



# **East Anglia ONE North Offshore Windfarm**

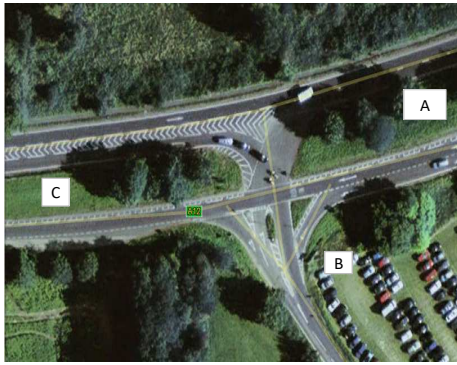
## **Appendix 26.19** Junction Modelling

### **Environmental Statement Volume 3**

Applicant: East Anglia ONE North Limited  
Document Reference: 6.3.26.19  
SPR Reference: EA1N-DWF-ENV-REP-IBR-000363\_019 Rev 01  
Pursuant to APFP Regulation: 5(2)(a)

Author: Royal HaskoningDHV  
Date: October 2019  
Revision: Version 1

**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 north
6	B	A1094
3	C	A12 south

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Thursday 6th June 2019: 07:30AM - 08:30AM

**Vehicles**

From/To	A	B	C	Totals
A	0	79	599	678
B	40	0	237	277
C	370	226	0	596
Totals	410	305	836	1551

**HGVs**

From/To	A	B	C	Totals
A	0	5	26	31
B	2	0	8	10
C	27	12	0	39
Totals	29	17	34	80

**Total**

From/To	A	B	C	Totals
A	0	84	625	709
B	42	0	245	287
C	397	238	0	635
Totals	439	322	870	1631

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.0%	4.2%	3%
B	4.8%	0.0%	3.3%	3%
C	6.8%	5.0%	0.0%	4%
Average	4%	4%	2%	3%

**PM Peak Traffic**

Thursday 6th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	62	449	511
B	73	0	280	353
C	568	280	0	848
Totals	641	342	729	1712

**HGVs**

From/To	A	B	C	Totals
A	0	0	14	14
B	0	0	1	1
C	11	3	0	14
Totals	11	3	15	29

**Total**

From/To	A	B	C	Totals
A	0	62	463	525
B	73	0	281	354
C	579	283	0	862
Totals	652	345	744	1741

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	3.0%	1%
B	0.0%	0.0%	0.4%	0%
C	1.9%	1.1%	0.0%	1%
Average	1%	0%	1%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	84	634	717
B	42	0	251	293
C	391	239	0	630
Totals	434	323	884	1641

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	5	28	33
B	2	0	8	11
C	29	13	0	41
Totals	31	18	36	85

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	89	661	750
B	44	0	259	304
C	420	252	0	672
Totals	464	341	920	1725

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.0%	4.2%	3%
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C	6.8%	5.0%	0.0%	4%
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**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	66	475	541
B	77	0	296	374
C	601	296	0	898
Totals	679	362	772	1813

**Growth Factored HGVs**

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A	0	0	15	15
B	0	0	1	1
C	12	3	0	15
Totals	12	3	16	31

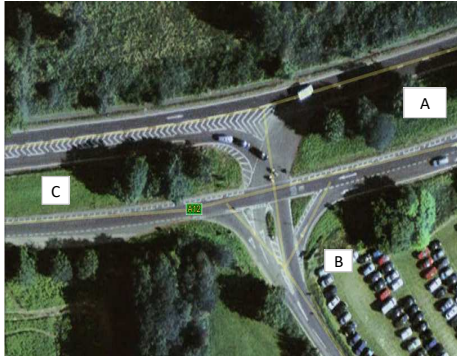
**Growth Factored Total**

From/To	A	B	C	Totals
A	0	66	490	556
B	77	0	298	375
C	613	300	0	913
Totals	690	365	788	1843

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	3.0%	1%
B	0.0%	0.0%	0.4%	0%
C	1.9%	1.1%	0.0%	1%
Average	1%	0%	1%	1%

**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 north
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3	C	A12 south

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic (2023) - 100% HGV Origin from A12 north**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	6	67	0	73
Totals	6	67	0	73

**HGVs**

From/To	A	B	C	Totals
A	0	7	0	7
B	7	0	0	7
C	0	0	0	0
Totals	7	7	0	13

**Total**

From/To	A	B	C	Totals
A	0	7	0	7
B	7	0	0	7
C	6	67	0	73
Totals	13	74	0	87

**%HGV**

From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	100.0%	0.0%	0.0%	33%
C	0.0%	0.0%	0.0%	0%
Average	33%	33%	0%	22%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	6	6
B	0	0	67	67
C	0	0	0	0
Totals	0	0	73	73

**HGVs**

From/To	A	B	C	Totals
A	0	7	0	7
B	7	0	0	7
C	0	0	0	0
Totals	7	7	0	13

**Total**

From/To	A	B	C	Totals
A	0	7	6	13
B	7	0	67	74
C	0	0	0	0
Totals	7	7	73	87

**%HGV**

From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	100.0%	0.0%	0.0%	33%
C	0.0%	0.0%	0.0%	0%
Average	33%	33%	0%	22%

**Forecast Flows + EA1N Construction Traffic (2023) 100% HGV Origin from A12 north**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	84	634	717
B	42	0	251	293
C	398	306	0	704
Totals	440	390	884	1714

**HGVs**

From/To	A	B	C	Totals
A	0	12	28	40
B	9	0	8	17
C	29	13	0	41
Totals	37	25	36	98

**Total**

From/To	A	B	C	Totals
A	0	96	661	757
B	51	0	259	310
C	426	319	0	745
Totals	478	414	920	1812

**%HGV**

From/To	A	B	C	Average
A	0.0%	12.6%	4.2%	6%
B	17.3%	0.0%	3.3%	7%
C	6.7%	4.0%	0.0%	4%
Average	8%	6%	2%	5%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	66	482	547
B	77	0	363	441
C	601	296	0	898
Totals	679	362	845	1886

**HGVs**

From/To	A	B	C	Totals
A	0	7	15	22
B	7	0	1	8
C	12	3	0	15
Totals	18	10	16	44

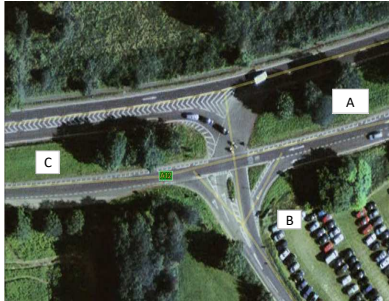
**Total**

From/To	A	B	C	Totals
A	0	72	497	569
B	84	0	364	448
C	613	300	0	913
Totals	697	372	861	1930

**%HGV**

From/To	A	B	C	Average
A	0.0%	9.3%	3.0%	4%
B	8.0%	0.0%	0.3%	3%
C	1.9%	1.1%	0.0%	1%
Average	3%	3%	1%	3%

**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 north
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3	C	A12 south

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

**Vehicles**

From/To	A	B	C	Totals
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B	40	0	237	277
C	370	226	0	596
<b>Totals</b>	<b>410</b>	<b>305</b>	<b>836</b>	<b>1551</b>

**HGVs**

From/To	A	B	C	Totals
A	0	5	26	31
B	2	0	8	10
C	27	12	0	39
<b>Totals</b>	<b>29</b>	<b>17</b>	<b>34</b>	<b>80</b>

**Total**

From/To	A	B	C	Totals
A	0	84	625	709
B	42	0	245	287
C	397	238	0	635
<b>Totals</b>	<b>439</b>	<b>322</b>	<b>870</b>	<b>1631</b>

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.0%	4.2%	3%
B	4.8%	0.0%	3.3%	3%
C	6.8%	5.0%	0.0%	4%
<b>Average</b>	<b>4%</b>	<b>4%</b>	<b>2%</b>	<b>3%</b>

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	62	449	511
B	73	0	280	353
C	568	280	0	848
<b>Totals</b>	<b>641</b>	<b>342</b>	<b>729</b>	<b>1712</b>

**HGVs**

From/To	A	B	C	Totals
A	0	0	14	14
B	0	0	1	1
C	11	3	0	14
<b>Totals</b>	<b>11</b>	<b>3</b>	<b>15</b>	<b>29</b>

**Total**

From/To	A	B	C	Totals
A	0	62	463	525
B	73	0	281	354
C	579	283	0	862
<b>Totals</b>	<b>652</b>	<b>345</b>	<b>744</b>	<b>1741</b>

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	3.0%	1%
B	0.0%	0.0%	0.4%	0%
C	1.9%	1.1%	0.0%	1%
<b>Average</b>	<b>1%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	84	634	717
B	42	0	251	293
C	391	239	0	630
<b>Totals</b>	<b>434</b>	<b>323</b>	<b>884</b>	<b>1641</b>

**Growth Factored HGVs**

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A	0	5	28	33
B	2	0	8	11
C	29	13	0	41
<b>Totals</b>	<b>31</b>	<b>18</b>	<b>36</b>	<b>85</b>

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	89	661	750
B	44	0	259	304
C	420	252	0	672
<b>Totals</b>	<b>464</b>	<b>341</b>	<b>920</b>	<b>1725</b>

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.0%	4.2%	3%
B	4.8%	0.0%	3.3%	3%
C	6.8%	5.0%	0.0%	4%
<b>Average</b>	<b>4%</b>	<b>4%</b>	<b>2%</b>	<b>3%</b>

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	66	475	541
B	77	0	296	374
C	601	296	0	898
<b>Totals</b>	<b>679</b>	<b>362</b>	<b>772</b>	<b>1813</b>

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	0	15	15
B	0	0	1	1
C	12	3	0	15
<b>Totals</b>	<b>12</b>	<b>3</b>	<b>16</b>	<b>31</b>

**Growth Factored Total**

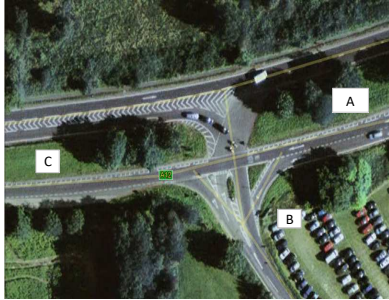
From/To	A	B	C	Totals
A	0	66	490	556
B	77	0	298	375
C	613	300	0	913
<b>Totals</b>	<b>690</b>	<b>365</b>	<b>788</b>	<b>1843</b>

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	3.0%	1%
B	0.0%	0.0%	0.4%	0%
C	1.9%	1.1%	0.0%	1%
<b>Average</b>	<b>1%</b>	<b>0%</b>	<b>1%</b>	<b>1%</b>



**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 north
6	B	Pasteur Road
3	C	A12 south

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	6	67	0	73
Totals	6	67	0	73

HGVs				
From/To	A	B	C	Totals
A	0	0	3	3
B	0	0	8	8
C	3	8	0	11
Totals	3	8	11	21

Total				
From/To	A	B	C	Totals
A	0	0	3	3
B	0	0	8	8
C	9	75	0	84
Totals	9	75	11	94

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	100.0%	33%
B	0.0%	0.0%	100.0%	33%
C	30.3%	10.3%	0.0%	14%
Average	10%	3%	67%	27%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	6	6
B	0	0	67	67
C	0	0	0	0
Totals	0	0	73	73

HGVs				
From/To	A	B	C	Totals
A	0	0	3	3
B	0	0	8	8
C	3	8	0	11
Totals	3	8	11	21

Total				
From/To	A	B	C	Totals
A	0	0	9	9
B	0	0	75	75
C	3	8	0	11
Totals	3	8	84	94

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	30.3%	10%
B	0.0%	0.0%	10.3%	3%
C	100.0%	100.0%	0.0%	67%
Average	33%	33%	14%	27%

**Forecast Flows + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	84	634	717
B	42	0	251	293
C	398	306	0	704
Totals	440	390	884	1714

HGVs				
From/To	A	B	C	Totals
A	0	5	30	36
B	2	0	16	18
C	31	20	0	52
Totals	33	26	46	106

Total				
From/To	A	B	C	Totals
A	0	89	664	753
B	44	0	267	311
C	429	326	0	756
Totals	474	415	931	1820

%HGV				
From/To	A	B	C	Average
A	0.0%	6.0%	4.6%	4%
B	4.8%	0.0%	6.1%	4%
C	7.3%	6.3%	0.0%	5%
Average	4%	4%	4%	4%

**PM Peak Traffic**

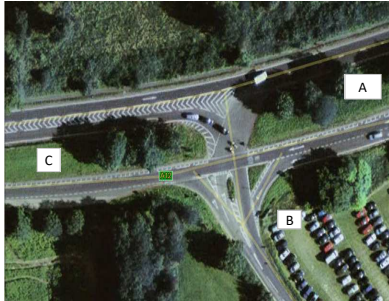
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Totals	679	362	845	1886

HGVs				
From/To	A	B	C	Totals
A	0	0	18	18
B	0	0	9	9
C	14	11	0	25
Totals	14	11	26	52

Total				
From/To	A	B	C	Totals
A	0	66	499	565
B	77	0	372	449
C	616	307	0	923
Totals	693	373	872	1938

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	3.5%	1%
B	0.0%	0.0%	2.4%	1%
C	2.3%	3.5%	0.0%	2%
Average	1%	1%	2%	1%

**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 east
6	B	A1094
3	C	A12 west

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From/To	A	B	C	Totals
A	0	0	15	15
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C	12	3	0	15
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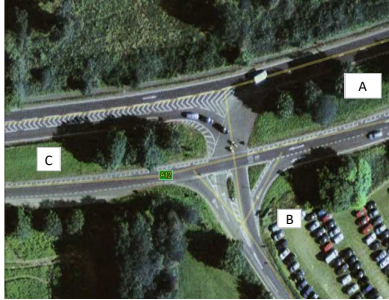
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A	0.0%	0.0%	3.0%	1%
B	0.0%	0.0%	0.4%	0%
C	1.9%	1.1%	0.0%	1%
Average	1%	0%	1%	1%

**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 east
6	B	A1094
3	C	A12 west

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic (2023) - 100% HGV Origin from A12 north**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	6	84	0	91
Totals	6	84	0	91

HGVs				
From/To	A	B	C	Totals
A	0	8	0	8
B	8	0	0	8
C	0	0	0	0
Totals	8	8	0	17

Total				
From/To	A	B	C	Totals
A	0	8	0	8
B	8	0	0	8
C	6	84	0	91
Totals	15	93	0	108

%HGV				
From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	100.0%	0.0%	0.0%	33%
C	0.0%	0.0%	0.0%	0%
Average	33%	33%	0%	22%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	6	6
B	0	0	84	84
C	0	0	0	0
Totals	0	0	91	91

HGVs				
From/To	A	B	C	Totals
A	0	8	0	8
B	8	0	0	8
C	0	0	0	0
Totals	8	8	0	17

Total				
From/To	A	B	C	Totals
A	0	8	6	15
B	8	0	84	93
C	0	0	0	0
Totals	8	8	91	108

%HGV				
From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	100.0%	0.0%	0.0%	33%
C	0.0%	0.0%	0.0%	0%
Average	33%	33%	0%	22%

**Forecast Flows + EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 north**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	84	634	717
B	42	0	251	293
C	398	324	0	722
Totals	440	407	884	1732

HGVs				
From/To	A	B	C	Totals
A	0	14	28	41
B	11	0	8	19
C	29	13	0	41
Totals	39	26	36	102

Total				
From/To	A	B	C	Totals
A	0	97	661	758
B	53	0	259	312
C	426	336	0	763
Totals	479	434	920	1833

%HGV				
From/To	A	B	C	Average
A	0.0%	14.1%	4.2%	6%
B	20.0%	0.0%	3.3%	8%
C	6.7%	3.8%	0.0%	3%
Average	9%	6%	2%	6%

**PM Peak Traffic**

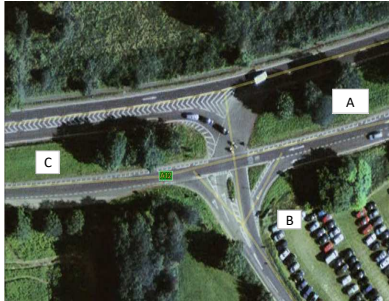
Vehicles				
From/To	A	B	C	Totals
A	0	66	482	547
B	77	0	381	458
C	601	296	0	898
Totals	679	362	863	1904

HGVs				
From/To	A	B	C	Totals
A	0	8	15	23
B	8	0	1	10
C	12	3	0	15
Totals	20	12	16	48

Total				
From/To	A	B	C	Totals
A	0	74	497	571
B	86	0	382	468
C	613	300	0	913
Totals	699	374	879	1951

%HGV				
From/To	A	B	C	Average
A	0.0%	11.4%	3.0%	5%
B	9.9%	0.0%	0.3%	3%
C	1.9%	1.1%	0.0%	1%
Average	4%	4%	1%	3%

**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 east
6	B	A1094
3	C	A12 west

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

**Vehicles**

From/To	A	B	C	Totals
A	0	79	599	678
B	40	0	237	277
C	370	226	0	596
Totals	410	305	836	1551

**HGVs**

From/To	A	B	C	Totals
A	0	5	26	31
B	2	0	8	10
C	27	12	0	39
Totals	29	17	34	80

**Total**

From/To	A	B	C	Totals
A	0	84	625	709
B	42	0	245	287
C	397	238	0	635
Totals	439	322	870	1631

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.0%	4.2%	3%
B	4.8%	0.0%	3.3%	3%
C	6.8%	5.0%	0.0%	4%
Average	4%	4%	2%	3%

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	62	449	511
B	73	0	280	353
C	568	280	0	848
Totals	641	342	729	1712

**HGVs**

From/To	A	B	C	Totals
A	0	0	14	14
B	0	0	1	1
C	11	3	0	14
Totals	11	3	15	29

**Total**

From/To	A	B	C	Totals
A	0	62	463	525
B	73	0	281	354
C	579	283	0	862
Totals	652	345	744	1741

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	3.0%	1%
B	0.0%	0.0%	0.4%	0%
C	1.9%	1.1%	0.0%	1%
Average	1%	0%	1%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	84	634	717
B	42	0	251	293
C	391	239	0	630
Totals	434	323	884	1641

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	5	28	33
B	2	0	8	11
C	29	13	0	41
Totals	31	18	36	85

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	89	661	750
B	44	0	259	304
C	420	252	0	672
Totals	464	341	920	1725

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.0%	4.2%	3%
B	4.8%	0.0%	3.3%	3%
C	6.8%	5.0%	0.0%	4%
Average	4%	4%	2%	3%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	66	475	541
B	77	0	296	374
C	601	296	0	898
Totals	679	362	772	1813

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	0	15	15
B	0	0	1	1
C	12	3	0	15
Totals	12	3	16	31

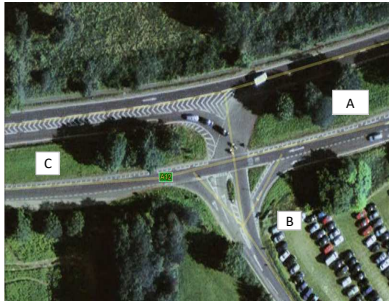
**Growth Factored Total**

From/To	A	B	C	Totals
A	0	66	490	556
B	77	0	298	375
C	613	300	0	913
Totals	690	365	788	1843

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	3.0%	1%
B	0.0%	0.0%	0.4%	0%
C	1.9%	1.1%	0.0%	1%
Average	1%	0%	1%	1%

**Junction 1 - A12 / A1094 Junction**



**Notes**

Link	Arm	Road Name
2	A	A12 east
6	B	A1094
3	C	A12 west

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	6	84	0	91
Totals	6	84	0	91

HGVs				
From/To	A	B	C	Totals
A	0	0	3	3
B	0	0	10	10
C	3	10	0	14
Totals	3	10	14	27

Total				
From/To	A	B	C	Totals
A	0	0	3	3
B	0	0	10	10
C	10	94	0	104
Totals	10	94	14	118

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	100.0%	33%
B	0.0%	0.0%	100.0%	33%
C	35.1%	10.6%	0.0%	15%
Average	12%	4%	67%	27%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	6	6
B	0	0	84	84
C	0	0	0	0
Totals	0	0	91	91

HGVs				
From/To	A	B	C	Totals
A	0	0	3	3
B	0	0	10	10
C	3	10	0	14
Totals	3	10	14	27

Total				
From/To	A	B	C	Totals
A	0	0	10	10
B	0	0	94	94
C	3	10	0	14
Totals	3	10	104	118

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	35.1%	12%
B	0.0%	0.0%	10.6%	4%
C	100.0%	100.0%	0.0%	67%
Average	33%	33%	15%	27%

**Forecast Flows + EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	84	634	717
B	42	0	251	293
C	398	324	0	722
Totals	440	407	884	1732

HGVs				
From/To	A	B	C	Totals
A	0	5	31	36
B	2	0	19	21
C	32	23	0	55
Totals	34	28	49	112

Total				
From/To	A	B	C	Totals
A	0	89	665	753
B	44	0	269	314
C	430	346	0	776
Totals	474	435	934	1843

%HGV				
From/To	A	B	C	Average
A	0.0%	6.0%	4.7%	4%
B	4.8%	0.0%	6.9%	4%
C	7.5%	6.6%	0.0%	5%
Average	4%	4%	4%	4%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	66	482	547
B	77	0	381	458
C	601	296	0	897
Totals	679	362	863	1904

HGVs				
From/To	A	B	C	Totals
A	0	0	18	18
B	0	0	11	11
C	15	13	0	28
Totals	15	13	29	58

Total				
From/To	A	B	C	Totals
A	0	66	500	566
B	77	0	392	469
C	617	310	0	926
Totals	694	375	892	1961

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	3.7%	1%
B	0.0%	0.0%	2.8%	1%
C	2.5%	4.3%	0.0%	2%
Average	1%	1%	2%	1%

# Junctions 8

## PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]  
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**Filename:** Junction 1 - A12 and A1094.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 08/07/2019 13:38:42

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023</b>								
Stream B-C	1.46	18.82	0.60	C	3.63	32.83	0.80	D
Stream B-A	0.43	27.09	0.31	D	0.87	34.38	0.48	D
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	3.96	41.00	0.82	E	1.66	18.54	0.63	C
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023</b>								
Stream B-C	1.66	20.66	0.63	C	4.14	36.65	0.82	E
Stream B-A	0.31	23.21	0.24	C	0.75	33.14	0.44	D
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	5.09	51.61	0.86	F	1.95	21.20	0.67	C
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023</b>								
Stream B-C	1.43	18.41	0.59	C	2.90	27.21	0.75	D
Stream B-A	0.38	24.78	0.28	C	0.72	28.73	0.43	D
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	3.18	34.32	0.77	D	1.66	18.47	0.63	C
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023</b>								
Stream B-C	1.58	19.81	0.62	C	3.20	29.45	0.77	D
Stream B-A	0.29	21.74	0.23	C	0.62	27.00	0.39	D
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	3.74	39.75	0.81	E	1.85	20.28	0.66	C
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background 2023</b>								
Stream B-C	1.34	17.25	0.58	C	1.48	16.53	0.60	C
Stream B-A	0.24	17.80	0.19	C	0.45	19.40	0.31	C
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	1.54	20.45	0.61	C	1.61	17.95	0.62	C
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - Forecast Background 2023, AM" model duration: 07:15 - 08:45

"D2 - Forecast Background 2023, PM" model duration: 16:15 - 17:45

"D3 - Forecast Background + EA2 Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D4 - Forecast Background + EA2 Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D5 - Forecast Background + EA2 Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D6 - Forecast Background + EA2 Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

"D7 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D8 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D9 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D10 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 08/07/2019 13:38:29

## File summary

<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Junction of the A12 and A1094
<b>Site Number</b>	J1
<b>Date</b>	24/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

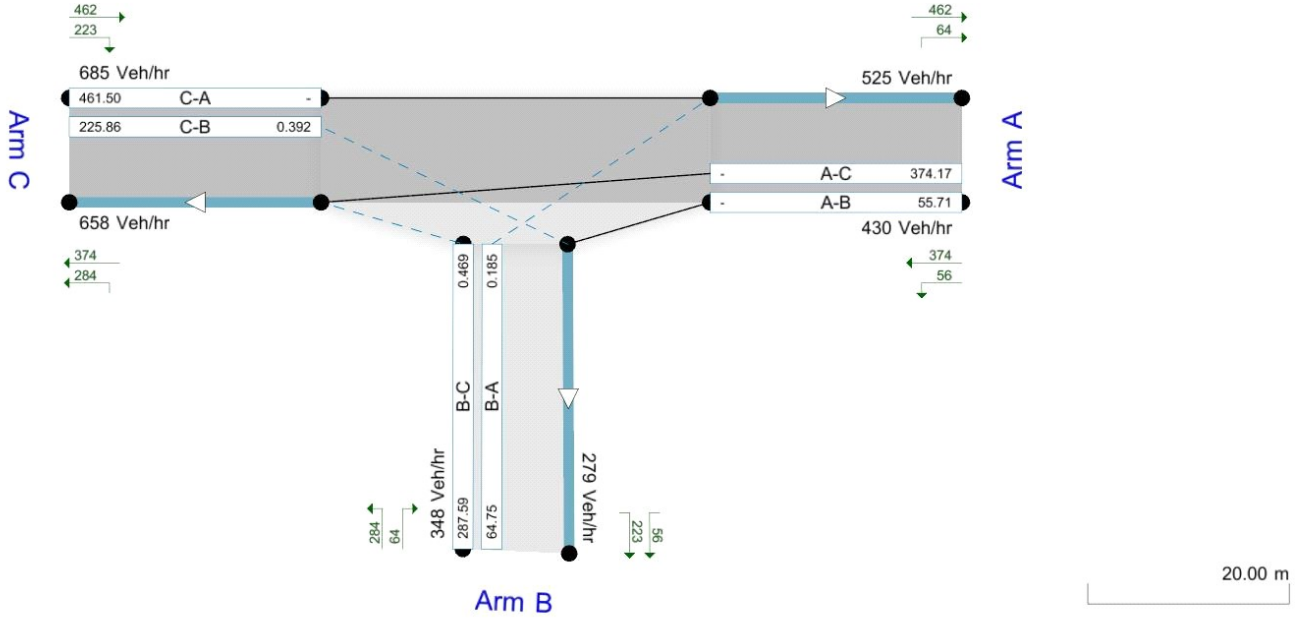
## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## 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





Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:15-07:30)  
Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		18.76	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	619.747	0.088	0.223	0.140	0.319
1	B-C	760.204	0.111	0.282	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	750.00	100.000
B	ONE HOUR	✓	303.00	100.000
C	ONE HOUR	✓	672.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	564.64	589.56		
07:15-07:30	B	228.11	236.14		
07:15-07:30	C	505.92	536.90		
07:30-07:45	A	674.23	703.99		
07:30-07:45	B	272.39	281.97		
07:30-07:45	C	604.11	641.12		
07:45-08:00	A	825.77	862.21		
07:45-08:00	B	333.61	345.35		
07:45-08:00	C	739.89	785.20		
08:00-08:15	A	825.77	862.21		
08:00-08:15	B	333.61	345.35		
08:00-08:15	C	739.89	785.20		
08:15-08:30	A	674.23	703.99		
08:15-08:30	B	272.39	281.97		
08:15-08:30	C	604.11	641.12		
08:30-08:45	A	564.64	589.56		
08:30-08:45	B	228.11	236.14		
08:30-08:45	C	505.92	536.90		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	89.000	661.000
	B	44.000	0.000	259.000
	C	420.000	252.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.15	0.00	0.85
	C	0.63	0.38	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.060	1.042
	B	1.048	1.000	1.033
	C	1.068	1.050	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	6.0	4.2
	B	4.8	0.0	3.3
	C	6.8	5.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.58	17.25	1.34	C	237.66	356.49	76.51	12.88	0.85	76.53	12.88
B-A	0.19	17.80	0.24	C	40.38	60.56	14.05	13.92	0.16	14.06	13.93
C-A	-	-	-	-	385.40	578.10	-	-	-	-	-
C-B	0.61	20.45	1.54	C	231.24	346.86	86.57	14.97	0.96	86.59	14.98
A-B	-	-	-	-	81.67	122.50	-	-	-	-	-
A-C	-	-	-	-	606.55	909.82	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	194.99	48.75	192.96	0.00	573.66	0.340	0.00	0.51	9.408	A
B-A	33.13	8.28	32.73	0.00	367.80	0.090	0.00	0.10	10.733	B
C-A	316.20	79.05	316.20	0.00	-	-	-	-	-	-
C-B	189.72	47.43	187.46	0.00	520.15	0.365	0.00	0.56	10.751	B
A-B	67.00	16.75	67.00	0.00	-	-	-	-	-	-
A-C	497.64	124.41	497.64	0.00	-	-	-	-	-	-

### Main results: (07:30-07:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	232.84	58.21	231.90	0.00	540.73	0.431	0.51	0.74	11.621	B
B-A	39.56	9.89	39.39	0.00	321.34	0.123	0.10	0.14	12.758	B
C-A	377.57	94.39	377.57	0.00	-	-	-	-	-	-
C-B	226.54	56.64	225.47	0.00	491.93	0.461	0.56	0.83	13.453	B
A-B	80.01	20.00	80.01	0.00	-	-	-	-	-	-
A-C	594.23	148.56	594.23	0.00	-	-	-	-	-	-

### Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	285.16	71.29	282.88	0.00	493.71	0.578	0.74	1.31	16.889	C
B-A	48.44	12.11	48.07	0.00	251.95	0.192	0.14	0.23	17.623	C
C-A	462.43	115.61	462.43	0.00	-	-	-	-	-	-
C-B	277.46	69.36	274.78	0.00	452.90	0.613	0.83	1.50	19.909	C
A-B	97.99	24.50	97.99	0.00	-	-	-	-	-	-
A-C	727.77	181.94	727.77	0.00	-	-	-	-	-	-

### Main results: (08:00-08:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	285.16	71.29	285.05	0.00	493.43	0.578	1.31	1.34	17.251	C
B-A	48.44	12.11	48.43	0.00	250.59	0.193	0.23	0.24	17.805	C
C-A	462.43	115.61	462.43	0.00	-	-	-	-	-	-
C-B	277.46	69.36	277.30	0.00	452.90	0.613	1.50	1.54	20.449	C
A-B	97.99	24.50	97.99	0.00	-	-	-	-	-	-
A-C	727.77	181.94	727.77	0.00	-	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	232.84	58.21	235.10	0.00	540.42	0.431	1.34	0.77	11.877	B
B-A	39.56	9.89	39.93	0.00	319.82	0.124	0.24	0.14	12.878	B
C-A	377.57	94.39	377.57	0.00	-	-	-	-	-	-
C-B	226.54	56.64	229.19	0.00	491.93	0.461	1.54	0.88	13.837	B
A-B	80.01	20.00	80.01	0.00	-	-	-	-	-	-
A-C	594.23	148.56	594.23	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	194.99	48.75	195.99	0.00	573.39	0.340	0.77	0.52	9.563	A
B-A	33.13	8.28	33.30	0.00	366.57	0.090	0.14	0.10	10.806	B
C-A	316.20	79.05	316.20	0.00	-	-	-	-	-	-
C-B	189.72	47.43	190.89	0.00	520.15	0.365	0.88	0.58	10.973	B
A-B	67.00	16.75	67.00	0.00	-	-	-	-	-	-
A-C	497.64	124.41	497.64	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (07:15-07:30)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	7.23	0.48	9.408	A	A
B-A	1.40	0.09	10.733	B	B
C-A	-	-	-	-	-
C-B	7.99	0.53	10.751	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (07:30-07:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	10.64	0.71	11.621	B	B
B-A	2.00	0.13	12.758	B	B
C-A	-	-	-	-	-
C-B	11.89	0.79	13.453	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (07:45-08:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	18.32	1.22	16.889	C	B
B-A	3.32	0.22	17.623	C	B
C-A	-	-	-	-	-
C-B	20.72	1.38	19.909	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:00-08:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	19.93	1.33	17.251	C	B
B-A	3.53	0.24	17.805	C	B
C-A	-	-	-	-	-
C-B	22.84	1.52	20.449	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.24	0.82	11.877	B	B
B-A	2.25	0.15	12.878	B	B
C-A	-	-	-	-	-
C-B	13.97	0.93	13.837	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	8.15	0.54	9.563	A	A
B-A	1.56	0.10	10.806	B	B
C-A	-	-	-	-	-
C-B	9.16	0.61	10.973	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		17.49	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	620.970	0.088	0.224	0.141	0.319
1	B-C	758.925	0.111	0.281	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓



# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	556.00	100.000
B	ONE HOUR	✓	375.00	100.000
C	ONE HOUR	✓	913.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	418.59	429.65		
16:15-16:30	B	282.32	283.22		
16:15-16:30	C	687.35	698.61		
16:30-16:45	A	499.83	513.05		
16:30-16:45	B	337.12	338.19		
16:30-16:45	C	820.77	834.21		
16:45-17:00	A	612.17	628.35		
16:45-17:00	B	412.88	414.20		
16:45-17:00	C	1005.23	1021.69		
17:00-17:15	A	612.17	628.35		
17:00-17:15	B	412.88	414.20		
17:00-17:15	C	1005.23	1021.69		
17:15-17:30	A	499.83	513.05		
17:15-17:30	B	337.12	338.19		
17:15-17:30	C	820.77	834.21		
17:30-17:45	A	418.59	429.65		
17:30-17:45	B	282.32	283.22		
17:30-17:45	C	687.35	698.61		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	66.000	490.000
	B	77.000	0.000	298.000
	C	613.000	300.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.21	0.00	0.79
	C	0.67	0.33	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.030
	B	1.000	1.000	1.004
	C	1.019	1.011	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	3.0
	B	0.0	0.0	0.4
	C	1.9	1.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.60	16.53	1.48	C	273.45	410.18	84.17	12.31	0.94	84.18	12.31
B-A	0.31	19.40	0.45	C	70.66	105.98	25.80	14.60	0.29	25.80	14.61
C-A	-	-	-	-	562.50	843.75	-	-	-	-	-
C-B	0.62	17.95	1.61	C	275.29	412.93	92.94	13.50	1.03	92.96	13.51
A-B	-	-	-	-	60.56	90.84	-	-	-	-	-
A-C	-	-	-	-	449.63	674.45	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	224.35	56.09	222.12	0.00	620.11	0.362	0.00	0.56	8.996	A
B-A	57.97	14.49	57.28	0.00	390.99	0.148	0.00	0.17	10.767	B
C-A	461.50	115.37	461.50	0.00	-	-	-	-	-	-
C-B	225.86	56.46	223.36	0.00	581.18	0.389	0.00	0.62	9.994	A
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	368.90	92.22	368.90	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	267.90	66.97	266.88	0.00	590.63	0.454	0.56	0.81	11.084	B
B-A	69.22	17.31	68.91	0.00	343.03	0.202	0.17	0.25	13.118	B
C-A	551.07	137.77	551.07	0.00	-	-	-	-	-	-
C-B	269.69	67.42	268.56	0.00	559.82	0.482	0.62	0.91	12.310	B
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	440.50	110.12	440.50	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	328.10	82.03	325.58	0.00	546.07	0.601	0.81	1.44	16.139	C
B-A	84.78	21.19	84.01	0.00	271.60	0.312	0.25	0.44	19.108	C
C-A	674.93	168.73	674.93	0.00	-	-	-	-	-	-
C-B	330.31	82.58	327.64	0.00	530.28	0.623	0.91	1.57	17.529	C
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	539.50	134.88	539.50	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	328.10	82.03	327.97	0.00	545.44	0.602	1.44	1.48	16.528	C
B-A	84.78	21.19	84.74	0.00	270.18	0.314	0.44	0.45	19.404	C
C-A	674.93	168.73	674.93	0.00	-	-	-	-	-	-
C-B	330.31	82.58	330.16	0.00	530.28	0.623	1.57	1.61	17.952	C
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	539.50	134.88	539.50	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	267.90	66.97	270.40	0.00	589.96	0.454	1.48	0.85	11.350	B
B-A	69.22	17.31	69.98	0.00	341.46	0.203	0.45	0.26	13.296	B
C-A	551.07	137.77	551.07	0.00	-	-	-	-	-	-
C-B	269.69	67.42	272.32	0.00	559.82	0.482	1.61	0.95	12.632	B
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	440.50	110.12	440.50	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	224.35	56.09	225.44	0.00	619.58	0.362	0.85	0.58	9.160	A
B-A	57.97	14.49	58.30	0.00	389.66	0.149	0.26	0.18	10.876	B
C-A	461.50	115.37	461.50	0.00	-	-	-	-	-	-
C-B	225.86	56.46	227.08	0.00	581.18	0.389	0.95	0.65	10.203	B
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	368.90	92.22	368.90	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	7.97	0.53	8.996	A	A
B-A	2.46	0.16	10.767	B	B
C-A	-	-	-	-	-
C-B	8.86	0.59	9.994	A	A
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	11.68	0.78	11.084	B	B
B-A	3.59	0.24	13.118	B	B
C-A	-	-	-	-	-
C-B	12.99	0.87	12.310	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	20.14	1.34	16.139	C	B
B-A	6.23	0.42	19.108	C	B
C-A	-	-	-	-	-
C-B	21.88	1.46	17.529	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	21.94	1.46	16.528	C	B
B-A	6.69	0.45	19.404	C	B
C-A	-	-	-	-	-
C-B	23.94	1.60	17.952	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	13.45	0.90	11.350	B	B
B-A	4.07	0.27	13.296	B	B
C-A	-	-	-	-	-
C-B	15.14	1.01	12.632	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (17:30-17:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	8.98	0.60	9.160	A	A
B-A	2.75	0.18	10.876	B	B
C-A	-	-	-	-	-
C-B	10.11	0.67	10.203	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

# Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, AM

**Data Errors and Warnings**
*No errors or warnings*
**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(S)) 2023, AM	Forecast Background + EA1N Construction (A12(S)) 2023	AM	100% of HGVs distributed from the A12 South	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

**Junctions**

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		30.17	D

**Junction Network Options**

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	619.747	0.088	0.223	0.140	0.319
1	B-C	760.204	0.111	0.282	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	753.00	100.000
B	ONE HOUR	✓	311.00	100.000
C	ONE HOUR	✓	755.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	566.90	593.91		
07:15-07:30	B	234.14	247.99		
07:15-07:30	C	568.40	607.44		
07:30-07:45	A	676.93	709.19		
07:30-07:45	B	279.58	296.12		
07:30-07:45	C	678.73	725.35		
07:45-08:00	A	829.07	868.58		
07:45-08:00	B	342.42	362.68		
07:45-08:00	C	831.27	888.36		
08:00-08:15	A	829.07	868.58		
08:00-08:15	B	342.42	362.68		
08:00-08:15	C	831.27	888.36		
08:15-08:30	A	676.93	709.19		
08:15-08:30	B	279.58	296.12		
08:15-08:30	C	678.73	725.35		
08:30-08:45	A	566.90	593.91		
08:30-08:45	B	234.14	247.99		
08:30-08:45	C	568.40	607.44		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	89.000	664.000
	B	44.000	0.000	267.000
	C	429.000	326.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.14	0.00	0.86
	C	0.57	0.43	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.060	1.046
	B	1.048	1.000	1.061
	C	1.073	1.063	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	6.0	4.6
	B	4.8	0.0	6.1
	C	7.3	6.3	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.62	19.81	1.58	C	245.00	367.51	87.18	14.23	0.97	87.20	14.24
B-A	0.23	21.74	0.29	C	40.38	60.56	16.11	15.96	0.18	16.11	15.96
C-A	-	-	-	-	393.66	590.49	-	-	-	-	-
C-B	0.81	39.75	3.74	E	299.14	448.71	173.25	23.17	1.93	173.30	23.17
A-B	-	-	-	-	81.67	122.50	-	-	-	-	-
A-C	-	-	-	-	609.30	913.95	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	201.01	50.25	198.79	0.00	556.62	0.361	0.00	0.56	10.000	A
B-A	33.13	8.28	32.71	0.00	346.40	0.096	0.00	0.10	11.461	B
C-A	322.97	80.74	322.97	0.00	-	-	-	-	-	-
C-B	245.43	61.36	241.86	0.00	512.73	0.479	0.00	0.89	13.127	B
A-B	67.00	16.75	67.00	0.00	-	-	-	-	-	-
A-C	499.89	124.97	499.89	0.00	-	-	-	-	-	-



**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	240.03	60.01	238.95	0.00	523.67	0.458	0.56	0.83	12.594	B
B-A	39.56	9.89	39.36	0.00	294.67	0.134	0.10	0.15	14.091	B
C-A	385.66	96.42	385.66	0.00	-	-	-	-	-	-
C-B	293.07	73.27	290.80	0.00	484.64	0.605	0.89	1.46	18.348	C
A-B	80.01	20.00	80.01	0.00	-	-	-	-	-	-
A-C	596.92	149.23	596.92	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	293.97	73.49	291.13	0.00	475.67	0.618	0.83	1.54	19.210	C
B-A	48.44	12.11	47.94	0.00	217.15	0.223	0.15	0.28	21.210	C
C-A	472.34	118.08	472.34	0.00	-	-	-	-	-	-
C-B	358.93	89.73	350.92	0.00	445.81	0.805	1.46	3.46	35.249	E
A-B	97.99	24.50	97.99	0.00	-	-	-	-	-	-
A-C	731.08	182.77	731.08	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	293.97	73.49	293.80	0.00	475.06	0.619	1.54	1.58	19.811	C
B-A	48.44	12.11	48.41	0.00	213.92	0.226	0.28	0.29	21.741	C
C-A	472.34	118.08	472.34	0.00	-	-	-	-	-	-
C-B	358.93	89.73	357.83	0.00	445.81	0.805	3.46	3.74	39.751	E
A-B	97.99	24.50	97.99	0.00	-	-	-	-	-	-
A-C	731.08	182.77	731.08	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	240.03	60.01	242.86	0.00	523.10	0.459	1.58	0.87	12.970	B
B-A	39.56	9.89	40.06	0.00	290.60	0.136	0.29	0.16	14.396	B
C-A	385.66	96.42	385.66	0.00	-	-	-	-	-	-
C-B	293.07	73.27	301.59	0.00	484.64	0.605	3.74	1.61	20.483	C
A-B	80.01	20.00	80.01	0.00	-	-	-	-	-	-
A-C	596.92	149.23	596.92	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	201.01	50.25	202.19	0.00	556.27	0.361	0.87	0.58	10.202	B
B-A	33.13	8.28	33.34	0.00	344.17	0.096	0.16	0.11	11.591	B
C-A	322.97	80.74	322.97	0.00	-	-	-	-	-	-
C-B	245.43	61.36	248.08	0.00	512.73	0.479	1.61	0.94	13.734	B
A-B	67.00	16.75	67.00	0.00	-	-	-	-	-	-
A-C	499.89	124.97	499.89	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	7.90	0.53	10.000	A	A
B-A	1.49	0.10	11.461	B	B
C-A	-	-	-	-	-
C-B	12.45	0.83	13.127	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	11.82	0.79	12.594	B	B
B-A	2.20	0.15	14.091	B	B
C-A	-	-	-	-	-
C-B	20.35	1.36	18.348	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	21.20	1.41	19.210	C	B
B-A	3.94	0.26	21.210	C	C
C-A	-	-	-	-	-
C-B	44.02	2.93	35.249	E	D
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	23.42	1.56	19.811	C	B
B-A	4.27	0.28	21.741	C	C
C-A	-	-	-	-	-
C-B	54.35	3.62	39.751	E	D
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	13.84	0.92	12.970	B	B
B-A	2.53	0.17	14.396	B	B
C-A	-	-	-	-	-
C-B	27.06	1.80	20.483	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	9.00	0.60	10.202	B	B
B-A	1.68	0.11	11.591	B	B
C-A	-	-	-	-	-
C-B	15.03	1.00	13.734	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(S)) 2023, PM	Forecast Background + EA1N Construction (A12(S)) 2023	PM	100% of HGVs distributed from the A12 South	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		25.45	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	619.747	0.088	0.223	0.140	0.319
1	B-C	760.204	0.111	0.282	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	565.00	100.000
B	ONE HOUR	✓	449.00	100.000
C	ONE HOUR	✓	923.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	425.36	438.51		
16:15-16:30	B	338.03	344.75		
16:15-16:30	C	694.88	713.64		
16:30-16:45	A	507.92	523.62		
16:30-16:45	B	403.64	411.67		
16:30-16:45	C	829.76	852.15		
16:45-17:00	A	622.08	641.31		
16:45-17:00	B	494.36	504.19		
16:45-17:00	C	1016.24	1043.67		
17:00-17:15	A	622.08	641.31		
17:00-17:15	B	494.36	504.19		
17:00-17:15	C	1016.24	1043.67		
17:15-17:30	A	507.92	523.62		
17:15-17:30	B	403.64	411.67		
17:15-17:30	C	829.76	852.15		
17:30-17:45	A	425.36	438.51		
17:30-17:45	B	338.03	344.75		
17:30-17:45	C	694.88	713.64		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	66.000	499.000
	B	77.000	0.000	372.000
	C	616.000	307.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.17	0.00	0.83
	C	0.67	0.33	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.035
	B	1.000	1.000	1.024
	C	1.023	1.035	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	3.5
	B	0.0	0.0	2.4
	C	2.3	3.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.77	29.45	3.20	D	341.35	512.03	154.40	18.09	1.72	154.44	18.10
B-A	0.39	27.00	0.62	D	70.66	105.98	30.97	17.53	0.34	30.97	17.53
C-A	-	-	-	-	565.25	847.88	-	-	-	-	-
C-B	0.66	20.28	1.85	C	281.71	422.56	104.15	14.79	1.16	104.17	14.79
A-B	-	-	-	-	60.56	90.84	-	-	-	-	-
A-C	-	-	-	-	457.89	686.84	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	280.06	70.02	276.70	0.00	606.22	0.462	0.00	0.84	10.819	B
B-A	57.97	14.49	57.26	0.00	379.76	0.153	0.00	0.18	11.138	B
C-A	463.76	115.94	463.76	0.00	-	-	-	-	-	-
C-B	231.13	57.78	228.42	0.00	565.49	0.409	0.00	0.68	10.597	B
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	375.67	93.92	375.67	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	334.42	83.61	332.45	0.00	576.40	0.580	0.84	1.33	14.634	B
B-A	69.22	17.31	68.86	0.00	322.81	0.214	0.18	0.27	14.156	B
C-A	553.77	138.44	553.77	0.00	-	-	-	-	-	-
C-B	275.99	69.00	274.69	0.00	544.19	0.507	0.68	1.00	13.290	B
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	448.59	112.15	448.59	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	409.58	102.39	402.87	0.00	530.36	0.772	1.33	3.01	26.904	D
B-A	84.78	21.19	83.51	0.00	223.37	0.380	0.27	0.59	25.513	D
C-A	678.23	169.56	678.23	0.00	-	-	-	-	-	-
C-B	338.01	84.50	334.80	0.00	514.74	0.657	1.00	1.80	19.651	C
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	549.41	137.35	549.41	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	409.58	102.39	408.84	0.00	529.26	0.774	3.01	3.20	29.449	D
B-A	84.78	21.19	84.65	0.00	217.75	0.389	0.59	0.62	26.996	D
C-A	678.23	169.56	678.23	0.00	-	-	-	-	-	-
C-B	338.01	84.50	337.81	0.00	514.74	0.657	1.80	1.85	20.282	C
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	549.41	137.35	549.41	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	334.42	83.61	341.44	0.00	575.39	0.581	3.20	1.44	15.816	C
B-A	69.22	17.31	70.56	0.00	318.77	0.217	0.62	0.28	14.577	B
C-A	553.77	138.44	553.77	0.00	-	-	-	-	-	-
C-B	275.99	69.00	279.17	0.00	544.19	0.507	1.85	1.06	13.740	B
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	448.59	112.15	448.59	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	280.06	70.02	282.31	0.00	605.66	0.462	1.44	0.88	11.208	B
B-A	57.97	14.49	58.37	0.00	377.72	0.153	0.28	0.18	11.288	B
C-A	463.76	115.94	463.76	0.00	-	-	-	-	-	-
C-B	231.13	57.78	232.54	0.00	565.49	0.409	1.06	0.70	10.857	B
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	375.67	93.92	375.67	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	11.83	0.79	10.819	B	B
B-A	2.54	0.17	11.138	B	B
C-A	-	-	-	-	-
C-B	9.59	0.64	10.597	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	18.81	1.25	14.634	B	B
B-A	3.86	0.26	14.156	B	B
C-A	-	-	-	-	-
C-B	14.28	0.95	13.290	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	39.40	2.63	26.904	D	C
B-A	8.10	0.54	25.513	D	C
C-A	-	-	-	-	-
C-B	24.81	1.65	19.651	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	46.82	3.12	29.449	D	C
B-A	9.10	0.61	26.996	D	C
C-A	-	-	-	-	-
C-B	27.51	1.83	20.282	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	23.67	1.58	15.816	C	B
B-A	4.51	0.30	14.577	B	B
C-A	-	-	-	-	-
C-B	16.91	1.13	13.740	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-



### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	13.88	0.93	11.208	B	B
B-A	2.87	0.19	11.288	B	B
C-A	-	-	-	-	-
C-B	11.05	0.74	10.857	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(N)) 2023, AM	Forecast Background + EA1N Construction (A12(N)) 2023	AM	100% of HGVs distributed from the A12 North	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		27.00	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	619.747	0.088	0.223	0.140	0.319
1	B-C	760.204	0.111	0.282	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	757.00	100.000
B	ONE HOUR	✓	310.00	100.000
C	ONE HOUR	✓	745.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	569.91	599.92		
07:15-07:30	B	233.38	246.46		
07:15-07:30	C	560.88	591.97		
07:30-07:45	A	680.53	716.36		
07:30-07:45	B	278.68	294.30		
07:30-07:45	C	669.74	706.87		
07:45-08:00	A	833.47	877.36		
07:45-08:00	B	341.32	360.44		
07:45-08:00	C	820.26	865.73		
08:00-08:15	A	833.47	877.36		
08:00-08:15	B	341.32	360.44		
08:00-08:15	C	820.26	865.73		
08:15-08:30	A	680.53	716.36		
08:15-08:30	B	278.68	294.30		
08:15-08:30	C	669.74	706.87		
08:30-08:45	A	569.91	599.92		
08:30-08:45	B	233.38	246.46		
08:30-08:45	C	560.88	591.97		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	96.000	661.000
	B	51.000	0.000	259.000
	C	426.000	319.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.16	0.00	0.84
	C	0.57	0.43	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.126	1.042
	B	1.173	1.000	1.033
	C	1.067	1.040	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	12.6	4.2
	B	17.3	0.0	3.3
	C	6.7	4.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.59	18.41	1.43	C	237.66	356.49	79.68	13.41	0.89	79.70	13.41
B-A	0.28	24.78	0.38	C	46.80	70.20	21.22	18.14	0.24	21.22	18.14
C-A	-	-	-	-	390.91	586.36	-	-	-	-	-
C-B	0.77	34.32	3.18	D	292.72	439.08	153.44	20.97	1.70	153.48	20.97
A-B	-	-	-	-	88.09	132.14	-	-	-	-	-
A-C	-	-	-	-	606.55	909.82	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	194.99	48.75	192.93	0.00	567.82	0.343	0.00	0.51	9.551	A
B-A	38.40	9.60	37.85	0.00	313.66	0.122	0.00	0.14	13.022	B
C-A	320.72	80.18	320.72	0.00	-	-	-	-	-	-
C-B	240.16	60.04	236.84	0.00	522.57	0.460	0.00	0.83	12.462	B
A-B	72.27	18.07	72.27	0.00	-	-	-	-	-	-
A-C	497.64	124.41	497.64	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	232.84	58.21	231.86	0.00	532.71	0.437	0.51	0.76	11.926	B
B-A	45.85	11.46	45.59	0.00	269.14	0.170	0.14	0.20	16.091	C
C-A	382.97	95.74	382.97	0.00	-	-	-	-	-	-
C-B	286.77	71.69	284.77	0.00	493.58	0.581	0.83	1.33	17.070	C
A-B	86.30	21.58	86.30	0.00	-	-	-	-	-	-
A-C	594.23	148.56	594.23	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	285.16	71.29	282.64	0.00	480.96	0.593	0.76	1.39	17.923	C
B-A	56.15	14.04	55.49	0.00	203.55	0.276	0.20	0.37	24.202	C
C-A	469.03	117.26	469.03	0.00	-	-	-	-	-	-
C-B	351.23	87.81	344.57	0.00	453.48	0.775	1.33	2.99	31.269	D
A-B	105.70	26.42	105.70	0.00	-	-	-	-	-	-
A-C	727.77	181.94	727.77	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	285.16	71.29	285.02	0.00	480.16	0.594	1.39	1.43	18.413	C
B-A	56.15	14.04	56.11	0.00	201.25	0.279	0.37	0.38	24.784	C
C-A	469.03	117.26	469.03	0.00	-	-	-	-	-	-
C-B	351.23	87.81	350.47	0.00	453.48	0.775	2.99	3.18	34.319	D
A-B	105.70	26.42	105.70	0.00	-	-	-	-	-	-
A-C	727.77	181.94	727.77	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	232.84	58.21	235.36	0.00	531.96	0.438	1.43	0.80	12.236	B
B-A	45.85	11.46	46.51	0.00	266.25	0.172	0.38	0.21	16.431	C
C-A	382.97	95.74	382.97	0.00	-	-	-	-	-	-
C-B	286.77	71.69	293.71	0.00	493.58	0.581	3.18	1.45	18.583	C
A-B	86.30	21.58	86.30	0.00	-	-	-	-	-	-
A-C	594.23	148.56	594.23	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	194.99	48.75	196.05	0.00	567.33	0.344	0.80	0.53	9.723	A
B-A	38.40	9.60	38.67	0.00	311.93	0.123	0.21	0.14	13.189	B
C-A	320.72	80.18	320.72	0.00	-	-	-	-	-	-
C-B	240.16	60.04	242.46	0.00	522.57	0.460	1.45	0.87	12.954	B
A-B	72.27	18.07	72.27	0.00	-	-	-	-	-	-
A-C	497.64	124.41	497.64	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	7.34	0.49	9.551	A	A
B-A	1.95	0.13	13.022	B	B
C-A	-	-	-	-	-
C-B	11.60	0.77	12.462	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	10.90	0.73	11.926	B	B
B-A	2.89	0.19	16.091	C	B
C-A	-	-	-	-	-
C-B	18.65	1.24	17.070	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	19.33	1.29	17.923	C	B
B-A	5.16	0.34	24.202	C	C
C-A	-	-	-	-	-
C-B	38.81	2.59	31.269	D	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	21.19	1.41	18.413	C	B
B-A	5.62	0.37	24.784	C	C
C-A	-	-	-	-	-
C-B	46.57	3.10	34.319	D	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.63	0.84	12.236	B	B
B-A	3.37	0.22	16.431	C	B
C-A	-	-	-	-	-
C-B	23.96	1.60	18.583	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	8.30	0.55	9.723	A	A
B-A	2.23	0.15	13.189	B	B
C-A	-	-	-	-	-
C-B	13.83	0.92	12.954	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(N)) 2023, PM	Forecast Background + EA1N Construction (A12(N)) 2023	PM	100% of HGVs distributed from the A12 North	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		23.90	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	620.548	0.088	0.223	0.141	0.319
1	B-C	759.367	0.111	0.281	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓



# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	569.00	100.000
B	ONE HOUR	✓	448.00	100.000
C	ONE HOUR	✓	913.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	428.37	444.64		
16:15-16:30	B	337.28	343.16		
16:15-16:30	C	687.35	698.61		
16:30-16:45	A	511.52	530.94		
16:30-16:45	B	402.74	409.77		
16:30-16:45	C	820.77	834.21		
16:45-17:00	A	626.48	650.27		
16:45-17:00	B	493.26	501.86		
16:45-17:00	C	1005.23	1021.69		
17:00-17:15	A	626.48	650.27		
17:00-17:15	B	493.26	501.86		
17:00-17:15	C	1005.23	1021.69		
17:15-17:30	A	511.52	530.94		
17:15-17:30	B	402.74	409.77		
17:15-17:30	C	820.77	834.21		
17:30-17:45	A	428.37	444.64		
17:30-17:45	B	337.28	343.16		
17:30-17:45	C	687.35	698.61		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	72.000	497.000
	B	84.000	0.000	364.000
	C	613.000	300.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.19	0.00	0.81
	C	0.67	0.33	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.093	1.030
	B	1.080	1.000	1.003
	C	1.019	1.011	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	9.3	3.0
	B	8.0	0.0	0.3
	C	1.9	1.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.75	27.21	2.90	D	334.01	501.02	142.35	17.05	1.58	142.38	17.05
B-A	0.43	28.73	0.72	D	77.08	115.62	36.38	18.88	0.40	36.38	18.88
C-A	-	-	-	-	562.50	843.75	-	-	-	-	-
C-B	0.63	18.47	1.66	C	275.29	412.93	94.79	13.77	1.05	94.81	13.78
A-B	-	-	-	-	66.07	99.10	-	-	-	-	-
A-C	-	-	-	-	456.06	684.08	-	-	-	-	-

### Main Results for each time segment

#### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	274.04	68.51	270.88	0.00	614.11	0.446	0.00	0.79	10.397	B
B-A	63.24	15.81	62.39	0.00	357.12	0.177	0.00	0.21	12.182	B
C-A	461.50	115.37	461.50	0.00	-	-	-	-	-	-
C-B	225.86	56.46	223.33	0.00	577.34	0.391	0.00	0.63	10.099	B
A-B	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-C	374.17	93.54	374.17	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	327.23	81.81	325.42	0.00	582.32	0.562	0.79	1.24	13.913	B
B-A	75.51	18.88	75.08	0.00	307.16	0.246	0.21	0.32	15.482	C
C-A	551.07	137.77	551.07	0.00	-	-	-	-	-	-
C-B	269.69	67.42	268.53	0.00	555.23	0.486	0.63	0.92	12.503	B
A-B	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-C	446.79	111.70	446.79	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	400.77	100.19	394.75	0.00	532.35	0.753	1.24	2.75	25.111	D
B-A	92.49	23.12	91.03	0.00	221.50	0.418	0.32	0.68	27.296	D
C-A	674.93	168.73	674.93	0.00	-	-	-	-	-	-
C-B	330.31	82.58	327.52	0.00	524.67	0.630	0.92	1.62	18.002	C
A-B	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-C	547.21	136.80	547.21	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	400.77	100.19	400.16	0.00	530.97	0.755	2.75	2.90	27.205	D
B-A	92.49	23.12	92.35	0.00	217.37	0.425	0.68	0.72	28.731	D
C-A	674.93	168.73	674.93	0.00	-	-	-	-	-	-
C-B	330.31	82.58	330.15	0.00	524.67	0.630	1.62	1.66	18.465	C
A-B	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-C	547.21	136.80	547.21	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	327.23	81.81	333.50	0.00	581.08	0.563	2.90	1.33	14.883	B
B-A	75.51	18.88	77.03	0.00	304.26	0.248	0.72	0.34	15.945	C
C-A	551.07	137.77	551.07	0.00	-	-	-	-	-	-
C-B	269.69	67.42	272.44	0.00	555.23	0.486	1.66	0.97	12.851	B
A-B	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-C	446.79	111.70	446.79	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	274.04	68.51	276.08	0.00	613.38	0.447	1.33	0.82	10.735	B
B-A	63.24	15.81	63.71	0.00	355.54	0.178	0.34	0.22	12.357	B
C-A	461.50	115.37	461.50	0.00	-	-	-	-	-	-
C-B	225.86	56.46	227.12	0.00	577.34	0.391	0.97	0.65	10.315	B
A-B	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-C	374.17	93.54	374.17	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	11.15	0.74	10.397	B	B
B-A	3.01	0.20	12.182	B	B
C-A	-	-	-	-	-
C-B	8.95	0.60	10.099	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	17.57	1.17	13.913	B	B
B-A	4.58	0.31	15.482	C	B
C-A	-	-	-	-	-
C-B	13.18	0.88	12.503	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	36.31	2.42	25.111	D	C
B-A	9.39	0.63	27.296	D	C
C-A	-	-	-	-	-
C-B	22.42	1.49	18.002	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	42.59	2.84	27.205	D	C
B-A	10.56	0.70	28.731	D	C
C-A	-	-	-	-	-
C-B	24.60	1.64	18.465	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	21.75	1.45	14.883	B	B
B-A	5.40	0.36	15.945	C	B
C-A	-	-	-	-	-
C-B	15.41	1.03	12.851	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.98	0.87	10.735	B	B
B-A	3.44	0.23	12.357	B	B
C-A	-	-	-	-	-
C-B	10.23	0.68	10.315	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM	Forecast Background + EA2 + EA1N Construction (A12(S)) 2023	AM	100% of HGVs distributed from the A12 South	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		37.08	E

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	619.747	0.088	0.223	0.140	0.319
1	B-C	760.204	0.111	0.282	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	754.00	100.000
B	ONE HOUR	✓	313.00	100.000
C	ONE HOUR	✓	776.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	567.65	595.20		
07:15-07:30	B	235.64	251.21		
07:15-07:30	C	584.21	625.69		
07:30-07:45	A	677.83	710.73		
07:30-07:45	B	281.38	299.97		
07:30-07:45	C	697.61	747.13		
07:45-08:00	A	830.17	870.46		
07:45-08:00	B	344.62	367.38		
07:45-08:00	C	854.39	915.04		
08:00-08:15	A	830.17	870.46		
08:00-08:15	B	344.62	367.38		
08:00-08:15	C	854.39	915.04		
08:15-08:30	A	677.83	710.73		
08:15-08:30	B	281.38	299.97		
08:15-08:30	C	697.61	747.13		
08:30-08:45	A	567.65	595.20		
08:30-08:45	B	235.64	251.21		
08:30-08:45	C	584.21	625.69		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	89.000	665.000
	B	44.000	0.000	269.000
	C	430.000	346.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.14	0.00	0.86
	C	0.55	0.45	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.060	1.047
	B	1.048	1.000	1.069
	C	1.075	1.066	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	6.0	4.7
	B	4.8	0.0	6.9
	C	7.5	6.6	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.63	20.66	1.66	C	246.84	370.26	90.45	14.66	1.01	90.47	14.66
B-A	0.24	23.21	0.31	C	40.38	60.56	16.81	16.65	0.19	16.81	16.66
C-A	-	-	-	-	394.58	591.86	-	-	-	-	-
C-B	0.86	51.61	5.09	F	317.50	476.24	216.91	27.33	2.41	216.97	27.34
A-B	-	-	-	-	81.67	122.50	-	-	-	-	-
A-C	-	-	-	-	610.22	915.32	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	202.52	50.63	200.24	0.00	551.90	0.367	0.00	0.57	10.174	B
B-A	33.13	8.28	32.70	0.00	340.66	0.097	0.00	0.11	11.676	B
C-A	323.73	80.93	323.73	0.00	-	-	-	-	-	-
C-B	260.49	65.12	256.46	0.00	510.97	0.510	0.00	1.01	13.935	B
A-B	67.00	16.75	67.00	0.00	-	-	-	-	-	-
A-C	500.65	125.16	500.65	0.00	-	-	-	-	-	-



**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	241.83	60.46	240.70	0.00	518.93	0.466	0.57	0.85	12.884	B
B-A	39.56	9.89	39.35	0.00	287.46	0.138	0.11	0.16	14.498	B
C-A	386.56	96.64	386.56	0.00	-	-	-	-	-	-
C-B	311.05	77.76	308.24	0.00	482.91	0.644	1.01	1.71	20.275	C
A-B	80.01	20.00	80.01	0.00	-	-	-	-	-	-
A-C	597.82	149.46	597.82	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	296.17	74.04	293.15	0.00	470.55	0.629	0.85	1.61	19.953	C
B-A	48.44	12.11	47.89	0.00	207.70	0.233	0.16	0.29	22.450	C
C-A	473.44	118.36	473.44	0.00	-	-	-	-	-	-
C-B	380.95	95.24	369.62	0.00	444.10	0.858	1.71	4.54	42.932	E
A-B	97.99	24.50	97.99	0.00	-	-	-	-	-	-
A-C	732.18	183.04	732.18	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	296.17	74.04	295.98	0.00	469.71	0.631	1.61	1.66	20.662	C
B-A	48.44	12.11	48.40	0.00	203.39	0.238	0.29	0.31	23.214	C
C-A	473.44	118.36	473.44	0.00	-	-	-	-	-	-
C-B	380.95	95.24	378.77	0.00	444.10	0.858	4.54	5.09	51.609	F
A-B	97.99	24.50	97.99	0.00	-	-	-	-	-	-
A-C	732.18	183.04	732.18	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	241.83	60.46	244.85	0.00	518.20	0.467	1.66	0.90	13.312	B
B-A	39.56	9.89	40.11	0.00	281.77	0.140	0.31	0.17	14.932	B
C-A	386.56	96.64	386.56	0.00	-	-	-	-	-	-
C-B	311.05	77.76	323.69	0.00	482.91	0.644	5.08	1.92	24.145	C
A-B	80.01	20.00	80.01	0.00	-	-	-	-	-	-
A-C	597.82	149.46	597.82	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	202.52	50.63	203.75	0.00	551.52	0.367	0.90	0.59	10.389	B
B-A	33.13	8.28	33.35	0.00	338.00	0.098	0.17	0.11	11.827	B
C-A	323.73	80.93	323.73	0.00	-	-	-	-	-	-
C-B	260.49	65.12	263.89	0.00	510.97	0.510	1.92	1.07	14.764	B
A-B	67.00	16.75	67.00	0.00	-	-	-	-	-	-
A-C	500.65	125.16	500.65	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	8.09	0.54	10.174	B	B
B-A	1.52	0.10	11.676	B	B
C-A	-	-	-	-	-
C-B	13.96	0.93	13.935	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.17	0.81	12.884	B	B
B-A	2.26	0.15	14.498	B	B
C-A	-	-	-	-	-
C-B	23.59	1.57	20.275	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	22.10	1.47	19.953	C	B
B-A	4.15	0.28	22.450	C	C
C-A	-	-	-	-	-
C-B	55.43	3.70	42.932	E	D
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	24.54	1.64	20.662	C	C
B-A	4.53	0.30	23.214	C	C
C-A	-	-	-	-	-
C-B	72.83	4.86	51.609	F	D
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	14.32	0.95	13.312	B	B
B-A	2.63	0.18	14.932	B	B
C-A	-	-	-	-	-
C-B	33.91	2.26	24.145	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	9.24	0.62	10.389	B	B
B-A	1.72	0.11	11.827	B	B
C-A	-	-	-	-	-
C-B	17.19	1.15	14.764	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM	Forecast Background + EA2 + EA1N Construction (A12(S)) 2023	PM	100% of HGVs distributed from the A12 South	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		30.10	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	619.747	0.088	0.223	0.140	0.319
1	B-C	760.204	0.111	0.282	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	566.00	100.000
B	ONE HOUR	✓	469.00	100.000
C	ONE HOUR	✓	927.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	426.11	440.04		
16:15-16:30	B	353.09	361.35		
16:15-16:30	C	697.89	719.54		
16:30-16:45	A	508.82	525.45		
16:30-16:45	B	421.62	431.49		
16:30-16:45	C	833.35	859.20		
16:45-17:00	A	623.18	643.55		
16:45-17:00	B	516.38	528.46		
16:45-17:00	C	1020.65	1052.31		
17:00-17:15	A	623.18	643.55		
17:00-17:15	B	516.38	528.46		
17:00-17:15	C	1020.65	1052.31		
17:15-17:30	A	508.82	525.45		
17:15-17:30	B	421.62	431.49		
17:15-17:30	C	833.35	859.20		
17:30-17:45	A	426.11	440.04		
17:30-17:45	B	353.09	361.35		
17:30-17:45	C	697.89	719.54		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	66.000	500.000
	B	77.000	0.000	392.000
	C	617.000	310.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.16	0.00	0.84
	C	0.67	0.33	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.037
	B	1.000	1.000	1.028
	C	1.025	1.043	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	3.7
	B	0.0	0.0	2.8
	C	2.5	4.3	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.82	36.65	4.14	E	359.71	539.56	186.70	20.76	2.07	186.75	20.77
B-A	0.44	33.14	0.75	D	70.66	105.98	34.49	19.53	0.38	34.50	19.53
C-A	-	-	-	-	566.17	849.26	-	-	-	-	-
C-B	0.67	21.20	1.95	C	284.46	426.69	108.63	15.28	1.21	108.66	15.28
A-B	-	-	-	-	60.56	90.84	-	-	-	-	-
A-C	-	-	-	-	458.81	688.21	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	295.12	73.78	291.38	0.00	603.33	0.489	0.00	0.93	11.410	B
B-A	57.97	14.49	57.25	0.00	375.71	0.154	0.00	0.18	11.280	B
C-A	464.51	116.13	464.51	0.00	-	-	-	-	-	-
C-B	233.38	58.35	230.59	0.00	560.77	0.416	0.00	0.70	10.815	B
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	376.43	94.11	376.43	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	352.40	88.10	350.02	0.00	573.41	0.615	0.93	1.53	15.940	C
B-A	69.22	17.31	68.83	0.00	314.60	0.220	0.18	0.28	14.624	B
C-A	554.67	138.67	554.67	0.00	-	-	-	-	-	-
C-B	278.68	69.67	277.33	0.00	539.56	0.517	0.70	1.04	13.653	B
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	449.49	112.37	449.49	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	431.60	107.90	422.50	0.00	526.86	0.819	1.53	3.80	32.000	D
B-A	84.78	21.19	83.14	0.00	201.88	0.420	0.28	0.69	29.922	D
C-A	679.33	169.83	679.33	0.00	-	-	-	-	-	-
C-B	341.32	85.33	337.88	0.00	510.24	0.669	1.04	1.90	20.474	C
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	550.51	137.63	550.51	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	431.60	107.90	430.25	0.00	525.44	0.821	3.80	4.14	36.655	E
B-A	84.78	21.19	84.51	0.00	192.69	0.440	0.69	0.75	33.144	D
C-A	679.33	169.83	679.33	0.00	-	-	-	-	-	-
C-B	341.32	85.33	341.09	0.00	510.24	0.669	1.90	1.95	21.202	C
A-B	72.67	18.17	72.67	0.00	-	-	-	-	-	-
A-C	550.51	137.63	550.51	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	352.40	88.10	362.25	0.00	572.11	0.616	4.14	1.68	17.881	C
B-A	69.22	17.31	71.05	0.00	308.50	0.224	0.75	0.30	15.270	C
C-A	554.67	138.67	554.67	0.00	-	-	-	-	-	-
C-B	278.68	69.67	282.10	0.00	539.56	0.517	1.95	1.10	14.159	B
A-B	59.33	14.83	59.33	0.00	-	-	-	-	-	-
A-C	449.49	112.37	449.49	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	295.12	73.78	297.89	0.00	602.74	0.490	1.68	0.98	11.913	B
B-A	57.97	14.49	58.41	0.00	373.28	0.155	0.30	0.19	11.447	B
C-A	464.51	116.13	464.51	0.00	-	-	-	-	-	-
C-B	233.38	58.35	234.88	0.00	560.77	0.416	1.10	0.73	11.096	B
A-B	49.69	12.42	49.69	0.00	-	-	-	-	-	-
A-C	376.43	94.11	376.43	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	13.10	0.87	11.410	B	B
B-A	2.57	0.17	11.280	B	B
C-A	-	-	-	-	-
C-B	9.87	0.66	10.815	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	21.40	1.43	15.940	C	B
B-A	3.98	0.27	14.624	B	B
C-A	-	-	-	-	-
C-B	14.78	0.99	13.653	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	48.26	3.22	32.000	D	C
B-A	9.34	0.62	29.922	D	C
C-A	-	-	-	-	-
C-B	25.99	1.73	20.474	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	60.04	4.00	36.655	E	D
B-A	10.95	0.73	33.144	D	C
C-A	-	-	-	-	-
C-B	28.97	1.93	21.202	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	28.30	1.89	17.881	C	B
B-A	4.75	0.32	15.270	C	B
C-A	-	-	-	-	-
C-B	17.62	1.17	14.159	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-



### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	15.59	1.04	11.913	B	B
B-A	2.91	0.19	11.447	B	B
C-A	-	-	-	-	-
C-B	11.42	0.76	11.096	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM	Forecast Background + EA2 + EA1N Construction (A12(N)) 2023	AM	100% of HGVs distributed from the A12 North	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		30.97	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	620.027	0.088	0.223	0.140	0.319
1	B-C	759.911	0.111	0.282	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	758.00	100.000
B	ONE HOUR	✓	312.00	100.000
C	ONE HOUR	✓	762.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	570.66	601.86		
07:15-07:30	B	234.89	249.30		
07:15-07:30	C	573.67	604.77		
07:30-07:45	A	681.43	718.68		
07:30-07:45	B	280.48	297.69		
07:30-07:45	C	685.02	722.16		
07:45-08:00	A	834.57	880.20		
07:45-08:00	B	343.52	364.60		
07:45-08:00	C	838.98	884.46		
08:00-08:15	A	834.57	880.20		
08:00-08:15	B	343.52	364.60		
08:00-08:15	C	838.98	884.46		
08:15-08:30	A	681.43	718.68		
08:15-08:30	B	280.48	297.69		
08:15-08:30	C	685.02	722.16		
08:30-08:45	A	570.66	601.86		
08:30-08:45	B	234.89	249.30		
08:30-08:45	C	573.67	604.77		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	97.000	661.000
	B	53.000	0.000	259.000
	C	426.000	336.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.17	0.00	0.83
	C	0.56	0.44	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.141	1.042
	B	1.200	1.000	1.033
	C	1.067	1.038	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	14.1	4.2
	B	20.0	0.0	3.3
	C	6.7	3.8	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.60	18.82	1.46	C	237.66	356.49	80.75	13.59	0.90	80.77	13.59
B-A	0.31	27.09	0.43	D	48.63	72.95	23.57	19.38	0.26	23.57	19.39
C-A	-	-	-	-	390.91	586.36	-	-	-	-	-
C-B	0.82	41.00	3.96	E	308.32	462.48	180.66	23.44	2.01	180.72	23.45
A-B	-	-	-	-	89.01	133.51	-	-	-	-	-
A-C	-	-	-	-	606.55	909.82	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	194.99	48.75	192.92	0.00	566.05	0.344	0.00	0.52	9.597	A
B-A	39.90	9.98	39.31	0.00	303.21	0.132	0.00	0.15	13.612	B
C-A	320.72	80.18	320.72	0.00	-	-	-	-	-	-
C-B	252.96	63.24	249.32	0.00	523.10	0.484	0.00	0.91	12.984	B
A-B	73.03	18.26	73.03	0.00	-	-	-	-	-	-
A-C	497.64	124.41	497.64	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	232.84	58.21	231.84	0.00	530.27	0.439	0.52	0.77	12.022	B
B-A	47.65	11.91	47.36	0.00	258.96	0.184	0.15	0.22	16.989	C
C-A	382.97	95.74	382.97	0.00	-	-	-	-	-	-
C-B	302.06	75.51	299.70	0.00	493.95	0.612	0.91	1.50	18.302	C
A-B	87.20	21.80	87.20	0.00	-	-	-	-	-	-
A-C	594.23	148.56	594.23	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	285.16	71.29	282.55	0.00	476.94	0.598	0.77	1.42	18.273	C
B-A	58.35	14.59	57.58	0.00	193.85	0.301	0.22	0.41	26.272	D
C-A	469.03	117.26	469.03	0.00	-	-	-	-	-	-
C-B	369.94	92.49	361.33	0.00	453.65	0.815	1.50	3.65	36.001	E
A-B	106.80	26.70	106.80	0.00	-	-	-	-	-	-
A-C	727.77	181.94	727.77	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	285.16	71.29	285.01	0.00	475.83	0.599	1.42	1.46	18.824	C
B-A	58.35	14.59	58.30	0.00	191.08	0.305	0.41	0.43	27.086	D
C-A	469.03	117.26	469.03	0.00	-	-	-	-	-	-
C-B	369.94	92.49	368.70	0.00	453.65	0.815	3.65	3.96	40.999	E
A-B	106.80	26.70	106.80	0.00	-	-	-	-	-	-
A-C	727.77	181.94	727.77	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	232.84	58.21	235.45	0.00	529.25	0.440	1.46	0.80	12.357	B
B-A	47.65	11.91	48.42	0.00	255.40	0.187	0.43	0.23	17.457	C
C-A	382.97	95.74	382.97	0.00	-	-	-	-	-	-
C-B	302.06	75.51	311.29	0.00	493.95	0.612	3.96	1.65	20.595	C
A-B	87.20	21.80	87.20	0.00	-	-	-	-	-	-
A-C	594.23	148.56	594.23	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	194.99	48.75	196.06	0.00	565.42	0.345	0.80	0.53	9.776	A
B-A	39.90	9.98	40.22	0.00	301.34	0.132	0.23	0.16	13.805	B
C-A	320.72	80.18	320.72	0.00	-	-	-	-	-	-
C-B	252.96	63.24	255.73	0.00	523.10	0.484	1.65	0.96	13.601	B
A-B	73.03	18.26	73.03	0.00	-	-	-	-	-	-
A-C	497.64	124.41	497.64	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	7.37	0.49	9.597	A	A
B-A	2.11	0.14	13.612	B	B
C-A	-	-	-	-	-
C-B	12.70	0.85	12.984	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	10.98	0.73	12.022	B	B
B-A	3.17	0.21	16.989	C	B
C-A	-	-	-	-	-
C-B	20.90	1.39	18.302	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	19.67	1.31	18.273	C	B
B-A	5.78	0.39	26.272	D	C
C-A	-	-	-	-	-
C-B	46.16	3.08	36.001	E	D
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	21.63	1.44	18.824	C	B
B-A	6.35	0.42	27.086	D	C
C-A	-	-	-	-	-
C-B	57.53	3.84	40.999	E	D
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.76	0.85	12.357	B	B
B-A	3.73	0.25	17.457	C	B
C-A	-	-	-	-	-
C-B	28.04	1.87	20.595	C	C
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	8.34	0.56	9.776	A	A
B-A	2.43	0.16	13.805	B	B
C-A	-	-	-	-	-
C-B	15.33	1.02	13.601	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM	Forecast Background + EA2 + EA1N Construction (A12(N)) 2023	PM	100% of HGVs distributed from the A12 North	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A12, A1094	T-Junction	Two-way	A,B,C		27.47	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	A1094		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00	✓	10.00	✓	3.00	119.00		

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	9.37	8.25	7.36	6.16	✓	3.00	32	15

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	620.461	0.088	0.223	0.141	0.319
1	B-C	759.457	0.111	0.281	-	-
1	C-B	698.851	0.259	0.259	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓



# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	571.00	100.000
B	ONE HOUR	✓	468.00	100.000
C	ONE HOUR	✓	913.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	429.88	447.45		
16:15-16:30	B	352.33	359.61		
16:15-16:30	C	687.35	698.61		
16:30-16:45	A	513.32	534.30		
16:30-16:45	B	420.72	429.41		
16:30-16:45	C	820.77	834.21		
16:45-17:00	A	628.68	654.39		
16:45-17:00	B	515.28	525.91		
16:45-17:00	C	1005.23	1021.69		
17:00-17:15	A	628.68	654.39		
17:00-17:15	B	515.28	525.91		
17:00-17:15	C	1005.23	1021.69		
17:15-17:30	A	513.32	534.30		
17:15-17:30	B	420.72	429.41		
17:15-17:30	C	820.77	834.21		
17:30-17:45	A	429.88	447.45		
17:30-17:45	B	352.33	359.61		
17:30-17:45	C	687.35	698.61		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	74.000	497.000
	B	86.000	0.000	382.000
	C	613.000	300.000	0.000

## Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.13	0.87
	B	0.18	0.00	0.82
	C	0.67	0.33	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.114	1.030
	B	1.099	1.000	1.003
	C	1.019	1.011	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	11.4	3.0
	B	9.9	0.0	0.3
	C	1.9	1.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.80	32.83	3.63	D	350.53	525.79	167.83	19.15	1.86	167.87	19.16
B-A	0.48	34.38	0.87	D	78.92	118.37	41.29	20.93	0.46	41.30	20.93
C-A	-	-	-	-	562.50	843.75	-	-	-	-	-
C-B	0.63	18.54	1.66	C	275.29	412.93	95.15	13.83	1.06	95.17	13.83
A-B	-	-	-	-	67.90	101.86	-	-	-	-	-
A-C	-	-	-	-	456.06	684.08	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	287.59	71.90	284.13	0.00	612.64	0.469	0.00	0.86	10.849	B
B-A	64.75	16.19	63.85	0.00	349.46	0.185	0.00	0.22	12.567	B
C-A	461.50	115.37	461.50	0.00	-	-	-	-	-	-
C-B	225.86	56.46	223.33	0.00	576.62	0.392	0.00	0.63	10.120	B
A-B	55.71	13.93	55.71	0.00	-	-	-	-	-	-
A-C	374.17	93.54	374.17	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	343.41	85.85	341.29	0.00	580.26	0.592	0.86	1.40	14.928	B
B-A	77.31	19.33	76.84	0.00	297.99	0.259	0.22	0.34	16.242	C
C-A	551.07	137.77	551.07	0.00	-	-	-	-	-	-
C-B	269.69	67.42	268.53	0.00	554.37	0.486	0.63	0.92	12.541	B
A-B	66.52	16.63	66.52	0.00	-	-	-	-	-	-
A-C	446.79	111.70	446.79	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	420.59	105.15	412.68	0.00	528.63	0.796	1.40	3.37	29.221	D
B-A	94.69	23.67	92.83	0.00	204.94	0.462	0.34	0.81	31.605	D
C-A	674.93	168.73	674.93	0.00	-	-	-	-	-	-
C-B	330.31	82.58	327.50	0.00	523.61	0.631	0.92	1.62	18.093	C
A-B	81.48	20.37	81.48	0.00	-	-	-	-	-	-
A-C	547.21	136.80	547.21	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	420.59	105.15	419.54	0.00	526.78	0.798	3.37	3.63	32.833	D
B-A	94.69	23.67	94.44	0.00	198.68	0.477	0.81	0.87	34.381	D
C-A	674.93	168.73	674.93	0.00	-	-	-	-	-	-
C-B	330.31	82.58	330.15	0.00	523.61	0.631	1.62	1.66	18.536	C
A-B	81.48	20.37	81.48	0.00	-	-	-	-	-	-
A-C	547.21	136.80	547.21	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	343.41	85.85	351.87	0.00	578.65	0.593	3.63	1.52	16.419	C
B-A	77.31	19.33	79.33	0.00	294.03	0.263	0.87	0.37	16.917	C
C-A	551.07	137.77	551.07	0.00	-	-	-	-	-	-
C-B	269.69	67.42	272.46	0.00	554.37	0.486	1.66	0.97	12.890	B
A-B	66.52	16.63	66.52	0.00	-	-	-	-	-	-
A-C	446.79	111.70	446.79	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	287.59	71.90	290.04	0.00	611.85	0.470	1.52	0.91	11.271	B
B-A	64.75	16.19	65.28	0.00	347.72	0.186	0.37	0.23	12.768	B
C-A	461.50	115.37	461.50	0.00	-	-	-	-	-	-
C-B	225.86	56.46	227.12	0.00	576.62	0.392	0.97	0.66	10.339	B
A-B	55.71	13.93	55.71	0.00	-	-	-	-	-	-
A-C	374.17	93.54	374.17	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	12.17	0.81	10.849	B	B
B-A	3.18	0.21	12.567	B	B
C-A	-	-	-	-	-
C-B	8.97	0.60	10.120	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	19.65	1.31	14.928	B	B
B-A	4.90	0.33	16.242	C	B
C-A	-	-	-	-	-
C-B	13.22	0.88	12.541	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	43.46	2.90	29.221	D	C
B-A	10.95	0.73	31.605	D	C
C-A	-	-	-	-	-
C-B	22.52	1.50	18.093	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	52.94	3.53	32.833	D	C
B-A	12.72	0.85	34.381	D	C
C-A	-	-	-	-	-
C-B	24.72	1.65	18.536	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	25.28	1.69	16.419	C	B
B-A	5.90	0.39	16.917	C	B
C-A	-	-	-	-	-
C-B	15.46	1.03	12.890	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (17:30-17:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	14.34	0.96	11.271	B	B
B-A	3.64	0.24	12.768	B	B
C-A	-	-	-	-	-
C-B	10.25	0.68	10.339	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-



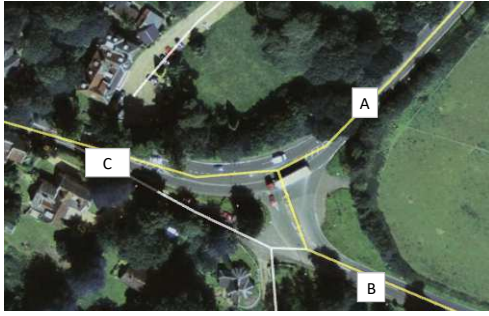


**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 2

**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12
1	B	B1122
2	C	A12

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

**Vehicles**

From/To	A	B	C	Totals
A	0	88	485	573
B	65	0	66	131
C	372	75	0	447
Totals	437	163	551	1151

**HGVs**

From/To	A	B	C	Totals
A	0	7	28	35
B	4	0	2	6
C	21	0	0	21
Totals	25	7	30	62

**Total**

From/To	A	B	C	Totals
A	0	95	513	608
B	69	0	68	137
C	393	75	0	468
Totals	462	170	581	1213

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	63	466	529
B	72	0	87	159
C	515	46	0	561
Totals	587	109	553	1249

**HGVs**

From/To	A	B	C	Totals
A	0	1	19	20
B	2	0	1	3
C	13	0	0	13
Totals	15	1	20	36

**Total**

From/To	A	B	C	Totals
A	0	64	485	549
B	74	0	88	162
C	528	46	0	574
Totals	602	110	573	1285

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	93	513	606
B	69	0	70	139
C	394	79	0	473
Totals	462	172	583	1218

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	7	30	37
B	4	0	2	6
C	22	0	0	22
Totals	26	7	32	66

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	100	543	643
B	73	0	72	145
C	416	79	0	495
Totals	489	180	615	1283

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	67	493	560
B	76	0	92	168
C	545	49	0	594
Totals	622	115	586	1322

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	1	20	21
B	2	0	1	3
C	14	0	0	14
Totals	16	1	21	38

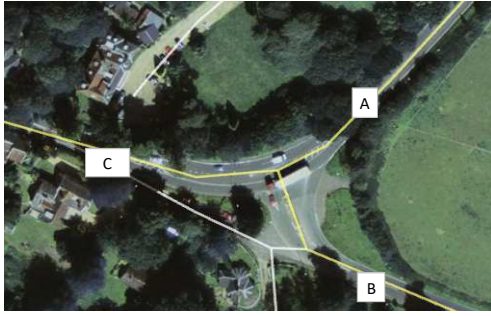
**Growth Factored Total**

From/To	A	B	C	Totals
A	0	68	514	581
B	78	0	93	172
C	559	49	0	608
Totals	637	116	607	1361

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12
1	B	B1122
2	C	A12

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	63	6	70
B	0	0	0	0
C	0	9	0	9
Totals	0	72	6	78

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	6	6
C	0	6	0	6
Totals	0	6	6	12

**Total**

From/To	A	B	C	Totals
A	0	63	6	70
B	0	0	6	6
C	0	15	0	15
Totals	0	78	12	90

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	100.0%	33%
C	0.0%	39.2%	0.0%	13%
Average	0%	13%	33%	15%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	63	0	9	72
C	6	0	0	6
Totals	70	0	9	78

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	6	6
C	0	6	0	6
Totals	0	6	6	12

**Total**

From/To	A	B	C	Totals
A	0	0	0	0
B	63	0	15	78
C	6	6	0	12
Totals	70	6	15	90

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	39.2%	13%
C	0.0%	100.0%	0.0%	33%
Average	0%	33%	13%	15%

**Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 South**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	157	519	676
B	69	0	70	139
C	394	88	0	482
Totals	462	245	589	1296

**HGVs**

From/To	A	B	C	Totals
A	0	7	30	37
B	4	0	8	12
C	22	6	0	28
Totals	26	13	37	77

**Total**

From/To	A	B	C	Totals
A	0	164	549	713
B	73	0	78	151
C	416	94	0	510
Totals	489	258	626	1373

**%HGV**

From/To	A	B	C	Average
A	0.0%	4.5%	5.4%	3%
B	5.8%	0.0%	10.1%	5%
C	5.3%	6.1%	0.0%	4%
Average	4%	4%	5%	4%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	67	493	560
B	140	0	101	241
C	551	49	0	600
Totals	691	115	594	1401

**HGVs**

From/To	A	B	C	Totals
A	0	1	20	21
B	2	0	7	9
C	14	6	0	20
Totals	16	7	27	50

**Total**

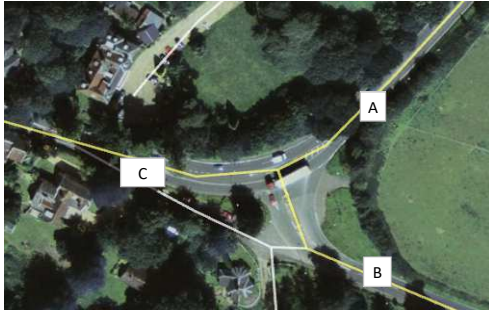
From/To	A	B	C	Totals
A	0	68	514	581
B	142	0	108	250
C	565	54	0	620
Totals	707	122	621	1450

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	1.5%	0.0%	6.3%	3%
C	2.4%	10.6%	0.0%	4%
Average	1%	4%	3%	3%



**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12
1	B	B1122
2	C	A12

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

**Vehicles**

From/To	A	B	C	Totals
A	0	88	485	573
B	65	0	66	131
C	372	75	0	447
Totals	437	163	551	1151

**HGVs**

From/To	A	B	C	Totals
A	0	7	28	35
B	4	0	2	6
C	21	0	0	21
Totals	25	7	30	62

**Total**

From/To	A	B	C	Totals
A	0	95	513	608
B	69	0	68	137
C	393	75	0	468
Totals	462	170	581	1213

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	63	466	529
B	72	0	87	159
C	515	46	0	561
Totals	587	109	553	1249

**HGVs**

From/To	A	B	C	Totals
A	0	1	19	20
B	2	0	1	3
C	13	0	0	13
Totals	15	1	20	36

**Total**

From/To	A	B	C	Totals
A	0	64	485	549
B	74	0	88	162
C	528	46	0	574
Totals	602	110	573	1285

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	93	513	606
B	69	0	70	139
C	394	79	0	473
Totals	462	172	583	1218

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	7	30	37
B	4	0	2	6
C	22	0	0	22
Totals	26	7	32	66

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	100	543	643
B	73	0	72	145
C	416	79	0	495
Totals	489	180	615	1283

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	67	493	560
B	76	0	92	168
C	545	49	0	594
Totals	622	115	586	1322

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	1	20	21
B	2	0	1	3
C	14	0	0	14
Totals	16	1	21	38

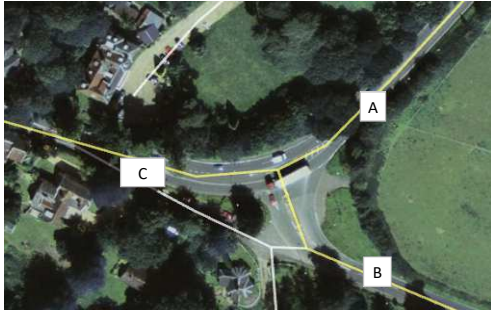
**Growth Factored Total**

From/To	A	B	C	Totals
A	0	68	514	581
B	78	0	93	172
C	559	49	0	608
Totals	637	116	607	1361

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12
1	B	B1122
2	C	A12

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic (2023) - 100% HGV Origin from A12 north**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	63	6	70
B	0	0	0	0
C	0	9	0	9
Totals	0	72	6	78

**HGVs**

From/To	A	B	C	Totals
A	0	4	7	11
B	4	0	0	4
C	7	0	0	7
Totals	11	4	7	21

**Total**

From/To	A	B	C	Totals
A	0	67	13	80
B	4	0	0	4
C	7	9	0	16
Totals	11	76	13	99

**%HGV**

From/To	A	B	C	Average
A	0.0%	5.6%	52.5%	19%
B	100.0%	0.0%	0.0%	33%
C	100.0%	0.0%	0.0%	33%
Average	67%	2%	18%	29%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	63	0	9	72
C	6	0	0	6
Totals	70	0	9	78

**HGVs**

From/To	A	B	C	Totals
A	0	4	7	11
B	4	0	0	4
C	7	0	0	7
Totals	11	4	7	21

**Total**

From/To	A	B	C	Totals
A	0	4	7	11
B	67	0	9	76
C	13	0	0	13
Totals	80	4	16	99

**%HGV**

From/To	A	B	C	Average
A	0.0%	100.0%	100.0%	67%
B	5.6%	0.0%	0.0%	2%
C	52.5%	0.0%	0.0%	18%
Average	19%	33%	33%	29%

**Forecast Flows + EA1N Construction Traffic (2023) 100% HGV Origin from A12 north**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	157	519	676
B	69	0	70	139
C	394	88	0	482
Totals	462	245	589	1296

**HGVs**

From/To	A	B	C	Totals
A	0	11	36	48
B	8	0	2	10
C	29	0	0	29
Totals	37	11	38	87

**Total**

From/To	A	B	C	Totals
A	0	168	555	723
B	77	0	72	149
C	422	88	0	511
Totals	499	256	627	1383

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.7%	6.5%	4%
B	10.4%	0.0%	2.9%	4%
C	6.9%	0.0%	0.0%	2%
Average	6%	2%	3%	4%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	67	493	560
B	140	0	101	241
C	551	49	0	600
Totals	691	115	594	1401

**HGVs**

From/To	A	B	C	Totals
A	0	5	27	32
B	6	0	1	7
C	20	0	0	20
Totals	26	5	28	59

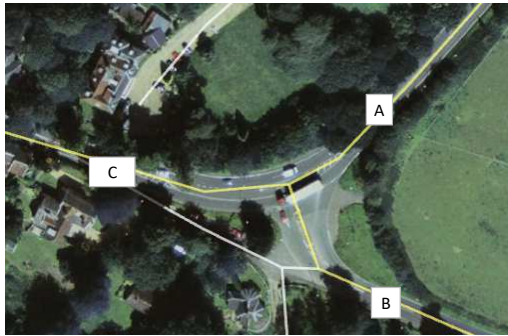
**Total**

From/To	A	B	C	Totals
A	0	72	520	592
B	146	0	102	248
C	572	49	0	621
Totals	717	120	622	1460

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.7%	5.2%	4%
B	4.0%	0.0%	1.0%	2%
C	3.6%	0.0%	0.0%	1%
Average	3%	2%	2%	2%

**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12 east
4	B	B1122
2	C	A12 west

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

**Thursday 6th June 2019: 07:30AM - 08:30AM**

**Vehicles**

From/To	A	B	C	Totals
A	0	88	485	573
B	65	0	66	131
C	372	75	0	447
Totals	437	163	551	1151

**HGVs**

From/To	A	B	C	Totals
A	0	7	28	35
B	4	0	2	6
C	21	0	0	21
Totals	25	7	30	62

**Total**

From/To	A	B	C	Totals
A	0	95	513	608
B	69	0	68	137
C	393	75	0	468
Totals	462	170	581	1213

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**PM Peak Traffic**

**Thursday 6th June 2019: 4:30PM - 5:30PM**

**Vehicles**

From/To	A	B	C	Totals
A	0	63	466	529
B	72	0	87	159
C	515	46	0	561
Totals	587	109	553	1249

**HGVs**

From/To	A	B	C	Totals
A	0	1	19	20
B	2	0	1	3
C	13	0	0	13
Totals	15	1	20	36

**Total**

From/To	A	B	C	Totals
A	0	64	485	549
B	74	0	88	162
C	528	46	0	574
Totals	602	110	573	1285

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	93	513	606
B	69	0	70	139
C	394	79	0	473
Totals	462	172	583	1218

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	7	30	37
B	4	0	2	6
C	22	0	0	22
Totals	26	7	32	66

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	100	543	643
B	73	0	72	145
C	416	79	0	495
Totals	489	180	615	1283

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	67	493	560
B	76	0	92	168
C	545	49	0	594
Totals	622	115	586	1322

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	1	20	21
B	2	0	1	3
C	14	0	0	14
Totals	16	1	21	38

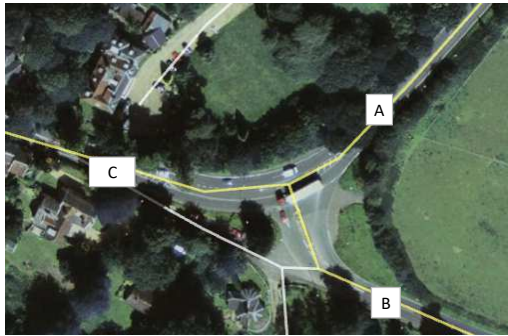
**Growth Factored Total**

From/To	A	B	C	Totals
A	0	68	514	581
B	78	0	93	172
C	559	49	0	608
Totals	637	116	607	1361

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12 east
4	B	B1122
2	C	A12 west

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA2 + EA1N Southbound Construction Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	80	6	86
B	0	0	0	0
C	0	11	0	11
Totals	0	91	6	97

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	8	8
C	0	8	0	8
Totals	0	8	8	15

**Total**

From/To	A	B	C	Totals
A	0	80	6	86
B	0	0	8	8
C	0	18	0	18
Totals	0	98	14	112

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	100.0%	33%
C	0.0%	41.6%	0.0%	14%
Average	0%	14%	33%	16%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	80	0	11	91
C	6	0	0	6
Totals	86	0	11	97

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	8	8
C	0	8	0	8
Totals	0	8	8	15

**Total**

From/To	A	B	C	Totals
A	0	0	0	0
B	80	0	18	98
C	6	8	0	14
Totals	86	8	18	112

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	41.6%	14%
C	0.0%	100.0%	0.0%	33%
Average	0%	33%	14%	16%

**Forecast Flows + EA2 + EA1N Southbound Construction Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	173	519	692
B	69	0	70	139
C	394	90	0	484
Totals	462	263	589	1314

**HGVs**

From/To	A	B	C	Totals
A	0	7	30	37
B	4	0	10	14
C	22	8	0	30
Totals	26	15	39	81

**Total**

From/To	A	B	C	Totals
A	0	181	549	729
B	73	0	80	153
C	416	98	0	513
Totals	489	278	628	1395

**%HGV**

From/To	A	B	C	Average
A	0.0%	4.1%	5.4%	3%
B	5.8%	0.0%	12.3%	6%
C	5.3%	7.8%	0.0%	4%
Average	4%	4%	6%	5%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	67	493	560
B	156	0	103	259
C	551	49	0	600
Totals	708	115	596	1419

**HGVs**

From/To	A	B	C	Totals
A	0	1	20	21
B	2	0	9	11
C	14	8	0	21
Totals	16	9	29	53

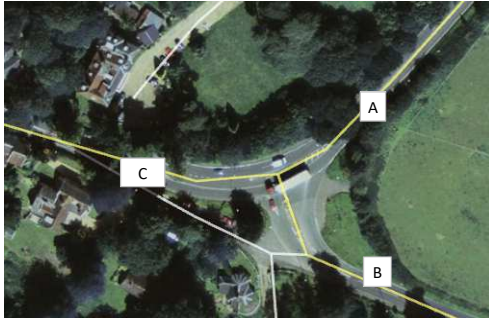
**Total**

From/To	A	B	C	Totals
A	0	68	514	581
B	158	0	112	270
C	565	56	0	621
Totals	724	124	625	1473

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	1.3%	0.0%	7.8%	3%
C	2.4%	13.6%	0.0%	5%
Average	1%	5%	4%	3%

**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12 east
4	B	B1122
2	C	A12 west

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

**Vehicles**

From/To	A	B	C	Totals
A	0	88	485	573
B	65	0	66	131
C	372	75	0	447
Totals	437	163	551	1151

**HGVs**

From/To	A	B	C	Totals
A	0	7	28	35
B	4	0	2	6
C	21	0	0	21
Totals	25	7	30	62

**Total**

From/To	A	B	C	Totals
A	0	95	513	608
B	69	0	68	137
C	393	75	0	468
Totals	462	170	581	1213

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	63	466	529
B	72	0	87	159
C	515	46	0	561
Totals	587	109	553	1249

**HGVs**

From/To	A	B	C	Totals
A	0	1	19	20
B	2	0	1	3
C	13	0	0	13
Totals	15	1	20	36

**Total**

From/To	A	B	C	Totals
A	0	64	485	549
B	74	0	88	162
C	528	46	0	574
Totals	602	110	573	1285

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	93	513	606
B	69	0	70	139
C	394	79	0	473
Totals	462	172	583	1218

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	7	30	37
B	4	0	2	6
C	22	0	0	22
Totals	26	7	32	66

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	100	543	643
B	73	0	72	145
C	416	79	0	495
Totals	489	180	615	1283

**%HGV**

From/To	A	B	C	Average
A	0.0%	7.4%	5.5%	4%
B	5.8%	0.0%	2.9%	3%
C	5.3%	0.0%	0.0%	2%
Average	4%	2%	3%	3%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	67	493	560
B	76	0	92	168
C	545	49	0	594
Totals	622	115	586	1322

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	1	20	21
B	2	0	1	3
C	14	0	0	14
Totals	16	1	21	38

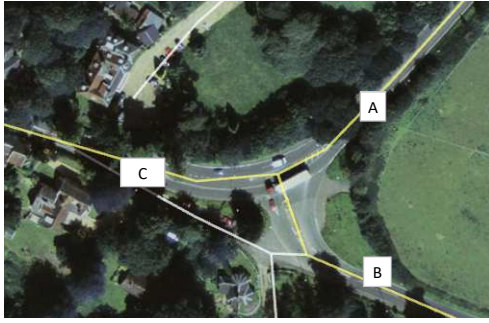
**Growth Factored Total**

From/To	A	B	C	Totals
A	0	68	514	581
B	78	0	93	172
C	559	49	0	608
Totals	637	116	607	1361

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.6%	3.9%	2%
B	2.7%	0.0%	1.1%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	1%	2%	1%

**Junction 2 - A12 / B1122 Junction**



**Notes**

Link	Arm	Road Name
1	A	A12 east
4	B	B1122
2	C	A12 west

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA2 + EA1N Northbound Construction Traffic (2023)**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	80	6	86
B	0	0	0	0
C	0	11	0	11
Totals	0	91	6	97

HGVs				
From/To	A	B	C	Totals
A	0	5	8	14
B	5	0	0	5
C	8	0	0	8
Totals	14	5	8	27

Total				
From/To	A	B	C	Totals
A	0	85	15	100
B	5	0	0	5
C	8	11	0	19
Totals	14	96	15	124

%HGV				
From/To	A	B	C	Average
A	0.0%	5.9%	58.2%	21%
B	100.0%	0.0%	0.0%	33%
C	100.0%	0.0%	0.0%	33%
Average	67%	2%	19%	29%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	0	0
B	80	0	11	91
C	6	0	0	6
Totals	86	0	11	97

HGVs				
From/To	A	B	C	Totals
A	0	5	8	14
B	5	0	0	5
C	8	0	0	8
Totals	14	5	8	27

Total				
From/To	A	B	C	Totals
A	0	5	8	14
B	85	0	11	96
C	15	0	0	15
Totals	100	5	19	124

%HGV				
From/To	A	B	C	Average
A	0.0%	100.0%	100.0%	67%
B	5.9%	0.0%	0.0%	2%
C	58.2%	0.0%	0.0%	19%
Average	21%	33%	33%	29%

**Forecast Flows + EA2 + EA1N Northbound Construction Traffic (2023)**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	173	519	692
B	69	0	70	139
C	394	90	0	484
Totals	462	263	589	1314

HGVs				
From/To	A	B	C	Totals
A	0	12	38	51
B	9	0	2	11
C	31	0	0	31
Totals	40	12	40	93

Total				
From/To	A	B	C	Totals
A	0	186	557	743
B	78	0	72	150
C	424	90	0	514
Totals	502	276	629	1407

%HGV				
From/To	A	B	C	Average
A	0.0%	6.7%	6.8%	5%
B	11.9%	0.0%	2.9%	5%
C	7.2%	0.0%	0.0%	2%
Average	6%	2%	3%	4%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	67	493	560
B	156	0	103	259
C	551	49	0	600
Totals	708	115	596	1419

HGVs				
From/To	A	B	C	Totals
A	0	6	29	35
B	7	0	1	8
C	22	0	0	22
Totals	29	6	30	65

Total				
From/To	A	B	C	Totals
A	0	73	522	595
B	163	0	104	267
C	574	49	0	622
Totals	737	122	626	1484

%HGV				
From/To	A	B	C	Average
A	0.0%	8.4%	5.5%	5%
B	4.4%	0.0%	1.0%	2%
C	3.9%	0.0%	0.0%	1%
Average	3%	3%	2%	3%

# Junctions 8

## PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]  
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Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: <http://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:** Junction 2 - A12 and B1122.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 02/07/2019 15:28:01

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

### Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023</b>								
Stream B-AC	0.79	17.46	0.45	C	2.80	35.93	0.75	E
Stream C-AB	0.22	8.17	0.18	A	0.10	6.74	0.09	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023</b>								
Stream B-AC	0.74	16.01	0.43	C	2.53	32.04	0.73	D
Stream C-AB	0.27	8.96	0.21	A	0.13	7.74	0.12	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023</b>								
Stream B-AC	0.75	16.68	0.43	C	2.06	28.07	0.68	D
Stream C-AB	0.21	8.01	0.18	A	0.10	6.71	0.09	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023</b>								
Stream B-AC	0.67	14.77	0.41	B	1.92	25.94	0.67	D
Stream C-AB	0.23	8.08	0.19	A	0.13	7.56	0.11	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background 2023</b>								
Stream B-AC	0.61	13.83	0.38	B	0.71	13.73	0.42	B
Stream C-AB	0.18	7.38	0.15	A	0.10	6.62	0.09	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - Forecast Background 2023, AM " model duration: 07:15 - 08:45

"D2 - Forecast Background 2023, PM" model duration: 16:15 - 17:45

"D3 - Forecast Background + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D4 - Forecast Background + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D5 - Forecast Background + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D6 - Forecast Background + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

"D7 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D8 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D9 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D10 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 02/07/2019 15:27:52



## File summary

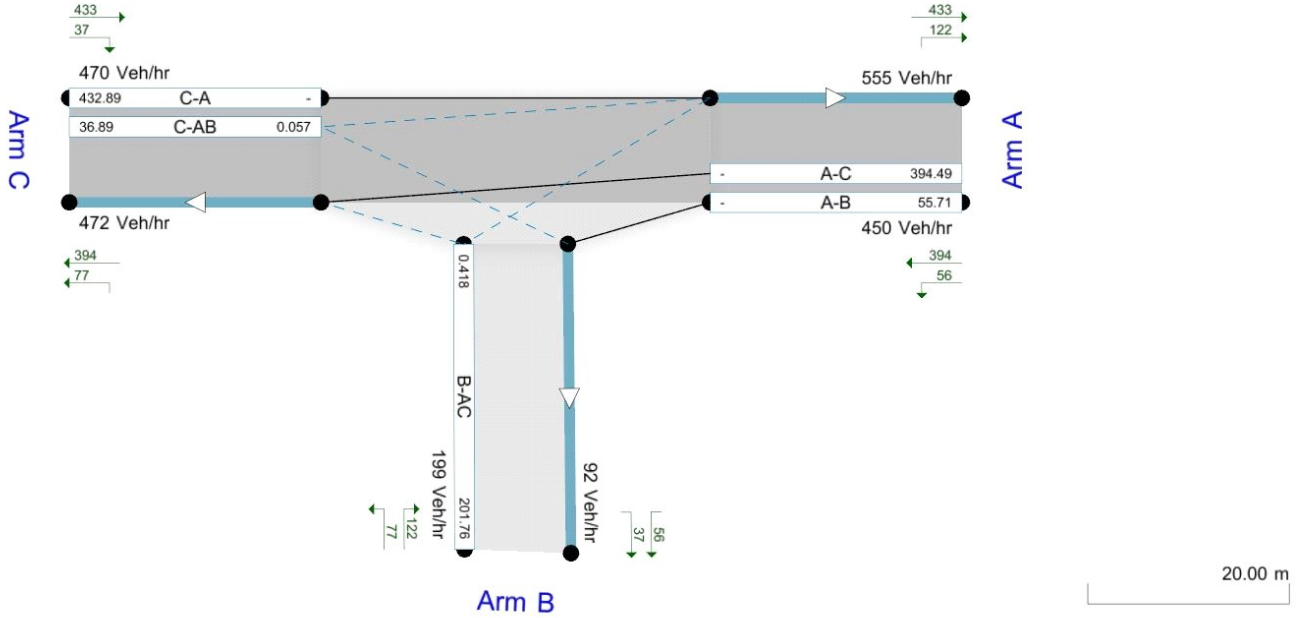
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Junction of the A12 and B1122
<b>Site Number</b>	J2
<b>Date</b>	24/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## 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



Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:15-07:30)  
Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	07:15	08:45	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		11.61	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	643.00	100.000
B	ONE HOUR	✓	145.00	100.000
C	ONE HOUR	✓	495.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	484.08	512.14		
07:15-07:30	B	109.16	113.92		
07:15-07:30	C	372.66	389.26		
07:30-07:45	A	578.04	611.54		
07:30-07:45	B	130.35	136.04		
07:30-07:45	C	444.99	464.82		
07:45-08:00	A	707.96	748.99		
07:45-08:00	B	159.65	166.61		
07:45-08:00	C	545.01	569.28		
08:00-08:15	A	707.96	748.99		
08:00-08:15	B	159.65	166.61		
08:00-08:15	C	545.01	569.28		
08:15-08:30	A	578.04	611.54		
08:15-08:30	B	130.35	136.04		
08:15-08:30	C	444.99	464.82		
08:30-08:45	A	484.08	512.14		
08:30-08:45	B	109.16	113.92		
08:30-08:45	C	372.66	389.26		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	100.000	543.000
	B	73.000	0.000	72.000
	C	416.000	79.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.50	0.00	0.50
	C	0.84	0.16	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
		A	B	C
From	A	1.000	1.074	1.055
	B	1.058	1.000	1.029
	C	1.053	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.0	7.4	5.5
	B	5.8	0.0	2.9
	C	5.3	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.38	13.83	0.61	B	133.05	199.58	37.43	11.25	0.42	37.43	11.25
C-AB	0.15	7.38	0.18	A	72.49	108.74	12.33	6.80	0.14	12.33	6.80
C-A	-	-	-	-	381.73	572.59	-	-	-	-	-
A-B	-	-	-	-	91.76	137.64	-	-	-	-	-
A-C	-	-	-	-	498.27	747.40	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	109.16	27.29	108.07	0.00	505.05	0.216	0.00	0.27	9.045	A
C-AB	59.48	14.87	59.07	0.00	639.18	0.093	0.00	0.10	6.202	A
C-A	313.19	78.30	313.19	0.00	-	-	-	-	-	-
A-B	75.29	18.82	75.29	0.00	-	-	-	-	-	-
A-C	408.80	102.20	408.80	0.00	-	-	-	-	-	-

### Main results: (07:30-07:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	130.35	32.59	129.93	0.00	469.81	0.277	0.27	0.38	10.577	B
C-AB	71.02	17.76	70.91	0.00	612.23	0.116	0.10	0.13	6.648	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	89.90	22.47	89.90	0.00	-	-	-	-	-	-
A-C	488.15	122.04	488.15	0.00	-	-	-	-	-	-

### Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	159.65	39.91	158.76	0.00	419.94	0.380	0.38	0.60	13.735	B
C-AB	86.99	21.75	86.80	0.00	574.98	0.151	0.13	0.18	7.374	A
C-A	458.02	114.50	458.02	0.00	-	-	-	-	-	-
A-B	110.10	27.53	110.10	0.00	-	-	-	-	-	-
A-C	597.85	149.46	597.85	0.00	-	-	-	-	-	-

### Main results: (08:00-08:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	159.65	39.91	159.62	0.00	419.88	0.380	0.60	0.61	13.827	B
C-AB	86.99	21.75	86.98	0.00	574.98	0.151	0.18	0.18	7.376	A
C-A	458.02	114.50	458.02	0.00	-	-	-	-	-	-
A-B	110.10	27.53	110.10	0.00	-	-	-	-	-	-
A-C	597.85	149.46	597.85	0.00	-	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	130.35	32.59	131.22	0.00	469.72	0.278	0.61	0.39	10.661	B
C-AB	71.02	17.76	71.20	0.00	612.23	0.116	0.18	0.13	6.655	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	89.90	22.47	89.90	0.00	-	-	-	-	-	-
A-C	488.15	122.04	488.15	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	109.16	27.29	109.61	0.00	504.91	0.216	0.39	0.28	9.116	A
C-AB	59.48	14.87	59.59	0.00	639.18	0.093	0.13	0.10	6.211	A
C-A	313.19	78.30	313.19	0.00	-	-	-	-	-	-
A-B	75.29	18.82	75.29	0.00	-	-	-	-	-	-
A-C	408.80	102.20	408.80	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (07:15-07:30)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	3.91	0.26	9.045	A	A
C-AB	1.52	0.10	6.202	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (07:30-07:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.49	0.37	10.577	B	B
C-AB	1.96	0.13	6.648	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (07:45-08:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.57	0.57	13.735	B	B
C-AB	2.65	0.18	7.374	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:00-08:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.05	0.60	13.827	B	B
C-AB	2.67	0.18	7.376	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.10	0.41	10.661	B	B
C-AB	1.99	0.13	6.655	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.32	0.29	9.116	A	A
C-AB	1.55	0.10	6.211	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		12.17	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	582.00	100.000
B	ONE HOUR	✓	171.00	100.000
C	ONE HOUR	✓	608.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	438.16	454.07		
16:15-16:30	B	128.74	131.09		
16:15-16:30	C	457.73	468.26		
16:30-16:45	A	523.21	542.21		
16:30-16:45	B	153.73	156.54		
16:30-16:45	C	546.58	559.14		
16:45-17:00	A	640.79	664.06		
16:45-17:00	B	188.27	191.72		
16:45-17:00	C	669.42	684.81		
17:00-17:15	A	640.79	664.06		
17:00-17:15	B	188.27	191.72		
17:00-17:15	C	669.42	684.81		
17:15-17:30	A	523.21	542.21		
17:15-17:30	B	153.73	156.54		
17:15-17:30	C	546.58	559.14		
17:30-17:45	A	438.16	454.07		
17:30-17:45	B	128.74	131.09		
17:30-17:45	C	457.73	468.26		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	68.000	514.000
	B	78.000	0.000	93.000
	C	559.000	49.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.46	0.00	0.54
	C	0.92	0.08	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.016	1.039
	B	1.027	1.000	1.011
	C	1.025	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	1.6	3.9
	B	2.7	0.0	1.1
	C	2.5	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.42	13.73	0.71	B	156.91	235.37	43.45	11.08	0.48	43.46	11.08
C-AB	0.09	6.62	0.10	A	44.96	67.45	7.00	6.23	0.08	7.00	6.23
C-A	-	-	-	-	512.95	769.42	-	-	-	-	-
A-B	-	-	-	-	62.40	93.60	-	-	-	-	-
A-C	-	-	-	-	471.66	707.48	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	128.74	32.18	127.48	0.00	534.54	0.241	0.00	0.31	8.817	A
C-AB	36.89	9.22	36.65	0.00	654.92	0.056	0.00	0.06	5.823	A
C-A	420.84	105.21	420.84	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	153.73	38.43	153.23	0.00	499.84	0.308	0.31	0.44	10.372	B
C-AB	44.05	11.01	43.99	0.00	631.02	0.070	0.06	0.07	6.132	A
C-A	502.53	125.63	502.53	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.27	47.07	187.22	0.00	450.43	0.418	0.44	0.70	13.621	B
C-AB	53.95	13.49	53.85	0.00	597.98	0.090	0.07	0.10	6.616	A
C-A	615.47	153.87	615.47	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.27	47.07	188.24	0.00	450.40	0.418	0.70	0.71	13.727	B
C-AB	53.95	13.49	53.95	0.00	597.98	0.090	0.10	0.10	6.616	A
C-A	615.47	153.87	615.47	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	153.73	38.43	154.76	0.00	499.79	0.308	0.71	0.45	10.464	B
C-AB	44.05	11.01	44.14	0.00	631.02	0.070	0.10	0.08	6.134	A
C-A	502.53	125.63	502.53	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	128.74	32.18	129.26	0.00	534.46	0.241	0.45	0.32	8.897	A
C-AB	36.89	9.22	36.95	0.00	654.92	0.056	0.08	0.06	5.827	A
C-A	420.84	105.21	420.84	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.50	0.30	8.817	A	A
C-AB	0.88	0.06	5.823	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.34	0.42	10.372	B	B
C-AB	1.12	0.07	6.132	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.00	0.67	13.621	B	B
C-AB	1.48	0.10	6.616	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.59	0.71	13.727	B	B
C-AB	1.49	0.10	6.616	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.06	0.47	10.464	B	B
C-AB	1.13	0.08	6.134	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.98	0.33	8.897	A	A
C-AB	0.90	0.06	5.827	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(S)) 2023, AM	Forecast Background + EA1N Construction (A12(S)) 2023	AM	100% of HGVs distributed from the A12 South	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		12.23	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	613.00	100.000
B	ONE HOUR	✓	151.00	100.000
C	ONE HOUR	✓	510.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	461.50	485.99		
07:15-07:30	B	113.68	123.15		
07:15-07:30	C	383.95	405.22		
07:30-07:45	A	551.07	580.31		
07:30-07:45	B	135.75	147.06		
07:30-07:45	C	458.48	483.88		
07:45-08:00	A	674.93	710.74		
07:45-08:00	B	166.25	180.10		
07:45-08:00	C	561.52	592.63		
08:00-08:15	A	674.93	710.74		
08:00-08:15	B	166.25	180.10		
08:00-08:15	C	561.52	592.63		
08:15-08:30	A	551.07	580.31		
08:15-08:30	B	135.75	147.06		
08:15-08:30	C	458.48	483.88		
08:30-08:45	A	461.50	485.99		
08:30-08:45	B	113.68	123.15		
08:30-08:45	C	383.95	405.22		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	64.000	549.000
	B	73.000	0.000	78.000
	C	416.000	94.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.10	0.90
	B	0.48	0.00	0.52
	C	0.82	0.18	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.045	1.054
	B	1.058	1.000	1.107
	C	1.053	1.066	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	4.5	5.4
	B	5.8	0.0	10.7
	C	5.3	6.6	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.41	14.77	0.67	B	138.56	207.84	41.17	11.88	0.46	41.17	11.89
C-AB	0.19	8.08	0.23	A	86.27	129.40	15.98	7.41	0.18	15.98	7.41
C-A	-	-	-	-	381.71	572.57	-	-	-	-	-
A-B	-	-	-	-	58.73	88.09	-	-	-	-	-
A-C	-	-	-	-	503.77	755.66	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	113.68	28.42	112.50	0.00	492.72	0.231	0.00	0.30	9.439	A
C-AB	70.77	17.69	70.25	0.00	606.26	0.117	0.00	0.13	6.711	A
C-A	313.19	78.30	313.19	0.00	-	-	-	-	-	-
A-B	48.18	12.05	48.18	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	135.75	33.94	135.27	0.00	458.49	0.296	0.30	0.41	11.120	B
C-AB	84.51	21.13	84.36	0.00	582.29	0.145	0.13	0.17	7.228	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	57.53	14.38	57.53	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	166.25	41.56	165.25	0.00	409.88	0.406	0.41	0.66	14.654	B
C-AB	103.53	25.88	103.28	0.00	549.21	0.189	0.17	0.23	8.069	A
C-A	457.99	114.50	457.99	0.00	-	-	-	-	-	-
A-B	70.47	17.62	70.47	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	166.25	41.56	166.22	0.00	409.81	0.406	0.66	0.67	14.774	B
C-AB	103.53	25.88	103.53	0.00	549.21	0.189	0.23	0.23	8.077	A
C-A	457.99	114.50	457.99	0.00	-	-	-	-	-	-
A-B	70.47	17.62	70.47	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	135.75	33.94	136.73	0.00	458.38	0.296	0.67	0.43	11.225	B
C-AB	84.51	21.13	84.75	0.00	582.29	0.145	0.23	0.17	7.241	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	57.53	14.38	57.53	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	113.68	28.42	114.18	0.00	492.53	0.231	0.43	0.30	9.528	A
C-AB	70.77	17.69	70.92	0.00	606.26	0.117	0.17	0.13	6.725	A
C-A	313.19	78.30	313.19	0.00	-	-	-	-	-	-
A-B	48.18	12.05	48.18	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.24	0.28	9.439	A	A
C-AB	1.95	0.13	6.711	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.99	0.40	11.120	B	B
C-AB	2.53	0.17	7.228	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.47	0.63	14.654	B	B
C-AB	3.45	0.23	8.069	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.05	0.67	14.774	B	B
C-AB	3.48	0.23	8.077	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.70	0.45	11.225	B	B
C-AB	2.57	0.17	7.241	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.71	0.31	9.528	A	A
C-AB	2.00	0.13	6.725	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(S)) 2023, PM	Forecast Background + EA1N Construction (A12(S)) 2023	PM	100% of HGVs distributed from the A12 South	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		22.42	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	582.00	100.000
B	ONE HOUR	✓	250.00	100.000
C	ONE HOUR	✓	620.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	438.16	454.07		
16:15-16:30	B	188.21	195.26		
16:15-16:30	C	466.77	481.70		
16:30-16:45	A	523.21	542.21		
16:30-16:45	B	224.74	233.16		
16:30-16:45	C	557.37	575.19		
16:45-17:00	A	640.79	664.06		
16:45-17:00	B	275.26	285.57		
16:45-17:00	C	682.63	704.47		
17:00-17:15	A	640.79	664.06		
17:00-17:15	B	275.26	285.57		
17:00-17:15	C	682.63	704.47		
17:15-17:30	A	523.21	542.21		
17:15-17:30	B	224.74	233.16		
17:15-17:30	C	557.37	575.19		
17:30-17:45	A	438.16	454.07		
17:30-17:45	B	188.21	195.26		
17:30-17:45	C	466.77	481.70		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	68.000	514.000
	B	142.000	0.000	108.000
	C	565.000	55.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.57	0.00	0.43
	C	0.91	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.016	1.039
	B	1.015	1.000	1.067
	C	1.024	1.114	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	1.6	3.9
	B	1.5	0.0	6.7
	C	2.4	11.4	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.67	25.94	1.92	D	229.41	344.11	99.97	17.43	1.11	99.99	17.43
C-AB	0.11	7.56	0.13	A	50.47	75.71	8.94	7.08	0.10	8.94	7.08
C-A	-	-	-	-	518.45	777.68	-	-	-	-	-
A-B	-	-	-	-	62.40	93.60	-	-	-	-	-
A-C	-	-	-	-	471.66	707.48	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.21	47.05	185.85	0.00	499.78	0.377	0.00	0.59	11.384	B
C-AB	41.41	10.35	41.11	0.00	587.90	0.070	0.00	0.08	6.581	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	224.75	56.19	223.47	0.00	463.94	0.484	0.59	0.91	14.888	B
C-AB	49.44	12.36	49.37	0.00	566.45	0.087	0.08	0.09	6.962	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	275.26	68.81	271.50	0.00	413.09	0.666	0.91	1.85	24.778	C
C-AB	60.56	15.14	60.44	0.00	536.81	0.113	0.09	0.13	7.555	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	275.26	68.81	274.99	0.00	413.05	0.666	1.85	1.92	25.935	D
C-AB	60.56	15.14	60.56	0.00	536.81	0.113	0.13	0.13	7.558	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	224.75	56.19	228.54	0.00	463.87	0.485	1.92	0.97	15.532	C
C-AB	49.44	12.36	49.57	0.00	566.45	0.087	0.13	0.10	6.968	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.21	47.05	189.62	0.00	499.66	0.377	0.97	0.62	11.665	B
C-AB	41.41	10.35	41.49	0.00	587.90	0.070	0.10	0.08	6.591	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-



## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.37	0.56	11.384	B	B
C-AB	1.12	0.07	6.581	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	12.96	0.86	14.888	B	B
C-AB	1.43	0.10	6.962	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	24.99	1.67	24.778	C	C
C-AB	1.89	0.13	7.555	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	28.37	1.89	25.935	D	C
C-AB	1.91	0.13	7.558	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.60	1.04	15.532	C	B
C-AB	1.45	0.10	6.968	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.69	0.65	11.665	B	B
C-AB	1.14	0.08	6.591	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(N)) 2023, AM	Forecast Background + EA1N Construction (A12(N)) 2023	AM	100% of HGVs distributed from the A12 North	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		13.61	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	726.00	100.000
B	ONE HOUR	✓	150.00	100.000
C	ONE HOUR	✓	512.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	546.57	583.83		
07:15-07:30	B	112.93	121.31		
07:15-07:30	C	385.46	408.12		
07:30-07:45	A	652.66	697.15		
07:30-07:45	B	134.85	144.86		
07:30-07:45	C	460.28	487.34		
07:45-08:00	A	799.34	853.83		
07:45-08:00	B	165.15	177.41		
07:45-08:00	C	563.72	596.87		
08:00-08:15	A	799.34	853.83		
08:00-08:15	B	165.15	177.41		
08:00-08:15	C	563.72	596.87		
08:15-08:30	A	652.66	697.15		
08:15-08:30	B	134.85	144.86		
08:15-08:30	C	460.28	487.34		
08:30-08:45	A	546.57	583.83		
08:30-08:45	B	112.93	121.31		
08:30-08:45	C	385.46	408.12		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	169.000	557.000
	B	78.000	0.000	72.000
	C	424.000	88.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.52	0.00	0.48
	C	0.83	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.072	1.067
	B	1.116	1.000	1.029
	C	1.071	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	7.2	6.7
	B	11.6	0.0	2.9
	C	7.1	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.43	16.68	0.75	C	137.64	206.46	44.77	13.01	0.50	44.78	13.01
C-AB	0.18	8.01	0.21	A	80.76	121.13	14.67	7.27	0.16	14.67	7.27
C-A	-	-	-	-	389.06	583.60	-	-	-	-	-
A-B	-	-	-	-	155.08	232.62	-	-	-	-	-
A-C	-	-	-	-	511.11	766.67	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	112.93	28.23	111.69	0.00	471.23	0.240	0.00	0.31	9.980	A
C-AB	66.25	16.56	65.78	0.00	619.74	0.107	0.00	0.12	6.493	A
C-A	319.21	79.80	319.21	0.00	-	-	-	-	-	-
A-B	127.23	31.81	127.23	0.00	-	-	-	-	-	-
A-C	419.34	104.83	419.34	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	134.85	33.71	134.32	0.00	433.88	0.311	0.31	0.44	11.995	B
C-AB	79.11	19.78	78.97	0.00	589.02	0.134	0.12	0.15	7.056	A
C-A	381.17	95.29	381.17	0.00	-	-	-	-	-	-
A-B	151.93	37.98	151.93	0.00	-	-	-	-	-	-
A-C	500.73	125.18	500.73	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	165.15	41.29	163.95	0.00	380.94	0.434	0.44	0.74	16.498	C
C-AB	96.90	24.23	96.67	0.00	546.58	0.177	0.15	0.21	7.997	A
C-A	466.82	116.70	466.82	0.00	-	-	-	-	-	-
A-B	186.07	46.52	186.07	0.00	-	-	-	-	-	-
A-C	613.27	153.32	613.27	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	165.15	41.29	165.11	0.00	380.86	0.434	0.74	0.75	16.675	C
C-AB	96.90	24.23	96.90	0.00	546.58	0.177	0.21	0.21	8.005	A
C-A	466.82	116.70	466.82	0.00	-	-	-	-	-	-
A-B	186.07	46.52	186.07	0.00	-	-	-	-	-	-
A-C	613.27	153.32	613.27	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	134.85	33.71	136.02	0.00	433.77	0.311	0.75	0.46	12.139	B
C-AB	79.11	19.78	79.34	0.00	589.02	0.134	0.21	0.16	7.065	A
C-A	381.17	95.29	381.17	0.00	-	-	-	-	-	-
A-B	151.93	37.98	151.93	0.00	-	-	-	-	-	-
A-C	500.73	125.18	500.73	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	112.93	28.23	113.49	0.00	471.06	0.240	0.46	0.32	10.085	B
C-AB	66.25	16.56	66.40	0.00	619.74	0.107	0.16	0.12	6.509	A
C-A	319.21	79.80	319.21	0.00	-	-	-	-	-	-
A-B	127.23	31.81	127.23	0.00	-	-	-	-	-	-
A-C	419.34	104.83	419.34	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.44	0.30	9.980	A	A
C-AB	1.77	0.12	6.493	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.39	0.43	11.995	B	B
C-AB	2.31	0.15	7.056	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.50	0.70	16.498	C	B
C-AB	3.20	0.21	7.997	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.24	0.75	16.675	C	B
C-AB	3.23	0.22	8.005	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.23	0.48	12.139	B	B
C-AB	2.35	0.16	7.065	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.97	0.33	10.085	B	B
C-AB	1.81	0.12	6.509	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(N)) 2023, PM	Forecast Background + EA1N Construction (A12(N)) 2023	PM	100% of HGVs distributed from the A12 North	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		24.64	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	594.00	100.000
B	ONE HOUR	✓	249.00	100.000
C	ONE HOUR	✓	622.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	447.19	472.83		
16:15-16:30	B	187.46	193.43		
16:15-16:30	C	468.27	484.67		
16:30-16:45	A	533.99	564.60		
16:30-16:45	B	223.85	230.97		
16:30-16:45	C	559.17	578.74		
16:45-17:00	A	654.01	691.49		
16:45-17:00	B	274.15	282.88		
16:45-17:00	C	684.83	708.81		
17:00-17:15	A	654.01	691.49		
17:00-17:15	B	274.15	282.88		
17:00-17:15	C	684.83	708.81		
17:15-17:30	A	533.99	564.60		
17:15-17:30	B	223.85	230.97		
17:15-17:30	C	559.17	578.74		
17:30-17:45	A	447.19	472.83		
17:30-17:45	B	187.46	193.43		
17:30-17:45	C	468.27	484.67		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	73.000	521.000
	B	147.000	0.000	102.000
	C	573.000	49.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.59	0.00	0.41
	C	0.92	0.08	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.081	1.054
	B	1.047	1.000	1.010
	C	1.038	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	8.1	5.4
	B	4.7	0.0	1.0
	C	3.8	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.68	28.07	2.06	D	228.49	342.73	105.12	18.40	1.17	105.14	18.41
C-AB	0.09	6.71	0.10	A	44.96	67.45	7.08	6.30	0.08	7.08	6.30
C-A	-	-	-	-	525.79	788.69	-	-	-	-	-
A-B	-	-	-	-	66.99	100.48	-	-	-	-	-
A-C	-	-	-	-	478.08	717.12	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	187.46	46.87	185.04	0.00	490.38	0.382	0.00	0.61	11.700	B
C-AB	36.89	9.22	36.65	0.00	649.84	0.057	0.00	0.06	5.871	A
C-A	431.38	107.85	431.38	0.00	-	-	-	-	-	-
A-B	54.96	13.74	54.96	0.00	-	-	-	-	-	-
A-C	392.24	98.06	392.24	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	223.85	55.96	222.49	0.00	453.49	0.494	0.61	0.94	15.491	C
C-AB	44.05	11.01	43.99	0.00	624.95	0.070	0.06	0.08	6.196	A
C-A	515.12	128.78	515.12	0.00	-	-	-	-	-	-
A-B	65.63	16.41	65.63	0.00	-	-	-	-	-	-
A-C	468.37	117.09	468.37	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	274.16	68.54	270.01	0.00	401.28	0.683	0.94	1.98	26.609	D
C-AB	53.95	13.49	53.85	0.00	590.55	0.091	0.08	0.10	6.708	A
C-A	630.88	157.72	630.88	0.00	-	-	-	-	-	-
A-B	80.37	20.09	80.37	0.00	-	-	-	-	-	-
A-C	573.63	143.41	573.63	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	274.16	68.54	273.83	0.00	401.24	0.683	1.98	2.06	28.065	D
C-AB	53.95	13.49	53.95	0.00	590.55	0.091	0.10	0.10	6.708	A
C-A	630.88	157.72	630.88	0.00	-	-	-	-	-	-
A-B	80.37	20.09	80.37	0.00	-	-	-	-	-	-
A-C	573.63	143.41	573.63	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	223.85	55.96	228.06	0.00	453.44	0.494	2.06	1.01	16.254	C
C-AB	44.05	11.01	44.15	0.00	624.95	0.070	0.10	0.08	6.201	A
C-A	515.12	128.78	515.12	0.00	-	-	-	-	-	-
A-B	65.63	16.41	65.63	0.00	-	-	-	-	-	-
A-C	468.37	117.09	468.37	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	187.46	46.87	188.96	0.00	490.29	0.382	1.01	0.63	12.005	B
C-AB	36.89	9.22	36.95	0.00	649.84	0.057	0.08	0.06	5.876	A
C-A	431.38	107.85	431.38	0.00	-	-	-	-	-	-
A-B	54.96	13.74	54.96	0.00	-	-	-	-	-	-
A-C	392.24	98.06	392.24	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.55	0.57	11.700	B	B
C-AB	0.89	0.06	5.871	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	13.39	0.89	15.491	C	B
C-AB	1.13	0.08	6.196	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	26.51	1.77	26.609	D	C
C-AB	1.50	0.10	6.708	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	30.42	2.03	28.065	D	C
C-AB	1.51	0.10	6.708	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	16.30	1.09	16.254	C	B
C-AB	1.15	0.08	6.201	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.95	0.66	12.005	B	B
C-AB	0.91	0.06	5.876	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM	Forecast Background + EA2 + EA1N Construction (A12(S)) 2023	AM	100% of HGVs distributed from the A12 South	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		13.28	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	730.00	100.000
B	ONE HOUR	✓	153.00	100.000
C	ONE HOUR	✓	514.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	549.58	577.49		
07:15-07:30	B	115.19	125.72		
07:15-07:30	C	386.97	409.32		
07:30-07:45	A	656.26	689.58		
07:30-07:45	B	137.54	150.12		
07:30-07:45	C	462.08	488.77		
07:45-08:00	A	803.74	844.56		
07:45-08:00	B	168.46	183.86		
07:45-08:00	C	565.92	598.62		
08:00-08:15	A	803.74	844.56		
08:00-08:15	B	168.46	183.86		
08:00-08:15	C	565.92	598.62		
08:15-08:30	A	656.26	689.58		
08:15-08:30	B	137.54	150.12		
08:15-08:30	C	462.08	488.77		
08:30-08:45	A	549.58	577.49		
08:30-08:45	B	115.19	125.72		
08:30-08:45	C	386.97	409.32		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	181.000	549.000
	B	73.000	0.000	80.000
	C	416.000	98.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.48	0.00	0.52
	C	0.81	0.19	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.041	1.054
	B	1.058	1.000	1.122
	C	1.053	1.078	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	4.1	5.4
	B	5.8	0.0	12.2
	C	5.3	7.8	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.43	16.01	0.74	C	140.40	210.59	44.26	12.61	0.49	44.26	12.61
C-AB	0.21	8.96	0.27	A	89.96	134.93	18.16	8.07	0.20	18.16	8.07
C-A	-	-	-	-	381.70	572.55	-	-	-	-	-
A-B	-	-	-	-	166.09	249.13	-	-	-	-	-
A-C	-	-	-	-	503.77	755.66	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	115.19	28.80	113.94	0.00	480.80	0.240	0.00	0.31	9.780	A
C-AB	73.78	18.45	73.20	0.00	576.50	0.128	0.00	0.15	7.146	A
C-A	313.18	78.30	313.18	0.00	-	-	-	-	-	-
A-B	136.27	34.07	136.27	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	137.54	34.39	137.03	0.00	444.71	0.309	0.31	0.44	11.680	B
C-AB	88.11	22.03	87.94	0.00	548.35	0.161	0.15	0.19	7.813	A
C-A	373.96	93.49	373.96	0.00	-	-	-	-	-	-
A-B	162.72	40.68	162.72	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	168.46	42.11	167.31	0.00	393.31	0.428	0.44	0.73	15.845	C
C-AB	107.97	26.99	107.67	0.00	509.56	0.212	0.19	0.27	8.951	A
C-A	457.95	114.49	457.95	0.00	-	-	-	-	-	-
A-B	199.28	49.82	199.28	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	168.46	42.11	168.41	0.00	393.22	0.428	0.73	0.74	16.005	C
C-AB	107.97	26.99	107.97	0.00	509.55	0.212	0.27	0.27	8.964	A
C-A	457.95	114.49	457.95	0.00	-	-	-	-	-	-
A-B	199.28	49.82	199.28	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	137.54	34.39	138.67	0.00	444.58	0.309	0.74	0.46	11.810	B
C-AB	88.11	22.03	88.41	0.00	548.34	0.161	0.27	0.19	7.831	A
C-A	373.96	93.49	373.96	0.00	-	-	-	-	-	-
A-B	162.72	40.68	162.72	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	115.19	28.80	115.73	0.00	480.60	0.240	0.46	0.32	9.883	A
C-AB	73.78	18.45	73.96	0.00	576.50	0.128	0.19	0.15	7.168	A
C-A	313.18	78.30	313.18	0.00	-	-	-	-	-	-
A-B	136.27	34.07	136.27	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.44	0.30	9.780	A	A
C-AB	2.16	0.14	7.146	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.36	0.42	11.680	B	B
C-AB	2.85	0.19	7.813	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.32	0.69	15.845	C	B
C-AB	3.99	0.27	8.951	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.01	0.73	16.005	C	B
C-AB	4.03	0.27	8.964	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.16	0.48	11.810	B	B
C-AB	2.91	0.19	7.831	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.96	0.33	9.883	A	A
C-AB	2.22	0.15	7.168	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM	Forecast Background + EA2 + EA1N Construction (A12(S)) 2023	PM	100% of HGVs distributed from the A12 South	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		27.55	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	582.00	100.000
B	ONE HOUR	✓	270.00	100.000
C	ONE HOUR	✓	621.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	438.16	454.07		
16:15-16:30	B	203.27	211.39		
16:15-16:30	C	467.52	483.42		
16:30-16:45	A	523.21	542.21		
16:30-16:45	B	242.72	252.42		
16:30-16:45	C	558.27	577.25		
16:45-17:00	A	640.79	664.06		
16:45-17:00	B	297.28	309.16		
16:45-17:00	C	683.73	706.99		
17:00-17:15	A	640.79	664.06		
17:00-17:15	B	297.28	309.16		
17:00-17:15	C	683.73	706.99		
17:15-17:30	A	523.21	542.21		
17:15-17:30	B	242.72	252.42		
17:15-17:30	C	558.27	577.25		
17:30-17:45	A	438.16	454.07		
17:30-17:45	B	203.27	211.39		
17:30-17:45	C	467.52	483.42		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	68.000	514.000
	B	158.000	0.000	112.000
	C	565.000	56.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.59	0.00	0.41
	C	0.91	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.016	1.039
	B	1.013	1.000	1.078
	C	1.024	1.135	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	1.6	3.9
	B	1.3	0.0	7.8
	C	2.4	13.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.73	32.04	2.53	D	247.76	371.64	124.05	20.03	1.38	124.08	20.03
C-AB	0.12	7.74	0.13	A	51.39	77.08	9.31	7.24	0.10	9.31	7.24
C-A	-	-	-	-	518.45	777.68	-	-	-	-	-
A-B	-	-	-	-	62.40	93.60	-	-	-	-	-
A-C	-	-	-	-	471.66	707.48	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	203.27	50.82	200.55	0.00	494.95	0.411	0.00	0.68	12.122	B
C-AB	42.16	10.54	41.85	0.00	577.03	0.073	0.00	0.08	6.724	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	242.73	60.68	241.12	0.00	458.94	0.529	0.68	1.08	16.402	C
C-AB	50.34	12.59	50.26	0.00	555.98	0.091	0.08	0.10	7.118	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	297.28	74.32	291.99	0.00	407.90	0.729	1.08	2.41	29.767	D
C-AB	61.66	15.42	61.53	0.00	526.89	0.117	0.10	0.13	7.734	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	297.28	74.32	296.78	0.00	407.85	0.729	2.41	2.53	32.039	D
C-AB	61.66	15.42	61.66	0.00	526.89	0.117	0.13	0.13	7.737	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	242.73	60.68	248.19	0.00	458.87	0.529	2.53	1.17	17.497	C
C-AB	50.34	12.59	50.47	0.00	555.97	0.091	0.13	0.10	7.125	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	203.27	50.82	205.08	0.00	494.82	0.411	1.17	0.71	12.502	B
C-AB	42.16	10.54	42.24	0.00	577.03	0.073	0.10	0.08	6.731	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-



## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.58	0.64	12.122	B	B
C-AB	1.16	0.08	6.724	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.28	1.02	16.402	C	B
C-AB	1.48	0.10	7.118	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	31.64	2.11	29.767	D	C
C-AB	1.97	0.13	7.734	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	37.20	2.48	32.039	D	C
C-AB	1.99	0.13	7.737	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	19.09	1.27	17.497	C	B
C-AB	1.51	0.10	7.125	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.26	0.75	12.502	B	B
C-AB	1.19	0.08	6.731	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM	Forecast Background + EA2 + EA1N Construction (A12(N)) 2023	AM	100% of HGVs distributed from the A12 North	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		14.16	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	746.00	100.000
B	ONE HOUR	✓	151.00	100.000
C	ONE HOUR	✓	516.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	561.63	601.64		
07:15-07:30	B	113.68	122.93		
07:15-07:30	C	388.47	412.85		
07:30-07:45	A	670.64	718.42		
07:30-07:45	B	135.75	146.78		
07:30-07:45	C	463.87	492.98		
07:45-08:00	A	821.36	879.88		
07:45-08:00	B	166.25	179.77		
07:45-08:00	C	568.13	603.77		
08:00-08:15	A	821.36	879.88		
08:00-08:15	B	166.25	179.77		
08:00-08:15	C	568.13	603.77		
08:15-08:30	A	670.64	718.42		
08:15-08:30	B	135.75	146.78		
08:15-08:30	C	463.87	492.98		
08:30-08:45	A	561.63	601.64		
08:30-08:45	B	113.68	122.93		
08:30-08:45	C	388.47	412.85		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	187.000	559.000
	B	79.000	0.000	72.000
	C	426.000	90.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.52	0.00	0.48
	C	0.83	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.072	1.071
	B	1.129	1.000	1.029
	C	1.076	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	7.2	7.1
	B	12.9	0.0	2.9
	C	7.6	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.45	17.46	0.79	C	138.56	207.84	46.68	13.48	0.52	46.69	13.48
C-AB	0.18	8.17	0.22	A	82.59	123.89	15.26	7.39	0.17	15.26	7.39
C-A	-	-	-	-	390.90	586.35	-	-	-	-	-
A-B	-	-	-	-	171.59	257.39	-	-	-	-	-
A-C	-	-	-	-	512.95	769.42	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	113.68	28.42	112.40	0.00	463.76	0.245	0.00	0.32	10.210	B
C-AB	67.76	16.94	67.27	0.00	614.91	0.110	0.00	0.12	6.568	A
C-A	320.71	80.18	320.71	0.00	-	-	-	-	-	-
A-B	140.78	35.20	140.78	0.00	-	-	-	-	-	-
A-C	420.84	105.21	420.84	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	135.75	33.94	135.19	0.00	425.93	0.319	0.32	0.46	12.353	B
C-AB	80.91	20.23	80.76	0.00	583.25	0.139	0.12	0.16	7.162	A
C-A	382.96	95.74	382.96	0.00	-	-	-	-	-	-
A-B	168.11	42.03	168.11	0.00	-	-	-	-	-	-
A-C	502.53	125.63	502.53	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	166.25	41.56	164.97	0.00	372.27	0.447	0.46	0.78	17.257	C
C-AB	99.11	24.78	98.86	0.00	539.52	0.184	0.16	0.22	8.166	A
C-A	469.02	117.25	469.02	0.00	-	-	-	-	-	-
A-B	205.89	51.47	205.89	0.00	-	-	-	-	-	-
A-C	615.47	153.87	615.47	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	166.25	41.56	166.20	0.00	372.19	0.447	0.78	0.79	17.465	C
C-AB	99.11	24.78	99.11	0.00	539.53	0.184	0.22	0.22	8.173	A
C-A	469.02	117.25	469.02	0.00	-	-	-	-	-	-
A-B	205.89	51.47	205.89	0.00	-	-	-	-	-	-
A-C	615.47	153.87	615.47	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	135.75	33.94	137.01	0.00	425.81	0.319	0.79	0.48	12.518	B
C-AB	80.91	20.23	81.16	0.00	583.26	0.139	0.22	0.16	7.172	A
C-A	382.96	95.74	382.96	0.00	-	-	-	-	-	-
A-B	168.11	42.03	168.11	0.00	-	-	-	-	-	-
A-C	502.53	125.63	502.53	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	113.68	28.42	114.27	0.00	463.59	0.245	0.48	0.33	10.324	B
C-AB	67.76	16.94	67.91	0.00	614.91	0.110	0.16	0.12	6.584	A
C-A	320.71	80.18	320.71	0.00	-	-	-	-	-	-
A-B	140.78	35.20	140.78	0.00	-	-	-	-	-	-
A-C	420.84	105.21	420.84	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.57	0.30	10.210	B	B
C-AB	1.83	0.12	6.568	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.62	0.44	12.353	B	B
C-AB	2.40	0.16	7.162	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.02	0.73	17.257	C	B
C-AB	3.34	0.22	8.166	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.83	0.79	17.465	C	B
C-AB	3.38	0.23	8.173	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.52	0.50	12.518	B	B
C-AB	2.44	0.16	7.172	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.13	0.34	10.324	B	B
C-AB	1.87	0.12	6.584	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM	Forecast Background + EA2 + EA1N Construction (A12(N)) 2023	PM	100% of HGVs distributed from the A12 North	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		31.54	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	598.00	100.000
B	ONE HOUR	✓	268.00	100.000
C	ONE HOUR	✓	624.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	450.21	478.38		
16:15-16:30	B	201.76	208.60		
16:15-16:30	C	469.78	487.96		
16:30-16:45	A	537.59	571.23		
16:30-16:45	B	240.93	249.09		
16:30-16:45	C	560.96	582.67		
16:45-17:00	A	658.41	699.61		
16:45-17:00	B	295.07	305.07		
16:45-17:00	C	687.04	713.63		
17:00-17:15	A	658.41	699.61		
17:00-17:15	B	295.07	305.07		
17:00-17:15	C	687.04	713.63		
17:15-17:30	A	537.59	571.23		
17:15-17:30	B	240.93	249.09		
17:15-17:30	C	560.96	582.67		
17:30-17:45	A	450.21	478.38		
17:30-17:45	B	201.76	208.60		
17:30-17:45	C	469.78	487.96		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	74.000	524.000
	B	164.000	0.000	104.000
	C	575.000	49.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.61	0.00	0.39
	C	0.92	0.08	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.095	1.058
	B	1.049	1.000	1.010
	C	1.042	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	9.5	5.8
	B	4.9	0.0	1.0
	C	4.2	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.75	35.93	2.80	E	245.92	368.88	132.89	21.61	1.48	132.92	21.62
C-AB	0.09	6.74	0.10	A	44.96	67.45	7.11	6.32	0.08	7.11	6.32
C-A	-	-	-	-	527.63	791.44	-	-	-	-	-
A-B	-	-	-	-	67.90	101.86	-	-	-	-	-
A-C	-	-	-	-	480.83	721.25	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	201.76	50.44	198.96	0.00	483.16	0.418	0.00	0.70	12.550	B
C-AB	36.89	9.22	36.65	0.00	648.33	0.057	0.00	0.06	5.885	A
C-A	432.89	108.22	432.89	0.00	-	-	-	-	-	-
A-B	55.71	13.93	55.71	0.00	-	-	-	-	-	-
A-C	394.49	98.62	394.49	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	240.93	60.23	239.20	0.00	445.83	0.540	0.70	1.13	17.273	C
C-AB	44.05	11.01	43.99	0.00	623.15	0.071	0.06	0.08	6.215	A
C-A	516.91	129.23	516.91	0.00	-	-	-	-	-	-
A-B	66.52	16.63	66.52	0.00	-	-	-	-	-	-
A-C	471.07	117.77	471.07	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	295.07	73.77	289.04	0.00	393.05	0.751	1.13	2.64	32.843	D
C-AB	53.95	13.49	53.85	0.00	588.34	0.092	0.08	0.10	6.735	A
C-A	633.09	158.27	633.09	0.00	-	-	-	-	-	-
A-B	81.48	20.37	81.48	0.00	-	-	-	-	-	-
A-C	576.93	144.23	576.93	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	295.07	73.77	294.43	0.00	393.01	0.751	2.64	2.80	35.927	E
C-AB	53.95	13.49	53.95	0.00	588.34	0.092	0.10	0.10	6.735	A
C-A	633.09	158.27	633.09	0.00	-	-	-	-	-	-
A-B	81.48	20.37	81.48	0.00	-	-	-	-	-	-
A-C	576.93	144.23	576.93	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	240.93	60.23	247.23	0.00	445.78	0.540	2.80	1.22	18.658	C
C-AB	44.05	11.01	44.15	0.00	623.15	0.071	0.10	0.08	6.220	A
C-A	516.91	129.23	516.91	0.00	-	-	-	-	-	-
A-B	66.52	16.63	66.52	0.00	-	-	-	-	-	-
A-C	471.07	117.77	471.07	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	201.76	50.44	203.72	0.00	483.07	0.418	1.22	0.73	12.977	B
C-AB	36.89	9.22	36.95	0.00	648.33	0.057	0.08	0.06	5.888	A
C-A	432.89	108.22	432.89	0.00	-	-	-	-	-	-
A-B	55.71	13.93	55.71	0.00	-	-	-	-	-	-
A-C	394.49	98.62	394.49	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.83	0.66	12.550	B	B
C-AB	0.89	0.06	5.885	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.90	1.06	17.273	C	B
C-AB	1.14	0.08	6.215	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	34.24	2.28	32.843	D	C
C-AB	1.50	0.10	6.735	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	41.03	2.74	35.927	E	D
C-AB	1.51	0.10	6.735	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	20.27	1.35	18.658	C	B
C-AB	1.15	0.08	6.220	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (17:30-17:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.63	0.78	12.977	B	B
C-AB	0.91	0.06	5.888	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



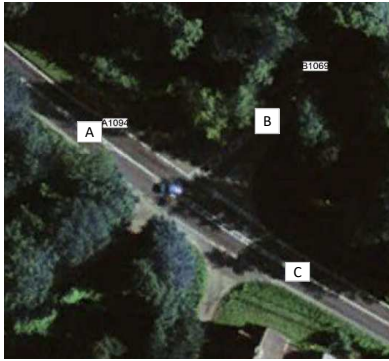


**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 3

**Junction 3 - A1094 / B1069 Junction**



**Notes**

Link	Arm	Road Name
6	A	A1094
9	B	B1069
8	C	A1094

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Wednesday 5th June 2019: 07:30AM - 08:30AM

**Vehicles**

From/To	A	B	C	Totals
A	0	187	132	319
B	260	0	15	275
C	118	7	0	125
Totals	378	194	147	719

**HGVs**

From/To	A	B	C	Totals
A	0	13	12	25
B	11	0	0	11
C	3	0	0	3
Totals	14	13	12	39

**Total**

From/To	A	B	C	Totals
A	0	200	144	344
B	271	0	15	286
C	121	7	0	128
Totals	392	207	159	758

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
B	4.1%	0.0%	0.0%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	2%	3%	2%

**PM Peak Traffic**

Thursday 6th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	251	194	445
B	192	0	6	198
C	228	1	0	229
Totals	420	252	0	872

**HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

**Total**

From/To	A	B	C	Totals
A	0	253	196	449
B	194	0	6	200
C	228	1	0	229
Totals	422	254	202	878

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	198	140	337
B	275	0	16	291
C	125	7	0	132
Totals	400	205	155	761

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	14	13	26
B	12	0	0	12
C	3	0	0	3
Totals	15	14	13	41

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	212	152	364
B	287	0	16	303
C	128	7	0	135
Totals	415	219	168	802

**%HGV**

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
B	4.1%	0.0%	0.0%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	2%	3%	2%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	266	205	471
B	203	0	6	210
C	241	1	0	242
Totals	445	267	212	923

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

**Growth Factored Total**

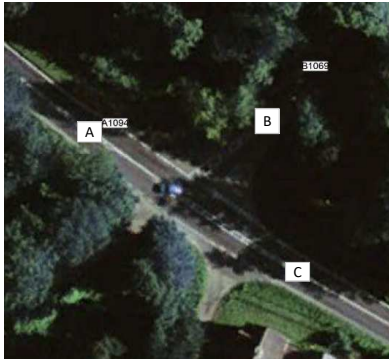
From/To	A	B	C	Totals
A	0	268	208	475
B	205	0	6	212
C	241	1	0	242
Totals	447	269	214	930

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%



Junction 3 - A1094 / B1069 Junction



Notes

Link	Arm	Road Name
6	A	A1094
9	B	B1069
8	C	A1094

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

AM Peak Traffic

Vehicles				
From/To	A	B	C	Totals
A	0	72	5	76
B	0	0	0	0
C	0	19	0	19
Totals	0	91	5	96

PM Peak Traffic

Vehicles				
From/To	A	B	C	Totals
A	0	0	0	0
B	72	0	19	91
C	5	0	0	5
Totals	76	0	19	96

HGVs				
From/To	A	B	C	Totals
A	0	10	0	10
B	10	0	0	11
C	0	0	0	0
Totals	10	11	0	21

HGVs				
From/To	A	B	C	Totals
A	0	10	0	10
B	10	0	0	11
C	0	0	0	0
Totals	10	11	0	21

Total				
From/To	A	B	C	Totals
A	0	82	5	87
B	10	0	0	11
C	0	20	0	20
Totals	10	102	5	117

Total				
From/To	A	B	C	Totals
A	0	10	0	10
B	82	0	20	102
C	5	0	0	5
Totals	87	11	20	117

%HGV				
From/To	A	B	C	Average
A	0.0%	12.5%	0.0%	4%
B	100.0%	0.0%	100.0%	67%
C	0.0%	1.8%	0.0%	1%
Average	33%	5%	33%	24%

%HGV				
From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	12.5%	0.0%	1.8%	5%
C	0.0%	100.0%	0.0%	33%
Average	4%	67%	1%	24%

**Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 South**

AM Peak Traffic

Vehicles				
From/To	A	B	C	Totals
A	0	270	144	414
B	275	0	16	291
C	125	27	0	152
Totals	400	296	160	857

PM Peak Traffic

Vehicles				
From/To	A	B	C	Totals
A	0	266	205	471
B	275	0	26	301
C	246	1	0	247
Totals	521	267	231	1019

HGVs				
From/To	A	B	C	Totals
A	0	24	13	37
B	22	0	0	22
C	3	0	0	4
Totals	25	24	13	63

HGVs				
From/To	A	B	C	Totals
A	0	12	2	15
B	12	0	0	13
C	0	0	0	0
Totals	12	13	2	28

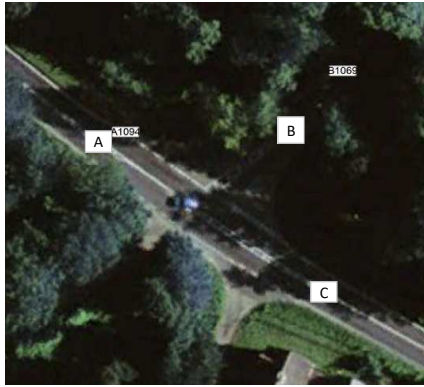
Total				
From/To	A	B	C	Totals
A	0	294	157	451
B	297	0	16	313
C	128	27	0	155
Totals	425	321	173	919

Total				
From/To	A	B	C	Totals
A	0	278	208	486
B	287	0	26	314
C	246	1	0	248
Totals	534	280	234	1047

%HGV				
From/To	A	B	C	Average
A	0.0%	8.2%	8.1%	5%
B	7.4%	0.0%	2.2%	3%
C	2.5%	1.3%	0.0%	1%
Average	3%	3%	3%	3%

%HGV				
From/To	A	B	C	Average
A	0.0%	4.5%	1.0%	2%
B	4.3%	0.0%	1.4%	2%
C	0.0%	25.4%	0.0%	8%
Average	1%	10%	1%	4%

Junction 3 - A1094 / B1069 Junction



Notes

Link	Arm	Road Name
6	A	A1094
9	B	B1069
8	C	A1094

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:30AM - 08:30AM

Vehicles

From/To	A	B	C	Totals
A	0	187	132	319
B	260	0	15	275
C	118	7	0	125
Totals	378	194	147	719

HGVs

From/To	A	B	C	Totals
A	0	13	12	25
B	11	0	0	11
C	3	0	0	3
Totals	14	13	12	39

Total

From/To	A	B	C	Totals
A	0	200	144	344
B	271	0	15	286
C	121	7	0	128
Totals	392	207	159	758

%HGV

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
B	4.1%	0.0%	0.0%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	2%	3%	2%

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

Vehicles

From/To	A	B	C	Totals
A	0	251	194	445
B	192	0	6	198
C	228	1	0	229
Totals	420	252	0	872

HGVs

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

Total

From/To	A	B	C	Totals
A	0	253	196	449
B	194	0	6	200
C	228	1	0	229
Totals	422	254	202	878

%HGV

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%

**Forecast Flows (2023)**

Growth Factored Vehicles

From/To	A	B	C	Totals
A	0	198	140	337
B	275	0	16	291
C	125	7	0	132
Totals	400	205	155	761

Growth Factored HGVs

From/To	A	B	C	Totals
A	0	14	13	26
B	12	0	0	12
C	3	0	0	3
Totals	15	14	13	41

Growth Factored Total

From/To	A	B	C	Totals
A	0	212	152	364
B	287	0	16	303
C	128	7	0	135
Totals	415	219	168	802

%HGV

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
B	4.1%	0.0%	0.0%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	2%	3%	2%

Growth Factored Vehicles

From/To	A	B	C	Totals
A	0	266	205	471
B	203	0	6	210
C	241	1	0	242
Totals	445	267	212	923

Growth Factored HGVs

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

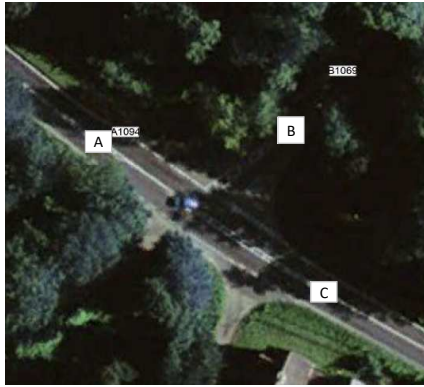
Growth Factored Total

From/To	A	B	C	Totals
A	0	268	208	475
B	205	0	6	212
C	241	1	0	242
Totals	447	269	214	930

%HGV

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%

Junction 3 - A1094 / B1069 Junction



Notes

Link	Arm	Road Name
6	A	A1094
9	B	B1069
8	C	A1094

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic (2023) - 100% HGV Origin from A12 north**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	72	5	76
B	0	0	0	0
C	0	19	0	19
Totals	0	91	5	96

HGVs

From/To	A	B	C	Totals
A	0	10	0	10
B	10	0	0	11
C	0	0	0	0
Totals	10	11	0	21

Total

From/To	A	B	C	Totals
A	0	82	5	87
B	10	0	0	11
C	0	20	0	20
Totals	10	102	5	117

%HGV

From/To	A	B	C	Average
A	0.0%	12.5%	0.0%	4%
B	100.0%	0.0%	100.0%	67%
C	0.0%	1.8%	0.0%	1%
Average	33%	5%	33%	24%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	0	0	0
B	72	0	19	91
C	5	0	0	5
Totals	76	0	19	96

HGVs

From/To	A	B	C	Totals
A	0	10	0	10
B	10	0	0	11
C	0	0	0	0
Totals	10	11	0	21

Total

From/To	A	B	C	Totals
A	0	10	0	10
B	82	0	20	102
C	5	0	0	5
Totals	87	11	20	117

%HGV

From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	12.5%	0.0%	1.8%	5%
C	0.0%	100.0%	0.0%	33%
Average	4%	67%	1%	24%

**Forecast Flows + EA1N Construction Traffic (2023) 100% HGV Origin from A12 north**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	270	144	414
B	275	0	16	291
C	125	27	0	152
Totals	400	296	160	857

HGVs

From/To	A	B	C	Totals
A	0	24	13	37
B	22	0	0	22
C	3	0	0	4
Totals	25	24	13	63

Total

From/To	A	B	C	Totals
A	0	294	157	451
B	297	0	16	313
C	128	27	0	155
Totals	425	321	173	919

%HGV

From/To	A	B	C	Average
A	0.0%	8.2%	8.1%	5%
B	7.4%	0.0%	2.2%	3%
C	2.5%	1.3%	0.0%	1%
Average	3%	3%	3%	3%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	266	205	471
B	275	0	26	301
C	246	1	0	247
Totals	521	267	231	1019

HGVs

From/To	A	B	C	Totals
A	0	12	2	15
B	12	0	0	13
C	0	0	0	0
Totals	12	13	2	28

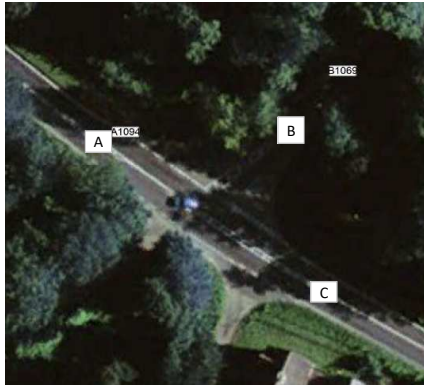
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C	246	1	0	248
Totals	534	280	234	1047

%HGV

From/To	A	B	C	Average
A	0.0%	4.5%	1.0%	2%
B	4.3%	0.0%	1.4%	2%
C	0.0%	25.4%	0.0%	8%
Average	1%	10%	1%	4%

Junction 3 - A1094 / B1069 Junction



Notes

Link	Arm	Road Name
6	A	A1094 west
9	B	B1069
8	C	A1094 east

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:30AM - 08:30AM

Vehicles

From/To	A	B	C	Totals
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%HGV

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
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C	2.5%	0.0%	0.0%	1%
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**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

Vehicles

From/To	A	B	C	Totals
A	0	251	194	445
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C	228	1	0	229
Totals	420	252	0	872

HGVs

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

Total

From/To	A	B	C	Totals
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C	228	1	0	229
Totals	422	254	202	878

%HGV

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%

**Forecast Flows (2023)**

Growth Factored Vehicles

From/To	A	B	C	Totals
A	0	198	140	337
B	275	0	16	291
C	125	7	0	132
Totals	400	205	155	761

Growth Factored HGVs

From/To	A	B	C	Totals
A	0	14	13	26
B	12	0	0	12
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Totals	15	14	13	41

Growth Factored Total

From/To	A	B	C	Totals
A	0	212	152	364
B	287	0	16	303
C	128	7	0	135
Totals	415	219	168	802

%HGV

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
B	4.1%	0.0%	0.0%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	2%	3%	2%

Growth Factored Vehicles

From/To	A	B	C	Totals
A	0	266	205	471
B	203	0	6	210
C	241	1	0	242
Totals	445	267	212	923

Growth Factored HGVs

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

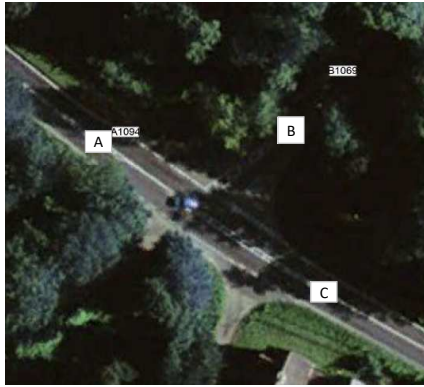
Growth Factored Total

From/To	A	B	C	Totals
A	0	268	208	475
B	205	0	6	212
C	241	1	0	242
Totals	447	269	214	930

%HGV

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%

Junction 3 - A1094 / B1069 Junction



Notes

Link	Arm	Road Name
6	A	A1094 west
9	B	B1069
8	C	A1094 east

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	84	0	84
B	0	0	0	0
C	0	25	0	25
Totals	0	109	0	109

HGVs

From/To	A	B	C	Totals
A	0	13	0	13
B	13	0	0	13
C	0	0	0	0
Totals	13	13	0	27

Total

From/To	A	B	C	Totals
A	0	97	0	97
B	13	0	0	13
C	0	25	0	25
Totals	13	123	0	136

%HGV

From/To	A	B	C	Average
A	0.0%	13.2%	0.0%	4%
B	100.0%	0.0%	100.0%	67%
C	0.0%	1.7%	0.0%	1%
Average	33%	5%	33%	24%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	0	0	0
B	84	0	25	109
C	0	0	0	0
Totals	84	0	25	109

HGVs

From/To	A	B	C	Totals
A	0	13	0	13
B	13	0	0	13
C	0	0	0	0
Totals	13	13	0	27

Total

From/To	A	B	C	Totals
A	0	13	0	13
B	97	0	25	123
C	0	0	0	0
Totals	97	13	25	136

%HGV

From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	13.2%	0.0%	1.7%	5%
C	0.0%	100.0%	0.0%	33%
Average	4%	67%	1%	24%

**Forecast Flows + EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	282	140	422
B	275	0	16	291
C	125	32	0	157
Totals	400	315	155	870

HGVs

From/To	A	B	C	Totals
A	0	27	13	39
B	24	0	0	25
C	3	0	0	4
Totals	28	27	13	68

Total

From/To	A	B	C	Totals
A	0	309	152	461
B	299	0	16	316
C	128	33	0	161
Totals	427	342	169	938

%HGV

From/To	A	B	C	Average
A	0.0%	8.6%	8.3%	6%
B	8.2%	0.0%	2.7%	4%
C	2.5%	1.3%	0.0%	1%
Average	4%	3%	4%	4%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	266	205	471
B	288	0	31	319
C	241	1	0	242
Totals	529	267	237	1033

HGVs

From/To	A	B	C	Totals
A	0	15	2	17
B	15	0	0	15
C	0	0	0	0
Totals	15	15	3	33

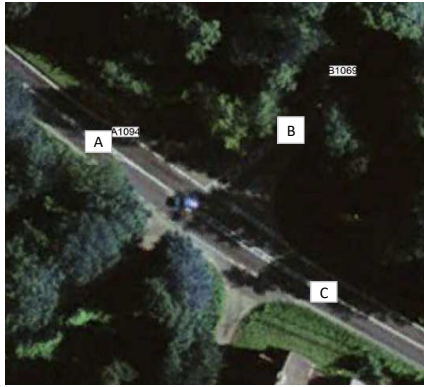
Total

From/To	A	B	C	Totals
A	0	281	208	488
B	303	0	32	334
C	241	1	0	243
Totals	544	282	239	1066

%HGV

From/To	A	B	C	Average
A	0.0%	5.3%	1.0%	2%
B	4.9%	0.0%	1.4%	2%
C	0.0%	29.4%	0.0%	10%
Average	2%	12%	1%	5%

Junction 3 - A1094 / B1069 Junction



Notes

Link	Arm	Road Name
6	A	A1094 west
9	B	B1069
8	C	A1094 east

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:30AM - 08:30AM

Vehicles

From/To	A	B	C	Totals
A	0	187	132	319
B	260	0	15	275
C	118	7	0	125
Totals	378	194	147	719

HGVs

From/To	A	B	C	Totals
A	0	13	12	25
B	11	0	0	11
C	3	0	0	3
Totals	14	13	12	39

Total

From/To	A	B	C	Totals
A	0	200	144	344
B	271	0	15	286
C	121	7	0	128
Totals	392	207	159	758

%HGV

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
B	4.1%	0.0%	0.0%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	2%	3%	2%

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

Vehicles

From/To	A	B	C	Totals
A	0	251	194	445
B	192	0	6	198
C	228	1	0	229
Totals	420	252	0	872

HGVs

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

Total

From/To	A	B	C	Totals
A	0	253	196	449
B	194	0	6	200
C	228	1	0	229
Totals	422	254	202	878

%HGV

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%

**Forecast Flows (2023)**

Growth Factored Vehicles

From/To	A	B	C	Totals
A	0	198	140	337
B	275	0	16	291
C	125	7	0	132
Totals	400	205	155	761

Growth Factored HGVs

From/To	A	B	C	Totals
A	0	14	13	26
B	12	0	0	12
C	3	0	0	3
Totals	15	14	13	41

Growth Factored Total

From/To	A	B	C	Totals
A	0	212	152	364
B	287	0	16	303
C	128	7	0	135
Totals	415	219	168	802

%HGV

From/To	A	B	C	Average
A	0.0%	6.5%	8.3%	5%
B	4.1%	0.0%	0.0%	1%
C	2.5%	0.0%	0.0%	1%
Average	2%	2%	3%	2%

Growth Factored Vehicles

From/To	A	B	C	Totals
A	0	266	205	471
B	203	0	6	210
C	241	1	0	242
Totals	445	267	212	923

Growth Factored HGVs

From/To	A	B	C	Totals
A	0	2	2	4
B	2	0	0	2
C	0	0	0	0
Totals	2	2	2	6

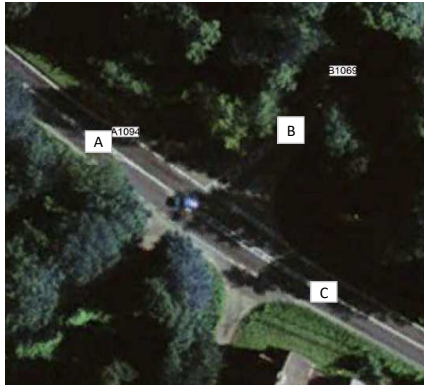
Growth Factored Total

From/To	A	B	C	Totals
A	0	268	208	475
B	205	0	6	212
C	241	1	0	242
Totals	447	269	214	930

%HGV

From/To	A	B	C	Average
A	0.0%	0.8%	1.0%	1%
B	1.0%	0.0%	0.0%	0%
C	0.0%	0.0%	0.0%	0%
Average	0%	0%	0%	0%

Junction 3 - A1094 / B1069 Junction



Notes

Link	Arm	Road Name
6	A	A1094 west
9	B	B1069
8	C	A1094 east

Growth Factor	AM Peak	PM Peak
All Vehicles	1.0578	1.0588

**EA2 + EA1N Northbound Construction Traffic (2023)**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	84	0	84
B	0	0	0	0
C	0	25	0	25
Totals	0	109	0	109

HGVs

From/To	A	B	C	Totals
A	0	13	0	13
B	13	0	0	13
C	0	0	0	0
Totals	13	13	0	27

Total

From/To	A	B	C	Totals
A	0	97	0	97
B	13	0	0	13
C	0	25	0	25
Totals	13	123	0	136

%HGV

From/To	A	B	C	Average
A	0.0%	13.2%	0.0%	4%
B	100.0%	0.0%	100.0%	67%
C	0.0%	1.7%	0.0%	1%
Average	33%	5%	33%	24%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	0	0	0
B	84	0	25	109
C	0	0	0	0
Totals	84	0	25	109

HGVs

From/To	A	B	C	Totals
A	0	13	0	13
B	13	0	0	13
C	0	0	0	0
Totals	13	13	0	27

Total

From/To	A	B	C	Totals
A	0	13	0	13
B	97	0	25	123
C	0	0	0	0
Totals	97	13	25	136

%HGV

From/To	A	B	C	Average
A	0.0%	100.0%	0.0%	33%
B	13.2%	0.0%	1.7%	5%
C	0.0%	100.0%	0.0%	33%
Average	4%	67%	1%	24%

**Forecast Flows + EA2 + EAN1 Construction Traffic (2023) 100% HGV Origin from A12 north**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	282	140	422
B	275	0	16	291
C	125	32	0	157
Totals	400	315	155	870

HGVs

From/To	A	B	C	Totals
A	0	27	13	39
B	24	0	0	25
C	3	0	0	4
Totals	28	27	13	68

Total

From/To	A	B	C	Totals
A	0	309	152	461
B	299	0	16	316
C	128	33	0	161
Totals	427	342	169	938

%HGV

From/To	A	B	C	Average
A	0.0%	8.6%	8.3%	6%
B	8.2%	0.0%	2.7%	4%
C	2.5%	1.3%	0.0%	1%
Average	4%	3%	4%	4%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	266	205	471
B	288	0	31	319
C	241	1	0	242
Totals	529	267	237	1033

HGVs

From/To	A	B	C	Totals
A	0	15	2	17
B	15	0	0	15
C	0	0	0	0
Totals	15	15	3	33

Total

From/To	A	B	C	Totals
A	0	281	208	488
B	303	0	32	334
C	241	1	0	243
Totals	544	282	239	1066

%HGV

From/To	A	B	C	Average
A	0.0%	5.3%	1.0%	2%
B	4.9%	0.0%	1.4%	2%
C	0.0%	29.4%	0.0%	10%
Average	2%	12%	1%	5%

# Junctions 8

## PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]  
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**Filename:** Junction 2 - A12 and B1122.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 08/07/2019 14:14:44

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM



## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023</b>								
Stream B-AC	0.77	16.96	0.44	C	2.68	34.40	0.74	D
Stream C-AB	0.22	8.14	0.18	A	0.10	6.71	0.09	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023</b>								
Stream B-AC	0.74	16.01	0.43	C	2.53	32.04	0.73	D
Stream C-AB	0.27	8.96	0.21	A	0.13	7.74	0.12	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023</b>								
Stream B-AC	0.73	16.20	0.42	C	1.98	27.09	0.67	D
Stream C-AB	0.21	7.98	0.18	A	0.10	6.69	0.09	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023</b>								
Stream B-AC	0.71	15.49	0.42	C	1.90	25.75	0.66	D
Stream C-AB	0.25	8.59	0.20	A	0.12	7.48	0.11	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background 2023</b>								
Stream B-AC	0.61	13.83	0.38	B	0.71	13.73	0.42	B
Stream C-AB	0.18	7.38	0.15	A	0.10	6.62	0.09	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - Forecast Background 2023, AM" model duration: 07:15 - 08:45

"D2 - Forecast Background 2023, PM" model duration: 16:15 - 17:45

"D3 - Forecast Background + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D4 - Forecast Background + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D5 - Forecast Background + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D6 - Forecast Background + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

"D7 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D8 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D9 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D10 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 08/07/2019 14:14:34

## File summary

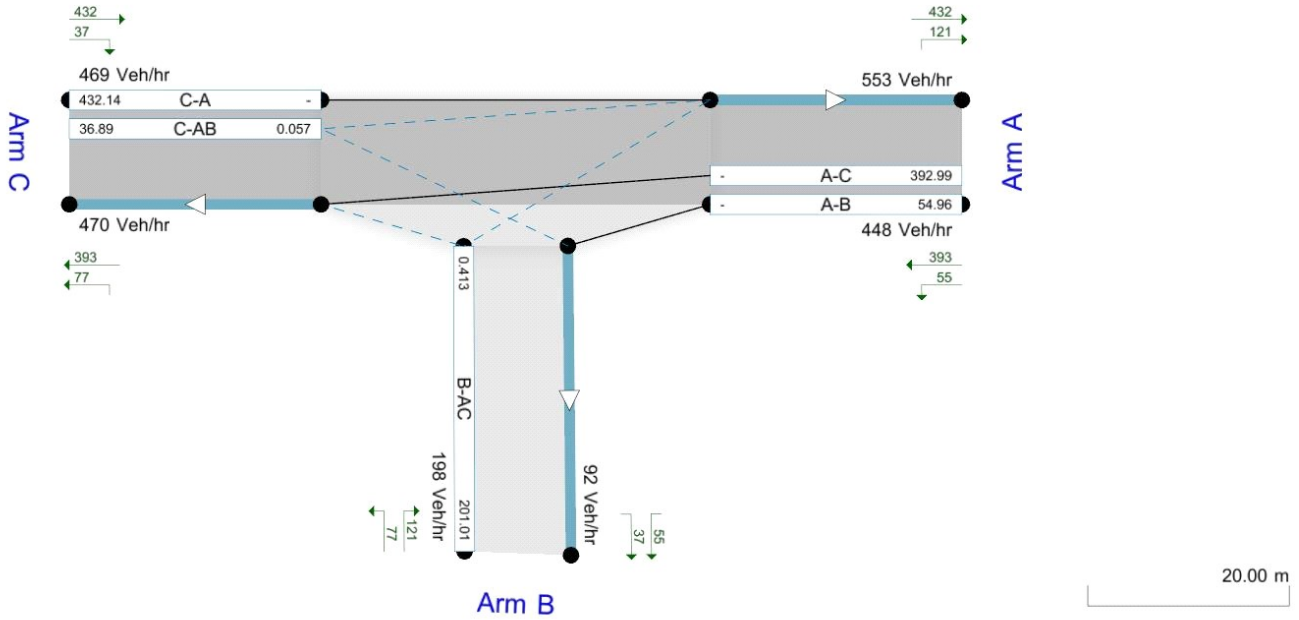
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Junction of the A12 and B1122
<b>Site Number</b>	J2
<b>Date</b>	24/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## 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



Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:15-07:30)  
Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	07:15	08:45	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		11.61	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	643.00	100.000
B	ONE HOUR	✓	145.00	100.000
C	ONE HOUR	✓	495.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	484.08	512.14		
07:15-07:30	B	109.16	113.92		
07:15-07:30	C	372.66	389.26		
07:30-07:45	A	578.04	611.54		
07:30-07:45	B	130.35	136.04		
07:30-07:45	C	444.99	464.82		
07:45-08:00	A	707.96	748.99		
07:45-08:00	B	159.65	166.61		
07:45-08:00	C	545.01	569.28		
08:00-08:15	A	707.96	748.99		
08:00-08:15	B	159.65	166.61		
08:00-08:15	C	545.01	569.28		
08:15-08:30	A	578.04	611.54		
08:15-08:30	B	130.35	136.04		
08:15-08:30	C	444.99	464.82		
08:30-08:45	A	484.08	512.14		
08:30-08:45	B	109.16	113.92		
08:30-08:45	C	372.66	389.26		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	100.000	543.000
	B	73.000	0.000	72.000
	C	416.000	79.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.16	0.84
	B	0.50	0.00	0.50
	C	0.84	0.16	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
		A	B	C
From	A	1.000	1.074	1.055
	B	1.058	1.000	1.029
	C	1.053	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.0	7.4	5.5
	B	5.8	0.0	2.9
	C	5.3	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.38	13.83	0.61	B	133.05	199.58	37.43	11.25	0.42	37.43	11.25
C-AB	0.15	7.38	0.18	A	72.49	108.74	12.33	6.80	0.14	12.33	6.80
C-A	-	-	-	-	381.73	572.59	-	-	-	-	-
A-B	-	-	-	-	91.76	137.64	-	-	-	-	-
A-C	-	-	-	-	498.27	747.40	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	109.16	27.29	108.07	0.00	505.05	0.216	0.00	0.27	9.045	A
C-AB	59.48	14.87	59.07	0.00	639.18	0.093	0.00	0.10	6.202	A
C-A	313.19	78.30	313.19	0.00	-	-	-	-	-	-
A-B	75.29	18.82	75.29	0.00	-	-	-	-	-	-
A-C	408.80	102.20	408.80	0.00	-	-	-	-	-	-

### Main results: (07:30-07:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	130.35	32.59	129.93	0.00	469.81	0.277	0.27	0.38	10.577	B
C-AB	71.02	17.76	70.91	0.00	612.23	0.116	0.10	0.13	6.648	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	89.90	22.47	89.90	0.00	-	-	-	-	-	-
A-C	488.15	122.04	488.15	0.00	-	-	-	-	-	-

### Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	159.65	39.91	158.76	0.00	419.94	0.380	0.38	0.60	13.735	B
C-AB	86.99	21.75	86.80	0.00	574.98	0.151	0.13	0.18	7.374	A
C-A	458.02	114.50	458.02	0.00	-	-	-	-	-	-
A-B	110.10	27.53	110.10	0.00	-	-	-	-	-	-
A-C	597.85	149.46	597.85	0.00	-	-	-	-	-	-

### Main results: (08:00-08:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	159.65	39.91	159.62	0.00	419.88	0.380	0.60	0.61	13.827	B
C-AB	86.99	21.75	86.98	0.00	574.98	0.151	0.18	0.18	7.376	A
C-A	458.02	114.50	458.02	0.00	-	-	-	-	-	-
A-B	110.10	27.53	110.10	0.00	-	-	-	-	-	-
A-C	597.85	149.46	597.85	0.00	-	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	130.35	32.59	131.22	0.00	469.72	0.278	0.61	0.39	10.661	B
C-AB	71.02	17.76	71.20	0.00	612.23	0.116	0.18	0.13	6.655	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	89.90	22.47	89.90	0.00	-	-	-	-	-	-
A-C	488.15	122.04	488.15	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	109.16	27.29	109.61	0.00	504.91	0.216	0.39	0.28	9.116	A
C-AB	59.48	14.87	59.59	0.00	639.18	0.093	0.13	0.10	6.211	A
C-A	313.19	78.30	313.19	0.00	-	-	-	-	-	-
A-B	75.29	18.82	75.29	0.00	-	-	-	-	-	-
A-C	408.80	102.20	408.80	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (07:15-07:30)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	3.91	0.26	9.045	A	A
C-AB	1.52	0.10	6.202	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (07:30-07:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.49	0.37	10.577	B	B
C-AB	1.96	0.13	6.648	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (07:45-08:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.57	0.57	13.735	B	B
C-AB	2.65	0.18	7.374	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:00-08:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.05	0.60	13.827	B	B
C-AB	2.67	0.18	7.376	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.10	0.41	10.661	B	B
C-AB	1.99	0.13	6.655	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.32	0.29	9.116	A	A
C-AB	1.55	0.10	6.211	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		12.17	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	582.00	100.000
B	ONE HOUR	✓	171.00	100.000
C	ONE HOUR	✓	608.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	438.16	454.07		
16:15-16:30	B	128.74	131.09		
16:15-16:30	C	457.73	468.26		
16:30-16:45	A	523.21	542.21		
16:30-16:45	B	153.73	156.54		
16:30-16:45	C	546.58	559.14		
16:45-17:00	A	640.79	664.06		
16:45-17:00	B	188.27	191.72		
16:45-17:00	C	669.42	684.81		
17:00-17:15	A	640.79	664.06		
17:00-17:15	B	188.27	191.72		
17:00-17:15	C	669.42	684.81		
17:15-17:30	A	523.21	542.21		
17:15-17:30	B	153.73	156.54		
17:15-17:30	C	546.58	559.14		
17:30-17:45	A	438.16	454.07		
17:30-17:45	B	128.74	131.09		
17:30-17:45	C	457.73	468.26		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	68.000	514.000
	B	78.000	0.000	93.000
	C	559.000	49.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.46	0.00	0.54
	C	0.92	0.08	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.016	1.039
	B	1.027	1.000	1.011
	C	1.025	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	1.6	3.9
	B	2.7	0.0	1.1
	C	2.5	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.42	13.73	0.71	B	156.91	235.37	43.45	11.08	0.48	43.46	11.08
C-AB	0.09	6.62	0.10	A	44.96	67.45	7.00	6.23	0.08	7.00	6.23
C-A	-	-	-	-	512.95	769.42	-	-	-	-	-
A-B	-	-	-	-	62.40	93.60	-	-	-	-	-
A-C	-	-	-	-	471.66	707.48	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	128.74	32.18	127.48	0.00	534.54	0.241	0.00	0.31	8.817	A
C-AB	36.89	9.22	36.65	0.00	654.92	0.056	0.00	0.06	5.823	A
C-A	420.84	105.21	420.84	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	153.73	38.43	153.23	0.00	499.84	0.308	0.31	0.44	10.372	B
C-AB	44.05	11.01	43.99	0.00	631.02	0.070	0.06	0.07	6.132	A
C-A	502.53	125.63	502.53	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.27	47.07	187.22	0.00	450.43	0.418	0.44	0.70	13.621	B
C-AB	53.95	13.49	53.85	0.00	597.98	0.090	0.07	0.10	6.616	A
C-A	615.47	153.87	615.47	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.27	47.07	188.24	0.00	450.40	0.418	0.70	0.71	13.727	B
C-AB	53.95	13.49	53.95	0.00	597.98	0.090	0.10	0.10	6.616	A
C-A	615.47	153.87	615.47	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	153.73	38.43	154.76	0.00	499.79	0.308	0.71	0.45	10.464	B
C-AB	44.05	11.01	44.14	0.00	631.02	0.070	0.10	0.08	6.134	A
C-A	502.53	125.63	502.53	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	128.74	32.18	129.26	0.00	534.46	0.241	0.45	0.32	8.897	A
C-AB	36.89	9.22	36.95	0.00	654.92	0.056	0.08	0.06	5.827	A
C-A	420.84	105.21	420.84	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.50	0.30	8.817	A	A
C-AB	0.88	0.06	5.823	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.34	0.42	10.372	B	B
C-AB	1.12	0.07	6.132	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.00	0.67	13.621	B	B
C-AB	1.48	0.10	6.616	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.59	0.71	13.727	B	B
C-AB	1.49	0.10	6.616	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.06	0.47	10.464	B	B
C-AB	1.13	0.08	6.134	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.98	0.33	8.897	A	A
C-AB	0.90	0.06	5.827	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(S)) 2023, AM	Forecast Background + EA1N Construction (A12(S)) 2023	AM	100% of HGVs distributed from the A12 South	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		12.87	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	713.00	100.000
B	ONE HOUR	✓	151.00	100.000
C	ONE HOUR	✓	510.00	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	536.78	564.66		
07:15-07:30	B	113.68	122.80		
07:15-07:30	C	383.95	404.87		
07:30-07:45	A	640.97	674.26		
07:30-07:45	B	135.75	146.63		
07:30-07:45	C	458.48	483.45		
07:45-08:00	A	785.03	825.79		
07:45-08:00	B	166.25	179.59		
07:45-08:00	C	561.52	592.11		
08:00-08:15	A	785.03	825.79		
08:00-08:15	B	166.25	179.59		
08:00-08:15	C	561.52	592.11		
08:15-08:30	A	640.97	674.26		
08:15-08:30	B	135.75	146.63		
08:15-08:30	C	458.48	483.45		
08:30-08:45	A	536.78	564.66		
08:30-08:45	B	113.68	122.80		
08:30-08:45	C	383.95	404.87		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	164.000	549.000
	B	73.000	0.000	78.000
	C	416.000	94.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.48	0.00	0.52
	C	0.82	0.18	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.045	1.054
	B	1.058	1.000	1.101
	C	1.053	1.061	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	4.5	5.4
	B	5.8	0.0	10.1
	C	5.3	6.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.42	15.49	0.71	C	138.56	207.84	42.59	12.29	0.47	42.59	12.30
C-AB	0.20	8.59	0.25	A	86.27	129.41	16.78	7.78	0.19	16.78	7.78
C-A	-	-	-	-	381.71	572.57	-	-	-	-	-
A-B	-	-	-	-	150.49	225.73	-	-	-	-	-
A-C	-	-	-	-	503.77	755.66	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	113.68	28.42	112.48	0.00	485.80	0.234	0.00	0.30	9.613	A
C-AB	70.77	17.69	70.23	0.00	589.01	0.120	0.00	0.14	6.932	A
C-A	313.18	78.30	313.18	0.00	-	-	-	-	-	-
A-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	135.75	33.94	135.25	0.00	449.80	0.302	0.30	0.42	11.426	B
C-AB	84.51	21.13	84.35	0.00	561.03	0.151	0.14	0.18	7.550	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	166.25	41.56	165.17	0.00	398.60	0.417	0.42	0.70	15.373	C
C-AB	103.54	25.88	103.26	0.00	522.42	0.198	0.18	0.24	8.583	A
C-A	457.98	114.50	457.98	0.00	-	-	-	-	-	-
A-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	166.25	41.56	166.22	0.00	398.51	0.417	0.70	0.71	15.490	C
C-AB	103.54	25.88	103.53	0.00	522.42	0.198	0.24	0.25	8.593	A
C-A	457.98	114.50	457.98	0.00	-	-	-	-	-	-
A-B	180.57	45.14	180.57	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	135.75	33.94	136.81	0.00	449.67	0.302	0.71	0.44	11.544	B
C-AB	84.51	21.13	84.78	0.00	561.03	0.151	0.25	0.18	7.562	A
C-A	373.97	93.49	373.97	0.00	-	-	-	-	-	-
A-B	147.43	36.86	147.43	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	113.68	28.42	114.20	0.00	485.61	0.234	0.44	0.31	9.706	A
C-AB	70.77	17.69	70.94	0.00	589.01	0.120	0.18	0.14	6.950	A
C-A	313.18	78.30	313.18	0.00	-	-	-	-	-	-
A-B	123.47	30.87	123.47	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.31	0.29	9.613	A	A
C-AB	2.01	0.13	6.932	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.15	0.41	11.426	B	B
C-AB	2.64	0.18	7.550	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.89	0.66	15.373	C	B
C-AB	3.67	0.24	8.583	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.53	0.70	15.490	C	B
C-AB	3.71	0.25	8.593	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.90	0.46	11.544	B	B
C-AB	2.69	0.18	7.562	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.81	0.32	9.706	A	A
C-AB	2.07	0.14	6.950	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(S)) 2023, PM	Forecast Background + EA1N Construction (A12(S)) 2023	PM	100% of HGVs distributed from the A12 South	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		22.33	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	582.00	100.000
B	ONE HOUR	✓	250.00	100.000
C	ONE HOUR	✓	619.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	438.16	454.07		
16:15-16:30	B	188.21	194.94		
16:15-16:30	C	466.02	480.53		
16:30-16:45	A	523.21	542.21		
16:30-16:45	B	224.74	232.78		
16:30-16:45	C	556.47	573.80		
16:45-17:00	A	640.79	664.06		
16:45-17:00	B	275.26	285.09		
16:45-17:00	C	681.53	702.76		
17:00-17:15	A	640.79	664.06		
17:00-17:15	B	275.26	285.09		
17:00-17:15	C	681.53	702.76		
17:15-17:30	A	523.21	542.21		
17:15-17:30	B	224.74	232.78		
17:15-17:30	C	556.47	573.80		
17:30-17:45	A	438.16	454.07		
17:30-17:45	B	188.21	194.94		
17:30-17:45	C	466.02	480.53		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	68.000	514.000
	B	142.000	0.000	108.000
	C	565.000	54.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.57	0.00	0.43
	C	0.91	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.016	1.039
	B	1.015	1.000	1.063
	C	1.024	1.106	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	1.6	3.9
	B	1.5	0.0	6.3
	C	2.4	10.6	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.66	25.75	1.90	D	229.40	344.11	99.46	17.34	1.11	99.48	17.35
C-AB	0.11	7.48	0.12	A	49.55	74.33	8.69	7.01	0.10	8.69	7.01
C-A	-	-	-	-	518.45	777.68	-	-	-	-	-
A-B	-	-	-	-	62.40	93.60	-	-	-	-	-
A-C	-	-	-	-	471.66	707.48	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.21	47.05	185.85	0.00	500.74	0.376	0.00	0.59	11.351	B
C-AB	40.65	10.16	40.36	0.00	592.16	0.069	0.00	0.07	6.521	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-



**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	224.74	56.19	223.47	0.00	464.91	0.483	0.59	0.91	14.830	B
C-AB	48.55	12.14	48.47	0.00	570.55	0.085	0.07	0.09	6.895	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	275.25	68.81	271.53	0.00	414.10	0.665	0.91	1.84	24.617	C
C-AB	59.46	14.86	59.34	0.00	540.69	0.110	0.09	0.12	7.476	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	275.25	68.81	274.99	0.00	414.06	0.665	1.84	1.90	25.752	D
C-AB	59.46	14.86	59.46	0.00	540.69	0.110	0.12	0.12	7.479	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	224.74	56.19	228.50	0.00	464.85	0.483	1.90	0.96	15.462	C
C-AB	48.55	12.14	48.66	0.00	570.55	0.085	0.12	0.09	6.898	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	188.21	47.05	189.61	0.00	500.62	0.376	0.96	0.61	11.628	B
C-AB	40.65	10.16	40.73	0.00	592.15	0.069	0.09	0.07	6.528	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.34	0.56	11.351	B	B
C-AB	1.09	0.07	6.521	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	12.91	0.86	14.830	B	B
C-AB	1.39	0.09	6.895	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	24.84	1.66	24.617	C	C
C-AB	1.84	0.12	7.476	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	28.18	1.88	25.752	D	C
C-AB	1.85	0.12	7.479	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.53	1.04	15.462	C	B
C-AB	1.41	0.09	6.898	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.66	0.64	11.628	B	B
C-AB	1.11	0.07	6.528	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(N)) 2023, AM	Forecast Background + EA1N Construction (A12(N)) 2023	AM	100% of HGVs distributed from the A12 North	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		13.27	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	723.00	100.000
B	ONE HOUR	✓	149.00	100.000
C	ONE HOUR	✓	510.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	544.31	579.95		
07:15-07:30	B	112.18	119.78		
07:15-07:30	C	383.95	405.88		
07:30-07:45	A	649.96	692.51		
07:30-07:45	B	133.95	143.02		
07:30-07:45	C	458.48	484.66		
07:45-08:00	A	796.04	848.15		
07:45-08:00	B	164.05	175.17		
07:45-08:00	C	561.52	593.58		
08:00-08:15	A	796.04	848.15		
08:00-08:15	B	164.05	175.17		
08:00-08:15	C	561.52	593.58		
08:15-08:30	A	649.96	692.51		
08:15-08:30	B	133.95	143.02		
08:15-08:30	C	458.48	484.66		
08:30-08:45	A	544.31	579.95		
08:30-08:45	B	112.18	119.78		
08:30-08:45	C	383.95	405.88		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	168.000	555.000
	B	77.000	0.000	72.000
	C	422.000	88.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.23	0.77
	B	0.52	0.00	0.48
	C	0.83	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.067	1.065
	B	1.104	1.000	1.029
	C	1.069	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	6.7	6.5
	B	10.4	0.0	2.9
	C	6.9	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.42	16.20	0.73	C	136.72	205.09	43.47	12.72	0.48	43.47	12.72
C-AB	0.18	7.98	0.21	A	80.76	121.13	14.63	7.25	0.16	14.63	7.25
C-A	-	-	-	-	387.23	580.84	-	-	-	-	-
A-B	-	-	-	-	154.16	231.24	-	-	-	-	-
A-C	-	-	-	-	509.28	763.92	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	112.17	28.04	110.96	0.00	476.39	0.235	0.00	0.30	9.820	A
C-AB	66.25	16.56	65.78	0.00	620.79	0.107	0.00	0.12	6.480	A
C-A	317.70	79.43	317.70	0.00	-	-	-	-	-	-
A-B	126.48	31.62	126.48	0.00	-	-	-	-	-	-
A-C	417.83	104.46	417.83	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	133.95	33.49	133.44	0.00	439.09	0.305	0.30	0.43	11.758	B
C-AB	79.11	19.78	78.97	0.00	590.28	0.134	0.12	0.15	7.039	A
C-A	379.37	94.84	379.37	0.00	-	-	-	-	-	-
A-B	151.03	37.76	151.03	0.00	-	-	-	-	-	-
A-C	498.93	124.73	498.93	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	164.05	41.01	162.91	0.00	386.22	0.425	0.43	0.72	16.037	C
C-AB	96.90	24.23	96.67	0.00	548.12	0.177	0.15	0.21	7.970	A
C-A	464.62	116.15	464.62	0.00	-	-	-	-	-	-
A-B	184.97	46.24	184.97	0.00	-	-	-	-	-	-
A-C	611.07	152.77	611.07	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	164.05	41.01	164.01	0.00	386.14	0.425	0.72	0.73	16.198	C
C-AB	96.90	24.23	96.90	0.00	548.12	0.177	0.21	0.21	7.978	A
C-A	464.62	116.15	464.62	0.00	-	-	-	-	-	-
A-B	184.97	46.24	184.97	0.00	-	-	-	-	-	-
A-C	611.07	152.77	611.07	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	133.95	33.49	135.07	0.00	438.98	0.305	0.73	0.45	11.890	B
C-AB	79.11	19.78	79.34	0.00	590.28	0.134	0.21	0.16	7.051	A
C-A	379.37	94.84	379.37	0.00	-	-	-	-	-	-
A-B	151.03	37.76	151.03	0.00	-	-	-	-	-	-
A-C	498.93	124.73	498.93	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	112.17	28.04	112.71	0.00	476.22	0.236	0.45	0.31	9.917	A
C-AB	66.25	16.56	66.39	0.00	620.79	0.107	0.16	0.12	6.497	A
C-A	317.70	79.43	317.70	0.00	-	-	-	-	-	-
A-B	126.48	31.62	126.48	0.00	-	-	-	-	-	-
A-C	417.83	104.46	417.83	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.34	0.29	9.820	A	A
C-AB	1.76	0.12	6.480	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.23	0.42	11.758	B	B
C-AB	2.31	0.15	7.039	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.17	0.68	16.037	C	B
C-AB	3.19	0.21	7.970	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.85	0.72	16.198	C	B
C-AB	3.22	0.21	7.978	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.02	0.47	11.890	B	B
C-AB	2.35	0.16	7.051	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.85	0.32	9.917	A	A
C-AB	1.81	0.12	6.497	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction (A12(N)) 2023, PM	Forecast Background + EA1N Construction (A12(N)) 2023	PM	100% of HGVs distributed from the A12 North	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		23.80	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	592.00	100.000
B	ONE HOUR	✓	248.00	100.000
C	ONE HOUR	✓	621.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	445.69	469.68		
16:15-16:30	B	186.71	191.87		
16:15-16:30	C	467.52	483.02		
16:30-16:45	A	532.20	560.84		
16:30-16:45	B	222.95	229.11		
16:30-16:45	C	558.27	576.78		
16:45-17:00	A	651.80	686.89		
16:45-17:00	B	273.05	280.61		
16:45-17:00	C	683.73	706.41		
17:00-17:15	A	651.80	686.89		
17:00-17:15	B	273.05	280.61		
17:00-17:15	C	683.73	706.41		
17:15-17:30	A	532.20	560.84		
17:15-17:30	B	222.95	229.11		
17:15-17:30	C	558.27	576.78		
17:30-17:45	A	445.69	469.68		
17:30-17:45	B	186.71	191.87		
17:30-17:45	C	467.52	483.02		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	72.000	520.000
	B	146.000	0.000	102.000
	C	572.000	49.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.59	0.00	0.41
	C	0.92	0.08	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.067	1.052
	B	1.040	1.000	1.010
	C	1.036	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	6.7	5.2
	B	4.0	0.0	1.0
	C	3.6	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.67	27.09	1.98	D	227.57	341.35	102.14	17.95	1.13	102.16	17.96
C-AB	0.09	6.69	0.10	A	44.96	67.45	7.07	6.29	0.08	7.07	6.29
C-A	-	-	-	-	524.88	787.32	-	-	-	-	-
A-B	-	-	-	-	66.07	99.10	-	-	-	-	-
A-C	-	-	-	-	477.16	715.74	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	186.71	46.68	184.33	0.00	493.88	0.378	0.00	0.60	11.545	B
C-AB	36.89	9.22	36.65	0.00	650.69	0.057	0.00	0.06	5.863	A
C-A	430.63	107.66	430.63	0.00	-	-	-	-	-	-
A-B	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-C	391.48	97.87	391.48	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	222.95	55.74	221.64	0.00	457.04	0.488	0.60	0.92	15.205	C
C-AB	44.05	11.01	43.99	0.00	625.97	0.070	0.06	0.08	6.185	A
C-A	514.22	128.55	514.22	0.00	-	-	-	-	-	-
A-B	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-C	467.47	116.87	467.47	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	273.05	68.26	269.11	0.00	404.89	0.674	0.92	1.91	25.779	D
C-AB	53.95	13.49	53.85	0.00	591.79	0.091	0.08	0.10	6.692	A
C-A	629.78	157.45	629.78	0.00	-	-	-	-	-	-
A-B	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-C	572.53	143.13	572.53	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	273.05	68.26	272.76	0.00	404.86	0.674	1.91	1.98	27.087	D
C-AB	53.95	13.49	53.95	0.00	591.79	0.091	0.10	0.10	6.692	A
C-A	629.78	157.45	629.78	0.00	-	-	-	-	-	-
A-B	79.27	19.82	79.27	0.00	-	-	-	-	-	-
A-C	572.53	143.13	572.53	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	222.95	55.74	226.95	0.00	456.99	0.488	1.98	0.98	15.907	C
C-AB	44.05	11.01	44.14	0.00	625.97	0.070	0.10	0.08	6.190	A
C-A	514.22	128.55	514.22	0.00	-	-	-	-	-	-
A-B	64.73	16.18	64.73	0.00	-	-	-	-	-	-
A-C	467.47	116.87	467.47	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	186.71	46.68	188.16	0.00	493.79	0.378	0.98	0.62	11.835	B
C-AB	36.89	9.22	36.95	0.00	650.69	0.057	0.08	0.06	5.865	A
C-A	430.63	107.66	430.63	0.00	-	-	-	-	-	-
A-B	54.21	13.55	54.21	0.00	-	-	-	-	-	-
A-C	391.48	97.87	391.48	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.41	0.56	11.545	B	B
C-AB	0.89	0.06	5.863	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	13.11	0.87	15.205	C	B
C-AB	1.13	0.08	6.185	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	25.68	1.71	25.779	D	C
C-AB	1.49	0.10	6.692	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	29.31	1.95	27.087	D	C
C-AB	1.50	0.10	6.692	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.87	1.06	15.907	C	B
C-AB	1.14	0.08	6.190	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.76	0.65	11.835	B	B
C-AB	0.91	0.06	5.865	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM	Forecast Background + EA2 + EA1N Construction (A12(S)) 2023	AM	100% of HGVs distributed from the A12 South	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		13.28	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	730.00	100.000
B	ONE HOUR	✓	153.00	100.000
C	ONE HOUR	✓	514.00	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	549.58	577.49		
07:15-07:30	B	115.19	125.78		
07:15-07:30	C	386.97	409.32		
07:30-07:45	A	656.26	689.58		
07:30-07:45	B	137.54	150.20		
07:30-07:45	C	462.08	488.77		
07:45-08:00	A	803.74	844.56		
07:45-08:00	B	168.46	183.95		
07:45-08:00	C	565.92	598.62		
08:00-08:15	A	803.74	844.56		
08:00-08:15	B	168.46	183.95		
08:00-08:15	C	565.92	598.62		
08:15-08:30	A	656.26	689.58		
08:15-08:30	B	137.54	150.20		
08:15-08:30	C	462.08	488.77		
08:30-08:45	A	549.58	577.49		
08:30-08:45	B	115.19	125.78		
08:30-08:45	C	386.97	409.32		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	181.000	549.000
	B	73.000	0.000	80.000
	C	416.000	98.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.48	0.00	0.52
	C	0.81	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.041	1.054
	B	1.058	1.000	1.123
	C	1.053	1.078	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	4.1	5.4
	B	5.8	0.0	12.3
	C	5.3	7.8	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.43	16.01	0.74	C	140.40	210.59	44.28	12.62	0.49	44.29	12.62
C-AB	0.21	8.96	0.27	A	89.96	134.93	18.16	8.07	0.20	18.16	8.07
C-A	-	-	-	-	381.70	572.55	-	-	-	-	-
A-B	-	-	-	-	166.09	249.13	-	-	-	-	-
A-C	-	-	-	-	503.77	755.66	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	115.19	28.80	113.94	0.00	480.62	0.240	0.00	0.31	9.785	A
C-AB	73.78	18.45	73.20	0.00	576.50	0.128	0.00	0.15	7.146	A
C-A	313.18	78.30	313.18	0.00	-	-	-	-	-	-
A-B	136.27	34.07	136.27	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	137.54	34.39	137.03	0.00	444.55	0.309	0.31	0.44	11.686	B
C-AB	88.11	22.03	87.94	0.00	548.35	0.161	0.15	0.19	7.813	A
C-A	373.96	93.49	373.96	0.00	-	-	-	-	-	-
A-B	162.72	40.68	162.72	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	168.46	42.11	167.30	0.00	393.18	0.428	0.44	0.73	15.855	C
C-AB	107.97	26.99	107.67	0.00	509.56	0.212	0.19	0.27	8.951	A
C-A	457.95	114.49	457.95	0.00	-	-	-	-	-	-
A-B	199.28	49.82	199.28	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	168.46	42.11	168.41	0.00	393.08	0.429	0.73	0.74	16.015	C
C-AB	107.97	26.99	107.97	0.00	509.55	0.212	0.27	0.27	8.964	A
C-A	457.95	114.49	457.95	0.00	-	-	-	-	-	-
A-B	199.28	49.82	199.28	0.00	-	-	-	-	-	-
A-C	604.46	151.12	604.46	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	137.54	34.39	138.67	0.00	444.41	0.309	0.74	0.46	11.816	B
C-AB	88.11	22.03	88.41	0.00	548.34	0.161	0.27	0.19	7.831	A
C-A	373.96	93.49	373.96	0.00	-	-	-	-	-	-
A-B	162.72	40.68	162.72	0.00	-	-	-	-	-	-
A-C	493.54	123.38	493.54	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	115.19	28.80	115.73	0.00	480.41	0.240	0.46	0.32	9.887	A
C-AB	73.78	18.45	73.96	0.00	576.50	0.128	0.19	0.15	7.168	A
C-A	313.18	78.30	313.18	0.00	-	-	-	-	-	-
A-B	136.27	34.07	136.27	0.00	-	-	-	-	-	-
A-C	413.32	103.33	413.32	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.45	0.30	9.785	A	A
C-AB	2.16	0.14	7.146	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.36	0.42	11.686	B	B
C-AB	2.85	0.19	7.813	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.32	0.69	15.855	C	B
C-AB	3.99	0.27	8.951	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.02	0.73	16.015	C	B
C-AB	4.03	0.27	8.964	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.17	0.48	11.816	B	B
C-AB	2.91	0.19	7.831	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.97	0.33	9.887	A	A
C-AB	2.22	0.15	7.168	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM	Forecast Background + EA2 + EA1N Construction (A12(S)) 2023	PM	100% of HGVs distributed from the A12 South	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		27.55	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	582.00	100.000
B	ONE HOUR	✓	270.00	100.000
C	ONE HOUR	✓	621.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	438.16	454.07		
16:15-16:30	B	203.27	211.39		
16:15-16:30	C	467.52	483.42		
16:30-16:45	A	523.21	542.21		
16:30-16:45	B	242.72	252.42		
16:30-16:45	C	558.27	577.25		
16:45-17:00	A	640.79	664.06		
16:45-17:00	B	297.28	309.16		
16:45-17:00	C	683.73	706.99		
17:00-17:15	A	640.79	664.06		
17:00-17:15	B	297.28	309.16		
17:00-17:15	C	683.73	706.99		
17:15-17:30	A	523.21	542.21		
17:15-17:30	B	242.72	252.42		
17:15-17:30	C	558.27	577.25		
17:30-17:45	A	438.16	454.07		
17:30-17:45	B	203.27	211.39		
17:30-17:45	C	467.52	483.42		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	68.000	514.000
	B	158.000	0.000	112.000
	C	565.000	56.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.59	0.00	0.41
	C	0.91	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.016	1.039
	B	1.013	1.000	1.078
	C	1.024	1.135	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	1.6	3.9
	B	1.3	0.0	7.8
	C	2.4	13.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.73	32.04	2.53	D	247.76	371.64	124.05	20.03	1.38	124.08	20.03
C-AB	0.12	7.74	0.13	A	51.39	77.08	9.31	7.24	0.10	9.31	7.24
C-A	-	-	-	-	518.45	777.68	-	-	-	-	-
A-B	-	-	-	-	62.40	93.60	-	-	-	-	-
A-C	-	-	-	-	471.66	707.48	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	203.27	50.82	200.55	0.00	494.95	0.411	0.00	0.68	12.122	B
C-AB	42.16	10.54	41.85	0.00	577.03	0.073	0.00	0.08	6.724	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-



**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	242.73	60.68	241.12	0.00	458.94	0.529	0.68	1.08	16.402	C
C-AB	50.34	12.59	50.26	0.00	555.98	0.091	0.08	0.10	7.118	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	297.28	74.32	291.99	0.00	407.90	0.729	1.08	2.41	29.767	D
C-AB	61.66	15.42	61.53	0.00	526.89	0.117	0.10	0.13	7.734	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	297.28	74.32	296.78	0.00	407.85	0.729	2.41	2.53	32.039	D
C-AB	61.66	15.42	61.66	0.00	526.89	0.117	0.13	0.13	7.737	A
C-A	622.07	155.52	622.07	0.00	-	-	-	-	-	-
A-B	74.87	18.72	74.87	0.00	-	-	-	-	-	-
A-C	565.92	141.48	565.92	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	242.73	60.68	248.19	0.00	458.87	0.529	2.53	1.17	17.497	C
C-AB	50.34	12.59	50.47	0.00	555.97	0.091	0.13	0.10	7.125	A
C-A	507.92	126.98	507.92	0.00	-	-	-	-	-	-
A-B	61.13	15.28	61.13	0.00	-	-	-	-	-	-
A-C	462.08	115.52	462.08	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	203.27	50.82	205.08	0.00	494.82	0.411	1.17	0.71	12.502	B
C-AB	42.16	10.54	42.24	0.00	577.03	0.073	0.10	0.08	6.731	A
C-A	425.36	106.34	425.36	0.00	-	-	-	-	-	-
A-B	51.19	12.80	51.19	0.00	-	-	-	-	-	-
A-C	386.97	96.74	386.97	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.58	0.64	12.122	B	B
C-AB	1.16	0.08	6.724	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.28	1.02	16.402	C	B
C-AB	1.48	0.10	7.118	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	31.64	2.11	29.767	D	C
C-AB	1.97	0.13	7.734	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	37.20	2.48	32.039	D	C
C-AB	1.99	0.13	7.737	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	19.09	1.27	17.497	C	B
C-AB	1.51	0.10	7.125	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.26	0.75	12.502	B	B
C-AB	1.19	0.08	6.731	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM	Forecast Background + EA2 + EA1N Construction (A12(N)) 2023	AM	100% of HGVs distributed from the A12 North	ONE HOUR	07:15	08:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		13.80	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	743.00	100.000
B	ONE HOUR	✓	150.00	100.000
C	ONE HOUR	✓	514.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:15-07:30	A	559.37	597.27		
07:15-07:30	B	112.93	121.49		
07:15-07:30	C	386.97	409.95		
07:30-07:45	A	667.94	713.19		
07:30-07:45	B	134.85	145.07		
07:30-07:45	C	462.08	489.52		
07:45-08:00	A	818.06	873.48		
07:45-08:00	B	165.15	177.67		
07:45-08:00	C	565.92	599.54		
08:00-08:15	A	818.06	873.48		
08:00-08:15	B	165.15	177.67		
08:00-08:15	C	565.92	599.54		
08:15-08:30	A	667.94	713.19		
08:15-08:30	B	134.85	145.07		
08:15-08:30	C	462.08	489.52		
08:30-08:45	A	559.37	597.27		
08:30-08:45	B	112.93	121.49		
08:30-08:45	C	386.97	409.95		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	186.000	557.000
	B	78.000	0.000	72.000
	C	424.000	90.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.52	0.00	0.48
	C	0.82	0.18	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.067	1.068
	B	1.119	1.000	1.029
	C	1.072	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	6.7	6.8
	B	11.9	0.0	2.9
	C	7.2	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.44	16.96	0.77	C	137.64	206.46	45.34	13.17	0.50	45.34	13.18
C-AB	0.18	8.14	0.22	A	82.59	123.89	15.21	7.37	0.17	15.21	7.37
C-A	-	-	-	-	389.06	583.59	-	-	-	-	-
A-B	-	-	-	-	170.68	256.02	-	-	-	-	-
A-C	-	-	-	-	511.11	766.67	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:15-07:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	112.93	28.23	111.68	0.00	468.51	0.241	0.00	0.31	10.054	B
C-AB	67.76	16.94	67.27	0.00	616.10	0.110	0.00	0.12	6.554	A
C-A	319.21	79.80	319.21	0.00	-	-	-	-	-	-
A-B	140.03	35.01	140.03	0.00	-	-	-	-	-	-
A-C	419.34	104.83	419.34	0.00	-	-	-	-	-	-

**Main results: (07:30-07:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	134.85	33.71	134.31	0.00	430.79	0.313	0.31	0.45	12.120	B
C-AB	80.91	20.23	80.76	0.00	584.67	0.138	0.12	0.16	7.142	A
C-A	381.16	95.29	381.16	0.00	-	-	-	-	-	-
A-B	167.21	41.80	167.21	0.00	-	-	-	-	-	-
A-C	500.73	125.18	500.73	0.00	-	-	-	-	-	-

**Main results: (07:45-08:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	165.15	41.29	163.92	0.00	377.31	0.438	0.45	0.75	16.772	C
C-AB	99.11	24.78	98.86	0.00	541.26	0.183	0.16	0.22	8.133	A
C-A	466.82	116.70	466.82	0.00	-	-	-	-	-	-
A-B	204.79	51.20	204.79	0.00	-	-	-	-	-	-
A-C	613.27	153.32	613.27	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	165.15	41.29	165.11	0.00	377.23	0.438	0.75	0.77	16.961	C
C-AB	99.11	24.78	99.11	0.00	541.26	0.183	0.22	0.22	8.141	A
C-A	466.82	116.70	466.82	0.00	-	-	-	-	-	-
A-B	204.79	51.20	204.79	0.00	-	-	-	-	-	-
A-C	613.27	153.32	613.27	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	134.85	33.71	136.05	0.00	430.68	0.313	0.77	0.46	12.267	B
C-AB	80.91	20.23	81.15	0.00	584.68	0.138	0.22	0.16	7.155	A
C-A	381.16	95.29	381.16	0.00	-	-	-	-	-	-
A-B	167.21	41.80	167.21	0.00	-	-	-	-	-	-
A-C	500.73	125.18	500.73	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	112.93	28.23	113.50	0.00	468.33	0.241	0.46	0.32	10.163	B
C-AB	67.76	16.94	67.91	0.00	616.10	0.110	0.16	0.12	6.568	A
C-A	319.21	79.80	319.21	0.00	-	-	-	-	-	-
A-B	140.03	35.01	140.03	0.00	-	-	-	-	-	-
A-C	419.34	104.83	419.34	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.47	0.30	10.054	B	B
C-AB	1.82	0.12	6.554	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:30-07:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.46	0.43	12.120	B	B
C-AB	2.39	0.16	7.142	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.67	0.71	16.772	C	B
C-AB	3.33	0.22	8.133	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.42	0.76	16.961	C	B
C-AB	3.36	0.22	8.141	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.31	0.49	12.267	B	B
C-AB	2.43	0.16	7.155	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-



### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.01	0.33	10.163	B	B
C-AB	1.87	0.12	6.568	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM	Forecast Background + EA2 + EA1N Construction (A12(N)) 2023	PM	100% of HGVs distributed from the A12 North	ONE HOUR	16:15	17:45	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
2	A12, B1122 and A1120	T-Junction	Two-way	A,B,C		30.22	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	B1122		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	8.31		0.00	✓	4.09	123.00	✓	5.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										41	75

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2	B-A	633.612	0.104	0.262	0.165	0.375
2	B-C	805.539	0.111	0.281	-	-
2	C-B	778.048	0.271	0.271	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	595.00	100.000
B	ONE HOUR	✓	267.00	100.000
C	ONE HOUR	✓	623.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:15-16:30	A	447.95	474.18		
16:15-16:30	B	201.01	207.19		
16:15-16:30	C	469.03	485.88		
16:30-16:45	A	534.89	566.22		
16:30-16:45	B	240.03	247.41		
16:30-16:45	C	560.06	580.19		
16:45-17:00	A	655.11	693.47		
16:45-17:00	B	293.97	303.01		
16:45-17:00	C	685.94	710.58		
17:00-17:15	A	655.11	693.47		
17:00-17:15	B	293.97	303.01		
17:00-17:15	C	685.94	710.58		
17:15-17:30	A	534.89	566.22		
17:15-17:30	B	240.03	247.41		
17:15-17:30	C	560.06	580.19		
17:30-17:45	A	447.95	474.18		
17:30-17:45	B	201.01	207.19		
17:30-17:45	C	469.03	485.88		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.000	73.000	522.000
	B	163.000	0.000	104.000
	C	574.000	49.000	0.000

## Turning Proportions (Veh) - Junction 2 (for whole period)

		To		
		A	B	C
From	A	0.00	0.12	0.88
	B	0.61	0.00	0.39
	C	0.92	0.08	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

		To		
From		A	B	C
	A	1.000	1.084	1.055
	B	1.044	1.000	1.010
	C	1.039	1.000	1.000

## Heavy Vehicle Percentages - Junction 2 (for whole period)

		To		
From		A	B	C
	A	0.0	8.4	5.5
	B	4.4	0.0	1.0
	C	3.9	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-AC	0.74	34.40	2.68	D	245.00	367.50	128.64	21.00	1.43	128.67	21.01
C-AB	0.09	6.71	0.10	A	44.96	67.45	7.09	6.31	0.08	7.09	6.31
C-A	-	-	-	-	526.71	790.07	-	-	-	-	-
A-B	-	-	-	-	66.99	100.48	-	-	-	-	-
A-C	-	-	-	-	479.00	718.49	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:15-16:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	201.01	50.25	198.26	0.00	486.34	0.413	0.00	0.69	12.384	B
C-AB	36.89	9.22	36.65	0.00	649.47	0.057	0.00	0.06	5.874	A
C-A	432.14	108.03	432.14	0.00	-	-	-	-	-	-
A-B	54.96	13.74	54.96	0.00	-	-	-	-	-	-
A-C	392.99	98.25	392.99	0.00	-	-	-	-	-	-

**Main results: (16:30-16:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	240.03	60.01	238.36	0.00	449.16	0.534	0.69	1.11	16.942	C
C-AB	44.05	11.01	43.99	0.00	624.51	0.071	0.06	0.08	6.201	A
C-A	516.01	129.00	516.01	0.00	-	-	-	-	-	-
A-B	65.63	16.41	65.63	0.00	-	-	-	-	-	-
A-C	469.27	117.32	469.27	0.00	-	-	-	-	-	-

**Main results: (16:45-17:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	293.97	73.49	288.26	0.00	396.60	0.741	1.11	2.53	31.665	D
C-AB	53.95	13.49	53.85	0.00	590.01	0.091	0.08	0.10	6.714	A
C-A	631.99	158.00	631.99	0.00	-	-	-	-	-	-
A-B	80.37	20.09	80.37	0.00	-	-	-	-	-	-
A-C	574.73	143.68	574.73	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	293.97	73.49	293.39	0.00	396.56	0.741	2.53	2.68	34.400	D
C-AB	53.95	13.49	53.95	0.00	590.01	0.091	0.10	0.10	6.714	A
C-A	631.99	158.00	631.99	0.00	-	-	-	-	-	-
A-B	80.37	20.09	80.37	0.00	-	-	-	-	-	-
A-C	574.73	143.68	574.73	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	240.03	60.01	245.97	0.00	449.11	0.534	2.68	1.19	18.199	C
C-AB	44.05	11.01	44.15	0.00	624.51	0.071	0.10	0.08	6.205	A
C-A	516.01	129.00	516.01	0.00	-	-	-	-	-	-
A-B	65.63	16.41	65.63	0.00	-	-	-	-	-	-
A-C	469.27	117.32	469.27	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-AC	201.01	50.25	202.90	0.00	486.24	0.413	1.19	0.72	12.787	B
C-AB	36.89	9.22	36.95	0.00	649.47	0.057	0.08	0.06	5.879	A
C-A	432.14	108.03	432.14	0.00	-	-	-	-	-	-
A-B	54.96	13.74	54.96	0.00	-	-	-	-	-	-
A-C	392.99	98.25	392.99	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.67	0.64	12.384	B	B
C-AB	0.89	0.06	5.874	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	15.56	1.04	16.942	C	B
C-AB	1.13	0.08	6.201	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	33.04	2.20	31.665	D	C
C-AB	1.50	0.10	6.714	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	39.29	2.62	34.400	D	C
C-AB	1.51	0.10	6.714	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	19.67	1.31	18.199	C	B
C-AB	1.15	0.08	6.205	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (17:30-17:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	11.41	0.76	12.787	B	B
C-AB	0.91	0.06	5.879	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-





**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 6



**Junction 6 - A12 / Ufford Road Junction**



**Notes**

Link	Arm	Road Name
-	A	A12
-	B	Ufford Road
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

From/To	A	B	C	Totals
A	0	0	705	705
B	11	0	10	21
C	1195	7	0	1202
Totals	1206	7	715	1928

**HGVs**

From/To	A	B	C	Totals
A	0	0	50	50
B	1	0	1	2
C	34	1	0	35
Totals	35	1	51	87

**Total**

From/To	A	B	C	Totals
A	0	0	755	755
B	12	0	11	23
C	1229	8	0	1237
Totals	1241	8	766	2015

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	6.6%	2%
B	8.3%	0.0%	9.1%	6%
C	2.8%	12.5%	0.0%	5%
Average	4%	4%	5%	4%

**PM Peak Traffic**

Thursday 6th June 2019: 4:45PM - 5:45PM

**Vehicles**

From/To	A	B	C	Totals
A	0	7	1023	1030
B	5	0	8	13
C	949	13	0	962
Totals	954	20	1031	2005

**HGVs**

From/To	A	B	C	Totals
A	0	0	16	16
B	0	0	0	0
C	24	0	0	24
Totals	24	0	16	40

**Total**

From/To	A	B	C	Totals
A	0	7	1039	1046
B	5	0	8	13
C	973	13	0	986
Totals	978	20	1047	2045

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	1.5%	1%
B	0.0%	0.0%	0.0%	0%
C	2.5%	0.0%	0.0%	1%
Average	1%	0%	1%	0%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	0	746	746
B	12	0	11	22
C	1264	7	0	1271
Totals	1276	7	756	2039

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	0	53	53
B	1	0	1	2
C	36	1	0	37
Totals	37	1	54	92

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	0	799	799
B	13	0	12	24
C	1300	8	0	1308
Totals	1313	8	810	2131

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	6.6%	2%
B	8.3%	0.0%	9.1%	6%
C	2.8%	12.5%	0.0%	5%
Average	4%	4%	5%	4%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	7	1083	1091
B	5	0	8	14
C	1005	14	0	1019
Totals	1010	21	1092	2123

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	0	17	17
B	0	0	0	0
C	25	0	0	25
Totals	25	0	17	42

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	7	1100	1108
B	5	0	8	14
C	1030	14	0	1044
Totals	1036	21	1109	2165

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	1.5%	1%
B	0.0%	0.0%	0.0%	0%
C	2.5%	0.0%	0.0%	1%
Average	1%	0%	1%	0%

**Junction 6 - A12 / Ufford Road Junction**



**Notes**

Link	Arm	Road Name
-	A	A12
-	B	Ufford Road
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	49	0
B	0	0	0	0
C	0	0	0	0
Totals	0	0	49	49

HGVs				
From/To	A	B	C	Totals
A	0	0	11	11
B	0	0	0	0
C	11	0	0	11
Totals	11	0	11	21

Total				
From/To	A	B	C	Totals
A	0	0	59	59
B	0	0	0	0
C	11	0	0	11
Totals	11	0	59	70

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	17.8%	6%
B	0.0%	0.0%	0.0%	0%
C	100.0%	0.0%	0.0%	33%
Average	33%	0%	6%	13%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	49	0	0	49
Totals	49	0	0	49

HGVs				
From/To	A	B	C	Totals
A	0	0	11	11
B	0	0	0	0
C	11	0	0	11
Totals	11	0	11	21

Total				
From/To	A	B	C	Totals
A	0	0	11	11
B	0	0	0	0
C	59	0	0	59
Totals	59	0	11	70

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	100.0%	33%
B	0.0%	0.0%	0.0%	0%
C	17.8%	0.0%	0.0%	6%
Average	6%	0%	33%	13%

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	794	794
B	12	0	11	22
C	1264	7	0	1271
Totals	1276	7	805	2088

HGVs				
From/To	A	B	C	Totals
A	0	0	63	63
B	1	0	1	2
C	46	1	0	48
Totals	48	1	64	113

Total				
From/To	A	B	C	Totals
A	0	0	858	858
B	13	0	12	24
C	1311	8	0	1319
Totals	1323	8	869	2201

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	7.4%	2%
B	8.3%	0.0%	9.1%	6%
C	3.5%	12.5%	0.0%	5%
Average	4%	4%	5%	5%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	7	1083	1091
B	5	0	8	14
C	1053	14	0	1067
Totals	1059	21	1092	2172

HGVs				
From/To	A	B	C	Totals
A	0	0	27	27
B	0	0	0	0
C	36	0	0	36
Totals	36	0	27	63

Total				
From/To	A	B	C	Totals
A	0	7	1111	1118
B	5	0	8	14
C	1089	14	0	1103
Totals	1095	21	1119	2235

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	2.5%	1%
B	0.0%	0.0%	0.0%	0%
C	3.3%	0.0%	0.0%	1%
Average	1%	0%	1%	1%

**Junction 6 - A12 / Ufford Road Junction**



**Notes**

Link	Arm	Road Name
-	A	A12 west
-	B	Ufford Road
-	C	A12 east

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

From/To	A	B	C	Totals
A	0	0	705	705
B	11	0	10	21
C	1195	7	0	1202
Totals	1206	7	715	1928

**HGVs**

From/To	A	B	C	Totals
A	0	0	50	50
B	1	0	1	2
C	34	1	0	35
Totals	35	1	51	87

**Total**

From/To	A	B	C	Totals
A	0	0	755	755
B	12	0	11	23
C	1229	8	0	1237
Totals	1241	8	766	2015

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	6.6%	2%
B	8.3%	0.0%	9.1%	6%
C	2.8%	12.5%	0.0%	5%
Average	4%	4%	5%	4%

**PM Peak Traffic**

Thursday 6th June 2019: 4:45PM - 5:45PM

**Vehicles**

From/To	A	B	C	Totals
A	0	7	1023	1030
B	5	0	8	13
C	949	13	0	962
Totals	954	20	1031	2005

**HGVs**

From/To	A	B	C	Totals
A	0	0	16	16
B	0	0	0	0
C	24	0	0	24
Totals	24	0	16	40

**Total**

From/To	A	B	C	Totals
A	0	7	1039	1046
B	5	0	8	13
C	973	13	0	986
Totals	978	20	1047	2045

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	1.5%	1%
B	0.0%	0.0%	0.0%	0%
C	2.5%	0.0%	0.0%	1%
Average	1%	0%	1%	0%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	0	746	746
B	12	0	11	22
C	1264	7	0	1271
Totals	1276	7	756	2039

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	0	53	53
B	1	0	1	2
C	36	1	0	37
Totals	37	1	54	92

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	0	799	799
B	13	0	12	24
C	1300	8	0	1308
Totals	1313	8	810	2131

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	6.6%	2%
B	8.3%	0.0%	9.1%	6%
C	2.8%	12.5%	0.0%	5%
Average	4%	4%	5%	4%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	7	1083	1091
B	5	0	8	14
C	1005	14	0	1019
Totals	1010	21	1092	2123

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	0	17	17
B	0	0	0	0
C	25	0	0	25
Totals	25	0	17	42

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	7	1100	1108
B	5	0	8	14
C	1030	14	0	1044
Totals	1036	21	1109	2165

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	1.5%	1%
B	0.0%	0.0%	0.0%	0%
C	2.5%	0.0%	0.0%	1%
Average	1%	0%	1%	0%

**Junction 6 - A12 / Ufford Road Junction**



**Notes**

Link	Arm	Road Name
-	A	A12 west
-	B	Ufford Road
-	C	A12 east

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	60	0
B	0	0	0	0
C	0	0	0	0
Totals	0	0	60	60

HGVs				
From/To	A	B	C	Totals
A	0	0	14	14
B	0	0	0	0
C	14	0	0	14
Totals	14	0	14	27

Total				
From/To	A	B	C	Totals
A	0	0	74	74
B	0	0	0	0
C	14	0	0	14
Totals	14	0	74	87

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	18.3%	6%
B	0.0%	0.0%	0.0%	0%
C	100.0%	0.0%	0.0%	33%
Average	33%	0%	6%	13%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	60	0	0	60
Totals	60	0	0	60

HGVs				
From/To	A	B	C	Totals
A	0	0	14	14
B	0	0	0	0
C	14	0	0	14
Totals	14	0	14	27

Total				
From/To	A	B	C	Totals
A	0	0	14	14
B	0	0	0	0
C	74	0	0	74
Totals	74	0	14	87

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	100.0%	33%
B	0.0%	0.0%	0.0%	0%
C	18.3%	0.0%	0.0%	6%
Average	6%	0%	33%	13%

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	0	806	806
B	12	0	11	22
C	1264	7	0	1271
Totals	1276	7	817	2100

HGVs				
From/To	A	B	C	Totals
A	0	0	66	66
B	1	0	1	2
C	49	1	0	51
Totals	51	1	67	119

Total				
From/To	A	B	C	Totals
A	0	0	872	872
B	13	0	12	24
C	1314	8	0	1322
Totals	1326	8	884	2219

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	7.6%	3%
B	8.3%	0.0%	9.1%	6%
C	3.8%	12.5%	0.0%	5%
Average	4%	4%	6%	5%

**PM Peak Traffic**

Vehicles				
From/To	A	B	C	Totals
A	0	7	1083	1091
B	5	0	8	14
C	1065	14	0	1079
Totals	1070	21	1092	2183

HGVs				
From/To	A	B	C	Totals
A	0	0	30	30
B	0	0	0	0
C	39	0	0	39
Totals	39	0	30	69

Total				
From/To	A	B	C	Totals
A	0	7	1114	1121
B	5	0	8	14
C	1104	14	0	1118
Totals	1109	21	1122	2252

%HGV				
From/To	A	B	C	Average
A	0.0%	0.0%	2.7%	1%
B	0.0%	0.0%	0.0%	0%
C	3.5%	0.0%	0.0%	1%
Average	1%	0%	1%	1%

# Junctions 8

## PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]  
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**Filename:** Junction 6 - A12 and Ufford Road.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 15:51:14

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - »Existing Layout - Background 2019, AM
  - »Existing Layout - Background 2019, PM

## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Background 2019</b>								
Stream B-C	0.02	7.26	0.02	A	0.02	7.83	0.02	A
Stream B-A	0.09	24.67	0.08	C	0.04	25.67	0.04	D
Stream C-AB	0.02	7.71	0.02	A	0.03	8.15	0.03	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b>								
Stream B-C	0.03	8.05	0.03	A	0.02	8.41	0.02	A
Stream B-A	0.16	42.16	0.14	E	0.07	45.49	0.07	E
Stream C-AB	0.02	8.37	0.02	A	0.04	8.72	0.04	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background + EA1N Construction 2023</b>								
Stream B-C	0.03	7.94	0.03	A	0.02	8.37	0.02	A
Stream B-A	0.15	39.22	0.14	E	0.06	42.53	0.06	E
Stream C-AB	0.02	8.28	0.02	A	0.04	8.69	0.04	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Existing Layout - Forecast Background 2023</b>								
Stream B-C	0.03	7.54	0.03	A	0.02	8.21	0.02	A
Stream B-A	0.12	30.84	0.11	D	0.05	33.75	0.05	D
Stream C-AB	0.02	7.93	0.02	A	0.04	8.54	0.04	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - Forecast Background 2023, AM " model duration: 07:45 - 09:15  
 "D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15  
 "D3 - Forecast Background + EA1N Construction 2023, AM" model duration: 07:45 - 09:15  
 "D4 - Forecast Background + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D7 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 07:45 - 09:15  
 "D8 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D9 - Background 2019, AM" model duration: 07:45 - 09:15  
 "D10 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 15:51:08

## File summary

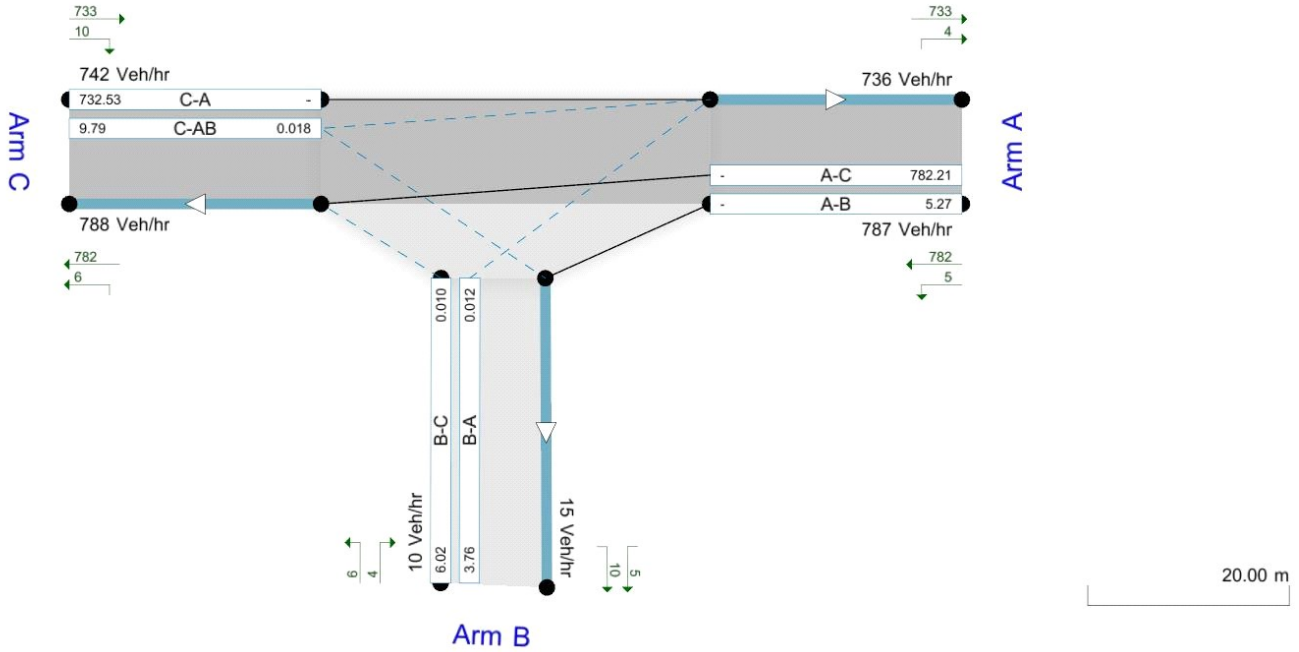
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Junction of the A12 and Ufford Road
<b>Site Number</b>	J6
<b>Date</b>	24/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## 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



Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:45-08:00)  
Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	



## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	07:45	09:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		16.71	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	700.097	0.118	0.297	0.187	0.425
6	B-C	829.861	0.117	0.297	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	799.00	100.000
B	ONE HOUR	✓	25.00	100.000
C	ONE HOUR	✓	1308.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	601.53	641.23		
07:45-08:00	B	18.82	20.46		
07:45-08:00	C	984.73	1012.89		
08:00-08:15	A	718.28	765.69		
08:00-08:15	B	22.47	24.43		
08:00-08:15	C	1175.87	1209.49		
08:15-08:30	A	879.72	937.78		
08:15-08:30	B	27.53	29.92		
08:15-08:30	C	1440.13	1481.31		
08:30-08:45	A	879.72	937.78		
08:30-08:45	B	27.53	29.92		
08:30-08:45	C	1440.13	1481.31		
08:45-09:00	A	718.28	765.69		
08:45-09:00	B	22.47	24.43		
08:45-09:00	C	1175.87	1209.49		
09:00-09:15	A	601.53	641.23		
09:00-09:15	B	18.82	20.46		
09:00-09:15	C	984.73	1012.89		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	799.000
	B	13.000	0.000	12.000
	C	1300.000	8.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.52	0.00	0.48
	C	0.99	0.01	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.066
	B	1.083	1.000	1.091
	C	1.028	1.125	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	6.6
	B	8.3	0.0	9.1
	C	2.8	12.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.03	7.54	0.03	A	11.01	16.52	1.89	6.88	0.02	1.89	6.88
B-A	0.11	30.84	0.12	D	11.93	17.89	6.13	20.54	0.07	6.13	20.54
C-AB	0.02	7.93	0.02	A	7.34	11.01	1.35	7.37	0.02	1.35	7.37
C-A	-	-	-	-	1192.90	1789.35	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	733.18	1099.76	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.03	2.26	8.97	0.00	581.42	0.016	0.00	0.02	6.288	A
B-A	9.79	2.45	9.65	0.00	293.95	0.033	0.00	0.03	12.658	B
C-AB	6.02	1.51	5.98	0.00	536.40	0.011	0.00	0.01	6.786	A
C-A	978.71	244.68	978.71	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	601.53	150.38	601.53	0.00	-	-	-	-	-	-

### Main results: (08:00-08:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	10.79	2.70	10.77	0.00	545.01	0.020	0.02	0.02	6.738	A
B-A	11.69	2.92	11.61	0.00	225.56	0.052	0.03	0.05	16.820	C
C-AB	7.19	1.80	7.18	0.00	505.44	0.014	0.01	0.01	7.224	A
C-A	1168.67	292.17	1168.67	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	718.28	179.57	718.28	0.00	-	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	13.21	3.30	13.18	0.00	491.27	0.027	0.02	0.03	7.529	A
B-A	14.31	3.58	14.05	0.00	130.95	0.109	0.05	0.12	30.731	D
C-AB	8.81	2.20	8.79	0.00	462.63	0.019	0.01	0.02	7.932	A
C-A	1431.33	357.83	1431.33	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	879.72	219.93	879.72	0.00	-	-	-	-	-	-

### Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	13.21	3.30	13.21	0.00	490.52	0.027	0.03	0.03	7.541	A
B-A	14.31	3.58	14.30	0.00	131.02	0.109	0.12	0.12	30.838	D
C-AB	8.81	2.20	8.81	0.00	462.63	0.019	0.02	0.02	7.932	A
C-A	1431.33	357.83	1431.33	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	879.72	219.93	879.72	0.00	-	-	-	-	-	-

### Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	10.79	2.70	10.82	0.00	543.92	0.020	0.03	0.02	6.755	A
B-A	11.69	2.92	11.95	0.00	225.77	0.052	0.12	0.06	16.855	C
C-AB	7.19	1.80	7.21	0.00	505.44	0.014	0.02	0.01	7.227	A
C-A	1168.67	292.17	1168.67	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	718.28	179.57	718.28	0.00	-	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.03	2.26	9.05	0.00	580.79	0.016	0.02	0.02	6.296	A
B-A	9.79	2.45	9.87	0.00	294.08	0.033	0.06	0.03	12.671	B
C-AB	6.02	1.51	6.04	0.00	536.40	0.011	0.01	0.01	6.789	A
C-A	978.71	244.68	978.71	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	601.53	150.38	601.53	0.00	-	-	-	-	-	-

**Queueing Delay Results for each time segment**
**Queueing Delay results: (07:45-08:00)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.23	0.02	6.288	A	A
B-A	0.48	0.03	12.658	B	B
C-AB	0.17	0.01	6.786	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:00-08:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.29	0.02	6.738	A	A
B-A	0.77	0.05	16.820	C	B
C-AB	0.22	0.01	7.224	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:15-08:30)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.40	0.03	7.529	A	A
B-A	1.65	0.11	30.731	D	C
C-AB	0.29	0.02	7.932	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (08:30-08:45)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.41	0.03	7.541	A	A
B-A	1.79	0.12	30.838	D	C
C-AB	0.29	0.02	7.932	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.31	0.02	6.755	A	A
B-A	0.89	0.06	16.855	C	B
C-AB	0.22	0.01	7.227	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.24	0.02	6.296	A	A
B-A	0.54	0.04	12.671	B	B
C-AB	0.17	0.01	6.789	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		13.11	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	716.443	0.120	0.304	0.191	0.435
6	B-C	810.016	0.115	0.290	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1107.00	100.000
B	ONE HOUR	✓	13.00	100.000
C	ONE HOUR	✓	1044.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	833.41	845.83		
16:45-17:00	B	9.79	9.79		
16:45-17:00	C	785.98	805.36		
17:00-17:15	A	995.17	1010.00		
17:00-17:15	B	11.69	11.69		
17:00-17:15	C	938.53	961.68		
17:15-17:30	A	1218.83	1237.00		
17:15-17:30	B	14.31	14.31		
17:15-17:30	C	1149.47	1177.82		
17:30-17:45	A	1218.83	1237.00		
17:30-17:45	B	14.31	14.31		
17:30-17:45	C	1149.47	1177.82		
17:45-18:00	A	995.17	1010.00		
17:45-18:00	B	11.69	11.69		
17:45-18:00	C	938.53	961.68		
18:00-18:15	A	833.41	845.83		
18:00-18:15	B	9.79	9.79		
18:00-18:15	C	785.98	805.36		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	7.000	1100.000
	B	5.000	0.000	8.000
	C	1030.000	14.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.38	0.00	0.62
	C	0.99	0.01	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.015
	B	1.000	1.000	1.000
	C	1.025	1.000	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	1.5
	B	0.0	0.0	0.0
	C	2.5	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	8.21	0.02	A	7.34	11.01	1.34	7.29	0.01	1.34	7.29
B-A	0.05	33.75	0.05	D	4.59	6.88	2.44	21.30	0.03	2.44	21.30
C-AB	0.04	8.54	0.04	A	12.85	19.27	2.46	7.65	0.03	2.46	7.65
C-A	-	-	-	-	945.15	1417.72	-	-	-	-	-
A-B	-	-	-	-	6.42	9.64	-	-	-	-	-
A-C	-	-	-	-	1009.38	1514.07	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:45-17:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	5.98	0.00	564.28	0.011	0.00	0.01	6.447	A
B-A	3.76	0.94	3.71	0.00	303.30	0.012	0.00	0.01	12.015	B
C-AB	10.54	2.63	10.46	0.00	546.19	0.019	0.00	0.02	6.719	A
C-A	775.44	193.86	775.44	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	828.14	207.03	828.14	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.18	0.00	516.04	0.014	0.01	0.01	7.073	A
B-A	4.49	1.12	4.46	0.00	223.08	0.020	0.01	0.02	16.466	C
C-AB	12.59	3.15	12.56	0.00	500.25	0.025	0.02	0.03	7.381	A
C-A	925.95	231.49	925.95	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	988.88	247.22	988.88	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.78	0.00	447.56	0.020	0.01	0.02	8.204	A
B-A	5.51	1.38	5.39	0.00	112.19	0.049	0.02	0.05	33.671	D
C-AB	15.41	3.85	15.37	0.00	436.73	0.035	0.03	0.04	8.542	A
C-A	1134.05	283.51	1134.05	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1211.12	302.78	1211.12	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.81	0.00	447.44	0.020	0.02	0.02	8.206	A
B-A	5.51	1.38	5.50	0.00	112.17	0.049	0.05	0.05	33.746	D
C-AB	15.41	3.85	15.41	0.00	436.73	0.035	0.04	0.04	8.544	A
C-A	1134.05	283.51	1134.05	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1211.12	302.78	1211.12	0.00	-	-	-	-	-	-

**Main results: (17:45-18:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.21	0.00	515.95	0.014	0.02	0.01	7.078	A
B-A	4.49	1.12	4.61	0.00	223.05	0.020	0.05	0.02	16.490	C
C-AB	12.59	3.15	12.63	0.00	500.25	0.025	0.04	0.03	7.382	A
C-A	925.95	231.49	925.95	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	988.88	247.22	988.88	0.00	-	-	-	-	-	-

**Main results: (18:00-18:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	6.04	0.00	564.24	0.011	0.01	0.01	6.448	A
B-A	3.76	0.94	3.80	0.00	303.25	0.012	0.02	0.01	12.024	B
C-AB	10.54	2.63	10.56	0.00	546.19	0.019	0.03	0.02	6.720	A
C-A	775.44	193.86	775.44	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	828.14	207.03	828.14	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.16	0.01	6.447	A	A
B-A	0.18	0.01	12.015	B	B
C-AB	0.29	0.02	6.719	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.21	0.01	7.073	A	A
B-A	0.29	0.02	16.466	C	B
C-AB	0.38	0.03	7.381	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.29	0.02	8.204	A	A
B-A	0.69	0.05	33.671	D	C
C-AB	0.54	0.04	8.542	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.30	0.02	8.206	A	A
B-A	0.75	0.05	33.746	D	C
C-AB	0.55	0.04	8.544	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.22	0.01	7.078	A	A
B-A	0.33	0.02	16.490	C	B
C-AB	0.39	0.03	7.382	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.17	0.01	6.448	A	A
B-A	0.20	0.01	12.024	B	B
C-AB	0.30	0.02	6.720	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction 2023, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, AM	Forecast Background + EA1N Construction 2023	AM		ONE HOUR	07:45	09:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		20.20	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	700.097	0.118	0.297	0.187	0.425
6	B-C	829.861	0.117	0.297	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	858.00	100.000
B	ONE HOUR	✓	25.00	100.000
C	ONE HOUR	✓	1319.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	645.95	693.75		
07:45-08:00	B	18.82	20.46		
07:45-08:00	C	993.01	1028.31		
08:00-08:15	A	771.32	828.40		
08:00-08:15	B	22.47	24.43		
08:00-08:15	C	1185.75	1227.90		
08:15-08:30	A	944.68	1014.58		
08:15-08:30	B	27.53	29.92		
08:15-08:30	C	1452.25	1503.87		
08:30-08:45	A	944.68	1014.58		
08:30-08:45	B	27.53	29.92		
08:30-08:45	C	1452.25	1503.87		
08:45-09:00	A	771.32	828.40		
08:45-09:00	B	22.47	24.43		
08:45-09:00	C	1185.75	1227.90		
09:00-09:15	A	645.95	693.75		
09:00-09:15	B	18.82	20.46		
09:00-09:15	C	993.01	1028.31		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	858.000
	B	13.000	0.000	12.000
	C	1311.000	8.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.52	0.00	0.48
	C	0.99	0.01	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.074
	B	1.083	1.000	1.091
	C	1.035	1.125	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	7.4
	B	8.3	0.0	9.1
	C	3.5	12.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.03	7.94	0.03	A	11.01	16.52	1.97	7.15	0.02	1.97	7.15
B-A	0.14	39.22	0.15	E	11.93	17.89	7.24	24.26	0.08	7.24	24.26
C-AB	0.02	8.28	0.02	A	7.34	11.01	1.40	7.63	0.02	1.40	7.63
C-A	-	-	-	-	1203.00	1804.49	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	787.32	1180.97	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.03	2.26	8.97	0.00	566.96	0.016	0.00	0.02	6.451	A
B-A	9.79	2.45	9.64	0.00	276.86	0.035	0.00	0.04	13.465	B
C-AB	6.02	1.51	5.98	0.00	523.34	0.012	0.00	0.01	6.958	A
C-A	986.99	246.75	986.99	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	645.95	161.49	645.95	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	10.79	2.70	10.77	0.00	527.46	0.020	0.02	0.02	6.966	A
B-A	11.69	2.92	11.59	0.00	205.16	0.057	0.04	0.06	18.591	C
C-AB	7.19	1.80	7.18	0.00	489.84	0.015	0.01	0.01	7.457	A
C-A	1178.56	294.64	1178.56	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	771.32	192.83	771.32	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	13.21	3.30	13.18	0.00	467.64	0.028	0.02	0.03	7.921	A
B-A	14.31	3.58	13.95	0.00	105.96	0.135	0.06	0.15	38.980	E
C-AB	8.81	2.20	8.79	0.00	443.53	0.020	0.01	0.02	8.280	A
C-A	1443.44	360.86	1443.44	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	944.68	236.17	944.68	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	13.21	3.30	13.21	0.00	466.54	0.028	0.03	0.03	7.940	A
B-A	14.31	3.58	14.30	0.00	106.05	0.135	0.15	0.15	39.221	E
C-AB	8.81	2.20	8.81	0.00	443.53	0.020	0.02	0.02	8.280	A
C-A	1443.44	360.86	1443.44	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	944.68	236.17	944.68	0.00	-	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	10.79	2.70	10.82	0.00	525.98	0.021	0.03	0.02	6.990	A
B-A	11.69	2.92	12.05	0.00	205.43	0.057	0.15	0.06	18.648	C
C-AB	7.19	1.80	7.21	0.00	489.84	0.015	0.02	0.02	7.458	A
C-A	1178.56	294.64	1178.56	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	771.32	192.83	771.32	0.00	-	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.03	2.26	9.05	0.00	566.25	0.016	0.02	0.02	6.460	A
B-A	9.79	2.45	9.88	0.00	277.01	0.035	0.06	0.04	13.483	B
C-AB	6.02	1.51	6.04	0.00	523.34	0.012	0.02	0.01	6.961	A
C-A	986.99	246.75	986.99	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	645.95	161.49	645.95	0.00	-	-	-	-	-	-



## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.23	0.02	6.451	A	A
B-A	0.51	0.03	13.465	B	B
C-AB	0.17	0.01	6.958	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.30	0.02	6.966	A	A
B-A	0.85	0.06	18.591	C	B
C-AB	0.22	0.01	7.457	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.42	0.03	7.921	A	A
B-A	2.04	0.14	38.980	E	D
C-AB	0.30	0.02	8.280	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.43	0.03	7.940	A	A
B-A	2.26	0.15	39.221	E	D
C-AB	0.30	0.02	8.280	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.32	0.02	6.990	A	A
B-A	0.99	0.07	18.648	C	B
C-AB	0.23	0.02	7.458	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.25	0.02	6.460	A	A
B-A	0.58	0.04	13.483	B	B
C-AB	0.18	0.01	6.961	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA1N Construction 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, PM	Forecast Background + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		14.86	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	716.443	0.120	0.304	0.191	0.435
6	B-C	810.016	0.115	0.290	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1118.00	100.000
B	ONE HOUR	✓	13.00	100.000
C	ONE HOUR	✓	1103.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	841.69	862.60		
16:45-17:00	B	9.79	9.79		
16:45-17:00	C	830.40	857.45		
17:00-17:15	A	1005.06	1030.03		
17:00-17:15	B	11.69	11.69		
17:00-17:15	C	991.57	1023.88		
17:15-17:30	A	1230.94	1261.52		
17:15-17:30	B	14.31	14.31		
17:15-17:30	C	1214.43	1253.99		
17:30-17:45	A	1230.94	1261.52		
17:30-17:45	B	14.31	14.31		
17:30-17:45	C	1214.43	1253.99		
17:45-18:00	A	1005.06	1030.03		
17:45-18:00	B	11.69	11.69		
17:45-18:00	C	991.57	1023.88		
18:00-18:15	A	841.69	862.60		
18:00-18:15	B	9.79	9.79		
18:00-18:15	C	830.40	857.45		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	7.000	1111.000
	B	5.000	0.000	8.000
	C	1089.000	14.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.38	0.00	0.62
	C	0.99	0.01	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.025
	B	1.000	1.000	1.000
	C	1.033	1.000	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	2.5
	B	0.0	0.0	0.0
	C	3.3	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	8.37	0.02	A	7.34	11.01	1.36	7.40	0.02	1.36	7.40
B-A	0.06	42.53	0.06	E	4.59	6.88	2.87	25.01	0.03	2.87	25.01
C-AB	0.04	8.69	0.04	A	12.85	19.27	2.49	7.75	0.03	2.49	7.75
C-A	-	-	-	-	999.29	1498.93	-	-	-	-	-
A-B	-	-	-	-	6.42	9.64	-	-	-	-	-
A-C	-	-	-	-	1019.47	1529.21	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:45-17:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	5.98	0.00	559.35	0.011	0.00	0.01	6.505	A
B-A	3.76	0.94	3.71	0.00	288.23	0.013	0.00	0.01	12.652	B
C-AB	10.54	2.63	10.46	0.00	541.50	0.019	0.00	0.02	6.779	A
C-A	819.86	204.96	819.86	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	836.42	209.10	836.42	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.18	0.00	510.04	0.014	0.01	0.01	7.158	A
B-A	4.49	1.12	4.46	0.00	205.08	0.022	0.01	0.02	17.942	C
C-AB	12.59	3.15	12.56	0.00	494.65	0.025	0.02	0.03	7.466	A
C-A	978.99	244.75	978.99	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	998.77	249.69	998.77	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.78	0.00	439.18	0.020	0.01	0.02	8.364	A
B-A	5.51	1.38	5.34	0.00	90.15	0.061	0.02	0.06	42.376	E
C-AB	15.41	3.85	15.37	0.00	429.87	0.036	0.03	0.04	8.684	A
C-A	1199.01	299.75	1199.01	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1223.23	305.81	1223.23	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.81	0.00	438.98	0.020	0.02	0.02	8.368	A
B-A	5.51	1.38	5.50	0.00	90.13	0.061	0.06	0.06	42.531	E
C-AB	15.41	3.85	15.41	0.00	429.87	0.036	0.04	0.04	8.685	A
C-A	1199.01	299.75	1199.01	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1223.23	305.81	1223.23	0.00	-	-	-	-	-	-

**Main results: (17:45-18:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.22	0.00	509.91	0.014	0.02	0.01	7.163	A
B-A	4.49	1.12	4.66	0.00	205.05	0.022	0.06	0.02	17.978	C
C-AB	12.59	3.15	12.63	0.00	494.65	0.025	0.04	0.03	7.468	A
C-A	978.99	244.75	978.99	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	998.77	249.69	998.77	0.00	-	-	-	-	-	-

**Main results: (18:00-18:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	6.04	0.00	559.31	0.011	0.01	0.01	6.506	A
B-A	3.76	0.94	3.80	0.00	288.18	0.013	0.02	0.01	12.660	B
C-AB	10.54	2.63	10.57	0.00	541.50	0.019	0.03	0.02	6.779	A
C-A	819.86	204.96	819.86	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	836.42	209.10	836.42	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.16	0.01	6.505	A	A
B-A	0.19	0.01	12.652	B	B
C-AB	0.29	0.02	6.779	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.21	0.01	7.158	A	A
B-A	0.32	0.02	17.942	C	B
C-AB	0.39	0.03	7.466	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.30	0.02	8.364	A	A
B-A	0.85	0.06	42.376	E	D
C-AB	0.55	0.04	8.684	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.31	0.02	8.368	A	A
B-A	0.94	0.06	42.531	E	D
C-AB	0.56	0.04	8.685	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.22	0.01	7.163	A	A
B-A	0.37	0.02	17.978	C	B
C-AB	0.40	0.03	7.468	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.17	0.01	6.506	A	A
B-A	0.21	0.01	12.660	B	B
C-AB	0.30	0.02	6.779	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, AM	Forecast Background + EA2 + EA1N Construction 2023	AM		ONE HOUR	07:45	09:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		21.41	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	700.097	0.118	0.297	0.187	0.425
6	B-C	829.861	0.117	0.297	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	872.00	100.000
B	ONE HOUR	✓	25.00	100.000
C	ONE HOUR	✓	1322.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	656.49	706.38		
07:45-08:00	B	18.82	20.46		
07:45-08:00	C	995.27	1033.62		
08:00-08:15	A	783.91	843.49		
08:00-08:15	B	22.47	24.43		
08:00-08:15	C	1188.45	1234.24		
08:15-08:30	A	960.09	1033.06		
08:15-08:30	B	27.53	29.92		
08:15-08:30	C	1455.55	1511.63		
08:30-08:45	A	960.09	1033.06		
08:30-08:45	B	27.53	29.92		
08:30-08:45	C	1455.55	1511.63		
08:45-09:00	A	783.91	843.49		
08:45-09:00	B	22.47	24.43		
08:45-09:00	C	1188.45	1234.24		
09:00-09:15	A	656.49	706.38		
09:00-09:15	B	18.82	20.46		
09:00-09:15	C	995.27	1033.62		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	872.000
	B	13.000	0.000	12.000
	C	1314.000	8.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.52	0.00	0.48
	C	0.99	0.01	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.076
	B	1.083	1.000	1.091
	C	1.038	1.125	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	7.6
	B	8.3	0.0	9.1
	C	3.8	12.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.03	8.05	0.03	A	11.01	16.52	1.99	7.22	0.02	1.99	7.22
B-A	0.14	42.16	0.16	E	11.93	17.89	7.60	25.50	0.08	7.60	25.50
C-AB	0.02	8.37	0.02	A	7.34	11.01	1.41	7.70	0.02	1.41	7.70
C-A	-	-	-	-	1205.75	1808.62	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	800.16	1200.24	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.03	2.26	8.97	0.00	563.48	0.016	0.00	0.02	6.492	A
B-A	9.79	2.45	9.64	0.00	272.48	0.036	0.00	0.04	13.690	B
C-AB	6.02	1.51	5.98	0.00	520.19	0.012	0.00	0.01	7.000	A
C-A	989.25	247.31	989.25	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	656.49	164.12	656.49	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	10.79	2.70	10.77	0.00	523.21	0.021	0.02	0.02	7.024	A
B-A	11.69	2.92	11.59	0.00	199.93	0.058	0.04	0.06	19.105	C
C-AB	7.19	1.80	7.18	0.00	486.09	0.015	0.01	0.01	7.516	A
C-A	1181.26	295.31	1181.26	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	783.91	195.98	783.91	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	13.21	3.30	13.18	0.00	461.66	0.029	0.02	0.03	8.027	A
B-A	14.31	3.58	13.92	0.00	99.55	0.144	0.06	0.16	41.848	E
C-AB	8.81	2.20	8.79	0.00	438.93	0.020	0.01	0.02	8.369	A
C-A	1446.74	361.69	1446.74	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	960.09	240.02	960.09	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	13.21	3.30	13.21	0.00	460.43	0.029	0.03	0.03	8.049	A
B-A	14.31	3.58	14.30	0.00	99.64	0.144	0.16	0.16	42.162	E
C-AB	8.81	2.20	8.81	0.00	438.93	0.020	0.02	0.02	8.369	A
C-A	1446.74	361.69	1446.74	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	960.09	240.02	960.09	0.00	-	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	10.79	2.70	10.82	0.00	521.60	0.021	0.03	0.02	7.047	A
B-A	11.69	2.92	12.09	0.00	200.21	0.058	0.16	0.06	19.173	C
C-AB	7.19	1.80	7.21	0.00	486.09	0.015	0.02	0.02	7.519	A
C-A	1181.26	295.31	1181.26	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	783.91	195.98	783.91	0.00	-	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.03	2.26	9.05	0.00	562.74	0.016	0.02	0.02	6.503	A
B-A	9.79	2.45	9.89	0.00	272.63	0.036	0.06	0.04	13.708	B
C-AB	6.02	1.51	6.04	0.00	520.19	0.012	0.02	0.01	7.001	A
C-A	989.25	247.31	989.25	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	656.49	164.12	656.49	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.24	0.02	6.492	A	A
B-A	0.52	0.03	13.690	B	B
C-AB	0.17	0.01	7.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.31	0.02	7.024	A	A
B-A	0.87	0.06	19.105	C	B
C-AB	0.22	0.01	7.516	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.43	0.03	8.027	A	A
B-A	2.17	0.14	41.848	E	D
C-AB	0.30	0.02	8.369	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.44	0.03	8.049	A	A
B-A	2.43	0.16	42.162	E	D
C-AB	0.31	0.02	8.369	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.33	0.02	7.047	A	A
B-A	1.02	0.07	19.173	C	B
C-AB	0.23	0.02	7.519	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.25	0.02	6.503	A	A
B-A	0.59	0.04	13.708	B	B
C-AB	0.18	0.01	7.001	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, PM	Forecast Background + EA2 + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		15.44	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	716.443	0.120	0.304	0.191	0.435
6	B-C	810.016	0.115	0.290	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1121.00	100.000
B	ONE HOUR	✓	13.00	100.000
C	ONE HOUR	✓	1118.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	843.95	866.59		
16:45-17:00	B	9.79	9.79		
16:45-17:00	C	841.69	870.78		
17:00-17:15	A	1007.76	1034.80		
17:00-17:15	B	11.69	11.69		
17:00-17:15	C	1005.06	1039.80		
17:15-17:30	A	1234.24	1267.36		
17:15-17:30	B	14.31	14.31		
17:15-17:30	C	1230.94	1273.48		
17:30-17:45	A	1234.24	1267.36		
17:30-17:45	B	14.31	14.31		
17:30-17:45	C	1230.94	1273.48		
17:45-18:00	A	1007.76	1034.80		
17:45-18:00	B	11.69	11.69		
17:45-18:00	C	1005.06	1039.80		
18:00-18:15	A	843.95	866.59		
18:00-18:15	B	9.79	9.79		
18:00-18:15	C	841.69	870.78		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	7.000	1114.000
	B	5.000	0.000	8.000
	C	1104.000	14.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.38	0.00	0.62
	C	0.99	0.01	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.027
	B	1.000	1.000	1.000
	C	1.035	1.000	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	2.7
	B	0.0	0.0	0.0
	C	3.5	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	8.41	0.02	A	7.34	11.01	1.36	7.42	0.02	1.36	7.42
B-A	0.07	45.49	0.07	E	4.59	6.88	3.00	26.19	0.03	3.00	26.19
C-AB	0.04	8.72	0.04	A	12.85	19.27	2.50	7.77	0.03	2.50	7.77
C-A	-	-	-	-	1013.05	1519.57	-	-	-	-	-
A-B	-	-	-	-	6.42	9.64	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:45-17:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	5.98	0.00	558.17	0.011	0.00	0.01	6.519	A
B-A	3.76	0.94	3.71	0.00	284.46	0.013	0.00	0.01	12.823	B
C-AB	10.54	2.63	10.46	0.00	540.38	0.020	0.00	0.02	6.793	A
C-A	831.15	207.79	831.15	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	838.68	209.67	838.68	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.18	0.00	508.60	0.014	0.01	0.01	7.178	A
B-A	4.49	1.12	4.46	0.00	200.58	0.022	0.01	0.02	18.356	C
C-AB	12.59	3.15	12.56	0.00	493.31	0.026	0.02	0.03	7.487	A
C-A	992.47	248.12	992.47	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	1001.46	250.37	1001.46	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.78	0.00	437.06	0.020	0.01	0.02	8.405	A
B-A	5.51	1.38	5.33	0.00	84.64	0.065	0.02	0.07	45.307	E
C-AB	15.41	3.85	15.37	0.00	428.23	0.036	0.03	0.04	8.718	A
C-A	1215.53	303.88	1215.53	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1226.54	306.63	1226.54	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.81	0.00	436.83	0.020	0.02	0.02	8.410	A
B-A	5.51	1.38	5.50	0.00	84.62	0.065	0.07	0.07	45.490	E
C-AB	15.41	3.85	15.41	0.00	428.23	0.036	0.04	0.04	8.720	A
C-A	1215.53	303.88	1215.53	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1226.54	306.63	1226.54	0.00	-	-	-	-	-	-

**Main results: (17:45-18:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.22	0.00	508.46	0.014	0.02	0.01	7.181	A
B-A	4.49	1.12	4.67	0.00	200.55	0.022	0.07	0.02	18.396	C
C-AB	12.59	3.15	12.63	0.00	493.31	0.026	0.04	0.03	7.491	A
C-A	992.47	248.12	992.47	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	1001.46	250.37	1001.46	0.00	-	-	-	-	-	-

**Main results: (18:00-18:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	6.04	0.00	558.13	0.011	0.01	0.01	6.520	A
B-A	3.76	0.94	3.80	0.00	284.41	0.013	0.02	0.01	12.830	B
C-AB	10.54	2.63	10.57	0.00	540.38	0.020	0.03	0.02	6.796	A
C-A	831.15	207.79	831.15	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	838.68	209.67	838.68	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.16	0.01	6.519	A	A
B-A	0.19	0.01	12.823	B	B
C-AB	0.29	0.02	6.793	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.21	0.01	7.178	A	A
B-A	0.32	0.02	18.356	C	B
C-AB	0.39	0.03	7.487	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.30	0.02	8.405	A	A
B-A	0.90	0.06	45.307	E	D
C-AB	0.55	0.04	8.718	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.31	0.02	8.410	A	A
B-A	1.01	0.07	45.490	E	D
C-AB	0.56	0.04	8.720	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.22	0.01	7.181	A	A
B-A	0.38	0.03	18.396	C	B
C-AB	0.40	0.03	7.491	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.17	0.01	6.520	A	A
B-A	0.21	0.01	12.830	B	B
C-AB	0.30	0.02	6.796	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, AM	Background 2019	AM		ONE HOUR	07:45	09:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		14.04	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	700.296	0.118	0.297	0.187	0.425
6	B-C	829.477	0.117	0.296	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	755.00	100.000
B	ONE HOUR	✓	23.00	100.000
C	ONE HOUR	✓	1237.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
07:45-08:00	A	568.40	605.92		
07:45-08:00	B	17.32	18.82		
07:45-08:00	C	931.28	957.94		
08:00-08:15	A	678.73	723.53		
08:00-08:15	B	20.68	22.47		
08:00-08:15	C	1112.04	1143.87		
08:15-08:30	A	831.27	886.13		
08:15-08:30	B	25.32	27.52		
08:15-08:30	C	1361.96	1400.95		
08:30-08:45	A	831.27	886.13		
08:30-08:45	B	25.32	27.52		
08:30-08:45	C	1361.96	1400.95		
08:45-09:00	A	678.73	723.53		
08:45-09:00	B	20.68	22.47		
08:45-09:00	C	1112.04	1143.87		
09:00-09:15	A	568.40	605.92		
09:00-09:15	B	17.32	18.82		
09:00-09:15	C	931.28	957.94		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	755.000
	B	12.000	0.000	11.000
	C	1229.000	8.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.52	0.00	0.48
	C	0.99	0.01	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.066
	B	1.083	1.000	1.091
	C	1.028	1.125	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	6.6
	B	8.3	0.0	9.1
	C	2.8	12.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	7.26	0.02	A	10.09	15.14	1.69	6.69	0.02	1.69	6.69
B-A	0.08	24.67	0.09	C	11.01	16.52	4.83	17.55	0.05	4.83	17.55
C-AB	0.02	7.71	0.02	A	7.34	11.01	1.32	7.21	0.01	1.32	7.21
C-A	-	-	-	-	1127.75	1691.63	-	-	-	-	-
A-B	-	-	-	-	0.00	0.00	-	-	-	-	-
A-C	-	-	-	-	692.80	1039.20	-	-	-	-	-

## Main Results for each time segment

### Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.28	2.07	8.22	0.00	591.33	0.014	0.00	0.01	6.173	A
B-A	9.03	2.26	8.92	0.00	313.22	0.029	0.00	0.03	11.827	B
C-AB	6.02	1.51	5.98	0.00	545.18	0.011	0.00	0.01	6.676	A
C-A	925.26	231.31	925.26	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	568.40	142.10	568.40	0.00	-	-	-	-	-	-

**Main results: (08:00-08:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.89	2.47	9.87	0.00	557.29	0.018	0.01	0.02	6.575	A
B-A	10.79	2.70	10.73	0.00	248.54	0.043	0.03	0.04	15.134	C
C-AB	7.19	1.80	7.18	0.00	515.93	0.014	0.01	0.01	7.075	A
C-A	1104.85	276.21	1104.85	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	678.73	169.68	678.73	0.00	-	-	-	-	-	-

**Main results: (08:15-08:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	12.11	3.03	12.09	0.00	508.25	0.024	0.02	0.02	7.255	A
B-A	13.21	3.30	13.04	0.00	159.06	0.083	0.04	0.09	24.625	C
C-AB	8.81	2.20	8.79	0.00	475.48	0.019	0.01	0.02	7.713	A
C-A	1353.15	338.29	1353.15	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	831.27	207.82	831.27	0.00	-	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	12.11	3.03	12.11	0.00	507.75	0.024	0.02	0.02	7.262	A
B-A	13.21	3.30	13.21	0.00	159.12	0.083	0.09	0.09	24.670	C
C-AB	8.81	2.20	8.81	0.00	475.48	0.019	0.02	0.02	7.713	A
C-A	1353.15	338.29	1353.15	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	831.27	207.82	831.27	0.00	-	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	9.89	2.47	9.91	0.00	556.50	0.018	0.02	0.02	6.588	A
B-A	10.79	2.70	10.96	0.00	248.71	0.043	0.09	0.05	15.151	C
C-AB	7.19	1.80	7.21	0.00	515.93	0.014	0.02	0.01	7.078	A
C-A	1104.85	276.21	1104.85	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	678.73	169.68	678.73	0.00	-	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.28	2.07	8.30	0.00	590.79	0.014	0.02	0.01	6.182	A
B-A	9.03	2.26	9.10	0.00	313.34	0.029	0.05	0.03	11.834	B
C-AB	6.02	1.51	6.03	0.00	545.18	0.011	0.01	0.01	6.676	A
C-A	925.26	231.31	925.26	0.00	-	-	-	-	-	-
A-B	0.00	0.00	0.00	0.00	-	-	-	-	-	-
A-C	568.40	142.10	568.40	0.00	-	-	-	-	-	-



## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.21	0.01	6.173	A	A
B-A	0.42	0.03	11.827	B	B
C-AB	0.17	0.01	6.676	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.26	0.02	6.575	A	A
B-A	0.64	0.04	15.134	C	B
C-AB	0.21	0.01	7.075	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.36	0.02	7.255	A	A
B-A	1.24	0.08	24.625	C	C
C-AB	0.28	0.02	7.713	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.36	0.02	7.262	A	A
B-A	1.33	0.09	24.670	C	C
C-AB	0.28	0.02	7.713	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.28	0.02	6.588	A	A
B-A	0.73	0.05	15.151	C	B
C-AB	0.21	0.01	7.078	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.22	0.01	6.182	A	A
B-A	0.47	0.03	11.834	B	B
C-AB	0.17	0.01	6.676	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	N/A		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, PM	Background 2019	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
6	A12, Ufford Road	T-Junction	Two-way	A,B,C		11.42	B

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	A12 (west)		Major
B	B	Ufford Road		Minor
C	C	A12 (east)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.78		0.00	✓	4.26	113.00	✓	12.00

*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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	10.00	9.45	4.31	3.53	✓	2.00	198	121

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
6	B-A	716.443	0.120	0.304	0.191	0.435
6	B-C	810.016	0.115	0.290	-	-
6	C-B	782.895	0.280	0.280	-	-

*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 Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1046.00	100.000
B	ONE HOUR	✓	13.00	100.000
C	ONE HOUR	✓	986.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	A	787.48	799.22		
16:45-17:00	B	9.79	9.79		
16:45-17:00	C	742.31	760.63		
17:00-17:15	A	940.33	954.34		
17:00-17:15	B	11.69	11.69		
17:00-17:15	C	886.39	908.26		
17:15-17:30	A	1151.67	1168.83		
17:15-17:30	B	14.31	14.31		
17:15-17:30	C	1085.61	1112.39		
17:30-17:45	A	1151.67	1168.83		
17:30-17:45	B	14.31	14.31		
17:30-17:45	C	1085.61	1112.39		
17:45-18:00	A	940.33	954.34		
17:45-18:00	B	11.69	11.69		
17:45-18:00	C	886.39	908.26		
18:00-18:15	A	787.48	799.22		
18:00-18:15	B	9.79	9.79		
18:00-18:15	C	742.31	760.63		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.000	7.000	1039.000
	B	5.000	0.000	8.000
	C	973.000	13.000	0.000

## Turning Proportions (Veh) - Junction 6 (for whole period)

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.38	0.00	0.62
	C	0.99	0.01	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.015
	B	1.000	1.000	1.000
	C	1.025	1.000	1.000

## Heavy Vehicle Percentages - Junction 6 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	1.5
	B	0.0	0.0	0.0
	C	2.5	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	7.83	0.02	A	7.34	11.01	1.29	7.03	0.01	1.29	7.03
B-A	0.04	25.67	0.04	D	4.59	6.88	2.02	17.58	0.02	2.02	17.58
C-AB	0.03	8.15	0.03	A	11.93	17.89	2.20	7.37	0.02	2.20	7.37
C-A	-	-	-	-	892.84	1339.26	-	-	-	-	-
A-B	-	-	-	-	6.42	9.64	-	-	-	-	-
A-C	-	-	-	-	953.40	1430.11	-	-	-	-	-

## Main Results for each time segment

### Main results: (16:45-17:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	5.98	0.00	577.86	0.010	0.00	0.01	6.294	A
B-A	3.76	0.94	3.72	0.00	326.23	0.012	0.00	0.01	11.161	B
C-AB	9.79	2.45	9.72	0.00	559.24	0.018	0.00	0.02	6.551	A
C-A	732.53	183.13	732.53	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	782.21	195.55	782.21	0.00	-	-	-	-	-	-

**Main results: (17:00-17:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.18	0.00	532.37	0.014	0.01	0.01	6.853	A
B-A	4.49	1.12	4.47	0.00	250.46	0.018	0.01	0.02	14.632	B
C-AB	11.69	2.92	11.67	0.00	515.83	0.023	0.02	0.02	7.139	A
C-A	874.71	218.68	874.71	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	934.04	233.51	934.04	0.00	-	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.79	0.00	468.42	0.019	0.01	0.02	7.832	A
B-A	5.51	1.38	5.42	0.00	145.73	0.038	0.02	0.04	25.644	D
C-AB	14.31	3.58	14.28	0.00	455.81	0.031	0.02	0.03	8.153	A
C-A	1071.29	267.82	1071.29	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1143.96	285.99	1143.96	0.00	-	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	8.81	2.20	8.81	0.00	468.35	0.019	0.02	0.02	7.833	A
B-A	5.51	1.38	5.50	0.00	145.72	0.038	0.04	0.04	25.674	D
C-AB	14.31	3.58	14.31	0.00	455.81	0.031	0.03	0.03	8.153	A
C-A	1071.29	267.82	1071.29	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	1143.96	285.99	1143.96	0.00	-	-	-	-	-	-

**Main results: (17:45-18:00)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	7.19	1.80	7.21	0.00	532.32	0.014	0.02	0.01	6.857	A
B-A	4.49	1.12	4.58	0.00	250.44	0.018	0.04	0.02	14.649	B
C-AB	11.69	2.92	11.72	0.00	515.83	0.023	0.03	0.02	7.140	A
C-A	874.71	218.68	874.71	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	934.04	233.51	934.04	0.00	-	-	-	-	-	-

**Main results: (18:00-18:15)**

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	6.02	1.51	6.04	0.00	577.83	0.010	0.01	0.01	6.295	A
B-A	3.76	0.94	3.79	0.00	326.19	0.012	0.02	0.01	11.166	B
C-AB	9.79	2.45	9.81	0.00	559.24	0.018	0.02	0.02	6.554	A
C-A	732.53	183.13	732.53	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	782.21	195.55	782.21	0.00	-	-	-	-	-	-

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.15	0.01	6.294	A	A
B-A	0.17	0.01	11.161	B	B
C-AB	0.26	0.02	6.551	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.20	0.01	6.853	A	A
B-A	0.26	0.02	14.632	B	B
C-AB	0.35	0.02	7.139	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.28	0.02	7.832	A	A
B-A	0.54	0.04	25.644	D	C
C-AB	0.48	0.03	8.153	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.29	0.02	7.833	A	A
B-A	0.58	0.04	25.674	D	C
C-AB	0.49	0.03	8.153	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

### Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.21	0.01	6.857	A	A
B-A	0.29	0.02	14.649	B	B
C-AB	0.35	0.02	7.140	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

**Queueing Delay results: (18:00-18:15)**

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.16	0.01	6.295	A	A
B-A	0.18	0.01	11.166	B	B
C-AB	0.27	0.02	6.554	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-





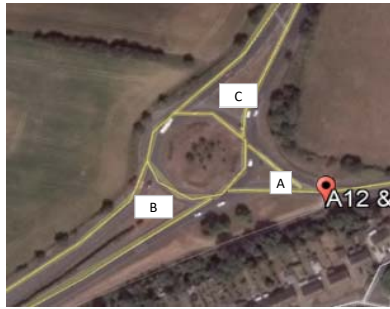


**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 7

**Junction 7 - A12 / A1152 Junction**



**Notes**

Link	Arm	Road Name
-	A	A1152
-	B	A12
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

From/To	A	B	C	Totals
A	0	701	152	853
B	732	95	580	1407
C	139	1001	0	1140
Totals	871	1797	732	3400

**HGVs**

From/To	A	B	C	Totals
A	0	18	5	23
B	23	5	49	77
C	5	28	0	33
Totals	28	51	54	133

**Total**

From/To	A	B	C	Totals
A	0	719	157	876
B	755	100	629	1484
C	144	1029	0	1173
Totals	899	1848	786	3533

**%HGV**

From/To	A	B	C	Average
A	0.0%	2.5%	3.2%	2%
B	3.0%	5.0%	7.8%	5%
C	3.5%	2.7%	0.0%	2%
Average	2%	3%	4%	3%

**PM Peak Traffic**  
Wednesday 5th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	740	181	921
B	687	90	1000	1777
C	89	833	0	922
Totals	776	1663	1181	3620

**HGVs**

From/To	A	B	C	Totals
A	0	14	2	16
B	15	3	19	37
C	0	25	0	25
Totals	15	42	21	78

**Total**

From/To	A	B	C	Totals
A	0	754	183	937
B	702	93	1019	1814
C	89	858	0	947
Totals	791	1705	1202	3698

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.9%	1.1%	1%
B	2.1%	3.2%	1.9%	2%
C	0.0%	2.9%	0.0%	1%
Average	1%	3%	1%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	742	161	902
B	774	100	614	1488
C	147	1059	0	1206
Totals	921	1901	774	3597

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	19	5	24
B	24	5	52	81
C	5	30	0	35
Totals	30	54	57	141

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	761	166	927
B	799	106	665	1570
C	152	1088	0	1241
Totals	951	1955	831	3737

**%HGV**

From/To	A	B	C	Average
A	0.0%	2.5%	3.2%	2%
B	3.0%	5.0%	7.8%	5%
C	3.5%	2.7%	0.0%	2%
Average	2%	3%	4%	3%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	784	192	975
B	727	95	1059	1881
C	94	882	0	976
Totals	822	1761	1250	3833

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	15	2	17
B	16	3	20	39
C	0	26	0	26
Totals	16	44	22	83

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	798	194	992
B	743	98	1079	1921
C	94	908	0	1003
Totals	838	1805	1273	3915

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.9%	1.1%	1%
B	2.1%	3.2%	1.9%	2%
C	0.0%	2.9%	0.0%	1%
Average	1%	3%	1%	1%

Junction 7 - A12 / A1152 Junction



Notes

Link	Arm	Road Name
-	A	A1152
-	B	A12
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	49	49
C	0	0	0	0
Totals	0	0	49	49

HGVs

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	11	11
C	0	11	0	11
Totals	0	11	11	21

Total

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	59	59
C	0	11	0	11
Totals	0	11	59	70

%HGV

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	17.8%	6%
C	0.0%	100.0%	0.0%	33%
Average	0%	33%	6%	13%

**PM Peak Traffic**

Vehicles

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	0	49	0	49
Totals	0	49	0	49

HGVs

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	11	11
C	0	11	0	11
Totals	0	11	11	21

Total

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	11	11
C	0	59	0	59
Totals	0	59	11	70

%HGV

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	100.0%	33%
C	0.0%	17.8%	0.0%	6%
Average	0%	6%	33%	13%

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles

From/To	A	B	C	Totals
A	0	742	161	902
B	774	100	662	1537
C	147	1059	0	1206
Totals	921	1901	823	3645

HGVs

From/To	A	B	C	Totals
A	0	19	5	24
B	24	5	62	92
C	5	40	0	45
Totals	30	64	68	162

Total

From/To	A	B	C	Totals
A	0	761	166	927
B	799	106	724	1629
C	152	1099	0	1251
Totals	951	1965	891	3807

%HGV

From/To	A	B	C	Average
A	0.0%	2.5%	3.2%	2%
B	3.0%	5.0%	8.6%	6%
C	3.5%	3.7%	0.0%	2%
Average	2%	4%	4%	3%

**PM Peak Traffic**

Vehicles

From/To	A	B	C	Totals
A	0	784	192	975
B	727	95	1059	1881
C	94	931	0	1025
Totals	822	1809	1250	3881

HGVs

From/To	A	B	C	Totals
A	0	15	2	17
B	16	3	31	50
C	0	37	0	37
Totals	16	55	33	104

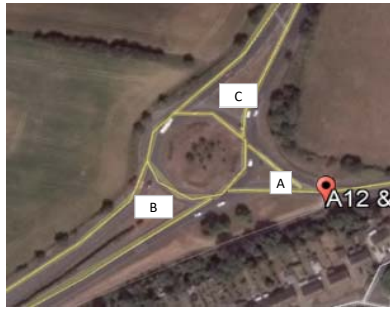
Total

From/To	A	B	C	Totals
A	0	798	194	992
B	743	98	1089	1931
C	94	968	0	1062
Totals	838	1864	1283	3985

%HGV

From/To	A	B	C	Average
A	0.0%	1.9%	1.1%	1%
B	2.1%	3.2%	2.8%	3%
C	0.0%	3.8%	0.0%	1%
Average	1%	3%	1%	2%

**Junction 7 - A12 / A1152 Junction**



**Notes**

Link	Arm	Road Name
-	A	A1152
-	B	A12
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

From/To	A	B	C	Totals
A	0	701	152	853
B	732	95	580	1407
C	139	1001	0	1140
Totals	871	1797	732	3400

**HGVs**

From/To	A	B	C	Totals
A	0	18	5	23
B	23	5	49	77
C	5	28	0	33
Totals	28	51	54	133

**Total**

From/To	A	B	C	Totals
A	0	719	157	876
B	755	100	629	1484
C	144	1029	0	1173
Totals	899	1848	786	3533

**%HGV**

From/To	A	B	C	Average
A	0.0%	2.5%	3.2%	2%
B	3.0%	5.0%	7.8%	5%
C	3.5%	2.7%	0.0%	2%
Average	2%	3%	4%	3%

**PM Peak Traffic**  
Wednesday 5th June 2019: 4:30PM - 5:30PM

**Vehicles**

From/To	A	B	C	Totals
A	0	740	181	921
B	687	90	1000	1777
C	89	833	0	922
Totals	776	1663	1181	3620

**HGVs**

From/To	A	B	C	Totals
A	0	14	2	16
B	15	3	19	37
C	0	25	0	25
Totals	15	42	21	78

**Total**

From/To	A	B	C	Totals
A	0	754	183	937
B	702	93	1019	1814
C	89	858	0	947
Totals	791	1705	1202	3698

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.9%	1.1%	1%
B	2.1%	3.2%	1.9%	2%
C	0.0%	2.9%	0.0%	1%
Average	1%	3%	1%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	742	161	902
B	774	100	614	1488
C	147	1059	0	1206
Totals	921	1901	774	3597

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	19	5	24
B	24	5	52	81
C	5	30	0	35
Totals	30	54	57	141

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	761	166	927
B	799	106	665	1570
C	152	1088	0	1241
Totals	951	1955	831	3737

**%HGV**

From/To	A	B	C	Average
A	0.0%	2.5%	3.2%	2%
B	3.0%	5.0%	7.8%	5%
C	3.5%	2.7%	0.0%	2%
Average	2%	3%	4%	3%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	784	192	975
B	727	95	1059	1881
C	94	882	0	976
Totals	822	1761	1250	3833

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	15	2	17
B	16	3	20	39
C	0	26	0	26
Totals	16	44	22	83

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	798	194	992
B	743	98	1079	1921
C	94	908	0	1003
Totals	838	1805	1273	3915

**%HGV**

From/To	A	B	C	Average
A	0.0%	1.9%	1.1%	1%
B	2.1%	3.2%	1.9%	2%
C	0.0%	2.9%	0.0%	1%
Average	1%	3%	1%	1%

Junction 7 - A12 / A1152 Junction



Notes

Link	Arm	Road Name
-	A	A1152
-	B	A12
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	60	60
C	0	0	0	0
Totals	0	0	60	60

HGVs

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	14	14
C	0	14	0	14
Totals	0	14	14	27

Total

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	74	74
C	0	14	0	14
Totals	0	14	74	87

%HGV

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	18.3%	6%
C	0.0%	100.0%	0.0%	33%
Average	0%	33%	6%	13%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	0	60	0	60
Totals	0	60	0	60

HGVs

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	14	14
C	0	14	0	14
Totals	0	14	14	27

Total

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	14	14
C	0	74	0	74
Totals	0	74	14	87

%HGV

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	100.0%	33%
C	0.0%	18.3%	0.0%	6%
Average	0%	6%	33%	13%

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	742	161	902
B	774	100	674	1549
C	147	1059	0	1206
Totals	921	1901	835	3657

HGVs

From/To	A	B	C	Totals
A	0	19	5	24
B	24	5	65	95
C	5	43	0	48
Totals	30	67	71	168

Total

From/To	A	B	C	Totals
A	0	761	166	927
B	799	106	739	1644
C	152	1102	0	1254
Totals	951	1968	905	3824

%HGV

From/To	A	B	C	Average
A	0.0%	2.5%	3.2%	2%
B	3.0%	5.0%	8.8%	6%
C	3.5%	3.9%	0.0%	2%
Average	2%	4%	4%	3%

PM Peak Traffic

Vehicles

From/To	A	B	C	Totals
A	0	784	192	975
B	727	95	1059	1881
C	94	942	0	1036
Totals	822	1821	1250	3893

HGVs

From/To	A	B	C	Totals
A	0	15	2	17
B	16	3	34	53
C	0	40	0	40
Totals	16	58	36	110

Total

From/To	A	B	C	Totals
A	0	798	194	992
B	743	98	1092	1934
C	94	982	0	1076
Totals	838	1879	1286	4003

%HGV

From/To	A	B	C	Average
A	0.0%	1.9%	1.1%	1%
B	2.1%	3.2%	3.1%	3%
C	0.0%	4.1%	0.0%	1%
Average	1%	3%	1%	2%

# Junctions 8

## ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]  
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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:** Junction 7 - A12 and Woods Lane.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 16:01:40

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - »Existing Layout - Background 2019, AM
  - »Existing Layout - Background 2019, PM

## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Background 2019</b>								
Arm 1	2.64	10.03	0.73	B	2.39	8.46	0.71	A
Arm 2	2.81	6.27	0.74	A	7.19	13.49	0.88	B
Arm 3	2.51	7.09	0.72	A	1.28	4.45	0.56	A
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b>								
Arm 1	4.08	14.89	0.81	B	3.93	13.34	0.80	B
Arm 2	4.63	9.45	0.83	A	15.17	27.31	0.95	D
Arm 3	3.70	9.86	0.79	A	1.90	5.84	0.66	A
<b>Existing Layout - Forecast Background + EA1N Construction 2023</b>								
Arm 1	4.02	14.68	0.81	B	3.77	12.80	0.80	B
Arm 2	4.38	9.00	0.82	A	14.55	26.25	0.95	D
Arm 3	3.63	9.70	0.79	A	1.82	5.65	0.65	A
<b>Existing Layout - Forecast Background 2023</b>								
Arm 1	3.81	13.87	0.80	B	3.26	10.98	0.77	B
Arm 2	3.59	7.60	0.79	A	12.83	23.26	0.94	C
Arm 3	3.36	9.05	0.77	A	1.53	5.02	0.61	A

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

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30  
 "D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15  
 "D3 - Forecast Background + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D4 - Forecast Background + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D7 - Background 2019, AM" model duration: 08:00 - 09:30  
 "D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:01:35

## File summary

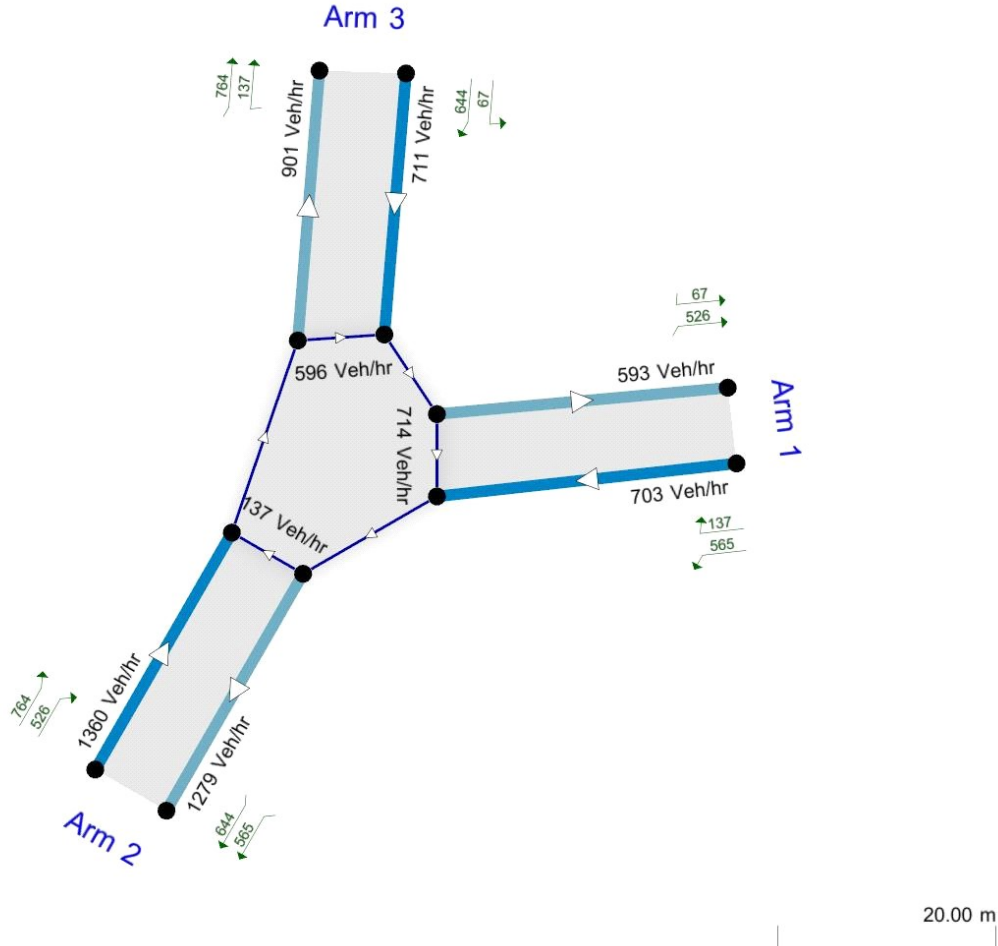
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Roundabout junction of the A12 and Woods Lane
<b>Site Number</b>	J7
<b>Date</b>	25/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

### 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



Showing modelled flow through junction (Veh/hr).  
 Time Segment: (16:45-17:00)  
 Showing Analysis Set "A1 - Existing Layout", Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.



## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				9.61	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	927.00	100.000
2	ONE HOUR	✓	1570.00	100.000
3	ONE HOUR	✓	1240.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	697.89	716.22		
08:00-08:15	2	1181.98	1243.06		
08:00-08:15	3	933.54	959.66		
08:15-08:30	1	833.35	855.23		
08:15-08:30	2	1411.40	1484.34		
08:15-08:30	3	1114.73	1145.93		
08:30-08:45	1	1020.65	1047.44		
08:30-08:45	2	1728.60	1817.94		
08:30-08:45	3	1365.27	1403.47		
08:45-09:00	1	1020.65	1047.44		
08:45-09:00	2	1728.60	1817.94		
08:45-09:00	3	1365.27	1403.47		
09:00-09:15	1	833.35	855.23		
09:00-09:15	2	1411.40	1484.34		
09:00-09:15	3	1114.73	1145.93		
09:15-09:30	1	697.89	716.22		
09:15-09:30	2	1181.98	1243.06		
09:15-09:30	3	933.54	959.66		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	761.000	166.000
	2	799.000	106.000	665.000
	3	152.000	1088.000	0.000

## Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.51	0.07	0.42
	3	0.12	0.88	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.025	1.032
	2	1.030	1.050	1.078
	3	1.035	1.027	1.000

## Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	2.5	3.2
	2	3.0	5.0	7.8
	3	3.5	2.7	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.80	13.87	3.81	B	850.63	1275.95	173.14	8.14	1.92	173.16	8.14
2	0.79	7.60	3.59	A	1440.66	2160.99	188.73	5.24	2.10	188.74	5.24
3	0.77	9.05	3.36	A	1137.85	1706.77	166.23	5.84	1.85	166.24	5.84

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	697.90	174.47	694.60	713.26	895.48	0.00	1538.04	1139.15	0.454	0.00	0.82	4.252	A
2	1181.98	295.50	1177.54	1465.70	124.38	0.00	2237.88	2187.61	0.528	0.00	1.11	3.381	A
3	933.54	233.38	929.98	623.15	678.77	0.00	1974.87	1584.45	0.473	0.00	0.89	3.434	A

### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	833.36	208.34	831.14	853.43	1071.33	0.00	1428.90	1139.15	0.583	0.82	1.38	5.999	A
2	1411.40	352.85	1408.97	1753.63	148.83	0.00	2222.44	2187.61	0.635	1.11	1.72	4.412	A
3	1114.74	278.68	1112.58	745.63	812.18	0.00	1885.42	1584.45	0.591	0.89	1.43	4.645	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1020.65	255.16	1011.57	1042.49	1307.64	0.00	1282.23	1139.15	0.796	1.38	3.65	12.890	B
2	1728.60	432.15	1721.40	2138.06	181.14	0.00	2202.03	2187.61	0.785	1.72	3.52	7.380	A
3	1365.27	341.32	1357.86	910.27	992.27	0.00	1764.65	1584.45	0.774	1.43	3.28	8.694	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1020.65	255.16	1020.00	1046.89	1314.31	0.00	1278.09	1139.15	0.799	3.65	3.81	13.865	B
2	1728.60	432.15	1728.33	2151.65	182.65	0.00	2201.08	2187.61	0.785	3.52	3.59	7.603	A
3	1365.27	341.32	1364.94	914.72	996.27	0.00	1761.97	1584.45	0.775	3.28	3.36	9.047	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	833.36	208.34	842.85	859.56	1080.51	0.00	1423.20	1139.15	0.586	3.81	1.44	6.300	A
2	1411.40	352.85	1418.69	1772.43	150.93	0.00	2221.11	2187.61	0.635	3.59	1.77	4.525	A
3	1114.74	278.68	1122.30	751.84	817.78	0.00	1881.66	1584.45	0.592	3.36	1.47	4.786	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	697.90	174.47	700.27	717.54	901.07	0.00	1534.57	1139.15	0.455	1.44	0.84	4.326	A
2	1181.98	295.50	1184.53	1475.93	125.40	0.00	2237.24	2187.61	0.528	1.77	1.13	3.427	A
3	933.54	233.38	935.80	627.13	682.80	0.00	1972.17	1584.45	0.473	1.47	0.91	3.480	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	11.97	0.80	4.252	A	A
2	16.17	1.08	3.381	A	A
3	12.99	0.87	3.434	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	19.90	1.33	5.999	A	A
2	24.94	1.66	4.412	A	A
3	20.76	1.38	4.645	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	49.18	3.28	12.890	B	B
2	49.22	3.28	7.380	A	A
3	45.52	3.03	8.694	A	A

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	56.21	3.75	13.865	B	B
2	53.42	3.56	7.603	A	A
3	49.97	3.33	9.047	A	A

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	22.90	1.53	6.300	A	A
2	27.60	1.84	4.525	A	A
3	23.08	1.54	4.786	A	A

### Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.98	0.87	4.326	A	A
2	17.37	1.16	3.427	A	A
3	13.91	0.93	3.480	A	A

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				15.47	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

### 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	992.00	100.000
2	ONE HOUR	✓	1920.00	100.000
3	ONE HOUR	✓	1002.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	746.83	759.85		
16:45-17:00	2	1445.48	1475.02		
16:45-17:00	3	754.36	774.18		
17:00-17:15	1	891.79	907.34		
17:00-17:15	2	1726.04	1761.32		
17:00-17:15	3	900.78	924.45		
17:15-17:30	1	1092.21	1111.26		
17:15-17:30	2	2113.96	2157.16		
17:15-17:30	3	1103.22	1132.21		
17:30-17:45	1	1092.21	1111.26		
17:30-17:45	2	2113.96	2157.16		
17:30-17:45	3	1103.22	1132.21		
17:45-18:00	1	891.79	907.34		
17:45-18:00	2	1726.04	1761.32		
17:45-18:00	3	900.78	924.45		
18:00-18:15	1	746.83	759.85		
18:00-18:15	2	1445.48	1475.02		
18:00-18:15	3	754.36	774.18		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	798.000	194.000
	2	743.000	98.000	1079.000
	3	94.000	908.000	0.000

## Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.80	0.20
	2	0.39	0.05	0.56
	3	0.09	0.91	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.019	1.011
	2	1.021	1.032	1.019
	3	1.000	1.029	1.000

## Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	1.9	1.1
	2	2.1	3.2	1.9
	3	0.0	2.9	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.77	10.98	3.26	B	910.27	1365.41	158.36	6.96	1.76	158.37	6.96
2	0.94	23.26	12.83	C	1761.82	2642.73	471.55	10.71	5.24	471.58	10.71
3	0.61	5.02	1.53	A	919.45	1379.18	88.90	3.87	0.99	88.90	3.87

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	746.83	186.71	743.51	627.31	754.87	0.00	1639.27	1032.00	0.456	0.00	0.83	4.005	A
2	1445.47	361.37	1438.75	1352.98	145.40	0.00	2294.63	2258.66	0.630	0.00	1.68	4.174	A
3	754.36	188.59	751.98	953.95	630.20	0.00	2014.89	1776.02	0.374	0.00	0.60	2.846	A

### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	891.78	222.95	889.73	750.23	903.11	0.00	1546.44	1032.01	0.577	0.83	1.34	5.464	A
2	1726.04	431.51	1720.57	1618.85	174.00	0.00	2276.40	2258.66	0.758	1.68	3.05	6.412	A
3	900.78	225.19	899.69	1140.93	753.65	0.00	1932.78	1776.02	0.466	0.60	0.87	3.482	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1092.21	273.05	1084.92	908.46	1103.63	0.00	1420.88	1032.06	0.769	1.34	3.17	10.494	B
2	2113.95	528.49	2080.72	1976.37	212.17	0.00	2252.06	2258.65	0.939	3.05	11.36	18.263	C
3	1103.22	275.81	1100.68	1381.50	911.40	0.00	1827.86	1776.02	0.604	0.87	1.50	4.934	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1092.21	273.05	1091.84	919.26	1107.24	0.00	1418.62	1032.06	0.770	3.17	3.26	10.985	B
2	2113.95	528.49	2108.06	1985.56	213.53	0.00	2251.20	2258.65	0.939	11.36	12.83	23.263	C
3	1103.22	275.81	1103.13	1398.21	923.38	0.00	1819.89	1776.02	0.606	1.50	1.53	5.020	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	891.78	222.95	899.25	767.53	908.63	0.00	1542.98	1032.01	0.578	3.26	1.39	5.657	A
2	1726.04	431.51	1764.40	1632.03	175.86	0.00	2275.21	2258.66	0.759	12.83	3.24	7.553	A
3	900.78	225.19	903.32	1167.43	772.85	0.00	1920.01	1776.02	0.469	1.53	0.89	3.551	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	746.83	186.71	749.00	632.59	758.72	0.00	1636.86	1032.00	0.456	1.39	0.85	4.065	A
2	1445.47	361.37	1451.53	1361.24	146.48	0.00	2293.95	2258.66	0.630	3.24	1.72	4.303	A
3	754.36	188.59	755.51	962.21	635.80	0.00	2011.16	1776.02	0.375	0.89	0.60	2.871	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.08	0.81	4.005	A	A
2	24.21	1.61	4.174	A	A
3	8.74	0.58	2.846	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	19.46	1.30	5.464	A	A
2	43.19	2.88	6.412	A	A
3	12.73	0.85	3.482	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	43.56	2.90	10.494	B	B
2	136.03	9.07	18.263	C	B
3	21.75	1.45	4.934	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	48.32	3.22	10.985	B	B
2	183.14	12.21	23.263	C	C
3	22.76	1.52	5.020	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.90	1.46	5.657	A	A
2	58.11	3.87	7.553	A	A
3	13.70	0.91	3.551	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.03	0.87	4.065	A	A
2	26.86	1.79	4.303	A	A
3	9.21	0.61	2.871	A	A

# Existing Layout - Forecast Background + EA1N Construction 2023, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, AM	Forecast Background + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				10.59	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	927.00	100.000
2	ONE HOUR	✓	1629.00	100.000
3	ONE HOUR	✓	1251.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	697.89	716.22		
08:00-08:15	2	1226.40	1295.31		
08:00-08:15	3	941.82	976.44		
08:15-08:30	1	833.35	855.23		
08:15-08:30	2	1464.44	1546.72		
08:15-08:30	3	1124.62	1165.96		
08:30-08:45	1	1020.65	1047.44		
08:30-08:45	2	1793.56	1894.34		
08:30-08:45	3	1377.38	1428.00		
08:45-09:00	1	1020.65	1047.44		
08:45-09:00	2	1793.56	1894.34		
08:45-09:00	3	1377.38	1428.00		
09:00-09:15	1	833.35	855.23		
09:00-09:15	2	1464.44	1546.72		
09:00-09:15	3	1124.62	1165.96		
09:15-09:30	1	697.89	716.22		
09:15-09:30	2	1226.40	1295.31		
09:15-09:30	3	941.82	976.44		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	761.000	166.000
	2	799.000	106.000	724.000
	3	152.000	1099.000	0.000

### Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.49	0.07	0.44
	3	0.12	0.88	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.025	1.032
	2	1.030	1.050	1.086
	3	1.035	1.037	1.000

### Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	2.5	3.2
	2	3.0	5.0	8.6
	3	3.5	3.7	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.81	14.68	4.02	B	850.63	1275.95	179.66	8.45	2.00	179.68	8.45
2	0.82	9.00	4.38	A	1494.80	2242.20	219.84	5.88	2.44	219.86	5.88
3	0.79	9.70	3.63	A	1147.94	1721.90	176.07	6.14	1.96	176.09	6.14

### Main Results for each time segment

#### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	697.90	174.47	694.56	713.13	903.64	0.00	1528.01	1122.56	0.457	0.00	0.83	4.302	A
2	1226.40	306.60	1221.54	1473.82	124.38	0.00	2228.33	2180.13	0.550	0.00	1.21	3.558	A
3	941.82	235.45	938.14	667.29	678.64	0.00	1958.24	1604.16	0.481	0.00	0.92	3.516	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	833.36	208.34	831.07	853.25	1081.08	0.00	1416.91	1122.56	0.588	0.83	1.41	6.120	A
2	1464.44	366.11	1461.58	1763.32	148.82	0.00	2212.95	2180.13	0.662	1.21	1.93	4.773	A
3	1124.62	281.16	1122.34	798.42	811.99	0.00	1869.57	1604.16	0.602	0.92	1.49	4.803	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1020.65	255.16	1010.94	1041.48	1318.98	0.00	1267.95	1122.56	0.805	1.41	3.83	13.526	B
2	1793.56	448.39	1784.18	2148.87	181.03	0.00	2192.70	2180.13	0.818	1.93	4.27	8.619	A
3	1377.37	344.34	1369.24	974.00	991.21	0.00	1750.41	1604.16	0.787	1.49	3.52	9.252	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1020.65	255.16	1019.89	1046.80	1326.34	0.00	1263.34	1122.56	0.808	3.83	4.02	14.679	B
2	1793.56	448.39	1793.11	2163.59	182.63	0.00	2191.69	2180.13	0.818	4.27	4.38	9.004	A
3	1377.37	344.34	1376.96	979.58	996.18	0.00	1747.11	1604.16	0.788	3.52	3.63	9.698	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	833.36	208.34	843.58	860.64	1091.23	0.00	1410.55	1122.56	0.591	4.02	1.47	6.461	A
2	1464.44	366.11	1474.01	1783.74	151.06	0.00	2211.55	2180.13	0.662	4.38	1.99	4.944	A
3	1124.62	281.16	1132.97	806.18	818.90	0.00	1864.98	1604.16	0.603	3.63	1.54	4.972	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	697.90	174.47	700.36	717.74	909.51	0.00	1524.34	1122.56	0.458	1.47	0.85	4.383	A
2	1226.40	306.60	1229.42	1484.45	125.41	0.00	2227.67	2180.13	0.551	1.99	1.24	3.619	A
3	941.82	235.45	944.23	671.82	683.01	0.00	1955.33	1604.16	0.482	1.54	0.94	3.568	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.11	0.81	4.302	A	A
2	17.63	1.18	3.558	A	A
3	13.41	0.89	3.516	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.28	1.35	6.120	A	A
2	27.87	1.86	4.773	A	A
3	21.62	1.44	4.803	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.37	3.42	13.526	B	B
2	58.79	3.92	8.619	A	A
3	48.60	3.24	9.252	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	59.25	3.95	14.679	B	B
2	65.11	4.34	9.004	A	A
3	53.82	3.59	9.698	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.51	1.57	6.461	A	A
2	31.37	2.09	4.944	A	A
3	24.22	1.61	4.972	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.15	0.88	4.383	A	A
2	19.05	1.27	3.619	A	A
3	14.40	0.96	3.568	A	A

# Existing Layout - Forecast Background + EA1N Construction 2023, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, PM	Forecast Background + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		



# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				17.39	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	992.00	100.000
2	ONE HOUR	✓	1930.00	100.000
3	ONE HOUR	✓	1062.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	746.83	759.85		
16:45-17:00	2	1453.01	1490.07		
16:45-17:00	3	799.53	827.22		
17:00-17:15	1	891.79	907.34		
17:00-17:15	2	1735.03	1779.29		
17:00-17:15	3	954.72	987.78		
17:15-17:30	1	1092.21	1111.26		
17:15-17:30	2	2124.97	2179.17		
17:15-17:30	3	1169.28	1209.78		
17:30-17:45	1	1092.21	1111.26		
17:30-17:45	2	2124.97	2179.17		
17:30-17:45	3	1169.28	1209.78		
17:45-18:00	1	891.79	907.34		
17:45-18:00	2	1735.03	1779.29		
17:45-18:00	3	954.72	987.78		
18:00-18:15	1	746.83	759.85		
18:00-18:15	2	1453.01	1490.07		
18:00-18:15	3	799.53	827.22		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	798.000	194.000
	2	743.000	98.000	1089.000
	3	94.000	968.000	0.000

## Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.80	0.20
	2	0.38	0.05	0.56
	3	0.09	0.91	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.019	1.011
	2	1.021	1.032	1.028
	3	1.000	1.038	1.000

## Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	1.9	1.1
	2	2.1	3.2	2.8
	3	0.0	3.8	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.80	12.80	3.77	B	910.27	1365.41	175.31	7.70	1.95	175.33	7.70
2	0.95	26.25	14.55	D	1771.00	2656.50	513.67	11.60	5.71	513.71	11.60
3	0.65	5.65	1.82	A	974.51	1461.76	102.83	4.22	1.14	102.84	4.22

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	746.83	186.71	743.38	627.24	799.77	0.00	1607.18	1022.59	0.465	0.00	0.86	4.151	A
2	1453.00	363.25	1446.09	1397.77	145.38	0.00	2283.30	2248.66	0.636	0.00	1.73	4.265	A
3	799.53	199.88	796.87	961.34	630.14	0.00	1998.65	1767.93	0.400	0.00	0.66	2.989	A

### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	891.78	222.95	889.53	750.10	956.85	0.00	1508.04	1022.65	0.591	0.86	1.43	5.799	A
2	1735.03	433.76	1729.24	1672.41	173.96	0.00	2265.17	2248.65	0.766	1.73	3.17	6.646	A
3	954.71	238.68	953.43	1149.68	753.52	0.00	1917.25	1767.93	0.498	0.66	0.98	3.730	A

### Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1092.21	273.05	1083.35	906.79	1168.86	0.00	1374.22	1022.67	0.795	1.43	3.64	12.026	B
2	2124.97	531.24	2087.34	2040.36	211.87	0.00	2241.12	2248.65	0.948	3.17	12.58	19.831	C
3	1169.28	292.32	1166.09	1389.64	909.56	0.00	1814.30	1767.93	0.644	0.98	1.78	5.526	A

### Main results: (17:30-17:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1092.21	273.05	1091.67	918.52	1173.16	0.00	1371.52	1022.67	0.796	3.64	3.77	12.802	B
2	2124.97	531.24	2117.10	2051.35	213.49	0.00	2240.09	2248.65	0.949	12.58	14.55	26.251	D
3	1169.28	292.32	1169.14	1408.07	922.53	0.00	1805.75	1767.93	0.648	1.78	1.82	5.653	A

### Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	891.78	222.95	900.96	769.91	963.50	0.00	1503.85	1022.65	0.593	3.77	1.48	6.060	A
2	1735.03	433.76	1779.66	1688.27	176.20	0.00	2263.75	2248.65	0.766	14.55	3.39	8.090	A
3	954.71	238.68	957.92	1180.37	775.49	0.00	1902.76	1767.93	0.502	1.82	1.02	3.824	A

### Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	746.83	186.71	749.23	632.75	804.12	0.00	1604.44	1022.59	0.465	1.48	0.88	4.220	A
2	1453.00	363.25	1459.47	1406.84	146.52	0.00	2282.58	2248.66	0.637	3.39	1.77	4.407	A
3	799.53	199.88	800.90	970.03	635.97	0.00	1994.81	1767.93	0.401	1.02	0.67	3.020	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.51	0.83	4.151	A	A
2	24.85	1.66	4.265	A	A
3	9.72	0.65	2.989	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.59	1.37	5.799	A	A
2	44.86	2.99	6.646	A	A
3	14.42	0.96	3.730	A	A

### Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	49.31	3.29	12.026	B	B
2	147.56	9.84	19.831	C	B
3	25.65	1.71	5.526	A	A

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	55.82	3.72	12.802	B	B
2	205.61	13.71	26.251	D	C
3	27.07	1.80	5.653	A	A

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.53	1.57	6.060	A	A
2	63.13	4.21	8.090	A	A
3	15.67	1.04	3.824	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.55	0.90	4.220	A	A
2	27.67	1.84	4.407	A	A
3	10.29	0.69	3.020	A	A

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, AM	Forecast Background + EA2 + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				10.88	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	927.00	100.000
2	ONE HOUR	✓	1644.00	100.000
3	ONE HOUR	✓	1254.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	697.89	716.22		
08:00-08:15	2	1237.69	1308.68		
08:00-08:15	3	944.08	980.44		
08:15-08:30	1	833.35	855.23		
08:15-08:30	2	1477.92	1562.70		
08:15-08:30	3	1127.32	1170.74		
08:30-08:45	1	1020.65	1047.44		
08:30-08:45	2	1810.08	1913.91		
08:30-08:45	3	1380.68	1433.86		
08:45-09:00	1	1020.65	1047.44		
08:45-09:00	2	1810.08	1913.91		
08:45-09:00	3	1380.68	1433.86		
09:00-09:15	1	833.35	855.23		
09:00-09:15	2	1477.92	1562.70		
09:00-09:15	3	1127.32	1170.74		
09:15-09:30	1	697.89	716.22		
09:15-09:30	2	1237.69	1308.68		
09:15-09:30	3	944.08	980.44		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	761.000	166.000
	2	799.000	106.000	739.000
	3	152.000	1102.000	0.000

## Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.49	0.06	0.45
	3	0.12	0.88	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.025	1.032
	2	1.030	1.050	1.088
	3	1.035	1.039	1.000

## Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	2.5	3.2
	2	3.0	5.0	8.8
	3	3.5	3.9	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.81	14.89	4.08	B	850.63	1275.95	181.30	8.53	2.01	181.31	8.53
2	0.83	9.45	4.63	A	1508.57	2262.85	229.14	6.08	2.55	229.16	6.08
3	0.79	9.86	3.70	A	1150.69	1726.03	178.54	6.21	1.98	178.56	6.21

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	697.90	174.47	694.55	713.10	905.86	0.00	1525.62	1118.53	0.457	0.00	0.84	4.314	A
2	1237.69	309.42	1232.73	1476.05	124.37	0.00	2225.86	2178.17	0.556	0.00	1.24	3.608	A
3	944.07	236.02	940.37	678.50	678.60	0.00	1954.94	1609.49	0.483	0.00	0.93	3.535	A

### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	833.36	208.34	831.05	853.20	1083.74	0.00	1414.05	1118.53	0.589	0.84	1.41	6.150	A
2	1477.92	369.48	1474.95	1765.98	148.82	0.00	2210.51	2178.17	0.669	1.24	1.99	4.875	A
3	1127.32	281.83	1125.00	811.83	811.94	0.00	1866.44	1609.49	0.604	0.93	1.51	4.839	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1020.65	255.16	1010.78	1041.16	1322.06	0.00	1264.56	1118.53	0.807	1.41	3.88	13.686	B
2	1810.08	452.52	1800.00	2151.85	181.00	0.00	2190.29	2178.17	0.826	1.99	4.51	8.998	A
3	1380.67	345.17	1372.35	990.13	990.88	0.00	1747.67	1609.49	0.790	1.51	3.59	9.389	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1020.65	255.16	1019.86	1046.77	1329.61	0.00	1259.83	1118.53	0.810	3.88	4.08	14.888	B
2	1810.08	452.52	1809.57	2166.85	182.63	0.00	2189.27	2178.17	0.827	4.51	4.63	9.447	A
3	1380.67	345.17	1380.24	996.05	996.14	0.00	1744.17	1609.49	0.792	3.59	3.70	9.862	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	833.36	208.34	843.76	860.98	1094.16	0.00	1407.52	1118.53	0.592	4.08	1.48	6.498	A
2	1477.92	369.48	1488.24	1786.82	151.09	0.00	2209.08	2178.17	0.669	4.63	2.05	5.065	A
3	1127.32	281.83	1135.87	820.08	819.26	0.00	1861.58	1609.49	0.606	3.70	1.56	5.019	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	697.90	174.47	700.38	717.79	911.80	0.00	1521.90	1118.53	0.459	1.48	0.85	4.394	A
2	1237.69	309.42	1240.85	1486.76	125.42	0.00	2225.20	2178.17	0.556	2.05	1.26	3.670	A
3	944.07	236.02	946.52	683.20	683.07	0.00	1951.97	1609.49	0.484	1.56	0.94	3.591	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.14	0.81	4.314	A	A
2	18.03	1.20	3.608	A	A
3	13.51	0.90	3.535	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.37	1.36	6.150	A	A
2	28.69	1.91	4.875	A	A
3	21.83	1.46	4.839	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	51.91	3.46	13.686	B	B
2	61.69	4.11	8.998	A	A
3	49.37	3.29	9.389	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	60.02	4.00	14.888	B	B
2	68.75	4.58	9.447	A	A
3	54.80	3.65	9.862	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.66	1.58	6.498	A	A
2	32.46	2.16	5.065	A	A
3	24.50	1.63	5.019	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.19	0.88	4.394	A	A
2	19.51	1.30	3.670	A	A
3	14.52	0.97	3.591	A	A

# Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

**Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, PM	Forecast Background + EA2 + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				18.05	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	992.00	100.000
2	ONE HOUR	✓	1933.00	100.000
3	ONE HOUR	✓	1076.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	746.83	759.85		
16:45-17:00	2	1455.26	1494.86		
16:45-17:00	3	810.07	840.38		
17:00-17:15	1	891.79	907.34		
17:00-17:15	2	1737.73	1785.01		
17:00-17:15	3	967.30	1003.50		
17:15-17:30	1	1092.21	1111.26		
17:15-17:30	2	2128.27	2186.18		
17:15-17:30	3	1184.70	1229.03		
17:30-17:45	1	1092.21	1111.26		
17:30-17:45	2	2128.27	2186.18		
17:30-17:45	3	1184.70	1229.03		
17:45-18:00	1	891.79	907.34		
17:45-18:00	2	1737.73	1785.01		
17:45-18:00	3	967.30	1003.50		
18:00-18:15	1	746.83	759.85		
18:00-18:15	2	1455.26	1494.86		
18:00-18:15	3	810.07	840.38		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	798.000	194.000
	2	743.000	98.000	1092.000
	3	94.000	982.000	0.000

### Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.80	0.20
	2	0.38	0.05	0.56
	3	0.09	0.91	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.019	1.011
	2	1.021	1.032	1.031
	3	1.000	1.041	1.000

### Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	1.9	1.1
	2	2.1	3.2	3.1
	3	0.0	4.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.80	13.34	3.93	B	910.27	1365.41	180.18	7.92	2.00	180.19	7.92
2	0.95	27.31	15.17	D	1773.75	2660.62	528.50	11.92	5.87	528.54	11.92
3	0.66	5.84	1.90	A	987.35	1481.03	106.66	4.32	1.19	106.67	4.32

### Main Results for each time segment

#### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	746.83	186.71	743.35	627.22	810.25	0.00	1599.22	1020.18	0.467	0.00	0.87	4.190	A
2	1455.26	363.81	1448.29	1408.22	145.37	0.00	2279.53	2245.24	0.638	0.00	1.74	4.295	A
3	810.07	202.52	807.34	963.55	630.12	0.00	1993.31	1765.17	0.406	0.00	0.68	3.029	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	891.78	222.95	889.47	750.06	969.38	0.00	1498.52	1020.24	0.595	0.87	1.45	5.888	A
2	1737.72	434.43	1731.82	1684.90	173.95	0.00	2261.43	2245.23	0.768	1.74	3.22	6.722	A
3	967.30	241.83	965.96	1152.30	753.48	0.00	1912.14	1765.17	0.506	0.68	1.02	3.800	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1092.21	273.05	1082.89	906.20	1184.03	0.00	1362.68	1020.26	0.802	1.45	3.78	12.471	B
2	2128.27	532.07	2089.09	2055.15	211.78	0.00	2237.47	2245.23	0.951	3.22	13.01	20.368	C
3	1184.70	296.17	1181.31	1391.96	908.92	0.00	1809.87	1765.17	0.655	1.02	1.86	5.697	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1092.21	273.05	1091.60	918.22	1188.52	0.00	1359.84	1020.26	0.803	3.78	3.93	13.345	B
2	2128.27	532.07	2119.63	2066.66	213.48	0.00	2236.39	2245.23	0.952	13.01	15.17	27.315	D
3	1184.70	296.17	1184.55	1410.92	922.20	0.00	1801.13	1765.17	0.658	1.86	1.90	5.837	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	891.78	222.95	901.48	770.77	976.37	0.00	1494.10	1020.24	0.597	3.93	1.50	6.172	A
2	1737.72	434.43	1784.64	1701.55	176.30	0.00	2259.94	2245.23	0.769	15.17	3.44	8.287	A
3	967.30	241.83	970.70	1184.49	776.45	0.00	1897.02	1765.17	0.510	1.90	1.05	3.900	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	746.83	186.71	749.30	632.80	814.73	0.00	1596.39	1020.18	0.468	1.50	0.89	4.263	A
2	1455.26	363.81	1461.86	1417.50	146.54	0.00	2278.79	2245.24	0.639	3.44	1.79	4.441	A
3	810.07	202.52	811.50	972.38	636.02	0.00	1989.42	1765.17	0.407	1.05	0.69	3.059	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.62	0.84	4.190	A	A
2	25.06	1.67	4.295	A	A
3	9.98	0.67	3.029	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.89	1.39	5.888	A	A
2	45.41	3.03	6.722	A	A
3	14.87	0.99	3.800	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	50.96	3.40	12.471	B	B
2	151.50	10.10	20.368	C	C
3	26.74	1.78	5.697	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	58.04	3.87	13.345	B	B
2	213.62	14.24	27.315	D	C
3	28.29	1.89	5.837	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.99	1.60	6.172	A	A
2	64.99	4.33	8.287	A	A
3	16.21	1.08	3.900	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.69	0.91	4.263	A	A
2	27.93	1.86	4.441	A	A
3	10.57	0.70	3.059	A	A

## Existing Layout - Background 2019, AM

**Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, AM	Background 2019	AM		ONE HOUR	08:00	09:30	90	15				✓		



# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				7.46	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	876.00	100.000
2	ONE HOUR	✓	1484.00	100.000
3	ONE HOUR	✓	1173.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	659.50	676.81		
08:00-08:15	2	1117.23	1174.99		
08:00-08:15	3	883.10	907.81		
08:15-08:30	1	787.51	808.18		
08:15-08:30	2	1334.09	1403.05		
08:15-08:30	3	1054.50	1084.01		
08:30-08:45	1	964.49	989.82		
08:30-08:45	2	1633.91	1718.38		
08:30-08:45	3	1291.50	1327.64		
08:45-09:00	1	659.50	676.81		
08:45-09:00	2	1633.91	1718.38		
08:45-09:00	3	1291.50	1327.64		
09:00-09:15	1	787.51	808.18		
09:00-09:15	2	1334.09	1403.05		
09:00-09:15	3	1054.50	1084.01		
09:15-09:30	1	659.50	676.81		
09:15-09:30	2	1117.23	1174.99		
09:15-09:30	3	883.10	907.81		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	719.000	157.000
	2	755.000	100.000	629.000
	3	144.000	1029.000	0.000

### Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.82	0.18
	2	0.51	0.07	0.42
	3	0.12	0.88	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.025	1.032
	2	1.030	1.050	1.078
	3	1.035	1.027	1.000

### Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	2.5	3.2
	2	3.0	5.0	7.8
	3	3.5	2.7	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.73	10.03	2.64	B	803.84	1205.75	132.06	6.57	1.47	132.07	6.57
2	0.74	6.27	2.81	A	1361.75	2042.62	156.15	4.59	1.73	156.16	4.59
3	0.72	7.09	2.51	A	1076.37	1614.55	133.07	4.95	1.48	133.08	4.95

### Main Results for each time segment

#### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	659.50	164.88	656.62	674.42	846.95	0.00	1568.16	1139.25	0.421	0.00	0.72	3.925	A
2	1117.24	279.31	1113.29	1385.88	117.68	0.00	2242.09	2187.47	0.498	0.00	0.99	3.179	A
3	883.10	220.77	879.95	589.55	641.42	0.00	1999.92	1584.93	0.442	0.00	0.79	3.205	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	787.51	196.88	785.80	806.97	1013.31	0.00	1464.90	1139.25	0.538	0.72	1.15	5.289	A
2	1334.09	333.52	1332.13	1658.27	140.83	0.00	2227.47	2187.47	0.599	0.99	1.48	4.012	A
3	1054.51	263.63	1052.80	705.46	767.50	0.00	1915.38	1584.93	0.551	0.79	1.21	4.165	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	964.50	241.12	958.80	986.56	1238.29	0.00	1325.27	1139.25	0.728	1.15	2.57	9.676	A
2	1633.92	408.48	1628.73	2025.25	171.84	0.00	2207.89	2187.47	0.740	1.48	2.78	6.161	A
3	1291.50	322.87	1286.47	862.18	938.38	0.00	1800.79	1584.93	0.717	1.21	2.47	6.932	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	964.50	241.12	964.24	989.72	1242.90	0.00	1322.41	1139.25	0.729	2.57	2.64	10.034	B
2	1633.92	408.48	1633.77	2034.32	172.81	0.00	2207.27	2187.47	0.740	2.78	2.81	6.273	A
3	1291.50	322.87	1291.34	865.30	941.29	0.00	1798.84	1584.93	0.718	2.47	2.51	7.089	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	787.51	196.88	793.32	811.45	1019.74	0.00	1460.91	1139.25	0.539	2.64	1.18	5.439	A
2	1334.09	333.52	1339.29	1670.89	142.18	0.00	2226.62	2187.47	0.599	2.81	1.51	4.081	A
3	1054.51	263.63	1059.57	709.84	771.62	0.00	1912.61	1584.93	0.551	2.51	1.24	4.244	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	659.50	164.88	661.30	678.07	851.66	0.00	1565.23	1139.25	0.421	1.18	0.73	3.991	A
2	1117.24	279.31	1119.28	1394.44	118.52	0.00	2241.56	2187.47	0.498	1.51	1.00	3.215	A
3	883.10	220.77	884.87	592.93	644.86	0.00	1997.61	1584.93	0.442	1.24	0.80	3.239	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.50	0.70	3.925	A	A
2	14.40	0.96	3.179	A	A
3	11.49	0.77	3.205	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.68	1.11	5.289	A	A
2	21.55	1.44	4.012	A	A
3	17.70	1.18	4.165	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	35.85	2.39	9.676	A	A
2	39.42	2.63	6.161	A	A
3	34.98	2.33	6.932	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	39.19	2.61	10.034	B	B
2	41.96	2.80	6.273	A	A
3	37.41	2.49	7.089	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	18.55	1.24	5.439	A	A
2	23.46	1.56	4.081	A	A
3	19.27	1.28	4.244	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	11.28	0.75	3.991	A	A
2	15.35	1.02	3.215	A	A
3	12.22	0.81	3.239	A	A

## Existing Layout - Background 2019, PM

**Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, PM	Background 2019	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
7	A12, Woods Lane	Roundabout	1,2,3				9.90	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Woods Lane	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.18	8.40	30.00	28.33	66.00	9.50	
2	7.84	8.39	1.35	20.92	66.00	32.00	
3	4.00	8.68	68.00	24.40	66.00	17.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.619	2148.783
2		(calculated)	(calculated)	0.644	2436.136
3		(calculated)	(calculated)	0.668	2498.015

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	937.00	100.000
2	ONE HOUR	✓	1814.00	100.000
3	ONE HOUR	✓	947.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	705.42	717.72		
16:45-17:00	2	1365.67	1393.59		
16:45-17:00	3	712.95	731.68		
17:00-17:15	1	842.34	857.03		
17:00-17:15	2	1630.75	1664.08		
17:00-17:15	3	851.33	873.70		
17:15-17:30	1	1031.66	1049.65		
17:15-17:30	2	1997.25	2038.08		
17:15-17:30	3	1042.67	1070.06		
17:30-17:45	1	1031.66	1049.65		
17:30-17:45	2	1997.25	2038.08		
17:30-17:45	3	1042.67	1070.06		
17:45-18:00	1	842.34	857.03		
17:45-18:00	2	1630.75	1664.08		
17:45-18:00	3	851.33	873.70		
18:00-18:15	1	705.42	717.72		
18:00-18:15	2	1365.67	1393.59		
18:00-18:15	3	712.95	731.68		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.000	754.000	183.000
	2	702.000	93.000	1019.000
	3	89.000	858.000	0.000

### Turning Proportions (Veh) - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.00	0.80	0.20
	2	0.39	0.05	0.56
	3	0.09	0.91	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

		To		
		1	2	3
From	1	1.000	1.019	1.011
	2	1.021	1.032	1.019
	3	1.000	1.029	1.000

### Heavy Vehicle Percentages - Junction 7 (for whole period)

		To		
		1	2	3
From	1	0.0	1.9	1.1
	2	2.1	3.2	1.9
	3	0.0	2.9	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.71	8.46	2.39	A	859.81	1289.71	125.33	5.83	1.39	125.34	5.83
2	0.88	13.49	7.19	B	1664.56	2496.84	315.32	7.58	3.50	315.35	7.58
3	0.56	4.45	1.28	A	868.99	1303.48	76.86	3.54	0.85	76.87	3.54

### Main Results for each time segment

#### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	705.42	176.36	702.50	593.07	713.73	0.00	1665.03	1032.08	0.424	0.00	0.73	3.730	A
2	1365.67	341.42	1359.89	1279.03	137.20	0.00	2299.86	2258.82	0.594	0.00	1.45	3.806	A
3	712.95	178.24	710.81	901.11	595.98	0.00	2037.67	1775.63	0.350	0.00	0.54	2.708	A



**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	842.34	210.59	840.73	709.46	853.90	0.00	1577.26	1032.09	0.534	0.73	1.13	4.877	A
2	1630.75	407.69	1626.73	1530.44	164.20	0.00	2282.65	2258.82	0.714	1.45	2.45	5.454	A
3	851.34	212.83	850.43	1078.00	712.93	0.00	1959.88	1775.63	0.434	0.54	0.76	3.241	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1031.65	257.91	1026.80	863.95	1044.35	0.00	1458.00	1032.15	0.708	1.13	2.35	8.257	A
2	1997.25	499.31	1979.77	1870.60	200.54	0.00	2259.48	2258.81	0.884	2.45	6.82	12.172	B
3	1042.67	260.67	1040.66	1312.65	867.65	0.00	1856.98	1775.63	0.561	0.76	1.27	4.399	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1031.65	257.91	1031.49	870.34	1046.95	0.00	1456.37	1032.15	0.708	2.35	2.39	8.464	A
2	1997.25	499.31	1995.80	1876.99	201.45	0.00	2258.90	2258.81	0.884	6.82	7.19	13.494	B
3	1042.67	260.67	1042.62	1322.58	874.67	0.00	1852.30	1775.63	0.563	1.27	1.28	4.446	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	842.34	210.59	847.25	718.44	857.69	0.00	1574.88	1032.09	0.535	2.39	1.16	4.979	A
2	1630.75	407.69	1649.26	1539.47	165.47	0.00	2281.84	2258.82	0.715	7.19	2.56	5.850	A
3	851.34	212.83	853.34	1091.93	722.80	0.00	1953.32	1775.63	0.436	1.28	0.78	3.280	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	705.42	176.36	707.11	597.27	717.04	0.00	1662.95	1032.08	0.424	1.16	0.74	3.774	A
2	1365.67	341.42	1369.99	1286.04	138.10	0.00	2299.29	2258.82	0.594	2.56	1.48	3.891	A
3	712.95	178.24	713.90	907.69	600.41	0.00	2034.72	1775.63	0.350	0.78	0.54	2.726	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.65	0.71	3.730	A	A
2	20.94	1.40	3.806	A	A
3	7.88	0.53	2.708	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.50	1.10	4.877	A	A
2	35.13	2.34	5.454	A	A
3	11.24	0.75	3.241	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	33.06	2.20	8.257	A	A
2	89.11	5.94	12.172	B	B
3	18.44	1.23	4.399	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	35.60	2.37	8.464	A	A
2	105.59	7.04	13.494	B	B
3	19.12	1.27	4.446	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	18.12	1.21	4.979	A	A
2	41.66	2.78	5.850	A	A
3	11.93	0.80	3.280	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	11.40	0.76	3.774	A	A
2	22.89	1.53	3.891	A	A
3	8.26	0.55	2.726	A	A





**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 8

**Junction 8- A12 / B1079 Junction**



**Notes**

Link	Arm	Road Name
-	A	B1079
-	B	A12
-	C	B1079
-	D	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	137	65	239	441
B	351	8	137	819	1315
C	62	271	0	36	369
D	84	1155	257	65	1561
Totals	497	1571	459	1159	3686

**HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	3	0	5	67	75
C	1	5	0	5	11
D	1	69	4	4	78
Totals	5	78	12	76	171

**Total**

From/To	A	B	C	D	Totals
A	0	141	68	239	448
B	354	8	142	886	1390
C	63	276	0	41	380
D	85	1224	261	69	1639
Totals	502	1649	471	1235	3857

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.8%	4.4%	0.0%	2%
B	0.8%	0.0%	3.5%	7.6%	3%
C	1.6%	1.8%	0.0%	12.2%	4%
D	1.2%	5.6%	1.5%	5.8%	4%
Average	1%	3%	2%	6%	3%

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:30PM - 17:30PM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	100	70	193	363
B	179	3	161	1284	1627
C	58	185	0	80	323
D	103	1226	203	54	1586
Totals	340	1514	434	1611	3899

**HGVs**

From/To	A	B	C	D	Totals
A	0	1	1	0	2
B	2	0	1	34	37
C	0	3	0	0	3
D	2	30	5	2	39
Totals	4	34	7	36	81

**Total**

From/To	A	B	C	D	Totals
A	0	101	71	193	365
B	181	3	162	1318	1664
C	58	188	0	80	326
D	105	1256	208	56	1625
Totals	344	1548	441	1647	3980

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	1.0%	1.4%	0.0%	1%
B	1.1%	0.0%	0.6%	2.6%	1%
C	0.0%	1.6%	0.0%	0.0%	0%
D	1.9%	2.4%	2.4%	3.6%	3%
Average	1%	1%	1%	2%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	145	69	253	466
B	371	8	145	866	1391
C	66	287	0	38	390
D	89	1222	272	69	1651
Totals	526	1662	486	1226	3899

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	3	0	5	71	79
C	1	5	0	5	12
D	1	73	4	4	83
Totals	5	83	13	80	181

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	149	72	253	474
B	374	8	150	937	1470
C	67	292	0	43	402
D	90	1295	276	73	1734
Totals	531	1744	498	1306	4080

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.8%	4.4%	0.0%	2%
B	0.8%	0.0%	3.5%	7.6%	3%
C	1.6%	1.8%	0.0%	12.2%	4%
D	1.2%	5.6%	1.5%	5.8%	4%
Average	1%	3%	2%	6%	3%

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	106	74	204	384
B	190	3	170	1359	1723
C	61	196	0	85	342
D	109	1298	215	57	1679
Totals	360	1603	460	1706	4128

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	1	1	0	2
B	2	0	1	36	39
C	0	3	0	0	3
D	2	32	5	2	41
Totals	4	36	7	38	86

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	107	75	204	386
B	192	3	172	1395	1762
C	61	199	0	85	345
D	111	1330	220	59	1721
Totals	364	1639	467	1744	4214

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	1.0%	1.4%	0.0%	1%
B	1.1%	0.0%	0.6%	2.6%	1%
C	0.0%	1.6%	0.0%	0.0%	0%
D	1.9%	2.4%	2.4%	3.6%	3%
Average	1%	1%	1%	2%	1%

Junction 8- A12 / B1079 Junction



Notes

Link	Arm	Road Name
-	A	B1079
-	B	A12
-	C	B1079
-	D	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	42	42
C	0	0	0	0	0
D	0	0	0	0	0
Totals	0	0	0	42	42

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	52	52
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	52	63

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	20.1%	5%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	5%	8%

**PM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	42	0	0	42
Totals	0	42	0	0	42

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	52	0	0	52
Totals	0	52	0	11	63

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	20.1%	0.0%	0.0%	5%
Average	0%	5%	0%	25%	8%

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	145	69	253	466
B	371	8	145	908	1433
C	66	287	0	38	393
D	89	1222	272	69	1651
Totals	526	1662	486	1288	3941

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	3	0	5	81	90
C	1	5	0	5	12
D	1	83	4	4	93
Totals	5	93	13	91	202

From/To	A	B	C	D	Totals
A	0	149	72	253	474
B	374	8	150	989	1523
C	67	292	0	43	402
D	90	1305	276	73	1744
Totals	531	1755	498	1359	4143

From/To	A	B	C	D	Average
A	0.0%	2.8%	4.4%	0.0%	2%
B	0.8%	0.0%	3.5%	8.2%	3%
C	1.6%	1.8%	0.0%	12.2%	4%
D	1.2%	6.4%	1.5%	5.8%	4%
Average	1%	3%	2%	7%	3%

**PM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	106	74	204	384
B	190	3	170	1359	1723
C	61	196	0	85	342
D	109	1340	215	57	1721
Totals	360	1645	460	1706	4170

From/To	A	B	C	D	Totals
A	0	1	1	0	2
B	2	0	1	46	50
C	0	3	0	0	3
D	2	42	5	2	52
Totals	4	46	7	49	107

From/To	A	B	C	D	Totals
A	0	107	75	204	386
B	192	3	172	1406	1772
C	61	199	0	85	345
D	111	1382	220	59	1773
Totals	364	1691	467	1754	4277

From/To	A	B	C	D	Average
A	0.0%	1.0%	1.4%	0.0%	1%
B	1.1%	0.0%	0.6%	3.3%	1%
C	0.0%	1.6%	0.0%	0.0%	0%
D	1.9%	3.1%	2.4%	3.6%	3%
Average	1%	1%	1%	2%	1%

**Junction 8- A12 / B1079 Junction**



**Notes**

Link	Arm	Road Name
-	A	B1079
-	B	A12
-	C	B1079
-	D	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	137	65	239	441
B	351	8	137	819	1315
C	62	271	0	36	369
D	84	1155	257	65	1561
Totals	497	1571	459	1159	3686

**HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	3	0	5	67	75
C	1	5	0	5	11
D	1	69	4	4	78
Totals	5	78	12	76	171

**Total**

From/To	A	B	C	D	Totals
A	0	141	68	239	448
B	354	8	142	886	1390
C	63	276	0	41	380
D	85	1224	261	69	1639
Totals	502	1649	471	1235	3857

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.8%	4.4%	0.0%	2%
B	0.8%	0.0%	3.5%	7.6%	3%
C	1.6%	1.8%	0.0%	12.2%	4%
D	1.2%	5.6%	1.5%	5.8%	4%
Average	1%	3%	2%	6%	3%

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:30PM - 17:30PM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	100	70	193	363
B	179	3	161	1284	1627
C	58	185	0	80	323
D	103	1226	203	54	1586
Totals	340	1514	434	1611	3899

**HGVs**

From/To	A	B	C	D	Totals
A	0	1	1	0	2
B	2	0	1	34	37
C	0	3	0	0	3
D	2	30	5	2	39
Totals	4	34	7	36	81

**Total**

From/To	A	B	C	D	Totals
A	0	101	71	193	365
B	181	3	162	1318	1664
C	58	188	0	80	326
D	105	1256	208	56	1625
Totals	344	1548	441	1647	3980

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	1.0%	1.4%	0.0%	1%
B	1.1%	0.0%	0.6%	2.6%	1%
C	0.0%	1.6%	0.0%	0.0%	0%
D	1.9%	2.4%	2.4%	3.6%	3%
Average	1%	1%	1%	2%	1%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	145	69	253	466
B	371	8	145	866	1391
C	66	287	0	38	390
D	89	1222	272	69	1651
Totals	526	1662	486	1226	3899

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	3	0	5	71	79
C	1	5	0	5	12
D	1	73	4	4	83
Totals	5	83	13	80	181

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	149	72	253	474
B	374	8	150	937	1470
C	67	292	0	43	402
D	90	1295	276	73	1734
Totals	531	1744	498	1306	4080

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.8%	4.4%	0.0%	2%
B	0.8%	0.0%	3.5%	7.6%	3%
C	1.6%	1.8%	0.0%	12.2%	4%
D	1.2%	5.6%	1.5%	5.8%	4%
Average	1%	3%	2%	6%	3%

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	106	74	204	384
B	190	3	170	1359	1723
C	61	196	0	85	342
D	109	1296	215	57	1679
Totals	360	1603	460	1706	4128

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	1	1	0	2
B	2	0	1	36	39
C	0	3	0	0	3
D	2	32	5	2	41
Totals	4	36	7	38	86

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	107	75	204	386
B	192	3	172	1395	1762
C	61	199	0	85	345
D	111	1330	220	59	1721
Totals	364	1639	467	1744	4214

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	1.0%	1.4%	0.0%	1%
B	1.1%	0.0%	0.6%	2.6%	1%
C	0.0%	1.6%	0.0%	0.0%	0%
D	1.9%	2.4%	2.4%	3.6%	3%
Average	1%	1%	1%	2%	1%

**Junction 8- A12 / B1079 Junction**



**Notes**

Link	Arm	Road Name
-	A	B1079
-	B	A12
-	C	B1079
-	D	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	52	52
C	0	0	0	0	0
D	0	0	0	0	0
Totals	0	0	0	52	52

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	65	65
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	65	79

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	20.7%	5%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	5%	8%

**PM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	52	0	0	52
Totals	0	52	0	0	52

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	65	0	0	65
Totals	0	65	0	14	79

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	20.7%	0.0%	0.0%	5%
Average	0%	5%	0%	25%	8%

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	145	69	253	466
B	371	8	145	918	1443
C	66	287	0	38	390
D	89	1222	272	69	1651
Totals	526	1662	486	1278	3951

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	3	0	5	84	93
C	1	5	0	5	12
D	1	86	4	4	96
Totals	5	96	13	94	208

From/To	A	B	C	D	Totals
A	0	149	72	253	474
B	374	8	150	1002	1536
C	67	292	0	43	402
D	90	1308	276	73	1747
Totals	531	1758	498	1372	4159

From/To	A	B	C	D	Average
A	0.0%	2.8%	4.4%	0.0%	2%
B	0.8%	0.0%	3.5%	8.4%	3%
C	1.6%	1.8%	0.0%	12.2%	4%
D	1.2%	6.6%	1.5%	5.8%	4%
Average	1%	3%	2%	7%	3%

**PM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	106	74	204	384
B	190	3	170	1359	1723
C	61	196	0	85	342
D	109	1350	215	57	1731
Totals	360	1655	460	1706	4180

From/To	A	B	C	D	Totals
A	0	1	1	0	2
B	2	0	1	49	53
C	0	3	0	0	3
D	2	45	5	2	55
Totals	4	49	7	52	113

From/To	A	B	C	D	Totals
A	0	107	75	204	386
B	192	3	172	1409	1775
C	61	199	0	85	345
D	111	1395	220	59	1786
Totals	364	1704	467	1757	4293

From/To	A	B	C	D	Average
A	0.0%	1.0%	1.4%	0.0%	1%
B	1.1%	0.0%	0.6%	3.5%	1%
C	0.0%	1.6%	0.0%	0.0%	0%
D	1.9%	3.2%	2.4%	3.6%	3%
Average	1%	1%	1%	2%	1%

# Junctions 8

## ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]  
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**Filename:** Junction 8 - A12 and B1079.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 16:14:29

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - »Existing Layout - Background 2019, AM
  - »Existing Layout - Background 2019, PM



## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Background 2019</b>								
Arm 1	2.98	22.71	0.76	C	1.10	9.95	0.53	A
Arm 2	4.22	10.18	0.81	B	8.43	17.44	0.90	C
Arm 3	3.23	29.30	0.78	D	3.61	38.53	0.80	E
Arm 4	4.53	9.28	0.82	A	2.53	5.16	0.72	A
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b>								
Arm 1	7.51	55.45	0.91	F	1.80	15.61	0.65	C
Arm 2	9.62	21.78	0.92	C	23.05	43.78	0.98	E
Arm 3	15.82	124.91	1.02	F	13.31	123.17	1.02	F
Arm 4	7.68	15.09	0.89	C	3.86	7.21	0.80	A
<b>Existing Layout - Forecast Background + EA1N Construction 2023</b>								
Arm 1	7.27	53.68	0.91	F	1.73	15.02	0.64	C
Arm 2	8.64	19.67	0.91	C	21.94	41.97	0.98	E
Arm 3	13.20	107.15	1.00	F	12.72	118.49	1.01	F
Arm 4	7.52	14.80	0.89	B	3.72	7.00	0.79	A
<b>Existing Layout - Forecast Background 2023</b>								
Arm 1	6.64	49.09	0.90	E	1.50	12.94	0.60	B
Arm 2	6.37	14.81	0.87	B	18.48	36.14	0.97	E
Arm 3	7.56	65.81	0.92	F	10.71	102.35	0.98	F
Arm 4	7.10	14.00	0.88	B	3.21	6.20	0.77	A

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

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30  
 "D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15  
 "D3 - Forecast Background + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D4 - Forecast Background + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D7 - Background 2019, AM" model duration: 08:00 - 09:30  
 "D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:14:22

## File summary

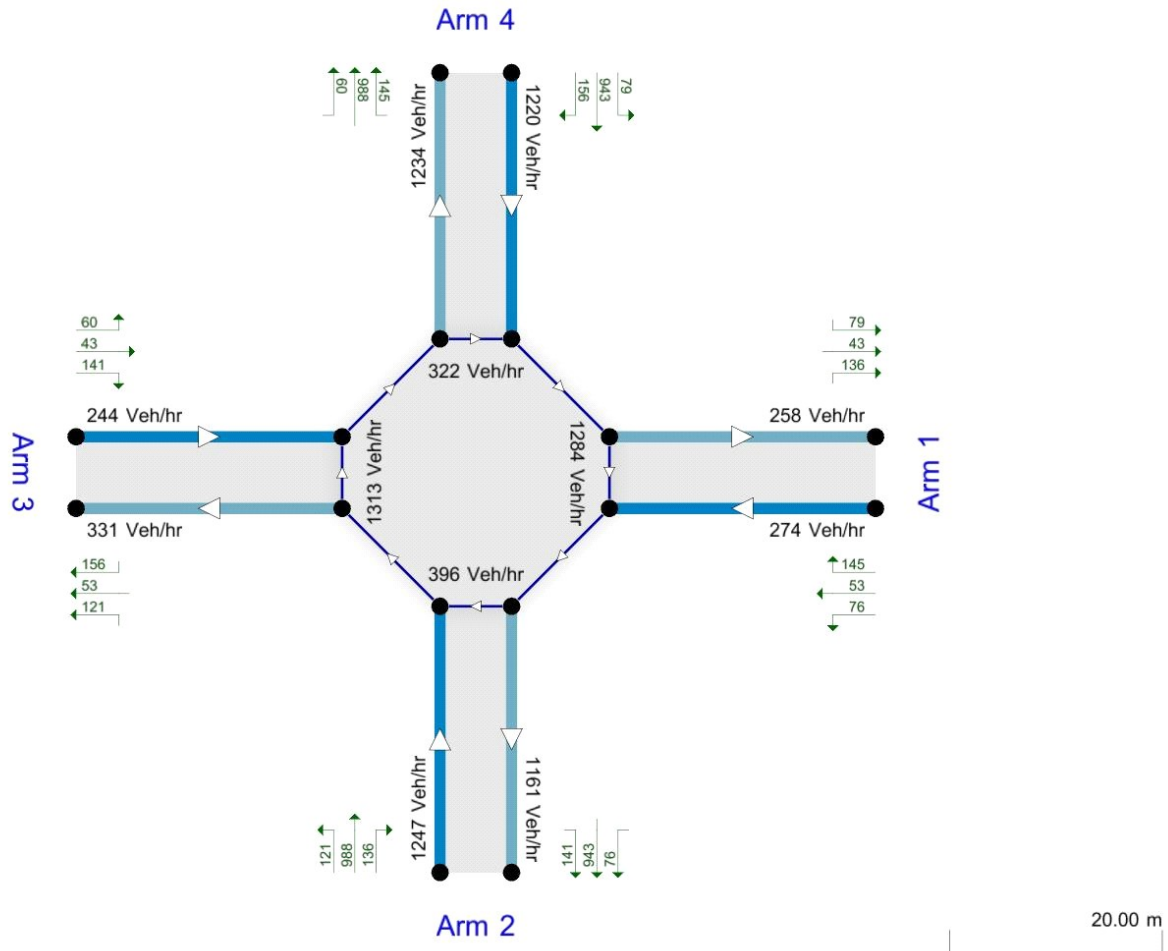
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Roundabout junction of the A12 and Woods Lane
<b>Site Number</b>	J8
<b>Date</b>	25/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

### Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

### 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



Showing modelled flow through junction (Veh/hr).  
 Time Segment: (16:45-17:00)  
 Showing Analysis Set "A1 - Existing Layout", Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

# Existing Layout - Forecast Background 2023, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				23.29	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	474.00	100.000
2	ONE HOUR	✓	1469.00	100.000
3	ONE HOUR	✓	402.00	100.000
4	ONE HOUR	✓	1734.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	356.85	362.38		
08:00-08:15	2	1105.94	1165.76		
08:00-08:15	3	302.65	311.36		
08:00-08:15	4	1305.45	1367.16		
08:15-08:30	1	426.12	432.71		
08:15-08:30	2	1320.60	1392.03		
08:15-08:30	3	361.39	371.79		
08:15-08:30	4	1558.83	1632.52		
08:30-08:45	1	521.88	529.97		
08:30-08:45	2	1617.40	1704.88		
08:30-08:45	3	442.61	455.35		
08:30-08:45	4	1909.17	1999.42		
08:45-09:00	1	521.88	529.97		
08:45-09:00	2	1617.40	1704.88		
08:45-09:00	3	442.61	455.35		
08:45-09:00	4	1909.17	1999.42		
09:00-09:15	1	426.12	432.71		
09:00-09:15	2	1320.60	1392.03		
09:00-09:15	3	361.39	371.79		
09:00-09:15	4	1558.83	1632.52		
09:15-09:30	1	356.85	362.38		
09:15-09:30	2	1105.94	1165.76		
09:15-09:30	3	302.65	311.36		
09:15-09:30	4	1305.45	1367.16		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	149.000	72.000	253.000
	2	374.000	8.000	150.000	937.000
	3	67.000	292.000	0.000	43.000
	4	90.000	1295.000	276.000	73.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.31	0.15	0.53
	2	0.25	0.01	0.10	0.64
	3	0.17	0.73	0.00	0.11
	4	0.05	0.75	0.16	0.04

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.028	1.044	1.000
	2	1.008	1.000	1.035	1.076
	3	1.016	1.018	1.000	1.122
	4	1.012	1.056	1.015	1.058

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.8	4.4	0.0
	2	0.8	0.0	3.5	7.6
	3	1.6	1.8	0.0	12.2
	4	1.2	5.6	1.5	5.8

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.90	49.09	6.64	E	434.95	652.42	208.41	19.17	2.32	208.42	19.17
2	0.87	14.81	6.37	B	1347.98	2021.96	271.98	8.07	3.02	272.00	8.07
3	0.92	65.81	7.56	F	368.88	553.32	226.44	24.55	2.52	226.46	24.56
4	0.88	14.00	7.10	B	1591.16	2386.73	293.98	7.39	3.27	294.00	7.39

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	356.85	89.21	354.62	397.91	1457.22	0.00	989.71	464.31	0.361	0.00	0.56	5.650	A
2	1105.94	276.48	1101.16	1306.93	504.91	0.00	2023.72	1843.25	0.546	0.00	1.19	3.882	A
3	302.65	75.66	300.36	373.31	1232.75	0.00	824.79	367.34	0.367	0.00	0.57	6.833	A
4	1305.45	326.36	1300.56	978.54	554.58	0.00	2364.54	2161.37	0.552	0.00	1.22	3.369	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	426.11	106.53	424.08	475.94	1742.59	0.00	817.62	464.31	0.521	0.56	1.07	9.101	A
2	1320.60	330.15	1317.16	1562.89	603.79	0.00	1952.08	1843.25	0.677	1.19	2.05	5.640	A
3	361.39	90.35	359.26	446.45	1474.50	0.00	680.09	367.34	0.531	0.57	1.11	11.147	B
4	1558.84	389.71	1555.19	1170.41	663.35	0.00	2276.91	2161.36	0.685	1.22	2.13	4.964	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	521.88	130.47	505.00	576.65	2109.93	0.00	595.95	464.31	0.876	1.07	5.29	34.759	D
2	1617.39	404.35	1601.87	1887.98	726.95	0.00	1862.80	1843.25	0.868	2.05	5.93	13.084	B
3	442.61	110.65	423.89	541.35	1787.48	0.00	492.59	367.34	0.899	1.11	5.79	44.174	E
4	1909.18	477.29	1891.50	1416.26	795.09	0.00	2170.81	2161.36	0.879	2.13	6.55	12.189	B

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	521.88	130.47	516.48	582.90	2133.18	0.00	582.03	464.31	0.897	5.29	6.64	49.087	E
2	1617.39	404.35	1615.66	1911.69	737.95	0.00	1854.86	1843.25	0.872	5.93	6.37	14.812	B
3	442.61	110.65	435.52	546.97	1806.64	0.00	481.23	367.34	0.920	5.79	7.56	65.811	F
4	1909.18	477.29	1907.01	1433.09	809.07	0.00	2159.53	2161.36	0.884	6.55	7.10	14.002	B

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	426.11	106.53	447.90	486.83	1784.31	0.00	792.71	464.31	0.538	6.64	1.19	11.075	B
2	1320.60	330.15	1337.33	1607.49	624.72	0.00	1936.98	1843.25	0.682	6.37	2.19	6.164	A
3	361.39	90.35	386.66	455.77	1506.28	0.00	661.32	367.34	0.546	7.56	1.24	14.261	B
4	1558.84	389.71	1578.08	1199.88	693.06	0.00	2252.89	2161.36	0.692	7.10	2.29	5.481	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	356.85	89.21	359.31	401.40	1469.39	0.00	982.40	464.31	0.363	1.19	0.58	5.799	A
2	1105.94	276.48	1109.79	1318.75	509.94	0.00	2020.08	1843.25	0.547	2.19	1.22	3.972	A
3	302.65	75.66	305.24	376.35	1243.39	0.00	818.46	367.34	0.370	1.24	0.59	7.048	A
4	1305.45	326.36	1309.61	987.45	561.18	0.00	2359.20	2161.37	0.553	2.29	1.25	3.445	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.09	0.54	5.650	A	A
2	17.31	1.15	3.882	A	A
3	8.25	0.55	6.833	A	A
4	17.79	1.19	3.369	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.24	1.02	9.101	A	A
2	29.48	1.97	5.640	A	A
3	15.68	1.05	11.147	B	B
4	30.73	2.05	4.964	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	62.74	4.18	34.759	D	C
2	77.67	5.18	13.084	B	B
3	66.18	4.41	44.174	E	D
4	85.52	5.70	12.189	B	B

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	91.27	6.08	49.087	E	D
2	93.02	6.20	14.812	B	B
3	102.04	6.80	65.811	F	E
4	103.35	6.89	14.002	B	B

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	22.12	1.47	11.075	B	B
2	35.60	2.37	6.164	A	A
3	25.02	1.67	14.261	B	B
4	37.32	2.49	5.481	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.95	0.60	5.799	A	A
2	18.89	1.26	3.972	A	A
3	9.28	0.62	7.048	A	A
4	19.28	1.29	3.445	A	A

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	



## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				27.14	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	386.00	100.000
2	ONE HOUR	✓	1762.00	100.000
3	ONE HOUR	✓	345.00	100.000
4	ONE HOUR	✓	1720.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	290.60	292.20		
16:45-17:00	2	1326.53	1356.20		
16:45-17:00	3	259.73	262.13		
16:45-17:00	4	1294.91	1326.10		
17:00-17:15	1	347.01	348.91		
17:00-17:15	2	1584.00	1619.43		
17:00-17:15	3	310.15	313.01		
17:00-17:15	4	1546.24	1583.49		
17:15-17:30	1	424.99	427.33		
17:15-17:30	2	1940.00	1983.39		
17:15-17:30	3	379.85	383.36		
17:15-17:30	4	1893.76	1939.37		
17:30-17:45	1	424.99	427.33		
17:30-17:45	2	1940.00	1983.39		
17:30-17:45	3	379.85	383.36		
17:30-17:45	4	1893.76	1939.37		
17:45-18:00	1	347.01	348.91		
17:45-18:00	2	1584.00	1619.43		
17:45-18:00	3	310.15	313.01		
17:45-18:00	4	1546.24	1583.49		
18:00-18:15	1	290.60	292.20		
18:00-18:15	2	1326.53	1356.20		
18:00-18:15	3	259.73	262.13		
18:00-18:15	4	1294.91	1326.10		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	107.000	75.000	204.000
	2	192.000	3.000	172.000	1395.000
	3	61.000	199.000	0.000	85.000
	4	111.000	1330.000	220.000	59.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.28	0.19	0.53
	2	0.11	0.00	0.10	0.79
	3	0.18	0.58	0.00	0.25
	4	0.06	0.77	0.13	0.03

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.010	1.014	1.000
	2	1.011	1.000	1.006	1.026
	3	1.000	1.016	1.000	1.000
	4	1.019	1.024	1.024	1.036

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
From		1	2	3	4
	1	0.0	1.0	1.4	0.0
	2	1.1	0.0	0.6	2.6
	3	0.0	1.6	0.0	0.0
	4	1.9	2.4	2.4	3.6

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.60	12.94	1.50	B	354.20	531.30	72.35	8.17	0.80	72.36	8.17
2	0.97	36.14	18.48	E	1616.84	2425.26	579.40	14.33	6.44	579.43	14.33
3	0.98	102.35	10.71	F	316.58	474.87	269.67	34.07	3.00	269.68	34.07
4	0.77	6.20	3.21	A	1578.30	2367.45	169.72	4.30	1.89	169.73	4.30

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	290.60	72.65	289.13	272.73	1358.53	0.00	1076.18	379.92	0.270	0.00	0.37	4.566	A
2	1326.52	331.63	1320.17	1229.27	418.39	0.00	2151.75	1959.58	0.616	0.00	1.59	4.297	A
3	259.73	64.93	257.71	350.17	1388.39	0.00	766.71	370.28	0.339	0.00	0.51	7.044	A
4	1294.90	323.73	1290.94	1305.79	340.32	0.00	2594.83	2466.76	0.499	0.00	0.99	2.753	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	347.01	86.75	346.07	326.09	1624.78	0.00	917.26	379.92	0.378	0.37	0.60	6.292	A
2	1584.00	396.00	1578.22	1470.25	500.59	0.00	2090.46	1959.58	0.758	1.59	3.03	6.949	A
3	310.15	77.54	308.08	418.80	1660.02	0.00	605.06	370.28	0.513	0.51	1.02	12.039	B
4	1546.24	386.56	1544.04	1561.26	406.83	0.00	2540.08	2466.76	0.609	0.99	1.54	3.607	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	424.99	106.25	421.60	391.12	1974.63	0.00	708.39	379.92	0.600	0.60	1.45	12.409	B
2	1940.00	485.00	1892.49	1785.34	610.88	0.00	2008.22	1959.58	0.966	3.03	14.91	24.657	C
3	379.85	94.96	356.85	508.06	1995.31	0.00	405.55	370.28	0.937	1.02	6.77	58.148	F
4	1893.75	473.44	1887.37	1873.80	478.37	0.00	2481.20	2466.76	0.763	1.54	3.14	5.998	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	424.99	106.25	424.80	396.41	1984.55	0.00	702.48	379.92	0.605	1.45	1.50	12.945	B
2	1940.00	485.00	1925.70	1795.18	614.18	0.00	2005.77	1959.58	0.967	14.91	18.48	36.144	E
3	379.85	94.96	364.09	512.71	2027.17	0.00	386.56	370.28	0.983	6.77	10.71	102.349	F
4	1893.75	473.44	1893.46	1903.77	487.51	0.00	2473.68	2466.76	0.766	3.14	3.21	6.197	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	347.01	86.75	350.46	340.96	1655.92	0.00	898.77	379.92	0.386	1.50	0.64	6.605	A
2	1584.00	396.00	1644.89	1501.23	505.15	0.00	2087.08	1959.58	0.759	18.48	3.26	9.229	A
3	310.15	77.54	348.00	427.25	1722.80	0.00	567.64	370.28	0.546	10.71	1.25	19.153	C
4	1546.24	386.56	1552.59	1626.49	444.30	0.00	2509.24	2466.76	0.616	3.21	1.62	3.789	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	290.60	72.65	291.65	275.42	1367.41	0.00	1070.90	379.92	0.271	0.64	0.38	4.627	A
2	1326.52	331.63	1333.04	1237.81	421.25	0.00	2149.62	1959.58	0.617	3.26	1.63	4.442	A
3	259.73	64.93	262.63	352.74	1401.55	0.00	758.88	370.28	0.342	1.25	0.53	7.294	A
4	1294.90	323.73	1297.37	1318.73	345.45	0.00	2590.61	2466.76	0.500	1.62	1.01	2.788	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.36	0.36	4.566	A	A
2	22.87	1.52	4.297	A	A
3	7.29	0.49	7.044	A	A
4	14.50	0.97	2.753	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.76	0.58	6.292	A	A
2	42.79	2.85	6.949	A	A
3	14.50	0.97	12.039	B	B
4	22.48	1.50	3.607	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	20.28	1.35	12.409	B	B
2	165.90	11.06	24.657	C	C
3	73.08	4.87	58.148	F	E
4	44.38	2.96	5.998	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	22.22	1.48	12.945	B	B
2	253.49	16.90	36.144	E	D
3	133.86	8.92	102.349	F	F
4	47.76	3.18	6.197	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.96	0.66	6.605	A	A
2	68.91	4.59	9.229	A	A
3	32.68	2.18	19.153	C	B
4	25.19	1.68	3.789	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.77	0.38	4.627	A	A
2	25.44	1.70	4.442	A	A
3	8.26	0.55	7.294	A	A
4	15.41	1.03	2.788	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, AM	Forecast Background + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				29.71	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	474.00	100.000
2	ONE HOUR	✓	1521.00	100.000
3	ONE HOUR	✓	402.00	100.000
4	ONE HOUR	✓	1744.00	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	356.85	362.38		
08:00-08:15	2	1145.09	1212.35		
08:00-08:15	3	302.65	311.36		
08:00-08:15	4	1312.97	1382.97		
08:15-08:30	1	426.12	432.71		
08:15-08:30	2	1367.35	1447.66		
08:15-08:30	3	361.39	371.79		
08:15-08:30	4	1567.82	1651.40		
08:30-08:45	1	521.88	529.97		
08:30-08:45	2	1674.65	1773.02		
08:30-08:45	3	442.61	455.35		
08:30-08:45	4	1920.18	2022.55		
08:45-09:00	1	521.88	529.97		
08:45-09:00	2	1674.65	1773.02		
08:45-09:00	3	442.61	455.35		
08:45-09:00	4	1920.18	2022.55		
09:00-09:15	1	426.12	432.71		
09:00-09:15	2	1367.35	1447.66		
09:00-09:15	3	361.39	371.79		
09:00-09:15	4	1567.82	1651.40		
09:15-09:30	1	356.85	362.38		
09:15-09:30	2	1145.09	1212.35		
09:15-09:30	3	302.65	311.36		
09:15-09:30	4	1312.97	1382.97		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	149.000	72.000	253.000
	2	374.000	8.000	150.000	989.000
	3	67.000	292.000	0.000	43.000
	4	90.000	1305.000	276.000	73.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.31	0.15	0.53
	2	0.25	0.01	0.10	0.65
	3	0.17	0.73	0.00	0.11
	4	0.05	0.75	0.16	0.04

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.028	1.044	1.000
	2	1.008	1.000	1.035	1.082
	3	1.016	1.018	1.000	1.122
	4	1.012	1.064	1.015	1.058

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.8	4.4	0.0
	2	0.8	0.0	3.5	8.2
	3	1.6	1.8	0.0	12.2
	4	1.2	6.4	1.5	5.8

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.91	53.68	7.27	F	434.95	652.42	222.55	20.47	2.47	222.56	20.47
2	0.91	19.67	8.64	C	1395.69	2093.54	337.34	9.67	3.75	337.37	9.67
3	1.00	107.15	13.20	F	368.88	553.32	331.40	35.94	3.68	331.42	35.94
4	0.89	14.80	7.52	B	1600.33	2400.49	308.78	7.72	3.43	308.80	7.72

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	356.85	89.21	354.59	397.82	1464.54	0.00	980.72	455.94	0.364	0.00	0.57	5.729	A
2	1145.09	286.27	1139.88	1314.26	504.87	0.00	2014.87	1840.43	0.568	0.00	1.30	4.089	A
3	302.65	75.66	300.24	373.27	1271.48	0.00	798.45	362.94	0.379	0.00	0.60	7.191	A
4	1312.98	328.24	1307.96	1017.30	554.40	0.00	2351.12	2165.77	0.558	0.00	1.25	3.434	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	426.11	106.53	424.00	475.75	1751.16	0.00	806.98	455.94	0.528	0.57	1.10	9.348	A
2	1367.34	341.84	1363.27	1571.47	603.70	0.00	1943.57	1840.43	0.704	1.30	2.32	6.161	A
3	361.39	90.35	358.92	446.36	1520.61	0.00	648.70	362.94	0.557	0.60	1.22	12.318	B
4	1567.82	391.96	1563.99	1216.61	662.91	0.00	2264.20	2165.77	0.692	1.25	2.21	5.114	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	521.88	130.47	503.58	573.44	2112.30	0.00	587.76	455.94	0.888	1.10	5.67	36.963	E
2	1674.65	418.66	1652.79	1890.11	725.77	0.00	1855.47	1840.43	0.903	2.32	7.78	16.265	C
3	442.61	110.65	413.51	540.40	1838.18	0.00	457.66	362.94	0.967	1.22	8.50	60.847	F
4	1920.18	480.05	1901.38	1467.31	784.38	0.00	2166.99	2165.77	0.886	2.21	6.91	12.745	B

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	521.88	130.47	515.50	580.53	2135.38	0.00	573.86	455.94	0.909	5.67	7.27	53.681	F
2	1674.65	418.66	1671.21	1913.66	737.22	0.00	1847.24	1840.43	0.907	7.78	8.64	19.668	C
3	442.61	110.65	423.80	546.61	1861.82	0.00	443.54	362.94	0.998	8.50	13.20	107.147	F
4	1920.18	480.05	1917.73	1487.42	798.19	0.00	2155.90	2165.77	0.891	6.91	7.52	14.797	B

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	426.11	106.53	450.12	492.30	1810.21	0.00	771.77	455.94	0.552	7.27	1.27	11.997	B
2	1367.34	341.84	1391.92	1633.90	626.44	0.00	1927.24	1840.43	0.709	8.64	2.50	7.019	A
3	361.39	90.35	408.47	456.98	1561.37	0.00	624.47	362.94	0.579	13.20	1.43	20.271	C
4	1567.82	391.96	1588.15	1255.49	714.36	0.00	2222.84	2165.77	0.705	7.52	2.44	5.846	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	356.85	89.21	359.57	401.69	1477.84	0.00	972.71	455.94	0.367	1.27	0.59	5.898	A
2	1145.09	286.27	1149.75	1327.19	510.22	0.00	2011.01	1840.43	0.569	2.50	1.34	4.203	A
3	302.65	75.66	305.86	376.53	1283.44	0.00	791.29	362.94	0.382	1.43	0.63	7.463	A
4	1312.98	328.24	1317.61	1027.39	561.91	0.00	2345.10	2165.77	0.560	2.44	1.28	3.521	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.20	0.55	5.729	A	A
2	18.85	1.26	4.089	A	A
3	8.66	0.58	7.191	A	A
4	18.23	1.22	3.434	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.63	1.04	9.348	A	A
2	33.14	2.21	6.161	A	A
3	17.21	1.15	12.318	B	B
4	31.79	2.12	5.114	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	66.33	4.42	36.963	E	D
2	97.75	6.52	16.265	C	B
3	88.77	5.92	60.847	F	E
4	89.52	5.97	12.745	B	B

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	99.05	6.60	53.681	F	D
2	124.51	8.30	19.668	C	B
3	165.26	11.02	107.147	F	F
4	109.32	7.29	14.797	B	B

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	24.24	1.62	11.997	B	B
2	42.36	2.82	7.019	A	A
3	41.65	2.78	20.271	C	C
4	40.10	2.67	5.846	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.11	0.61	5.898	A	A
2	20.73	1.38	4.203	A	A
3	9.85	0.66	7.463	A	A
4	19.83	1.32	3.521	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, PM	Forecast Background + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				31.11	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	386.00	100.000
2	ONE HOUR	✓	1773.00	100.000
3	ONE HOUR	✓	345.00	100.000
4	ONE HOUR	✓	1772.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	290.60	292.20		
16:45-17:00	2	1334.81	1372.11		
16:45-17:00	3	259.73	262.13		
16:45-17:00	4	1334.05	1373.47		
17:00-17:15	1	347.01	348.91		
17:00-17:15	2	1593.89	1638.43		
17:00-17:15	3	310.15	313.01		
17:00-17:15	4	1592.99	1640.06		
17:15-17:30	1	424.99	427.33		
17:15-17:30	2	1952.11	2006.66		
17:15-17:30	3	379.85	383.36		
17:15-17:30	4	1951.01	2008.65		
17:30-17:45	1	424.99	427.33		
17:30-17:45	2	1952.11	2006.66		
17:30-17:45	3	379.85	383.36		
17:30-17:45	4	1951.01	2008.65		
17:45-18:00	1	347.01	348.91		
17:45-18:00	2	1593.89	1638.43		
17:45-18:00	3	310.15	313.01		
17:45-18:00	4	1592.99	1640.06		
18:00-18:15	1	290.60	292.20		
18:00-18:15	2	1334.81	1372.11		
18:00-18:15	3	259.73	262.13		
18:00-18:15	4	1334.05	1373.47		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	107.000	75.000	204.000
	2	192.000	3.000	172.000	1406.000
	3	61.000	199.000	0.000	85.000
	4	111.000	1382.000	220.000	59.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.28	0.19	0.53
	2	0.11	0.00	0.10	0.79
	3	0.18	0.58	0.00	0.25
	4	0.06	0.78	0.12	0.03

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.010	1.014	1.000
	2	1.011	1.000	1.006	1.033
	3	1.000	1.016	1.000	1.000
	4	1.019	1.031	1.024	1.036

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.0	1.0	1.4	0.0
	2	1.1	0.0	0.6	3.3
	3	0.0	1.6	0.0	0.0
	4	1.9	3.1	2.4	3.6

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.64	15.02	1.73	C	354.20	531.30	80.17	9.05	0.89	80.17	9.05
2	0.98	41.97	21.94	E	1626.94	2440.41	652.87	16.05	7.25	652.91	16.05
3	1.01	118.49	12.72	F	316.58	474.87	306.41	38.72	3.40	306.42	38.72
4	0.79	7.00	3.72	A	1626.01	2439.02	190.87	4.70	2.12	190.89	4.70

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	290.60	72.65	289.08	272.70	1397.37	0.00	1048.75	376.08	0.277	0.00	0.38	4.729	A
2	1334.81	333.70	1328.27	1268.14	418.32	0.00	2140.14	1960.87	0.624	0.00	1.64	4.400	A
3	259.73	64.93	257.67	350.12	1396.46	0.00	757.59	365.39	0.343	0.00	0.52	7.173	A
4	1334.05	333.51	1329.80	1313.86	340.27	0.00	2581.11	2457.68	0.517	0.00	1.06	2.868	A



**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	347.01	86.75	345.98	326.02	1671.18	0.00	884.48	376.08	0.392	0.38	0.64	6.673	A
2	1593.89	398.47	1587.73	1516.67	500.49	0.00	2079.21	1960.87	0.767	1.64	3.18	7.234	A
3	310.15	77.54	307.96	418.72	1669.51	0.00	594.25	365.39	0.522	0.52	1.06	12.479	B
4	1592.99	398.25	1590.49	1570.75	406.71	0.00	2526.71	2457.68	0.630	1.06	1.69	3.835	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	424.99	106.25	420.89	389.72	2028.79	0.00	669.85	376.08	0.634	0.64	1.66	14.233	B
2	1952.11	488.03	1897.15	1839.50	610.18	0.00	1997.86	1960.87	0.977	3.18	16.92	27.122	D
3	379.85	94.96	353.78	507.08	2000.25	0.00	396.46	365.39	0.958	1.06	7.58	63.855	F
4	1951.00	487.75	1943.24	1878.74	475.27	0.00	2470.59	2457.68	0.790	1.69	3.63	6.730	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	424.99	106.25	424.73	394.94	2038.95	0.00	663.78	376.08	0.640	1.66	1.73	15.022	C
2	1952.11	488.03	1932.04	1849.55	614.12	0.00	1994.96	1960.87	0.979	16.92	21.94	41.965	E
3	379.85	94.96	359.29	512.13	2034.02	0.00	376.22	365.39	1.010	7.58	12.72	118.492	F
4	1951.00	487.75	1950.61	1910.06	483.26	0.00	2464.04	2457.68	0.792	3.63	3.72	6.999	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	347.01	86.75	351.21	343.76	1708.37	0.00	862.38	376.08	0.402	1.73	0.68	7.098	A
2	1593.89	398.47	1667.87	1553.69	505.88	0.00	2075.23	1960.87	0.768	21.94	3.44	10.410	B
3	310.15	77.54	355.60	428.77	1744.98	0.00	549.02	365.39	0.565	12.72	1.36	22.920	C
4	1592.99	398.25	1600.69	1649.15	451.43	0.00	2490.09	2457.68	0.640	3.72	1.80	4.083	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	290.60	72.65	291.77	275.56	1407.15	0.00	1042.90	376.08	0.279	0.68	0.39	4.801	A
2	1334.81	333.70	1341.85	1277.54	421.39	0.00	2137.87	1960.87	0.624	3.44	1.68	4.563	A
3	259.73	64.93	263.01	352.85	1410.38	0.00	749.26	365.39	0.347	1.36	0.54	7.451	A
4	1334.05	333.51	1336.92	1327.60	345.79	0.00	2576.59	2457.68	0.518	1.80	1.08	2.910	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.55	0.37	4.729	A	A
2	23.54	1.57	4.400	A	A
3	7.42	0.49	7.173	A	A
4	15.54	1.04	2.868	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.27	0.62	6.673	A	A
2	44.68	2.98	7.234	A	A
3	14.99	1.00	12.479	B	B
4	24.56	1.64	3.835	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.00	1.53	14.233	B	B
2	182.87	12.19	27.122	D	C
3	79.61	5.31	63.855	F	E
4	50.82	3.39	6.730	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	25.61	1.71	15.022	C	B
2	294.96	19.66	41.965	E	D
3	154.93	10.33	118.492	F	F
4	55.33	3.69	6.999	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.74	0.72	7.098	A	A
2	80.52	5.37	10.410	B	B
3	41.01	2.73	22.920	C	C
4	28.04	1.87	4.083	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.99	0.40	4.801	A	A
2	26.30	1.75	4.563	A	A
3	8.45	0.56	7.451	A	A
4	16.59	1.11	2.910	A	A

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, AM	Forecast Background + EA2 + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				32.43	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	474.00	100.000
2	ONE HOUR	✓	1534.00	100.000
3	ONE HOUR	✓	402.00	100.000
4	ONE HOUR	✓	1747.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	356.85	362.38		
08:00-08:15	2	1154.88	1226.71		
08:00-08:15	3	302.65	311.36		
08:00-08:15	4	1315.23	1389.31		
08:15-08:30	1	426.12	432.71		
08:15-08:30	2	1379.03	1464.81		
08:15-08:30	3	361.39	371.79		
08:15-08:30	4	1570.52	1658.97		
08:30-08:45	1	521.88	529.97		
08:30-08:45	2	1688.97	1794.02		
08:30-08:45	3	442.61	455.35		
08:30-08:45	4	1923.48	2031.82		
08:45-09:00	1	521.88	529.97		
08:45-09:00	2	1688.97	1794.02		
08:45-09:00	3	442.61	455.35		
08:45-09:00	4	1923.48	2031.82		
09:00-09:15	1	426.12	432.71		
09:00-09:15	2	1379.03	1464.81		
09:00-09:15	3	361.39	371.79		
09:00-09:15	4	1570.52	1658.97		
09:15-09:30	1	356.85	362.38		
09:15-09:30	2	1154.88	1226.71		
09:15-09:30	3	302.65	311.36		
09:15-09:30	4	1315.23	1389.31		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	149.000	72.000	253.000
	2	374.000	8.000	150.000	1002.000
	3	67.000	292.000	0.000	43.000
	4	90.000	1308.000	276.000	73.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.31	0.15	0.53
	2	0.24	0.01	0.10	0.65
	3	0.17	0.73	0.00	0.11
	4	0.05	0.75	0.16	0.04

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.028	1.044	1.000
	2	1.008	1.000	1.035	1.087
	3	1.016	1.018	1.000	1.122
	4	1.012	1.068	1.015	1.058

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.8	4.4	0.0
	2	0.8	0.0	3.5	8.7
	3	1.6	1.8	0.0	12.2
	4	1.2	6.8	1.5	5.8

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.91	55.45	7.51	F	434.95	652.42	228.38	21.00	2.54	228.39	21.00
2	0.92	21.78	9.62	C	1407.63	2111.44	363.27	10.32	4.04	363.30	10.32
3	1.02	124.91	15.82	F	368.88	553.32	379.63	41.17	4.22	379.64	41.17
4	0.89	15.09	7.68	C	1603.08	2404.63	314.83	7.86	3.50	314.85	7.86

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	356.85	89.21	354.57	397.79	1466.71	0.00	977.12	453.45	0.365	0.00	0.57	5.762	A
2	1154.88	288.72	1149.52	1316.45	504.85	0.00	2008.31	1836.38	0.575	0.00	1.34	4.166	A
3	302.65	75.66	300.20	373.25	1281.12	0.00	790.34	361.50	0.383	0.00	0.61	7.308	A
4	1315.24	328.81	1310.17	1026.97	554.34	0.00	2344.46	2164.54	0.561	0.00	1.27	3.464	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	426.11	106.53	423.96	475.68	1753.69	0.00	802.71	453.45	0.531	0.57	1.11	9.452	A
2	1379.04	344.76	1374.74	1574.01	603.66	0.00	1937.27	1836.38	0.712	1.34	2.41	6.352	A
3	361.39	90.35	358.79	446.33	1532.07	0.00	639.05	361.50	0.566	0.61	1.26	12.729	B
4	1570.52	392.63	1566.62	1228.10	662.75	0.00	2257.87	2164.54	0.696	1.27	2.24	5.179	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	521.88	130.47	502.97	572.12	2112.04	0.00	584.54	453.45	0.893	1.11	5.83	37.889	E
2	1688.97	422.24	1664.50	1889.74	725.27	0.00	1849.78	1836.38	0.913	2.41	8.53	17.516	C
3	442.61	110.65	409.23	540.00	1849.76	0.00	447.34	361.50	0.989	1.26	9.61	67.404	F
4	1923.49	480.87	1904.22	1479.05	779.96	0.00	2164.35	2164.54	0.889	2.24	7.06	12.980	B

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	521.88	130.47	515.18	579.31	2134.26	0.00	571.11	453.45	0.914	5.83	7.51	55.451	F
2	1688.97	422.24	1684.60	1912.44	736.99	0.00	1841.38	1836.38	0.917	8.53	9.62	21.780	C
3	442.61	110.65	417.76	546.47	1875.13	0.00	432.16	361.50	1.024	9.61	15.82	124.909	F
4	1923.49	480.87	1921.00	1500.30	792.58	0.00	2154.26	2164.54	0.893	7.06	7.68	15.092	C

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	426.11	106.53	450.95	494.80	1820.64	0.00	762.81	453.45	0.559	7.51	1.30	12.426	B
2	1379.04	344.76	1407.06	1644.53	627.07	0.00	1920.51	1836.38	0.718	9.62	2.61	7.376	A
3	361.39	90.35	418.64	457.47	1576.67	0.00	612.45	361.50	0.590	15.82	1.51	24.108	C
4	1570.52	392.63	1591.20	1271.05	724.25	0.00	2208.58	2164.54	0.711	7.68	2.51	6.018	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	356.85	89.21	359.70	401.80	1480.51	0.00	968.80	453.45	0.368	1.30	0.59	5.939	A
2	1154.88	288.72	1159.83	1329.85	510.35	0.00	2004.37	1836.38	0.576	2.61	1.37	4.288	A
3	302.65	75.66	306.12	376.61	1293.58	0.00	782.86	361.50	0.387	1.51	0.64	7.603	A
4	1315.24	328.81	1320.11	1037.50	562.20	0.00	2338.17	2164.54	0.563	2.51	1.30	3.551	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.24	0.55	5.762	A	A
2	19.35	1.29	4.166	A	A
3	8.80	0.59	7.308	A	A
4	18.41	1.23	3.464	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.79	1.05	9.452	A	A
2	34.38	2.29	6.352	A	A
3	17.74	1.18	12.729	B	B
4	32.22	2.15	5.179	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	67.83	4.52	37.889	E	D
2	105.40	7.03	17.516	C	B
3	97.43	6.50	67.404	F	E
4	91.16	6.08	12.980	B	B

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	102.13	6.81	55.451	F	E
2	137.68	9.18	21.780	C	C
3	193.11	12.87	124.909	F	F
4	111.62	7.44	15.092	C	B

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	25.21	1.68	12.426	B	B
2	45.11	3.01	7.376	A	A
3	52.51	3.50	24.108	C	C
4	41.37	2.76	6.018	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.17	0.61	5.939	A	A
2	21.34	1.42	4.288	A	A
3	10.05	0.67	7.603	A	A
4	20.05	1.34	3.551	A	A

# Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	



## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, PM	Forecast Background + EA2 + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				32.30	D

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	386.00	100.000
2	ONE HOUR	✓	1776.00	100.000
3	ONE HOUR	✓	345.00	100.000
4	ONE HOUR	✓	1785.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	290.60	292.20		
16:45-17:00	2	1337.07	1376.56		
16:45-17:00	3	259.73	262.13		
16:45-17:00	4	1343.84	1384.61		
17:00-17:15	1	347.01	348.91		
17:00-17:15	2	1596.59	1643.75		
17:00-17:15	3	310.15	313.01		
17:00-17:15	4	1604.68	1653.36		
17:15-17:30	1	424.99	427.33		
17:15-17:30	2	1955.41	2013.17		
17:15-17:30	3	379.85	383.36		
17:15-17:30	4	1965.32	2024.95		
17:30-17:45	1	424.99	427.33		
17:30-17:45	2	1955.41	2013.17		
17:30-17:45	3	379.85	383.36		
17:30-17:45	4	1965.32	2024.95		
17:45-18:00	1	347.01	348.91		
17:45-18:00	2	1596.59	1643.75		
17:45-18:00	3	310.15	313.01		
17:45-18:00	4	1604.68	1653.36		
18:00-18:15	1	290.60	292.20		
18:00-18:15	2	1337.07	1376.56		
18:00-18:15	3	259.73	262.13		
18:00-18:15	4	1343.84	1384.61		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	107.000	75.000	204.000
	2	192.000	3.000	172.000	1409.000
	3	61.000	199.000	0.000	85.000
	4	111.000	1395.000	220.000	59.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.28	0.19	0.53
	2	0.11	0.00	0.10	0.79
	3	0.18	0.58	0.00	0.25
	4	0.06	0.78	0.12	0.03

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.010	1.014	1.000
	2	1.011	1.000	1.006	1.035
	3	1.000	1.016	1.000	1.000
	4	1.019	1.032	1.024	1.036

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.0	1.0	1.4	0.0
	2	1.1	0.0	0.6	3.5
	3	0.0	1.6	0.0	0.0
	4	1.9	3.2	2.4	3.6

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.65	15.61	1.80	C	354.20	531.30	82.28	9.29	0.91	82.29	9.29
2	0.98	43.78	23.05	E	1629.69	2444.53	676.13	16.60	7.51	676.17	16.60
3	1.02	123.17	13.31	F	316.58	474.87	317.57	40.13	3.53	317.58	40.13
4	0.80	7.21	3.86	A	1637.94	2456.92	196.41	4.80	2.18	196.42	4.80

## Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	290.60	72.65	289.07	272.69	1407.09	0.00	1042.30	375.15	0.279	0.00	0.38	4.770	A
2	1337.06	334.27	1330.46	1277.85	418.31	0.00	2136.82	1960.52	0.626	0.00	1.65	4.428	A
3	259.73	64.93	257.66	350.11	1398.67	0.00	755.04	364.23	0.344	0.00	0.52	7.210	A
4	1343.84	335.96	1339.52	1316.06	340.26	0.00	2579.14	2456.85	0.521	0.00	1.08	2.895	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	347.01	86.75	345.95	326.00	1682.78	0.00	876.78	375.15	0.396	0.38	0.65	6.767	A
2	1596.58	399.15	1590.31	1528.27	500.47	0.00	2076.00	1960.52	0.769	1.65	3.22	7.317	A
3	310.15	77.54	307.93	418.70	1672.08	0.00	591.23	364.23	0.525	0.52	1.07	12.609	B
4	1604.67	401.17	1602.10	1573.34	406.67	0.00	2524.80	2456.85	0.636	1.08	1.72	3.890	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	424.99	106.25	420.69	389.30	2042.22	0.00	660.87	375.15	0.643	0.65	1.72	14.733	B
2	1955.41	488.85	1898.14	1852.94	609.99	0.00	1994.90	1960.52	0.980	3.22	17.54	27.857	D
3	379.85	94.96	352.88	506.79	2001.33	0.00	394.04	364.23	0.964	1.07	7.81	65.499	F
4	1965.32	491.33	1957.18	1879.86	474.35	0.00	2469.44	2456.85	0.796	1.72	3.76	6.919	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	424.99	106.25	424.70	394.48	2052.42	0.00	654.78	375.15	0.649	1.72	1.80	15.605	C
2	1955.41	488.85	1933.37	1863.02	614.10	0.00	1991.87	1960.52	0.982	17.54	23.05	43.781	E
3	379.85	94.96	357.87	511.94	2035.54	0.00	373.53	364.23	1.017	7.81	13.31	123.169	F
4	1965.32	491.33	1964.91	1911.42	481.98	0.00	2463.21	2456.85	0.798	3.76	3.86	7.209	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	347.01	86.75	351.42	344.61	1721.69	0.00	853.64	375.15	0.407	1.80	0.69	7.231	A
2	1596.58	399.15	1674.79	1567.02	506.08	0.00	2071.86	1960.52	0.771	23.05	3.50	10.821	B
3	310.15	77.54	357.82	429.25	1751.62	0.00	543.48	364.23	0.571	13.31	1.39	24.295	C
4	1604.67	401.17	1612.75	1655.90	453.55	0.00	2486.44	2456.85	0.645	3.86	1.84	4.159	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	290.60	72.65	291.81	275.60	1417.12	0.00	1036.30	375.15	0.280	0.69	0.39	4.844	A
2	1337.06	334.27	1344.26	1287.49	421.43	0.00	2134.52	1960.52	0.626	3.50	1.70	4.597	A
3	259.73	64.93	263.14	352.88	1412.80	0.00	746.56	364.23	0.348	1.39	0.54	7.499	A
4	1343.84	335.96	1346.81	1330.04	345.91	0.00	2574.52	2456.85	0.522	1.84	1.10	2.938	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.59	0.37	4.770	A	A
2	23.73	1.58	4.428	A	A
3	7.46	0.50	7.210	A	A
4	15.79	1.05	2.895	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.40	0.63	6.767	A	A
2	45.22	3.02	7.317	A	A
3	15.13	1.01	12.609	B	B
4	25.08	1.67	3.890	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.74	1.58	14.733	B	B
2	187.98	12.53	27.857	D	C
3	81.48	5.43	65.499	F	E
4	52.52	3.50	6.919	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	26.55	1.77	15.605	C	B
2	308.04	20.54	43.781	E	D
3	161.08	10.74	123.169	F	F
4	57.35	3.82	7.209	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.95	0.73	7.231	A	A
2	84.60	5.64	10.821	B	B
3	43.91	2.93	24.295	C	C
4	28.78	1.92	4.159	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.05	0.40	4.844	A	A
2	26.55	1.77	4.597	A	A
3	8.51	0.57	7.499	A	A
4	16.88	1.13	2.938	A	A

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, AM	Background 2019	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				13.07	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	448.00	100.000
2	ONE HOUR	✓	1390.00	100.000
3	ONE HOUR	✓	380.00	100.000
4	ONE HOUR	✓	1639.00	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	337.28	342.50		
08:00-08:15	2	1046.46	1103.03		
08:00-08:15	3	286.08	294.35		
08:00-08:15	4	1233.93	1292.26		
08:15-08:30	1	402.74	408.98		
08:15-08:30	2	1249.58	1317.13		
08:15-08:30	3	341.61	351.48		
08:15-08:30	4	1473.43	1543.08		
08:30-08:45	1	493.26	500.90		
08:30-08:45	2	1530.42	1613.15		
08:30-08:45	3	418.39	430.47		
08:30-08:45	4	1804.57	1889.88		
08:45-09:00	1	493.26	500.90		
08:45-09:00	2	1530.42	1613.15		
08:45-09:00	3	418.39	430.47		
08:45-09:00	4	1804.57	1889.88		
09:00-09:15	1	402.74	408.98		
09:00-09:15	2	1249.58	1317.13		
09:00-09:15	3	341.61	351.48		
09:00-09:15	4	1473.43	1543.08		
09:15-09:30	1	337.28	342.50		
09:15-09:30	2	1046.46	1103.03		
09:15-09:30	3	286.08	294.35		
09:15-09:30	4	1233.93	1292.26		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	141.000	68.000	239.000
	2	354.000	8.000	142.000	886.000
	3	63.000	276.000	0.000	41.000
	4	85.000	1224.000	261.000	69.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.31	0.15	0.53
	2	0.25	0.01	0.10	0.64
	3	0.17	0.73	0.00	0.11
	4	0.05	0.75	0.16	0.04

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.028	1.044	1.000
	2	1.008	1.000	1.035	1.076
	3	1.016	1.018	1.000	1.122
	4	1.012	1.056	1.015	1.058

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.8	4.4	0.0
	2	0.8	0.0	3.5	7.6
	3	1.6	1.8	0.0	12.2
	4	1.2	5.6	1.5	5.8

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.76	22.71	2.98	C	411.09	616.64	120.89	11.76	1.34	120.89	11.76
2	0.81	10.18	4.22	B	1275.48	1913.23	201.95	6.33	2.24	201.97	6.33
3	0.78	29.30	3.23	D	348.69	523.04	127.62	14.64	1.42	127.63	14.64
4	0.82	9.28	4.53	A	1503.98	2255.97	212.83	5.66	2.36	212.85	5.66

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	337.28	84.32	335.37	376.33	1378.27	0.00	1037.33	464.14	0.325	0.00	0.48	5.115	A
2	1046.46	261.62	1042.30	1236.24	477.40	0.00	2043.71	1843.46	0.512	0.00	1.04	3.580	A
3	286.08	71.52	284.13	353.20	1166.50	0.00	864.38	367.41	0.331	0.00	0.49	6.183	A
4	1233.93	308.48	1229.68	925.71	524.92	0.00	2388.43	2160.97	0.517	0.00	1.06	3.095	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	402.74	100.69	401.29	450.23	1648.61	0.00	874.32	464.14	0.461	0.48	0.84	7.588	A
2	1249.58	312.39	1246.96	1478.79	571.10	0.00	1975.82	1843.46	0.632	1.04	1.70	4.921	A
3	341.61	85.40	340.09	422.49	1395.57	0.00	727.28	367.41	0.470	0.49	0.87	9.261	A
4	1473.43	368.36	1470.68	1107.51	628.15	0.00	2305.27	2160.97	0.639	1.06	1.75	4.300	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	493.26	123.31	485.61	548.38	2007.69	0.00	657.72	464.14	0.750	0.84	2.75	20.100	C
2	1530.41	382.60	1520.92	1799.29	694.01	0.00	1886.75	1843.46	0.811	1.70	4.07	9.599	A
3	418.39	104.60	410.08	514.79	1700.14	0.00	544.93	367.41	0.768	0.87	2.95	25.310	D
4	1804.58	451.14	1794.14	1348.30	761.93	0.00	2197.51	2160.97	0.821	1.75	4.36	8.707	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	493.26	123.31	492.34	552.34	2022.20	0.00	649.02	464.14	0.760	2.75	2.98	22.713	C
2	1530.41	382.60	1529.82	1813.95	700.59	0.00	1882.00	1843.46	0.813	4.07	4.22	10.180	B
3	418.39	104.60	417.24	518.27	1712.14	0.00	537.81	367.41	0.778	2.95	3.23	29.298	D
4	1804.58	451.14	1803.90	1358.74	770.64	0.00	2190.48	2160.97	0.824	4.36	4.53	9.276	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	402.74	100.69	411.10	455.88	1669.36	0.00	861.88	464.14	0.467	2.98	0.89	8.128	A
2	1249.58	312.39	1259.39	1499.90	580.56	0.00	1968.99	1843.46	0.635	4.22	1.76	5.143	A
3	341.61	85.40	350.83	427.42	1412.54	0.00	717.21	367.41	0.476	3.23	0.93	10.063	B
4	1473.43	368.36	1484.28	1122.40	640.97	0.00	2294.92	2160.97	0.642	4.53	1.82	4.500	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	337.28	84.32	338.88	379.08	1387.79	0.00	1031.62	464.14	0.327	0.89	0.49	5.208	A
2	1046.46	261.62	1049.27	1245.41	481.26	0.00	2040.92	1843.46	0.513	1.76	1.06	3.639	A
3	286.08	71.52	287.78	355.60	1174.94	0.00	859.35	367.41	0.333	0.93	0.50	6.318	A
4	1233.93	308.48	1236.88	932.72	529.99	0.00	2384.34	2160.97	0.518	1.82	1.08	3.147	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.94	0.46	5.115	A	A
2	15.15	1.01	3.580	A	A
3	7.08	0.47	6.183	A	A
4	15.49	1.03	3.095	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.14	0.81	7.588	A	A
2	24.55	1.64	4.921	A	A
3	12.47	0.83	9.261	A	A
4	25.37	1.69	4.300	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	36.34	2.42	20.100	C	C
2	55.65	3.71	9.599	A	A
3	38.06	2.54	25.310	D	C
4	59.70	3.98	8.707	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	43.45	2.90	22.713	C	C
2	62.39	4.16	10.180	B	B
3	46.86	3.12	29.298	D	C
4	66.98	4.47	9.276	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	14.45	0.96	8.128	A	A
2	27.87	1.86	5.143	A	A
3	15.32	1.02	10.063	B	B
4	28.68	1.91	4.500	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.57	0.50	5.208	A	A
2	16.34	1.09	3.639	A	A
3	7.82	0.52	6.318	A	A
4	16.61	1.11	3.147	A	A

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, PM	Background 2019	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
8	A12, B1079	Roundabout	1,2,3,4				13.44	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	B1079 (east)	
2	2	A12 (south)	
3	3	B1079 (west)	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	2.64	7.58	12.53	55.87	54.78	15.50	
2	7.85	7.85	0.00	19.99	54.78	13.00	
3	2.75	6.94	15.00	39.44	54.78	17.00	
4	7.80	9.58	12.57	46.99	54.78	16.00	

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

Arm	Type	Reason	Direct Intercept Adjustment (PCU/hr)	Percentage Intercept Adjustment (%)
1	Percentage			120.00
2	None			
3	None			
4	None			

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.586	1897.438
2		(calculated)	(calculated)	0.751	2518.802
3		(calculated)	(calculated)	0.588	1607.678
4		(calculated)	(calculated)	0.833	2944.205

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	365.00	100.000
2	ONE HOUR	✓	1664.00	100.000
3	ONE HOUR	✓	326.00	100.000
4	ONE HOUR	✓	1625.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	274.79	276.30		
16:45-17:00	2	1252.75	1280.78		
16:45-17:00	3	245.43	247.69		
16:45-17:00	4	1223.39	1252.86		
17:00-17:15	1	328.13	329.93		
17:00-17:15	2	1495.90	1529.37		
17:00-17:15	3	293.07	295.77		
17:00-17:15	4	1460.84	1496.03		
17:15-17:30	1	401.87	404.08		
17:15-17:30	2	1832.10	1873.09		
17:15-17:30	3	358.93	362.24		
17:15-17:30	4	1789.16	1832.26		
17:30-17:45	1	401.87	404.08		
17:30-17:45	2	1832.10	1873.09		
17:30-17:45	3	358.93	362.24		
17:30-17:45	4	1789.16	1832.26		
17:45-18:00	1	328.13	329.93		
17:45-18:00	2	1495.90	1529.37		
17:45-18:00	3	293.07	295.77		
17:45-18:00	4	1460.84	1496.03		
18:00-18:15	1	274.79	276.30		
18:00-18:15	2	1252.75	1280.78		
18:00-18:15	3	245.43	247.69		
18:00-18:15	4	1223.39	1252.86		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.000	101.000	71.000	193.000
	2	181.000	3.000	162.000	1318.000
	3	58.000	188.000	0.000	80.000
	4	105.000	1256.000	208.000	56.000

## Turning Proportions (Veh) - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.28	0.19	0.53
	2	0.11	0.00	0.10	0.79
	3	0.18	0.58	0.00	0.25
	4	0.06	0.77	0.13	0.03

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.010	1.014	1.000
	2	1.011	1.000	1.006	1.026
	3	1.000	1.016	1.000	1.000
	4	1.019	1.024	1.024	1.036

## Heavy Vehicle Percentages - Junction 8 (for whole period)

		To			
		1	2	3	4
From	1	0.0	1.0	1.4	0.0
	2	1.1	0.0	0.6	2.6
	3	0.0	1.6	0.0	0.0
	4	1.9	2.4	2.4	3.6

# 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.53	9.95	1.10	A	334.93	502.40	56.84	6.79	0.63	56.84	6.79
2	0.90	17.44	8.43	C	1526.92	2290.38	338.58	8.87	3.76	338.61	8.87
3	0.80	38.53	3.61	E	299.14	448.71	129.36	17.30	1.44	129.37	17.30
4	0.72	5.16	2.53	A	1491.13	2236.69	140.26	3.76	1.56	140.26	3.76

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	274.79	68.70	273.50	257.86	1283.84	0.00	1120.76	379.99	0.245	0.00	0.32	4.243	A
2	1252.75	313.19	1247.34	1161.35	396.00	0.00	2168.44	1958.92	0.578	0.00	1.35	3.886	A
3	245.43	61.36	243.71	330.78	1312.55	0.00	811.84	370.01	0.302	0.00	0.43	6.317	A
4	1223.39	305.85	1219.88	1234.44	321.83	0.00	2610.05	2466.84	0.469	0.00	0.88	2.583	A



**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	328.13	82.03	327.39	308.43	1535.67	0.00	970.46	379.99	0.338	0.32	0.51	5.593	A
2	1495.91	373.98	1491.79	1389.22	473.84	0.00	2110.40	1958.92	0.709	1.35	2.38	5.780	A
3	293.07	73.27	291.64	395.68	1569.95	0.00	658.66	370.01	0.445	0.43	0.79	9.771	A
4	1460.84	365.21	1459.07	1476.56	385.03	0.00	2558.04	2466.84	0.571	0.88	1.32	3.270	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	401.87	100.47	399.61	374.43	1874.06	0.00	768.46	379.99	0.523	0.51	1.07	9.701	A
2	1832.11	458.03	1810.37	1694.72	578.94	0.00	2032.04	1958.92	0.902	2.38	7.82	14.970	B
3	358.93	89.73	349.63	482.39	1906.90	0.00	458.14	370.01	0.783	0.79	3.11	30.927	D
4	1789.16	447.29	1784.47	1792.53	464.02	0.00	2493.02	2466.84	0.718	1.32	2.49	5.048	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	401.87	100.47	401.78	378.12	1882.54	0.00	763.40	379.99	0.526	1.07	1.10	9.949	A
2	1832.11	458.03	1829.65	1703.09	581.24	0.00	2030.33	1958.92	0.902	7.82	8.43	17.442	C
3	358.93	89.73	356.96	485.27	1925.61	0.00	447.00	370.01	0.803	3.11	3.61	38.529	E
4	1789.16	447.29	1788.99	1810.90	471.68	0.00	2486.71	2466.84	0.719	2.49	2.53	5.156	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	328.13	82.03	330.42	314.09	1548.96	0.00	962.56	379.99	0.341	1.10	0.52	5.716	A
2	1495.91	373.98	1519.63	1402.29	477.09	0.00	2107.99	1958.92	0.710	8.43	2.50	6.355	A
3	293.07	73.27	304.06	399.81	1596.91	0.00	642.60	370.01	0.456	3.61	0.86	10.965	B
4	1460.84	365.21	1465.56	1503.49	397.48	0.00	2547.78	2466.84	0.573	2.53	1.36	3.340	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	274.79	68.70	275.57	259.88	1290.84	0.00	1116.60	379.99	0.246	0.52	0.33	4.284	A
2	1252.75	313.19	1257.21	1168.04	398.37	0.00	2166.68	1958.92	0.578	2.50	1.38	3.978	A
3	245.43	61.36	247.08	332.83	1322.74	0.00	805.78	370.01	0.305	0.86	0.44	6.461	A
4	1223.39	305.85	1225.25	1244.36	325.47	0.00	2607.06	2466.84	0.469	1.36	0.89	2.610	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.72	0.31	4.243	A	A
2	19.61	1.31	3.886	A	A
3	6.21	0.41	6.317	A	A
4	12.88	0.86	2.583	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.40	0.49	5.593	A	A
2	34.09	2.27	5.780	A	A
3	11.28	0.75	9.771	A	A
4	19.35	1.29	3.270	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.27	1.02	9.701	A	A
2	98.90	6.59	14.970	B	B
3	39.21	2.61	30.927	D	C
4	35.72	2.38	5.048	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.32	1.09	9.949	A	A
2	122.72	8.18	17.442	C	B
3	51.27	3.42	38.529	E	D
4	37.80	2.52	5.156	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.10	0.54	5.716	A	A
2	41.80	2.79	6.355	A	A
3	14.53	0.97	10.965	B	B
4	20.93	1.40	3.340	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.04	0.34	4.284	A	A
2	21.46	1.43	3.978	A	A
3	6.87	0.46	6.461	A	A
4	13.59	0.91	2.610	A	A



**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 9

**Junction 9- A12 / B1438 Junction**



**Notes**

Link	Arm	Road Name
-	A	B1438
-	B	A12 (west)
-	C	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

**Vehicles**

From/To	A	B	C	Totals
A	0	196	162	358
B	299	3	1160	1462
C	245	1326	0	1571
Totals	544	1525	1322	3391

**HGVs**

From/To	A	B	C	Totals
A	0	6	7	13
B	10	0	68	78
C	7	0	0	7
Totals	17	6	75	98

**Total**

From/To	A	B	C	Totals
A	0	202	169	371
B	309	3	1228	1540
C	252	1326	0	1578
Totals	561	1531	1397	3489

**%HGV**

From/To	A	B	C	Average
A	0.0%	3.0%	4.1%	2%
B	3.2%	0.0%	5.5%	3%
C	2.8%	0.0%	0.0%	1%
Average	2%	1%	3%	2%

**PM Peak Traffic**  
Thursday 6th June 2019: 16:00PM - 17:00PM

**Vehicles**

From/To	A	B	C	Totals
A	0	289	218	507
B	222	2	1328	1552
C	193	1328	0	1521
Totals	415	1619	1546	3680

**HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	0	0	32	32
C	1	0	0	1
Totals	1	2	34	37

**Total**

From/To	A	B	C	Totals
A	0	291	220	511
B	222	2	1360	1584
C	194	1328	0	1522
Totals	416	1621	1580	3617

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.7%	0.9%	1%
B	0.0%	0.0%	2.4%	1%
C	0.5%	0.0%	0.0%	0%
Average	0%	0%	1%	0%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	207	171	379
B	316	3	1227	1547
C	259	1403	0	1662
Totals	575	1613	1398	3587

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	6	7	14
B	11	0	72	83
C	7	0	0	7
Totals	18	6	79	104

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	214	179	392
B	327	3	1299	1629
C	267	1403	0	1669
Totals	593	1619	1478	3891

**%HGV**

From/To	A	B	C	Average
A	0.0%	3.0%	4.1%	2%
B	3.2%	0.0%	5.5%	3%
C	2.8%	0.0%	0.0%	1%
Average	2%	1%	3%	2%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	306	231	537
B	235	2	1406	1643
C	204	1406	0	1610
Totals	439	1714	1637	3791

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	0	0	34	34
C	1	0	0	1
Totals	1	2	36	39

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	308	233	541
B	235	2	1440	1677
C	205	1406	0	1611
Totals	440	1716	1673	3830

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.7%	0.9%	1%
B	0.0%	0.0%	2.4%	1%
C	0.5%	0.0%	0.0%	0%
Average	0%	0%	1%	0%

**Junction 9- A12 / B1438 Junction**



**Notes**

Link	Arm	Road Name
-	A	B1438
-	B	A12 (west)
-	C	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	42	42
C	0	0	0	0
Totals	0	0	42	42

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	11	11
C	0	11	0	11
Totals	0	11	11	21

**Total**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	52	52
C	0	11	0	11
Totals	0	11	52	63

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	20.1%	7%
C	0.0%	100.0%	0.0%	33%
Average	0%	33%	7%	13%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	0	0
C	0	42	0	42
Totals	0	42	0	42

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	11	11
C	0	11	0	11
Totals	0	11	11	21

**Total**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	11	11
C	0	52	0	52
Totals	0	52	11	63

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	100.0%	33%
C	0.0%	20.1%	0.0%	7%
Average	0%	7%	33%	13%

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	207	171	379
B	316	3	1269	1588
C	259	1403	0	1662
Totals	575	1613	1440	3629

**HGVs**

From/To	A	B	C	Totals
A	0	6	7	14
B	11	0	82	93
C	7	11	0	18
Totals	18	17	90	125

**Total**

From/To	A	B	C	Totals
A	0	214	179	392
B	327	3	1351	1681
C	267	1413	0	1680
Totals	593	1630	1530	3753

**%HGV**

From/To	A	B	C	Average
A	0.0%	3.0%	4.1%	2%
B	3.2%	0.0%	6.1%	3%
C	2.8%	0.7%	0.0%	1%
Average	2%	1%	3%	2%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	306	231	537
B	235	2	1406	1643
C	204	1448	0	1652
Totals	439	1756	1637	3832

**HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	0	0	44	44
C	1	11	0	12
Totals	1	13	46	60

**Total**

From/To	A	B	C	Totals
A	0	308	233	541
B	235	2	1450	1688
C	205	1458	0	1664
Totals	440	1769	1683	3892

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.7%	0.9%	1%
B	0.0%	0.0%	3.1%	1%
C	0.5%	0.7%	0.0%	0%
Average	0%	0%	1%	1%

**Junction 9- A12 / B1438 Junction**



**Notes**

Link	Arm	Road Name
-	A	B1438
-	B	A12
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

**Vehicles**

From/To	A	B	C	Totals
A	0	196	162	358
B	299	3	1160	1462
C	245	1326	0	1571
Totals	544	1525	1322	3391

**HGVs**

From/To	A	B	C	Totals
A	0	6	7	13
B	10	0	68	78
C	7	0	0	7
Totals	17	6	75	98

**Total**

From/To	A	B	C	Totals
A	0	202	169	371
B	309	3	1228	1540
C	252	1326	0	1578
Totals	561	1531	1397	3489

**%HGV**

From/To	A	B	C	Average
A	0.0%	3.0%	4.1%	2%
B	3.2%	0.0%	5.5%	3%
C	2.8%	0.0%	0.0%	1%
Average	2%	1%	3%	2%

**PM Peak Traffic**  
Thursday 6th June 2019: 16:00PM - 17:00PM

**Vehicles**

From/To	A	B	C	Totals
A	0	289	218	507
B	222	2	1328	1552
C	193	1328	0	1521
Totals	415	1619	1546	3580

**HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	0	0	32	32
C	1	0	0	1
Totals	1	2	34	37

**Total**

From/To	A	B	C	Totals
A	0	291	220	511
B	222	2	1360	1584
C	194	1328	0	1522
Totals	416	1621	1580	3617

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.7%	0.9%	1%
B	0.0%	0.0%	2.4%	1%
C	0.5%	0.0%	0.0%	0%
Average	0%	0%	1%	0%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	207	171	379
B	316	3	1227	1547
C	259	1403	0	1662
Totals	575	1613	1398	3587

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	6	7	14
B	11	0	72	83
C	7	0	0	7
Totals	18	6	79	104

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	214	179	392
B	327	3	1299	1629
C	267	1403	0	1669
Totals	593	1619	1478	3691

**%HGV**

From/To	A	B	C	Average
A	0.0%	3.0%	4.1%	2%
B	3.2%	0.0%	5.5%	3%
C	2.8%	0.0%	0.0%	1%
Average	2%	1%	3%	2%

**Growth Factored Vehicles**

From/To	A	B	C	Totals
A	0	306	231	537
B	235	2	1406	1643
C	204	1406	0	1610
Totals	439	1714	1637	3791

**Growth Factored HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	0	0	34	34
C	1	0	0	1
Totals	1	2	36	39

**Growth Factored Total**

From/To	A	B	C	Totals
A	0	308	233	541
B	235	2	1440	1677
C	205	1406	0	1611
Totals	440	1716	1673	3830

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.7%	0.9%	1%
B	0.0%	0.0%	2.4%	1%
C	0.5%	0.0%	0.0%	0%
Average	0%	0%	1%	0%

**Junction 9- A12 / B1438 Junction**



**Notes**

Link	Arm	Road Name
-	A	B1438
-	B	A12
-	C	A12

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	52	52
C	0	0	0	0
Totals	0	0	52	52

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	14	14
C	0	14	0	14
Totals	0	14	14	27

**Total**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	65	65
C	0	14	0	14
Totals	0	14	65	79

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	20.7%	7%
C	0.0%	100.0%	0.0%	33%
Average	0%	33%	7%	13%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	52	52
C	0	52	0	52
Totals	0	52	0	52

**HGVs**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	14	14
C	0	14	0	14
Totals	0	14	14	27

**Total**

From/To	A	B	C	Totals
A	0	0	0	0
B	0	0	14	14
C	0	65	0	65
Totals	0	65	14	79

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	100.0%	33%
C	0.0%	20.7%	0.0%	7%
Average	0%	7%	33%	13%

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	207	171	379
B	316	3	1279	1598
C	259	1403	0	1662
Totals	575	1613	1450	3639

**HGVs**

From/To	A	B	C	Totals
A	0	6	7	14
B	11	0	85	96
C	7	14	0	21
Totals	18	20	93	131

**Total**

From/To	A	B	C	Totals
A	0	214	179	392
B	327	3	1364	1694
C	267	1416	0	1683
Totals	593	1633	1543	3769

**%HGV**

From/To	A	B	C	Average
A	0.0%	3.0%	4.1%	2%
B	3.2%	0.0%	6.3%	3%
C	2.8%	1.0%	0.0%	1%
Average	2%	1%	3%	2%

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	Totals
A	0	306	231	537
B	235	2	1406	1643
C	204	1458	0	1662
Totals	439	1766	1637	3842

**HGVs**

From/To	A	B	C	Totals
A	0	2	2	4
B	0	0	47	47
C	1	14	0	15
Totals	1	16	49	66

**Total**

From/To	A	B	C	Totals
A	0	308	233	541
B	235	2	1453	1691
C	205	1471	0	1677
Totals	440	1782	1686	3908

**%HGV**

From/To	A	B	C	Average
A	0.0%	0.7%	0.9%	1%
B	0.0%	0.0%	3.3%	1%
C	0.5%	0.9%	0.0%	0%
Average	0%	1%	1%	1%

# Junctions 8

## ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]  
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**Filename:** Junction 9 - A12 and B1438.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 16:32:52

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - »Existing Layout - Background 2019, AM
  - »Existing Layout - Background 2019, PM



## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Background 2019</b>								
Arm 1	0.53	4.70	0.35	A	0.87	5.60	0.47	A
Arm 2	3.84	8.31	0.80	A	4.09	8.61	0.81	A
Arm 3	2.43	5.08	0.71	A	1.96	4.24	0.66	A
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b>								
Arm 1	0.63	5.27	0.39	A	1.14	6.93	0.53	A
Arm 2	7.24	14.59	0.89	B	6.45	12.95	0.87	B
Arm 3	3.27	6.44	0.77	A	2.82	5.56	0.74	A
<b>Existing Layout - Forecast Background + EA1N Construction 2023</b>								
Arm 1	0.63	5.24	0.39	A	1.12	6.81	0.53	A
Arm 2	6.79	13.74	0.88	B	6.29	12.65	0.87	B
Arm 3	3.22	6.36	0.77	A	2.72	5.41	0.73	A
<b>Existing Layout - Forecast Background 2023</b>								
Arm 1	0.62	5.15	0.38	A	1.04	6.36	0.51	A
Arm 2	5.27	10.90	0.85	B	5.78	11.64	0.86	B
Arm 3	3.05	6.05	0.76	A	2.37	4.85	0.71	A

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

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30  
 "D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15  
 "D3 - Forecast Background + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D4 - Forecast Background + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D7 - Background 2019, AM" model duration: 08:00 - 09:30  
 "D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:32:48

## File summary

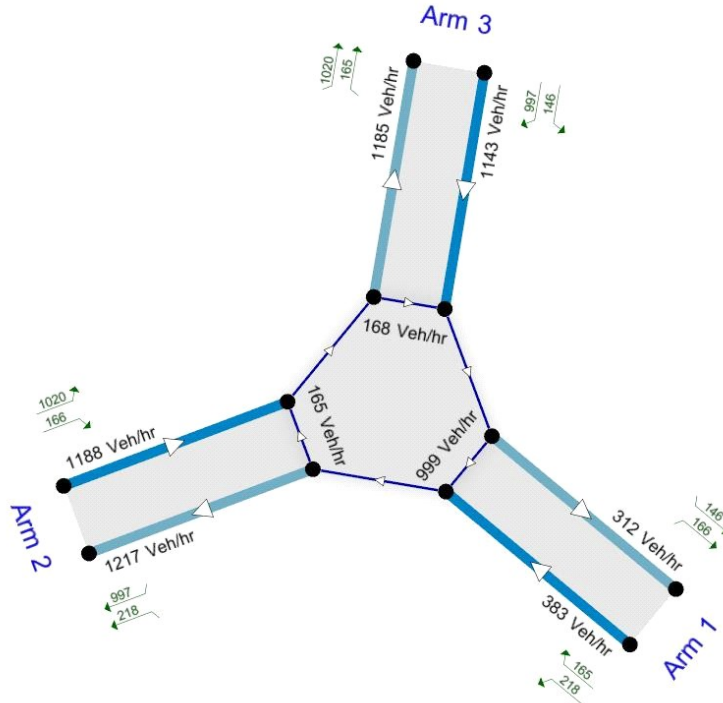
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Roundabout junction of the A12 and the B1438
<b>Site Number</b>	J9
<b>Date</b>	25/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

### 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



Showing modelled flow through junction (Veh/hr).  
 Time Segment: (16:45-17:00)  
 Showing Analysis Set "A1 - Existing Layout", Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				8.14	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

### 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	393.00	100.000
2	ONE HOUR	✓	1629.00	100.000
3	ONE HOUR	✓	1670.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	295.87	306.23		
08:00-08:15	2	1226.40	1288.06		
08:00-08:15	3	1257.26	1262.89		
08:15-08:30	1	353.30	365.67		
08:15-08:30	2	1464.44	1538.07		
08:15-08:30	3	1501.30	1508.02		
08:30-08:45	1	432.70	447.85		
08:30-08:45	2	1793.56	1883.75		
08:30-08:45	3	1838.70	1846.94		
08:45-09:00	1	432.70	447.85		
08:45-09:00	2	1793.56	1883.75		
08:45-09:00	3	1838.70	1846.94		
09:00-09:15	1	353.30	365.67		
09:00-09:15	2	1464.44	1538.07		
09:00-09:15	3	1501.30	1508.02		
09:15-09:30	1	295.87	306.23		
09:15-09:30	2	1226.40	1288.06		
09:15-09:30	3	1257.26	1262.89		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	214.000	179.000
	2	327.000	3.000	1299.000
	3	267.000	1403.000	0.000

## Turning Proportions (Veh) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.00	0.54	0.46
	2	0.20	0.00	0.80
	3	0.16	0.84	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.030	1.041
	2	1.032	1.000	1.055
	3	1.028	1.000	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	3.0	4.1
	2	3.2	0.0	5.5
	3	2.8	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.38	5.15	0.62	A	360.62	540.94	37.87	4.20	0.42	37.87	4.20
2	0.85	10.90	5.27	B	1494.80	2242.20	252.01	6.74	2.80	252.03	6.74
3	0.76	6.05	3.05	A	1532.42	2298.62	164.61	4.30	1.83	164.62	4.30

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	295.87	73.97	294.78	445.51	1055.15	0.00	1379.31	892.61	0.215	0.00	0.27	3.316	A
2	1226.40	306.60	1221.18	1215.67	134.27	0.00	2157.29	2001.12	0.568	0.00	1.30	3.824	A
3	1257.26	314.31	1253.27	1108.06	247.38	0.00	2509.50	2405.14	0.501	0.00	1.00	2.856	A

### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	353.30	88.32	352.86	533.00	1262.20	0.00	1275.34	892.61	0.277	0.27	0.38	3.901	A
2	1464.44	366.11	1461.17	1454.34	160.72	0.00	2142.11	2001.12	0.684	1.30	2.12	5.261	A
3	1501.29	375.32	1499.19	1325.89	296.00	0.00	2477.39	2405.14	0.606	1.00	1.52	3.672	A

### Main results: (08:30-08:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	432.70	108.18	431.78	650.67	1543.03	0.00	1134.31	892.62	0.381	0.38	0.61	5.118	A
2	1793.57	448.39	1781.66	1778.14	196.66	0.00	2121.50	2001.12	0.845	2.12	5.10	10.248	B
3	1838.70	459.67	1832.76	1617.39	360.92	0.00	2434.50	2405.14	0.755	1.52	3.01	5.922	A

### Main results: (08:45-09:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	432.70	108.18	432.68	653.84	1547.89	0.00	1131.87	892.62	0.382	0.61	0.62	5.148	A
2	1793.57	448.39	1792.87	1783.50	197.07	0.00	2121.26	2001.12	0.846	5.10	5.27	10.899	B
3	1838.70	459.67	1838.52	1626.75	363.20	0.00	2433.00	2405.14	0.756	3.01	3.05	6.052	A

### Main results: (09:00-09:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	353.30	88.32	354.21	537.41	1269.01	0.00	1271.92	892.61	0.278	0.62	0.39	3.926	A
2	1464.44	366.11	1476.72	1461.88	161.33	0.00	2141.76	2001.12	0.684	5.27	2.20	5.511	A
3	1501.29	375.32	1507.26	1338.91	299.15	0.00	2475.30	2405.14	0.607	3.05	1.56	3.743	A

### Main results: (09:15-09:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	295.87	73.97	296.32	448.24	1060.35	0.00	1376.70	892.61	0.215	0.39	0.28	3.335	A
2	1226.40	306.60	1229.88	1221.71	134.96	0.00	2156.88	2001.12	0.569	2.20	1.33	3.897	A
3	1257.26	314.31	1259.44	1115.69	249.15	0.00	2508.33	2405.14	0.501	1.56	1.01	2.889	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.00	0.27	3.316	A	A
2	18.91	1.26	3.824	A	A
3	14.60	0.97	2.856	A	A

### Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.61	0.37	3.901	A	A
2	30.57	2.04	5.261	A	A
3	22.23	1.48	3.672	A	A

### Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.93	0.60	5.118	A	A
2	68.80	4.59	10.248	B	B
3	42.63	2.84	5.922	A	A

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.21	0.61	5.148	A	A
2	78.06	5.20	10.899	B	B
3	45.51	3.03	6.052	A	A

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.93	0.40	3.926	A	A
2	35.09	2.34	5.511	A	A
3	24.15	1.61	3.743	A	A

### Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.19	0.28	3.335	A	A
2	20.58	1.37	3.897	A	A
3	15.50	1.03	2.889	A	A

# Existing Layout - Forecast Background 2023, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				8.07	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00



## 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	541.00	100.000
2	ONE HOUR	✓	1677.00	100.000
3	ONE HOUR	✓	1611.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	407.29	410.50		
16:45-17:00	2	1262.53	1288.55		
16:45-17:00	3	1212.85	1213.62		
17:00-17:15	1	486.35	490.17		
17:00-17:15	2	1507.59	1538.66		
17:00-17:15	3	1448.26	1449.18		
17:15-17:30	1	595.65	600.33		
17:15-17:30	2	1846.41	1884.46		
17:15-17:30	3	1773.74	1774.87		
17:30-17:45	1	595.65	600.33		
17:30-17:45	2	1846.41	1884.46		
17:30-17:45	3	1773.74	1774.87		
17:45-18:00	1	486.35	490.17		
17:45-18:00	2	1507.59	1538.66		
17:45-18:00	3	1448.26	1449.18		
18:00-18:15	1	407.29	410.50		
18:00-18:15	2	1262.53	1288.55		
18:00-18:15	3	1212.85	1213.62		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	308.000	233.000
	2	235.000	2.000	1440.000
	3	205.000	1406.000	0.000

## Turning Proportions (Veh) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.00	0.57	0.43
	2	0.14	0.00	0.86
	3	0.13	0.87	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.007	1.009
	2	1.000	1.000	1.024
	3	1.005	1.000	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	0.7	0.9
	2	0.0	0.0	2.4
	3	0.5	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.51	6.36	1.04	A	496.43	744.65	60.53	4.88	0.67	60.54	4.88
2	0.86	11.64	5.78	B	1538.84	2308.26	268.43	6.98	2.98	268.45	6.98
3	0.71	4.85	2.37	A	1478.28	2217.41	135.64	3.67	1.51	135.65	3.67

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	407.29	101.82	405.69	330.05	1056.91	0.00	1415.56	837.23	0.288	0.00	0.40	3.558	A
2	1262.53	315.63	1257.19	1287.86	174.72	0.00	2199.29	2092.97	0.574	0.00	1.33	3.800	A
3	1212.84	303.21	1209.28	1254.25	177.67	0.00	2568.97	2493.06	0.472	0.00	0.89	2.641	A

### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	486.35	121.59	485.61	394.85	1264.30	0.00	1308.61	837.23	0.372	0.40	0.59	4.371	A
2	1507.59	376.90	1504.11	1540.76	209.14	0.00	2179.60	2092.97	0.692	1.33	2.20	5.302	A
3	1448.25	362.06	1446.58	1500.69	212.57	0.00	2546.54	2493.06	0.569	0.89	1.31	3.269	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	595.65	148.91	593.86	482.04	1546.60	0.00	1163.02	837.22	0.512	0.59	1.04	6.304	A
2	1846.41	461.60	1832.98	1884.68	255.77	0.00	2152.93	2092.97	0.858	2.20	5.56	10.821	B
3	1773.74	443.43	1769.59	1829.71	259.04	0.00	2516.67	2493.06	0.705	1.31	2.35	4.792	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	595.65	148.91	595.61	484.32	1550.16	0.00	1161.19	837.22	0.513	1.04	1.04	6.364	A
2	1846.41	461.60	1845.54	1889.24	256.52	0.00	2152.50	2092.97	0.858	5.56	5.78	11.638	B
3	1773.74	443.43	1773.65	1841.24	260.82	0.00	2515.53	2493.06	0.705	2.35	2.37	4.850	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	486.35	121.59	488.14	398.04	1269.40	0.00	1305.98	837.23	0.372	1.04	0.60	4.411	A
2	1507.59	376.90	1521.54	1547.30	210.23	0.00	2178.98	2092.97	0.692	5.78	2.29	5.589	A
3	1448.25	362.06	1452.40	1516.75	215.03	0.00	2544.96	2493.06	0.569	2.37	1.33	3.306	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	407.29	101.82	408.06	331.99	1061.53	0.00	1413.18	837.23	0.288	0.60	0.41	3.586	A
2	1262.53	315.63	1266.24	1293.84	175.74	0.00	2198.71	2092.97	0.574	2.29	1.36	3.877	A
3	1212.84	303.21	1214.57	1263.04	178.95	0.00	2568.15	2493.06	0.472	1.33	0.90	2.662	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.89	0.39	3.558	A	A
2	19.34	1.29	3.800	A	A
3	13.04	0.87	2.641	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.62	0.57	4.371	A	A
2	31.68	2.11	5.302	A	A
3	19.17	1.28	3.269	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	14.97	1.00	6.304	A	A
2	74.31	4.95	10.821	B	B
3	33.73	2.25	4.792	A	A

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.62	1.04	6.364	A	A
2	85.36	5.69	11.638	B	B
3	35.40	2.36	4.850	A	A

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.21	0.61	4.411	A	A
2	36.68	2.45	5.589	A	A
3	20.54	1.37	3.306	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.22	0.41	3.586	A	A
2	21.07	1.40	3.877	A	A
3	13.76	0.92	2.662	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, AM	Forecast Background + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				9.62	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

### 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	393.00	100.000
2	ONE HOUR	✓	1681.00	100.000
3	ONE HOUR	✓	1680.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	295.87	306.23		
08:00-08:15	2	1265.54	1337.50		
08:00-08:15	3	1264.79	1279.99		
08:15-08:30	1	353.30	365.67		
08:15-08:30	2	1511.18	1597.11		
08:15-08:30	3	1510.29	1528.44		
08:30-08:45	1	432.70	447.85		
08:30-08:45	2	1850.82	1956.05		
08:30-08:45	3	1849.71	1871.95		
08:45-09:00	1	432.70	447.85		
08:45-09:00	2	1850.82	1956.05		
08:45-09:00	3	1849.71	1871.95		
09:00-09:15	1	353.30	365.67		
09:00-09:15	2	1511.18	1597.11		
09:00-09:15	3	1510.29	1528.44		
09:15-09:30	1	295.87	306.23		
09:15-09:30	2	1265.54	1337.50		
09:15-09:30	3	1264.79	1279.99		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	214.000	179.000
	2	327.000	3.000	1351.000
	3	267.000	1413.000	0.000

## Turning Proportions (Veh) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.00	0.54	0.46
	2	0.19	0.00	0.80
	3	0.16	0.84	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.030	1.041
	2	1.032	1.000	1.063
	3	1.028	1.009	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	3.0	4.1
	2	3.2	0.0	6.3
	3	2.8	0.9	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.39	5.24	0.63	A	360.62	540.94	38.39	4.26	0.43	38.39	4.26
2	0.88	13.74	6.79	B	1542.51	2313.77	302.63	7.85	3.36	302.66	7.85
3	0.77	6.36	3.22	A	1541.60	2312.40	171.78	4.46	1.91	171.79	4.46

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	295.87	73.97	294.78	445.43	1062.58	0.00	1370.79	885.93	0.216	0.00	0.27	3.343	A
2	1265.54	316.39	1259.84	1223.09	134.26	0.00	2143.86	1990.40	0.590	0.00	1.43	4.047	A
3	1264.79	316.20	1260.69	1146.79	247.32	0.00	2490.84	2396.82	0.508	0.00	1.02	2.917	A

### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	353.30	88.32	352.85	532.89	1271.10	0.00	1265.13	885.93	0.279	0.27	0.39	3.944	A
2	1511.18	377.80	1507.30	1463.24	160.71	0.00	2128.78	1990.40	0.710	1.43	2.40	5.755	A
3	1510.29	377.57	1508.08	1372.12	295.90	0.00	2458.99	2396.82	0.614	1.02	1.58	3.778	A



**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	432.70	108.18	431.75	649.83	1553.65	0.00	1121.96	885.94	0.386	0.39	0.62	5.208	A
2	1850.81	462.70	1834.56	1788.76	196.65	0.00	2108.30	1990.39	0.878	2.40	6.46	12.467	B
3	1849.71	462.43	1843.34	1671.07	360.15	0.00	2416.88	2396.82	0.765	1.58	3.17	6.207	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	432.70	108.18	432.68	653.72	1558.87	0.00	1119.32	885.94	0.387	0.62	0.63	5.242	A
2	1850.81	462.70	1849.50	1794.48	197.07	0.00	2108.06	1990.39	0.878	6.46	6.79	13.742	B
3	1849.71	462.43	1849.50	1683.50	363.08	0.00	2414.95	2396.82	0.766	3.17	3.22	6.360	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	353.30	88.32	354.24	538.35	1278.40	0.00	1261.43	885.93	0.280	0.63	0.39	3.972	A
2	1511.18	377.80	1528.32	1471.29	161.35	0.00	2128.42	1990.40	0.710	6.79	2.50	6.162	A
3	1510.29	377.57	1516.72	1389.64	300.03	0.00	2456.29	2396.82	0.615	3.22	1.61	3.857	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	295.87	73.97	296.33	448.37	1067.98	0.00	1368.05	885.93	0.216	0.39	0.28	3.362	A
2	1265.54	316.39	1269.72	1229.34	134.97	0.00	2143.45	1990.40	0.590	2.50	1.46	4.141	A
3	1264.79	316.20	1267.09	1155.43	249.26	0.00	2489.57	2396.82	0.508	1.61	1.04	2.949	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.03	0.27	3.343	A	A
2	20.60	1.37	4.047	A	A
3	14.98	1.00	2.917	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.67	0.38	3.944	A	A
2	34.31	2.29	5.755	A	A
3	22.97	1.53	3.778	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.09	0.61	5.208	A	A
2	84.61	5.64	12.467	B	B
3	44.79	2.99	6.207	A	A

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.38	0.63	5.242	A	A
2	99.83	6.66	13.742	B	B
3	48.03	3.20	6.360	A	A

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.00	0.40	3.972	A	A
2	40.68	2.71	6.162	A	A
3	25.06	1.67	3.857	A	A

### Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.23	0.28	3.362	A	A
2	22.60	1.51	4.141	A	A
3	15.94	1.06	2.949	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, PM	Forecast Background + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				8.78	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

### 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	541.00	100.000
2	ONE HOUR	✓	1687.00	100.000
3	ONE HOUR	✓	1663.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	407.29	410.50		
16:45-17:00	2	1270.06	1304.99		
16:45-17:00	3	1251.99	1262.64		
17:00-17:15	1	486.35	490.17		
17:00-17:15	2	1516.58	1558.29		
17:00-17:15	3	1495.00	1507.72		
17:15-17:30	1	595.65	600.33		
17:15-17:30	2	1857.42	1908.51		
17:15-17:30	3	1831.00	1846.57		
17:30-17:45	1	595.65	600.33		
17:30-17:45	2	1857.42	1908.51		
17:30-17:45	3	1831.00	1846.57		
17:45-18:00	1	486.35	490.17		
17:45-18:00	2	1516.58	1558.29		
17:45-18:00	3	1495.00	1507.72		
18:00-18:15	1	407.29	410.50		
18:00-18:15	2	1270.06	1304.99		
18:00-18:15	3	1251.99	1262.64		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	308.000	233.000
	2	235.000	2.000	1450.000
	3	205.000	1458.000	0.000

## Turning Proportions (Veh) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.00	0.57	0.43
	2	0.14	0.00	0.86
	3	0.12	0.88	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.007	1.009
	2	1.000	1.000	1.032
	3	1.005	1.009	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	0.7	0.9
	2	0.0	0.0	3.2
	3	0.5	0.9	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.53	6.81	1.12	A	496.43	744.65	63.56	5.12	0.71	63.57	5.12
2	0.87	12.65	6.29	B	1548.03	2322.04	285.54	7.38	3.17	285.57	7.38
3	0.73	5.41	2.72	A	1525.99	2288.99	151.66	3.98	1.69	151.67	3.98

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	407.29	101.82	405.65	330.02	1095.79	0.00	1390.43	829.85	0.293	0.00	0.41	3.649	A
2	1270.07	317.52	1264.57	1326.74	174.71	0.00	2184.55	2080.74	0.581	0.00	1.37	3.890	A
3	1251.99	313.00	1248.15	1261.61	177.65	0.00	2548.93	2475.82	0.491	0.00	0.96	2.759	A

### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	486.35	121.59	485.56	394.80	1310.83	0.00	1278.53	829.85	0.380	0.41	0.61	4.535	A
2	1516.58	379.15	1512.91	1587.27	209.12	0.00	2165.00	2080.74	0.701	1.37	2.29	5.490	A
3	1495.00	373.75	1493.09	1509.49	212.54	0.00	2526.69	2475.82	0.592	0.96	1.44	3.477	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	595.65	148.91	593.67	481.75	1603.07	0.00	1126.46	829.85	0.529	0.61	1.10	6.730	A
2	1857.43	464.36	1842.52	1941.06	255.68	0.00	2138.54	2080.74	0.869	2.29	6.02	11.615	B
3	1830.99	457.75	1825.97	1839.35	258.85	0.00	2497.16	2475.82	0.733	1.44	2.69	5.323	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	595.65	148.91	595.60	484.28	1607.37	0.00	1124.23	829.85	0.530	1.10	1.12	6.809	A
2	1857.43	464.36	1856.34	1946.46	256.52	0.00	2138.07	2080.74	0.869	6.02	6.29	12.651	B
3	1830.99	457.75	1830.86	1852.07	260.79	0.00	2495.92	2475.82	0.734	2.69	2.72	5.411	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	486.35	121.59	488.33	398.35	1316.93	0.00	1275.36	829.85	0.381	1.12	0.62	4.586	A
2	1516.58	379.15	1532.20	1594.95	210.32	0.00	2164.32	2080.74	0.701	6.29	2.39	5.832	A
3	1495.00	373.75	1500.03	1527.26	215.25	0.00	2524.96	2475.82	0.592	2.72	1.47	3.528	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	407.29	101.82	408.11	332.05	1100.90	0.00	1387.77	829.85	0.293	0.62	0.42	3.679	A
2	1270.07	317.52	1274.01	1333.24	175.77	0.00	2183.95	2080.74	0.582	2.39	1.40	3.974	A
3	1251.99	313.00	1253.96	1270.79	178.98	0.00	2548.09	2475.82	0.491	1.47	0.97	2.785	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.03	0.40	3.649	A	A
2	19.90	1.33	3.890	A	A
3	14.05	0.94	2.759	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.93	0.60	4.535	A	A
2	32.92	2.19	5.490	A	A
3	21.00	1.40	3.477	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.93	1.06	6.730	A	A
2	79.66	5.31	11.615	B	B
3	38.42	2.56	5.323	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.69	1.11	6.809	A	A
2	92.76	6.18	12.651	B	B
3	40.65	2.71	5.411	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.59	0.64	4.586	A	A
2	38.56	2.57	5.832	A	A
3	22.67	1.51	3.528	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.39	0.43	3.679	A	A
2	21.74	1.45	3.974	A	A
3	14.88	0.99	2.785	A	A

# Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

**Data Errors and Warnings**

*No errors or warnings*

**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, AM	Forecast Background + EA2 + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

**Junctions**

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				10.06	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

### 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓



# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	393.00	100.000
2	ONE HOUR	✓	1694.00	100.000
3	ONE HOUR	✓	1683.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	295.87	306.23		
08:00-08:15	2	1275.33	1348.93		
08:00-08:15	3	1267.05	1284.41		
08:15-08:30	1	353.30	365.67		
08:15-08:30	2	1522.87	1610.76		
08:15-08:30	3	1512.98	1533.71		
08:30-08:45	1	432.70	447.85		
08:30-08:45	2	1865.13	1972.76		
08:30-08:45	3	1853.02	1878.40		
08:45-09:00	1	432.70	447.85		
08:45-09:00	2	1865.13	1972.76		
08:45-09:00	3	1853.02	1878.40		
09:00-09:15	1	353.30	365.67		
09:00-09:15	2	1522.87	1610.76		
09:00-09:15	3	1512.98	1533.71		
09:15-09:30	1	295.87	306.23		
09:15-09:30	2	1275.33	1348.93		
09:15-09:30	3	1267.05	1284.41		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	214.000	179.000
	2	327.000	3.000	1364.000
	3	267.000	1416.000	0.000

## Turning Proportions (Veh) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.00	0.54	0.46
	2	0.19	0.00	0.81
	3	0.16	0.84	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.030	1.041
	2	1.032	1.000	1.064
	3	1.028	1.011	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	3.0	4.1
	2	3.2	0.0	6.4
	3	2.8	1.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.39	5.27	0.63	A	360.62	540.94	38.52	4.27	0.43	38.53	4.27
2	0.89	14.59	7.24	B	1554.44	2331.67	316.93	8.16	3.52	316.96	8.16
3	0.77	6.44	3.27	A	1544.35	2316.52	173.70	4.50	1.93	173.72	4.50

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	295.87	73.97	294.77	445.42	1064.81	0.00	1368.59	884.37	0.216	0.00	0.27	3.349	A
2	1275.33	318.83	1269.51	1225.33	134.26	0.00	2142.13	1989.20	0.595	0.00	1.45	4.099	A
3	1267.05	316.76	1262.92	1156.47	247.31	0.00	2486.72	2394.96	0.510	0.00	1.03	2.932	A

### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	353.30	88.32	352.85	532.86	1273.77	0.00	1262.50	884.37	0.280	0.27	0.39	3.956	A
2	1522.87	380.72	1518.83	1465.91	160.71	0.00	2127.07	1989.20	0.716	1.45	2.47	5.878	A
3	1512.98	378.24	1510.75	1383.67	295.88	0.00	2454.93	2394.96	0.616	1.03	1.59	3.802	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	432.70	108.18	431.75	649.58	1556.84	0.00	1118.78	884.38	0.387	0.39	0.62	5.232	A
2	1865.13	466.28	1847.57	1791.95	196.65	0.00	2106.60	1989.20	0.885	2.47	6.86	13.090	B
3	1853.01	463.25	1846.51	1684.31	359.92	0.00	2413.02	2394.96	0.768	1.59	3.21	6.284	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	432.70	108.18	432.68	653.67	1562.16	0.00	1116.09	884.38	0.388	0.62	0.63	5.267	A
2	1865.13	466.28	1863.58	1797.77	197.07	0.00	2106.36	1989.20	0.885	6.86	7.24	14.592	B
3	1853.01	463.25	1852.79	1697.62	363.04	0.00	2410.98	2394.96	0.769	3.21	3.27	6.443	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	353.30	88.32	354.25	538.63	1281.20	0.00	1258.73	884.37	0.281	0.63	0.39	3.985	A
2	1522.87	380.72	1541.52	1474.10	161.35	0.00	2126.71	1989.20	0.716	7.24	2.58	6.341	A
3	1512.98	378.24	1519.54	1402.58	300.30	0.00	2452.04	2394.96	0.617	3.27	1.63	3.888	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	295.87	73.97	296.33	448.41	1070.26	0.00	1365.82	884.37	0.217	0.39	0.28	3.366	A
2	1275.33	318.83	1279.70	1231.62	134.97	0.00	2141.73	1989.20	0.595	2.58	1.49	4.198	A
3	1267.05	316.76	1269.37	1165.37	249.29	0.00	2485.42	2394.96	0.510	1.63	1.05	2.965	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.03	0.27	3.349	A	A
2	21.01	1.40	4.099	A	A
3	15.09	1.01	2.932	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.69	0.38	3.956	A	A
2	35.26	2.35	5.878	A	A
3	23.17	1.54	3.802	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.13	0.61	5.232	A	A
2	89.05	5.94	13.090	B	B
3	45.37	3.02	6.284	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.42	0.63	5.267	A	A
2	106.28	7.09	14.592	B	B
3	48.71	3.25	6.443	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.02	0.40	3.985	A	A
2	42.22	2.81	6.341	A	A
3	25.31	1.69	3.888	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.24	0.28	3.366	A	A
2	23.10	1.54	4.198	A	A
3	16.06	1.07	2.965	A	A

# Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

**Data Errors and Warnings**

*No errors or warnings*

**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, PM	Forecast Background + EA2 + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

**Junctions**

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				8.98	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

### 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	541.00	100.000
2	ONE HOUR	✓	1690.00	100.000
3	ONE HOUR	✓	1676.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	407.29	410.50		
16:45-17:00	2	1272.32	1309.51		
16:45-17:00	3	1261.78	1274.73		
17:00-17:15	1	486.35	490.17		
17:00-17:15	2	1519.28	1563.69		
17:00-17:15	3	1506.69	1522.16		
17:15-17:30	1	595.65	600.33		
17:15-17:30	2	1860.72	1915.12		
17:15-17:30	3	1845.31	1864.25		
17:30-17:45	1	595.65	600.33		
17:30-17:45	2	1860.72	1915.12		
17:30-17:45	3	1845.31	1864.25		
17:45-18:00	1	486.35	490.17		
17:45-18:00	2	1519.28	1563.69		
17:45-18:00	3	1506.69	1522.16		
18:00-18:15	1	407.29	410.50		
18:00-18:15	2	1272.32	1309.51		
18:00-18:15	3	1261.78	1274.73		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	308.000	233.000
	2	235.000	2.000	1453.000
	3	205.000	1471.000	0.000

## Turning Proportions (Veh) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.00	0.57	0.43
	2	0.14	0.00	0.86
	3	0.12	0.88	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.007	1.009
	2	1.000	1.000	1.034
	3	1.005	1.011	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	0.7	0.9
	2	0.0	0.0	3.4
	3	0.5	1.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.53	6.93	1.14	A	496.43	744.65	64.36	5.19	0.72	64.37	5.19
2	0.87	12.95	6.45	B	1550.78	2326.16	290.58	7.49	3.23	290.60	7.50
3	0.74	5.56	2.82	A	1537.92	2306.88	156.01	4.06	1.73	156.02	4.06

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	407.29	101.82	405.64	330.01	1105.51	0.00	1384.23	828.08	0.294	0.00	0.41	3.672	A
2	1272.32	318.08	1266.78	1336.44	174.70	0.00	2180.88	2077.68	0.583	0.00	1.39	3.915	A
3	1261.78	315.44	1257.87	1263.83	177.65	0.00	2544.49	2472.11	0.496	0.00	0.98	2.790	A

### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	486.35	121.59	485.55	394.79	1322.46	0.00	1271.12	828.08	0.383	0.41	0.61	4.577	A
2	1519.28	379.82	1515.54	1598.89	209.12	0.00	2161.36	2077.68	0.703	1.39	2.32	5.542	A
3	1506.68	376.67	1504.72	1512.13	212.53	0.00	2522.29	2472.11	0.597	0.98	1.47	3.532	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	595.65	148.91	593.62	481.67	1617.16	0.00	1117.47	828.07	0.533	0.61	1.12	6.846	A
2	1860.73	465.18	1845.37	1955.11	255.66	0.00	2134.96	2077.68	0.872	2.32	6.16	11.847	B
3	1845.30	461.33	1840.04	1842.24	258.79	0.00	2492.85	2472.11	0.740	1.47	2.79	5.469	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	595.65	148.91	595.60	484.27	1621.67	0.00	1115.11	828.07	0.534	1.12	1.14	6.929	A
2	1860.73	465.18	1859.57	1960.76	256.52	0.00	2134.47	2077.68	0.872	6.16	6.45	12.954	B
3	1845.30	461.33	1845.16	1855.31	260.78	0.00	2491.58	2472.11	0.741	2.79	2.82	5.565	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	486.35	121.59	488.38	398.44	1328.86	0.00	1267.79	828.08	0.384	1.14	0.63	4.632	A
2	1519.28	379.82	1535.40	1606.89	210.34	0.00	2160.67	2077.68	0.703	6.45	2.42	5.899	A
3	1506.68	376.67	1511.97	1530.42	215.32	0.00	2520.52	2472.11	0.598	2.82	1.50	3.587	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	407.29	101.82	408.12	332.06	1110.74	0.00	1381.50	828.08	0.295	0.63	0.42	3.700	A
2	1272.32	318.08	1276.33	1343.09	175.77	0.00	2180.28	2077.68	0.584	2.42	1.42	3.999	A
3	1261.78	315.44	1263.82	1273.11	178.99	0.00	2543.64	2472.11	0.496	1.50	0.99	2.816	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.07	0.40	3.672	A	A
2	20.06	1.34	3.915	A	A
3	14.31	0.95	2.790	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.01	0.60	4.577	A	A
2	33.28	2.22	5.542	A	A
3	21.48	1.43	3.532	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.19	1.08	6.846	A	A
2	81.23	5.42	11.847	B	B
3	39.71	2.65	5.469	A	A



### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.97	1.13	6.929	A	A
2	94.98	6.33	12.954	B	B
3	42.11	2.81	5.565	A	A

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.68	0.65	4.632	A	A
2	39.11	2.61	5.899	A	A
3	23.23	1.55	3.587	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.43	0.43	3.700	A	A
2	21.93	1.46	3.999	A	A
3	15.17	1.01	2.816	A	A

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, AM	Background 2019	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				6.49	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	371.00	100.000
2	ONE HOUR	✓	1540.00	100.000
3	ONE HOUR	✓	1578.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	279.31	289.09		
08:00-08:15	2	1159.39	1217.68		
08:00-08:15	3	1188.00	1193.31		
08:15-08:30	1	333.52	345.20		
08:15-08:30	2	1384.43	1454.03		
08:15-08:30	3	1418.59	1424.93		
08:30-08:45	1	408.48	422.78		
08:30-08:45	2	1695.57	1780.82		
08:30-08:45	3	1737.41	1745.18		
08:45-09:00	1	408.48	422.78		
08:45-09:00	2	1695.57	1780.82		
08:45-09:00	3	1737.41	1745.18		
09:00-09:15	1	333.52	345.20		
09:00-09:15	2	1384.43	1454.03		
09:00-09:15	3	1418.59	1424.93		
09:15-09:30	1	279.31	289.09		
09:15-09:30	2	1159.39	1217.68		
09:15-09:30	3	1188.00	1193.31		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	202.000	169.000
	2	309.000	3.000	1228.000
	3	252.000	1326.000	0.000

< **Turning Proportions (Veh) - Junction 9 (for whole period)** >

		To		
		1	2	3
From	1	0.00	0.54	0.46
	2	0.20	0.00	0.80
	3	0.16	0.84	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.030	1.041
	2	1.032	1.000	1.055
	3	1.028	1.000	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	3.0	4.1
	2	3.2	0.0	5.5
	3	2.8	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.35	4.70	0.53	A	340.44	510.65	33.38	3.92	0.37	33.38	3.92
2	0.80	8.31	3.84	A	1413.13	2119.69	198.85	5.63	2.21	198.87	5.63
3	0.71	5.08	2.43	A	1448.00	2172.00	137.46	3.80	1.53	137.47	3.80

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	279.31	69.83	278.32	420.86	997.55	0.00	1408.24	892.29	0.198	0.00	0.25	3.183	A
2	1159.39	289.85	1154.80	1149.08	126.78	0.00	2161.58	2001.18	0.536	0.00	1.15	3.560	A
3	1188.00	297.00	1184.45	1047.62	233.96	0.00	2518.39	2405.13	0.472	0.00	0.89	2.692	A

### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	333.52	83.38	333.15	503.54	1193.30	0.00	1309.93	892.29	0.255	0.25	0.34	3.686	A
2	1384.43	346.11	1381.86	1374.69	151.76	0.00	2147.25	2001.18	0.645	1.15	1.79	4.687	A
3	1418.59	354.65	1416.88	1253.65	279.96	0.00	2488.01	2405.13	0.570	0.89	1.32	3.355	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	408.48	102.12	407.73	615.40	1459.59	0.00	1176.21	892.29	0.347	0.34	0.53	4.679	A
2	1695.57	423.89	1687.68	1681.58	185.73	0.00	2127.77	2001.18	0.797	1.79	3.76	8.037	A
3	1737.41	434.35	1733.06	1531.50	341.92	0.00	2447.08	2405.14	0.710	1.32	2.40	5.010	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	408.48	102.12	408.47	617.60	1463.17	0.00	1174.41	892.29	0.348	0.53	0.53	4.699	A
2	1695.57	423.89	1695.25	1685.57	186.07	0.00	2127.58	2001.18	0.797	3.76	3.84	8.310	A
3	1737.41	434.35	1737.31	1537.86	343.46	0.00	2446.07	2405.14	0.710	2.40	2.43	5.077	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	333.52	83.38	334.27	506.62	1198.42	0.00	1307.37	892.29	0.255	0.53	0.34	3.704	A
2	1384.43	346.11	1392.42	1380.41	152.27	0.00	2146.96	2001.18	0.645	3.84	1.84	4.821	A
3	1418.59	354.65	1422.94	1262.59	282.10	0.00	2486.59	2405.13	0.571	2.43	1.34	3.397	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	279.31	69.83	279.69	423.18	1002.03	0.00	1405.99	892.29	0.199	0.34	0.25	3.196	A
2	1159.39	289.85	1162.09	1154.31	127.41	0.00	2161.22	2001.18	0.536	1.84	1.17	3.611	A
3	1188.00	297.00	1189.77	1054.06	235.44	0.00	2517.41	2405.13	0.472	1.34	0.90	2.716	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.62	0.24	3.183	A	A
2	16.68	1.11	3.560	A	A
3	13.02	0.87	2.692	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.01	0.33	3.686	A	A
2	25.93	1.73	4.687	A	A
3	19.27	1.28	3.355	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.74	0.52	4.679	A	A
2	52.25	3.48	8.037	A	A
3	34.48	2.30	5.010	A	A

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.95	0.53	4.699	A	A
2	57.13	3.81	8.310	A	A
3	36.27	2.42	5.077	A	A

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.27	0.35	3.704	A	A
2	28.88	1.93	4.821	A	A
3	20.68	1.38	3.397	A	A

### Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.79	0.25	3.196	A	A
2	17.98	1.20	3.611	A	A
3	13.74	0.92	2.716	A	A

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, PM	Background 2019	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
9	A12, B1438	Roundabout	1,2,3				6.36	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	B1438	
2	2	A12 (south)	
3	3	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00

## 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
1	3.55	8.32	26.45	21.01	76.90	33.00	
2	7.70	7.70	0.00	21.00	76.80	29.00	
3	8.06	9.19	1.00	32.05	76.80	16.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.520	1976.037
2		(calculated)	(calculated)	0.579	2346.629
3		(calculated)	(calculated)	0.643	2684.863

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	511.00	100.000
2	ONE HOUR	✓	1584.00	100.000
3	ONE HOUR	✓	1522.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	384.71	387.73		
16:45-17:00	2	1192.52	1217.09		
16:45-17:00	3	1145.84	1146.57		
17:00-17:15	1	459.38	462.99		
17:00-17:15	2	1423.98	1453.33		
17:00-17:15	3	1368.25	1369.12		
17:15-17:30	1	562.62	567.04		
17:15-17:30	2	1744.02	1779.95		
17:15-17:30	3	1675.75	1676.82		
17:30-17:45	1	562.62	567.04		
17:30-17:45	2	1744.02	1779.95		
17:30-17:45	3	1675.75	1676.82		
17:45-18:00	1	459.38	462.99		
17:45-18:00	2	1423.98	1453.33		
17:45-18:00	3	1368.25	1369.12		
18:00-18:15	1	384.71	387.73		
18:00-18:15	2	1192.52	1217.09		
18:00-18:15	3	1145.84	1146.57		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.000	291.000	220.000
	2	222.000	2.000	1360.000
	3	194.000	1328.000	0.000

## Turning Proportions (Veh) - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.00	0.57	0.43
	2	0.14	0.00	0.86
	3	0.13	0.87	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

		To		
		1	2	3
From	1	1.000	1.007	1.009
	2	1.000	1.000	1.024
	3	1.005	1.000	1.000

## Heavy Vehicle Percentages - Junction 9 (for whole period)

		To		
		1	2	3
From	1	0.0	0.7	0.9
	2	0.0	0.0	2.4
	3	0.5	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.47	5.60	0.87	A	468.90	703.35	52.06	4.44	0.58	52.07	4.44
2	0.81	8.61	4.09	A	1453.50	2180.25	207.78	5.72	2.31	207.80	5.72
3	0.66	4.24	1.96	A	1396.61	2094.92	116.24	3.33	1.29	116.25	3.33

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	384.71	96.18	383.27	312.13	998.50	0.00	1445.68	837.49	0.266	0.00	0.36	3.384	A
2	1192.51	298.13	1187.84	1216.76	165.01	0.00	2204.85	2092.98	0.541	0.00	1.17	3.524	A
3	1145.84	286.46	1142.65	1184.88	167.98	0.00	2575.20	2492.94	0.445	0.00	0.80	2.508	A

### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	459.38	114.84	458.76	373.42	1194.42	0.00	1344.64	837.49	0.342	0.36	0.52	4.061	A
2	1423.98	355.99	1421.29	1455.67	197.51	0.00	2186.26	2092.98	0.651	1.17	1.84	4.689	A
3	1368.24	342.06	1366.85	1417.81	200.99	0.00	2553.98	2492.94	0.536	0.80	1.15	3.028	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	562.62	140.66	561.23	456.41	1461.55	0.00	1206.88	837.49	0.466	0.52	0.86	5.563	A
2	1744.01	436.00	1735.40	1781.15	241.63	0.00	2161.02	2092.98	0.807	1.84	3.99	8.293	A
3	1675.75	418.94	1672.55	1731.61	245.41	0.00	2525.44	2492.94	0.664	1.15	1.95	4.205	A

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	562.62	140.66	562.60	457.97	1464.31	0.00	1205.46	837.49	0.467	0.86	0.87	5.599	A
2	1744.01	436.00	1743.64	1784.68	242.21	0.00	2160.68	2092.98	0.807	3.99	4.09	8.610	A
3	1675.75	418.94	1675.69	1739.29	246.58	0.00	2524.69	2492.94	0.664	1.95	1.96	4.240	A

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	459.38	114.84	460.76	375.61	1198.43	0.00	1342.57	837.49	0.342	0.87	0.52	4.088	A
2	1423.98	355.99	1432.73	1460.82	198.37	0.00	2185.76	2092.98	0.651	4.09	1.90	4.836	A
3	1368.24	342.06	1371.43	1428.50	202.61	0.00	2552.94	2492.94	0.536	1.96	1.16	3.056	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	384.71	96.18	385.34	313.77	1002.54	0.00	1443.60	837.49	0.266	0.52	0.37	3.403	A
2	1192.51	298.13	1195.35	1221.98	165.90	0.00	2204.34	2092.98	0.541	1.90	1.19	3.579	A
3	1145.84	286.46	1147.27	1192.22	169.04	0.00	2574.51	2492.94	0.445	1.16	0.81	2.526	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.30	0.35	3.384	A	A
2	16.99	1.13	3.524	A	A
3	11.72	0.78	2.508	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.58	0.51	4.061	A	A
2	26.67	1.78	4.689	A	A
3	16.84	1.12	3.028	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.56	0.84	5.563	A	A
2	55.25	3.68	8.293	A	A
3	28.18	1.88	4.205	A	A

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.01	0.87	5.599	A	A
2	60.75	4.05	8.610	A	A
3	29.32	1.95	4.240	A	A

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.04	0.54	4.088	A	A
2	29.81	1.99	4.836	A	A
3	17.88	1.19	3.056	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.57	0.37	3.403	A	A
2	18.31	1.22	3.579	A	A
3	12.30	0.82	2.526	A	A





**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 10

**Junction 10- A12 / A1214 Junction**



**Notes**

Link	Arm	Road Name
-	A	Main Road
-	B	A12 (south)
-	C	A1214
-	D	Ipswich Park and Ride Access
-	E	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 07:45AM - 08:45AM

Vehicles						
From/To	A	B	C	D	E	Totals
A	0	101	107	3	10	221
B	47	0	318	14	1074	1453
C	77	640	0	15	384	1116
D	0	4	4	0	12	20
E	10	1119	379	31	1	1540
Totals	134	1864	808	63	1481	4350

HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	1	0	0	1
B	3	0	14	0	75	92
C	4	13	0	0	11	28
D	0	0	0	0	0	0
E	3	54	12	0	0	69
Totals	10	67	27	0	86	190

Total						
From/To	A	B	C	D	E	Totals
A	0	101	108	3	10	222
B	50	0	332	14	1149	1545
C	81	653	0	15	395	1144
D	0	4	4	0	12	20
E	13	1173	391	31	1	1609
Totals	144	1931	835	0	1567	4540

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.9%	0.0%	0.0%	0
B	6.0%	0.0%	4.2%	0.0%	6.5%	0
C	4.9%	2.0%	0.0%	0.0%	2.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	23.1%	4.6%	3.1%	0.0%	0.0%	0
Average	0.1	0.0	0.0	0.0	0.0	0

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:30PM - 17:30PM

Vehicles						
From/To	A	B	C	D	E	Totals
A	0	163	104	1	8	276
B	89	0	581	2	1157	1829
C	88	469	0	1	386	944
D	5	9	4	0	22	40
E	9	1219	383	8	1	1620
Totals	191	1860	1072	12	1574	4709

HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	2	0	0	2
B	7	0	23	0	38	68
C	2	13	0	1	3	18
D	0	0	0	0	0	0
E	0	33	5	0	0	38
Totals	9	46	30	0	41	126

Total						
From/To	A	B	C	D	E	Totals
A	0	163	106	1	8	278
B	96	0	604	2	1195	1897
C	90	482	0	1	389	962
D	5	9	4	0	22	40
E	9	1252	388	8	1	1658
Totals	200	1906	1102	0	1615	4835

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	1.9%	0.0%	0.0%	0
B	7.3%	0.0%	3.8%	0.0%	3.2%	0
C	2.2%	2.7%	0.0%	0.0%	0.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	2.6%	1.3%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.0	0

**Forecast Flows (2023)**

Growth Factored Vehicles						
From/To	A	B	C	D	E	Totals
A	0	107	113	3	11	234
B	50	0	336	15	1136	1537
C	81	677	0	16	406	1181
D	0	4	4	0	13	21
E	11	1184	401	33	1	1629
Totals	142	1972	855	0	1567	4601

Growth Factored HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	1	0	0	1
B	3	0	15	0	79	97
C	4	14	0	0	12	30
D	0	0	0	0	0	0
E	3	57	13	0	0	73
Totals	11	71	29	0	91	201

Growth Factored Total						
From/To	A	B	C	D	E	Totals
A	0	107	114	3	11	235
B	53	0	351	15	1215	1634
C	86	691	0	16	418	1210
D	0	4	4	0	13	21
E	14	1241	414	33	1	1702
Totals	152	2043	883	0	1658	4802

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.9%	0.0%	0.0%	0
B	6.0%	0.0%	4.2%	0.0%	6.5%	0
C	4.9%	2.0%	0.0%	0.0%	2.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	23.1%	4.6%	3.1%	0.0%	0.0%	0
Average	0.1	0.0	0.0	0.0	0.0	0

Growth Factored Vehicles						
From/To	A	B	C	D	E	Totals
A	0	173	110	1	8	292
B	94	0	615	2	1225	1937
C	93	497	0	1	409	1000
D	5	10	4	0	23	42
E	10	1291	406	8	1	1715
Totals	202	1969	1135	0	1667	4966

Growth Factored HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	2	0	0	2
B	7	0	24	0	40	72
C	2	14	0	0	3	19
D	0	0	0	0	0	0
E	0	35	5	0	0	40
Totals	10	49	32	0	43	133

Growth Factored Total						
From/To	A	B	C	D	E	Totals
A	0	173	112	1	8	294
B	102	0	639	2	1265	2008
C	95	510	0	1	412	1019
D	5	10	4	0	23	42
E	10	1326	411	8	1	1755
Totals	212	2018	1167	0	1710	5119

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	1.9%	0.0%	0.0%	0
B	7.3%	0.0%	3.8%	0.0%	3.2%	0
C	2.2%	2.7%	0.0%	0.0%	0.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	2.6%	1.3%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.0	0

**Junction 10- A12 / A1214 Junction**



**Notes**

Link	Arm	Road Name
-	A	Main Road
-	B	A12 (south)
-	C	A1214
-	D	Ipswich Park and Ride Access
-	E	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	36	36
C	0	0	0	0	6	6
D	0	0	0	0	0	0
E	0	0	0	0	0	0
Totals	0	0	0	0	42	42

**PM Peak Traffic**

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	0	0
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	36	6	0	0	42
Totals	0	36	6	0	0	42

**HGVs**

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	11	11
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	11	0	0	0	11
Totals	0	11	0	0	11	21

**HGVs**

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	11	11
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	11	0	0	0	11
Totals	0	11	0	0	11	21

**Total**

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	46	46
C	0	0	0	0	6	6
D	0	0	0	0	0	0
E	0	11	0	0	0	11
Totals	0	11	0	0	52	63

**Total**

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	11	11
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	46	6	0	0	52
Totals	0	46	6	0	11	63

**%HGV**

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.0%	0.0%	0.0%	0
B	0.0%	0.0%	0.0%	0.0%	22.7%	0
C	0.0%	0.0%	0.0%	0.0%	0.0%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	100.0%	0.0%	0.0%	0.0%	0
Average	0.0	0.2	0.0	0.0	0.0	0

**%HGV**

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.0%	0.0%	0.0%	0
B	0.0%	0.0%	0.0%	0.0%	100.0%	0
C	0.0%	0.0%	0.0%	0.0%	0.0%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	22.7%	0.0%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.2	0

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	E	Totals
A	0	107	113	3	11	234
B	50	0	336	15	1172	1573
C	81	677	0	16	412	1186
D	0	4	4	0	13	21
E	11	1184	401	33	1	1629
Totals	142	1972	855	67	1608	4643

**PM Peak Traffic**

From/To	A	B	C	D	E	Totals
A	0	173	110	1	8	292
B	94	0	615	2	1225	1937
C	93	497	0	1	409	1000
D	5	10	4	0	23	42
E	10	1326	411	8	1	1757
Totals	202	2005	1141	13	1667	5028

**HGVs**

From/To	A	B	C	D	E	Totals
A	0	0	1	0	0	1
B	3	0	15	0	90	108
C	4	14	0	0	12	30
D	0	0	0	0	0	0
E	3	68	13	0	0	83
Totals	11	81	29	0	101	222

**HGVs**

From/To	A	B	C	D	E	Totals
A	0	0	2	0	0	2
B	7	0	24	0	51	82
C	2	14	0	0	3	19
D	0	0	0	0	0	0
E	0	45	5	0	0	51
Totals	10	59	32	0	54	154

**Total**

From/To	A	B	C	D	E	Totals
A	0	107	114	3	11	235
B	53	0	351	15	1262	1681
C	86	691	0	16	424	1216
D	0	4	4	0	13	21
E	14	1251	414	33	1	1713
Totals	152	2053	883	67	1710	4865

**Total**

From/To	A	B	C	D	E	Totals
A	0	173	112	1	8	294
B	102	0	639	2	1276	2019
C	95	510	0	1	412	1019
D	5	10	4	0	23	42
E	10	1372	417	8	1	1808
Totals	212	2064	1173	13	1720	5182

**%HGV**

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.9%	0.0%	0.0%	0
B	6.0%	0.0%	4.2%	0.0%	7.1%	0
C	4.9%	2.0%	0.0%	0.0%	2.7%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	23.1%	5.4%	3.1%	0.0%	0.0%	0
Average	0.1	0.0	0.0	0.0	0.0	0

**%HGV**

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	1.9%	0.0%	0.0%	0
B	7.3%	0.0%	3.8%	0.0%	4.0%	0
C	2.2%	2.7%	0.0%	0.0%	0.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	3.3%	1.3%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.0	0

**Junction 10- A12 / A1214 Junction**



**Notes**

Link	Arm	Road Name
-	A	Main Road
-	B	A12 (south)
-	C	A1214
-	D	Ipswich Park and Ride Access
-	E	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Thursday 6th June 2019: 07:45AM - 08:45AM

Vehicles						
From/To	A	B	C	D	E	Totals
A	0	101	107	3	10	221
B	47	0	318	14	1074	1453
C	77	640	0	15	384	1116
D	0	4	4	0	12	20
E	10	1119	379	31	1	1540
Totals	134	1864	808	63	1481	4350

HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	1	0	0	1
B	3	0	14	0	75	92
C	4	13	0	0	11	28
D	0	0	0	0	0	0
E	3	54	12	0	0	69
Totals	10	67	27	0	86	190

Total						
From/To	A	B	C	D	E	Totals
A	0	101	108	3	10	222
B	50	0	332	14	1149	1545
C	81	653	0	15	395	1144
D	0	4	4	0	12	20
E	13	1173	391	31	1	1609
Totals	144	1931	835	0	1567	4540

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.9%	0.0%	0.0%	0
B	6.0%	0.0%	4.2%	0.0%	6.5%	0
C	4.9%	2.0%	0.0%	0.0%	2.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	23.1%	4.6%	3.1%	0.0%	0.0%	0
Average	0.1	0.0	0.0	0.0	0.0	0

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:30PM - 17:30PM

Vehicles						
From/To	A	B	C	D	E	Totals
A	0	163	104	1	8	276
B	89	0	581	2	1157	1829
C	88	469	0	1	386	944
D	5	9	4	0	22	40
E	9	1219	383	8	1	1620
Totals	191	1860	1072	12	1574	4709

HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	2	0	0	2
B	7	0	23	0	38	68
C	2	13	0	1	3	18
D	0	0	0	0	0	0
E	0	33	5	0	0	38
Totals	9	46	30	0	41	126

Total						
From/To	A	B	C	D	E	Totals
A	0	163	106	1	8	278
B	96	0	604	2	1195	1897
C	90	482	0	1	389	962
D	5	9	4	0	22	40
E	9	1252	388	8	1	1658
Totals	200	1906	1102	0	1615	4835

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	1.9%	0.0%	0.0%	0
B	7.3%	0.0%	3.8%	0.0%	3.2%	0
C	2.2%	2.7%	0.0%	0.0%	0.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	2.6%	1.3%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.0	0

**Forecast Flows (2023)**

Growth Factored Vehicles						
From/To	A	B	C	D	E	Totals
A	0	107	113	3	11	234
B	50	0	336	15	1136	1537
C	81	677	0	16	406	1181
D	0	4	4	0	13	21
E	11	1184	401	33	1	1629
Totals	142	1972	855	0	1567	4601

Growth Factored HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	1	0	0	1
B	3	0	15	0	79	97
C	4	14	0	0	12	30
D	0	0	0	0	0	0
E	3	57	13	0	0	73
Totals	11	71	29	0	91	201

Growth Factored Total						
From/To	A	B	C	D	E	Totals
A	0	107	114	3	11	235
B	53	0	351	15	1215	1634
C	86	691	0	16	418	1210
D	0	4	4	0	13	21
E	14	1241	414	33	1	1702
Totals	152	2043	883	0	1658	4802

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.9%	0.0%	0.0%	0
B	6.0%	0.0%	4.2%	0.0%	6.5%	0
C	4.9%	2.0%	0.0%	0.0%	2.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	23.1%	4.6%	3.1%	0.0%	0.0%	0
Average	0.1	0.0	0.0	0.0	0.0	0

Growth Factored Vehicles						
From/To	A	B	C	D	E	Totals
A	0	173	110	1	8	292
B	94	0	615	2	1225	1937
C	93	497	0	1	409	1000
D	5	10	4	0	23	42
E	10	1291	406	8	1	1715
Totals	202	1969	1135	0	1667	4966

Growth Factored HGVs						
From/To	A	B	C	D	E	Totals
A	0	0	2	0	0	2
B	7	0	24	0	40	72
C	2	14	0	0	3	19
D	0	0	0	0	0	0
E	0	35	5	0	0	40
Totals	10	49	32	0	43	133

Growth Factored Total						
From/To	A	B	C	D	E	Totals
A	0	173	112	1	8	294
B	102	0	639	2	1265	2008
C	95	510	0	1	412	1019
D	5	10	4	0	23	42
E	10	1326	411	8	1	1755
Totals	212	2018	1167	0	1710	5119

%HGV						
From/To	A	B	C	D	E	Average
A	0.0%	0.0%	1.9%	0.0%	0.0%	0
B	7.3%	0.0%	3.8%	0.0%	3.2%	0
C	2.2%	2.7%	0.0%	0.0%	0.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	2.6%	1.3%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.0	0

Junction 10- A12 / A1214 Junction



Notes

Link	Arm	Road Name
-	A	Main Road
-	B	A12 (south)
-	C	A1214
-	D	Ipswich Park and Ride Access
-	E	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	44	44
C	0	0	0	0	7	7
D	0	0	0	0	0	0
E	0	0	0	0	0	0
Totals	0	0	0	0	52	52

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	14	14
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	14	0	0	0	14
Totals	0	14	0	0	14	27

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	58	58
C	0	0	0	0	7	7
D	0	0	0	0	0	0
E	0	14	0	0	0	14
Totals	0	14	0	0	65	79

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.0%	0.0%	0.0%	0
B	0.0%	0.0%	0.0%	0.0%	23.3%	0
C	0.0%	0.0%	0.0%	0.0%	0.0%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	100.0%	0.0%	0.0%	0.0%	0
Average	0.0	0.2	0.0	0.0	0.0	0

PM Peak Traffic

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	0	0
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	44	7	0	0	52
Totals	0	44	7	0	0	52

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	14	14
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	14	0	0	0	14
Totals	0	14	0	0	14	27

From/To	A	B	C	D	E	Totals
A	0	0	0	0	0	0
B	0	0	0	0	14	14
C	0	0	0	0	0	0
D	0	0	0	0	0	0
E	0	58	7	0	0	65
Totals	0	58	7	0	14	79

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.0%	0.0%	0.0%	0
B	0.0%	0.0%	0.0%	0.0%	100.0%	0
C	0.0%	0.0%	0.0%	0.0%	0.0%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	23.3%	0.0%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.2	0

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

From/To	A	B	C	D	E	Totals
A	0	107	113	3	11	234
B	50	0	336	15	1180	1581
C	81	677	0	16	414	1188
D	0	4	4	0	13	21
E	11	1184	401	33	1	1629
Totals	142	1972	855	67	1618	4653

From/To	A	B	C	D	E	Totals
A	0	0	1	0	0	1
B	3	0	15	0	93	111
C	4	14	0	0	12	30
D	0	0	0	0	0	0
E	3	71	13	0	0	86
Totals	11	84	29	0	104	228

From/To	A	B	C	D	E	Totals
A	0	107	114	3	11	235
B	53	0	351	15	1273	1692
C	86	691	0	16	425	1217
D	0	4	4	0	13	21
E	14	1254	414	33	1	1716
Totals	152	2056	883	67	1723	4881

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	0.9%	0.0%	0.0%	0
B	6.0%	0.0%	4.2%	0.0%	7.3%	0
C	4.9%	2.0%	0.0%	0.0%	2.7%	0
D	23.1%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	5.6%	3.1%	0.0%	0.0%	0
Average	0.1	0.0	0.0	0.0	0.0	0

PM Peak Traffic

From/To	A	B	C	D	E	Totals
A	0	173	110	1	8	292
B	94	0	615	2	1225	1937
C	93	497	0	1	409	1000
D	5	10	4	0	23	42
E	10	1335	413	8	1	1767
Totals	202	2014	1142	13	1667	5038

From/To	A	B	C	D	E	Totals
A	0	0	2	0	0	2
B	7	0	24	0	54	85
C	2	14	0	0	3	19
D	0	0	0	0	0	0
E	0	48	5	0	0	54
Totals	10	62	32	0	57	160

From/To	A	B	C	D	E	Totals
A	0	173	112	1	8	294
B	102	0	639	2	1279	2022
C	95	510	0	1	412	1019
D	5	10	4	0	23	42
E	10	1383	418	8	1	1821
Totals	212	2076	1174	13	1723	5198

From/To	A	B	C	D	E	Average
A	0.0%	0.0%	1.9%	0.0%	0.0%	0
B	7.3%	0.0%	3.8%	0.0%	4.2%	0
C	2.2%	2.7%	0.0%	0.0%	0.8%	0
D	0.0%	0.0%	0.0%	0.0%	0.0%	0
E	0.0%	3.5%	1.3%	0.0%	0.0%	0
Average	0.0	0.0	0.0	0.0	0.0	0



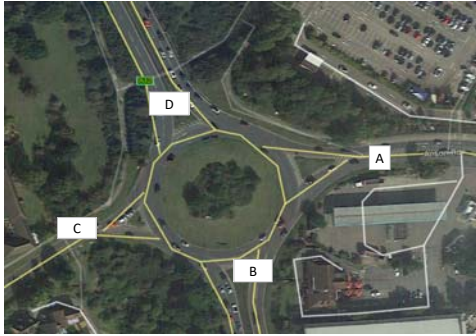


**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 11

Junction 11 - A12 / Anson Road / Eagle Way Junction



Notes

Link	Arm	Road Name
-	A	Anson Road
-	B	A12 (south)
-	C	Eagle Way
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

Vehicles

From/To	A	B	C	D	Totals
A	0	63	93	204	360
B	189	0	22	1074	1285
C	69	16	0	143	228
D	581	1294	40	0	1915
Totals	839	1373	155	1421	3788

HGVs

From/To	A	B	C	D	Totals
A	0	8	1	11	20
B	9	0	0	78	87
C	0	2	0	5	7
D	20	45	1	0	66
Totals	29	55	2	94	180

Total

From/To	A	B	C	D	Totals
A	0	71	94	215	380
B	198	0	22	1152	1372
C	69	18	0	148	235
D	601	1339	41	0	1981
Totals	868	1428	157	1515	3968

%HGV

From/To	A	B	C	D	Average
A	0.0%	11.3%	1.1%	5.1%	4%
B	4.5%	0.0%	0.0%	6.8%	3%
C	0.0%	11.1%	0.0%	3.4%	4%
D	3.3%	3.4%	2.4%	0.0%	2%
Average	2%	6%	1%	4%	3%

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:45PM - 17:45PM

Vehicles

From/To	A	B	C	D	Totals
A	0	299	115	633	1047
B	252	0	45	1164	1461
C	30	14	0	79	123
D	481	1302	34	0	1817
Totals	763	1615	194	1876	4448

HGVs

From/To	A	B	C	D	Totals
A	0	4	0	6	10
B	0	0	0	43	43
C	0	1	0	4	5
D	6	29	0	0	35
Totals	6	34	0	53	93

Total

From/To	A	B	C	D	Totals
A	0	303	115	639	1057
B	252	0	45	1207	1504
C	30	15	0	83	128
D	487	1331	34	0	1852
Totals	769	1649	194	1929	4541

%HGV

From/To	A	B	C	D	Average
A	0.0%	1.3%	0.0%	0.9%	1%
B	0.0%	0.0%	0.0%	3.6%	1%
C	0.0%	6.7%	0.0%	4.8%	3%
D	1.2%	2.2%	0.0%	0.0%	1%
Average	0%	3%	0%	2%	1%

**Forecast Flows (2023)**

Growth Factored Vehicles

From/To	A	B	C	D	Totals
A	0	67	98	216	381
B	200	0	23	1136	1359
C	73	17	0	151	241
D	615	1369	42	0	2026
Totals	887	1452	164	1503	4007

Growth Factored HGVs

From/To	A	B	C	D	Totals
A	0	8	1	12	21
B	10	0	0	83	92
C	0	2	0	5	7
D	21	48	1	0	70
Totals	31	58	2	99	190

Growth Factored Total

From/To	A	B	C	D	Totals
A	0	75	99	227	402
B	209	0	23	1219	1451
C	73	19	0	157	249
D	636	1416	43	0	2096
Totals	918	1511	166	1603	4197

%HGV

From/To	A	B	C	D	Average
A	0.0%	11.3%	1.1%	5.1%	4%
B	4.5%	0.0%	0.0%	6.8%	3%
C	0.0%	11.1%	0.0%	3.4%	4%
D	3.3%	3.4%	2.4%	0.0%	2%
Average	2%	6%	1%	4%	3%

Growth Factored Vehicles

From/To	A	B	C	D	Totals
A	0	317	122	670	1109
B	267	0	48	1232	1547
C	32	15	0	84	130
D	509	1379	36	0	1924
Totals	808	1710	205	1986	4710

Growth Factored HGVs

From/To	A	B	C	D	Totals
A	0	4	0	6	11
B	0	0	0	46	46
C	0	1	0	4	5
D	6	31	0	0	37
Totals	6	36	0	56	98

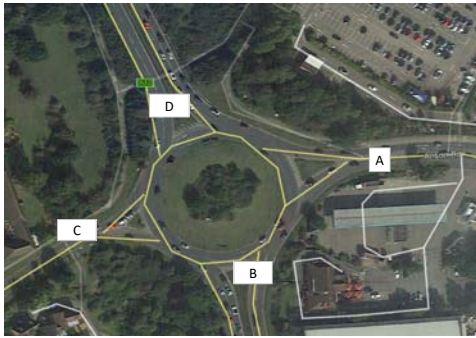
Growth Factored Total

From/To	A	B	C	D	Totals
A	0	321	122	677	1119
B	267	0	48	1278	1592
C	32	16	0	88	136
D	516	1409	36	0	1961
Totals	814	1746	205	2042	4808

%HGV

From/To	A	B	C	D	Average
A	0.0%	1.3%	0.0%	0.9%	1%
B	0.0%	0.0%	0.0%	3.6%	1%
C	0.0%	6.7%	0.0%	4.8%	3%
D	1.2%	2.2%	0.0%	0.0%	1%
Average	0%	3%	0%	2%	1%

Junction 11 - A12 / Anson Road / Eagle Way Junction



Notes

Link	Arm	Road Name
-	A	Anson Road
-	B	A12 (south)
-	C	Eagle Way
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	31	31
C	0	0	0	5	5
D	0	0	0	0	0
Totals	0	0	0	36	36

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	41	41
C	0	0	0	5	5
D	0	11	0	0	11
Totals	0	11	0	46	57

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	25.4%	6%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	6%	8%

PM Peak Traffic

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	31	5	0	36
Totals	0	31	5	0	36

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	41	5	0	46
Totals	0	41	5	11	57

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	25.4%	0.0%	0.0%	6%
Average	0%	6%	0%	25%	8%

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

Vehicles					
From/To	A	B	C	D	Totals
A	0	67	98	216	381
B	200	0	23	1167	1390
C	73	17	0	156	246
D	615	1369	42	0	2026
Totals	887	1452	164	1539	4043

HGVs					
From/To	A	B	C	D	Totals
A	0	8	1	12	21
B	10	0	0	93	103
C	0	2	0	5	7
D	21	58	1	0	80
Totals	31	69	2	110	211

Total					
From/To	A	B	C	D	Totals
A	0	75	99	227	402
B	209	0	23	1260	1493
C	73	19	0	161	254
D	636	1427	43	0	2106
Totals	918	1521	166	1649	4254

%HGV					
From/To	A	B	C	D	Average
A	0.0%	11.3%	1.1%	5.1%	4%
B	4.5%	0.0%	0.0%	7.4%	3%
C	0.0%	11.1%	0.0%	3.3%	4%
D	3.3%	4.1%	2.4%	0.0%	2%
Average	2%	7%	1%	4%	3%

PM Peak Traffic

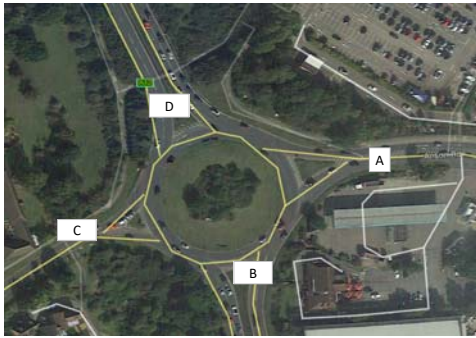
Vehicles					
From/To	A	B	C	D	Totals
A	0	317	122	670	1109
B	267	0	48	1232	1547
C	32	15	0	84	130
D	509	1409	41	0	1960
Totals	808	1741	210	1986	4745

HGVs					
From/To	A	B	C	D	Totals
A	0	4	0	6	11
B	0	0	0	56	56
C	0	1	0	4	5
D	6	41	0	0	48
Totals	6	46	0	67	119

Total					
From/To	A	B	C	D	Totals
A	0	321	122	677	1119
B	267	0	48	1288	1603
C	32	16	0	88	136
D	516	1451	41	0	2007
Totals	814	1787	210	2053	4865

%HGV					
From/To	A	B	C	D	Average
A	0.0%	1.3%	0.0%	0.9%	1%
B	0.0%	0.0%	0.0%	4.3%	1%
C	0.0%	6.7%	0.0%	4.8%	3%
D	1.2%	2.8%	0.0%	0.0%	1%
Average	0%	3%	0%	3%	1%

Junction 11 - A12 / Anson Road / Eagle Way Junction



Notes

Link	Arm	Road Name
-	A	Anson Road
-	B	A12 (south)
-	C	Eagle Way
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

Vehicles

From/To	A	B	C	D	Totals
A	0	63	93	204	360
B	189	0	22	1074	1285
C	69	16	0	143	228
D	581	1294	40	0	1915
Totals	839	1373	155	1421	3788

HGVs

From/To	A	B	C	D	Totals
A	0	8	1	11	20
B	9	0	0	78	87
C	0	2	0	5	7
D	20	45	1	0	66
Totals	29	55	2	94	180

Total

From/To	A	B	C	D	Totals
A	0	71	94	215	380
B	198	0	22	1152	1372
C	69	18	0	148	235
D	601	1339	41	0	1981
Totals	868	1428	157	1515	3968

%HGV

From/To	A	B	C	D	Average
A	0.0%	11.3%	1.1%	5.1%	4%
B	4.5%	0.0%	0.0%	6.8%	3%
C	0.0%	11.1%	0.0%	3.4%	4%
D	3.3%	3.4%	2.4%	0.0%	2%
Average	2%	6%	1%	4%	3%

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:45PM - 17:45PM

Vehicles

From/To	A	B	C	D	Totals
A	0	299	115	633	1047
B	252	0	45	1164	1461
C	30	14	0	79	123
D	481	1302	34	0	1817
Totals	763	1615	194	1876	4448

HGVs

From/To	A	B	C	D	Totals
A	0	4	0	6	10
B	0	0	0	43	43
C	0	1	0	4	5
D	6	29	0	0	35
Totals	6	34	0	53	93

Total

From/To	A	B	C	D	Totals
A	0	303	115	639	1057
B	252	0	45	1207	1504
C	30	15	0	83	128
D	487	1331	34	0	1852
Totals	769	1649	194	1929	4541

%HGV

From/To	A	B	C	D	Average
A	0.0%	1.3%	0.0%	0.9%	1%
B	0.0%	0.0%	0.0%	3.6%	1%
C	0.0%	6.7%	0.0%	4.8%	3%
D	1.2%	2.2%	0.0%	0.0%	1%
Average	0%	3%	0%	2%	1%

**Forecast Flows (2023)**

Growth Factored Vehicles

From/To	A	B	C	D	Totals
A	0	67	98	216	381
B	200	0	23	1136	1359
C	73	17	0	151	241
D	615	1369	42	0	2026
Totals	887	1452	164	1503	4007

Growth Factored HGVs

From/To	A	B	C	D	Totals
A	0	8	1	12	21
B	10	0	0	83	92
C	0	2	0	5	7
D	21	48	1	0	70
Totals	31	58	2	99	190

Growth Factored Total

From/To	A	B	C	D	Totals
A	0	75	99	227	402
B	209	0	23	1219	1451
C	73	19	0	157	249
D	636	1416	43	0	2096
Totals	918	1511	166	1603	4197

%HGV

From/To	A	B	C	D	Average
A	0.0%	11.3%	1.1%	5.1%	4%
B	4.5%	0.0%	0.0%	6.8%	3%
C	0.0%	11.1%	0.0%	3.4%	4%
D	3.3%	3.4%	2.4%	0.0%	2%
Average	2%	6%	1%	4%	3%

Growth Factored Vehicles

From/To	A	B	C	D	Totals
A	0	317	122	670	1109
B	267	0	48	1232	1547
C	32	15	0	84	131
D	509	1379	36	0	1924
Totals	808	1710	205	1986	4710

Growth Factored HGVs

From/To	A	B	C	D	Totals
A	0	4	0	6	11
B	0	0	0	46	46
C	0	1	0	4	5
D	6	31	0	0	37
Totals	6	36	0	56	98

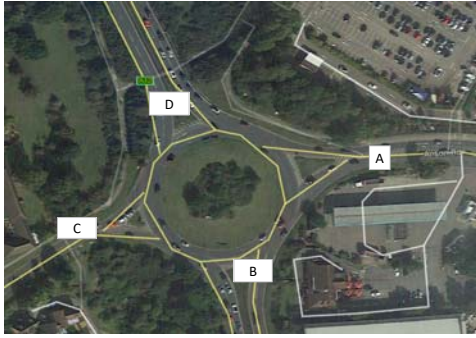
Growth Factored Total

From/To	A	B	C	D	Totals
A	0	321	122	677	1119
B	267	0	48	1278	1592
C	32	16	0	88	136
D	516	1409	36	0	1961
Totals	814	1746	205	2042	4808

%HGV

From/To	A	B	C	D	Average
A	0.0%	1.3%	0.0%	0.9%	1%
B	0.0%	0.0%	0.0%	3.6%	1%
C	0.0%	6.7%	0.0%	4.8%	3%
D	1.2%	2.2%	0.0%	0.0%	1%
Average	0%	3%	0%	2%	1%

Junction 11 - A12 / Anson Road / Eagle Way Junction



Notes

Link	Arm	Road Name
-	A	Anson Road
-	B	A12 (south)
-	C	Eagle Way
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	38	38
C	0	0	0	6	6
D	0	0	0	0	0
Totals	0	0	0	44	44

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	52	52
C	0	0	0	6	6
D	0	14	0	0	14
Totals	0	14	0	58	71

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	26.1%	7%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	7%	8%

PM Peak Traffic

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	38	6	0	44
Totals	0	38	6	0	44

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	52	6	0	58
Totals	0	52	6	14	71

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	26.1%	0.0%	0.0%	7%
Average	0%	7%	0%	25%	8%

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

AM Peak Traffic

Vehicles					
From/To	A	B	C	D	Totals
A	0	67	98	216	381
B	200	0	23	1174	1398
C	73	17	0	157	247
D	615	1369	42	0	2026
Totals	887	1452	164	1548	4051

HGVs					
From/To	A	B	C	D	Totals
A	0	8	1	12	21
B	10	0	0	96	106
C	0	2	0	5	7
D	21	61	1	0	83
Totals	31	72	2	113	217

Total					
From/To	A	B	C	D	Totals
A	0	75	99	227	402
B	209	0	23	1270	1503
C	73	19	0	163	255
D	636	1430	43	0	2109
Totals	918	1524	166	1660	4269

%HGV					
From/To	A	B	C	D	Average
A	0.0%	11.3%	1.1%	5.1%	4%
B	4.5%	0.0%	0.0%	7.6%	3%
C	0.0%	11.1%	0.0%	3.3%	4%
D	3.3%	4.3%	2.4%	0.0%	3%
Average	2%	7%	1%	4%	3%

PM Peak Traffic

Vehicles					
From/To	A	B	C	D	Totals
A	0	317	122	670	1109
B	267	0	48	1232	1547
C	32	15	0	84	130
D	509	1417	42	0	1968
Totals	808	1748	212	1986	4754

HGVs					
From/To	A	B	C	D	Totals
A	0	4	0	6	11
B	0	0	0	59	59
C	0	1	0	4	5
D	6	44	0	0	51
Totals	6	49	0	70	125

Total					
From/To	A	B	C	D	Totals
A	0	321	122	677	1119
B	267	0	48	1291	1606
C	32	16	0	88	136
D	516	1461	42	0	2019
Totals	814	1798	212	2056	4879

%HGV					
From/To	A	B	C	D	Average
A	0.0%	1.3%	0.0%	0.9%	1%
B	0.0%	0.0%	0.0%	4.6%	1%
C	0.0%	6.7%	0.0%	4.8%	3%
D	1.2%	3.0%	0.0%	0.0%	1%
Average	0%	3%	0%	3%	1%

<b>Junctions 8</b>
<b>ARCADY 8 - Roundabout Module</b>
Version: 8.0.6.541 [19821.26/11/2015] © Copyright TRL Limited, 2019
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<b>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</b>

Filename: Junction 11 - A12 and Eagle Way and Anson Road.arc8

Path: C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

Report generation date: 18/07/2019 16:43:45

## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Background 2019</b>								
Arm 1	0.49	4.22	0.33	A	5.82	18.86	0.86	C
Arm 2	1.11	2.66	0.53	A	1.71	3.74	0.63	A
Arm 3	0.46	6.37	0.31	A	0.34	8.70	0.25	A
Arm 4	4.72	7.96	0.83	A	3.20	5.72	0.76	A
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b>								
Arm 1	0.58	4.72	0.37	A	20.04	59.69	0.99	F
Arm 2	1.40	3.06	0.58	A	2.19	4.51	0.69	A
Arm 3	0.61	7.90	0.38	A	0.45	10.97	0.31	B
Arm 4	7.75	12.51	0.89	B	5.19	8.60	0.84	A
<b>Existing Layout - Forecast Background + EA1N Construction 2023</b>								
Arm 1	0.57	4.70	0.37	A	18.69	56.15	0.98	F
Arm 2	1.38	3.02	0.58	A	2.18	4.49	0.69	A
Arm 3	0.60	7.75	0.37	A	0.45	10.91	0.31	B
Arm 4	7.58	12.24	0.89	B	5.02	8.36	0.84	A
<b>Existing Layout - Forecast Background 2023</b>								
Arm 1	0.56	4.62	0.36	A	13.27	41.17	0.95	E
Arm 2	1.27	2.88	0.56	A	2.09	4.33	0.68	A
Arm 3	0.55	7.24	0.36	A	0.44	10.62	0.31	B
Arm 4	7.01	11.35	0.88	B	4.27	7.25	0.81	A

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

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D4 - Forecast Background + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Background 2019, AM" model duration: 08:00 - 09:30

"D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:43:39

## File summary

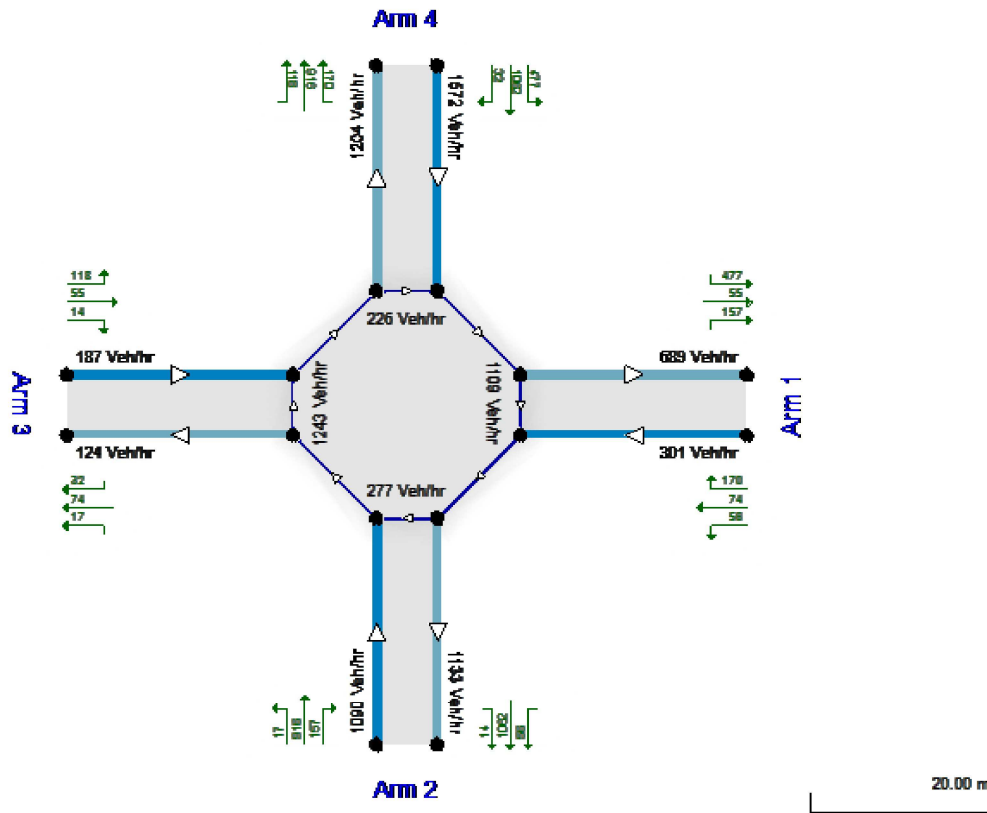
Title	East Anglia ONE North Offshore Windfarm
Location	Roundabout junction of the A12, Eagle Way and Anson Road
Site Number	J11
Date	25/06/2019
Version	D0.1
Status	Existing Layout
Identifier	
Client	Scottish Power
Jobnumber	PB4842
Enumerator	304111
Description	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

### 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



Showing modelled flow through junction (Veh/h)  
 Time Segment: (08:00-08:15)  
 Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"  
 The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				7.48	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	401.00	100.000
2	ONE HOUR	✓	1451.00	100.000
3	ONE HOUR	✓	249.00	100.000
4	ONE HOUR	✓	2095.00	100.000



## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	301.89	317.81		
08:00-08:15	2	1092.39	1161.87		
08:00-08:15	3	187.46	193.07		
08:00-08:15	4	1577.23	1630.05		
08:15-08:30	1	360.49	379.50		
08:15-08:30	2	1304.42	1387.39		
08:15-08:30	3	223.85	230.54		
08:15-08:30	4	1883.36	1946.44		
08:30-08:45	1	441.51	464.79		
08:30-08:45	2	1597.58	1699.20		
08:30-08:45	3	274.15	282.35		
08:30-08:45	4	2306.64	2383.89		
08:45-09:00	1	441.51	464.79		
08:45-09:00	2	1597.58	1699.20		
08:45-09:00	3	274.15	282.35		
08:45-09:00	4	2306.64	2383.89		
09:00-09:15	1	360.49	379.50		
09:00-09:15	2	1304.42	1387.39		
09:00-09:15	3	223.85	230.54		
09:00-09:15	4	1883.36	1946.44		
09:15-09:30	1	301.89	317.81		
09:15-09:30	2	1092.39	1161.87		
09:15-09:30	3	187.46	193.07		
09:15-09:30	4	1577.23	1630.05		

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.000	75.000	99.000	227.000
	2	209.000	0.000	23.000	1219.000
	3	73.000	19.000	0.000	157.000
	4	636.000	1416.000	43.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.19	0.25	0.57
	2	0.14	0.00	0.02	0.84
	3	0.29	0.08	0.00	0.63
	4	0.30	0.68	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.113	1.011	1.051
	2	1.045	1.000	1.000	1.068
	3	1.000	1.111	1.000	1.034
	4	1.033	1.034	1.024	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.0	11.3	1.1	5.1
	2	4.5	0.0	0.0	6.8
	3	0.0	11.1	0.0	3.4

4 | 3.3 | 3.4 | 2.4 | 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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.36	4.62	0.56	A	367.96	551.95	34.55	3.76	0.38	34.55	3.76
2	0.56	2.88	1.27	A	1331.46	1997.19	79.87	2.40	0.89	79.88	2.40
3	0.36	7.24	0.55	A	228.49	342.73	31.70	5.55	0.35	31.70	5.55
4	0.88	11.35	7.01	B	1922.41	2883.62	308.53	6.42	3.43	308.55	6.42

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	301.89	75.47	300.91	688.83	1108.74	0.00	1519.83	1121.27	0.199	0.00	0.25	2.950	A
2	1092.39	273.10	1090.03	1132.77	276.89	0.00	2942.58	2442.17	0.371	0.00	0.59	1.940	A
3	187.46	46.86	186.62	123.82	1243.09	0.00	1076.89	131.42	0.174	0.00	0.21	4.040	A
4	1577.23	394.31	1571.62	1203.76	225.96	0.00	2692.25	2570.98	0.586	0.00	1.40	3.197	A

### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	360.49	90.12	360.09	823.83	1325.94	0.00	1394.51	1121.27	0.259	0.25	0.35	3.480	A
2	1304.42	326.10	1303.52	1354.71	331.32	0.00	2903.01	2442.17	0.449	0.59	0.81	2.249	A
3	223.85	55.96	223.46	148.14	1486.71	0.00	948.38	131.42	0.236	0.21	0.31	4.964	A
4	1883.36	470.84	1879.46	1439.84	270.32	0.00	2661.67	2570.98	0.708	1.40	2.38	4.579	A

### Main results: (08:30-08:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	441.51	110.38	440.67	1004.94	1615.17	0.00	1227.64	1121.27	0.360	0.35	0.56	4.570	A
2	1597.58	399.39	1595.76	1650.59	405.24	0.00	2849.26	2442.17	0.561	0.81	1.27	2.868	A
3	274.15	68.54	273.21	181.08	1819.93	0.00	772.60	131.42	0.355	0.31	0.54	7.196	A
4	2306.64	576.66	2289.30	1762.33	330.80	0.00	2619.98	2570.98	0.880	2.38	6.71	10.382	B

### Main results: (08:45-09:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	441.51	110.38	441.49	1010.36	1626.47	0.00	1221.12	1121.27	0.362	0.56	0.56	4.617	A
2	1597.58	399.39	1597.56	1661.73	406.23	0.00	2848.54	2442.17	0.561	1.27	1.27	2.877	A
3	274.15	68.54	274.14	181.64	1822.16	0.00	771.43	131.42	0.355	0.54	0.55	7.238	A
4	2306.64	576.66	2305.44	1764.90	331.40	0.00	2619.57	2570.98	0.881	6.71	7.01	11.346	B

### Main results: (09:00-09:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	360.49	90.12	361.33	831.32	1341.44	0.00	1385.58	1121.27	0.260	0.56	0.35	3.516	A
2	1304.42	326.10	1306.23	1369.99	332.78	0.00	2901.95	2442.17	0.450	1.27	0.82	2.258	A
3	223.85	55.96	224.79	148.94	1490.07	0.00	946.61	131.42	0.236	0.55	0.31	4.995	A
4	1883.36	470.84	1901.56	1443.66	271.20	0.00	2661.07	2570.98	0.708	7.01	2.46	4.849	A

### Main results: (09:15-09:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	301.89	75.47	302.31	692.63	1115.63	0.00	1515.85	1121.27	0.199	0.35	0.25	2.969	A
2	1092.39	273.10	1093.30	1139.71	278.23	0.00	2941.61	2442.17	0.371	0.82	0.59	1.948	A
3	187.46	46.86	187.86	124.42	1247.10	0.00	1074.78	131.42	0.174	0.31	0.21	4.062	A
4	1577.23	394.31	1581.37	1208.07	226.89	0.00	2691.61	2570.98	0.586	2.46	1.43	3.256	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.64	0.24	2.950	A	A
2	8.69	0.58	1.940	A	A
3	3.07	0.20	4.040	A	A
4	20.40	1.36	3.197	A	A

### Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.12	0.34	3.480	A	A
2	12.01	0.80	2.249	A	A
3	4.51	0.30	4.964	A	A
4	34.28	2.29	4.579	A	A

### Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.17	0.54	4.570	A	A
2	18.60	1.24	2.868	A	A
3	7.88	0.53	7.196	A	A
4	88.71	5.91	10.382	B	B

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.42	0.56	4.617	A	A
2	19.06	1.27	2.877	A	A
3	8.19	0.55	7.238	A	A
4	103.40	6.89	11.346	B	B

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.41	0.36	3.516	A	A
2	12.51	0.83	2.258	A	A
3	4.80	0.32	4.995	A	A
4	39.71	2.65	4.849	A	A

### Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.80	0.25	2.969	A	A
2	9.00	0.60	1.948	A	A
3	3.25	0.22	4.062	A	A
4	22.02	1.47	3.256	A	A

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Forecast Background	Forecast Background	PM		ONE HOUR	16:45	18:15	90	15				✓		

2023, PM

2023

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				14.19	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1120.00	100.000

2	ONE HOUR	✓	1593.00	100.000
3	ONE HOUR	✓	136.00	100.000
4	ONE HOUR	✓	1961.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	843.19	850.92		
16:45-17:00	2	1199.29	1233.93		
16:45-17:00	3	102.39	106.38		
16:45-17:00	4	1476.34	1504.34		
17:00-17:15	1	1006.86	1016.09		
17:00-17:15	2	1432.07	1473.43		
17:00-17:15	3	122.26	127.02		
17:00-17:15	4	1762.90	1796.33		
17:15-17:30	1	1233.14	1244.45		
17:15-17:30	2	1753.93	1804.58		
17:15-17:30	3	149.74	155.57		
17:15-17:30	4	2159.10	2200.05		
17:30-17:45	1	1233.14	1244.45		
17:30-17:45	2	1753.93	1804.58		
17:30-17:45	3	149.74	155.57		
17:30-17:45	4	2159.10	2200.05		
17:45-18:00	1	1006.86	1016.09		
17:45-18:00	2	1432.07	1473.43		
17:45-18:00	3	122.26	127.02		
17:45-18:00	4	1762.90	1796.33		
18:00-18:15	1	843.19	850.92		
18:00-18:15	2	1199.29	1233.93		
18:00-18:15	3	102.39	106.38		
18:00-18:15	4	1476.34	1504.34		

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.000	321.000	122.000	677.000
	2	267.000	0.000	48.000	1278.000
	3	32.000	16.000	0.000	88.000
	4	516.000	1409.000	36.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.29	0.11	0.60
	2	0.17	0.00	0.03	0.80
	3	0.24	0.12	0.00	0.65
	4	0.26	0.72	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.013	1.000	1.009
	2	1.000	1.000	1.000	1.036
	3	1.000	1.067	1.000	1.048
	4	1.012	1.022	1.000	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4

		1	2	3	4
From	1	0.0	1.3	0.0	0.9
	2	0.0	0.0	0.0	3.6
	3	0.0	6.7	0.0	4.8
	4	1.2	2.2	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.95	41.17	13.27	E	1027.73	1541.59	414.42	16.13	4.60	414.45	16.13
2	0.68	4.33	2.09	A	1461.77	2192.65	117.62	3.22	1.31	117.62	3.22
3	0.31	10.62	0.44	B	124.80	187.19	22.87	7.33	0.25	22.87	7.33
4	0.81	7.25	4.27	A	1799.46	2699.18	214.01	4.76	2.38	214.03	4.76

### Main Results for each time segment

#### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	843.19	210.80	838.79	611.71	1096.41	0.00	1600.97	1121.03	0.527	0.00	1.10	4.696	A
2	1199.30	299.82	1196.30	1309.79	625.40	0.00	2793.49	2631.85	0.429	0.00	0.75	2.250	A
3	102.39	25.60	101.86	154.43	1667.27	0.00	877.96	87.78	0.117	0.00	0.13	4.635	A
4	1476.35	369.09	1471.67	1532.68	236.46	0.00	2728.85	2570.25	0.541	0.00	1.17	2.853	A

#### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1006.85	251.71	1002.84	731.62	1311.33	0.00	1473.21	1121.03	0.683	1.10	2.10	7.589	A
2	1432.08	358.02	1430.60	1566.44	747.73	0.00	2704.19	2631.85	0.530	0.75	1.12	2.824	A
3	122.26	30.57	121.97	184.66	1993.67	0.00	713.59	87.78	0.171	0.13	0.21	6.082	A
4	1762.91	440.73	1760.13	1832.81	282.83	0.00	2697.52	2570.25	0.654	1.17	1.86	3.829	A

#### Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1233.14	308.28	1198.19	894.06	1601.65	0.00	1300.63	1121.03	0.948	2.10	10.84	28.676	D
2	1753.93	438.48	1750.20	1905.60	894.25	0.00	2597.25	2631.85	0.675	1.12	2.05	4.231	A
3	149.74	37.43	148.87	222.72	2421.74	0.00	497.90	87.78	0.301	0.21	0.42	10.289	B
4	2159.11	539.78	2149.83	2224.70	345.89	0.00	2654.91	2570.25	0.813	1.86	4.18	7.001	A

#### Main results: (17:30-17:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1233.14	308.28	1223.41	897.20	1608.33	0.00	1296.66	1121.03	0.951	10.84	13.27	41.174	E
2	1753.93	438.48	1753.76	1919.34	912.41	0.00	2583.99	2631.85	0.679	2.05	2.09	4.334	A
3	149.74	37.43	149.69	225.74	2440.43	0.00	488.58	87.78	0.306	0.42	0.44	10.619	B
4	2159.11	539.78	2158.77	2243.33	346.78	0.00	2654.31	2570.25	0.813	4.18	4.27	7.251	A

#### Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1006.85	251.71	1050.95	735.99	1320.46	0.00	1467.78	1121.03	0.686	13.27	2.25	9.527	A
2	1432.08	358.02	1435.82	1589.14	782.28	0.00	2678.97	2631.85	0.535	2.09	1.16	2.906	A
3	122.26	30.57	123.15	190.28	2027.82	0.00	696.58	87.78	0.176	0.44	0.21	6.289	A
4	1762.91	440.73	1772.34	1866.86	284.12	0.00	2696.64	2570.25	0.654	4.27	1.91	3.935	A

#### Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS

1	843.19	210.80	847.66	614.68	1102.09	0.00	1597.59	1121.03	0.528	2.25	1.13	4.828	A
2	1199.30	299.82	1200.89	1317.88	631.87	0.00	2788.76	2631.85	0.430	1.16	0.76	2.270	A
3	102.39	25.60	102.71	155.68	1677.09	0.00	873.04	87.78	0.117	0.21	0.13	4.674	A
4	1476.35	369.09	1479.24	1542.27	237.53	0.00	2728.12	2570.25	0.541	1.91	1.19	2.888	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.90	1.06	4.696	A	A
2	11.03	0.74	2.250	A	A
3	1.92	0.13	4.635	A	A
4	17.10	1.14	2.853	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.86	1.99	7.589	A	A
2	16.45	1.10	2.824	A	A
3	3.00	0.20	6.082	A	A
4	27.10	1.81	3.829	A	A

### Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	122.35	8.16	28.676	D	C
2	29.64	1.98	4.231	A	A
3	6.09	0.41	10.289	B	B
4	58.15	3.88	7.001	A	A

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	183.18	12.21	41.174	E	D
2	31.18	2.08	4.334	A	A
3	6.49	0.43	10.619	B	B
4	63.53	4.24	7.251	A	A

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	45.56	3.04	9.527	A	A
2	17.78	1.19	2.906	A	A
3	3.32	0.22	6.289	A	A
4	29.90	1.99	3.935	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.57	1.17	4.828	A	A
2	11.55	0.77	2.270	A	A
3	2.05	0.14	4.674	A	A
4	18.23	1.22	2.888	A	A

# Existing Layout - Forecast Background + EA1N Construction 2023, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Forecast Background + EA1N Construction 2023, AM	Forecast Background + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				7.97	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓



## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	401.00	100.000
2	ONE HOUR	✓	1492.00	100.000
3	ONE HOUR	✓	253.00	100.000
4	ONE HOUR	✓	2106.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	301.89	317.81		
08:00-08:15	2	1123.26	1201.48		
08:00-08:15	3	190.47	196.06		
08:00-08:15	4	1585.51	1646.13		
08:15-08:30	1	360.49	379.50		
08:15-08:30	2	1341.28	1434.69		
08:15-08:30	3	227.44	234.11		
08:15-08:30	4	1893.25	1965.64		
08:30-08:45	1	441.51	464.79		
08:30-08:45	2	1642.72	1757.12		
08:30-08:45	3	278.56	286.73		
08:30-08:45	4	2318.75	2407.41		
08:45-09:00	1	441.51	464.79		
08:45-09:00	2	1642.72	1757.12		
08:45-09:00	3	278.56	286.73		
08:45-09:00	4	2318.75	2407.41		
09:00-09:15	1	360.49	379.50		
09:00-09:15	2	1341.28	1434.69		
09:00-09:15	3	227.44	234.11		
09:00-09:15	4	1893.25	1965.64		
09:15-09:30	1	301.89	317.81		
09:15-09:30	2	1123.26	1201.48		
09:15-09:30	3	190.47	196.06		
09:15-09:30	4	1585.51	1646.13		

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.000	75.000	99.000	227.000
	2	209.000	0.000	23.000	1260.000
	3	73.000	19.000	0.000	161.000
	4	636.000	1427.000	43.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.19	0.25	0.57
	2	0.14	0.00	0.02	0.84
	3	0.29	0.08	0.00	0.64
	4	0.30	0.68	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To

		1	2	3	4
From	1	1.000	1.113	1.011	1.051
	2	1.045	1.000	1.000	1.075
	3	1.000	1.111	1.000	1.033
	4	1.033	1.041	1.024	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.0	11.3	1.1	5.1
	2	4.5	0.0	0.0	7.5
	3	0.0	11.1	0.0	3.3
	4	3.3	4.1	2.4	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.37	4.70	0.57	A	367.96	551.95	34.98	3.80	0.39	34.98	3.80
2	0.58	3.02	1.38	A	1369.09	2053.63	85.42	2.50	0.95	85.42	2.50
3	0.37	7.75	0.60	A	232.16	348.23	33.84	5.83	0.38	33.84	5.83
4	0.89	12.24	7.58	B	1932.50	2898.75	326.09	6.75	3.62	326.12	6.75

### Main Results for each time segment

#### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	301.89	75.47	300.90	688.79	1116.92	0.00	1510.94	1113.67	0.200	0.00	0.25	2.972	A
2	1123.26	280.81	1120.77	1140.94	276.88	0.00	2926.00	2433.13	0.384	0.00	0.62	1.992	A
3	190.47	47.62	189.60	123.82	1273.83	0.00	1057.89	130.63	0.180	0.00	0.22	4.141	A
4	1585.50	396.38	1579.76	1237.49	225.94	0.00	2679.94	2567.48	0.592	0.00	1.44	3.255	A

#### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	360.49	90.12	360.08	823.77	1335.70	0.00	1383.90	1113.67	0.260	0.25	0.35	3.514	A
2	1341.28	335.32	1340.31	1364.46	331.31	0.00	2886.65	2433.13	0.465	0.62	0.86	2.327	A
3	227.44	56.86	227.02	148.13	1523.48	0.00	925.47	130.63	0.246	0.22	0.32	5.150	A
4	1893.25	473.31	1889.15	1480.19	270.30	0.00	2649.51	2567.48	0.715	1.44	2.46	4.709	A

#### Main results: (08:30-08:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	441.51	110.38	440.65	1004.40	1626.06	0.00	1215.27	1113.67	0.363	0.35	0.57	4.643	A
2	1642.72	410.68	1640.70	1661.53	405.19	0.00	2833.24	2433.13	0.580	0.86	1.37	3.013	A
3	278.56	69.64	277.49	181.04	1864.86	0.00	744.38	130.63	0.374	0.32	0.59	7.693	A
4	2318.74	579.69	2299.73	1811.61	330.74	0.00	2608.04	2567.48	0.889	2.46	7.21	11.053	B

#### Main results: (08:45-09:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	441.51	110.38	441.48	1010.28	1638.40	0.00	1208.12	1113.67	0.365	0.57	0.57	4.695	A
2	1642.72	410.68	1642.70	1673.65	406.23	0.00	2832.49	2433.13	0.580	1.37	1.38	3.025	A
3	278.56	69.64	278.54	181.63	1867.29	0.00	743.09	130.63	0.375	0.59	0.60	7.749	A
4	2318.74	579.69	2317.28	1814.44	331.40	0.00	2607.59	2567.48	0.889	7.21	7.58	12.241	B

#### Main results: (09:00-09:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	360.49	90.12	361.35	831.92	1352.69	0.00	1374.03	1113.67	0.262	0.57	0.36	3.559	A

2	1341.28	335.32	1343.29	1381.22	332.83	0.00	2885.55	2433.13	0.465	1.38	0.87	2.336	A
3	227.44	56.86	228.50	148.99	1527.13	0.00	923.53	130.63	0.246	0.60	0.33	5.189	A
4	1893.25	473.31	1913.35	1484.38	271.26	0.00	2648.85	2567.48	0.715	7.58	2.55	5.025	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	301.89	75.47	302.32	692.70	1124.07	0.00	1506.78	1113.67	0.200	0.36	0.25	2.991	A
2	1123.26	280.81	1124.25	1148.15	278.24	0.00	2925.02	2433.13	0.384	0.87	0.63	2.001	A
3	190.47	47.62	190.90	124.43	1278.05	0.00	1055.66	130.63	0.180	0.33	0.22	4.166	A
4	1585.50	396.38	1589.86	1242.04	226.90	0.00	2679.29	2567.48	0.592	2.55	1.46	3.316	A

**Queueing Delay Results for each time segment****Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.66	0.24	2.972	A	A
2	9.16	0.61	1.992	A	A
3	3.20	0.21	4.141	A	A
4	20.87	1.39	3.255	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.17	0.34	3.514	A	A
2	12.76	0.85	2.327	A	A
3	4.75	0.32	5.150	A	A
4	35.38	2.36	4.709	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.29	0.55	4.643	A	A
2	20.06	1.34	3.013	A	A
3	8.54	0.57	7.693	A	A
4	94.36	6.29	11.053	B	B

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.56	0.57	4.695	A	A
2	20.59	1.37	3.025	A	A
3	8.90	0.59	7.749	A	A
4	111.48	7.43	12.241	B	B

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.47	0.36	3.559	A	A
2	13.33	0.89	2.336	A	A
3	5.07	0.34	5.189	A	A
4	41.43	2.76	5.025	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.83	0.26	2.991	A	A
2	9.51	0.63	2.001	A	A
3	3.39	0.23	4.166	A	A
4	22.58	1.51	3.316	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, PM

**Data Errors and Warnings**

Severity	Area	Item	Description

Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
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## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Forecast Background + EA1N Construction 2023, PM	Forecast Background + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				17.97	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1120.00	100.000
2	ONE HOUR	✓	1603.00	100.000
3	ONE HOUR	✓	136.00	100.000
4	ONE HOUR	✓	2008.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	843.19	850.92		
16:45-17:00	2	1206.82	1250.46		
16:45-17:00	3	102.39	106.38		
16:45-17:00	4	1511.73	1549.16		
17:00-17:15	1	1006.86	1016.09		
17:00-17:15	2	1441.06	1493.17		
17:00-17:15	3	122.26	127.02		
17:00-17:15	4	1805.15	1849.85		
17:15-17:30	1	1233.14	1244.45		
17:15-17:30	2	1764.94	1828.75		
17:15-17:30	3	149.74	155.57		
17:15-17:30	4	2210.85	2265.59		
17:30-17:45	1	1233.14	1244.45		
17:30-17:45	2	1764.94	1828.75		
17:30-17:45	3	149.74	155.57		
17:30-17:45	4	2210.85	2265.59		
17:45-18:00	1	1006.86	1016.09		
17:45-18:00	2	1441.06	1493.17		
17:45-18:00	3	122.26	127.02		
17:45-18:00	4	1805.15	1849.85		
18:00-18:15	1	843.19	850.92		
18:00-18:15	2	1206.82	1250.46		
18:00-18:15	3	102.39	106.38		
18:00-18:15	4	1511.73	1549.16		

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.000	321.000	122.000	677.000
	2	267.000	0.000	48.000	1288.000
	3	32.000	16.000	0.000	88.000
	4	516.000	1451.000	41.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4

From	1	0.00	0.29	0.11	0.60
	2	0.17	0.00	0.03	0.80
	3	0.24	0.12	0.00	0.65
	4	0.26	0.72	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.013	1.000	1.009
	2	1.000	1.000	1.000	1.045
	3	1.000	1.067	1.000	1.048
	4	1.012	1.030	1.000	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.0	1.3	0.0	0.9
	2	0.0	0.0	0.0	4.5
	3	0.0	6.7	0.0	4.8
	4	1.2	3.0	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.98	56.15	18.69	F	1027.73	1541.59	522.69	20.34	5.81	522.71	20.34
2	0.69	4.49	2.18	A	1470.94	2206.41	121.82	3.31	1.35	121.82	3.31
3	0.31	10.91	0.45	B	124.80	187.19	23.37	7.49	0.26	23.37	7.49
4	0.84	8.36	5.02	A	1842.58	2763.87	241.60	5.24	2.68	241.62	5.25

### Main Results for each time segment

#### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	843.19	210.80	838.64	611.65	1131.52	0.00	1575.07	1107.99	0.535	0.00	1.14	4.858	A
2	1206.82	301.70	1203.75	1341.13	629.05	0.00	2771.24	2616.46	0.435	0.00	0.77	2.293	A
3	102.39	25.60	101.86	158.16	1674.64	0.00	869.92	89.64	0.118	0.00	0.13	4.684	A
4	1511.73	377.93	1506.74	1540.04	236.45	0.00	2713.41	2558.81	0.557	0.00	1.25	2.971	A

#### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1006.85	251.71	1002.42	731.53	1353.30	0.00	1442.26	1107.99	0.698	1.14	2.25	8.103	A
2	1441.06	360.27	1439.52	1603.80	751.92	0.00	2682.19	2616.46	0.537	0.77	1.15	2.893	A
3	122.26	30.57	121.96	189.09	2002.34	0.00	704.04	89.64	0.174	0.13	0.21	6.182	A
4	1805.15	451.29	1802.03	1841.50	282.81	0.00	2682.26	2558.81	0.673	1.25	2.03	4.075	A

#### Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1233.14	308.28	1186.46	893.53	1651.73	0.00	1263.53	1107.99	0.976	2.25	13.92	35.029	E
2	1764.93	441.23	1761.02	1946.88	891.32	0.00	2581.15	2616.46	0.684	1.15	2.13	4.368	A
3	149.74	37.43	148.84	226.88	2425.48	0.00	489.63	89.64	0.306	0.21	0.43	10.537	B
4	2210.85	552.71	2199.42	2228.46	345.85	0.00	2639.91	2558.81	0.837	2.03	4.89	7.972	A

#### Main results: (17:30-17:45)

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Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1233.14	308.28	1214.04	897.15	1659.94	0.00	1258.61	1107.99	0.980	13.92	18.69	56.152	F
2	1764.93	441.23	1764.74	1962.77	911.22	0.00	2566.73	2616.46	0.688	2.13	2.18	4.487	A
3	149.74	37.43	149.68	230.22	2445.75	0.00	479.51	89.64	0.312	0.43	0.45	10.911	B
4	2210.85	552.71	2210.34	2248.66	346.77	0.00	2639.29	2558.81	0.838	4.89	5.02	8.364	A

### Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1006.85	251.71	1071.90	736.54	1364.47	0.00	1435.57	1107.99	0.701	18.69	2.43	11.674	B
2	1441.06	360.27	1444.95	1634.60	801.79	0.00	2646.03	2616.46	0.545	2.18	1.20	3.008	A
3	122.26	30.57	123.17	197.13	2049.61	0.00	680.50	89.64	0.180	0.45	0.22	6.471	A
4	1805.15	451.29	1816.87	1888.63	284.15	0.00	2681.36	2558.81	0.673	5.02	2.09	4.220	A

### Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	843.19	210.80	848.23	614.78	1137.78	0.00	1571.33	1107.99	0.537	2.43	1.17	5.012	A
2	1206.82	301.70	1208.53	1349.95	636.06	0.00	2766.16	2616.46	0.436	1.20	0.78	2.313	A
3	102.39	25.60	102.73	159.52	1685.07	0.00	864.68	89.64	0.118	0.22	0.14	4.728	A
4	1511.73	377.93	1515.01	1550.25	237.55	0.00	2712.67	2558.81	0.557	2.09	1.27	3.013	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.43	1.10	4.858	A	A
2	11.30	0.75	2.293	A	A
3	1.94	0.13	4.684	A	A
4	18.21	1.21	2.971	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	31.74	2.12	8.103	A	A
2	16.95	1.13	2.893	A	A
3	3.05	0.20	6.182	A	A
4	29.44	1.96	4.075	A	A

### Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	147.98	9.87	35.029	E	D
2	30.74	2.05	4.368	A	A
3	6.22	0.41	10.537	B	B
4	67.01	4.47	7.972	A	A

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	247.68	16.51	56.152	F	E
2	32.43	2.16	4.487	A	A
3	6.66	0.44	10.911	B	B
4	74.52	4.97	8.364	A	A

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	60.59	4.04	11.674	B	B
2	18.53	1.24	3.008	A	A
3	3.42	0.23	6.471	A	A
4	32.92	2.19	4.220	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	18.26	1.22	5.012	A	A
2	11.86	0.79	2.313	A	A

3	2.07	0.14	4.728	A	A
4	19.50	1.30	3.013	A	A

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Forecast Background + EA2 + EA1N Construction 2023, AM	Forecast Background + EA2 + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				8.12	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	



## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	401.00	100.000
2	ONE HOUR	✓	1502.00	100.000
3	ONE HOUR	✓	255.00	100.000
4	ONE HOUR	✓	2109.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	301.89	317.81		
08:00-08:15	2	1130.78	1210.53		
08:00-08:15	3	191.98	197.61		
08:00-08:15	4	1587.77	1650.64		
08:15-08:30	1	360.49	379.50		
08:15-08:30	2	1350.27	1445.49		
08:15-08:30	3	229.24	235.97		
08:15-08:30	4	1895.95	1971.02		
08:30-08:45	1	441.51	464.79		
08:30-08:45	2	1653.73	1770.36		
08:30-08:45	3	280.76	289.00		
08:30-08:45	4	2322.05	2414.00		
08:45-09:00	1	441.51	464.79		
08:45-09:00	2	1653.73	1770.36		
08:45-09:00	3	280.76	289.00		
08:45-09:00	4	2322.05	2414.00		
09:00-09:15	1	360.49	379.50		
09:00-09:15	2	1350.27	1445.49		
09:00-09:15	3	229.24	235.97		
09:00-09:15	4	1895.95	1971.02		
09:15-09:30	1	301.89	317.81		
09:15-09:30	2	1130.78	1210.53		
09:15-09:30	3	191.98	197.61		
09:15-09:30	4	1587.77	1650.64		

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

To

		1	2	3	4
From	1	0.000	75.000	99.000	227.000
	2	209.000	0.000	23.000	1270.000
	3	73.000	19.000	0.000	163.000
	4	636.000	1430.000	43.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.19	0.25	0.57
	2	0.14	0.00	0.02	0.85
	3	0.29	0.07	0.00	0.64
	4	0.30	0.68	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.113	1.011	1.051
	2	1.045	1.000	1.000	1.076
	3	1.000	1.111	1.000	1.033
	4	1.033	1.043	1.024	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.0	11.3	1.1	5.1
	2	4.5	0.0	0.0	7.6
	3	0.0	11.1	0.0	3.3
	4	3.3	4.3	2.4	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.37	4.72	0.58	A	367.96	551.95	35.11	3.82	0.39	35.11	3.82
2	0.58	3.06	1.40	A	1378.26	2067.40	86.74	2.52	0.96	86.74	2.52
3	0.38	7.90	0.61	A	233.99	350.99	34.59	5.91	0.38	34.59	5.91
4	0.89	12.51	7.75	B	1935.25	2902.87	331.34	6.85	3.68	331.36	6.85

### Main Results for each time segment

#### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	301.89	75.47	300.90	688.77	1119.15	0.00	1508.45	1111.72	0.200	0.00	0.25	2.978	A
2	1130.79	282.70	1128.27	1143.18	276.88	0.00	2923.60	2432.35	0.387	0.00	0.63	2.003	A
3	191.98	47.99	191.09	123.82	1281.32	0.00	1053.40	130.43	0.182	0.00	0.22	4.170	A
4	1587.76	396.94	1581.98	1246.48	225.94	0.00	2676.44	2566.06	0.593	0.00	1.45	3.272	A

#### Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	360.49	90.12	360.08	823.75	1338.35	0.00	1380.92	1111.72	0.261	0.25	0.35	3.524	A
2	1350.27	337.57	1349.28	1367.12	331.31	0.00	2884.28	2432.35	0.468	0.63	0.88	2.344	A
3	229.24	57.31	228.81	148.13	1532.45	0.00	920.09	130.43	0.249	0.22	0.33	5.204	A
4	1895.94	473.99	1891.79	1490.97	270.30	0.00	2646.04	2566.06	0.717	1.45	2.48	4.746	A

#### Main results: (08:30-08:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	441.51	110.38	440.64	1004.24	1629.01	0.00	1211.83	1111.72	0.364	0.35	0.57	4.663	A
2	1653.74	413.43	1651.67	1664.47	405.17	0.00	2830.92	2432.35	0.584	0.88	1.39	3.047	A
3	280.76	70.19	279.66	181.02	1875.81	0.00	737.82	130.43	0.381	0.33	0.61	7.839	A
4	2322.05	580.51	2302.52	1824.74	330.72	0.00	2604.64	2566.06	0.892	2.48	7.36	11.255	B

### Main results: (08:45-09:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	441.51	110.38	441.48	1010.26	1641.64	0.00	1204.48	1111.72	0.367	0.57	0.58	4.717	A
2	1653.74	413.43	1653.71	1676.89	406.22	0.00	2830.16	2432.35	0.584	1.39	1.40	3.059	A
3	280.76	70.19	280.74	181.63	1878.29	0.00	736.50	130.43	0.381	0.61	0.61	7.898	A
4	2322.05	580.51	2320.49	1827.64	331.40	0.00	2604.18	2566.06	0.892	7.36	7.75	12.514	B

### Main results: (09:00-09:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	360.49	90.12	361.36	832.11	1355.82	0.00	1370.77	1111.72	0.263	0.58	0.36	3.571	A
2	1350.27	337.57	1352.33	1384.32	332.85	0.00	2883.17	2432.35	0.468	1.40	0.89	2.356	A
3	229.24	57.31	230.34	149.00	1536.18	0.00	918.12	130.43	0.250	0.61	0.34	5.244	A
4	1895.94	473.99	1916.64	1495.24	271.28	0.00	2645.38	2566.06	0.717	7.75	2.58	5.077	A

### Main results: (09:15-09:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	301.89	75.47	302.32	692.72	1126.37	0.00	1504.24	1111.72	0.201	0.36	0.25	2.997	A
2	1130.79	282.70	1131.79	1150.45	278.24	0.00	2922.61	2432.35	0.387	0.89	0.63	2.011	A
3	191.98	47.99	192.42	124.43	1285.60	0.00	1051.13	130.43	0.183	0.34	0.22	4.195	A
4	1587.76	396.94	1592.18	1251.11	226.91	0.00	2675.78	2566.06	0.593	2.58	1.47	3.337	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.67	0.24	2.978	A	A
2	9.27	0.62	2.003	A	A
3	3.25	0.22	4.170	A	A
4	21.00	1.40	3.272	A	A

### Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.19	0.35	3.524	A	A
2	12.94	0.86	2.344	A	A
3	4.83	0.32	5.204	A	A
4	35.70	2.38	4.746	A	A

### Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.33	0.56	4.663	A	A
2	20.42	1.36	3.047	A	A
3	8.76	0.58	7.839	A	A
4	96.04	6.40	11.255	B	B

### Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.60	0.57	4.717	A	A
2	20.96	1.40	3.059	A	A
3	9.14	0.61	7.898	A	A
4	113.93	7.60	12.514	B	B

### Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.49	0.37	3.571	A	A
2	13.52	0.90	2.356	A	A

3	5.17	0.34	5.244	A	A
4	41.94	2.80	5.077	A	A

### Queueing Delay results: (09:15-09:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.84	0.26	2.997	A	A
2	9.63	0.64	2.011	A	A
3	3.44	0.23	4.195	A	A
4	22.74	1.52	3.337	A	A

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Forecast Background + EA2 + EA1N Construction 2023, PM	Forecast Background + EA2 + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				18.84	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1120.00	100.000
2	ONE HOUR	✓	1606.00	100.000
3	ONE HOUR	✓	136.00	100.000
4	ONE HOUR	✓	2019.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	843.19	850.92		
16:45-17:00	2	1209.08	1253.79		
16:45-17:00	3	102.39	106.38		
16:45-17:00	4	1520.01	1557.67		
17:00-17:15	1	1006.86	1016.09		
17:00-17:15	2	1443.76	1497.15		
17:00-17:15	3	122.26	127.02		
17:00-17:15	4	1815.04	1860.01		
17:15-17:30	1	1233.14	1244.45		
17:15-17:30	2	1768.24	1833.62		
17:15-17:30	3	149.74	155.57		
17:15-17:30	4	2222.96	2278.04		
17:30-17:45	1	1233.14	1244.45		
17:30-17:45	2	1768.24	1833.62		
17:30-17:45	3	149.74	155.57		
17:30-17:45	4	2222.96	2278.04		
17:45-18:00	1	1006.86	1016.09		
17:45-18:00	2	1443.76	1497.15		
17:45-18:00	3	122.26	127.02		
17:45-18:00	4	1815.04	1860.01		
18:00-18:15	1	843.19	850.92		
18:00-18:15	2	1209.08	1253.79		
18:00-18:15	3	102.39	106.38		

18:00-18:15	4	1520.01	1557.67		
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## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.000	321.000	122.000	677.000
	2	267.000	0.000	48.000	1291.000
	3	32.000	16.000	0.000	88.000
	4	516.000	1461.000	42.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.29	0.11	0.60
	2	0.17	0.00	0.03	0.80
	3	0.24	0.12	0.00	0.65
	4	0.26	0.72	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.013	1.000	1.009
	2	1.000	1.000	1.000	1.046
	3	1.000	1.067	1.000	1.048
	4	1.012	1.030	1.000	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.0	1.3	0.0	0.9
	2	0.0	0.0	0.0	4.6
	3	0.0	6.7	0.0	4.8
	4	1.2	3.0	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.99	59.69	20.04	F	1027.73	1541.59	548.92	21.36	6.10	548.95	21.37
2	0.69	4.51	2.19	A	1473.69	2210.54	122.68	3.33	1.36	122.68	3.33
3	0.31	10.97	0.45	B	124.80	187.19	23.47	7.52	0.26	23.47	7.52
4	0.84	8.60	5.19	A	1852.66	2778.99	247.52	5.34	2.75	247.54	5.34

### Main Results for each time segment

#### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	843.19	210.80	838.61	611.64	1139.76	0.00	1570.16	1105.57	0.537	0.00	1.15	4.891	A
2	1209.08	302.27	1205.99	1348.59	629.78	0.00	2768.53	2614.93	0.437	0.00	0.77	2.299	A
3	102.39	25.60	101.86	158.91	1676.87	0.00	868.30	90.00	0.118	0.00	0.13	4.694	A
4	1520.00	380.00	1514.95	1542.27	236.45	0.00	2713.36	2559.39	0.560	0.00	1.26	2.992	A

#### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1006.85	251.71	1002.33	731.52	1363.13	0.00	1436.38	1105.57	0.701	1.15	2.28	8.208	A
2	1443.76	360.94	1442.20	1612.72	752.75	0.00	2679.47	2614.93	0.539	0.77	1.16	2.905	A
3	122.26	30.57	121.96	189.98	2004.98	0.00	702.11	90.00	0.174	0.13	0.21	6.202	A
4	1815.03	453.76	1811.83	1844.12	282.81	0.00	2682.21	2559.39	0.677	1.26	2.06	4.121	A

### Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1233.14	308.28	1183.75	893.42	1663.47	0.00	1256.52	1105.57	0.981	2.28	14.62	36.416	E
2	1768.23	442.06	1764.29	1956.75	890.48	0.00	2579.73	2614.93	0.685	1.16	2.15	4.394	A
3	149.74	37.43	148.83	227.67	2427.11	0.00	488.06	90.00	0.307	0.21	0.44	10.584	B
4	2222.95	555.74	2211.03	2230.10	345.85	0.00	2639.86	2559.39	0.842	2.06	5.04	8.175	A

### Main results: (17:30-17:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1233.14	308.28	1211.45	897.14	1672.02	0.00	1251.40	1105.57	0.985	14.62	20.04	59.687	F
2	1768.23	442.06	1768.04	1973.00	910.47	0.00	2565.24	2614.93	0.689	2.15	2.19	4.514	A
3	149.74	37.43	149.68	231.04	2447.47	0.00	477.89	90.00	0.313	0.44	0.45	10.965	B
4	2222.95	555.74	2222.39	2250.39	346.77	0.00	2639.24	2559.39	0.842	5.04	5.19	8.605	A

### Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1006.85	251.71	1077.15	736.66	1374.77	0.00	1429.41	1105.57	0.704	20.04	2.47	12.277	B
2	1443.76	360.94	1447.68	1645.47	806.44	0.00	2640.56	2614.93	0.547	2.19	1.22	3.027	A
3	122.26	30.57	123.17	198.61	2055.52	0.00	676.95	90.00	0.181	0.45	0.22	6.513	A
4	1815.03	453.76	1827.27	1894.53	284.15	0.00	2681.31	2559.39	0.677	5.19	2.12	4.275	A

### Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	843.19	210.80	848.35	614.80	1146.13	0.00	1566.34	1105.57	0.538	2.47	1.18	5.050	A
2	1209.08	302.27	1210.81	1357.59	636.90	0.00	2763.37	2614.93	0.438	1.22	0.78	2.320	A
3	102.39	25.60	102.74	160.29	1687.42	0.00	862.99	90.00	0.119	0.22	0.14	4.738	A
4	1520.00	380.00	1523.37	1552.59	237.56	0.00	2712.61	2559.39	0.560	2.12	1.28	3.037	A

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.53	1.10	4.891	A	A
2	11.36	0.76	2.299	A	A
3	1.94	0.13	4.694	A	A
4	18.43	1.23	2.992	A	A

### Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	32.12	2.14	8.208	A	A
2	17.05	1.14	2.905	A	A
3	3.06	0.20	6.202	A	A
4	29.91	1.99	4.121	A	A

### Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	153.62	10.24	36.416	E	D
2	30.96	2.06	4.394	A	A
3	6.25	0.42	10.584	B	B
4	68.93	4.60	8.175	A	A

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	263.20	17.55	59.687	F	E

2	32.68	2.18	4.514	A	A
3	6.69	0.45	10.965	B	B
4	76.95	5.13	8.605	A	A

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	65.04	4.34	12.277	B	B
2	18.70	1.25	3.027	A	A
3	3.44	0.23	6.513	A	A
4	33.55	2.24	4.275	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	18.40	1.23	5.050	A	A
2	11.92	0.79	2.320	A	A
3	2.08	0.14	4.738	A	A
4	19.75	1.32	3.037	A	A

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Background 2019, AM	Background 2019	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				5.64	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00



2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	380.00	100.000
2	ONE HOUR	✓	1372.00	100.000
3	ONE HOUR	✓	235.00	100.000
4	ONE HOUR	✓	1981.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	286.08	301.16		
08:00-08:15	2	1032.91	1098.60		
08:00-08:15	3	176.92	182.21		
08:00-08:15	4	1491.40	1541.35		
08:15-08:30	1	341.61	359.61		
08:15-08:30	2	1233.40	1311.83		
08:15-08:30	3	211.26	217.58		
08:15-08:30	4	1780.88	1840.52		
08:30-08:45	1	418.39	440.43		
08:30-08:45	2	1510.60	1606.66		
08:30-08:45	3	258.74	266.48		
08:30-08:45	4	2181.12	2254.17		
08:45-09:00	1	418.39	440.43		
08:45-09:00	2	1510.60	1606.66		
08:45-09:00	3	258.74	266.48		
08:45-09:00	4	2181.12	2254.17		
09:00-09:15	1	341.61	359.61		
09:00-09:15	2	1233.40	1311.83		
09:00-09:15	3	211.26	217.58		

09:00-09:15	4	1780.88	1840.52		
09:15-09:30	1	286.08	301.16		
09:15-09:30	2	1032.91	1098.60		
09:15-09:30	3	176.92	182.21		
09:15-09:30	4	1491.40	1541.35		

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.000	71.000	94.000	215.000
	2	198.000	0.000	22.000	1152.000
	3	69.000	18.000	0.000	148.000
	4	601.000	1339.000	41.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.19	0.25	0.57
	2	0.14	0.00	0.02	0.84
	3	0.29	0.08	0.00	0.63
	4	0.30	0.68	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.113	1.011	1.051
	2	1.045	1.000	1.000	1.068
	3	1.000	1.111	1.000	1.034
	4	1.033	1.034	1.024	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.0	11.3	1.1	5.1
	2	4.5	0.0	0.0	6.8
	3	0.0	11.1	0.0	3.4
	4	3.3	3.4	2.4	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.33	4.22	0.49	A	348.69	523.04	30.60	3.51	0.34	30.60	3.51
2	0.53	2.66	1.11	A	1258.97	1888.46	71.14	2.26	0.79	71.14	2.26
3	0.31	6.37	0.46	A	215.64	323.46	27.24	5.05	0.30	27.24	5.05
4	0.83	7.96	4.72	A	1817.80	2726.70	231.20	5.09	2.57	231.21	5.09

### Main Results for each time segment

#### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	286.08	71.52	285.18	651.46	1049.02	0.00	1554.33	1121.22	0.184	0.00	0.22	2.835	A
2	1032.91	258.23	1030.77	1071.54	262.67	0.00	2952.98	2441.80	0.350	0.00	0.54	1.871	A

3	176.92	44.23	176.17	117.84	1175.59	0.00	1112.50	132.05	0.159	0.00	0.19	3.841	A
4	1491.40	372.85	1486.50	1137.79	213.98	0.00	2700.51	2570.32	0.552	0.00	1.22	2.953	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	341.61	85.40	341.27	779.20	1254.66	0.00	1435.68	1121.22	0.238	0.22	0.31	3.289	A
2	1233.40	308.35	1232.62	1281.63	314.30	0.00	2915.44	2441.80	0.423	0.54	0.73	2.138	A
3	211.26	52.82	210.94	140.98	1405.94	0.00	990.99	132.05	0.213	0.19	0.27	4.613	A
4	1780.88	445.22	1777.88	1360.90	255.98	0.00	2671.55	2570.32	0.667	1.22	1.97	4.014	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	418.39	104.60	417.69	952.05	1531.82	0.00	1275.77	1121.22	0.328	0.31	0.48	4.191	A
2	1510.60	377.65	1509.09	1564.94	384.57	0.00	2864.35	2441.80	0.527	0.73	1.11	2.654	A
3	258.74	64.69	258.01	172.45	1721.21	0.00	824.68	132.05	0.314	0.27	0.45	6.345	A
4	2181.12	545.28	2170.57	1665.92	313.30	0.00	2632.04	2570.32	0.829	1.97	4.61	7.631	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	418.39	104.60	418.37	955.55	1538.92	0.00	1271.67	1121.22	0.329	0.48	0.49	4.218	A
2	1510.60	377.65	1510.59	1571.96	385.34	0.00	2863.80	2441.80	0.527	1.11	1.11	2.659	A
3	258.74	64.69	258.73	172.85	1723.08	0.00	823.70	132.05	0.314	0.45	0.46	6.371	A
4	2181.12	545.28	2180.68	1668.01	313.79	0.00	2631.71	2570.32	0.829	4.61	4.72	7.961	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	341.61	85.40	342.30	784.01	1264.33	0.00	1430.10	1121.22	0.239	0.49	0.32	3.313	A
2	1233.40	308.35	1234.90	1291.21	315.43	0.00	2914.62	2441.80	0.423	1.11	0.74	2.144	A
3	211.26	52.82	211.99	141.56	1408.78	0.00	989.50	132.05	0.214	0.46	0.27	4.634	A
4	1780.88	445.22	1791.65	1364.07	256.70	0.00	2671.06	2570.32	0.667	4.72	2.03	4.143	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	286.08	71.52	286.44	654.64	1054.70	0.00	1551.06	1121.22	0.184	0.32	0.23	2.849	A
2	1032.91	258.23	1033.70	1077.28	263.85	0.00	2952.12	2441.80	0.350	0.74	0.54	1.879	A
3	176.92	44.23	177.25	118.36	1179.19	0.00	1110.61	132.05	0.159	0.27	0.19	3.858	A
4	1491.40	372.85	1494.54	1141.64	214.80	0.00	2699.94	2570.32	0.552	2.03	1.24	2.995	A

**Queuing Delay Results for each time segment****Queuing Delay results: (08:00-08:15)**

Arm	Queuing Total Delay (Veh-min)	Queuing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.31	0.22	2.835	A	A
2	7.93	0.53	1.871	A	A
3	2.76	0.18	3.841	A	A
4	17.87	1.19	2.953	A	A

**Queuing Delay results: (08:15-08:30)**

Arm	Queuing Total Delay (Veh-min)	Queuing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.59	0.31	3.289	A	A
2	10.81	0.72	2.138	A	A
3	3.96	0.26	4.613	A	A
4	28.64	1.91	4.014	A	A

**Queuing Delay results: (08:30-08:45)**

Arm	Queuing Total Delay (Veh-min)	Queuing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.12	0.47	4.191	A	A
2	16.32	1.09	2.654	A	A
3	6.60	0.44	6.345	A	A
4	63.55	4.24	7.631	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.30	0.49	4.218	A	A
2	16.67	1.11	2.659	A	A
3	6.82	0.45	6.371	A	A
4	70.17	4.68	7.961	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.81	0.32	3.313	A	A
2	11.22	0.75	2.144	A	A
3	4.19	0.28	4.634	A	A
4	31.86	2.12	4.143	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.45	0.23	2.849	A	A
2	8.20	0.55	1.879	A	A
3	2.91	0.19	3.858	A	A
4	19.11	1.27	2.995	A	A

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Background 2019, PM	Background 2019	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
11	A12, Eagle Way, Anson Road	Roundabout	1,2,3,4				8.17	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Anson Road	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	5.00	10.92	8.17	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.587	2273.381
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.686	2943.384

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	1057.00	100.000
2	ONE HOUR	✓	1504.00	100.000
3	ONE HOUR	✓	128.00	100.000
4	ONE HOUR	✓	1852.00	100.000

## Direct/Resultant Flows

### Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowinPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	795.77	803.06		
16:45-17:00	2	1132.29	1165.00		
16:45-17:00	3	96.37	100.12		
16:45-17:00	4	1394.28	1420.73		
17:00-17:15	1	950.22	958.93		
17:00-17:15	2	1352.07	1391.13		
17:00-17:15	3	115.07	119.55		
17:00-17:15	4	1664.91	1696.49		
17:15-17:30	1	1163.78	1174.45		
17:15-17:30	2	1655.93	1703.78		
17:15-17:30	3	140.93	146.42		
17:15-17:30	4	2039.09	2077.76		
17:30-17:45	1	1163.78	1174.45		
17:30-17:45	2	1655.93	1703.78		
17:30-17:45	3	140.93	146.42		
17:30-17:45	4	2039.09	2077.76		

17:45-18:00	1	950.22	958.93		
17:45-18:00	2	1352.07	1391.13		
17:45-18:00	3	115.07	119.55		
17:45-18:00	4	1664.91	1696.49		
18:00-18:15	1	795.77	803.06		
18:00-18:15	2	1132.29	1165.00		
18:00-18:15	3	96.37	100.12		
18:00-18:15	4	1394.28	1420.73		

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.000	303.000	115.000	639.000
	2	252.000	0.000	45.000	1207.000
	3	30.000	15.000	0.000	83.000
	4	487.000	1331.000	34.000	0.000

### Turning Proportions (Veh) - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.29	0.11	0.60
	2	0.17	0.00	0.03	0.80
	3	0.23	0.12	0.00	0.65
	4	0.26	0.72	0.02	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.013	1.000	1.009
	2	1.000	1.000	1.000	1.036
	3	1.000	1.067	1.000	1.048
	4	1.012	1.022	1.000	1.000

### Heavy Vehicle Percentages - Junction 11 (for whole period)

		To			
		1	2	3	4
From	1	0.0	1.3	0.0	0.9
	2	0.0	0.0	0.0	3.6
	3	0.0	6.7	0.0	4.8
	4	1.2	2.2	0.0	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.86	18.86	5.82	C	969.92	1454.88	235.54	9.71	2.62	235.56	9.71
2	0.63	3.74	1.71	A	1380.10	2070.15	99.81	2.89	1.11	99.82	2.89
3	0.25	8.70	0.34	A	117.45	176.18	18.67	6.36	0.21	18.67	6.36
4	0.76	5.72	3.20	A	1699.42	2549.13	171.75	4.04	1.91	171.76	4.04

### Main Results for each time segment

#### Main results: (16:45-17:00)

Arm	Total Demand	Junction Arrivals	Entry Flow	Exit Flow	Circulating	Pedestrian Demand	Capacity	Saturation Capacity	RFC	Start Queue	End Queue	Delay	LOS
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	(Veh/hr)	(Veh)	(Veh/hr)	(Veh/hr)	Flow (Veh/hr)	(Ped/hr)	(Veh/hr)	(Veh/hr)		(Veh)	(Veh)	(s)	
1	795.76	198.94	792.01	577.30	1035.84	0.00	1636.98	1120.71	0.486	0.00	0.94	4.242	A
2	1132.29	283.07	1129.62	1237.36	590.50	0.00	2818.94	2632.03	0.402	0.00	0.67	2.127	A
3	96.36	24.09	95.90	145.49	1574.63	0.00	924.58	87.46	0.104	0.00	0.12	4.342	A
4	1394.28	348.57	1390.15	1447.55	222.99	0.00	2737.93	2570.46	0.509	0.00	1.03	2.664	A

### Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	950.22	237.55	947.37	690.48	1238.94	0.00	1516.24	1120.71	0.627	0.94	1.65	6.297	A
2	1352.07	338.02	1350.85	1479.99	706.32	0.00	2734.39	2632.03	0.494	0.67	0.97	2.599	A
3	115.07	28.77	114.83	174.02	1883.16	0.00	769.21	87.46	0.150	0.12	0.17	5.500	A
4	1664.90	416.23	1662.71	1731.29	266.71	0.00	2708.39	2570.46	0.615	1.03	1.58	3.435	A

### Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1163.78	290.94	1148.60	844.39	1514.67	0.00	1352.34	1120.71	0.861	1.65	5.44	16.576	C
2	1655.94	413.98	1653.06	1806.62	856.66	0.00	2624.66	2632.03	0.631	0.97	1.69	3.694	A
3	140.93	35.23	140.30	211.74	2297.98	0.00	560.27	87.46	0.252	0.17	0.33	8.559	A
4	2039.08	509.77	2032.77	2111.98	326.30	0.00	2668.13	2570.46	0.764	1.58	3.16	5.610	A

### Main results: (17:30-17:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	1163.78	290.94	1162.27	846.62	1519.28	0.00	1349.60	1120.71	0.862	5.44	5.82	18.863	C
2	1655.94	413.98	1655.86	1815.03	866.53	0.00	2617.45	2632.03	0.633	1.69	1.71	3.743	A
3	140.93	35.23	140.91	213.43	2308.95	0.00	554.79	87.46	0.254	0.33	0.34	8.698	A
4	2039.08	509.77	2038.92	2122.88	326.98	0.00	2667.66	2570.46	0.764	3.16	3.20	5.722	A

### Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	950.22	237.55	966.60	693.62	1245.35	0.00	1512.43	1120.71	0.628	5.82	1.72	6.785	A
2	1352.07	338.02	1354.94	1491.75	720.20	0.00	2724.26	2632.03	0.496	1.71	0.99	2.634	A
3	115.07	28.77	115.70	176.39	1898.75	0.00	761.43	87.46	0.151	0.34	0.18	5.579	A
4	1664.90	416.23	1671.26	1746.76	267.70	0.00	2707.71	2570.46	0.615	3.20	1.61	3.496	A

### Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	795.76	198.94	798.82	579.81	1040.64	0.00	1634.12	1120.71	0.487	1.72	0.96	4.325	A
2	1132.29	283.07	1133.55	1244.00	595.47	0.00	2815.31	2632.03	0.402	0.99	0.68	2.143	A
3	96.36	24.09	96.61	146.47	1582.56	0.00	920.60	87.46	0.105	0.18	0.12	4.371	A
4	1394.28	348.57	1396.55	1455.27	223.90	0.00	2737.31	2570.46	0.509	1.61	1.04	2.689	A

## Queuing Delay Results for each time segment

### Queuing Delay results: (16:45-17:00)

Arm	Queuing Total Delay (Veh-min)	Queuing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.60	0.91	4.242	A	A
2	9.86	0.66	2.127	A	A
3	1.70	0.11	4.342	A	A
4	15.11	1.01	2.664	A	A

### Queuing Delay results: (17:00-17:15)

Arm	Queuing Total Delay (Veh-min)	Queuing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	23.69	1.58	6.297	A	A
2	14.34	0.96	2.599	A	A
3	2.57	0.17	5.500	A	A
4	23.08	1.54	3.435	A	A

### Queuing Delay results: (17:15-17:30)

Arm	Queuing Total Delay (Veh-min)	Queuing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	70.04	4.67	16.576	C	B
2	24.60	1.64	3.694	A	A

3	4.81	0.32	8.559	A	A
4	44.81	2.99	5.610	A	A

### Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	85.03	5.67	18.863	C	B
2	25.55	1.70	3.743	A	A
3	5.04	0.34	8.698	A	A
4	47.77	3.18	5.722	A	A

### Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.37	1.89	6.785	A	A
2	15.18	1.01	2.634	A	A
3	2.76	0.18	5.579	A	A
4	24.98	1.67	3.496	A	A

### Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	14.81	0.99	4.325	A	A
2	10.28	0.69	2.143	A	A
3	1.80	0.12	4.371	A	A
4	15.99	1.07	2.689	A	A





**SCOTTISHPOWER  
RENEWABLES**

# **East Anglia ONE North Offshore Windfarm**

Junction 12

**Junction 12 - A12 / Adastral Park / Eagle Way Junction**



**Notes**

Link	Arm	Road Name
-	A	Barrack Square
-	B	A12 (north)
-	C	Eagle Way
-	D	A12 (south)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	331	14	25	370
B	754	0	52	1230	2036
C	46	115	0	48	209
D	61	1248	31	0	1340
Totals	861	1694	97	1303	3955

**HGVs**

From/To	A	B	C	D	Totals
A	0	10	4	0	14
B	9	0	2	84	95
C	0	1	0	1	2
D	0	53	1	0	54
Totals	9	64	7	85	165

**Total**

From/To	A	B	C	D	Totals
A	0	341	18	25	384
B	763	0	54	1314	2131
C	46	116	0	49	211
D	61	1301	32	0	1394
Totals	870	1758	104	1388	4120

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.9%	22.2%	0.0%	6%
B	1.2%	0.0%	3.7%	6.4%	3%
C	0.0%	0.9%	0.0%	2.0%	1%
D	0.0%	4.1%	3.1%	0.0%	2%
Average	0%	2%	7%	2%	3%

**PM Peak Traffic**

Thursday 6th June 2019: 16:45PM - 17:45PM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	517	19	99	635
B	268	0	137	1397	1802
C	27	59	0	48	134
D	39	1551	39	0	0
Totals	334	2127	195	1544	4200

**HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	11	0	2	41	54
C	0	2	0	1	3
D	4	51	1	0	56
Totals	15	57	6	42	120

**Total**

From/To	A	B	C	D	Totals
A	0	521	22	99	642
B	279	0	139	1438	1856
C	27	61	0	49	137
D	43	1602	40	0	1685
Totals	349	2184	201	1586	4320

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	0.8%	13.6%	0.0%	4%
B	3.9%	0.0%	1.4%	2.9%	2%
C	0.0%	3.3%	0.0%	2.0%	1%
D	9.3%	3.2%	2.5%	0.0%	4%
Average	3%	2%	4%	1%	3%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	350	15	26	391
B	798	0	55	1301	2154
C	49	122	0	51	221
D	65	1320	33	0	1417
Totals	911	1792	103	1378	4184

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	11	4	0	15
B	10	0	2	89	100
C	0	1	0	1	2
D	0	56	1	0	57
Totals	10	68	7	90	175

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	361	19	26	406
B	807	0	57	1390	2254
C	49	123	0	52	223
D	65	1376	34	0	1475
Totals	920	1860	110	1468	4358

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.9%	22.2%	0.0%	6%
B	1.2%	0.0%	3.7%	6.4%	3%
C	0.0%	0.9%	0.0%	2.0%	1%
D	0.0%	4.1%	3.1%	0.0%	2%
Average	0%	2%	7%	2%	3%

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	547	20	105	672
B	284	0	145	1479	1908
C	29	62	0	51	142
D	41	1642	41	0	1725
Totals	354	2252	206	1635	4447

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	12	0	2	43	57
C	0	2	0	1	3
D	4	54	1	0	59
Totals	16	60	6	44	127

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	552	23	105	680
B	295	0	147	1523	1965
C	29	65	0	52	145
D	46	1696	42	0	1784
Totals	370	2312	213	1679	4574

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	0.8%	13.6%	0.0%	4%
B	3.9%	0.0%	1.4%	2.9%	2%
C	0.0%	3.3%	0.0%	2.0%	1%
D	9.3%	3.2%	2.5%	0.0%	4%
Average	3%	2%	4%	1%	3%

**Junction 12 - A12 / Adastral Park / Eagle Way Junction**



**Notes**

Link	Arm	Road Name
-	A	Barrack Square
-	B	A12 (north)
-	C	Eagle Way
-	D	A12 (south)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	31	31
C	0	0	0	0	0
D	0	0	0	0	0
Totals	0	0	0	31	31

**PM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	31	0	0	31
Totals	0	31	0	0	31

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	41	41
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	41	52

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	41	0	0	41
Totals	0	41	0	11	52

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	25.4%	6%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	6%	8%

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	25.4%	0.0%	0.0%	6%
Average	0%	6%	0%	25%	8%

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	350	15	26	391
B	798	0	55	1332	2185
C	49	122	0	51	221
D	65	1320	33	0	1417
Totals	911	1792	103	1409	4214

**PM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	547	20	105	672
B	284	0	145	1479	1908
C	29	62	0	51	142
D	41	1673	41	0	1755
Totals	354	2283	206	1635	4478

HGVs					
From/To	A	B	C	D	Totals
A	0	11	4	0	15
B	10	0	2	99	111
C	0	1	0	1	2
D	0	67	1	0	68
Totals	10	78	7	100	196

HGVs					
From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	12	0	2	54	68
C	0	2	0	1	3
D	4	64	1	0	70
Totals	16	71	6	55	148

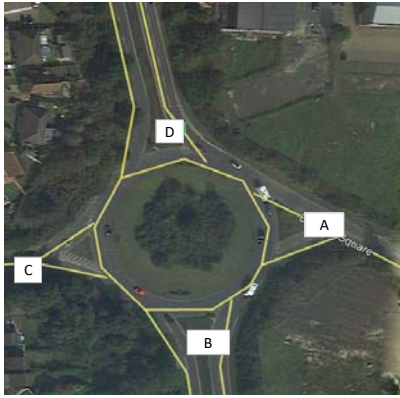
Total					
From/To	A	B	C	D	Totals
A	0	361	19	26	406
B	807	0	57	1431	2296
C	49	123	0	52	223
D	65	1387	34	0	1485
Totals	920	1870	110	1510	4410

Total					
From/To	A	B	C	D	Totals
A	0	552	23	105	680
B	295	0	147	1533	1976
C	29	65	0	52	145
D	46	1738	42	0	1825
Totals	370	2354	213	1690	4626

%HGV					
From/To	A	B	C	D	Average
A	0.0%	2.9%	22.2%	0.0%	6%
B	1.2%	0.0%	3.7%	6.9%	3%
C	0.0%	0.9%	0.0%	2.0%	1%
D	0.0%	4.8%	3.1%	0.0%	2%
Average	0%	2%	7%	2%	3%

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.8%	13.6%	0.0%	4%
B	3.9%	0.0%	1.4%	3.5%	2%
C	0.0%	3.3%	0.0%	2.0%	1%
D	9.3%	3.7%	2.5%	0.0%	4%
Average	3%	2%	4%	1%	3%

**Junction 12 - A12 / Adastral Park / Eagle Way Junction**



**Notes**

Link	Arm	Road Name
-	A	Barrack Square
-	B	A12 (north)
-	C	Eagle Way
-	D	A12 (south)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	331	14	25	370
B	754	0	52	1230	2036
C	46	115	0	48	209
D	61	1248	31	0	1340
Totals	861	1694	97	1303	3955

**HGVs**

From/To	A	B	C	D	Totals
A	0	10	4	0	14
B	9	0	2	84	95
C	0	1	0	1	2
D	0	53	1	0	54
Totals	9	64	7	85	165

**Total**

From/To	A	B	C	D	Totals
A	0	341	18	25	384
B	763	0	54	1314	2131
C	46	116	0	49	211
D	61	1301	32	0	1394
Totals	870	1758	104	1388	4120

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.9%	22.2%	0.0%	6%
B	1.2%	0.0%	3.7%	6.4%	3%
C	0.0%	0.9%	0.0%	2.0%	1%
D	0.0%	4.1%	3.1%	0.0%	2%
Average	0%	2%	7%	2%	3%

**PM Peak Traffic**

Thursday 6th June 2019: 16:45PM - 17:45PM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	517	19	99	635
B	268	0	137	1397	1802
C	27	59	0	48	134
D	39	1551	39	0	1629
Totals	334	2127	195	1544	4200

**HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	11	0	2	41	54
C	0	2	0	1	3
D	4	51	1	0	56
Totals	15	57	6	42	120

**Total**

From/To	A	B	C	D	Totals
A	0	521	22	99	642
B	279	0	139	1438	1856
C	27	61	0	49	137
D	43	1602	40	0	1685
Totals	349	2184	201	1586	4320

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	0.8%	13.6%	0.0%	4%
B	3.9%	0.0%	1.4%	2.9%	2%
C	0.0%	3.3%	0.0%	2.0%	1%
D	9.3%	3.2%	2.5%	0.0%	4%
Average	3%	2%	4%	1%	3%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	350	15	26	391
B	798	0	55	1301	2154
C	49	122	0	51	222
D	65	1320	33	0	1417
Totals	911	1792	103	1378	4184

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	11	4	0	15
B	10	0	2	89	100
C	0	1	0	1	2
D	0	56	1	0	57
Totals	10	68	7	90	175

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	361	19	26	406
B	807	0	57	1390	2254
C	49	123	0	52	223
D	65	1376	34	0	1475
Totals	920	1860	110	1468	4358

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.9%	22.2%	0.0%	6%
B	1.2%	0.0%	3.7%	6.4%	3%
C	0.0%	0.9%	0.0%	2.0%	1%
D	0.0%	4.1%	3.1%	0.0%	2%
Average	0%	2%	7%	2%	3%

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	547	20	105	672
B	284	0	145	1479	1908
C	29	62	0	51	142
D	41	1642	41	0	1725
Totals	354	2252	206	1635	4447

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	12	0	2	43	57
C	0	2	0	1	3
D	4	54	1	0	59
Totals	16	60	6	44	127

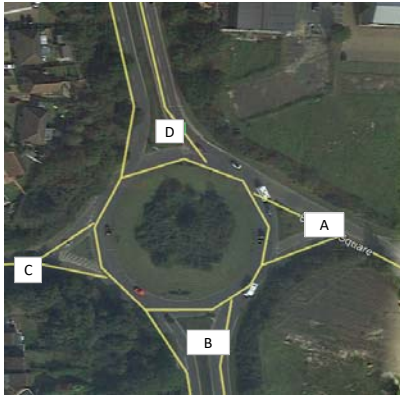
**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	552	23	105	680
B	295	0	147	1523	1965
C	29	65	0	52	145
D	46	1696	42	0	1784
Totals	370	2312	213	1679	4574

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	0.8%	13.6%	0.0%	4%
B	3.9%	0.0%	1.4%	2.9%	2%
C	0.0%	3.3%	0.0%	2.0%	1%
D	9.3%	3.2%	2.5%	0.0%	4%
Average	3%	2%	4%	1%	3%

**Junction 12 - A12 / Adastral Park / Eagle Way Junction**



**Notes**

Link	Arm	Road Name
-	A	Barrack Square
-	B	A12 (north)
-	C	Eagle Way
-	D	A12 (south)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	38	38
C	0	0	0	0	0
D	0	0	0	0	0
Totals	0	0	0	38	38

**PM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	38	0	0	38
Totals	0	38	0	0	38

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

HGVs					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	52	52
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	52	65

Total					
From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	52	0	0	52
Totals	0	52	0	14	65

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	26.1%	7%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	7%	8%

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	26.1%	0.0%	0.0%	7%
Average	0%	7%	0%	25%	8%

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	350	15	26	391
B	798	0	55	1339	2192
C	49	122	0	51	221
D	65	1320	33	0	1417
Totals	911	1792	103	1417	4222

**PM Peak Traffic**

Vehicles					
From/To	A	B	C	D	Totals
A	0	547	20	105	672
B	284	0	145	1479	1908
C	29	62	0	51	142
D	41	1680	41	0	1763
Totals	354	2290	206	1635	4485

HGVs					
From/To	A	B	C	D	Totals
A	0	11	4	0	15
B	10	0	2	102	114
C	0	1	0	1	2
D	0	70	1	0	71
Totals	10	81	7	103	202

HGVs					
From/To	A	B	C	D	Totals
A	0	4	3	0	7
B	12	0	2	57	71
C	0	2	0	1	3
D	4	67	1	0	73
Totals	16	74	6	58	154

Total					
From/To	A	B	C	D	Totals
A	0	361	19	26	406
B	807	0	57	1442	2306
C	49	123	0	52	223
D	65	1390	34	0	1488
Totals	920	1873	110	1520	4423

Total					
From/To	A	B	C	D	Totals
A	0	552	23	105	680
B	295	0	147	1536	1979
C	29	65	0	52	145
D	46	1748	42	0	1836
Totals	370	2364	213	1693	4639

%HGV					
From/To	A	B	C	D	Average
A	0.0%	2.9%	22.2%	0.0%	6%
B	1.2%	0.0%	3.7%	7.1%	3%
C	0.0%	0.9%	0.0%	2.0%	1%
D	0.0%	5.0%	3.1%	0.0%	2%
Average	0%	2%	7%	2%	3%

%HGV					
From/To	A	B	C	D	Average
A	0.0%	0.8%	13.6%	0.0%	4%
B	3.9%	0.0%	1.4%	3.7%	2%
C	0.0%	3.3%	0.0%	2.0%	1%
D	9.3%	3.9%	2.5%	0.0%	4%
Average	3%	2%	4%	1%	3%

# Junctions 8

## ARCADY 8 - Roundabout Module

Version: 8.0.6.541 [19821,26/11/2015]  
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**Filename:** Junction 12 - A12 and Eagle Way and Barrack Square.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 22/07/2019 14:07:42

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - »Existing Layout - Background 2019, AM
  - »Existing Layout - Background 2019, PM

## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Background 2019</b>								
Arm 1	0.92	7.90	0.48	A	9.50	51.64	0.93	F
Arm 2	7.48	11.93	0.89	B	3.48	6.21	0.78	A
Arm 3	0.60	9.37	0.38	A	0.23	5.63	0.19	A
Arm 4	8.57	21.29	0.91	C	8.19	16.69	0.90	C
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b>								
Arm 1	1.15	9.40	0.54	A	40.37	175.39	1.10	F
Arm 2	19.54	29.31	0.97	D	4.92	8.32	0.83	A
Arm 3	0.90	13.39	0.48	B	0.29	6.43	0.22	A
Arm 4	25.67	56.54	0.99	F	28.13	50.60	0.99	F
<b>Existing Layout - Forecast Background + EA1N Construction 2023</b>								
Arm 1	1.14	9.35	0.54	A	38.50	167.53	1.10	F
Arm 2	17.80	26.92	0.96	D	4.84	8.20	0.83	A
Arm 3	0.88	13.06	0.47	B	0.28	6.40	0.22	A
Arm 4	24.42	54.27	0.99	F	25.00	45.89	0.99	E
<b>Existing Layout - Forecast Background 2023</b>								
Arm 1	1.12	9.17	0.53	A	30.59	135.75	1.06	F
Arm 2	13.28	20.48	0.94	C	4.61	7.84	0.83	A
Arm 3	0.81	11.95	0.45	B	0.28	6.29	0.22	A
Arm 4	20.33	46.59	0.98	E	16.47	32.05	0.96	D

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

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30  
 "D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15  
 "D3 - Forecast Background + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D4 - Forecast Background + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D7 - Background 2019, AM" model duration: 08:00 - 09:30  
 "D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 22/07/2019 14:07:36

## File summary

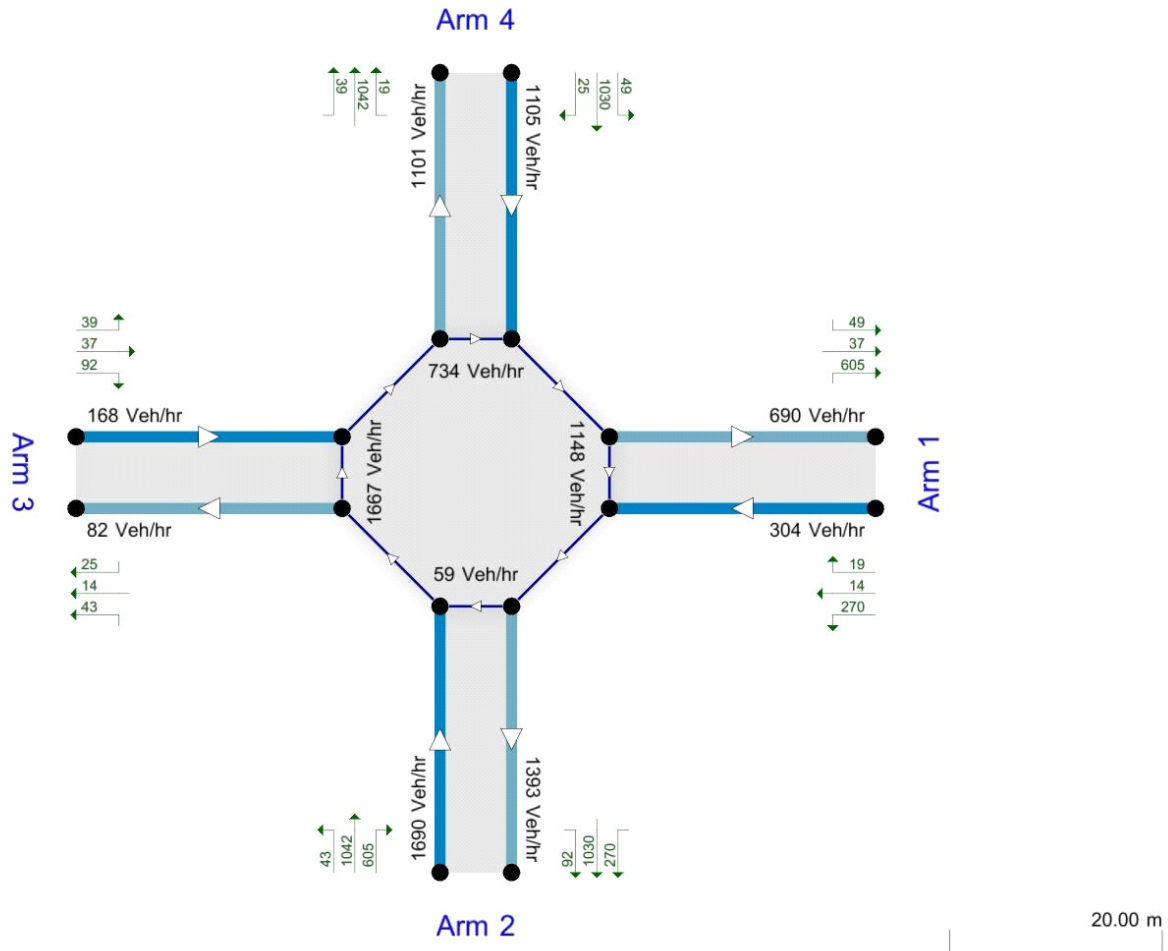
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Roundabout junction of the A12, Eagle Way and Barrack Square
<b>Site Number</b>	J12
<b>Date</b>	25/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

### Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

### 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



Showing modelled flow through junction (Veh/hr).  
 Time Segment: (08:00-08:15)  
 Showing Analysis Set "A1 - Existing Layout", Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.



# Existing Layout - Forecast Background 2023, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way. Barrack Square	Roundabout	1,2,3,4				27.83	D

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	406.00	100.000
2	ONE HOUR	✓	2254.00	100.000
3	ONE HOUR	✓	224.00	100.000
4	ONE HOUR	✓	1475.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	305.66	316.72		
08:00-08:15	2	1696.93	1772.78		
08:00-08:15	3	168.64	170.26		
08:00-08:15	4	1110.46	1153.72		
08:15-08:30	1	364.99	378.19		
08:15-08:30	2	2026.30	2116.87		
08:15-08:30	3	201.37	203.30		
08:15-08:30	4	1325.99	1377.66		
08:30-08:45	1	447.01	463.19		
08:30-08:45	2	2481.70	2592.63		
08:30-08:45	3	246.63	248.99		
08:30-08:45	4	1624.01	1687.28		
08:45-09:00	1	447.01	463.19		
08:45-09:00	2	2481.70	2592.63		
08:45-09:00	3	246.63	248.99		
08:45-09:00	4	1624.01	1687.28		
09:00-09:15	1	364.99	378.19		
09:00-09:15	2	2026.30	2116.87		
09:00-09:15	3	201.37	203.30		
09:00-09:15	4	1325.99	1377.66		
09:15-09:30	1	305.66	316.72		
09:15-09:30	2	1696.93	1772.78		
09:15-09:30	3	168.64	170.26		
09:15-09:30	4	1110.46	1153.72		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	361.000	19.000	26.000
	2	807.000	0.000	57.000	1390.000
	3	49.000	123.000	0.000	52.000
	4	65.000	1376.000	34.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.89	0.05	0.06
	2	0.36	0.00	0.03	0.62
	3	0.22	0.55	0.00	0.23
	4	0.04	0.93	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.029	1.222	1.000
	2	1.012	1.000	1.037	1.064
	3	1.000	1.009	1.000	1.020
	4	1.000	1.041	1.031	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.9	22.2	0.0
	2	1.2	0.0	3.7	6.4
	3	0.0	0.9	0.0	2.0
	4	0.0	4.1	3.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.53	9.17	1.12	A	372.55	558.83	61.63	6.62	0.68	61.63	6.62
2	0.94	20.48	13.28	C	2068.31	3102.46	490.45	9.49	5.45	490.49	9.49
3	0.45	11.95	0.81	B	205.55	308.32	39.78	7.74	0.44	39.78	7.74
4	0.98	46.59	20.33	E	1353.49	2030.23	595.29	17.59	6.61	595.33	17.59

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	305.66	76.41	304.15	690.43	1148.08	0.00	1107.80	814.82	0.276	0.00	0.38	4.471	A
2	1696.93	424.23	1689.95	1393.06	59.17	0.00	2658.98	2612.51	0.638	0.00	1.74	3.688	A
3	168.64	42.16	167.79	82.43	1666.70	0.00	960.86	464.45	0.176	0.00	0.21	4.534	A
4	1110.46	277.62	1104.63	1100.59	733.90	0.00	1862.45	1531.75	0.596	0.00	1.46	4.715	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	364.99	91.25	364.20	825.57	1372.55	0.00	991.94	814.82	0.368	0.38	0.58	5.727	A
2	2026.30	506.57	2020.63	1665.94	70.80	0.00	2650.98	2612.51	0.764	1.74	3.16	5.661	A
3	201.37	50.34	200.86	98.58	1992.86	0.00	786.95	464.45	0.256	0.21	0.34	6.137	A
4	1326.00	331.50	1320.45	1316.03	877.68	0.00	1777.15	1531.75	0.746	1.46	2.84	7.789	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	447.02	111.75	445.02	999.01	1639.22	0.00	854.35	814.82	0.523	0.58	1.08	8.753	A
2	2481.70	620.42	2446.89	1998.62	85.61	0.00	2640.77	2612.51	0.940	3.16	11.86	16.270	C
3	246.63	61.66	244.94	118.99	2413.51	0.00	562.66	464.45	0.438	0.34	0.76	11.273	B
4	1624.01	406.00	1574.08	1594.31	1064.13	0.00	1666.52	1531.75	0.974	2.84	15.33	29.630	D

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	447.02	111.75	446.83	1011.09	1668.63	0.00	839.14	814.82	0.533	1.08	1.12	9.169	A
2	2481.70	620.42	2476.02	2028.95	86.50	0.00	2640.17	2612.51	0.940	11.86	13.28	20.484	C
3	246.63	61.66	246.46	120.50	2442.03	0.00	547.45	464.45	0.451	0.76	0.81	11.950	B
4	1624.01	406.00	1603.98	1612.75	1075.74	0.00	1659.63	1531.75	0.979	15.33	20.33	46.593	E

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	364.99	91.25	366.97	845.62	1444.87	0.00	954.54	814.82	0.382	1.12	0.63	6.146	A
2	2026.30	506.57	2066.07	1739.02	72.83	0.00	2649.62	2612.51	0.765	13.28	3.34	6.571	A
3	201.37	50.34	203.15	101.57	2037.32	0.00	763.23	464.45	0.264	0.81	0.36	6.449	A
4	1326.00	331.50	1394.80	1344.76	895.70	0.00	1766.45	1531.75	0.751	20.33	3.13	11.441	B

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	305.66	76.41	306.62	696.02	1160.67	0.00	1101.30	814.82	0.278	0.63	0.39	4.535	A
2	1696.93	424.23	1703.15	1407.56	59.73	0.00	2658.60	2612.51	0.638	3.34	1.78	3.794	A
3	168.64	42.16	169.22	83.17	1679.73	0.00	953.91	464.45	0.177	0.36	0.22	4.592	A
4	1110.46	277.62	1116.98	1109.22	739.72	0.00	1859.00	1531.75	0.597	3.13	1.50	4.892	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.52	0.37	4.471	A	A
2	25.19	1.68	3.688	A	A
3	3.10	0.21	4.534	A	A
4	20.97	1.40	4.715	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.42	0.56	5.727	A	A
2	44.93	3.00	5.661	A	A
3	4.98	0.33	6.137	A	A
4	40.00	2.67	7.789	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.40	1.03	8.753	A	A
2	143.11	9.54	16.270	C	B
3	10.86	0.72	11.273	B	B
4	165.63	11.04	29.630	D	C

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.62	1.11	9.169	A	A
2	190.31	12.69	20.484	C	C
3	11.90	0.79	11.950	B	B
4	270.97	18.06	46.593	E	D

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.71	0.65	6.146	A	A
2	59.20	3.95	6.571	A	A
3	5.63	0.38	6.449	A	A
4	74.23	4.95	11.441	B	B

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.94	0.40	4.535	A	A
2	27.72	1.85	3.794	A	A
3	3.31	0.22	4.592	A	A
4	23.50	1.57	4.892	A	A

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way. Barrack Square	Roundabout	1,2,3,4				35.98	E

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	680.00	100.000
2	ONE HOUR	✓	1965.00	100.000
3	ONE HOUR	✓	146.00	100.000
4	ONE HOUR	✓	1784.00	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	511.94	517.62		
16:45-17:00	2	1479.36	1522.82		
16:45-17:00	3	109.92	112.31		
16:45-17:00	4	1343.09	1387.96		
17:00-17:15	1	611.31	618.09		
17:00-17:15	2	1766.49	1818.39		
17:00-17:15	3	131.25	134.11		
17:00-17:15	4	1603.78	1657.36		
17:15-17:30	1	748.69	757.00		
17:15-17:30	2	2163.51	2227.07		
17:15-17:30	3	160.75	164.26		
17:15-17:30	4	1964.22	2029.84		
17:30-17:45	1	748.69	757.00		
17:30-17:45	2	2163.51	2227.07		
17:30-17:45	3	160.75	164.26		
17:30-17:45	4	1964.22	2029.84		
17:45-18:00	1	611.31	618.09		
17:45-18:00	2	1766.49	1818.39		
17:45-18:00	3	131.25	134.11		
17:45-18:00	4	1603.78	1657.36		
18:00-18:15	1	511.94	517.62		
18:00-18:15	2	1479.36	1522.82		
18:00-18:15	3	109.92	112.31		
18:00-18:15	4	1343.09	1387.96		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	552.000	23.000	105.000
	2	295.000	0.000	147.000	1523.000
	3	29.000	65.000	0.000	52.000
	4	46.000	1696.000	42.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.81	0.03	0.15
	2	0.15	0.00	0.07	0.78
	3	0.20	0.45	0.00	0.36
	4	0.03	0.95	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.008	1.136	1.000
	2	1.039	1.000	1.014	1.029
	3	1.000	1.033	1.000	1.020
	4	1.093	1.032	1.025	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.8	13.6	0.0
	2	3.9	0.0	1.4	2.9
	3	0.0	3.3	0.0	2.0
	4	9.3	3.2	2.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	1.06	135.75	30.59	F	623.98	935.97	730.69	46.84	8.12	730.72	46.84
2	0.83	7.84	4.61	A	1803.12	2704.68	230.32	5.11	2.56	230.34	5.11
3	0.22	6.29	0.28	A	133.97	200.96	16.59	4.95	0.18	16.59	4.95
4	0.96	32.05	16.47	D	1637.03	2455.54	548.46	13.40	6.09	548.51	13.40

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.94	127.99	508.07	277.54	1350.65	0.00	1032.49	665.07	0.496	0.00	0.97	6.814	A
2	1479.35	369.84	1474.36	1731.62	127.10	0.00	2654.63	2626.40	0.557	0.00	1.25	3.038	A
3	109.92	27.48	109.46	158.94	1442.51	0.00	1078.67	512.32	0.102	0.00	0.11	3.712	A
4	1343.09	335.77	1336.37	1260.16	291.82	0.00	2132.01	1869.47	0.630	0.00	1.68	4.487	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	611.31	152.83	606.87	331.98	1615.05	0.00	893.49	665.07	0.684	0.97	2.08	12.370	B
2	1766.49	441.62	1763.49	2070.06	151.85	0.00	2638.03	2626.40	0.670	1.25	2.00	4.102	A
3	131.25	32.81	131.05	190.07	1725.27	0.00	931.90	512.32	0.141	0.11	0.16	4.494	A
4	1603.78	400.94	1597.90	1507.20	349.12	0.00	2097.02	1869.47	0.765	1.68	3.15	7.129	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	748.70	187.17	687.64	404.69	1943.61	0.00	720.76	665.07	1.039	2.08	17.34	66.684	F
2	2163.50	540.88	2153.50	2456.55	174.68	0.00	2622.72	2626.40	0.825	2.00	4.50	7.516	A
3	160.75	40.19	160.30	229.60	2098.59	0.00	738.02	512.32	0.218	0.16	0.28	6.222	A
4	1964.22	491.05	1921.79	1832.37	426.51	0.00	2049.76	1869.47	0.958	3.15	13.76	22.948	C

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	748.70	187.17	695.72	407.03	1974.54	0.00	704.49	665.07	1.063	17.34	30.59	135.753	F
2	2163.50	540.88	2163.06	2493.31	176.95	0.00	2621.21	2626.40	0.825	4.50	4.61	7.837	A
3	160.75	40.19	160.74	231.33	2108.67	0.00	732.80	512.32	0.219	0.28	0.28	6.292	A
4	1964.22	491.05	1953.34	1841.18	428.22	0.00	2048.71	1869.47	0.959	13.76	16.47	32.045	D

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	611.31	152.83	723.13	335.57	1672.09	0.00	863.50	665.07	0.708	30.59	2.63	43.446	E
2	1766.49	441.62	1776.57	2220.11	175.11	0.00	2622.44	2626.40	0.674	4.61	2.09	4.306	A
3	131.25	32.81	131.70	196.35	1755.33	0.00	916.56	512.32	0.143	0.28	0.17	4.590	A
4	1603.78	400.94	1656.15	1535.51	351.50	0.00	2095.56	1869.47	0.765	16.47	3.38	9.127	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.94	127.99	518.42	279.26	1363.93	0.00	1025.51	665.07	0.499	2.63	1.01	7.189	A
2	1479.35	369.84	1482.65	1752.98	129.36	0.00	2653.12	2626.40	0.558	2.09	1.27	3.085	A
3	109.92	27.48	110.13	160.23	1451.79	0.00	1073.88	512.32	0.102	0.17	0.11	3.735	A
4	1343.09	335.77	1349.69	1268.42	293.49	0.00	2130.99	1869.47	0.630	3.38	1.73	4.645	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.86	0.92	6.814	A	A
2	18.21	1.21	3.038	A	A
3	1.66	0.11	3.712	A	A
4	24.14	1.61	4.487	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	28.85	1.92	12.370	B	B
2	29.01	1.93	4.102	A	A
3	2.40	0.16	4.494	A	A
4	44.35	2.96	7.129	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	164.73	10.98	66.684	F	E
2	62.18	4.15	7.516	A	A
3	4.03	0.27	6.222	A	A
4	156.59	10.44	22.948	C	C

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	361.61	24.11	135.753	F	F
2	68.52	4.57	7.837	A	A
3	4.17	0.28	6.292	A	A
4	229.30	15.29	32.045	D	C

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	145.55	9.70	43.446	E	D
2	32.87	2.19	4.306	A	A
3	2.58	0.17	4.590	A	A
4	67.11	4.47	9.127	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.08	1.07	7.189	A	A
2	19.54	1.30	3.085	A	A
3	1.75	0.12	3.735	A	A
4	26.97	1.80	4.645	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, AM	Forecast Background + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way. Barrack Square	Roundabout	1,2,3,4				33.86	D

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	406.00	100.000
2	ONE HOUR	✓	2295.00	100.000
3	ONE HOUR	✓	224.00	100.000
4	ONE HOUR	✓	1486.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	305.66	316.72		
08:00-08:15	2	1727.80	1811.01		
08:00-08:15	3	168.64	170.26		
08:00-08:15	4	1118.74	1169.65		
08:15-08:30	1	364.99	378.19		
08:15-08:30	2	2063.16	2162.52		
08:15-08:30	3	201.37	203.30		
08:15-08:30	4	1335.88	1396.68		
08:30-08:45	1	447.01	463.19		
08:30-08:45	2	2526.84	2648.54		
08:30-08:45	3	246.63	248.99		
08:30-08:45	4	1636.12	1710.58		
08:45-09:00	1	447.01	463.19		
08:45-09:00	2	2526.84	2648.54		
08:45-09:00	3	246.63	248.99		
08:45-09:00	4	1636.12	1710.58		
09:00-09:15	1	364.99	378.19		
09:00-09:15	2	2063.16	2162.52		
09:00-09:15	3	201.37	203.30		
09:00-09:15	4	1335.88	1396.68		
09:15-09:30	1	305.66	316.72		
09:15-09:30	2	1727.80	1811.01		
09:15-09:30	3	168.64	170.26		
09:15-09:30	4	1118.74	1169.65		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	361.000	19.000	26.000
	2	807.000	0.000	57.000	1431.000
	3	49.000	123.000	0.000	52.000
	4	65.000	1387.000	34.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.89	0.05	0.06
	2	0.35	0.00	0.02	0.62
	3	0.22	0.55	0.00	0.23
	4	0.04	0.93	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.029	1.222	1.000
	2	1.012	1.000	1.037	1.069
	3	1.000	1.009	1.000	1.020
	4	1.000	1.048	1.031	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.9	22.2	0.0
	2	1.2	0.0	3.7	6.9
	3	0.0	0.9	0.0	2.0
	4	0.0	4.8	3.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.54	9.35	1.14	A	372.55	558.83	62.75	6.74	0.70	62.76	6.74
2	0.96	26.92	17.80	D	2105.94	3158.90	598.85	11.37	6.65	598.89	11.38
3	0.47	13.06	0.88	B	205.55	308.32	42.28	8.23	0.47	42.28	8.23
4	0.99	54.27	24.42	F	1363.58	2045.37	679.99	19.95	7.56	680.03	19.95

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	305.66	76.41	304.13	690.32	1156.16	0.00	1100.00	808.67	0.278	0.00	0.38	4.515	A
2	1727.80	431.95	1720.40	1401.12	59.17	0.00	2650.20	2604.50	0.652	0.00	1.85	3.843	A
3	168.64	42.16	167.77	82.42	1697.14	0.00	941.58	463.59	0.179	0.00	0.22	4.648	A
4	1118.74	279.69	1112.71	1131.15	733.78	0.00	1850.86	1534.07	0.604	0.00	1.51	4.839	A



**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	364.99	91.25	364.18	825.31	1382.03	0.00	982.72	808.67	0.371	0.38	0.58	5.813	A
2	2063.16	515.79	2056.73	1675.41	70.79	0.00	2642.23	2604.50	0.781	1.85	3.46	6.082	A
3	201.37	50.34	200.82	98.55	2028.96	0.00	764.06	463.59	0.264	0.22	0.35	6.384	A
4	1335.89	333.97	1329.93	1352.37	877.42	0.00	1766.17	1534.07	0.756	1.51	3.00	8.142	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	447.02	111.75	444.97	994.79	1643.73	0.00	846.88	808.67	0.528	0.58	1.10	8.913	A
2	2526.85	631.71	2480.44	2003.28	85.43	0.00	2632.17	2604.50	0.960	3.46	15.06	19.560	C
3	246.63	61.66	244.77	118.54	2447.33	0.00	540.24	463.59	0.457	0.35	0.82	12.109	B
4	1636.12	409.03	1578.37	1631.94	1060.16	0.00	1658.43	1534.07	0.987	3.00	17.43	32.591	D

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	447.02	111.75	446.82	1008.92	1673.14	0.00	831.58	808.67	0.538	1.10	1.14	9.349	A
2	2526.85	631.71	2515.90	2033.64	86.32	0.00	2631.57	2604.50	0.960	15.06	17.80	26.925	D
3	246.63	61.66	246.40	120.19	2482.01	0.00	521.67	463.59	0.473	0.82	0.88	13.062	B
4	1636.12	409.03	1608.18	1654.55	1073.87	0.00	1650.34	1534.07	0.991	17.43	24.42	54.270	F

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	364.99	91.25	366.98	851.92	1469.64	0.00	937.11	808.67	0.389	1.14	0.65	6.337	A
2	2063.16	515.79	2119.59	1763.46	73.17	0.00	2640.65	2604.50	0.781	17.80	3.69	7.631	A
3	201.37	50.34	203.35	102.31	2090.45	0.00	731.15	463.59	0.275	0.88	0.38	6.847	A
4	1335.89	333.97	1420.10	1392.34	901.46	0.00	1751.98	1534.07	0.763	24.42	3.36	13.555	B

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	305.66	76.41	306.68	696.36	1169.66	0.00	1092.99	808.67	0.280	0.65	0.39	4.583	A
2	1727.80	431.95	1734.98	1416.59	59.75	0.00	2649.81	2604.50	0.652	3.69	1.90	3.966	A
3	168.64	42.16	169.29	83.20	1711.52	0.00	933.89	463.59	0.181	0.38	0.22	4.713	A
4	1118.74	279.69	1125.96	1140.75	740.07	0.00	1847.15	1534.07	0.606	3.36	1.56	5.040	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.58	0.37	4.515	A	A
2	26.67	1.78	3.843	A	A
3	3.17	0.21	4.648	A	A
4	21.65	1.44	4.839	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.54	0.57	5.813	A	A
2	48.88	3.26	6.082	A	A
3	5.18	0.35	6.384	A	A
4	41.97	2.80	8.142	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.67	1.04	8.913	A	A
2	172.89	11.53	19.560	C	B
3	11.62	0.77	12.109	B	B
4	182.90	12.19	32.591	D	C

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	16.94	1.13	9.349	A	A
2	249.15	16.61	26.925	D	C
3	12.93	0.86	13.062	B	B
4	317.70	21.18	54.270	F	D

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.02	0.67	6.337	A	A
2	71.73	4.78	7.631	A	A
3	5.99	0.40	6.847	A	A
4	91.35	6.09	13.555	B	B

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.01	0.40	4.583	A	A
2	29.54	1.97	3.966	A	A
3	3.41	0.23	4.713	A	A
4	24.41	1.63	5.040	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, PM	Forecast Background + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way. Barrack Square	Roundabout	1,2,3,4				46.05	E

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	680.00	100.000
2	ONE HOUR	✓	1975.00	100.000
3	ONE HOUR	✓	146.00	100.000
4	ONE HOUR	✓	1826.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	511.94	517.62		
16:45-17:00	2	1486.88	1537.49		
16:45-17:00	3	109.92	112.31		
16:45-17:00	4	1374.71	1427.13		
17:00-17:15	1	611.31	618.09		
17:00-17:15	2	1775.48	1835.91		
17:00-17:15	3	131.25	134.11		
17:00-17:15	4	1641.54	1704.14		
17:15-17:30	1	748.69	757.00		
17:15-17:30	2	2174.52	2248.52		
17:15-17:30	3	160.75	164.26		
17:15-17:30	4	2010.46	2087.13		
17:30-17:45	1	748.69	757.00		
17:30-17:45	2	2174.52	2248.52		
17:30-17:45	3	160.75	164.26		
17:30-17:45	4	2010.46	2087.13		
17:45-18:00	1	611.31	618.09		
17:45-18:00	2	1775.48	1835.91		
17:45-18:00	3	131.25	134.11		
17:45-18:00	4	1641.54	1704.14		
18:00-18:15	1	511.94	517.62		
18:00-18:15	2	1486.88	1537.49		
18:00-18:15	3	109.92	112.31		
18:00-18:15	4	1374.71	1427.13		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	552.000	23.000	105.000
	2	295.000	0.000	147.000	1533.000
	3	29.000	65.000	0.000	52.000
	4	46.000	1738.000	42.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.81	0.03	0.15
	2	0.15	0.00	0.07	0.78
	3	0.20	0.45	0.00	0.36
	4	0.03	0.95	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.008	1.136	1.000
	2	1.039	1.000	1.014	1.035
	3	1.000	1.033	1.000	1.020
	4	1.093	1.037	1.025	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.8	13.6	0.0
	2	3.9	0.0	1.4	3.5
	3	0.0	3.3	0.0	2.0
	4	9.3	3.7	2.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	1.10	167.53	38.50	F	623.98	935.97	942.55	60.42	10.47	942.58	60.42
2	0.83	8.20	4.84	A	1812.30	2718.45	239.38	5.28	2.66	239.40	5.28
3	0.22	6.40	0.28	A	133.97	200.96	16.82	5.02	0.19	16.82	5.02
4	0.99	45.89	25.00	E	1675.58	2513.37	734.74	17.54	8.16	734.79	17.54

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.94	127.99	507.92	277.52	1381.74	0.00	1012.82	663.24	0.505	0.00	1.01	7.076	A
2	1486.89	371.72	1481.78	1762.59	127.06	0.00	2642.72	2615.58	0.563	0.00	1.28	3.087	A
3	109.92	27.48	109.46	158.92	1449.91	0.00	1071.35	511.03	0.103	0.00	0.11	3.740	A
4	1374.71	343.68	1367.47	1267.58	291.80	0.00	2122.33	1863.67	0.648	0.00	1.81	4.740	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	611.31	152.83	606.33	331.94	1651.78	0.00	870.21	663.24	0.702	1.01	2.25	13.396	B
2	1775.49	443.87	1772.37	2106.39	151.73	0.00	2626.25	2615.58	0.676	1.28	2.06	4.201	A
3	131.25	32.81	131.05	190.02	1734.07	0.00	923.18	511.03	0.142	0.11	0.16	4.543	A
4	1641.54	410.39	1634.63	1516.00	349.10	0.00	2087.49	1863.67	0.786	1.81	3.54	7.828	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	748.70	187.17	675.18	404.15	1971.56	0.00	701.33	663.24	1.068	2.25	20.63	77.238	F
2	2174.52	543.63	2163.88	2474.81	171.93	0.00	2612.77	2615.58	0.832	2.06	4.72	7.838	A
3	160.75	40.19	160.28	228.73	2107.07	0.00	728.51	511.03	0.221	0.16	0.28	6.330	A
4	2010.47	502.62	1949.31	1840.95	426.41	0.00	2040.50	1863.67	0.985	3.54	18.83	28.881	D

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	748.70	187.17	677.20	406.68	2007.34	0.00	682.43	663.24	1.097	20.63	38.50	167.527	F
2	2174.52	543.63	2174.04	2511.38	173.15	0.00	2611.95	2615.58	0.833	4.72	4.84	8.195	A
3	160.75	40.19	160.73	230.39	2116.80	0.00	723.43	511.03	0.222	0.28	0.28	6.397	A
4	2010.47	502.62	1985.81	1849.30	428.22	0.00	2039.40	1863.67	0.986	18.83	25.00	45.892	E

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	611.31	152.83	751.81	336.44	1741.20	0.00	822.98	663.24	0.743	38.50	3.38	81.278	F
2	1775.49	443.87	1786.18	2311.79	181.22	0.00	2606.57	2615.58	0.681	4.84	2.17	4.445	A
3	131.25	32.81	131.70	198.07	1769.31	0.00	905.16	511.03	0.145	0.28	0.17	4.658	A
4	1641.54	410.39	1726.05	1549.44	351.59	0.00	2085.98	1863.67	0.787	25.00	3.87	12.273	B

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.94	127.99	521.23	279.32	1396.91	0.00	1004.81	663.24	0.509	3.38	1.06	7.581	A
2	1486.89	371.72	1490.37	1788.23	129.92	0.00	2640.81	2615.58	0.563	2.17	1.30	3.137	A
3	109.92	27.48	110.14	160.36	1459.92	0.00	1066.16	511.03	0.103	0.17	0.12	3.765	A
4	1374.71	343.68	1382.72	1276.54	293.52	0.00	2121.28	1863.67	0.648	3.87	1.87	4.927	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	14.37	0.96	7.076	A	A
2	18.60	1.24	3.087	A	A
3	1.67	0.11	3.740	A	A
4	25.95	1.73	4.740	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	31.02	2.07	13.396	B	B
2	29.82	1.99	4.201	A	A
3	2.43	0.16	4.543	A	A
4	49.45	3.30	7.828	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	189.12	12.61	77.238	F	E
2	64.93	4.33	7.838	A	A
3	4.10	0.27	6.330	A	A
4	199.74	13.32	28.881	D	C

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	445.06	29.67	167.527	F	F
2	71.90	4.79	8.195	A	A
3	4.24	0.28	6.397	A	A
4	332.42	22.16	45.892	E	D

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	245.91	16.39	81.278	F	F
2	34.13	2.28	4.445	A	A
3	2.62	0.17	4.658	A	A
4	97.85	6.52	12.273	B	B

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.07	1.14	7.581	A	A
2	19.99	1.33	3.137	A	A
3	1.76	0.12	3.765	A	A
4	29.32	1.95	4.927	A	A

# Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	



## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, AM	Forecast Background + EA2 + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way. Barrack Square	Roundabout	1,2,3,4				35.90	E

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	406.00	100.000
2	ONE HOUR	✓	2306.00	100.000
3	ONE HOUR	✓	224.00	100.000
4	ONE HOUR	✓	1489.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	305.66	316.72		
08:00-08:15	2	1736.08	1822.03		
08:00-08:15	3	168.64	170.26		
08:00-08:15	4	1121.00	1174.11		
08:15-08:30	1	364.99	378.19		
08:15-08:30	2	2073.05	2175.69		
08:15-08:30	3	201.37	203.30		
08:15-08:30	4	1338.58	1402.01		
08:30-08:45	1	447.01	463.19		
08:30-08:45	2	2538.95	2664.66		
08:30-08:45	3	246.63	248.99		
08:30-08:45	4	1639.42	1717.10		
08:45-09:00	1	447.01	463.19		
08:45-09:00	2	2538.95	2664.66		
08:45-09:00	3	246.63	248.99		
08:45-09:00	4	1639.42	1717.10		
09:00-09:15	1	364.99	378.19		
09:00-09:15	2	2073.05	2175.69		
09:00-09:15	3	201.37	203.30		
09:00-09:15	4	1338.58	1402.01		
09:15-09:30	1	305.66	316.72		
09:15-09:30	2	1736.08	1822.03		
09:15-09:30	3	168.64	170.26		
09:15-09:30	4	1121.00	1174.11		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	361.000	19.000	26.000
	2	807.000	0.000	57.000	1442.000
	3	49.000	123.000	0.000	52.000
	4	65.000	1390.000	34.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.89	0.05	0.06
	2	0.35	0.00	0.02	0.63
	3	0.22	0.55	0.00	0.23
	4	0.04	0.93	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.029	1.222	1.000
	2	1.012	1.000	1.037	1.071
	3	1.000	1.009	1.000	1.020
	4	1.000	1.050	1.031	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.9	22.2	0.0
	2	1.2	0.0	3.7	7.1
	3	0.0	0.9	0.0	2.0
	4	0.0	5.0	3.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.54	9.40	1.15	A	372.55	558.83	63.07	6.77	0.70	63.07	6.77
2	0.97	29.31	19.54	D	2116.03	3174.05	638.36	12.07	7.09	638.41	12.07
3	0.48	13.39	0.90	B	205.55	308.32	43.04	8.38	0.48	43.05	8.38
4	0.99	56.54	25.67	F	1366.34	2049.51	706.17	20.67	7.85	706.21	20.67

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	305.66	76.41	304.13	690.28	1158.36	0.00	1097.82	806.94	0.278	0.00	0.38	4.528	A
2	1736.08	434.02	1728.55	1403.32	59.17	0.00	2646.80	2601.32	0.656	0.00	1.88	3.889	A
3	168.64	42.16	167.77	82.42	1705.30	0.00	936.02	463.35	0.180	0.00	0.22	4.681	A
4	1121.00	280.25	1114.91	1139.33	733.74	0.00	1847.58	1534.67	0.607	0.00	1.52	4.874	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	364.99	91.25	364.17	825.23	1384.60	0.00	980.14	806.94	0.372	0.38	0.59	5.837	A
2	2073.05	518.26	2066.37	1677.99	70.79	0.00	2638.84	2601.32	0.786	1.88	3.55	6.215	A
3	201.37	50.34	200.81	98.55	2038.61	0.00	757.47	463.35	0.266	0.22	0.36	6.460	A
4	1338.58	334.65	1332.51	1362.09	877.33	0.00	1763.06	1534.67	0.759	1.52	3.04	8.245	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	447.02	111.75	444.96	993.29	1644.81	0.00	844.86	806.94	0.529	0.59	1.10	8.956	A
2	2538.96	634.74	2488.36	2004.37	85.38	0.00	2628.82	2601.32	0.966	3.55	16.20	20.668	C
3	246.63	61.66	244.72	118.39	2455.35	0.00	534.24	463.35	0.462	0.36	0.84	12.355	B
4	1639.42	409.86	1579.37	1641.34	1058.73	0.00	1656.31	1534.67	0.990	3.04	18.05	33.441	D

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	447.02	111.75	446.82	1007.98	1674.00	0.00	829.64	806.94	0.539	1.10	1.15	9.397	A
2	2538.96	634.74	2525.60	2034.57	86.26	0.00	2628.23	2601.32	0.966	16.20	19.54	29.309	D
3	246.63	61.66	246.38	120.08	2491.78	0.00	514.71	463.35	0.479	0.84	0.90	13.392	B
4	1639.42	409.86	1608.96	1665.13	1073.03	0.00	1647.89	1534.67	0.995	18.05	25.67	56.541	F

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	364.99	91.25	366.98	854.32	1476.90	0.00	932.01	806.94	0.392	1.15	0.65	6.392	A
2	2073.05	518.26	2136.00	1770.61	73.27	0.00	2637.18	2601.32	0.786	19.54	3.80	8.053	A
3	201.37	50.34	203.41	102.57	2106.70	0.00	720.98	463.35	0.279	0.90	0.39	6.984	A
4	1338.58	334.65	1427.53	1406.41	903.69	0.00	1747.54	1534.67	0.766	25.67	3.43	14.330	B

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	305.66	76.41	306.70	696.47	1172.15	0.00	1090.64	806.94	0.280	0.65	0.39	4.597	A
2	1736.08	434.02	1743.57	1419.09	59.76	0.00	2646.39	2601.32	0.656	3.80	1.93	4.019	A
3	168.64	42.16	169.31	83.22	1720.11	0.00	928.09	463.35	0.182	0.39	0.22	4.750	A
4	1121.00	280.25	1128.45	1149.24	740.18	0.00	1843.78	1534.67	0.608	3.43	1.57	5.083	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.59	0.37	4.528	A	A
2	27.11	1.81	3.889	A	A
3	3.19	0.21	4.681	A	A
4	21.85	1.46	4.874	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.57	0.57	5.837	A	A
2	50.11	3.34	6.215	A	A
3	5.23	0.35	6.460	A	A
4	42.55	2.84	8.245	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	15.74	1.05	8.956	A	A
2	183.02	12.20	20.668	C	C
3	11.84	0.79	12.355	B	B
4	187.91	12.53	33.441	D	C

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.02	1.13	9.397	A	A
2	271.10	18.07	29.309	D	C
3	13.24	0.88	13.392	B	B
4	331.80	22.12	56.541	F	E

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.12	0.67	6.392	A	A
2	76.93	5.13	8.053	A	A
3	6.11	0.41	6.984	A	A
4	97.38	6.49	14.330	B	B

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.03	0.40	4.597	A	A
2	30.09	2.01	4.019	A	A
3	3.43	0.23	4.750	A	A
4	24.68	1.65	5.083	A	A

# Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, PM	Forecast Background + EA2 + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way. Barrack Square	Roundabout	1,2,3,4				49.06	E

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	680.00	100.000
2	ONE HOUR	✓	1978.00	100.000
3	ONE HOUR	✓	146.00	100.000
4	ONE HOUR	✓	1836.00	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	511.94	517.62		
16:45-17:00	2	1489.14	1542.14		
16:45-17:00	3	109.92	112.31		
16:45-17:00	4	1382.24	1437.57		
17:00-17:15	1	611.31	618.09		
17:00-17:15	2	1778.18	1841.47		
17:00-17:15	3	131.25	134.11		
17:00-17:15	4	1650.53	1716.60		
17:15-17:30	1	748.69	757.00		
17:15-17:30	2	2177.82	2255.32		
17:15-17:30	3	160.75	164.26		
17:15-17:30	4	2021.47	2102.40		
17:30-17:45	1	748.69	757.00		
17:30-17:45	2	2177.82	2255.32		
17:30-17:45	3	160.75	164.26		
17:30-17:45	4	2021.47	2102.40		
17:45-18:00	1	611.31	618.09		
17:45-18:00	2	1778.18	1841.47		
17:45-18:00	3	131.25	134.11		
17:45-18:00	4	1650.53	1716.60		
18:00-18:15	1	511.94	517.62		
18:00-18:15	2	1489.14	1542.14		
18:00-18:15	3	109.92	112.31		
18:00-18:15	4	1382.24	1437.57		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	552.000	23.000	105.000
	2	295.000	0.000	147.000	1536.000
	3	29.000	65.000	0.000	52.000
	4	46.000	1748.000	42.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.81	0.03	0.15
	2	0.15	0.00	0.07	0.78
	3	0.20	0.45	0.00	0.36
	4	0.03	0.95	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.008	1.136	1.000
	2	1.039	1.000	1.014	1.037
	3	1.000	1.033	1.000	1.020
	4	1.093	1.039	1.025	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.8	13.6	0.0
	2	3.9	0.0	1.4	3.7
	3	0.0	3.3	0.0	2.0
	4	9.3	3.9	2.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	1.10	175.39	40.37	F	623.98	935.97	1005.20	64.44	11.17	1005.23	64.44
2	0.83	8.32	4.92	A	1815.05	2722.57	242.39	5.34	2.69	242.41	5.34
3	0.22	6.43	0.29	A	133.97	200.96	16.89	5.04	0.19	16.89	5.04
4	0.99	50.60	28.13	F	1684.75	2527.13	801.48	19.03	8.91	801.54	19.03

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.94	127.99	507.88	277.51	1389.13	0.00	1007.59	662.71	0.508	0.00	1.02	7.148	A
2	1489.14	372.29	1484.00	1769.96	127.05	0.00	2638.75	2611.90	0.564	0.00	1.29	3.103	A
3	109.92	27.48	109.46	158.92	1452.13	0.00	1069.03	510.64	0.103	0.00	0.11	3.749	A
4	1382.24	345.56	1374.85	1269.80	291.80	0.00	2118.45	1861.11	0.652	0.00	1.85	4.795	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	611.31	152.83	606.17	331.93	1660.47	0.00	864.03	662.71	0.708	1.02	2.30	13.696	B
2	1778.18	444.54	1775.01	2114.94	151.69	0.00	2622.32	2611.91	0.678	1.29	2.08	4.232	A
3	131.25	32.81	131.05	190.01	1736.70	0.00	920.41	510.64	0.143	0.11	0.17	4.559	A
4	1650.53	412.63	1643.30	1518.64	349.10	0.00	2083.68	1861.11	0.792	1.85	3.66	8.043	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	748.70	187.17	672.12	403.97	1976.42	0.00	696.86	662.71	1.074	2.30	21.45	79.901	F
2	2177.82	544.45	2166.94	2477.32	171.22	0.00	2609.31	2611.91	0.835	2.08	4.79	7.948	A
3	160.75	40.19	160.28	228.48	2109.68	0.00	725.43	510.64	0.222	0.17	0.28	6.364	A
4	2021.48	505.37	1954.03	1843.60	426.38	0.00	2036.79	1861.11	0.992	3.66	20.52	30.730	D

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	748.70	187.17	672.99	406.54	2012.70	0.00	677.67	662.71	1.105	21.45	40.37	175.389	F
2	2177.82	544.45	2177.32	2513.47	172.23	0.00	2608.63	2611.91	0.835	4.79	4.92	8.320	A
3	160.75	40.19	160.73	230.12	2119.43	0.00	720.34	510.64	0.223	0.28	0.29	6.432	A
4	2021.48	505.37	1991.03	1851.94	428.21	0.00	2035.68	1861.11	0.993	20.52	28.13	50.599	F

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	611.31	152.83	757.78	336.76	1761.83	0.00	810.39	662.71	0.754	40.37	3.76	94.412	F
2	1778.18	444.54	1789.09	2336.99	182.60	0.00	2601.72	2611.91	0.683	4.92	2.19	4.489	A
3	131.25	32.81	131.71	198.55	1773.14	0.00	901.78	510.64	0.146	0.29	0.17	4.679	A
4	1650.53	412.63	1746.96	1553.22	351.62	0.00	2082.15	1861.11	0.793	28.13	4.03	13.736	B

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	511.94	127.99	522.69	279.34	1404.90	0.00	999.25	662.71	0.512	3.76	1.07	7.719	A
2	1489.14	372.29	1492.68	1797.37	130.20	0.00	2636.65	2611.90	0.565	2.19	1.31	3.158	A
3	109.92	27.48	110.14	160.42	1462.46	0.00	1063.67	510.64	0.103	0.17	0.12	3.775	A
4	1382.24	345.56	1390.70	1279.07	293.53	0.00	2117.40	1861.11	0.653	4.03	1.91	5.009	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	14.51	0.97	7.148	A	A
2	18.72	1.25	3.103	A	A
3	1.68	0.11	3.749	A	A
4	26.46	1.76	4.795	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	31.65	2.11	13.696	B	B
2	30.08	2.01	4.232	A	A
3	2.44	0.16	4.559	A	A
4	50.95	3.40	8.043	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	195.19	13.01	79.901	F	E
2	65.86	4.39	7.948	A	A
3	4.12	0.27	6.364	A	A
4	213.40	14.23	30.730	D	C

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	465.07	31.00	175.389	F	F
2	73.05	4.87	8.320	A	A
3	4.27	0.28	6.432	A	A
4	368.75	24.58	50.599	F	D

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	281.34	18.76	94.412	F	F
2	34.53	2.30	4.489	A	A
3	2.63	0.18	4.679	A	A
4	111.90	7.46	13.736	B	B

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.45	1.16	7.719	A	A
2	20.14	1.34	3.158	A	A
3	1.77	0.12	3.775	A	A
4	30.01	2.00	5.009	A	A

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, AM	Background 2019	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way, Barrack Square	Roundabout	1,2,3,4				14.59	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	384.00	100.000
2	ONE HOUR	✓	2131.00	100.000
3	ONE HOUR	✓	211.00	100.000
4	ONE HOUR	✓	1394.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	289.10	299.55		
08:00-08:15	2	1604.33	1676.04		
08:00-08:15	3	158.85	160.38		
08:00-08:15	4	1049.48	1090.38		
08:15-08:30	1	345.21	357.69		
08:15-08:30	2	1915.73	2001.35		
08:15-08:30	3	189.68	191.50		
08:15-08:30	4	1253.18	1302.02		
08:30-08:45	1	422.79	438.08		
08:30-08:45	2	2346.27	2451.15		
08:30-08:45	3	232.32	234.54		
08:30-08:45	4	1534.82	1594.64		
08:45-09:00	1	422.79	438.08		
08:45-09:00	2	2346.27	2451.15		
08:45-09:00	3	232.32	234.54		
08:45-09:00	4	1534.82	1594.64		
09:00-09:15	1	345.21	357.69		
09:00-09:15	2	1915.73	2001.35		
09:00-09:15	3	189.68	191.50		
09:00-09:15	4	1253.18	1302.02		
09:15-09:30	1	289.10	299.55		
09:15-09:30	2	1604.33	1676.04		
09:15-09:30	3	158.85	160.38		
09:15-09:30	4	1049.48	1090.38		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	341.000	18.000	25.000
	2	763.000	0.000	54.000	1314.000
	3	46.000	116.000	0.000	49.000
	4	61.000	1301.000	32.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.89	0.05	0.07
	2	0.36	0.00	0.03	0.62
	3	0.22	0.55	0.00	0.23
	4	0.04	0.93	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.029	1.222	1.000
	2	1.012	1.000	1.037	1.064
	3	1.000	1.009	1.000	1.020
	4	1.000	1.041	1.031	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.9	22.2	0.0
	2	1.2	0.0	3.7	6.4
	3	0.0	0.9	0.0	2.0
	4	0.0	4.1	3.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.48	7.90	0.92	A	352.36	528.55	52.09	5.91	0.58	52.09	5.91
2	0.89	11.93	7.48	B	1955.44	2933.16	328.89	6.73	3.65	328.92	6.73
3	0.38	9.37	0.60	A	193.62	290.43	31.71	6.55	0.35	31.71	6.55
4	0.91	21.29	8.57	C	1279.15	1918.73	329.80	10.31	3.66	329.82	10.31

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	289.10	72.27	287.74	652.45	1085.73	0.00	1139.99	814.40	0.254	0.00	0.34	4.217	A
2	1604.32	401.08	1598.31	1317.28	56.20	0.00	2661.03	2612.03	0.603	0.00	1.50	3.368	A
3	158.85	39.71	158.11	77.97	1576.55	0.00	1008.93	464.34	0.157	0.00	0.19	4.227	A
4	1049.47	262.37	1044.51	1040.99	693.66	0.00	1886.29	1531.87	0.556	0.00	1.24	4.252	A



**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	345.21	86.30	344.56	780.36	1298.65	0.00	1030.09	814.40	0.335	0.34	0.50	5.247	A
2	1915.72	478.93	1911.54	1575.95	67.26	0.00	2653.42	2612.03	0.722	1.50	2.55	4.826	A
3	189.69	47.42	189.28	93.27	1885.55	0.00	844.17	464.34	0.225	0.19	0.29	5.493	A
4	1253.17	313.29	1249.26	1245.07	829.74	0.00	1805.55	1531.87	0.694	1.24	2.22	6.427	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	422.79	105.70	421.21	950.09	1573.48	0.00	888.25	814.40	0.476	0.50	0.89	7.682	A
2	2346.27	586.57	2327.93	1912.81	81.89	0.00	2643.35	2612.03	0.888	2.55	7.13	10.834	B
3	232.32	58.08	231.14	113.46	2296.37	0.00	625.13	464.34	0.372	0.29	0.58	9.110	A
4	1534.82	383.70	1512.60	1516.52	1010.98	0.00	1698.03	1531.87	0.904	2.22	7.77	17.643	C

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	422.79	105.70	422.70	957.23	1592.30	0.00	878.52	814.40	0.481	0.89	0.92	7.896	A
2	2346.27	586.57	2344.87	1932.51	82.49	0.00	2642.95	2612.03	0.888	7.13	7.48	11.932	B
3	232.32	58.08	232.25	114.39	2312.99	0.00	616.27	464.34	0.377	0.58	0.60	9.372	A
4	1534.82	383.70	1531.63	1527.34	1017.89	0.00	1693.92	1531.87	0.906	7.77	8.57	21.294	C

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	345.21	86.30	346.80	790.38	1327.08	0.00	1015.39	814.40	0.340	0.92	0.52	5.398	A
2	1915.72	478.93	1935.05	1605.70	68.17	0.00	2652.81	2612.03	0.722	7.48	2.65	5.145	A
3	189.69	47.42	190.89	94.63	1908.60	0.00	831.87	464.34	0.228	0.60	0.30	5.626	A
4	1253.17	313.29	1278.06	1260.08	839.40	0.00	1799.82	1531.87	0.696	8.57	2.35	7.214	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	289.10	72.27	289.80	656.87	1095.24	0.00	1135.08	814.40	0.255	0.52	0.34	4.263	A
2	1604.32	401.08	1608.79	1328.39	56.64	0.00	2660.73	2612.03	0.603	2.65	1.53	3.438	A
3	158.85	39.71	159.29	78.54	1586.90	0.00	1003.41	464.34	0.158	0.30	0.19	4.266	A
4	1049.47	262.37	1053.78	1047.86	698.32	0.00	1883.52	1531.87	0.557	2.35	1.27	4.360	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.94	0.33	4.217	A	A
2	21.83	1.46	3.368	A	A
3	2.72	0.18	4.227	A	A
4	17.95	1.20	4.252	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.32	0.49	5.247	A	A
2	36.63	2.44	4.826	A	A
3	4.22	0.28	5.493	A	A
4	31.66	2.11	6.427	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.89	0.86	7.682	A	A
2	93.67	6.24	10.834	B	B
3	8.38	0.56	9.110	A	A
4	96.73	6.45	17.643	C	B

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.65	0.91	7.896	A	A
2	110.14	7.34	11.932	B	B
3	8.90	0.59	9.372	A	A
4	123.68	8.25	21.294	C	C

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.03	0.54	5.398	A	A
2	42.93	2.86	5.145	A	A
3	4.60	0.31	5.626	A	A
4	40.04	2.67	7.214	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.27	0.35	4.263	A	A
2	23.69	1.58	3.438	A	A
3	2.89	0.19	4.266	A	A
4	19.73	1.32	4.360	A	A

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, PM	Background 2019	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
12	A12, Eagle Way. Barrack Square	Roundabout	1,2,3,4				16.94	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Barrack Square	
2	2	A12 (south)	
3	3	Eagle Way	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.57	6.00	20.00	36.27	75.53	9.50	
2	8.30	8.71	2.00	26.97	75.53	8.00	
3	3.64	8.55	14.70	23.61	75.53	25.00	
4	7.20	7.20	0.00	31.65	75.53	8.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.515	1761.891
2		(calculated)	(calculated)	0.674	2820.363
3		(calculated)	(calculated)	0.515	1867.267
4		(calculated)	(calculated)	0.610	2387.411

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	642.00	100.000
2	ONE HOUR	✓	1856.00	100.000
3	ONE HOUR	✓	137.00	100.000
4	ONE HOUR	✓	1685.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	483.33	488.72		
16:45-17:00	2	1397.29	1438.35		
16:45-17:00	3	103.14	105.39		
16:45-17:00	4	1268.56	1310.91		
17:00-17:15	1	577.14	583.58		
17:00-17:15	2	1668.51	1717.53		
17:00-17:15	3	123.16	125.85		
17:00-17:15	4	1514.78	1565.36		
17:15-17:30	1	706.86	714.74		
17:15-17:30	2	2043.49	2103.53		
17:15-17:30	3	150.84	154.14		
17:15-17:30	4	1855.22	1917.17		
17:30-17:45	1	706.86	714.74		
17:30-17:45	2	2043.49	2103.53		
17:30-17:45	3	150.84	154.14		
17:30-17:45	4	1855.22	1917.17		
17:45-18:00	1	577.14	583.58		
17:45-18:00	2	1668.51	1717.53		
17:45-18:00	3	123.16	125.85		
17:45-18:00	4	1514.78	1565.36		
18:00-18:15	1	483.33	488.72		
18:00-18:15	2	1397.29	1438.35		
18:00-18:15	3	103.14	105.39		
18:00-18:15	4	1268.56	1310.91		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.000	521.000	22.000	99.000
	2	279.000	0.000	139.000	1438.000
	3	27.000	61.000	0.000	49.000
	4	43.000	1602.000	40.000	0.000

## Turning Proportions (Veh) - Junction 12 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.81	0.03	0.15
	2	0.15	0.00	0.07	0.77
	3	0.20	0.45	0.00	0.36
	4	0.03	0.95	0.02	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.008	1.136	1.000
	2	1.039	1.000	1.014	1.029
	3	1.000	1.033	1.000	1.020
	4	1.093	1.032	1.025	1.000

## Heavy Vehicle Percentages - Junction 12 (for whole period)

		To			
From		1	2	3	4
	1	0.0	0.8	13.6	0.0
	2	3.9	0.0	1.4	2.9
	3	0.0	3.3	0.0	2.0
	4	9.3	3.2	2.5	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.93	51.64	9.50	F	589.11	883.67	296.86	20.16	3.30	296.88	20.16
2	0.78	6.21	3.48	A	1703.10	2554.65	184.91	4.34	2.05	184.93	4.34
3	0.19	5.63	0.23	A	125.71	188.57	14.29	4.55	0.16	14.29	4.55
4	0.90	16.69	8.19	C	1546.19	2319.28	339.49	8.78	3.77	339.52	8.78

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	483.33	120.83	480.09	261.86	1276.33	0.00	1071.50	664.64	0.451	0.00	0.81	6.055	A
2	1397.29	349.32	1392.89	1635.96	120.46	0.00	2659.07	2626.08	0.525	0.00	1.10	2.834	A
3	103.14	25.79	102.74	150.75	1362.61	0.00	1120.11	512.68	0.092	0.00	0.10	3.536	A
4	1268.56	317.14	1262.81	1189.97	275.37	0.00	2142.09	1869.53	0.592	0.00	1.44	4.069	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	577.15	144.29	574.20	313.25	1526.78	0.00	939.84	664.64	0.614	0.81	1.55	9.765	A
2	1668.51	417.13	1666.13	1956.90	144.08	0.00	2643.23	2626.08	0.631	1.10	1.69	3.675	A
3	123.16	30.79	122.99	180.32	1629.90	0.00	981.38	512.68	0.126	0.10	0.14	4.192	A
4	1514.78	378.70	1510.56	1423.43	329.46	0.00	2109.06	1869.53	0.718	1.44	2.49	5.971	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	706.86	176.71	682.92	382.63	1854.80	0.00	767.40	664.64	0.921	1.55	7.53	35.658	E
2	2043.49	510.87	2036.60	2365.44	172.26	0.00	2624.32	2626.08	0.779	1.69	3.42	6.054	A
3	150.84	37.71	150.48	219.48	1989.39	0.00	794.75	512.68	0.190	0.14	0.23	5.585	A
4	1855.22	463.81	1834.61	1737.06	402.81	0.00	2064.26	1869.53	0.899	2.49	7.64	14.530	B

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	706.86	176.71	698.98	384.16	1872.92	0.00	757.88	664.64	0.933	7.53	9.50	51.639	F
2	2043.49	510.87	2043.26	2396.16	175.73	0.00	2622.00	2626.08	0.779	3.42	3.48	6.214	A
3	150.84	37.71	150.83	220.97	1998.02	0.00	790.30	512.68	0.191	0.23	0.23	5.629	A
4	1855.22	463.81	1853.05	1744.82	404.03	0.00	2063.51	1869.53	0.899	7.64	8.19	16.690	C

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	577.15	144.29	608.33	315.43	1552.84	0.00	926.14	664.64	0.623	9.50	1.71	12.392	B
2	1668.51	417.13	1675.45	2010.03	151.14	0.00	2638.49	2626.08	0.632	3.48	1.74	3.766	A
3	123.16	30.79	123.52	182.81	1643.78	0.00	974.24	512.68	0.126	0.23	0.15	4.234	A
4	1514.78	378.70	1537.07	1436.10	331.20	0.00	2107.99	1869.53	0.719	8.19	2.61	6.540	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	483.33	120.83	486.80	263.27	1286.65	0.00	1066.08	664.64	0.453	1.71	0.84	6.250	A
2	1397.29	349.32	1399.79	1651.47	121.97	0.00	2658.05	2626.08	0.526	1.74	1.12	2.868	A
3	103.14	25.79	103.31	151.74	1370.02	0.00	1116.27	512.68	0.092	0.15	0.10	3.553	A
4	1268.56	317.14	1273.14	1196.56	276.78	0.00	2141.23	1869.53	0.592	2.61	1.47	4.168	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	11.69	0.78	6.055	A	A
2	16.08	1.07	2.834	A	A
3	1.49	0.10	3.536	A	A
4	20.75	1.38	4.069	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.94	1.46	9.765	A	A
2	24.69	1.65	3.675	A	A
3	2.11	0.14	4.192	A	A
4	35.59	2.37	5.971	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	86.31	5.75	35.658	E	D
2	48.21	3.21	6.054	A	A
3	3.41	0.23	5.585	A	A
4	97.37	6.49	14.530	B	B

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	129.88	8.66	51.639	F	D
2	51.79	3.45	6.214	A	A
3	3.51	0.23	5.629	A	A
4	119.48	7.97	16.690	C	B

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	33.94	2.26	12.392	B	B
2	27.03	1.80	3.766	A	A
3	2.23	0.15	4.234	A	A
4	43.48	2.90	6.540	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.11	0.87	6.250	A	A
2	17.11	1.14	2.868	A	A
3	1.56	0.10	3.553	A	A
4	22.81	1.52	4.168	A	A





# East Anglia ONE North Offshore Windfarm

Junction 13

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

Link	Arm	Road Name
-	A	Newbourne road
-	B	A12 (south)
-	C	Foxhall road
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Wednesday 5th June 2019: 08:00AM - 09:00AM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	73	33	200	306
B	78	0	147	1614	1839
C	83	201	0	208	492
D	102	1369	188	0	1659
Totals	263	1643	368	2022	4296

**HGVs**

From/To	A	B	C	D	Totals
A	0	10	1	13	24
B	7	0	13	88	108
C	4	15	0	3	22
D	3	57	4	0	64
Totals	14	82	18	104	218

**Total**

From/To	A	B	C	D	Totals
A	0	83	34	213	330
B	85	0	160	1702	1947
C	87	216	0	211	514
D	105	1426	192	0	1723
Totals	277	1725	386	2126	4514

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	12.0%	2.9%	6.1%	5%
B	8.2%	0.0%	8.1%	5.2%	5%
C	4.6%	6.9%	0.0%	1.4%	3%
D	2.9%	4.0%	2.1%	0.0%	2%
Average	4%	6%	3%	3%	4%

**PM Peak Traffic**

Thursday 6th June 2018: 16:30PM - 17:30PM

**Vehicles**

From/To	A	B	C	D	Totals
A	1	85	86	165	337
B	61	0	297	1356	1714
C	47	215	0	241	503
D	143	1566	406	3	0
Totals	252	1866	789	1765	4672

**HGVs**

From/To	A	B	C	D	Totals
A	0	2	0	7	9
B	1	0	6	57	64
C	1	3	0	3	7
D	7	49	3	0	59
Totals	9	54	9	67	139

**Total**

From/To	A	B	C	D	Totals
A	1	87	86	172	346
B	62	0	303	1413	1778
C	48	218	0	244	510
D	150	1615	409	3	2177
Totals	261	1920	798	1832	4811

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.3%	0.0%	4.1%	2%
B	1.6%	0.0%	2.0%	4.0%	2%
C	2.1%	1.4%	0.0%	1.2%	1%
D	4.7%	3.0%	0.7%	0.0%	2%
Average	2%	2%	1%	2%	2%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	77	35	212	324
B	83	0	155	1707	1945
C	88	213	0	220	520
D	108	1448	199	0	1755
Totals	278	1738	389	2139	4544

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	11	1	14	25
B	7	0	14	93	114
C	4	16	0	3	23
D	3	60	4	0	68
Totals	15	87	19	110	231

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	88	36	225	349
B	90	0	169	1800	2060
C	92	228	0	223	544
D	111	1508	203	0	1823
Totals	293	1825	408	2249	4775

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	12.0%	2.9%	6.1%	5%
B	8.2%	0.0%	8.1%	5.2%	5%
C	4.6%	6.9%	0.0%	1.4%	3%
D	2.9%	4.0%	2.1%	0.0%	2%
Average	4%	6%	3%	3%	4%

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	1	90	91	175	357
B	65	0	314	1436	1815
C	50	228	0	255	533
D	151	1658	430	3	2243
Totals	267	1976	835	1869	4947

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	2	0	7	10
B	1	0	6	60	68
C	1	3	0	3	7
D	7	52	3	0	62
Totals	10	57	10	71	147

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	1	92	91	182	366
B	66	0	321	1496	1883
C	51	231	0	258	540
D	159	1710	433	3	2305
Totals	276	2033	845	1940	5094

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.3%	0.0%	4.1%	2%
B	1.6%	0.0%	2.0%	4.0%	2%
C	2.1%	1.4%	0.0%	1.2%	1%
D	4.7%	3.0%	0.7%	0.0%	2%
Average	2%	2%	1%	2%	2%

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

Link	Arm	Road Name
-	A	Newbourne road
-	B	A12 (south)
-	C	Foxhall road
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	20	20
C	0	0	0	10	10
D	0	0	0	0	0
Totals	0	0	0	31	31

**PM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	20	10	0	31
Totals	0	20	10	0	31

**HGVs**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

**HGVs**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	11	0	0	11
Totals	0	11	0	11	21

**Total**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	31	31
C	0	0	0	10	10
D	0	11	0	0	11
Totals	0	11	0	41	52

**Total**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	11	11
C	0	0	0	0	0
D	0	31	10	0	41
Totals	0	31	10	11	52

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	34.0%	8%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	8%	8%

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	34.0%	0.0%	0.0%	8%
Average	0%	8%	0%	25%	8%

**Forecast Flows + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

From/To	A	B	C	D	Totals
A	0	77	35	212	324
B	83	0	155	1728	1966
C	88	213	0	230	531
D	108	1448	199	0	1755
Totals	278	1738	389	2170	4575

**PM Peak Traffic**

**Vehicles**

From/To	A	B	C	D	Totals
A	1	90	91	175	357
B	65	0	314	1436	1815
C	50	228	0	255	533
D	152	1678	440	3	2273
Totals	267	1996	846	1869	4978

**HGVs**

From/To	A	B	C	D	Totals
A	0	11	1	14	25
B	7	0	14	104	125
C	4	16	0	3	23
D	3	71	4	0	78
Totals	15	97	19	121	252

**HGVs**

From/To	A	B	C	D	Totals
A	0	2	0	7	10
B	1	0	6	71	78
C	1	3	0	3	7
D	7	62	3	0	73
Totals	10	68	10	81	168

**Total**

From/To	A	B	C	D	Totals
A	0	88	36	226	349
B	90	0	169	1831	2090
C	92	228	0	233	554
D	111	1519	203	0	1833
Totals	293	1835	408	2290	4827

**Total**

From/To	A	B	C	D	Totals
A	1	92	91	182	366
B	66	0	321	1507	1893
C	51	231	0	258	540
D	159	1741	443	3	2346
Totals	277	2064	855	1950	5146

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	12.0%	2.9%	6.1%	5%
B	8.2%	0.0%	8.1%	5.7%	6%
C	4.6%	6.9%	0.0%	1.4%	3%
D	2.9%	4.7%	2.1%	0.0%	2%
Average	4%	6%	3%	3%	4%

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.3%	0.0%	4.1%	2%
B	1.6%	0.0%	2.0%	4.7%	2%
C	2.1%	1.4%	0.0%	1.2%	1%
D	4.7%	3.6%	0.7%	0.0%	2%
Average	2%	2%	1%	3%	2%

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

Link	Arm	Road Name
-	A	Newbourne road
-	B	A12 (south)
-	C	Foxhall road
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**Surveyed Flows (2019)**

**AM Peak Traffic**

Wednesday 5th June 2019: 08:00AM - 09:00AM

**Vehicles**

From/To	A	B	C	D	Totals
A	0	73	33	200	306
B	78	0	147	1614	1839
C	83	201	0	208	492
D	102	1369	188	0	1659
Totals	263	1643	368	2022	4296

**HGVs**

From/To	A	B	C	D	Totals
A	0	10	1	13	24
B	7	0	13	88	108
C	4	15	0	3	22
D	3	57	4	0	64
Totals	14	82	18	104	218

**Total**

From/To	A	B	C	D	Totals
A	0	83	34	213	330
B	85	0	160	1702	1947
C	87	216	0	211	514
D	105	1426	192	0	1723
Totals	277	1725	386	2126	4514

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	12.0%	2.9%	6.1%	5%
B	8.2%	0.0%	8.1%	5.2%	5%
C	4.6%	6.9%	0.0%	1.4%	3%
D	2.9%	4.0%	2.1%	0.0%	2%
Average	4%	6%	3%	3%	4%

**PM Peak Traffic**

Thursday 6th June 2018: 16:30PM - 17:30PM

**Vehicles**

From/To	A	B	C	D	Totals
A	1	85	86	165	337
B	61	0	297	1356	1714
C	47	215	0	241	503
D	143	1566	406	3	0
Totals	252	1866	789	1765	4672

**HGVs**

From/To	A	B	C	D	Totals
A	0	2	0	7	9
B	1	0	6	57	64
C	1	3	0	3	7
D	7	49	3	0	59
Totals	9	54	9	67	139

**Total**

From/To	A	B	C	D	Totals
A	1	87	86	172	346
B	62	0	303	1413	1778
C	48	218	0	244	510
D	150	1615	409	3	2177
Totals	261	1920	798	1832	4811

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.3%	0.0%	4.1%	2%
B	1.6%	0.0%	2.0%	4.0%	2%
C	2.1%	1.4%	0.0%	1.2%	1%
D	4.7%	3.0%	0.7%	0.0%	2%
Average	2%	2%	1%	2%	2%

**Forecast Flows (2023)**

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	0	77	35	212	324
B	83	0	155	1707	1945
C	88	213	0	220	520
D	108	1448	199	0	1755
Totals	278	1738	389	2139	4544

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	11	1	14	25
B	7	0	14	93	114
C	4	16	0	3	23
D	3	60	4	0	68
Totals	15	87	19	110	231

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	0	88	36	225	349
B	90	0	169	1800	2060
C	92	228	0	223	544
D	111	1508	203	0	1823
Totals	293	1825	408	2249	4775

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	12.0%	2.9%	6.1%	5%
B	8.2%	0.0%	8.1%	5.2%	5%
C	4.6%	6.9%	0.0%	1.4%	3%
D	2.9%	4.0%	2.1%	0.0%	2%
Average	4%	6%	3%	3%	4%

**Growth Factored Vehicles**

From/To	A	B	C	D	Totals
A	1	90	91	175	357
B	65	0	314	1436	1815
C	50	228	0	255	533
D	151	1658	430	3	2243
Totals	267	1976	835	1869	4947

**Growth Factored HGVs**

From/To	A	B	C	D	Totals
A	0	2	0	7	10
B	1	0	6	60	68
C	1	3	0	3	7
D	7	52	3	0	62
Totals	10	57	10	71	147

**Growth Factored Total**

From/To	A	B	C	D	Totals
A	1	92	91	182	366
B	66	0	321	1496	1883
C	51	231	0	258	540
D	159	1710	433	3	2305
Totals	276	2033	845	1940	5094

**%HGV**

From/To	A	B	C	D	Average
A	0.0%	2.3%	0.0%	4.1%	2%
B	1.6%	0.0%	2.0%	4.0%	2%
C	2.1%	1.4%	0.0%	1.2%	1%
D	4.7%	3.0%	0.7%	0.0%	2%
Average	2%	2%	1%	2%	2%

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

Link	Arm	Road Name
-	A	Newbourne road
-	B	A12 (south)
-	C	Foxhall road
-	D	A12 (north)

Growth Factor	AM	PM
All Vehicles	1.0578	1.0588

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	25	25
C	0	0	0	13	13
D	0	0	0	0	0
Totals	0	0	0	38	38

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	39	39
C	0	0	0	13	13
D	0	14	0	0	14
Totals	0	14	0	52	65

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	34.8%	9%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	100.0%	0.0%	0.0%	25%
Average	0%	25%	0%	9%	8%

**PM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	0	0
C	0	0	0	0	0
D	0	25	13	0	38
Totals	0	25	13	0	38

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	14	0	0	14
Totals	0	14	0	14	27

From/To	A	B	C	D	Totals
A	0	0	0	0	0
B	0	0	0	14	14
C	0	0	0	0	0
D	0	39	13	0	52
Totals	0	39	13	14	65

From/To	A	B	C	D	Average
A	0.0%	0.0%	0.0%	0.0%	0%
B	0.0%	0.0%	0.0%	100.0%	25%
C	0.0%	0.0%	0.0%	0.0%	0%
D	0.0%	34.8%	0.0%	0.0%	9%
Average	0%	9%	0%	25%	8%

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

From/To	A	B	C	D	Totals
A	0	77	35	212	324
B	83	0	155	1733	1971
C	88	213	0	233	533
D	108	1448	199	0	1755
Totals	278	1738	389	2177	4583

From/To	A	B	C	D	Totals
A	0	11	1	14	25
B	7	0	14	107	128
C	4	16	0	3	23
D	3	74	4	0	81
Totals	15	100	19	124	258

From/To	A	B	C	D	Totals
A	0	88	36	226	349
B	90	0	169	1839	2098
C	92	228	0	236	556
D	111	1522	203	0	1836
Totals	293	1838	408	2301	4840

From/To	A	B	C	D	Average
A	0.0%	12.0%	2.9%	6.1%	5%
B	8.2%	0.0%	8.1%	5.8%	6%
C	4.6%	6.9%	0.0%	1.3%	3%
D	2.9%	4.8%	2.1%	0.0%	2%
Average	4%	6%	3%	3%	4%

**PM Peak Traffic**

From/To	A	B	C	D	Totals
A	1	90	91	175	357
B	65	0	314	1436	1815
C	50	228	0	255	533
D	152	1683	442	3	2281
Totals	267	2001	848	1869	4985

From/To	A	B	C	D	Totals
A	0	2	0	7	10
B	1	0	6	74	81
C	1	3	0	3	7
D	7	65	3	0	76
Totals	10	71	10	84	174

From/To	A	B	C	D	Totals
A	1	92	91	182	366
B	66	0	321	1510	1896
C	51	231	0	258	540
D	159	1749	446	3	2357
Totals	277	2072	857	1953	5159

From/To	A	B	C	D	Average
A	0.0%	2.3%	0.0%	4.1%	2%
B	1.6%	0.0%	2.0%	4.9%	2%
C	2.1%	1.4%	0.0%	1.2%	1%
D	4.7%	3.7%	0.7%	0.0%	2%
Average	2%	2%	1%	3%	2%

<b>Junctions 8</b>
<b>ARCADY 8 - Roundabout Module</b>
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2019
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**Filename:** Junction 13 - A12 and Foxhall Road and Newbourne Road.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 22/07/2019 14:49:56

- 
- »Existing Layout - Forecast Background 2023, AM
  - »Existing Layout - Forecast Background 2023, PM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA1N Construction 2023, PM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - »Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - »Existing Layout - Background 2019, AM
  - »Existing Layout - Background 2019, PM

## Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
<b>Existing Layout - Background 2019</b>								
Arm 1	0.73	7.26	0.42	A	1.33	12.81	0.58	B
Arm 2	3.17	5.38	0.76	A	2.65	4.92	0.73	A
Arm 3	14.45	93.32	0.99	F	2.22	14.55	0.70	B
Arm 4	2.91	5.60	0.75	A	9.91	15.68	0.92	C
<b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b>								
Arm 1	0.90	8.50	0.48	A	2.31	21.53	0.71	C
Arm 2	4.69	7.50	0.83	A	3.68	6.46	0.79	A
Arm 3	65.23	349.57	1.25	F	3.81	24.17	0.80	C
Arm 4	3.72	6.74	0.79	A	33.49	46.60	1.00	E
<b>Existing Layout - Forecast Background + EA1N Construction 2023</b>								
Arm 1	0.88	8.37	0.47	A	2.07	19.17	0.68	C
Arm 2	4.23	6.84	0.81	A	3.47	6.12	0.78	A
Arm 3	49.56	267.61	1.18	F	3.55	22.42	0.79	C
Arm 4	3.60	6.57	0.79	A	22.68	33.64	0.98	D
<b>Existing Layout - Forecast Background 2023</b>								
Arm 1	0.73	7.41	0.42	A	1.69	15.94	0.64	C
Arm 2	3.21	5.45	0.77	A	2.97	5.40	0.75	A
Arm 3	17.14	106.66	1.01	F	2.77	17.54	0.74	C
Arm 4	3.12	5.89	0.76	A	14.87	23.05	0.95	C

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

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30  
 "D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15  
 "D3 - Forecast Background + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D4 - Forecast Background + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30  
 "D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15  
 "D7 - Background 2019, AM" model duration: 08:00 - 09:30  
 "D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 22/07/2019 14:49:49

## File summary

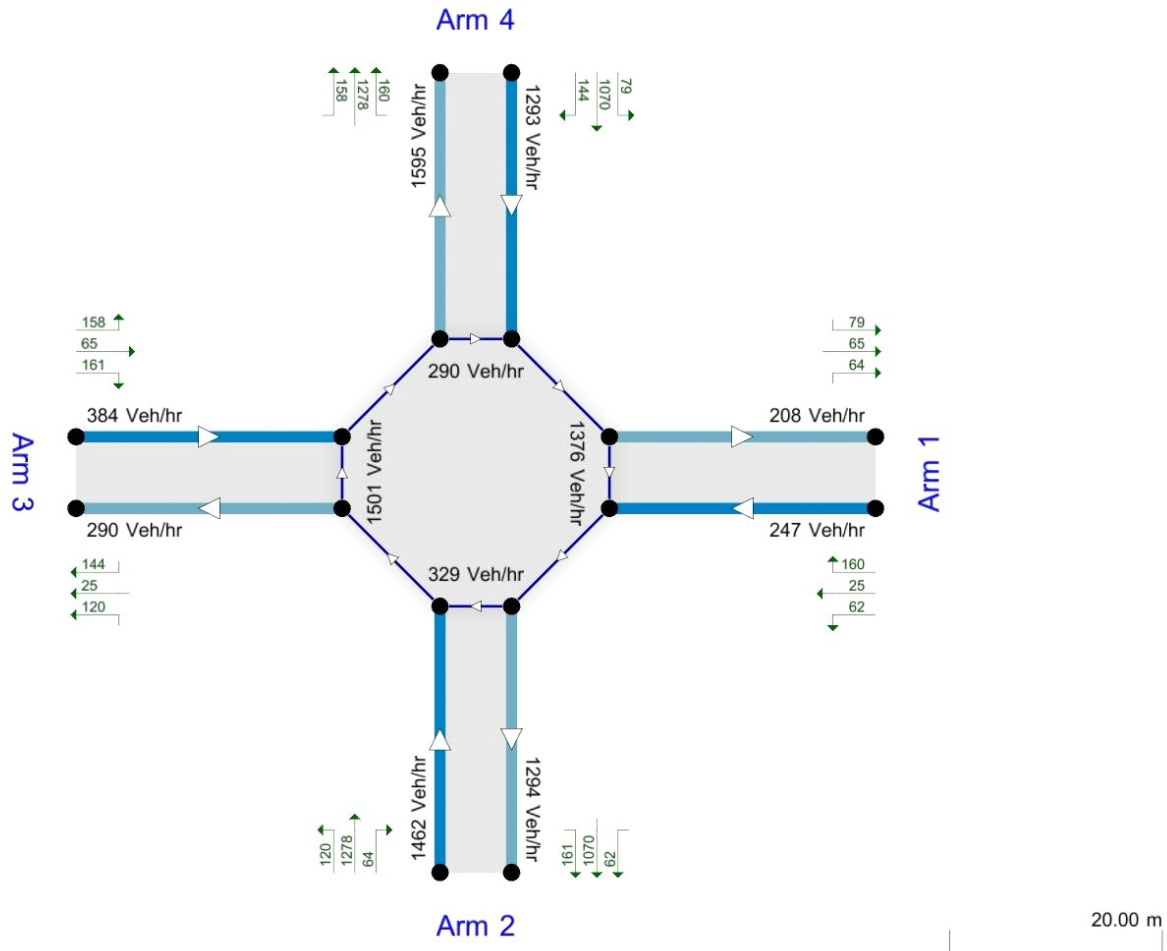
<b>Title</b>	East Anglia ONE North Offshore Windfarm
<b>Location</b>	Roundabout junction of the A12, Foxhall Road, Newbourne Road
<b>Site Number</b>	J13
<b>Date</b>	25/06/2019
<b>Version</b>	D0.1
<b>Status</b>	Existing Layout
<b>Identifier</b>	
<b>Client</b>	Scottish Power
<b>Jobnumber</b>	PB4842
<b>Enumerator</b>	304111
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## 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



Showing modelled flow through junction (Veh/hr).  
 Time Segment: (08:00-08:15)  
 Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.



## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, AM	Forecast Background 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				17.28	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	325.62	100.000
2	ONE HOUR	✓	1950.54	100.000
3	ONE HOUR	✓	521.16	100.000
4	ONE HOUR	✓	1756.70	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	245.14	262.75		
08:00-08:15	2	1468.47	1550.12		
08:00-08:15	3	392.36	408.80		
08:00-08:15	4	1322.53	1371.70		
08:15-08:30	1	292.73	313.74		
08:15-08:30	2	1753.50	1851.00		
08:15-08:30	3	468.51	488.15		
08:15-08:30	4	1579.23	1637.94		
08:30-08:45	1	358.52	384.26		
08:30-08:45	2	2147.59	2267.00		
08:30-08:45	3	573.81	597.85		
08:30-08:45	4	1934.16	2006.06		
08:45-09:00	1	358.52	384.26		
08:45-09:00	2	2147.59	2267.00		
08:45-09:00	3	573.81	597.85		
08:45-09:00	4	1934.16	2006.06		
09:00-09:15	1	292.73	313.74		
09:00-09:15	2	1753.50	1851.00		
09:00-09:15	3	468.51	488.15		
09:00-09:15	4	1579.23	1637.94		
09:15-09:30	1	245.14	262.75		
09:15-09:30	2	1468.47	1550.12		
09:15-09:30	3	392.36	408.80		
09:15-09:30	4	1322.53	1371.70		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.000	78.571	34.985	212.064
	2	83.179	0.000	156.337	1711.027
	3	87.954	213.283	0.000	219.921
	4	107.872	1450.000	198.825	0.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.24	0.11	0.65
	2	0.04	0.00	0.08	0.88
	3	0.17	0.41	0.00	0.42
	4	0.06	0.83	0.11	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.120	1.029	1.061
	2	1.082	1.000	1.081	1.052
	3	1.046	1.069	1.000	1.014
	4	1.029	1.040	1.021	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.0	12.0	2.9	6.1
	2	8.2	0.0	8.1	5.2
	3	4.6	6.9	0.0	1.4
	4	2.9	4.0	2.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.42	7.41	0.73	A	298.80	448.19	40.88	5.47	0.45	40.88	5.47
2	0.77	5.45	3.21	A	1789.86	2684.79	170.50	3.81	1.89	170.51	3.81
3	1.01	106.66	17.14	F	478.22	717.34	429.55	35.93	4.77	429.57	35.93
4	0.76	5.89	3.12	A	1611.98	2417.97	167.76	4.16	1.86	167.77	4.16

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	245.14	61.29	244.12	209.15	1396.95	0.00	1195.06	547.29	0.205	0.00	0.26	3.782	A
2	1468.48	367.12	1464.46	1306.63	334.44	0.00	2921.92	2642.17	0.503	0.00	1.00	2.462	A
3	392.36	98.09	389.49	292.83	1506.07	0.00	933.70	271.01	0.420	0.00	0.72	6.581	A
4	1322.54	330.63	1318.52	1607.96	287.58	0.00	2630.84	2643.00	0.503	0.00	1.00	2.736	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	292.73	73.18	292.21	250.09	1670.75	0.00	1045.90	547.29	0.280	0.26	0.39	4.773	A
2	1753.50	438.38	1751.32	1562.77	400.19	0.00	2873.58	2642.17	0.610	1.00	1.55	3.200	A
3	468.51	117.13	465.56	350.26	1801.26	0.00	781.02	271.01	0.600	0.72	1.45	11.307	B
4	1579.24	394.81	1577.08	1923.02	343.78	0.00	2591.25	2643.00	0.609	1.00	1.55	3.542	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	358.51	89.63	357.19	299.66	2027.88	0.00	851.58	547.29	0.421	0.39	0.72	7.263	A
2	2147.59	536.90	2141.11	1895.84	489.23	0.00	2808.14	2642.17	0.765	1.55	3.17	5.345	A
3	573.81	143.45	533.02	428.22	2202.13	0.00	573.67	271.01	1.000	1.45	11.65	61.477	F
4	1934.17	483.54	1928.14	2335.73	399.40	0.00	2552.01	2643.00	0.758	1.55	3.05	5.716	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	358.51	89.63	358.46	303.46	2040.98	0.00	844.34	547.29	0.425	0.72	0.73	7.409	A
2	2147.59	536.90	2147.42	1908.59	490.84	0.00	2806.95	2642.17	0.765	3.17	3.21	5.455	A
3	573.81	143.45	551.86	429.51	2208.74	0.00	570.24	271.01	1.006	11.65	17.14	106.659	F
4	1934.17	483.54	1933.89	2350.05	410.56	0.00	2544.18	2643.00	0.760	3.05	3.12	5.893	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	292.73	73.18	294.04	261.97	1705.11	0.00	1026.83	547.29	0.285	0.73	0.40	4.922	A
2	1753.50	438.38	1760.03	1596.63	402.51	0.00	2871.88	2642.17	0.611	3.21	1.58	3.258	A
3	468.51	117.13	530.73	352.08	1810.45	0.00	776.25	271.01	0.604	17.14	1.58	18.504	C
4	1579.24	394.81	1585.24	1959.36	381.83	0.00	2564.55	2643.00	0.616	3.12	1.62	3.697	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	245.14	61.29	245.71	210.86	1405.53	0.00	1190.36	547.29	0.206	0.40	0.26	3.812	A
2	1468.48	367.12	1470.74	1314.86	336.38	0.00	2920.49	2642.17	0.503	1.58	1.02	2.486	A
3	392.36	98.09	395.73	294.24	1512.87	0.00	930.17	271.01	0.422	1.58	0.74	6.776	A
4	1322.54	330.63	1324.94	1617.14	291.45	0.00	2628.12	2643.00	0.503	1.62	1.02	2.769	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.77	0.25	3.782	A	A
2	14.74	0.98	2.462	A	A
3	10.29	0.69	6.581	A	A
4	14.71	0.98	2.736	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.66	0.38	4.773	A	A
2	22.70	1.51	3.200	A	A
3	20.49	1.37	11.307	B	B
4	22.57	1.50	3.542	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.37	0.69	7.263	A	A
2	45.05	3.00	5.345	A	A
3	116.69	7.78	61.477	F	E
4	43.31	2.89	5.716	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.90	0.73	7.409	A	A
2	47.98	3.20	5.455	A	A
3	218.13	14.54	106.659	F	F
4	46.44	3.10	5.893	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.19	0.41	4.922	A	A
2	24.49	1.63	3.258	A	A
3	52.39	3.49	18.504	C	B
4	25.12	1.67	3.697	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.99	0.27	3.812	A	A
2	15.55	1.04	2.486	A	A
3	11.56	0.77	6.776	A	A
4	15.62	1.04	2.769	A	A

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Forecast Background 2023, PM	Forecast Background 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

## Junction Network

### Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				15.43	C

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

### 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	356.76	100.000
2	ONE HOUR	✓	1818.13	100.000
3	ONE HOUR	✓	532.70	100.000
4	ONE HOUR	✓	2245.05	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	268.59	275.54		
16:45-17:00	2	1368.78	1417.62		
16:45-17:00	3	401.05	406.54		
16:45-17:00	4	1690.19	1735.32		
17:00-17:15	1	320.72	329.03		
17:00-17:15	2	1634.46	1692.78		
17:00-17:15	3	478.89	485.45		
17:00-17:15	4	2018.25	2072.15		
17:15-17:30	1	392.80	402.97		
17:15-17:30	2	2001.80	2073.22		
17:15-17:30	3	586.52	594.55		
17:15-17:30	4	2471.84	2537.85		
17:30-17:45	1	392.80	402.97		
17:30-17:45	2	2001.80	2073.22		
17:30-17:45	3	586.52	594.55		
17:30-17:45	4	2471.84	2537.85		
17:45-18:00	1	320.72	329.03		
17:45-18:00	2	1634.46	1692.78		
17:45-18:00	3	478.89	485.45		
17:45-18:00	4	2018.25	2072.15		
18:00-18:15	1	268.59	275.54		
18:00-18:15	2	1368.78	1417.62		
18:00-18:15	3	401.05	406.54		
18:00-18:15	4	1690.19	1735.32		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	89.932	91.000	174.832
	2	64.961	0.000	314.706	1438.462
	3	49.951	227.811	0.000	254.941
	4	151.862	1660.194	429.990	3.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.25	0.26	0.49
	2	0.04	0.00	0.17	0.79
	3	0.09	0.43	0.00	0.48
	4	0.07	0.74	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
From		1	2	3	4
	1	1.000	1.023	1.000	1.041
	2	1.016	1.000	1.020	1.040
	3	1.021	1.014	1.000	1.012
	4	1.047	1.030	1.007	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
From		1	2	3	4
	1	0.0	2.3	0.0	4.1
	2	1.6	0.0	2.0	4.0
	3	2.1	1.4	0.0	1.2
	4	4.7	3.0	0.7	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.64	15.94	1.69	C	327.37	491.06	74.28	9.08	0.83	74.28	9.08
2	0.75	5.40	2.97	A	1668.35	2502.52	157.02	3.76	1.74	157.03	3.76
3	0.74	17.54	2.77	C	488.82	733.22	123.76	10.13	1.38	123.77	10.13
4	0.95	23.05	14.87	C	2060.10	3090.16	518.67	10.07	5.76	518.70	10.07

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	268.59	67.15	267.26	200.79	1740.14	0.00	1069.53	554.39	0.251	0.00	0.33	4.480	A
2	1368.78	342.20	1365.09	1482.83	524.57	0.00	2845.53	2555.84	0.481	0.00	0.92	2.425	A
3	401.05	100.26	398.77	626.89	1262.78	0.00	1098.65	507.84	0.365	0.00	0.57	5.127	A
4	1690.20	422.55	1683.49	1404.10	257.45	0.00	2687.92	2620.01	0.629	0.00	1.68	3.562	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	320.72	80.18	319.78	240.12	2080.55	0.00	878.98	554.39	0.365	0.33	0.57	6.427	A
2	1634.46	408.62	1632.44	1773.01	627.33	0.00	2770.48	2555.84	0.590	0.92	1.43	3.158	A
3	478.89	119.72	477.32	749.59	1510.17	0.00	969.01	507.84	0.494	0.57	0.96	7.298	A
4	2018.26	504.57	2012.57	1679.39	308.11	0.00	2653.59	2620.01	0.761	1.68	3.10	5.566	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	392.80	98.20	388.86	291.31	2515.86	0.00	635.32	554.39	0.618	0.57	1.56	14.385	B
2	2001.80	500.45	1995.85	2144.75	759.98	0.00	2673.58	2555.84	0.749	1.43	2.91	5.266	A
3	586.52	146.63	579.76	910.54	1845.29	0.00	793.41	507.84	0.739	0.96	2.65	16.364	C
4	2471.85	617.96	2432.49	2050.34	374.70	0.00	2608.48	2620.01	0.948	3.10	12.94	17.525	C

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	392.80	98.20	392.26	294.25	2548.07	0.00	617.29	554.39	0.636	1.56	1.69	15.936	C
2	2001.80	500.45	2001.58	2171.72	768.63	0.00	2667.27	2555.84	0.751	2.91	2.97	5.404	A
3	586.52	146.63	586.04	918.47	1851.74	0.00	790.02	507.84	0.742	2.65	2.77	17.538	C
4	2471.85	617.96	2464.15	2059.59	378.19	0.00	2606.11	2620.01	0.948	12.94	14.87	23.047	C

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	320.72	80.18	325.03	244.75	2132.75	0.00	849.75	554.39	0.377	1.69	0.61	6.917	A
2	1634.46	408.62	1640.47	1816.51	641.28	0.00	2760.31	2555.84	0.592	2.97	1.46	3.231	A
3	478.89	119.72	485.96	762.29	1519.47	0.00	964.14	507.84	0.497	2.77	1.00	7.635	A
4	2018.26	504.57	2064.60	1692.51	312.91	0.00	2650.34	2620.01	0.762	14.87	3.28	6.615	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	268.59	67.15	269.68	202.25	1753.92	0.00	1061.82	554.39	0.253	0.61	0.34	4.552	A
2	1368.78	342.20	1370.91	1494.72	528.88	0.00	2842.38	2555.84	0.482	1.46	0.93	2.449	A
3	401.05	100.26	402.73	631.00	1268.79	0.00	1095.49	507.84	0.366	1.00	0.58	5.208	A
4	1690.20	422.55	1696.46	1411.79	259.73	0.00	2686.37	2620.01	0.629	3.28	1.71	3.661	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.87	0.32	4.480	A	A
2	13.54	0.90	2.425	A	A
3	8.27	0.55	5.127	A	A
4	24.25	1.62	3.562	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.27	0.55	6.427	A	A
2	20.89	1.39	3.158	A	A
3	13.89	0.93	7.298	A	A
4	44.06	2.94	5.566	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.50	1.43	14.385	B	B
2	41.48	2.77	5.266	A	A
3	35.70	2.38	16.364	C	B
4	152.89	10.19	17.525	C	B

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	24.73	1.65	15.936	C	B
2	44.21	2.95	5.404	A	A
3	40.87	2.72	17.538	C	B
4	210.73	14.05	23.047	C	C

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.67	0.64	6.917	A	A
2	22.64	1.51	3.231	A	A
3	16.03	1.07	7.635	A	A
4	60.12	4.01	6.615	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.24	0.35	4.552	A	A
2	14.27	0.95	2.449	A	A
3	9.00	0.60	5.208	A	A
4	26.61	1.77	3.661	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, AM	Forecast Background + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				36.35	E

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	349.00	100.000
2	ONE HOUR	✓	2059.00	100.000
3	ONE HOUR	✓	543.00	100.000
4	ONE HOUR	✓	1822.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	262.75	281.81		
08:00-08:15	2	1550.12	1636.45		
08:00-08:15	3	408.80	426.18		
08:00-08:15	4	1371.70	1422.74		
08:15-08:30	1	313.74	336.51		
08:15-08:30	2	1851.00	1954.08		
08:15-08:30	3	488.15	508.90		
08:15-08:30	4	1637.94	1698.89		
08:30-08:45	1	384.26	412.14		
08:30-08:45	2	2267.00	2393.25		
08:30-08:45	3	597.85	623.27		
08:30-08:45	4	2006.06	2080.71		
08:45-09:00	1	384.26	412.14		
08:45-09:00	2	2267.00	2393.25		
08:45-09:00	3	597.85	623.27		
08:45-09:00	4	2006.06	2080.71		
09:00-09:15	1	313.74	336.51		
09:00-09:15	2	1851.00	1954.08		
09:00-09:15	3	488.15	508.90		
09:00-09:15	4	1637.94	1698.89		
09:15-09:30	1	262.75	281.81		
09:15-09:30	2	1550.12	1636.45		
09:15-09:30	3	408.80	426.18		
09:15-09:30	4	1371.70	1422.74		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.000	88.000	36.000	225.000
	2	90.000	0.000	169.000	1800.000
	3	92.000	228.000	0.000	223.000
	4	111.000	1508.000	203.000	0.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.25	0.10	0.64
	2	0.04	0.00	0.08	0.87
	3	0.17	0.42	0.00	0.41
	4	0.06	0.83	0.11	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.120	1.029	1.061
	2	1.082	1.000	1.081	1.052
	3	1.046	1.069	1.000	1.014
	4	1.029	1.040	1.021	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.0	12.0	2.9	6.1
	2	8.2	0.0	8.1	5.2
	3	4.6	6.9	0.0	1.4
	4	2.9	4.0	2.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.47	8.37	0.88	A	320.25	480.37	48.62	6.07	0.54	48.62	6.07
2	0.81	6.84	4.23	A	1889.38	2834.07	210.31	4.45	2.34	210.32	4.45
3	1.18	267.61	49.56	F	498.26	747.40	1189.73	95.51	13.22	1189.75	95.51
4	0.79	6.57	3.60	A	1671.90	2507.86	191.69	4.59	2.13	191.70	4.59

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	262.74	65.69	261.58	219.56	1454.28	0.00	1162.89	546.83	0.226	0.00	0.29	3.989	A
2	1550.13	387.53	1545.60	1367.88	347.97	0.00	2911.64	2650.34	0.532	0.00	1.13	2.627	A
3	408.80	102.20	405.46	306.19	1587.38	0.00	891.09	271.58	0.459	0.00	0.83	7.364	A
4	1371.70	342.93	1367.33	1686.33	306.50	0.00	2617.38	2638.23	0.524	0.00	1.09	2.871	A



**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	313.74	78.44	313.11	262.39	1738.91	0.00	1007.94	546.83	0.311	0.29	0.45	5.177	A
2	1851.00	462.75	1848.28	1635.66	416.37	0.00	2861.34	2650.34	0.647	1.13	1.81	3.545	A
3	488.14	122.04	483.78	366.21	1898.44	0.00	730.28	271.58	0.668	0.83	1.92	14.380	B
4	1637.95	409.49	1635.41	2016.32	365.89	0.00	2575.54	2638.23	0.636	1.09	1.73	3.820	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	384.25	96.06	382.57	305.00	2086.59	0.00	819.22	546.83	0.469	0.45	0.87	8.213	A
2	2267.00	566.75	2257.66	1960.34	508.81	0.00	2793.38	2650.34	0.812	1.81	4.15	6.608	A
3	597.85	149.46	498.96	447.47	2319.01	0.00	512.87	271.58	1.166	1.92	26.65	121.337	F
4	2006.07	501.52	1998.85	2425.24	392.73	0.00	2556.48	2638.23	0.785	1.73	3.53	6.373	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	384.25	96.06	384.19	307.04	2096.13	0.00	813.98	546.83	0.472	0.87	0.88	8.373	A
2	2267.00	566.75	2266.66	1969.54	510.79	0.00	2791.92	2650.34	0.812	4.15	4.23	6.841	A
3	597.85	149.46	506.22	449.15	2328.31	0.00	508.06	271.58	1.177	26.65	49.56	267.610	F
4	2006.07	501.52	2005.78	2437.13	397.40	0.00	2553.19	2638.23	0.786	3.53	3.60	6.568	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	313.74	78.44	315.31	296.12	1828.43	0.00	958.05	546.83	0.327	0.88	0.49	5.614	A
2	1851.00	462.75	1860.51	1724.71	419.04	0.00	2859.37	2650.34	0.647	4.23	1.86	3.636	A
3	488.14	122.04	676.42	368.47	1911.09	0.00	723.75	271.58	0.674	49.56	2.49	123.161	F
4	1637.95	409.49	1644.61	2107.55	479.95	0.00	2495.50	2638.23	0.656	3.60	1.94	4.264	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	262.74	65.69	263.53	222.01	1465.60	0.00	1156.68	546.83	0.227	0.49	0.30	4.033	A
2	1550.13	387.53	1552.96	1378.85	350.28	0.00	2909.94	2650.34	0.533	1.86	1.15	2.657	A
3	408.80	102.20	415.28	307.84	1595.40	0.00	886.94	271.58	0.461	2.49	0.87	7.735	A
4	1371.70	342.93	1374.99	1698.06	312.61	0.00	2613.09	2638.23	0.525	1.94	1.11	2.917	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.25	0.28	3.989	A	A
2	16.56	1.10	2.627	A	A
3	11.94	0.80	7.364	A	A
4	15.99	1.07	2.871	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.57	0.44	5.177	A	A
2	26.40	1.76	3.545	A	A
3	26.55	1.77	14.380	B	B
4	25.14	1.68	3.820	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.49	0.83	8.213	A	A
2	57.80	3.85	6.608	A	A
3	226.96	15.13	121.337	F	F
4	49.66	3.31	6.373	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.19	0.88	8.373	A	A
2	62.99	4.20	6.841	A	A
3	572.15	38.14	267.610	F	F
4	53.62	3.57	6.568	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.60	0.51	5.614	A	A
2	28.98	1.93	3.636	A	A
3	338.26	22.55	123.161	F	F
4	30.18	2.01	4.264	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.53	0.30	4.033	A	A
2	17.58	1.17	2.657	A	A
3	13.87	0.92	7.735	A	A
4	17.09	1.14	2.917	A	A

## Existing Layout - Forecast Background + EA1N Construction 2023, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA1N Construction 2023, PM	Forecast Background + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				21.19	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	366.00	100.000
2	ONE HOUR	✓	1883.00	100.000
3	ONE HOUR	✓	540.00	100.000
4	ONE HOUR	✓	2305.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	275.54	282.75		
16:45-17:00	2	1417.62	1468.30		
16:45-17:00	3	406.54	412.11		
16:45-17:00	4	1735.32	1781.85		
17:00-17:15	1	329.03	337.64		
17:00-17:15	2	1692.78	1753.29		
17:00-17:15	3	485.45	492.10		
17:00-17:15	4	2072.15	2127.71		
17:15-17:30	1	402.97	413.52		
17:15-17:30	2	2073.22	2147.34		
17:15-17:30	3	594.55	602.70		
17:15-17:30	4	2537.85	2605.90		
17:30-17:45	1	402.97	413.52		
17:30-17:45	2	2073.22	2147.34		
17:30-17:45	3	594.55	602.70		
17:30-17:45	4	2537.85	2605.90		
17:45-18:00	1	329.03	337.64		
17:45-18:00	2	1692.78	1753.29		
17:45-18:00	3	485.45	492.10		
17:45-18:00	4	2072.15	2127.71		
18:00-18:15	1	275.54	282.75		
18:00-18:15	2	1417.62	1468.30		
18:00-18:15	3	406.54	412.11		
18:00-18:15	4	1735.32	1781.85		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	92.000	91.000	182.000
	2	66.000	0.000	321.000	1496.000
	3	51.000	231.000	0.000	258.000
	4	159.000	1710.000	433.000	3.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.25	0.25	0.50
	2	0.04	0.00	0.17	0.79
	3	0.09	0.43	0.00	0.48
	4	0.07	0.74	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.023	1.000	1.041
	2	1.016	1.000	1.020	1.040
	3	1.021	1.014	1.000	1.012
	4	1.047	1.030	1.007	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.3	0.0	4.1
	2	1.6	0.0	2.0	4.0
	3	2.1	1.4	0.0	1.2
	4	4.7	3.0	0.7	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.68	19.17	2.07	C	335.85	503.77	86.06	10.25	0.96	86.06	10.25
2	0.78	6.12	3.47	A	1727.87	2591.81	177.29	4.10	1.97	177.30	4.10
3	0.79	22.42	3.55	C	495.51	743.27	146.98	11.87	1.63	146.99	11.87
4	0.98	33.64	22.68	D	2115.11	3172.67	692.52	13.10	7.69	692.56	13.10

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	275.54	68.89	274.12	207.67	1781.77	0.00	1045.86	556.21	0.263	0.00	0.36	4.656	A
2	1417.62	354.41	1413.66	1523.80	532.10	0.00	2839.76	2560.84	0.499	0.00	0.99	2.517	A
3	406.54	101.63	404.12	633.77	1311.97	0.00	1072.84	499.61	0.379	0.00	0.60	5.364	A
4	1735.33	433.83	1728.11	1454.75	261.34	0.00	2684.99	2623.44	0.646	0.00	1.81	3.736	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	329.03	82.26	327.96	248.30	2129.87	0.00	851.04	556.21	0.387	0.36	0.62	6.868	A
2	1692.78	423.19	1690.48	1821.62	636.21	0.00	2763.70	2560.84	0.613	0.99	1.57	3.347	A
3	485.45	121.36	483.65	757.72	1568.96	0.00	938.17	499.61	0.517	0.60	1.05	7.889	A
4	2072.15	518.04	2065.46	1739.90	312.72	0.00	2650.18	2623.44	0.782	1.81	3.48	6.085	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	402.97	100.74	398.10	299.85	2559.24	0.00	610.75	556.21	0.660	0.62	1.84	16.622	C
2	2073.22	518.31	2065.94	2190.24	767.11	0.00	2668.05	2560.84	0.777	1.57	3.39	5.909	A
3	594.55	148.64	585.46	917.01	1916.02	0.00	756.30	499.61	0.786	1.05	3.33	20.099	C
4	2537.86	634.46	2479.87	2122.25	379.24	0.00	2605.12	2623.44	0.974	3.48	17.98	22.369	C

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	402.97	100.74	402.05	303.59	2599.23	0.00	588.38	556.21	0.685	1.84	2.07	19.174	C
2	2073.22	518.31	2072.89	2223.81	777.48	0.00	2660.49	2560.84	0.779	3.39	3.47	6.119	A
3	594.55	148.64	593.67	926.54	1923.82	0.00	752.22	499.61	0.790	3.33	3.55	22.424	C
4	2537.86	634.46	2519.04	2133.72	383.78	0.00	2602.04	2623.44	0.975	17.98	22.68	33.644	D

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	329.03	82.26	334.51	255.44	2211.61	0.00	805.28	556.21	0.409	2.07	0.70	7.734	A
2	1692.78	423.19	1700.18	1889.40	656.71	0.00	2748.76	2560.84	0.616	3.47	1.62	3.458	A
3	485.45	121.36	495.21	776.50	1580.39	0.00	932.18	499.61	0.521	3.55	1.11	8.414	A
4	2072.15	518.04	2147.93	1756.49	319.11	0.00	2645.85	2623.44	0.783	22.68	3.74	8.311	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	275.54	68.89	276.89	209.33	1797.38	0.00	1037.12	556.21	0.266	0.70	0.36	4.743	A
2	1417.62	354.41	1420.08	1537.32	536.96	0.00	2836.20	2560.84	0.500	1.62	1.00	2.548	A
3	406.54	101.63	408.49	638.33	1318.70	0.00	1069.31	499.61	0.380	1.11	0.62	5.465	A
4	1735.33	433.83	1742.87	1463.34	263.85	0.00	2683.29	2623.44	0.647	3.74	1.85	3.858	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.18	0.35	4.656	A	A
2	14.54	0.97	2.517	A	A
3	8.76	0.58	5.364	A	A
4	26.06	1.74	3.736	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.04	0.60	6.868	A	A
2	22.88	1.53	3.347	A	A
3	15.15	1.01	7.889	A	A
4	49.12	3.27	6.085	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	25.08	1.67	16.622	C	B
2	47.78	3.19	5.909	A	A
3	43.53	2.90	20.099	C	C
4	197.70	13.18	22.369	C	C

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	29.99	2.00	19.174	C	B
2	51.58	3.44	6.119	A	A
3	51.92	3.46	22.424	C	C
4	308.69	20.58	33.644	D	C

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	11.16	0.74	7.734	A	A
2	25.13	1.68	3.458	A	A
3	18.04	1.20	8.414	A	A
4	82.12	5.47	8.311	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.61	0.37	4.743	A	A
2	15.38	1.03	2.548	A	A
3	9.59	0.64	5.465	A	A
4	28.83	1.92	3.858	A	A

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

**Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.



## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, AM	Forecast Background + EA2 + EA1N Construction 2023	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				46.10	E

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	350.00	100.000
2	ONE HOUR	✓	2090.00	100.000
3	ONE HOUR	✓	553.00	100.000
4	ONE HOUR	✓	1833.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	263.50	282.61		
08:00-08:15	2	1573.46	1667.90		
08:00-08:15	3	416.33	433.81		
08:00-08:15	4	1379.98	1439.36		
08:15-08:30	1	314.64	337.47		
08:15-08:30	2	1878.87	1991.63		
08:15-08:30	3	497.14	518.02		
08:15-08:30	4	1647.83	1718.74		
08:30-08:45	1	385.36	413.31		
08:30-08:45	2	2301.13	2439.24		
08:30-08:45	3	608.86	634.44		
08:30-08:45	4	2018.17	2105.01		
08:45-09:00	1	385.36	413.31		
08:45-09:00	2	2301.13	2439.24		
08:45-09:00	3	608.86	634.44		
08:45-09:00	4	2018.17	2105.01		
09:00-09:15	1	314.64	337.47		
09:00-09:15	2	1878.87	1991.63		
09:00-09:15	3	497.14	518.02		
09:00-09:15	4	1647.83	1718.74		
09:15-09:30	1	263.50	282.61		
09:15-09:30	2	1573.46	1667.90		
09:15-09:30	3	416.33	433.81		
09:15-09:30	4	1379.98	1439.36		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.000	88.000	36.000	226.000
	2	90.000	0.000	169.000	1831.000
	3	92.000	228.000	0.000	233.000
	4	111.000	1519.000	203.000	0.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.25	0.10	0.65
	2	0.04	0.00	0.08	0.88
	3	0.17	0.41	0.00	0.42
	4	0.06	0.83	0.11	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.120	1.029	1.061
	2	1.082	1.000	1.081	1.057
	3	1.046	1.069	1.000	1.014
	4	1.029	1.047	1.021	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.0	12.0	2.9	6.1
	2	8.2	0.0	8.1	5.7
	3	4.6	6.9	0.0	1.4
	4	2.9	4.7	2.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.48	8.50	0.90	A	321.17	481.75	49.59	6.18	0.55	49.59	6.18
2	0.83	7.50	4.69	A	1917.82	2876.72	227.33	4.74	2.53	227.34	4.74
3	1.25	349.57	65.23	F	507.44	761.16	1711.09	134.88	19.01	1711.12	134.88
4	0.79	6.74	3.72	A	1681.99	2522.99	198.08	4.71	2.20	198.09	4.71

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	263.50	65.87	262.32	219.52	1462.38	0.00	1154.36	545.29	0.228	0.00	0.29	4.031	A
2	1573.46	393.36	1568.74	1376.00	348.70	0.00	2899.20	2642.14	0.543	0.00	1.18	2.697	A
3	416.33	104.08	412.76	306.17	1611.28	0.00	875.82	268.52	0.475	0.00	0.89	7.716	A
4	1379.98	344.99	1375.50	1717.64	306.40	0.00	2602.85	2628.24	0.530	0.00	1.12	2.922	A

**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	314.64	78.66	313.99	262.25	1748.39	0.00	997.84	545.29	0.315	0.29	0.46	5.260	A
2	1878.86	469.72	1875.92	1645.13	417.24	0.00	2849.00	2642.14	0.659	1.18	1.91	3.689	A
3	497.14	124.28	491.95	366.19	1926.98	0.00	711.88	268.52	0.698	0.89	2.19	16.006	C
4	1647.83	411.96	1645.18	2053.49	365.45	0.00	2561.48	2628.24	0.643	1.12	1.78	3.918	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	385.36	96.34	383.64	300.45	2087.33	0.00	812.91	545.29	0.474	0.46	0.89	8.354	A
2	2301.13	575.28	2290.45	1961.11	509.86	0.00	2781.18	2642.14	0.827	1.91	4.58	7.184	A
3	608.86	152.22	481.19	447.35	2352.97	0.00	490.67	268.52	1.241	2.19	34.11	153.661	F
4	2018.17	504.54	2010.71	2457.07	377.08	0.00	2553.13	2628.24	0.790	1.78	3.65	6.547	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	385.36	96.34	385.30	301.85	2095.41	0.00	808.49	545.29	0.477	0.89	0.90	8.504	A
2	2301.13	575.28	2300.69	1968.80	511.90	0.00	2779.69	2642.14	0.828	4.58	4.69	7.498	A
3	608.86	152.22	484.35	449.14	2363.44	0.00	485.23	268.52	1.255	34.11	65.23	349.573	F
4	2018.17	504.54	2017.90	2468.44	379.35	0.00	2551.55	2628.24	0.791	3.65	3.72	6.738	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	314.64	78.66	316.24	297.01	1840.54	0.00	946.45	545.29	0.332	0.90	0.50	5.725	A
2	1878.86	469.72	1889.78	1736.79	419.97	0.00	2847.00	2642.14	0.660	4.69	1.96	3.801	A
3	497.14	124.28	693.87	368.59	1941.17	0.00	704.51	268.52	0.706	65.23	16.05	215.357	F
4	1647.83	411.96	1654.66	2152.15	482.90	0.00	2479.52	2628.24	0.665	3.72	2.01	4.399	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	263.50	65.87	264.29	230.98	1496.18	0.00	1135.56	545.29	0.232	0.50	0.30	4.136	A
2	1573.46	393.36	1576.53	1409.43	351.05	0.00	2897.47	2642.14	0.543	1.96	1.20	2.733	A
3	416.33	104.08	476.80	307.87	1619.71	0.00	871.44	268.52	0.478	16.05	0.93	10.612	B
4	1379.98	344.99	1383.37	1752.72	343.79	0.00	2576.76	2628.24	0.536	2.01	1.16	3.024	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.31	0.29	4.031	A	A
2	17.24	1.15	2.697	A	A
3	12.71	0.85	7.716	A	A
4	16.37	1.09	2.922	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.69	0.45	5.260	A	A
2	27.83	1.86	3.689	A	A
3	29.83	1.99	16.006	C	B
4	25.92	1.73	3.918	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.73	0.85	8.354	A	A
2	63.33	4.22	7.184	A	A
3	282.02	18.80	153.661	F	F
4	51.21	3.41	6.547	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	13.43	0.90	8.504	A	A
2	69.77	4.65	7.498	A	A
3	745.37	49.69	349.573	F	F
4	55.35	3.69	6.738	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.78	0.52	5.725	A	A
2	30.80	2.05	3.801	A	A
3	609.63	40.64	215.357	F	F
4	31.37	2.09	4.399	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.66	0.31	4.136	A	A
2	18.35	1.22	2.733	A	A
3	31.53	2.10	10.612	B	B
4	17.86	1.19	3.024	A	A

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

**Data Errors and Warnings**

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	R
Forecast Background + EA2 + EA1N Construction 2023, PM	Forecast Background + EA2 + EA1N Construction 2023	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				27.62	D

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	366.00	100.000
2	ONE HOUR	✓	1894.00	100.000
3	ONE HOUR	✓	540.00	100.000
4	ONE HOUR	✓	2346.00	100.000



# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	275.54	282.75		
16:45-17:00	2	1425.90	1484.85		
16:45-17:00	3	406.54	412.11		
16:45-17:00	4	1766.19	1821.34		
17:00-17:15	1	329.03	337.64		
17:00-17:15	2	1702.67	1773.06		
17:00-17:15	3	485.45	492.10		
17:00-17:15	4	2109.01	2174.86		
17:15-17:30	1	402.97	413.52		
17:15-17:30	2	2085.33	2171.55		
17:15-17:30	3	594.55	602.70		
17:15-17:30	4	2582.99	2663.64		
17:30-17:45	1	402.97	413.52		
17:30-17:45	2	2085.33	2171.55		
17:30-17:45	3	594.55	602.70		
17:30-17:45	4	2582.99	2663.64		
17:45-18:00	1	329.03	337.64		
17:45-18:00	2	1702.67	1773.06		
17:45-18:00	3	485.45	492.10		
17:45-18:00	4	2109.01	2174.86		
18:00-18:15	1	275.54	282.75		
18:00-18:15	2	1425.90	1484.85		
18:00-18:15	3	406.54	412.11		
18:00-18:15	4	1766.19	1821.34		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	92.000	91.000	182.000
	2	66.000	0.000	321.000	1507.000
	3	51.000	231.000	0.000	258.000
	4	159.000	1741.000	443.000	3.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.25	0.25	0.50
	2	0.03	0.00	0.17	0.80
	3	0.09	0.43	0.00	0.48
	4	0.07	0.74	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.023	1.000	1.041
	2	1.016	1.000	1.020	1.047
	3	1.021	1.014	1.000	1.012
	4	1.047	1.036	1.007	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.3	0.0	4.1
	2	1.6	0.0	2.0	4.7
	3	2.1	1.4	0.0	1.2
	4	4.7	3.6	0.7	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.71	21.53	2.31	C	335.85	503.77	93.60	11.15	1.04	93.60	11.15
2	0.79	6.46	3.68	A	1737.97	2606.96	185.68	4.27	2.06	185.69	4.27
3	0.80	24.17	3.81	C	495.51	743.27	154.17	12.45	1.71	154.18	12.45
4	1.00	46.60	33.49	E	2152.74	3229.11	916.95	17.04	10.19	917.00	17.04

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	275.54	68.89	274.08	207.64	1812.19	0.00	1024.55	553.73	0.269	0.00	0.37	4.789	A
2	1425.91	356.48	1421.84	1546.77	539.50	0.00	2819.17	2547.98	0.506	0.00	1.02	2.569	A
3	406.54	101.63	404.09	641.19	1320.15	0.00	1064.56	497.40	0.382	0.00	0.61	5.431	A
4	1766.20	441.55	1758.51	1462.92	261.32	0.00	2673.52	2613.66	0.661	0.00	1.92	3.902	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	329.03	82.26	327.87	248.23	2165.78	0.00	825.83	553.74	0.398	0.37	0.65	7.214	A
2	1702.67	425.67	1700.26	1848.70	644.94	0.00	2742.57	2547.98	0.621	1.02	1.62	3.447	A
3	485.45	121.36	483.59	766.48	1578.71	0.00	928.28	497.41	0.523	0.61	1.08	8.062	A
4	2109.01	527.25	2101.33	1749.61	312.69	0.00	2638.87	2613.66	0.799	1.92	3.84	6.602	A

**Main results: (17:15-17:30)**

Arm	Demand (Veh/hr)	Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Flow (Veh/hr)	Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Queue (Veh)	Queue (Veh)	Delay (s)	LOS
1	402.97	100.74	397.53	298.32	2583.23	0.00	591.24	553.74	0.682	0.65	2.01	18.106	C
2	2085.34	521.34	2077.49	2207.36	773.40	0.00	2649.19	2547.98	0.787	1.62	3.58	6.214	A
3	594.55	148.64	584.68	923.53	1927.35	0.00	744.53	497.41	0.799	1.08	3.54	21.342	C
4	2583.00	645.75	2502.75	2133.22	378.82	0.00	2594.27	2613.66	0.996	3.84	23.91	27.486	D

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	402.97	100.74	401.77	302.27	2626.07	0.00	567.17	553.74	0.711	2.01	2.31	21.528	C
2	2085.34	521.34	2084.96	2243.30	784.54	0.00	2641.11	2547.98	0.790	3.58	3.68	6.464	A
3	594.55	148.64	593.49	933.77	1935.73	0.00	740.12	497.41	0.803	3.54	3.81	24.166	C
4	2583.00	645.75	2544.65	2145.54	383.69	0.00	2590.98	2613.66	0.997	23.91	33.49	46.605	E

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	329.03	82.26	335.16	258.26	2287.55	0.00	757.34	553.74	0.434	2.31	0.78	8.647	A
2	1702.67	425.67	1710.64	1948.57	674.14	0.00	2721.44	2547.98	0.626	3.68	1.69	3.591	A
3	485.45	121.36	496.14	793.63	1591.13	0.00	921.74	497.41	0.527	3.81	1.13	8.662	A
4	2109.01	527.25	2226.19	1767.65	319.62	0.00	2634.20	2613.66	0.801	33.49	4.20	11.396	B

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	275.54	68.89	277.17	209.43	1829.55	0.00	1014.79	553.73	0.272	0.78	0.38	4.890	A
2	1425.91	356.48	1428.53	1561.76	544.96	0.00	2815.21	2547.98	0.507	1.69	1.03	2.602	A
3	406.54	101.63	408.57	646.22	1327.27	0.00	1060.81	497.40	0.383	1.13	0.63	5.537	A
4	1766.20	441.55	1775.09	1471.94	263.90	0.00	2671.78	2613.66	0.661	4.20	1.98	4.053	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.32	0.35	4.789	A	A
2	14.91	0.99	2.569	A	A
3	8.86	0.59	5.431	A	A
4	27.67	1.84	3.902	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.47	0.63	7.214	A	A
2	23.66	1.58	3.447	A	A
3	15.46	1.03	8.062	A	A
4	53.87	3.59	6.602	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	27.18	1.81	18.106	C	B
2	50.35	3.36	6.214	A	A
3	45.93	3.06	21.342	C	C
4	246.08	16.41	27.486	D	C

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	33.29	2.22	21.528	C	C
2	54.67	3.64	6.464	A	A
3	55.57	3.70	24.166	C	C
4	435.01	29.00	46.605	E	D

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	12.53	0.84	8.647	A	A
2	26.27	1.75	3.591	A	A
3	18.62	1.24	8.662	A	A
4	123.43	8.23	11.396	B	B

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.79	0.39	4.890	A	A
2	15.81	1.05	2.602	A	A
3	9.72	0.65	5.537	A	A
4	30.89	2.06	4.053	A	A

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, AM	Background 2019	AM		ONE HOUR	08:00	09:30	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				15.56	C

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	330.00	100.000
2	ONE HOUR	✓	1947.00	100.000
3	ONE HOUR	✓	514.00	100.000
4	ONE HOUR	✓	1723.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
08:00-08:15	1	248.44	266.46		
08:00-08:15	2	1465.80	1547.44		
08:00-08:15	3	386.97	403.42		
08:00-08:15	4	1297.16	1345.44		
08:15-08:30	1	296.66	318.18		
08:15-08:30	2	1750.31	1847.79		
08:15-08:30	3	462.08	481.73		
08:15-08:30	4	1548.94	1606.58		
08:30-08:45	1	363.34	389.69		
08:30-08:45	2	2143.69	2263.08		
08:30-08:45	3	565.92	589.99		
08:30-08:45	4	1897.06	1967.65		
08:45-09:00	1	363.34	389.69		
08:45-09:00	2	2143.69	2263.08		
08:45-09:00	3	565.92	589.99		
08:45-09:00	4	1897.06	1967.65		
09:00-09:15	1	296.66	318.18		
09:00-09:15	2	1750.31	1847.79		
09:00-09:15	3	462.08	481.73		
09:00-09:15	4	1548.94	1606.58		
09:15-09:30	1	248.44	266.46		
09:15-09:30	2	1465.80	1547.44		
09:15-09:30	3	386.97	403.42		
09:15-09:30	4	1297.16	1345.44		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.000	83.000	34.000	213.000
	2	85.000	0.000	160.000	1702.000
	3	87.000	216.000	0.000	211.000
	4	105.000	1426.000	192.000	0.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.25	0.10	0.65
	2	0.04	0.00	0.08	0.87
	3	0.17	0.42	0.00	0.41
	4	0.06	0.83	0.11	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.120	1.029	1.061
	2	1.082	1.000	1.081	1.052
	3	1.046	1.069	1.000	1.014
	4	1.029	1.040	1.021	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.0	12.0	2.9	6.1
	2	8.2	0.0	8.1	5.2
	3	4.6	6.9	0.0	1.4
	4	2.9	4.0	2.1	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.42	7.26	0.73	A	302.81	454.22	40.78	5.39	0.45	40.78	5.39
2	0.76	5.38	3.17	A	1786.61	2679.91	168.58	3.77	1.87	168.59	3.77
3	0.99	93.32	14.45	F	471.66	707.48	377.56	32.02	4.20	377.57	32.02
4	0.75	5.60	2.91	A	1581.06	2371.59	158.58	4.01	1.76	158.59	4.01

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	248.44	62.11	247.41	207.66	1375.93	0.00	1205.59	546.79	0.206	0.00	0.26	3.754	A
2	1465.81	366.45	1461.81	1294.03	329.30	0.00	2925.36	2650.07	0.501	0.00	1.00	2.454	A
3	386.97	96.74	384.18	289.73	1501.37	0.00	935.54	271.65	0.414	0.00	0.70	6.497	A
4	1297.17	324.29	1293.29	1595.27	290.29	0.00	2628.81	2638.28	0.493	0.00	0.97	2.688	A



**Main results: (08:15-08:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	296.66	74.17	296.15	248.33	1645.65	0.00	1058.74	546.79	0.280	0.26	0.39	4.718	A
2	1750.32	437.58	1748.16	1547.75	394.04	0.00	2877.76	2650.07	0.608	1.00	1.54	3.182	A
3	462.08	115.52	459.27	346.55	1795.65	0.00	783.41	271.65	0.590	0.70	1.40	11.012	B
4	1548.95	387.24	1546.92	1907.85	347.06	0.00	2588.81	2638.28	0.598	0.97	1.48	3.447	A

**Main results: (08:30-08:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	363.34	90.83	362.03	298.35	1999.15	0.00	866.47	546.79	0.419	0.39	0.71	7.118	A
2	2143.69	535.92	2137.35	1879.43	481.76	0.00	2813.26	2650.07	0.762	1.54	3.13	5.277	A
3	565.92	141.48	530.33	423.72	2195.38	0.00	576.78	271.65	0.981	1.40	10.30	56.345	F
4	1897.06	474.27	1891.56	2319.77	405.94	0.00	2547.28	2638.28	0.745	1.48	2.85	5.445	A

**Main results: (08:45-09:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	363.34	90.83	363.28	302.15	2012.06	0.00	859.33	546.79	0.423	0.71	0.73	7.257	A
2	2143.69	535.92	2143.53	1892.07	483.28	0.00	2812.14	2650.07	0.762	3.13	3.17	5.380	A
3	565.92	141.48	549.31	424.95	2201.86	0.00	573.42	271.65	0.987	10.30	14.45	93.317	F
4	1897.06	474.27	1896.82	2333.78	417.39	0.00	2539.24	2638.28	0.747	2.85	2.91	5.598	A

**Main results: (09:00-09:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	296.66	74.17	297.96	258.39	1675.64	0.00	1042.09	546.79	0.285	0.73	0.40	4.847	A
2	1750.32	437.58	1756.71	1577.37	396.24	0.00	2876.14	2650.07	0.609	3.17	1.57	3.235	A
3	462.08	115.52	513.84	348.28	1804.67	0.00	778.75	271.65	0.593	14.45	1.51	16.273	C
4	1548.95	387.24	1554.44	1938.90	379.59	0.00	2565.98	2638.28	0.604	2.91	1.54	3.579	A

**Main results: (09:15-09:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	248.44	62.11	249.00	209.31	1384.15	0.00	1201.08	546.79	0.207	0.40	0.26	3.782	A
2	1465.81	366.45	1468.04	1301.98	331.17	0.00	2923.98	2650.07	0.501	1.57	1.01	2.477	A
3	386.97	96.74	390.13	291.09	1508.12	0.00	932.05	271.65	0.415	1.51	0.72	6.682	A
4	1297.17	324.29	1299.39	1604.17	294.07	0.00	2626.15	2638.28	0.494	1.54	0.98	2.719	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (08:00-08:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.79	0.25	3.754	A	A
2	14.65	0.98	2.454	A	A
3	10.03	0.67	6.497	A	A
4	14.19	0.95	2.688	A	A

**Queueing Delay results: (08:15-08:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.68	0.38	4.718	A	A
2	22.51	1.50	3.182	A	A
3	19.72	1.31	11.012	B	B
4	21.58	1.44	3.447	A	A

**Queueing Delay results: (08:30-08:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.31	0.69	7.118	A	A
2	44.43	2.96	5.277	A	A
3	106.04	7.07	56.345	F	E
4	40.61	2.71	5.445	A	A

**Queueing Delay results: (08:45-09:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.82	0.72	7.257	A	A
2	47.26	3.15	5.380	A	A
3	187.80	12.52	93.317	F	F
4	43.35	2.89	5.598	A	A

**Queueing Delay results: (09:00-09:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.18	0.41	4.847	A	A
2	24.27	1.62	3.235	A	A
3	42.73	2.85	16.273	C	B
4	23.82	1.59	3.579	A	A

**Queueing Delay results: (09:15-09:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.01	0.27	3.782	A	A
2	15.46	1.03	2.477	A	A
3	11.23	0.75	6.682	A	A
4	15.03	1.00	2.719	A	A

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Rel
Background 2019, PM	Background 2019	PM		ONE HOUR	16:45	18:15	90	15				✓		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
113	A12, Foxhall Road, Newbourne Road	Roundabout	1,2,3,4				11.35	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Newbourne Road	
2	2	A12 (south)	
3	3	Foxhall Road	
4	4	A12 (north)	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

## 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
1	3.75	10.12	13.22	40.01	77.76	6.50	
2	7.54	10.60	40.15	41.81	77.76	7.50	
3	3.63	6.89	12.28	28.05	77.76	7.50	
4	7.27	10.48	9.35	39.47	77.76	7.50	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.561	2096.498
2		(calculated)	(calculated)	0.746	3343.869
3		(calculated)	(calculated)	0.511	1784.469
4		(calculated)	(calculated)	0.685	2938.758

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	346.00	100.000
2	ONE HOUR	✓	1778.00	100.000
3	ONE HOUR	✓	510.00	100.000
4	ONE HOUR	✓	2177.00	100.000

# Direct/Resultant Flows

## Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (Veh/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:45-17:00	1	260.49	267.30		
16:45-17:00	2	1338.57	1386.43		
16:45-17:00	3	383.95	389.22		
16:45-17:00	4	1638.96	1682.90		
17:00-17:15	1	311.05	319.19		
17:00-17:15	2	1598.39	1655.54		
17:00-17:15	3	458.48	464.76		
17:00-17:15	4	1957.08	2009.55		
17:15-17:30	1	380.95	390.92		
17:15-17:30	2	1957.61	2027.61		
17:15-17:30	3	561.52	569.21		
17:15-17:30	4	2396.92	2461.18		
17:30-17:45	1	380.95	390.92		
17:30-17:45	2	1957.61	2027.61		
17:30-17:45	3	561.52	569.21		
17:30-17:45	4	2396.92	2461.18		
17:45-18:00	1	311.05	319.19		
17:45-18:00	2	1598.39	1655.54		
17:45-18:00	3	458.48	464.76		
17:45-18:00	4	1957.08	2009.55		
18:00-18:15	1	260.49	267.30		
18:00-18:15	2	1338.57	1386.43		
18:00-18:15	3	383.95	389.22		
18:00-18:15	4	1638.96	1682.90		

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	87.000	86.000	172.000
	2	62.000	0.000	303.000	1413.000
	3	48.000	218.000	0.000	244.000
	4	150.000	1615.000	409.000	3.000

## Turning Proportions (Veh) - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.25	0.25	0.50
	2	0.03	0.00	0.17	0.79
	3	0.09	0.43	0.00	0.48
	4	0.07	0.74	0.19	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.023	1.000	1.041
	2	1.016	1.000	1.020	1.040
	3	1.021	1.014	1.000	1.012
	4	1.047	1.030	1.007	1.000

## Heavy Vehicle Percentages - Junction 113 (for whole period)

		To			
		1	2	3	4
From	1	0.0	2.3	0.0	4.1
	2	1.6	0.0	2.0	4.0
	3	2.1	1.4	0.0	1.2
	4	4.7	3.0	0.7	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)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
1	0.58	12.81	1.33	B	317.50	476.25	62.41	7.86	0.69	62.42	7.86
2	0.73	4.92	2.65	A	1631.53	2447.30	143.74	3.52	1.60	143.74	3.52
3	0.70	14.55	2.22	B	467.99	701.98	104.76	8.95	1.16	104.77	8.95
4	0.92	15.68	9.91	C	1997.65	2996.48	392.95	7.87	4.37	392.98	7.87

## Main Results for each time segment

### Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	260.49	65.12	259.26	195.75	1683.53	0.00	1100.85	555.94	0.237	0.00	0.31	4.271	A
2	1338.58	334.64	1335.08	1439.71	503.08	0.00	2860.95	2560.76	0.468	0.00	0.87	2.355	A
3	383.96	95.99	381.86	598.72	1239.43	0.00	1110.86	499.55	0.346	0.00	0.52	4.924	A
4	1638.96	409.74	1632.81	1374.82	246.47	0.00	2695.06	2623.94	0.608	0.00	1.54	3.370	A

**Main results: (17:00-17:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	311.05	77.76	310.25	234.11	2013.22	0.00	916.33	555.94	0.339	0.31	0.51	5.933	A
2	1598.39	399.60	1596.56	1721.75	601.72	0.00	2788.90	2560.77	0.573	0.87	1.33	3.016	A
3	458.48	114.62	457.13	715.98	1482.28	0.00	983.60	499.55	0.466	0.52	0.86	6.819	A
4	1957.08	489.27	1952.35	1644.43	294.99	0.00	2662.19	2623.94	0.735	1.54	2.72	5.037	A

**Main results: (17:15-17:30)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	380.95	95.24	377.95	284.92	2445.59	0.00	674.37	555.94	0.565	0.51	1.26	12.026	B
2	1957.62	489.41	1952.52	2091.88	731.65	0.00	2693.97	2560.76	0.727	1.33	2.61	4.821	A
3	561.52	140.38	556.38	872.15	1812.01	0.00	810.82	499.55	0.693	0.86	2.15	13.878	B
4	2396.92	599.23	2371.12	2009.02	359.37	0.00	2618.58	2623.94	0.915	2.72	9.17	13.352	B

**Main results: (17:30-17:45)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	380.95	95.24	380.68	287.13	2468.90	0.00	661.31	555.94	0.576	1.26	1.33	12.807	B
2	1957.62	489.41	1957.47	2111.58	738.02	0.00	2689.32	2560.76	0.728	2.61	2.65	4.917	A
3	561.52	140.38	561.24	877.97	1817.51	0.00	807.93	499.55	0.695	2.15	2.22	14.554	B
4	2396.92	599.23	2393.96	2016.68	362.08	0.00	2616.74	2623.94	0.916	9.17	9.91	15.677	C

**Main results: (17:45-18:00)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	311.05	77.76	314.22	237.27	2046.78	0.00	897.55	555.94	0.347	1.33	0.54	6.205	A
2	1598.39	399.60	1603.53	1750.06	610.93	0.00	2782.17	2560.77	0.575	2.65	1.36	3.069	A
3	458.48	114.62	463.77	724.36	1490.10	0.00	979.51	499.55	0.468	2.22	0.89	7.049	A
4	1957.08	489.27	1985.33	1655.17	298.71	0.00	2659.67	2623.94	0.736	9.91	2.85	5.553	A

**Main results: (18:00-18:15)**

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
1	260.49	65.12	261.37	197.05	1695.51	0.00	1094.14	555.94	0.238	0.54	0.31	4.327	A
2	1338.58	334.64	1340.48	1450.09	506.79	0.00	2858.24	2560.76	0.468	1.36	0.89	2.374	A
3	383.96	95.99	385.39	602.28	1244.98	0.00	1107.95	499.55	0.347	0.89	0.53	4.993	A
4	1638.96	409.74	1644.07	1381.87	248.50	0.00	2693.69	2623.94	0.608	2.85	1.57	3.448	A

**Queueing Delay Results for each time segment**
**Queueing Delay results: (16:45-17:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.51	0.30	4.271	A	A
2	12.86	0.86	2.355	A	A
3	7.62	0.51	4.924	A	A
4	22.30	1.49	3.370	A	A

**Queueing Delay results: (17:00-17:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	7.42	0.49	5.933	A	A
2	19.54	1.30	3.016	A	A
3	12.47	0.83	6.819	A	A
4	38.94	2.60	5.037	A	A

**Queueing Delay results: (17:15-17:30)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	17.69	1.18	12.026	B	B
2	37.36	2.49	4.821	A	A
3	29.48	1.97	13.878	B	B
4	115.61	7.71	13.352	B	B

**Queueing Delay results: (17:30-17:45)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	19.59	1.31	12.807	B	B
2	39.48	2.63	4.917	A	A
3	32.84	2.19	14.554	B	B
4	144.11	9.61	15.677	C	B

**Queueing Delay results: (17:45-18:00)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	8.37	0.56	6.205	A	A
2	20.98	1.40	3.069	A	A
3	14.10	0.94	7.049	A	A
4	47.72	3.18	5.553	A	A

**Queueing Delay results: (18:00-18:15)**

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.83	0.32	4.327	A	A
2	13.52	0.90	2.374	A	A
3	8.25	0.55	4.993	A	A
4	24.27	1.62	3.448	A	A