96, Q=6	B:VoC=96,Q=1
C:VoC=38,Q=0	C:VoC=62,Q=0	C:VoC=21,Q=0	C:VoC=40,Q=0	C:VoC=92,Q=3	C:VoC=64,Q=0	C:VoC=48,Q=0	C:VoC=86,Q=3
D:VoC=31,Q=0	D:VoC=30,Q=0	D:VoC=21,Q=0	D:Voc=26,Q=0	D:VoC=72,Q=1		D:VoC=60,Q=0	D:VoC=135,Q=104
PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=47,Q=0	A:VoC=66,Q=0	A:VoC=3,Q=0	A:VoC=51,Q=0	A:VoC=89,Q=2	A:VoC=0,Q=0	A:VoC=38,Q=0	A:VoC=71,Q=3
B::VoC=60,Q=0	B:VoC=53,Q=1	B:VoC=40,Q=0	B:VoC=46,Q=0	B:VoC=92,Q=4	B:VoC=91,Q=0	B:VoC=74,Q=2	B:VoC=56,Q=1
C:VoC=100, Q=6	C:VoC=66,Q=0	C:VoC=26,Q=0	C:VoC=72,Q=1	C:VoC=106,Q=33	C:VoC=51,Q=0	C:VoC=57,Q=0	C:VoC=133,Q=161
D:VoC=87,Q=2	D:VoC=58,Q=1	D:VoC=50,Q=0	D:VoC=58,Q=1	D:VoC=83,Q=1		D:VoC=45,Q=0	D:VoC=321,Q=296

Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)
 * = Signalised in future years



2025 DO SOMETHING PEEL HALL ACCESS JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



Junctions:
 PH1) Poplars Avenue (West)
 PH2) Poplars Avenue (Central)
 PH3) Grasmere Avenue
 PH4) Mill Lane
 PH5) Mill Lane/ Blackbrook Avenue

Junction PH1	Junction PH2	Junction PH3	Junction PH4	Junction PH5
AM	AM	AM	AM	AM
A:VoC=6,Q=0	A:VoC=23,Q=0	A:VoC=31,Q=0	A:VoC=40,Q=0	A:VoC=12,Q=0
B:VoC=3,Q=0	B:VoC=15,Q=0	B:VoC=53,Q=0	B:VoC=31,Q=0	B:VoC=62,Q=0
C:VoC=2,Q=0	C:VoC=21,Q=0	C:VoC=24,Q=0	C:VoC=19,Q=0	C:VoC=32,Q=0
PM	PM	PM	PM	PM
A:VoC=1,Q=0	A:VoC=18,Q=0	A:VoC=30,Q=0	A:VoC=19,Q=0	A:VoC=3,Q=0
B:Voc=3,Q=0	B:Voc=31,Q=0	B:Voc=49,Q=0	B:Voc=30,Q=0	B:Voc=40,Q=0
C:VoC=2,Q=0	C:VoC=43,Q=0	C:VoC=43,Q=0	C:VoC=32,Q=0	C:VoC=50,Q=0

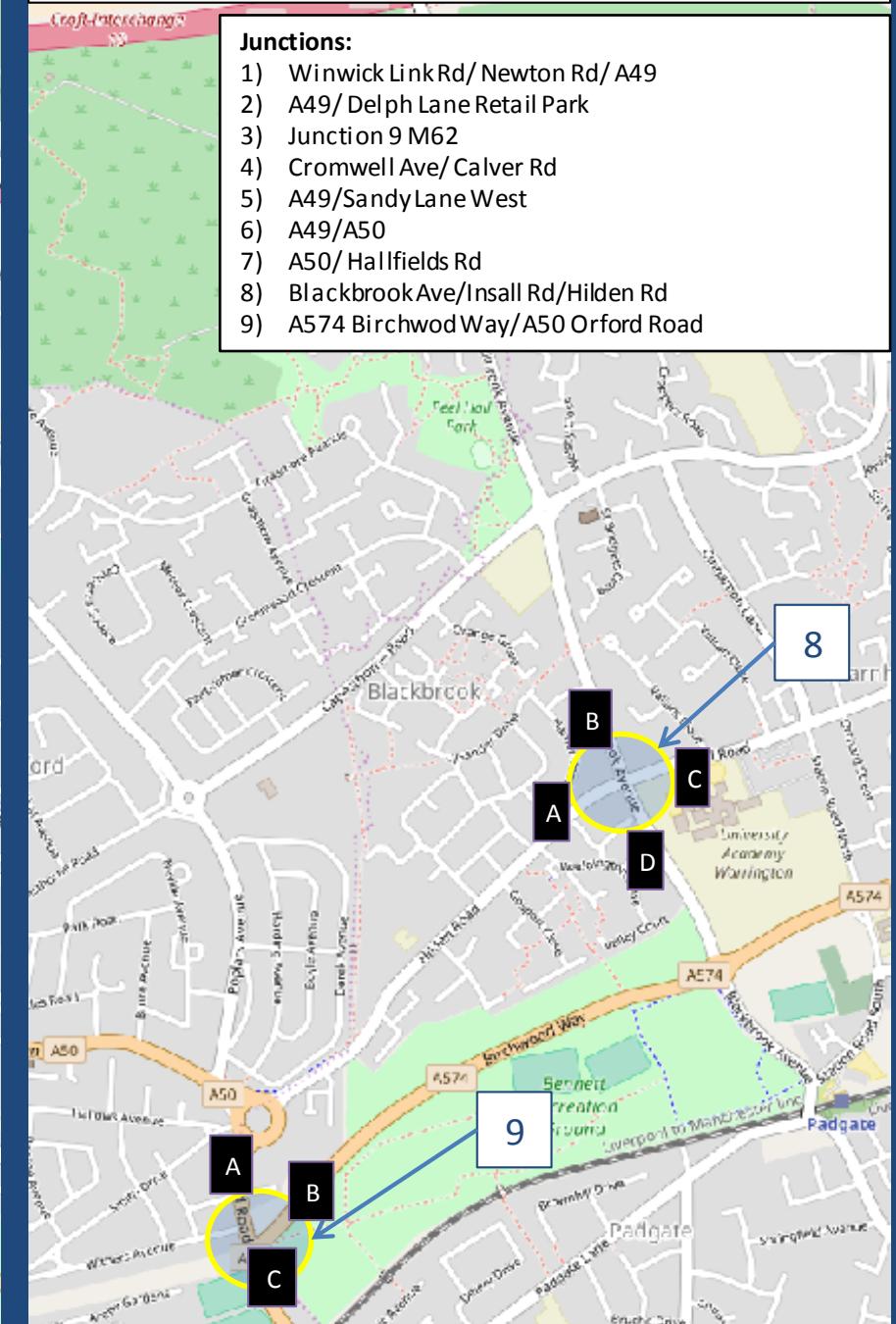
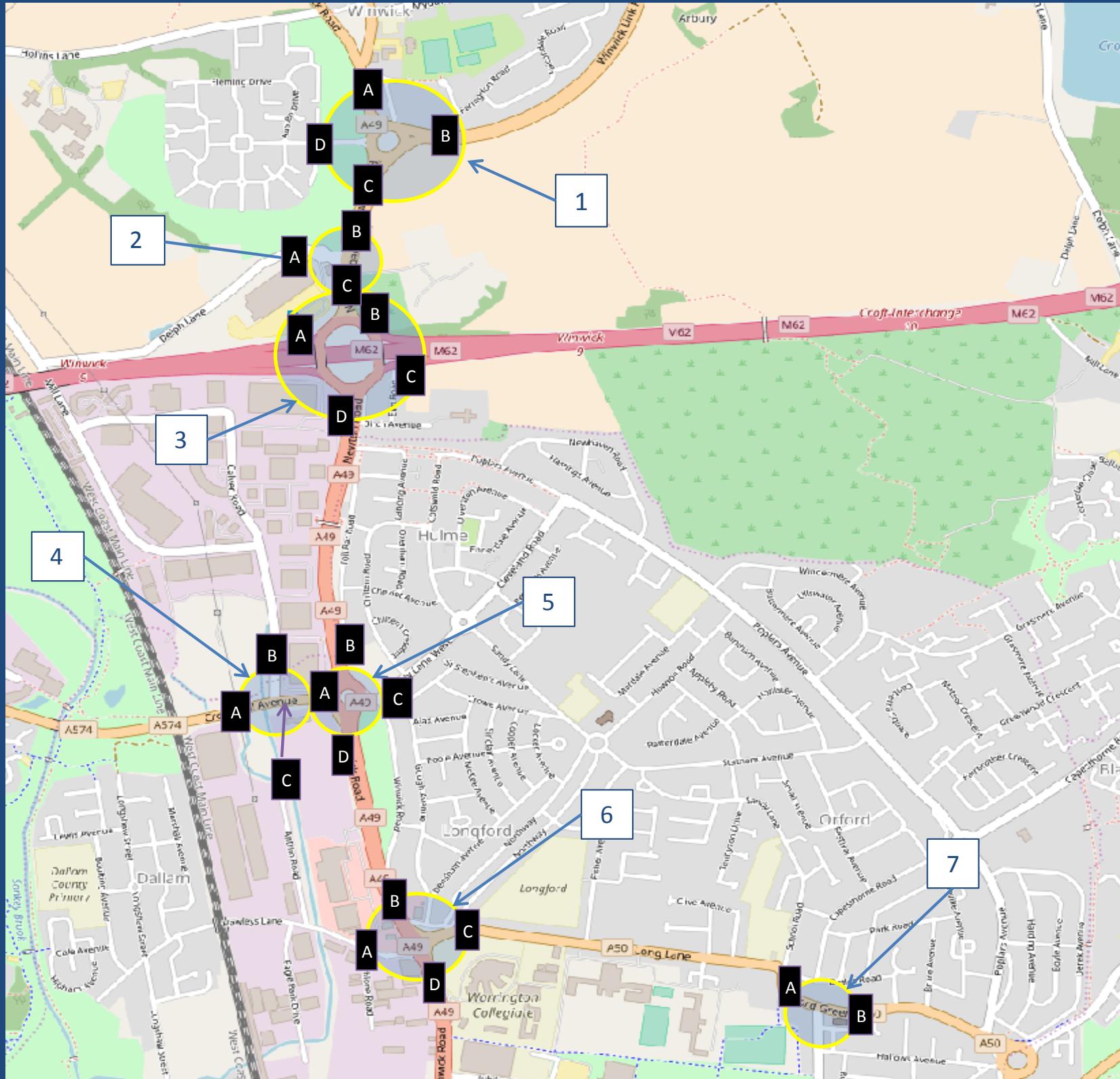
Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)

2030 DO SOMETHING SIGNALISED JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

Junctions:

- 1) Winwick Link Rd/ Newton Rd/ A49
- 2) A49/ Delph Lane Retail Park
- 3) Junction 9 M62
- 4) Cromwell Ave/ Calver Rd
- 5) A49/Sandy Lane West
- 6) A49/A50
- 7) A50/ Halfields Rd
- 8) Blackbrook Ave/ Insal Rd/ Hilden Rd
- 9) A574 Birchwod Way/ A50 Orford Road



Junction 1	Junction 2	Junction 3	Junction 4	Junction 5	Junction 6	Junction 7	Junction 8	Junction 9
AM A: VoC=75, Q=3 B: VoC=66, Q=3 C: VoC=108, Q=52 D: VoC=24, Q=1	AM A: VoC=44, Q=20 B: VoC=111, Q=87 C: VoC=66, Q=5	AM A: VoC=102, Q=21 B: VoC=109, Q=71 C: VoC=75, Q=4 D: VoC=96, Q=38	AM A: VoC=93, Q=6 B: VoC=62, Q=2 C: VoC=38, Q=1	AM A: VoC=79, Q=60 B: VoC=97, Q=98 C: VoC=53, Q=3 D: VoC=33, Q=0	AM A: VoC=21, Q=3 B: VoC=100, Q=92 C: VoC=86, Q=9 D: VoC=83, Q=24	AM A: VoC=43, Q=2 B: VoC=77, Q=6	AM A: VoC=44, Q=3 B: VoC=103, Q=13 C: VoC=81, Q=6 D: VoC=97, Q=6	AM A: VoC=52, Q=5 B: VoC=43, Q=4 C: VoC=57, Q=4
PM A: VoC=75, Q=3 B: VoC=107, Q=40 C: VoC=106, Q=58 D: VoC=14, Q=0	PM A: VoC=37, Q=4 B: VoC=58, Q=6 C: VoC=97, Q=11	PM A: VoC=123, Q=119 B: VoC=106, Q=48 C: VoC=53, Q=2 D: VoC=107, Q=143	PM A: VoC=63, Q=4 B: VoC=82, Q=3 C: VoC=57, Q=1	PM A: VoC=45, Q=5 B: VoC=95, Q=10 C: VoC=99, Q=6 D: VoC=46, Q=0	PM A: VoC=37, Q=5 B: VoC=71, Q=14 C: VoC=53, Q=7 D: VoC=109, Q=113	PM A: VoC=76, Q=4 B: VoC=76, Q=5	PM A: VoC=92, Q=1 B: VoC=93, Q=0 C: VoC=104, Q=2 D: VoC=82, Q=1	PM A: VoC=49, Q=4 B: VoC=45, Q=3 C: VoC=72, Q=6

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)

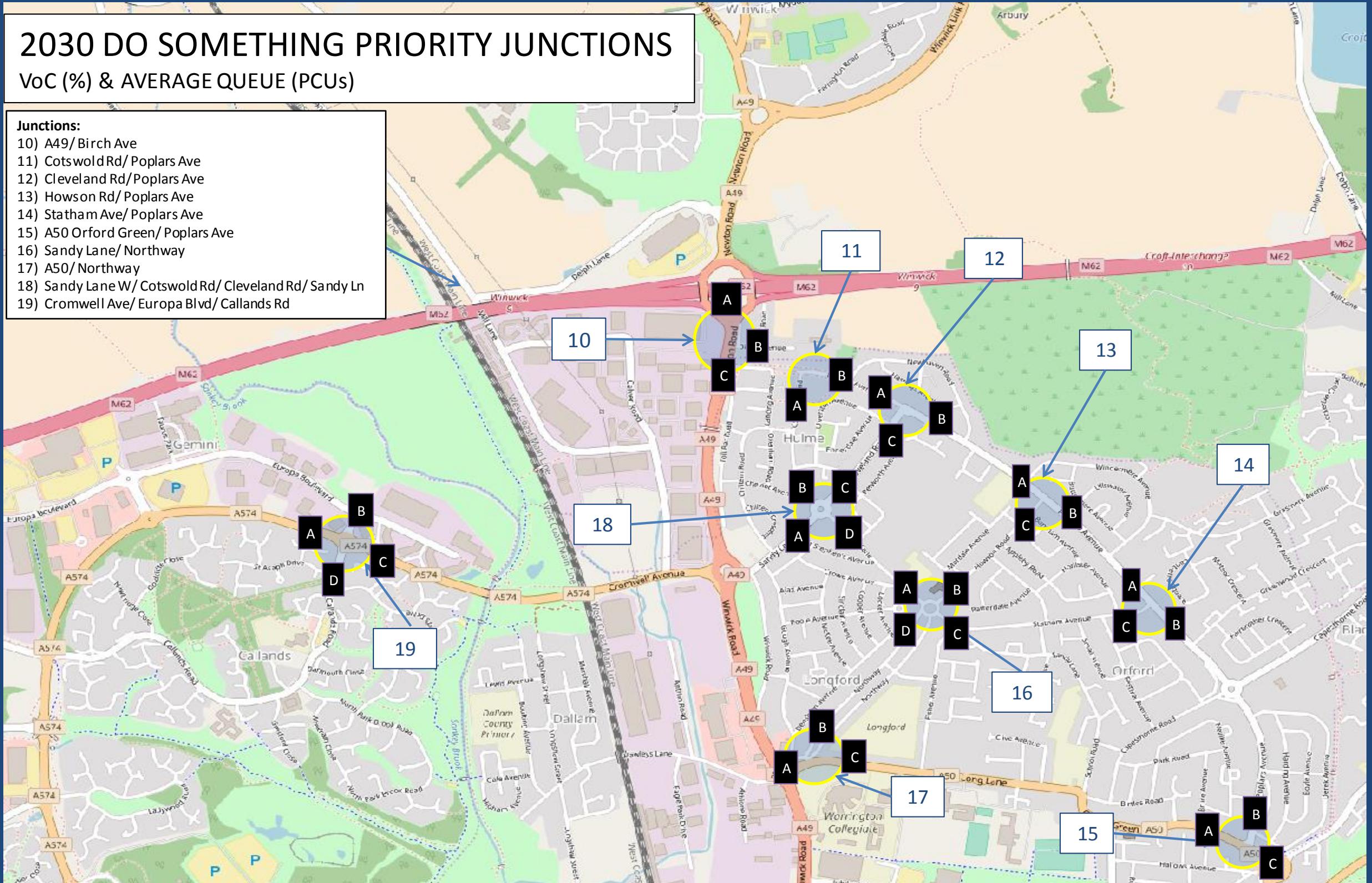


2030 DO SOMETHING PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

Junctions:

- 10) A49/ Birch Ave
- 11) Cotswold Rd/ Poplars Ave
- 12) Cleveland Rd/ Poplars Ave
- 13) Howson Rd/ Poplars Ave
- 14) Statham Ave/ Poplars Ave
- 15) A50 Orford Green/ Poplars Ave
- 16) Sandy Lane/ Northway
- 17) A50/ Northway
- 18) Sandy Lane W/ Cotswold Rd/ Cleveland Rd/ Sandy Ln
- 19) Cromwell Ave/ Europa Blvd/ Callands Rd



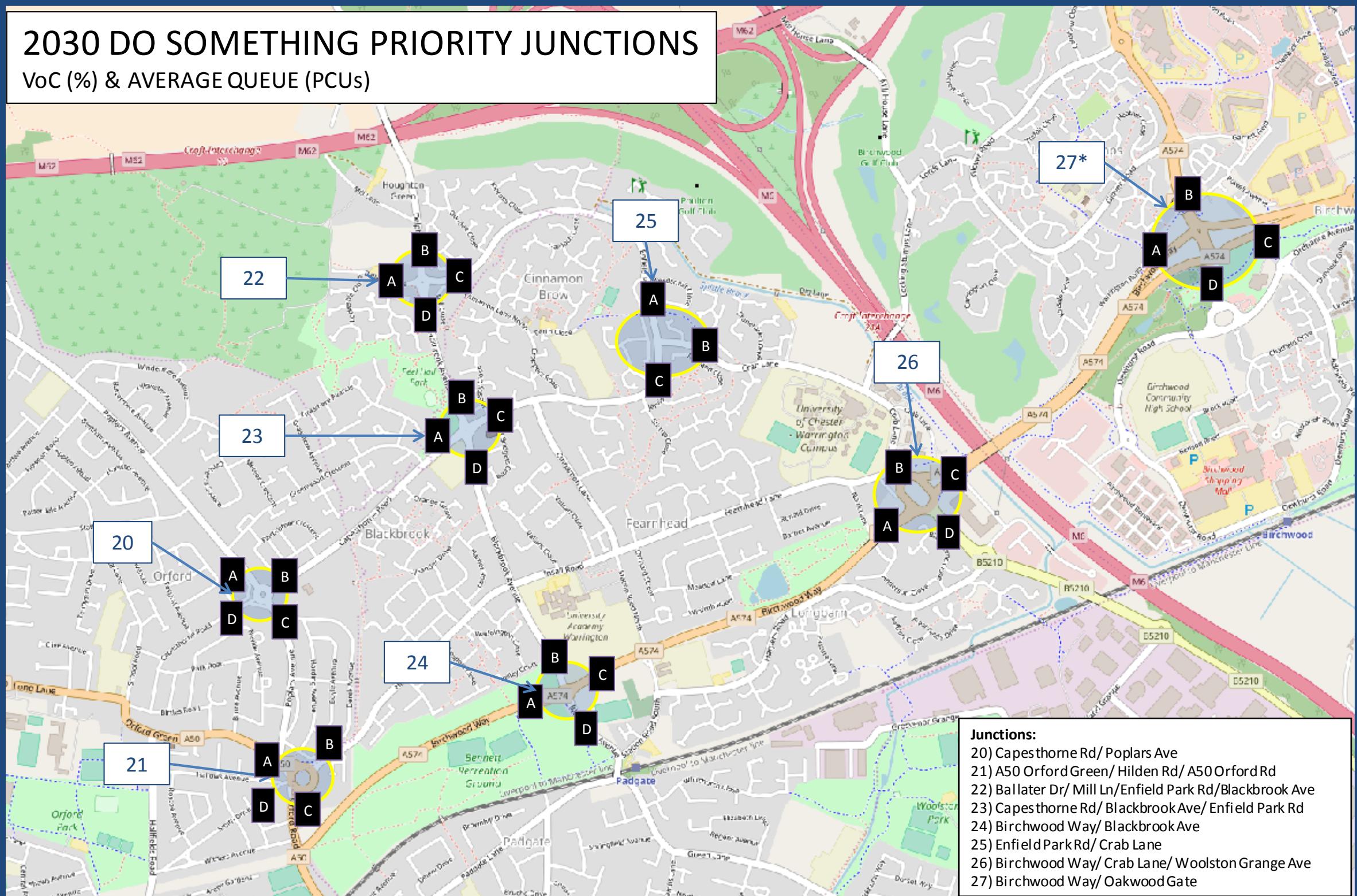
Junction 10	Junction 11	Junction 12	Junction 13	Junction 14	Junction 15	Junction 16	Junction 17	Junction 18	Junction 19
AM	AM	AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=55,Q=0 B:VoC=27,Q=0 C:VoC=43,Q=0	A:VoC=5,Q=0 B:VoC=1,Q=0	A:VoC=12,Q=0 B:VoC=22,Q=0 C:VoC=75,Q=0	A:VoC=34,Q=0 B:VoC=28,Q=0 C:VoC=41,Q=0	A:VoC=31,Q=0 B:VoC=23,Q=0 C:VoC=11,Q=0	A:VoC=25,Q=0 B:VoC=107,Q=25 C:VoC=84,Q=1	A:VoC=25,Q=0, B:VoC=28,Q=0 C:VoC=10,Q=0 D:VoC=4,Q=0	A:VoC=17,Q=0 B:VoC=46,Q=1 C:VoC=32,Q=0	A:VoC=75,Q=0 B:VoC=23,Q=0 C:VoC=45,Q=0 D:VoC=9,Q=0	A:VoC=28,Q=0 B:VoC=24,Q=0 C:VoC=50,Q=0 D:VoC=33,Q=0
PM	PM	PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=41,Q=0 B:VoC=9,Q=0 C:VoC=57,Q=0	A:VoC=2,Q=0 B:VoC=1,Q=0	A:VoC=13,Q=0 B:VoC=36,Q=0 C:VoC=63,Q=0	A:VoC=32,Q=0 B:VoC=44,Q=0 C:VoC=59,Q=0	A:VoC=33,Q=0 B:VoC=39,Q=0 C:VoC=13,Q=0	A:VoC=42,Q=0 B:VoC=57,Q=0 C:VoC=100,Q=0	A:VoC=17,Q=0 B:VoC=17,Q=0 C:VoC=13,Q=0 D:VoC=26,Q=0	A:VoC=39,Q=0 B:VoC=7,Q=0 C:VoC=41,Q=0	A:VoC=56,Q=0 B:VoC=13,Q=0 C:VoC=62,Q=0 D:VoC=24,Q=0	A:VoC=27,Q=0 B:VoC=24,Q=0 C:VoC=75,Q=1 D:VoC=20,Q=0

Key:
VoC – Value over Cost (%)
Q = Average Queue (PCU)



2030 DO SOMETHING PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



- Junctions:**
- 20) Capesborne Rd/ Poplars Ave
 - 21) A50 Orford Green/ Hilden Rd/ A50 Orford Rd
 - 22) Ballater Dr/ Mill Ln/Enfield Park Rd/Blackbrook Ave
 - 23) Capesborne Rd/ Blackbrook Ave/ Enfield Park Rd
 - 24) Birchwood Way/ Blackbrook Ave
 - 25) Enfield Park Rd/ Crab Lane
 - 26) Birchwood Way/ Crab Lane/ Woolston Grange Ave
 - 27) Birchwood Way/ Oakwood Gate

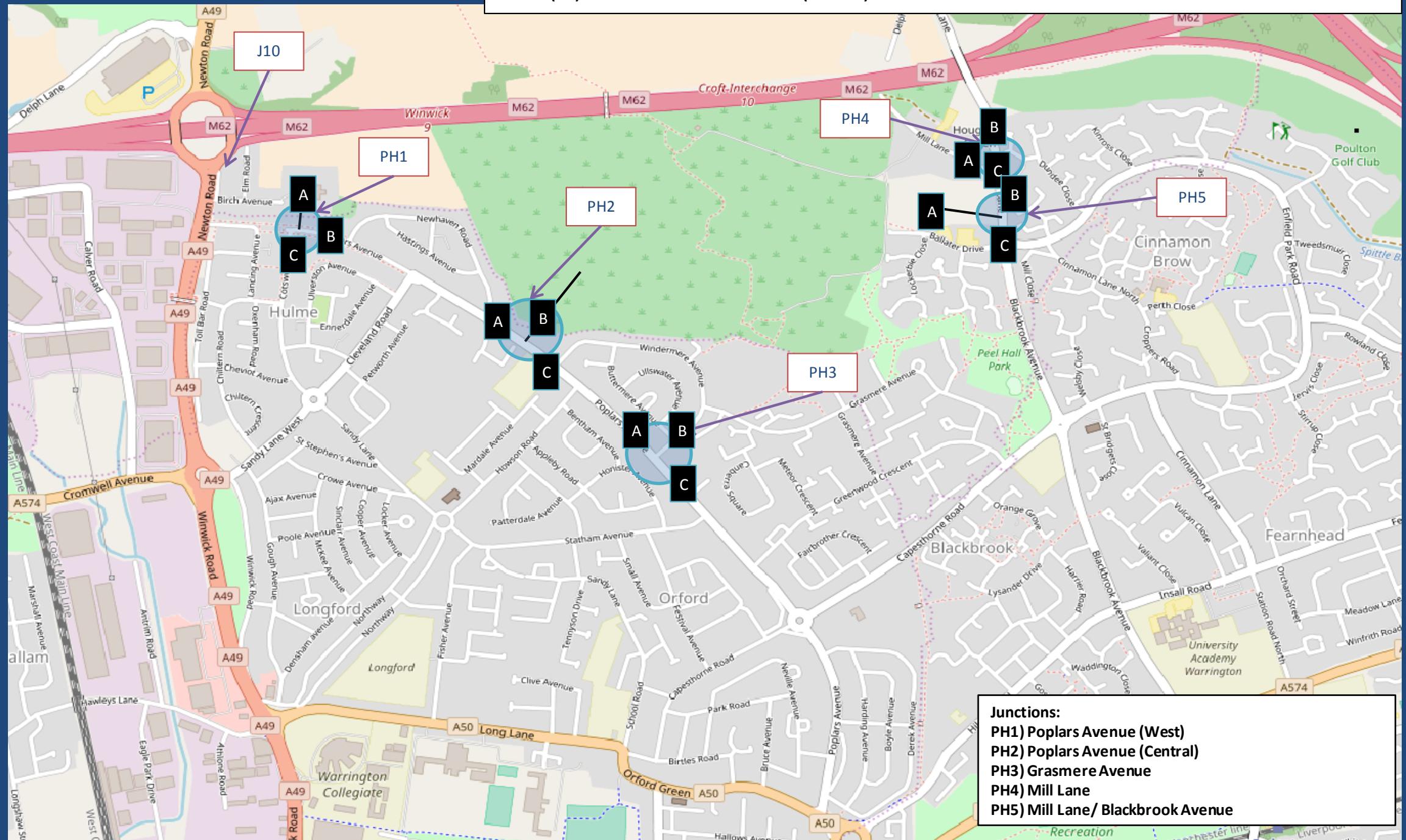
Junction 20	Junction 21	Junction 22	Junction 23	Junction 24	Junction 25	Junction 26	Junction 27*
AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=36,Q=0	A:VoC=64,Q=0	A:VoC=10,Q=0	A:VoC=50,Q=0	A:VoC=84,Q=1	A:VoC=0,Q=0	A:VoC=38, Q=0	A*:VoC=96,Q=5
B:VoC=79,Q=1	B:VoC=75, Q=1	B:VoC=68,Q=0	B:VoC=86,Q=1	B:VoC=101,Q=9	B:VoC=37,Q=0	B:VoC=103, Q=15	B:VoC=73,Q=2
C:VoC=85,Q=1	C:VoC=67,Q=1	C:VoC=27,Q=0	C:VoC=50,Q=0	C:VoC=94,Q=4	C:VoC=77,Q=0	C:VoC=48,Q=0	C:VoC=91,Q=4
D:VoC=32,Q=0	D:VoC=33,Q=0	D:VoC=31,Q=0	D:Voc=36,Q=0	D:VoC=74,Q=1		D:VoC=63,Q=0	D:VoC=153,Q=141
PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=50,Q=0	A:VoC=64,Q=0	A:VoC=4,Q=0	A:VoC=65,Q=1	A:VoC=89,Q=2	A:VoC=0,Q=0	A:VoC=38,Q=0	A:VoC=74,Q=3
B:VoC=66,Q=0	B:VoC=61,Q=1	B:VoC=51,Q=0	B:VoC=59,Q=0	B:VoC=97,Q=5	B:VoC=97,Q=0	B:VoC=82,Q=2	B:VoC=62,Q=1
C:VoC=102,Q=12	C:VoC=66,Q=0	C:VoC=31,Q=0	C:VoC=87,Q=2	C:VoC=108,Q=40	C:VoC=57,Q=0	C:VoC=58,Q=0	C:VoC=86,Q=221
D:VoC=90,Q=3	D:VoC=61,Q=1	D:VoC=65,Q=0	D:VoC=70,Q=1	D:VoC=84,Q=1		D:VoC=46,Q=0	D:VoC=346,Q=326

Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)
 * = Signalised in future years



2030 DO SOMETHING PEEL HALL ACCESS JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



Junctions:
 PH1) Poplars Avenue (West)
 PH2) Poplars Avenue (Central)
 PH3) Grasmere Avenue
 PH4) Mill Lane
 PH5) Mill Lane/ Blackbrook Avenue

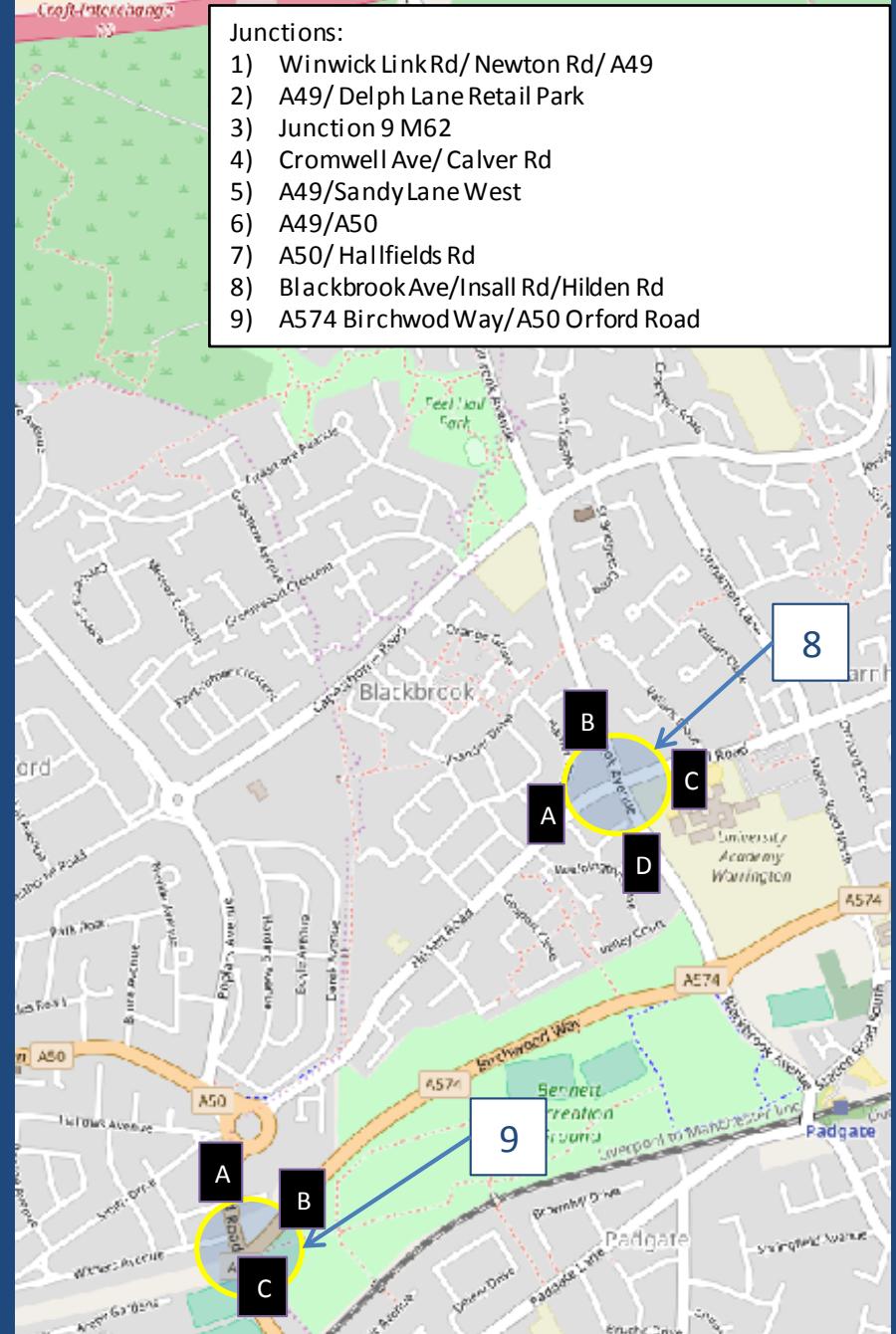
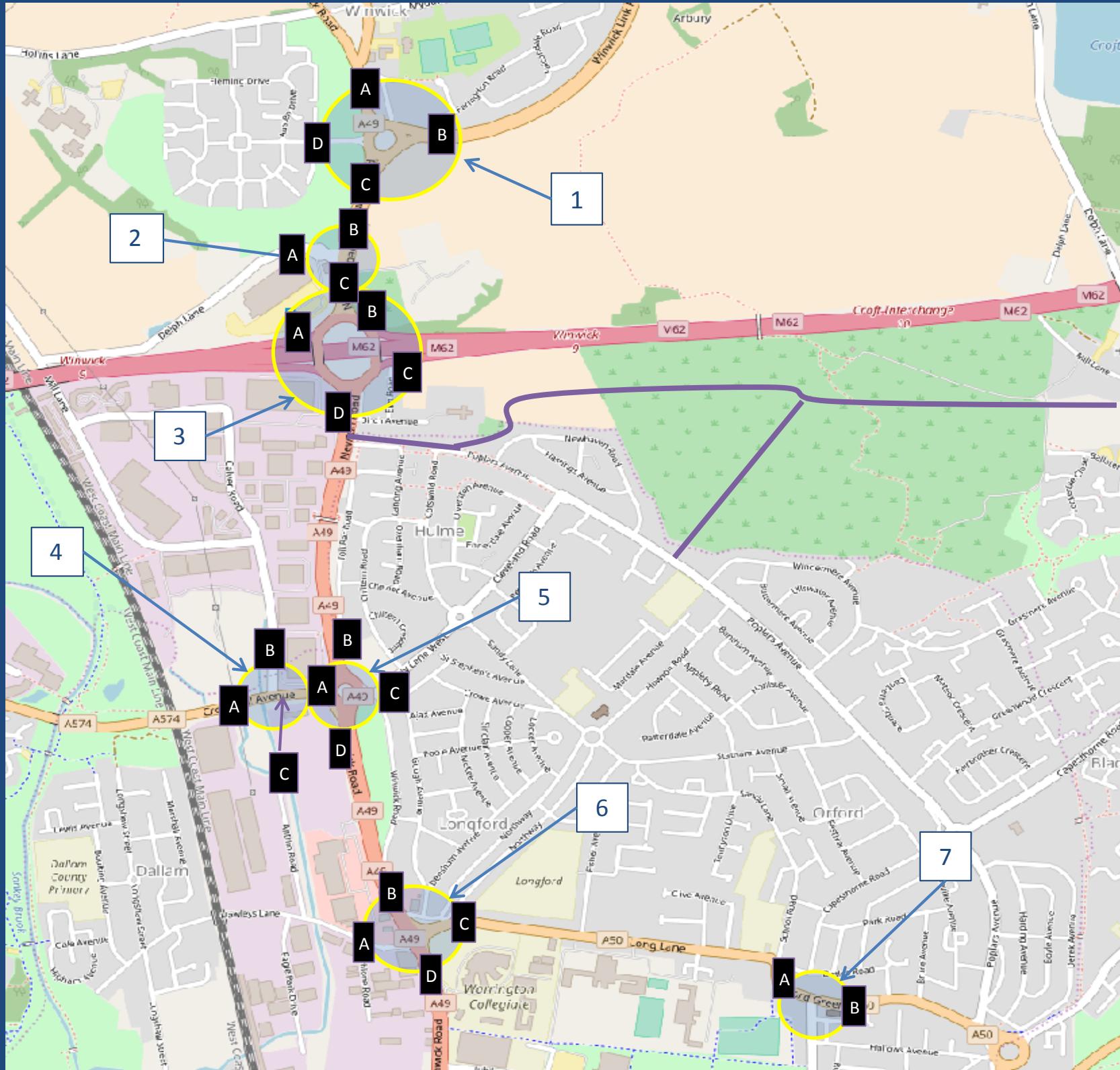
Junction PH1	Junction PH2	Junction PH3	Junction PH4	Junction PH5
AM	AM	AM	AM	AM
A:VoC=6,Q=0	A:VoC=23,Q=0	A:VoC=34,Q=0	A:VoC=42,Q=0	A:VoC=12,Q=0
B:VoC=3,Q=0	B:VoC=18,Q=0	B:VoC=61,Q=1	B:VoC=31,Q=0	B:VoC=62,Q=0
C:VoC=2,Q=0	C:VoC=22,Q=0	C:VoC=31,Q=0	C:VoC=23,Q=0	C:VoC=32,Q=0
PM	PM	PM	PM	PM
A:VoC=2,Q=0	A:VoC=20,Q=0	A:VoC=31,Q=0	A:VoC=21,Q=0	A:VoC=24,Q=0
B:VoC=3,Q=0	B:VoC=18,Q=0	B:VoC=52,Q=0	B:VoC=35,Q=0	B:VoC=56,Q=0
C:VoC=2,Q=0	C:VoC=42,Q=0	C:VoC=43,Q=0	C:VoC=34,Q=0	C:VoC=76,Q=0

Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)

2030 THROUGH ROUTE SIGNALISED JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)

- Junctions:
- 1) Winwick Link Rd/ Newton Rd/ A49
 - 2) A49/Delph Lane Retail Park
 - 3) Junction 9 M62
 - 4) Cromwell Ave/ Calver Rd
 - 5) A49/Sandy Lane West
 - 6) A49/A50
 - 7) A50/Halfields Rd
 - 8) Blackbrook Ave/Insal Rd/Hilden Rd
 - 9) A574 Birchwod Way/A50 Orford Road



Junction 1

AM
 A: VoC=73, Q=3
 B: VoC=66, Q=3
 C: VoC=106, Q=41
 D: VoC=24, Q=1

PM
 A: VoC=74, Q=3
 B: VoC=107, Q=40
 C: VoC=91, Q=6
 D: VoC=14, Q=0

Junction 2

AM
 A: VoC=44, Q=18
 B: VoC=108, Q=67
 C: VoC=65, Q=4

PM
 A: VoC=37, Q=4
 B: VoC=58, Q=6
 C: VoC=95, Q=10

Junction 3

AM
 A: VoC=102, Q=20
 B: VoC=109, Q=71
 C: VoC=75, Q=4
 D: VoC=98, Q=41

PM
 A: VoC=123, Q=119
 B: VoC=107, Q=55
 C: VoC=53, Q=2
 D: VoC=101, Q=96

Junction 4

AM
 A: VoC=93, Q=6
 B: VoC=62, Q=2
 C: VoC=38, Q=1

PM
 A: VoC=63, Q=4
 B: VoC=82, Q=3
 C: VoC=58, Q=1

Junction 5

AM
 A: VoC=79, Q=32
 B: VoC=96, Q=106
 C: VoC=40, Q=2
 D: VoC=33, Q=0

PM
 A: VoC=46, Q=5
 B: VoC=91, Q=10
 C: VoC=74, Q=4
 D: VoC=46, Q=0

Junction 6

AM
 A: VoC=21, Q=3
 B: VoC=100, Q=88
 C: VoC=89, Q=9
 D: VoC=83, Q=23

PM
 A: VoC=37, Q=5
 B: VoC=70, Q=14
 C: VoC=51, Q=5
 D: VoC=109, Q=114

Junction 7

AM
 A: VoC=43, Q=2
 B: VoC=77, Q=6

PM
 A: VoC=74, Q=4
 B: VoC=73, Q=5

Junction 8

AM
 A: VoC=42, Q=3
 B: VoC=103, Q=14
 C: VoC=81, Q=6
 D: VoC=97, Q=6

PM
 A: VoC=78, Q=4
 B: VoC=92, Q=6
 C: VoC=102, Q=7
 D: VoC=84, Q=6

Junction 9

AM
 A: VoC=52, Q=5
 B: VoC=42, Q=4
 C: VoC=57, Q=4

PM
 A: VoC=49, Q=4
 B: VoC=44, Q=3
 C: VoC=74, Q=6

Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)
 = Indicative Through Route

2030 THROUGH ROUTE PRIORITY JUNCTIONS

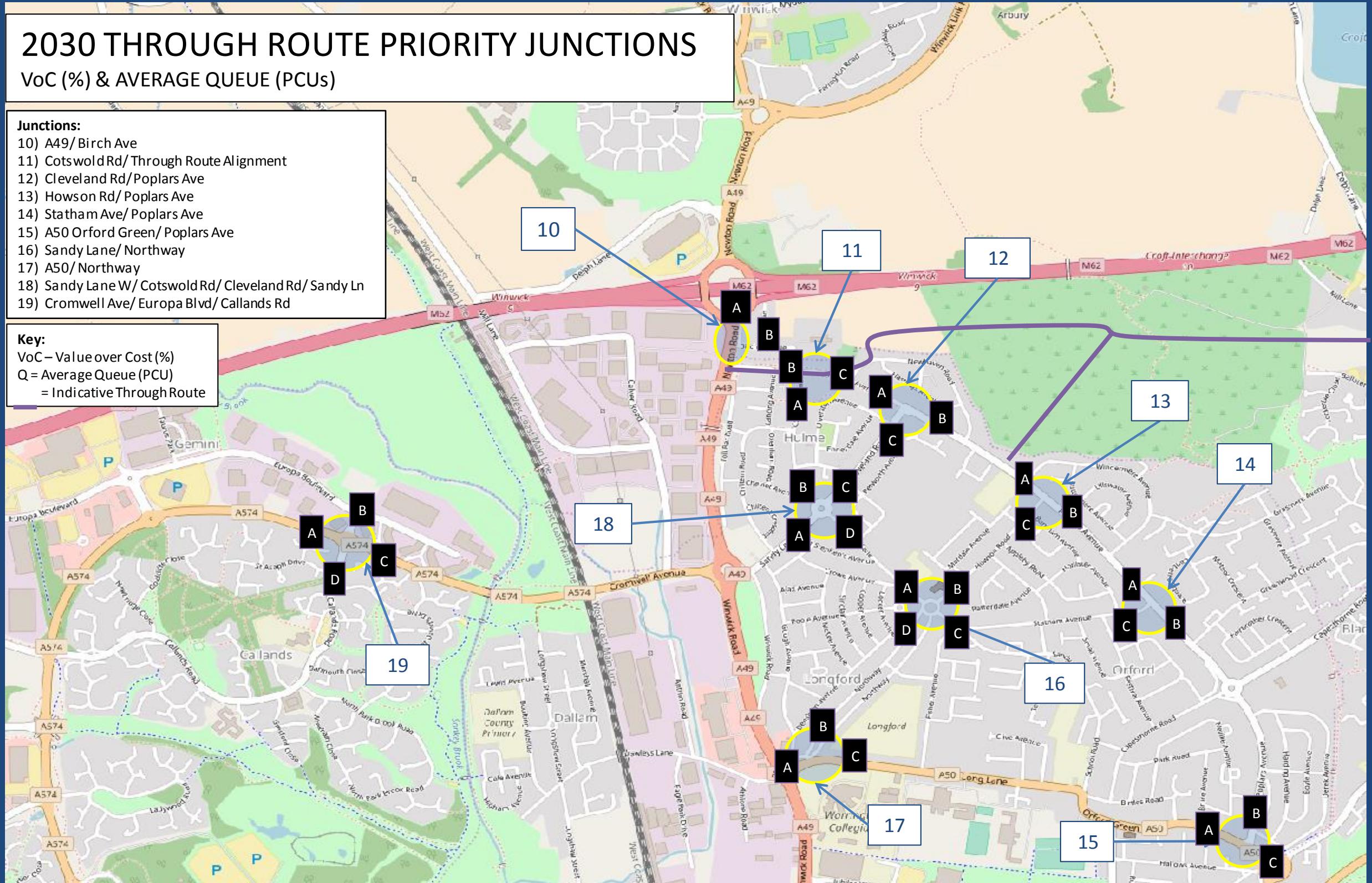
VoC (%) & AVERAGE QUEUE (PCUs)

Junctions:

- 10) A49/Birch Ave
- 11) Cotswold Rd/Through Route Alignment
- 12) Cleveland Rd/Poplars Ave
- 13) Howson Rd/Poplars Ave
- 14) Statham Ave/Poplars Ave
- 15) A50 Orford Green/Poplars Ave
- 16) Sandy Lane/Northway
- 17) A50/Northway
- 18) Sandy Lane W/ Cotswold Rd/ Cleveland Rd/ Sandy Ln
- 19) Cromwell Ave/ Europa Blvd/ Callands Rd

Key:

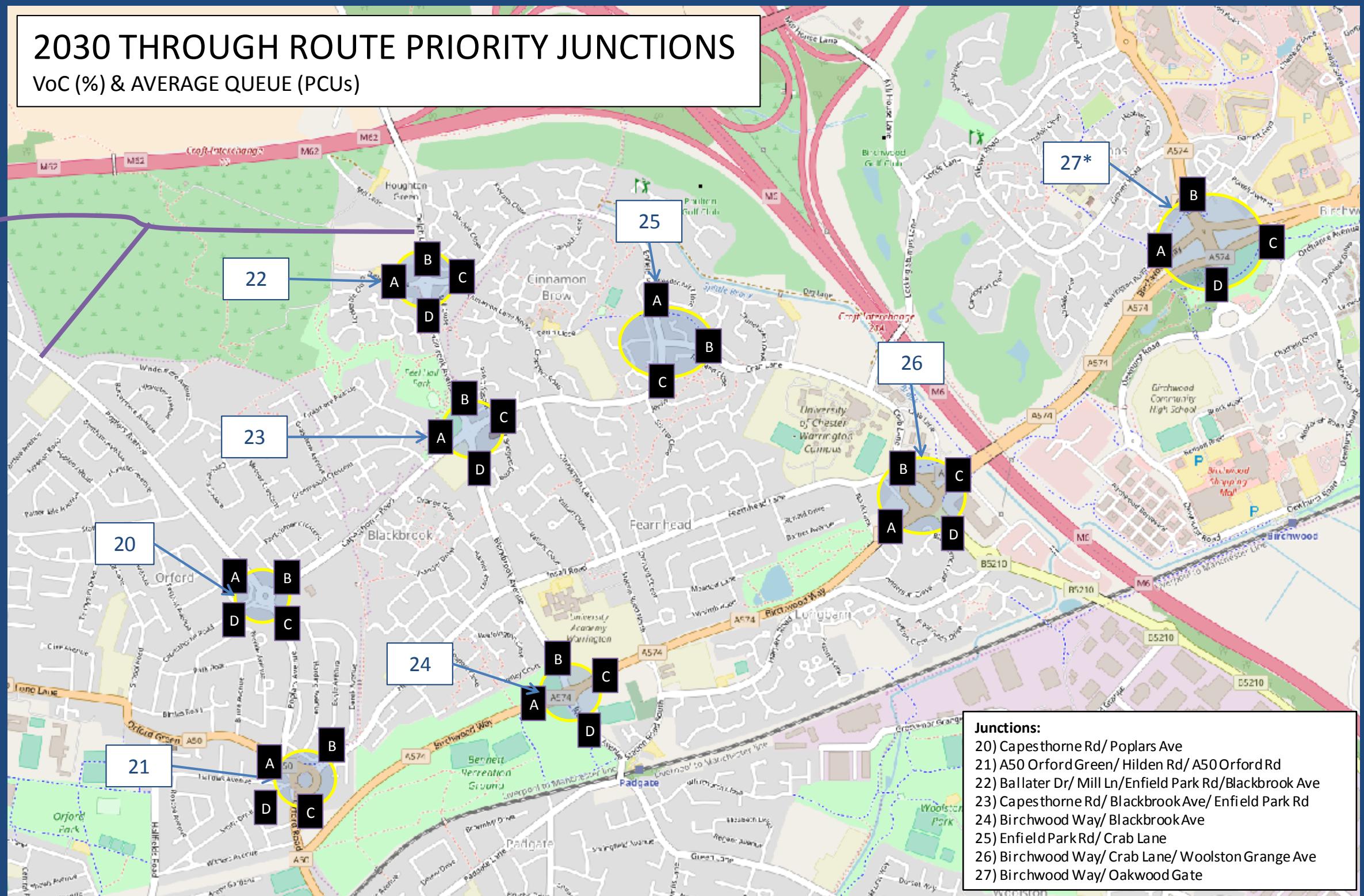
- VoC – Value over Cost (%)
- Q = Average Queue (PCU)
- = Indicative Through Route



Junction 10	Junction 11	Junction 12	Junction 13	Junction 14	Junction 15	Junction 16	Junction 17	Junction 18	Junction 19
AM	AM	AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=101,Q=7 B:VoC=51,Q=1 C:VoC=43,Q=0	A:VoC=6,Q=0 B:VoC=21,Q=0 C:VoC=9,Q=0	A:VoC=5,Q=0 B:VoC=18,Q=0 C:VoC=56,Q=0	A:VoC=25,Q=0 B:VoC=24,Q=0 C:VoC=34,Q=0	A:VoC=24,Q=0 B:VoC=19,Q=0 C:VoC=9,Q=0	A:VoC=25,Q=0 B:VoC=107,Q=26 C:VoC=81,Q=0	A:VoC=27,Q=0 B:VoC=26,Q=0 C:VoC=10,Q=0 D:VoC=3,Q=0	A:VoC=17,Q=0 B:VoC=49,Q=2 C:VoC=32,Q=0	A:VoC=66,Q=0 B:VoC=17,Q=0 C:VoC=36,Q=0 D:VoC=9,Q=0	A:VoC=28,Q=0 B:VoC=24,Q=0 C:VoC=50,Q=0 D:VoC=33,Q=0
PM	PM	PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=42,Q=0 B:VoC=10,Q=0 C:VoC=54,Q=0	A:VoC=0,Q=0 B:VoC=20,Q=0 C:VoC=17,Q=0	A:VoC=4,Q=0 B:VoC=23,Q=0 C:VoC=37,Q=0	A:VoC=19,Q=0 B:VoC=29,Q=0 C:VoC=19,Q=0	A:VoC=18,Q=0 B:VoC=24,Q=0 C:VoC=11,Q=0	A:VoC=41,Q=0 B:VoC=68,Q=1 C:VoC=97,Q=4	A:VoC=15,Q=0 B:VoC=16,Q=0 C:VoC=13,Q=0 D:VoC=16,Q=0	A:VoC=33,Q=0 B:VoC=7,Q=0 C:VoC=39,Q=0	A:VoC=41,Q=0 B:VoC=11,Q=0 C:VoC=40,Q=0 D:VoC=19,Q=0	A:VoC=27,Q=0 B:VoC=24,Q=0 C:VoC=75,Q=1 D:VoC=20,Q=0

2030 THROUGH ROUTE PRIORITY JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



- Junctions:**
- 20) Capesothorne Rd/ Poplars Ave
 - 21) A50 Orford Green/ Hilden Rd/ A50 Orford Rd
 - 22) Ballater Dr/ Mill Ln/Enfield Park Rd/Blackbrook Ave
 - 23) Capesothorne Rd/ Blackbrook Ave/ Enfield Park Rd
 - 24) Birchwood Way/ Blackbrook Ave
 - 25) Enfield Park Rd/ Crab Lane
 - 26) Birchwood Way/ Crab Lane/ Woolston Grange Ave
 - 27) Birchwood Way/ Oakwood Gate

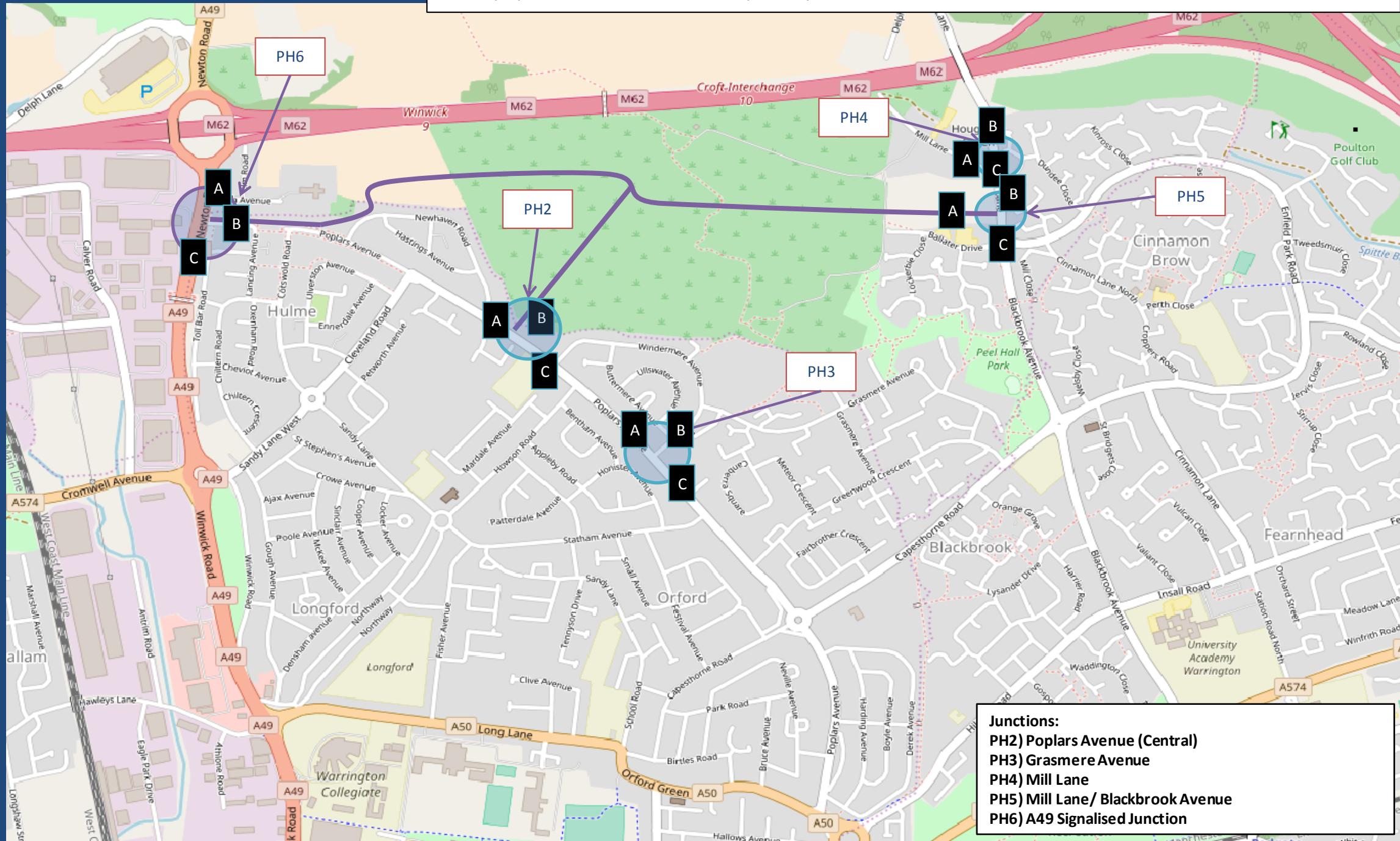
Junction 20	Junction 21	Junction 22	Junction 23	Junction 24	Junction 25	Junction 26	Junction 27*
AM	AM	AM	AM	AM	AM	AM	AM
A:VoC=35,Q=0	A:VoC=65,Q=0	A:VoC=10,Q=0	A:VoC=45,Q=0	A:VoC=84,Q=1	A:VoC=0,Q=0	A:VoC=3, Q=0	A*:VoC=75,Q=4
B:VoC=62,Q=0	B:VoC=76, Q=2	B:VoC=70,Q=0	B:VoC=87,Q=1	B:VoC=101,Q=11	B:VoC=38,Q=0	B:Voc=103, Q=15	B:VoC=69,Q=1
C:VoC=82,Q=1	C:VoC=67,Q=1	C:VoC=28,Q=0	C:VoC=50,Q=0	C:VoC=90,Q=3	C:VoC=80,Q=0	C:VoC=49,Q=0	C:VoC=89,Q=3
D:VoC=43,Q=0	D:VoC=33,Q=0	D:VoC=29,Q=0	D:Voc=38,Q=0	D:VoC=73,Q=1	D:VoC=80,Q=0	D:VoC=63,Q=0	D:VoC=148,Q=132
PM	PM	PM	PM	PM	PM	PM	PM
A:VoC=40,Q=0	A:VoC=64,Q=0	A:VoC=4,Q=0	A:VoC=56,Q=0	A:VoC=86,Q=2	A:VoC=0,Q=0	A:VoC=38,Q=0	A:VoC=74,Q=3
B::VoC=36,Q=0	B:VoC=51,Q=1	B:VoC=50,Q=0	B:VoC=53,Q=0	B:VoC=85,Q=2	B:VoC=97,Q=0	B:VoC=88,Q=3	B:VoC=62,Q=1
C:VoC=83,Q=1	C:VoC=65,Q=0	C:VoC=30,Q=0	C:VoC=78,Q=1	C:VoC=105,Q=31	C:VoC=57,Q=0	C::VoC=57,Q=0	C:VoC=149,Q=221
D:VoC=77,Q=1	D:VoC=59,Q=1	D:VoC=65,Q=0	D:VoC=63,Q=1	D:VoC=84,Q=1	D:VoC=84,Q=1	D:VoC=46,Q=2	D:VoC=347,Q=326

Key:
 VoC= Value over Cost (%)
 Q= Average Queue (PCU)
 — = Indicative Through Route
 * = Signalised in Future Years



2030 THROUGH ROUTE PEEL HALL ACCESS JUNCTIONS

VoC (%) & AVERAGE QUEUE (PCUs)



Junctions:
 PH2) Poplars Avenue (Central)
 PH3) Grasmere Avenue
 PH4) Mill Lane
 PH5) Mill Lane/ Blackbrook Avenue
 PH6) A49 Signalised Junction

Junction PH2	Junction PH3	Junction PH4	Junction PH5	Junction PH6
AM	AM	AM	AM	AM
A:VoC=18,Q=0	A:VoC=34,Q=0	A:VoC=45,Q=0	A:VoC=41,Q=0	A:VoC=101,Q=15
B:VoC=9,Q=0	B:VoC=61,Q=1	B:VoC=33,Q=0	B:VoC=77,Q=1	B:VoC=59,Q=2
C:VoC=18,Q=0	C:VoC=31,Q=0	C:VoC=24,Q=0	C:VoC=44,Q=0	C:VoC=73,Q=5
PM	PM	PM	PM	PM
A:VoC=13,Q=0	A:VoC=17,Q=0	A:VoC=21,Q=0	A:VoC=42,Q=0	A:VoC=76,Q=4
B:Voc=5,Q=0	B:Voc=36,Q=0	B:Voc=35,Q=0	B:VoC=62,Q=0	B:VoC=82,Q=13
C:VoC=25,Q=0	C:VoC=28,Q=0	C:VoC=35,Q=0	C:VoC=87,Q=1	C:VoC=97,Q=71

Key:
 VoC – Value over Cost (%)
 Q = Average Queue (PCU)
 = Indicative Through Route