| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| 1 | | ONE HOUR | ✓ | 920 | 100.000 |
| 2 | | ONE HOUR | ✓ | 310 | 100.000 |
| 3 | | ONE HOUR | ✓ | 613 | 100.000 |
| 4 | | ONE HOUR | ✓ | 956 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0 | 47 | 244 | 629 |
| | 2 | 27 | 0 | 179 | 104 |
| | 3 | 392 | 124 | 0 | 97 |
| | 4 | 749 | 123 | 69 | 15 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| 1 | 0.61 | 5.49 | 1.5 | A | 844 | 1266 |
| 2 | 0.28 | 4.06 | 0.4 | A | 284 | 427 |
| 3 | 0.50 | 5.40 | 1.0 | A | 562 | 844 |
| 4 | 0.64 | 6.20 | 1.8 | A | 877 | 1316 |

### Main Results for each time segment

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 693 | 173 | 248 | 1760 | 0.393 | 690 | 876 | 0.0 | 0.6 | 3.354 | A |
| 2 | 233 | 58 | 718 | 1457 | 0.160 | 233 | 221 | 0.0 | 0.2 | 2.938 | A |
| 3 | 461 | 115 | 581 | 1536 | 0.300 | 460 | 369 | 0.0 | 0.4 | 3.338 | A |
| 4 | 720 | 180 | 407 | 1798 | 0.400 | 717 | 634 | 0.0 | 0.7 | 3.321 | A |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 827 | 207 | 297 | 1722 | 0.480 | 826 | 1049 | 0.6 | 0.9 | 4.014 | A |
| **2** | 279 | 70 | 859 | 1360 | 0.205 | 278 | 264 | 0.2 | 0.3 | 3.327 | A |
| **3** | 551 | 138 | 696 | 1454 | 0.379 | 550 | 442 | 0.4 | 0.6 | 3.979 | A |
| **4** | 859 | 215 | 488 | 1729 | 0.497 | 858 | 759 | 0.7 | 1.0 | 4.129 | A |

**17:00 - 17:15**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1013 | 253 | 363 | 1669 | 0.607 | 1011 | 1282 | 0.9 | 1.5 | 5.450 | A |
| **2** | 341 | 85 | 1051 | 1229 | 0.278 | 341 | 323 | 0.3 | 0.4 | 4.053 | A |
| **3** | 675 | 169 | 851 | 1343 | 0.503 | 673 | 541 | 0.6 | 1.0 | 5.362 | A |
| **4** | 1053 | 263 | 596 | 1634 | 0.644 | 1049 | 928 | 1.0 | 1.8 | 6.121 | A |

**17:15 - 17:30**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1013 | 253 | 364 | 1668 | 0.607 | 1013 | 1286 | 1.5 | 1.5 | 5.495 | A |
| **2** | 341 | 85 | 1054 | 1227 | 0.278 | 341 | 324 | 0.4 | 0.4 | 4.064 | A |
| **3** | 675 | 169 | 853 | 1342 | 0.503 | 675 | 542 | 1.0 | 1.0 | 5.398 | A |
| **4** | 1053 | 263 | 598 | 1633 | 0.644 | 1052 | 930 | 1.8 | 1.8 | 6.196 | A |

**17:30 - 17:45**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 827 | 207 | 299 | 1720 | 0.481 | 829 | 1054 | 1.5 | 0.9 | 4.051 | A |
| **2** | 279 | 70 | 863 | 1358 | 0.205 | 279 | 265 | 0.4 | 0.3 | 3.341 | A |
| **3** | 551 | 138 | 699 | 1452 | 0.379 | 553 | 443 | 1.0 | 0.6 | 4.007 | A |
| **4** | 859 | 215 | 490 | 1727 | 0.498 | 863 | 762 | 1.8 | 1.0 | 4.181 | A |

**17:45 - 18:00**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 693 | 173 | 250 | 1759 | 0.394 | 694 | 881 | 0.9 | 0.7 | 3.383 | A |
| **2** | 233 | 58 | 722 | 1454 | 0.160 | 234 | 222 | 0.3 | 0.2 | 2.948 | A |
| **3** | 461 | 115 | 584 | 1534 | 0.301 | 462 | 371 | 0.6 | 0.4 | 3.360 | A |
| **4** | 720 | 180 | 409 | 1796 | 0.401 | 721 | 637 | 1.0 | 0.7 | 3.351 | A |

# 2030 With Development, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| **1** | untitled | Large Roundabout | | 1, 2, 3, 4 | 8.74 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 14 | Arm 1 | 8.74 | A |

## Arms

### Arms

*[same as above]*

### Roundabout Geometry

*[same as above]*

### Large Roundabout Data

| Arm | Circulating flow (PCU/hr) | Has entry-to-exit separation | Entry-to-exit separation (m) |
|---|---|---|---|
| **1** | 516 | ✓ | 106.00 |
| **2** | 1314 | ✓ | 25.00 |
| **3** | 1104 | ✓ | 45.00 |
| **4** | 634 | ✓ | 175.00 |

### Slope / Intercept / Capacity

*[same as above]*

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| **D5** | 2030 With Development | AM | ONE HOUR | 08:00 | 09:30 | 15 | ✓ |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| 1 | | ONE HOUR | ✓ | 1098 | 100.000 |
| 2 | | ONE HOUR | ✓ | 501 | 100.000 |
| 3 | | ONE HOUR | ✓ | 686 | 100.000 |
| 4 | | ONE HOUR | ✓ | 903 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0 | 49 | 302 | 747 |
| | 2 | 58 | 0 | 275 | 168 |
| | 3 | 363 | 155 | 0 | 168 |
| | 4 | 589 | 170 | 114 | 30 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| 1 | 0.79 | 11.38 | 3.7 | B | 1008 | 1511 |
| 2 | 0.53 | 7.36 | 1.1 | A | 460 | 690 |
| 3 | 0.66 | 9.20 | 1.9 | A | 629 | 944 |
| 4 | 0.62 | 5.96 | 1.6 | A | 829 | 1243 |

### Main Results for each time segment

#### 08:00 - 08:15

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 827 | 207 | 352 | 1651 | 0.501 | 823 | 757 | 0.0 | 1.0 | 4.325 | A |
| 2 | 377 | 94 | 894 | 1311 | 0.288 | 376 | 280 | 0.0 | 0.4 | 3.841 | A |
| 3 | 516 | 129 | 752 | 1385 | 0.373 | 514 | 518 | 0.0 | 0.6 | 4.124 | A |
| 4 | 680 | 170 | 432 | 1771 | 0.384 | 677 | 834 | 0.0 | 0.6 | 3.284 | A |

#### 08:15 - 08:30

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 987 | 247 | 421 | 1597 | 0.618 | 985 | 906 | 1.0 | 1.6 | 5.850 | A |
| **2** | 450 | 113 | 1070 | 1198 | 0.376 | 450 | 336 | 0.4 | 0.6 | 4.808 | A |
| **3** | 617 | 154 | 900 | 1284 | 0.480 | 615 | 620 | 0.6 | 0.9 | 5.372 | A |
| **4** | 812 | 203 | 517 | 1698 | 0.478 | 811 | 998 | 0.6 | 0.9 | 4.051 | A |

**08:30 - 08:45**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1209 | 302 | 515 | 1525 | 0.793 | 1201 | 1108 | 1.6 | 3.6 | 10.837 | B |
| **2** | 552 | 138 | 1305 | 1046 | 0.528 | 550 | 410 | 0.6 | 1.1 | 7.230 | A |
| **3** | 755 | 189 | 1098 | 1150 | 0.657 | 752 | 757 | 0.9 | 1.9 | 8.945 | A |
| **4** | 994 | 249 | 631 | 1600 | 0.621 | 991 | 1218 | 0.9 | 1.6 | 5.889 | A |

**08:45 - 09:00**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1209 | 302 | 516 | 1524 | 0.793 | 1208 | 1112 | 3.6 | 3.7 | 11.378 | B |
| **2** | 552 | 138 | 1313 | 1041 | 0.530 | 552 | 412 | 1.1 | 1.1 | 7.359 | A |
| **3** | 755 | 189 | 1104 | 1146 | 0.659 | 755 | 761 | 1.9 | 1.9 | 9.201 | A |
| **4** | 994 | 249 | 634 | 1597 | 0.622 | 994 | 1225 | 1.6 | 1.6 | 5.965 | A |

**09:00 - 09:15**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 987 | 247 | 423 | 1596 | 0.619 | 995 | 912 | 3.7 | 1.6 | 6.078 | A |
| **2** | 450 | 113 | 1081 | 1191 | 0.378 | 452 | 338 | 1.1 | 0.6 | 4.891 | A |
| **3** | 617 | 154 | 908 | 1279 | 0.482 | 621 | 625 | 1.9 | 0.9 | 5.503 | A |
| **4** | 812 | 203 | 521 | 1695 | 0.479 | 815 | 1008 | 1.6 | 0.9 | 4.103 | A |

**09:15 - 09:30**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 827 | 207 | 354 | 1649 | 0.501 | 829 | 762 | 1.6 | 1.0 | 4.404 | A |
| **2** | 377 | 94 | 901 | 1307 | 0.289 | 378 | 282 | 0.6 | 0.4 | 3.879 | A |
| **3** | 516 | 129 | 757 | 1381 | 0.374 | 518 | 522 | 0.9 | 0.6 | 4.178 | A |
| **4** | 680 | 170 | 435 | 1769 | 0.384 | 681 | 840 | 0.9 | 0.6 | 3.312 | A |

# 2030 With Development, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | untitled | Large Roundabout | | 1, 2, 3, 4 | 8.31 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 14 | Arm 1 | 8.31 | A |

## Arms

### Arms

*[same as above]*

### Roundabout Geometry

*[same as above]*

### Large Roundabout Data

| Arm | Circulating flow (PCU/hr) | Has entry-to-exit separation | Entry-to-exit separation (m) |
|---|---|---|---|
| 1 | 516 | ✓ | 106.00 |
| 2 | 1314 | ✓ | 25.00 |
| 3 | 1104 | ✓ | 45.00 |
| 4 | 634 | ✓ | 175.00 |

### Slope / Intercept / Capacity

*[same as above]*

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D6 | 2030 With Development | PM | ONE HOUR | 16:30 | 18:00 | 15 | ✓ |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| 1 | | ONE HOUR | ✓ | 1098 | 100.000 |
| 2 | | ONE HOUR | ✓ | 501 | 100.000 |
| 3 | | ONE HOUR | ✓ | 571 | 100.000 |
| 4 | | ONE HOUR | ✓ | 903 | 100.000 |

## Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0 | 49 | 302 | 747 |
| | 2 | 58 | 0 | 275 | 168 |
| | 3 | 363 | 155 | 0 | 53 |
| | 4 | 589 | 170 | 114 | 30 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|
| 1 | 0.79 | 11.38 | 3.7 | B | 1008 | 1511 |
| 2 | 0.53 | 7.36 | 1.1 | A | 460 | 690 |
| 3 | 0.55 | 6.96 | 1.2 | A | 524 | 786 |
| 4 | 0.62 | 5.97 | 1.6 | A | 829 | 1243 |

### Main Results for each time segment

#### 16:30 - 16:45

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 827 | 207 | 352 | 1651 | 0.501 | 823 | 757 | 0.0 | 1.0 | 4.325 | A |
| 2 | 377 | 94 | 894 | 1311 | 0.288 | 376 | 280 | 0.0 | 0.4 | 3.841 | A |
| 3 | 430 | 107 | 752 | 1385 | 0.310 | 428 | 518 | 0.0 | 0.4 | 3.757 | A |
| 4 | 680 | 170 | 432 | 1771 | 0.384 | 677 | 748 | 0.0 | 0.6 | 3.284 | A |

#### 16:45 - 17:00

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 987 | 247 | 421 | 1597 | 0.618 | 985 | 907 | 1.0 | 1.6 | 5.851 | A |
| **2** | 450 | 113 | 1070 | 1198 | 0.376 | 450 | 336 | 0.4 | 0.6 | 4.808 | A |
| **3** | 513 | 128 | 900 | 1284 | 0.400 | 512 | 620 | 0.4 | 0.7 | 4.659 | A |
| **4** | 812 | 203 | 517 | 1698 | 0.478 | 811 | 895 | 0.6 | 0.9 | 4.052 | A |

**17:00 - 17:15**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1209 | 302 | 515 | 1525 | 0.793 | 1201 | 1109 | 1.6 | 3.6 | 10.842 | B |
| **2** | 552 | 138 | 1305 | 1046 | 0.528 | 550 | 410 | 0.6 | 1.1 | 7.230 | A |
| **3** | 629 | 157 | 1098 | 1150 | 0.547 | 627 | 757 | 0.7 | 1.2 | 6.848 | A |
| **4** | 994 | 249 | 632 | 1599 | 0.622 | 991 | 1092 | 0.9 | 1.6 | 5.896 | A |

**17:15 - 17:30**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 1209 | 302 | 516 | 1524 | 0.793 | 1208 | 1112 | 3.6 | 3.7 | 11.378 | B |
| **2** | 552 | 138 | 1313 | 1041 | 0.530 | 552 | 412 | 1.1 | 1.1 | 7.359 | A |
| **3** | 629 | 157 | 1104 | 1146 | 0.549 | 629 | 761 | 1.2 | 1.2 | 6.955 | A |
| **4** | 994 | 249 | 634 | 1597 | 0.622 | 994 | 1098 | 1.6 | 1.6 | 5.965 | A |

**17:30 - 17:45**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 987 | 247 | 423 | 1596 | 0.619 | 995 | 911 | 3.7 | 1.6 | 6.078 | A |
| **2** | 450 | 113 | 1081 | 1191 | 0.378 | 452 | 338 | 1.1 | 0.6 | 4.889 | A |
| **3** | 513 | 128 | 908 | 1279 | 0.401 | 515 | 625 | 1.2 | 0.7 | 4.731 | A |
| **4** | 812 | 203 | 520 | 1695 | 0.479 | 815 | 904 | 1.6 | 0.9 | 4.101 | A |

**17:45 - 18:00**

| Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit side) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 827 | 207 | 354 | 1649 | 0.501 | 829 | 762 | 1.6 | 1.0 | 4.402 | A |
| **2** | 377 | 94 | 901 | 1307 | 0.289 | 378 | 282 | 0.6 | 0.4 | 3.880 | A |
| **3** | 430 | 107 | 757 | 1381 | 0.311 | 431 | 522 | 0.7 | 0.5 | 3.791 | A |
| **4** | 680 | 170 | 435 | 1769 | 0.384 | 681 | 753 | 0.9 | 0.6 | 3.314 | A |

# Junctions 10

## PICADY 10 - Priority Intersection Module

Version: 10.0.4.1693


**Filename:** Whitehalgh Lane A59 Left-Right Stagger.j10
**Path:** G:\Shared drives\Jobs4000\4094 Langho, Lancashire\Modelling\Junctions 10
**Report generation date:** 26/02/2025 18:40:14

»2025, AM
»2025, PM
»2030 Do Minimum, AM
»2030 Do Minimum, PM
»2030 With Development, AM
»2030 With Development, PM

### Summary of junction performance

| | AM | | | | | | PM | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Network Residual Capacity | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Network Residual Capacity |
| | 2025 | | | | | | | | | | | |
| **Stream B-ACD** | D1 | 0.3 | 12.20 | 0.23 | B | 14 % [Stream D-ABC] | D2 | 0.2 | 9.80 | 0.18 | A | 26 % [Stream D-ABC] |
| **Stream AB-CD** | | 0.6 | 4.06 | 0.19 | A | | | 0.5 | 4.61 | 0.16 | A | |
| **Stream D-ABC** | | 0.4 | 21.06 | 0.30 | C | | | 0.3 | 16.08 | 0.25 | C | |
| **Stream CD-AB** | | 1.1 | 5.01 | 0.28 | A | | | 1.1 | 4.82 | 0.30 | A | |
| | 2030 Do Minimum | | | | | | | | | | | |
| **Stream B-ACD** | D3 | 0.3 | 13.63 | 0.25 | B | 7 % [Stream D-ABC] | D4 | 0.2 | 10.37 | 0.19 | B | 16 % [Stream D-ABC] |
| **Stream AB-CD** | | 0.9 | 3.91 | 0.22 | A | | | 0.6 | 4.54 | 0.18 | A | |
| **Stream D-ABC** | | 0.5 | 25.76 | 0.35 | D | | | 0.4 | 19.27 | 0.29 | C | |
| **Stream CD-AB** | | 1.3 | 5.12 | 0.31 | A | | | 1.4 | 4.85 | 0.35 | A | |
| | 2030 With Development | | | | | | | | | | | |
| **Stream B-ACD** | D5 | 0.5 | 17.96 | 0.33 | C | 5 % [Stream D-ABC] | D6 | 0.5 | 17.54 | 0.34 | C | 14 % [Stream D-ABC] |
| **Stream AB-CD** | | 1.3 | 3.99 | 0.27 | A | | | 0.7 | 4.56 | 0.20 | A | |
| **Stream D-ABC** | | 0.6 | 27.39 | 0.37 | D | | | 0.5 | 20.25 | 0.32 | C | |
| **Stream CD-AB** | | 1.4 | 5.24 | 0.33 | A | | | 1.6 | 4.91 | 0.37 | A | |

*There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.*

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

### File summary

#### File Description

| | |
|---|---|
| **Title** | |
| **Location** | |
| **Site number** | |
| **Date** | 20/01/2025 |
| | |

| | |
|---|---|
| **Version** | |
| **Status** | (new file) |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | DESKTOP-AIMMLSN\Rory Osborne |
| **Description** | |

## Units

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

## Analysis Options

| Calculate Queue Percentiles | Calculate residual capacity | Residual capacity criteria type | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|
| | ✓ | Delay | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D1** | 2025 | AM | ONE HOUR | 08:00 | 09:30 | 15 |
| **D2** | 2025 | PM | ONE HOUR | 16:30 | 18:00 | 15 |
| **D3** | 2030 Do Minimum | AM | ONE HOUR | 08:00 | 09:30 | 15 |
| **D4** | 2030 Do Minimum | PM | ONE HOUR | 16:30 | 18:00 | 15 |
| **D5** | 2030 With Development | AM | ONE HOUR | 08:00 | 09:30 | 15 |
| **D6** | 2030 With Development | PM | ONE HOUR | 16:30 | 18:00 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| **A1** | 100.000 |

# 2025, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Arm D Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | untitled | Left-Right Stagger | Two-way | Two-way | Two-way | Two-way | | 1.20 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 14 | Stream D-ABC | 1.20 | A |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | untitled | | Major |
| B | untitled | | Minor |
| C | untitled | | Major |
| D | untitled | | Minor |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right-turn storage | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| A | 7.00 | | | 100.0 | ✓ | 0.00 |
| C | 7.00 | | | 100.0 | ✓ | 0.00 |

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

### Minor Arm Geometry

| Arm | Minor arm type | Lane width (m) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|
| B | One lane | 3.00 | 25 | 50 |
| D | One lane | 3.60 | 70 | 25 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for A-D | Slope for B-C | Slope for B-D | Slope for C-A | Slope for C-B | Slope for C-D | Slope for D-A | Slope for D-B |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AB-D | 632 | - | - | - | - | - | 0.234 | 0.234 | 0.234 | - | - |
| B-A | 510 | 0.089 | 0.225 | 0.225 | - | - | 0.141 | 0.321 | - | 0.141 | 0.321 |
| B-CD | 655 | 0.096 | 0.243 | 0.243 | - | - | - | - | - | - | - |
| | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CD-B | 632 | 0.234 | 0.234 | 0.234 | - | - | - | - | - | - | - |
| D-AB | 678 | - | - | - | - | - | 0.251 | 0.251 | 0.099 | - | - |
| D-C | 543 | - | 0.151 | 0.342 | 0.151 | 0.342 | 0.239 | 0.239 | 0.095 | - | - |

*The slopes and intercepts shown above include custom intercept adjustments only.*
*Streams may be combined, in which case capacity will be adjusted.*
*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D1** | 2025 | AM | ONE HOUR | 08:00 | 09:30 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| **A** | | ✓ | 831 | 100.000 |
| **B** | | ✓ | 81 | 100.000 |
| **C** | | ✓ | 772 | 100.000 |
| **D** | | ✓ | 68 | 100.000 |

# Origin-Destination Data

### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | **A** | **B** | **C** | **D** |
| **From** | **A** | 0 | 2 | 809 | 20 |
| | **B** | 7 | 0 | 59 | 15 |
| | **C** | 686 | 41 | 0 | 45 |
| | **D** | 6 | 20 | 42 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | **A** | **B** | **C** | **D** |
| **From** | **A** | 0 | 0 | 0 | 0 |
| | **B** | 0 | 0 | 0 | 0 |
| | **C** | 0 | 0 | 0 | 0 |
| | **D** | 0 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|
| **B-ACD** | 0.23 | 12.20 | 0.3 | B |
| **A-B** | | | | |
| **A-C** | | | | |
| **A-D** | | | | |
| | | | | |

| | | | | |
|---|---|---|---|---|
| **AB-CD** | 0.19 | 4.06 | 0.6 | A |
| **AB-C** | | | | |
| **D-ABC** | 0.30 | 21.06 | 0.4 | C |
| **C-D** | | | | |
| **C-A** | | | | |
| **C-B** | | | | |
| **CD-AB** | 0.28 | 5.01 | 1.1 | A |
| **CD-A** | | | | |

## Main Results for each time segment

**08:00 - 08:15**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| **B-ACD** | 61 | 472 | 0.129 | 60 | 0.1 | 8.744 | A |
| **A-B** | 2 | | | 2 | | | |
| **A-C** | 609 | | | 609 | | | |
| **A-D** | 15 | | | 15 | | | |
| **AB-CD** | 80 | 969 | 0.083 | 80 | 0.2 | 4.048 | A |
| **AB-C** | 599 | | | 599 | | | |
| **D-ABC** | 51 | 363 | 0.141 | 51 | 0.2 | 11.517 | B |
| **C-D** | 34 | | | 34 | | | |
| **C-A** | 516 | | | 516 | | | |
| **C-B** | 31 | | | 31 | | | |
| **CD-AB** | 115 | 866 | 0.133 | 113 | 0.3 | 4.785 | A |
| **CD-A** | 452 | | | 452 | | | |

**08:15 - 08:30**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| **B-ACD** | 73 | 436 | 0.167 | 73 | 0.2 | 9.891 | A |
| **A-B** | 2 | | | 2 | | | |
| **A-C** | 727 | | | 727 | | | |
| **A-D** | 18 | | | 18 | | | |
| **AB-CD** | 124 | 1046 | 0.119 | 124 | 0.3 | 3.903 | A |
| **AB-C** | 688 | | | 688 | | | |
| **D-ABC** | 61 | 315 | 0.194 | 61 | 0.2 | 14.149 | B |
| **C-D** | 40 | | | 40 | | | |
| **C-A** | 617 | | | 617 | | | |
| **C-B** | 37 | | | 37 | | | |
| **CD-AB** | 169 | 922 | 0.184 | 169 | 0.6 | 4.792 | A |
| **CD-A** | 507 | | | 507 | | | |

**08:30 - 08:45**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| **B-ACD** | 89 | 384 | 0.232 | 89 | 0.3 | 12.159 | B |
| **A-B** | 2 | | | 2 | | | |
| **A-C** | 891 | | | 891 | | | |
| **A-D** | 22 | | | 22 | | | |
| **AB-CD** | 220 | 1159 | 0.190 | 219 | 0.6 | 3.835 | A |
| **AB-C** | 774 | | | 774 | | | |
| **D-ABC** | 75 | 246 | 0.304 | 74 | 0.4 | 20.853 | C |
| **C-D** | 50 | | | 50 | | | |
| | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| C-A | 755 | | | 755 | | | |
| C-B | 45 | | | 45 | | | |
| CD-AB | 280 | 1004 | 0.279 | 279 | 1.0 | 4.987 | A |
| CD-A | 548 | | | 548 | | | |

**08:45 - 09:00**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 89 | 384 | 0.232 | 89 | 0.3 | 12.196 | B |
| A-B | 2 | | | 2 | | | |
| A-C | 891 | | | 891 | | | |
| A-D | 22 | | | 22 | | | |
| AB-CD | 222 | 1160 | 0.191 | 221 | 0.6 | 3.847 | A |
| AB-C | 773 | | | 773 | | | |
| D-ABC | 75 | 246 | 0.305 | 75 | 0.4 | 21.063 | C |
| C-D | 50 | | | 50 | | | |
| C-A | 755 | | | 755 | | | |
| C-B | 45 | | | 45 | | | |
| CD-AB | 282 | 1005 | 0.281 | 282 | 1.1 | 5.015 | A |
| CD-A | 547 | | | 547 | | | |

**09:00 - 09:15**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 73 | 436 | 0.167 | 73 | 0.2 | 9.927 | A |
| A-B | 2 | | | 2 | | | |
| A-C | 727 | | | 727 | | | |
| A-D | 18 | | | 18 | | | |
| AB-CD | 125 | 1048 | 0.119 | 126 | 0.3 | 3.917 | A |
| AB-C | 687 | | | 687 | | | |
| D-ABC | 61 | 315 | 0.194 | 62 | 0.2 | 14.287 | B |
| C-D | 40 | | | 40 | | | |
| C-A | 617 | | | 617 | | | |
| C-B | 37 | | | 37 | | | |
| CD-AB | 171 | 924 | 0.186 | 173 | 0.6 | 4.827 | A |
| CD-A | 506 | | | 506 | | | |

**09:15 - 09:30**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 61 | 471 | 0.129 | 61 | 0.2 | 8.780 | A |
| A-B | 2 | | | 2 | | | |
| A-C | 609 | | | 609 | | | |
| A-D | 15 | | | 15 | | | |
| AB-CD | 81 | 970 | 0.084 | 82 | 0.2 | 4.058 | A |
| AB-C | 599 | | | 599 | | | |
| D-ABC | 51 | 362 | 0.141 | 52 | 0.2 | 11.600 | B |
| C-D | 34 | | | 34 | | | |
| C-A | 516 | | | 516 | | | |
| C-B | 31 | | | 31 | | | |
| CD-AB | 116 | 867 | 0.134 | 117 | 0.3 | 4.816 | A |
| CD-A | 451 | | | 451 | | | |

# 2025, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Arm D Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | untitled | Left-Right Stagger | Two-way | Two-way | Two-way | Two-way | | 1.12 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 26 | Stream D-ABC | 1.12 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| D2 | 2025 | PM | ONE HOUR | 16:30 | 18:00 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A | | ✓ | 640 | 100.000 |
| B | | ✓ | 72 | 100.000 |
| C | | ✓ | 826 | 100.000 |
| D | | ✓ | 69 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 13 | 615 | 12 |
| | B | 5 | 0 | 43 | 24 |
| | C | 730 | 46 | 0 | 50 |
| | D | 15 | 23 | 31 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 0 | 0 | 0 |
| | B | 0 | 0 | 0 | 0 |
| | C | 0 | 0 | 0 | 0 |
| | D | 0 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|
| B-ACD | 0.18 | 9.80 | 0.2 | A |
| A-B | | | | |
| A-C | | | | |
| A-D | | | | |
| AB-CD | 0.16 | 4.61 | 0.5 | A |
| AB-C | | | | |
| D-ABC | 0.25 | 16.08 | 0.3 | C |
| C-D | | | | |
| C-A | | | | |
| C-B | | | | |
| CD-AB | 0.30 | 4.82 | 1.1 | A |
| CD-A | | | | |

## Main Results for each time segment

### 16:30 - 16:45

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 54 | 513 | 0.106 | 54 | 0.1 | 7.833 | A |
| A-B | 10 | | | 10 | | | |
| A-C | 463 | | | 463 | | | |
| A-D | 9 | | | 9 | | | |
| AB-CD | 65 | 848 | 0.076 | 64 | 0.1 | 4.594 | A |
| AB-C | 457 | | | 457 | | | |
| D-ABC | 52 | 406 | 0.128 | 51 | 0.1 | 10.144 | B |
| C-D | 38 | | | 38 | | | |
| C-A | 550 | | | 550 | | | |
| C-B | 35 | | | 35 | | | |
| CD-AB | 133 | 918 | 0.145 | 131 | 0.4 | 4.577 | A |
| CD-A | 480 | | | 480 | | | |

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 65 | 486 | 0.133 | 65 | 0.2 | 8.542 | A |
| A-B | 12 | | | 12 | | | |
| A-C | 553 | | | 553 | | | |
| A-D | 11 | | | 11 | | | |
| AB-CD | 95 | 899 | 0.105 | 94 | 0.2 | 4.476 | A |
| AB-C | 529 | | | 529 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D-ABC | 62 | 363 | 0.171 | 62 | 0.2 | 11.957 | B |
| C-D | 45 | | | 45 | | | |
| C-A | 656 | | | 656 | | | |
| C-B | 41 | | | 41 | | | |
| CD-AB | 196 | 983 | 0.199 | 195 | 0.6 | 4.581 | A |
| CD-A | 536 | | | 536 | | | |

**17:00 - 17:15**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 79 | 447 | 0.178 | 79 | 0.2 | 9.790 | A |
| A-B | 14 | | | 14 | | | |
| A-C | 677 | | | 677 | | | |
| A-D | 13 | | | 13 | | | |
| AB-CD | 154 | 975 | 0.158 | 153 | 0.4 | 4.389 | A |
| AB-C | 610 | | | 610 | | | |
| D-ABC | 76 | 300 | 0.253 | 75 | 0.3 | 16.000 | C |
| C-D | 55 | | | 55 | | | |
| C-A | 804 | | | 804 | | | |
| C-B | 51 | | | 51 | | | |
| CD-AB | 322 | 1075 | 0.300 | 320 | 1.1 | 4.790 | A |
| CD-A | 574 | | | 574 | | | |

**17:15 - 17:30**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 79 | 446 | 0.178 | 79 | 0.2 | 9.804 | A |
| A-B | 14 | | | 14 | | | |
| A-C | 677 | | | 677 | | | |
| A-D | 13 | | | 13 | | | |
| AB-CD | 155 | 976 | 0.159 | 155 | 0.5 | 4.398 | A |
| AB-C | 609 | | | 609 | | | |
| D-ABC | 76 | 300 | 0.253 | 76 | 0.3 | 16.084 | C |
| C-D | 55 | | | 55 | | | |
| C-A | 804 | | | 804 | | | |
| C-B | 51 | | | 51 | | | |
| CD-AB | 324 | 1077 | 0.301 | 324 | 1.1 | 4.818 | A |
| CD-A | 572 | | | 572 | | | |

**17:30 - 17:45**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 65 | 486 | 0.133 | 65 | 0.2 | 8.561 | A |
| A-B | 12 | | | 12 | | | |
| A-C | 553 | | | 553 | | | |
| A-D | 11 | | | 11 | | | |
| AB-CD | 95 | 900 | 0.106 | 96 | 0.2 | 4.487 | A |
| AB-C | 529 | | | 529 | | | |
| D-ABC | 62 | 362 | 0.171 | 63 | 0.2 | 12.026 | B |
| C-D | 45 | | | 45 | | | |
| C-A | 656 | | | 656 | | | |
| C-B | 41 | | | 41 | | | |
| CD-AB | 198 | 984 | 0.201 | 199 | 0.6 | 4.614 | A |
| CD-A | 534 | | | 534 | | | |

**17:45 - 18:00**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 54 | 513 | 0.106 | 54 | 0.1 | 7.856 | A |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A-B** | 10 | | | 10 | | | |
| **A-C** | 463 | | | 463 | | | |
| **A-D** | 9 | | | 9 | | | |
| **AB-CD** | 65 | 848 | 0.077 | 66 | 0.1 | 4.607 | A |
| **AB-C** | 457 | | | 457 | | | |
| **D-ABC** | 52 | 405 | 0.128 | 52 | 0.1 | 10.197 | B |
| **C-D** | 38 | | | 38 | | | |
| **C-A** | 550 | | | 550 | | | |
| **C-B** | 35 | | | 35 | | | |
| **CD-AB** | 135 | 919 | 0.146 | 136 | 0.4 | 4.607 | A |
| **CD-A** | 478 | | | 478 | | | |

# 2030 Do Minimum, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Arm D Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | untitled | Left-Right Stagger | Two-way | Two-way | Two-way | Two-way | | 1.29 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 7 | Stream D-ABC | 1.29 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| D3 | 2030 Do Minimum | AM | ONE HOUR | 08:00 | 09:30 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A | | ✓ | 922 | 100.000 |
| B | | ✓ | 81 | 100.000 |
| C | | ✓ | 821 | 100.000 |
| D | | ✓ | 68 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 2 | 900 | 20 |
| | B | 7 | 0 | 59 | 15 |
| | C | 735 | 41 | 0 | 45 |
| | D | 6 | 20 | 42 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 0 | 0 | 0 |
| | B | 0 | 0 | 0 | 0 |
| | C | 0 | 0 | 0 | 0 |
| | D | 0 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|
| B-ACD | 0.25 | 13.63 | 0.3 | B |
| A-B | | | | |
| A-C | | | | |
| A-D | | | | |
| AB-CD | 0.22 | 3.91 | 0.9 | A |
| AB-C | | | | |
| D-ABC | 0.35 | 25.76 | 0.5 | D |
| C-D | | | | |
| C-A | | | | |
| C-B | | | | |
| CD-AB | 0.31 | 5.12 | 1.3 | A |
| CD-A | | | | |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 61 | 453 | 0.135 | 60 | 0.2 | 9.153 | A |
| A-B | 2 | | | 2 | | | |
| A-C | 678 | | | 678 | | | |
| A-D | 15 | | | 15 | | | |
| AB-CD | 91 | 1013 | 0.090 | 90 | 0.2 | 3.899 | A |
| AB-C | 657 | | | 657 | | | |
| D-ABC | 51 | 344 | 0.149 | 51 | 0.2 | 12.250 | B |
| C-D | 34 | | | 34 | | | |
| C-A | 553 | | | 553 | | | |
| C-B | 31 | | | 31 | | | |
| CD-AB | 124 | 882 | 0.141 | 123 | 0.4 | 4.746 | A |
| CD-A | 479 | | | 479 | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 73 | 414 | 0.176 | 73 | 0.2 | 10.550 | B |
| A-B | 2 | | | 2 | | | |
| A-C | 809 | | | 809 | | | |
| A-D | 18 | | | 18 | | | |
| AB-CD | 145 | 1102 | 0.132 | 145 | 0.3 | 3.766 | A |
| AB-C | 748 | | | 748 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D-ABC | 61 | 291 | 0.210 | 61 | 0.3 | 15.582 | C |
| C-D | 40 | | | 40 | | | |
| C-A | 661 | | | 661 | | | |
| C-B | 37 | | | 37 | | | |
| CD-AB | 188 | 943 | 0.199 | 187 | 0.6 | 4.777 | A |
| CD-A | 533 | | | 533 | | | |

**08:30 - 08:45**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 89 | 353 | 0.252 | 89 | 0.3 | 13.571 | B |
| A-B | 2 | | | 2 | | | |
| A-C | 991 | | | 991 | | | |
| A-D | 22 | | | 22 | | | |
| AB-CD | 273 | 1230 | 0.222 | 271 | 0.8 | 3.762 | A |
| AB-C | 821 | | | 821 | | | |
| D-ABC | 75 | 215 | 0.348 | 74 | 0.5 | 25.342 | D |
| C-D | 50 | | | 50 | | | |
| C-A | 809 | | | 809 | | | |
| C-B | 45 | | | 45 | | | |
| CD-AB | 322 | 1033 | 0.312 | 320 | 1.3 | 5.079 | A |
| CD-A | 560 | | | 560 | | | |

**08:45 - 09:00**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 89 | 353 | 0.252 | 89 | 0.3 | 13.630 | B |
| A-B | 2 | | | 2 | | | |
| A-C | 991 | | | 991 | | | |
| A-D | 22 | | | 22 | | | |
| AB-CD | 275 | 1232 | 0.223 | 275 | 0.9 | 3.783 | A |
| AB-C | 819 | | | 819 | | | |
| D-ABC | 75 | 214 | 0.349 | 75 | 0.5 | 25.761 | D |
| C-D | 50 | | | 50 | | | |
| C-A | 809 | | | 809 | | | |
| C-B | 45 | | | 45 | | | |
| CD-AB | 325 | 1034 | 0.314 | 325 | 1.3 | 5.123 | A |
| CD-A | 558 | | | 558 | | | |

**09:00 - 09:15**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 73 | 413 | 0.176 | 73 | 0.2 | 10.602 | B |
| A-B | 2 | | | 2 | | | |
| A-C | 809 | | | 809 | | | |
| A-D | 18 | | | 18 | | | |
| AB-CD | 147 | 1104 | 0.133 | 149 | 0.3 | 3.786 | A |
| AB-C | 747 | | | 747 | | | |
| D-ABC | 61 | 291 | 0.210 | 62 | 0.3 | 15.806 | C |
| C-D | 40 | | | 40 | | | |
| C-A | 661 | | | 661 | | | |
| C-B | 37 | | | 37 | | | |
| CD-AB | 191 | 945 | 0.202 | 193 | 0.7 | 4.826 | A |
| CD-A | 531 | | | 531 | | | |

**09:15 - 09:30**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 61 | 453 | 0.135 | 61 | 0.2 | 9.197 | A |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A-B** | 2 | | | 2 | | | |
| **A-C** | 678 | | | 678 | | | |
| **A-D** | 15 | | | 15 | | | |
| **AB-CD** | 92 | 1015 | 0.091 | 93 | 0.2 | 3.910 | A |
| **AB-C** | 656 | | | 656 | | | |
| **D-ABC** | 51 | 343 | 0.149 | 52 | 0.2 | 12.353 | B |
| **C-D** | 34 | | | 34 | | | |
| **C-A** | 553 | | | 553 | | | |
| **C-B** | 31 | | | 31 | | | |
| **CD-AB** | 126 | 883 | 0.143 | 128 | 0.4 | 4.782 | A |
| **CD-A** | 478 | | | 478 | | | |

# 2030 Do Minimum, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Arm D Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | untitled | Left-Right Stagger | Two-way | Two-way | Two-way | Two-way | | 1.18 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 16 | Stream D-ABC | 1.18 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| D4 | 2030 Do Minimum | PM | ONE HOUR | 16:30 | 18:00 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A | | ✓ | 692 | 100.000 |
| B | | ✓ | 72 | 100.000 |
| C | | ✓ | 919 | 100.000 |
| D | | ✓ | 69 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 13 | 667 | 12 |
| | B | 5 | 0 | 43 | 24 |
| | C | 823 | 46 | 0 | 50 |
| | D | 15 | 23 | 31 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 0 | 0 | 0 |
| | B | 0 | 0 | 0 | 0 |
| | C | 0 | 0 | 0 | 0 |
| | D | 0 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|
| B-ACD | 0.19 | 10.37 | 0.2 | B |
| A-B | | | | |
| A-C | | | | |
| A-D | | | | |
| AB-CD | 0.18 | 4.54 | 0.6 | A |
| AB-C | | | | |
| D-ABC | 0.29 | 19.27 | 0.4 | C |
| C-D | | | | |
| C-A | | | | |
| C-B | | | | |
| CD-AB | 0.35 | 4.85 | 1.4 | A |
| CD-A | | | | |

## Main Results for each time segment

### 16:30 - 16:45

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 54 | 501 | 0.108 | 54 | 0.1 | 8.038 | A |
| A-B | 10 | | | 10 | | | |
| A-C | 502 | | | 502 | | | |
| A-D | 9 | | | 9 | | | |
| AB-CD | 71 | 865 | 0.082 | 70 | 0.2 | 4.529 | A |
| AB-C | 491 | | | 491 | | | |
| D-ABC | 52 | 383 | 0.136 | 51 | 0.2 | 10.834 | B |
| C-D | 38 | | | 38 | | | |
| C-A | 620 | | | 620 | | | |
| C-B | 35 | | | 35 | | | |
| CD-AB | 150 | 962 | 0.156 | 149 | 0.4 | 4.427 | A |
| CD-A | 532 | | | 532 | | | |

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 65 | 471 | 0.137 | 65 | 0.2 | 8.850 | A |
| A-B | 12 | | | 12 | | | |
| A-C | 600 | | | 600 | | | |
| A-D | 11 | | | 11 | | | |
| AB-CD | 105 | 921 | 0.114 | 105 | 0.3 | 4.413 | A |
| AB-C | 565 | | | 565 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D-ABC | 62 | 335 | 0.185 | 62 | 0.2 | 13.183 | B |
| C-D | 45 | | | 45 | | | |
| C-A | 740 | | | 740 | | | |
| C-B | 41 | | | 41 | | | |
| CD-AB | 228 | 1037 | 0.220 | 227 | 0.7 | 4.460 | A |
| CD-A | 587 | | | 587 | | | |

**17:00 - 17:15**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 79 | 427 | 0.186 | 79 | 0.2 | 10.347 | B |
| A-B | 14 | | | 14 | | | |
| A-C | 734 | | | 734 | | | |
| A-D | 13 | | | 13 | | | |
| AB-CD | 178 | 1006 | 0.177 | 177 | 0.5 | 4.353 | A |
| AB-C | 643 | | | 643 | | | |
| D-ABC | 76 | 263 | 0.289 | 75 | 0.4 | 19.116 | C |
| C-D | 55 | | | 55 | | | |
| C-A | 906 | | | 906 | | | |
| C-B | 51 | | | 51 | | | |
| CD-AB | 395 | 1145 | 0.345 | 392 | 1.4 | 4.808 | A |
| CD-A | 604 | | | 604 | | | |

**17:15 - 17:30**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 79 | 426 | 0.186 | 79 | 0.2 | 10.369 | B |
| A-B | 14 | | | 14 | | | |
| A-C | 734 | | | 734 | | | |
| A-D | 13 | | | 13 | | | |
| AB-CD | 179 | 1006 | 0.178 | 179 | 0.6 | 4.365 | A |
| AB-C | 642 | | | 642 | | | |
| D-ABC | 76 | 263 | 0.289 | 76 | 0.4 | 19.274 | C |
| C-D | 55 | | | 55 | | | |
| C-A | 906 | | | 906 | | | |
| C-B | 51 | | | 51 | | | |
| CD-AB | 398 | 1147 | 0.347 | 398 | 1.4 | 4.851 | A |
| CD-A | 601 | | | 601 | | | |

**17:30 - 17:45**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 65 | 471 | 0.137 | 65 | 0.2 | 8.873 | A |
| A-B | 12 | | | 12 | | | |
| A-C | 600 | | | 600 | | | |
| A-D | 11 | | | 11 | | | |
| AB-CD | 106 | 923 | 0.115 | 107 | 0.3 | 4.429 | A |
| AB-C | 565 | | | 565 | | | |
| D-ABC | 62 | 334 | 0.186 | 63 | 0.2 | 13.292 | B |
| C-D | 45 | | | 45 | | | |
| C-A | 740 | | | 740 | | | |
| C-B | 41 | | | 41 | | | |
| CD-AB | 231 | 1040 | 0.222 | 234 | 0.8 | 4.504 | A |
| CD-A | 585 | | | 585 | | | |

**17:45 - 18:00**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 54 | 501 | 0.108 | 54 | 0.1 | 8.062 | A |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A-B** | 10 | | | 10 | | | |
| **A-C** | 502 | | | 502 | | | |
| **A-D** | 9 | | | 9 | | | |
| **AB-CD** | 71 | 865 | 0.082 | 72 | 0.2 | 4.542 | A |
| **AB-C** | 490 | | | 490 | | | |
| **D-ABC** | 52 | 383 | 0.136 | 52 | 0.2 | 10.902 | B |
| **C-D** | 38 | | | 38 | | | |
| **C-A** | 620 | | | 620 | | | |
| **C-B** | 35 | | | 35 | | | |
| **CD-AB** | 152 | 964 | 0.158 | 154 | 0.5 | 4.463 | A |
| **CD-A** | 531 | | | 531 | | | |

# 2030 With Development, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Arm D Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | untitled | Left-Right Stagger | Two-way | Two-way | Two-way | Two-way | | 1.50 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 5 | Stream D-ABC | 1.50 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| D5 | 2030 With Development | AM | ONE HOUR | 08:00 | 09:30 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A | | ✓ | 976 | 100.000 |
| B | | ✓ | 89 | 100.000 |
| C | | ✓ | 828 | 100.000 |
| D | | ✓ | 70 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 26 | 924 | 26 |
| | B | 15 | 0 | 59 | 15 |
| | C | 742 | 41 | 0 | 45 |
| | D | 8 | 20 | 42 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 0 | 0 | 0 |
| | B | 0 | 0 | 0 | 0 |
| | C | 0 | 0 | 0 | 0 |
| | D | 0 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|
| B-ACD | 0.33 | 17.96 | 0.5 | C |
| A-B | | | | |
| A-C | | | | |
| A-D | | | | |
| AB-CD | 0.27 | 3.99 | 1.3 | A |
| AB-C | | | | |
| D-ABC | 0.37 | 27.39 | 0.6 | D |
| C-D | | | | |
| C-A | | | | |
| C-B | | | | |
| CD-AB | 0.33 | 5.24 | 1.4 | A |
| CD-A | | | | |

## Main Results for each time segment

### 08:00 - 08:15

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 67 | 417 | 0.161 | 66 | 0.2 | 10.244 | B |
| A-B | 20 | | | 20 | | | |
| A-C | 696 | | | 696 | | | |
| A-D | 20 | | | 20 | | | |
| AB-CD | 110 | 1026 | 0.107 | 109 | 0.2 | 3.928 | A |
| AB-C | 660 | | | 660 | | | |
| D-ABC | 53 | 342 | 0.154 | 52 | 0.2 | 12.387 | B |
| C-D | 34 | | | 34 | | | |
| C-A | 559 | | | 559 | | | |
| C-B | 31 | | | 31 | | | |
| CD-AB | 128 | 880 | 0.145 | 126 | 0.4 | 4.775 | A |
| CD-A | 483 | | | 483 | | | |

### 08:15 - 08:30

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 80 | 371 | 0.216 | 80 | 0.3 | 12.346 | B |
| A-B | 23 | | | 23 | | | |
| A-C | 831 | | | 831 | | | |
| A-D | 23 | | | 23 | | | |
| AB-CD | 177 | 1117 | 0.159 | 176 | 0.4 | 3.830 | A |
| AB-C | 743 | | | 743 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D-ABC | 63 | 288 | 0.218 | 63 | 0.3 | 15.924 | C |
| C-D | 40 | | | 40 | | | |
| C-A | 667 | | | 667 | | | |
| C-B | 37 | | | 37 | | | |
| CD-AB | 194 | 942 | 0.206 | 193 | 0.7 | 4.821 | A |
| CD-A | 535 | | | 535 | | | |

**08:30 - 08:45**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 98 | 299 | 0.328 | 97 | 0.5 | 17.775 | C |
| A-B | 29 | | | 29 | | | |
| A-C | 1017 | | | 1017 | | | |
| A-D | 29 | | | 29 | | | |
| AB-CD | 339 | 1250 | 0.271 | 336 | 1.2 | 3.953 | A |
| AB-C | 788 | | | 788 | | | |
| D-ABC | 77 | 209 | 0.369 | 76 | 0.6 | 26.821 | D |
| C-D | 50 | | | 50 | | | |
| C-A | 817 | | | 817 | | | |
| C-B | 45 | | | 45 | | | |
| CD-AB | 338 | 1033 | 0.327 | 335 | 1.4 | 5.187 | A |
| CD-A | 555 | | | 555 | | | |

**08:45 - 09:00**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 98 | 298 | 0.328 | 98 | 0.5 | 17.956 | C |
| A-B | 29 | | | 29 | | | |
| A-C | 1017 | | | 1017 | | | |
| A-D | 29 | | | 29 | | | |
| AB-CD | 342 | 1252 | 0.273 | 342 | 1.3 | 3.986 | A |
| AB-C | 785 | | | 785 | | | |
| D-ABC | 77 | 208 | 0.370 | 77 | 0.6 | 27.392 | D |
| C-D | 50 | | | 50 | | | |
| C-A | 817 | | | 817 | | | |
| C-B | 45 | | | 45 | | | |
| CD-AB | 341 | 1035 | 0.329 | 341 | 1.4 | 5.238 | A |
| CD-A | 552 | | | 552 | | | |

**09:00 - 09:15**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 80 | 370 | 0.216 | 81 | 0.3 | 12.461 | B |
| A-B | 23 | | | 23 | | | |
| A-C | 831 | | | 831 | | | |
| A-D | 23 | | | 23 | | | |
| AB-CD | 180 | 1120 | 0.161 | 183 | 0.5 | 3.864 | A |
| AB-C | 741 | | | 741 | | | |
| D-ABC | 63 | 287 | 0.219 | 64 | 0.3 | 16.202 | C |
| C-D | 40 | | | 40 | | | |
| C-A | 667 | | | 667 | | | |
| C-B | 37 | | | 37 | | | |
| CD-AB | 197 | 944 | 0.209 | 200 | 0.7 | 4.876 | A |
| CD-A | 532 | | | 532 | | | |

**09:15 - 09:30**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 67 | 417 | 0.161 | 67 | 0.2 | 10.318 | B |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A-B** | 20 | | | 20 | | | |
| **A-C** | 696 | | | 696 | | | |
| **A-D** | 20 | | | 20 | | | |
| **AB-CD** | 112 | 1027 | 0.109 | 113 | 0.2 | 3.944 | A |
| **AB-C** | 660 | | | 660 | | | |
| **D-ABC** | 53 | 341 | 0.154 | 53 | 0.2 | 12.504 | B |
| **C-D** | 34 | | | 34 | | | |
| **C-A** | 559 | | | 559 | | | |
| **C-B** | 31 | | | 31 | | | |
| **CD-AB** | 130 | 882 | 0.147 | 131 | 0.4 | 4.815 | A |
| **CD-A** | 481 | | | 481 | | | |

# 2030 With Development, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Vehicle Mix | | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Arm D Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | untitled | Left-Right Stagger | Two-way | Two-way | Two-way | Two-way | | 1.51 | A |

### Junction Network

| Driving side | Lighting | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | 14 | Stream D-ABC | 1.51 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| D6 | 2030 With Development | PM | ONE HOUR | 16:30 | 18:00 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A | | ✓ | 719 | 100.000 |
| B | | ✓ | 96 | 100.000 |
| C | | ✓ | 943 | 100.000 |
| D | | ✓ | 75 | 100.000 |

## Origin-Destination Data

#### Demand (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 25 | 679 | 15 |
| | B | 29 | 0 | 43 | 24 |
| | C | 847 | 46 | 0 | 50 |
| | D | 21 | 23 | 31 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | 0 | 0 | 0 | 0 |
| | B | 0 | 0 | 0 | 0 |
| | C | 0 | 0 | 0 | 0 |
| | D | 0 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|
| B-ACD | 0.34 | 17.54 | 0.5 | C |
| A-B | | | | |
| A-C | | | | |
| A-D | | | | |
| AB-CD | 0.20 | 4.56 | 0.7 | A |
| AB-C | | | | |
| D-ABC | 0.32 | 20.25 | 0.5 | C |
| C-D | | | | |
| C-A | | | | |
| C-B | | | | |
| CD-AB | 0.37 | 4.91 | 1.6 | A |
| CD-A | | | | |

## Main Results for each time segment

### 16:30 - 16:45

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 72 | 417 | 0.173 | 71 | 0.2 | 10.374 | B |
| A-B | 19 | | | 19 | | | |
| A-C | 511 | | | 511 | | | |
| A-D | 11 | | | 11 | | | |
| AB-CD | 78 | 868 | 0.090 | 77 | 0.2 | 4.550 | A |
| AB-C | 494 | | | 494 | | | |
| D-ABC | 56 | 385 | 0.147 | 56 | 0.2 | 10.930 | B |
| C-D | 38 | | | 38 | | | |
| C-A | 638 | | | 638 | | | |
| C-B | 35 | | | 35 | | | |
| CD-AB | 157 | 975 | 0.161 | 155 | 0.5 | 4.392 | A |
| CD-A | 548 | | | 548 | | | |

### 16:45 - 17:00

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 86 | 375 | 0.230 | 86 | 0.3 | 12.421 | B |
| A-B | 22 | | | 22 | | | |
| A-C | 610 | | | 610 | | | |
| A-D | 13 | | | 13 | | | |
| AB-CD | 117 | 926 | 0.126 | 117 | 0.3 | 4.449 | A |
| AB-C | 567 | | | 567 | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| D-ABC | 67 | 335 | 0.201 | 67 | 0.2 | 13.432 | B |
| C-D | 45 | | | 45 | | | |
| C-A | 761 | | | 761 | | | |
| C-B | 41 | | | 41 | | | |
| CD-AB | 241 | 1053 | 0.229 | 240 | 0.8 | 4.437 | A |
| CD-A | 601 | | | 601 | | | |

**17:00 - 17:15**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 106 | 311 | 0.339 | 105 | 0.5 | 17.358 | C |
| A-B | 28 | | | 28 | | | |
| A-C | 748 | | | 748 | | | |
| A-D | 17 | | | 17 | | | |
| AB-CD | 200 | 1012 | 0.197 | 198 | 0.7 | 4.434 | A |
| AB-C | 638 | | | 638 | | | |
| D-ABC | 83 | 261 | 0.317 | 82 | 0.4 | 20.039 | C |
| C-D | 55 | | | 55 | | | |
| C-A | 933 | | | 933 | | | |
| C-B | 51 | | | 51 | | | |
| CD-AB | 424 | 1167 | 0.364 | 421 | 1.6 | 4.859 | A |
| CD-A | 607 | | | 607 | | | |

**17:15 - 17:30**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 106 | 311 | 0.340 | 106 | 0.5 | 17.541 | C |
| A-B | 28 | | | 28 | | | |
| A-C | 748 | | | 748 | | | |
| A-D | 17 | | | 17 | | | |
| AB-CD | 201 | 1014 | 0.199 | 201 | 0.7 | 4.451 | A |
| AB-C | 637 | | | 637 | | | |
| D-ABC | 83 | 260 | 0.317 | 83 | 0.5 | 20.252 | C |
| C-D | 55 | | | 55 | | | |
| C-A | 933 | | | 933 | | | |
| C-B | 51 | | | 51 | | | |
| CD-AB | 428 | 1169 | 0.366 | 428 | 1.6 | 4.910 | A |
| CD-A | 604 | | | 604 | | | |

**17:30 - 17:45**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 86 | 375 | 0.230 | 87 | 0.3 | 12.549 | B |
| A-B | 22 | | | 22 | | | |
| A-C | 610 | | | 610 | | | |
| A-D | 13 | | | 13 | | | |
| AB-CD | 119 | 928 | 0.128 | 120 | 0.3 | 4.470 | A |
| AB-C | 566 | | | 566 | | | |
| D-ABC | 67 | 334 | 0.202 | 68 | 0.3 | 13.567 | B |
| C-D | 45 | | | 45 | | | |
| C-A | 761 | | | 761 | | | |
| C-B | 41 | | | 41 | | | |
| CD-AB | 244 | 1056 | 0.231 | 247 | 0.8 | 4.487 | A |
| CD-A | 599 | | | 599 | | | |

**17:45 - 18:00**

| Stream | Total Demand (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-ACD | 72 | 417 | 0.173 | 73 | 0.2 | 10.470 | B |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A-B** | 19 | | | 19 | | | |
| **A-C** | 511 | | | 511 | | | |
| **A-D** | 11 | | | 11 | | | |
| **AB-CD** | 79 | 869 | 0.091 | 80 | 0.2 | 4.564 | A |
| **AB-C** | 494 | | | 494 | | | |
| **D-ABC** | 56 | 384 | 0.147 | 57 | 0.2 | 11.006 | B |
| **C-D** | 38 | | | 38 | | | |
| **C-A** | 638 | | | 638 | | | |
| **C-B** | 35 | | | 35 | | | |
| **CD-AB** | 159 | 977 | 0.163 | 160 | 0.5 | 4.429 | A |
| **CD-A** | 546 | | | 546 | | | |

# Junctions 10

## ARCADY 10 - Roundabout Module

Version: 10.0.4.1693


For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com



**Filename:** Whitehalgh Double Mini RB.j10
**Path:** G:\Shared drives\Jobs4000\4094 Langho, Lancashire\Modelling\Junctions 10
**Report generation date:** 26/02/2025 18:38:31

»2024 Base, AM
»2024 Base, PM
»2030 Do Minimum, AM
»2030 Do Minimum, PM
»2030 With Development, AM
»2030 With Development, PM

### Summary of junction performance

| | AM | | | | | | PM | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Network Residual Capacity | Set ID | Queue (PCU) | Delay (s) | RFC | LOS | Network Residual Capacity |
| | 2024 Base | | | | | | | | | | | |
| Junction 1 - Arm 1 | D1 | 0.7 | 5.66 | 0.41 | A | 53 % [Junction 2 - Arm 4] | D2 | 0.6 | 5.52 | 0.39 | A | 55 % [Junction 2 - Arm 4] |
| Junction 1 - Arm 2 | | 0.1 | 6.61 | 0.08 | A | | | 0.1 | 6.36 | 0.07 | A | |
| Junction 1 - Arm 3 | | 0.5 | 4.77 | 0.35 | A | | | 0.6 | 4.92 | 0.37 | A | |
| Junction 2 - Arm 6 | | 0.2 | 5.25 | 0.14 | A | | | 0.3 | 5.84 | 0.22 | A | |
| Junction 2 - Arm 4 | | 0.6 | 5.16 | 0.39 | A | | | 0.6 | 5.13 | 0.36 | A | |
| Junction 2 - Arm 5 | | 0.8 | 5.47 | 0.44 | A | | | 0.6 | 5.02 | 0.39 | A | |
| | 2030 Do Minimum | | | | | | | | | | | |
| Junction 1 - Arm 1 | D3 | 0.7 | 5.79 | 0.42 | A | 53 % [Junction 2 - Arm 4] | D4 | 0.6 | 5.52 | 0.39 | A | 55 % [Junction 2 - Arm 4] |
| Junction 1 - Arm 2 | | 0.1 | 6.61 | 0.08 | A | | | 0.1 | 6.36 | 0.07 | A | |
| Junction 1 - Arm 3 | | 0.5 | 4.77 | 0.35 | A | | | 0.6 | 4.92 | 0.37 | A | |
| Junction 2 - Arm 6 | | 0.2 | 5.25 | 0.14 | A | | | 0.3 | 5.84 | 0.22 | A | |
| Junction 2 - Arm 4 | | 0.6 | 5.16 | 0.39 | A | | | 0.6 | 5.13 | 0.36 | A | |
| Junction 2 - Arm 5 | | 0.8 | 5.47 | 0.44 | A | | | 0.6 | 5.01 | 0.39 | A | |
| | 2030 With Development | | | | | | | | | | | |
| Junction 1 - Arm 1 | D5 | 0.7 | 5.73 | 0.42 | A | 52 % [Junction 2 - Arm 4] | D6 | 0.7 | 5.73 | 0.41 | A | 54 % [Junction 2 - Arm 4] |
| Junction 1 - Arm 2 | | 0.1 | 6.73 | 0.09 | A | | | 0.1 | 6.45 | 0.08 | A | |
| Junction 1 - Arm 3 | | 0.6 | 4.85 | 0.36 | A | | | 0.6 | 4.95 | 0.37 | A | |
| Junction 2 - Arm 6 | | 0.2 | 5.29 | 0.14 | A | | | 0.3 | 5.86 | 0.22 | A | |
| Junction 2 - Arm 4 | | 0.6 | 5.18 | 0.39 | A | | | 0.6 | 5.19 | 0.37 | A | |
| Junction 2 - Arm 5 | | 0.8 | 5.60 | 0.45 | A | | | 0.7 | 5.07 | 0.40 | A | |

*There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.*

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

### File summary

### File Description

| | |
|---|---|
| **Title** | |
| **Location** | |
| **Site number** | |
| **Date** | 20/01/2025 |
| **Version** | |
| **Status** | (new file) |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | DESKTOP-AIMMLSN\Rory Osborne |
| **Description** | |

## Units

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

## Analysis Options

| Mini-roundabout model | Calculate Queue Percentiles | Calculate residual capacity | Residual capacity criteria type | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|---|---|---|---|---|---|---|
| JUNCTIONS 9 | | ✓ | Delay | 0.85 | 36.00 | 20.00 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D1** | 2024 Base | AM | ONE HOUR | 08:00 | 09:30 | 15 |
| **D2** | 2024 Base | PM | ONE HOUR | 16:30 | 18:00 | 15 |
| **D3** | 2030 Do Minimum | AM | ONE HOUR | 08:00 | 09:30 | 15 |
| **D4** | 2030 Do Minimum | PM | ONE HOUR | 16:30 | 18:00 | 15 |
| **D5** | 2030 With Development | AM | ONE HOUR | 08:00 | 09:30 | 15 |
| **D6** | 2030 With Development | PM | ONE HOUR | 16:30 | 18:00 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| **A1** | 100.000 |

# 2024 Base, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Mini-roundabout | Junction 2 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 4 and 5 have 90% of the total flow for the roundabout for one or more time segments] |
| Warning | Mini-roundabout | Junction 1 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 95% of the total flow for the roundabout for one or more time segments] |
| Warning | Linked Roundabout | Junction 2 - Arm 4 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 1 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Vehicle Mix | Junction 2 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |
| Warning | Vehicle Mix | Junction 1 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| **1** | untitled | Mini-roundabout | | 1, 2, 3 | 5.31 | A |
| **2** | untitled | Mini-roundabout | | 6, 4, 5 | 5.32 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 53 | Junction 2 - Arm 4 | 5.31 | A |

## Arms

### Arms

| Junction | Arm | Name | Description |
|---|---|---|---|
| **1** | **1** | untitled | |
| | **2** | untitled | |
| | **3** | untitled | |
| **2** | **6** | untitled | |
| | **4** | untitled | |
| | **5** | untitled | |

### Mini Roundabout Geometry

| Junction | Arm | Approach road half-width (m) | Minimum approach road half-width (m) | Entry width (m) | Effective flare length (m) | Distance to next arm (m) | Entry corner kerb line distance (m) | Gradient over 50m (%) | Kerbed central island |
|---|---|---|---|---|---|---|---|---|---|
| **1** | **1** | 4.50 | 3.00 | 4.50 | 15.0 | 5.00 | 2.00 | 0.0 | |
| | **2** | 3.50 | 3.50 | 3.50 | 0.0 | 5.00 | 2.00 | 0.0 | |
| | **3** | 4.50 | 4.50 | 4.50 | 0.0 | 14.00 | 2.00 | 0.0 | |
| | **6** | 5.00 | 5.00 | 5.00 | 0.0 | 6.00 | 2.00 | 0.0 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 4.50 | 4.50 | 4.50 | 0.0 | 14.00 | 2.00 | 0.0 | |
| | 5 | 3.50 | 3.50 | 5.00 | 10.0 | 5.00 | 2.00 | 0.0 | |

### Slope / Intercept / Capacity

**Roundabout Slope and Intercept used in model**

| Junction | Arm | Final slope | Final intercept (PCU/hr) |
|---|---|---|---|
| 1 | 1 | 0.633 | 1112 |
| | 2 | 0.609 | 846 |
| | 3 | 0.647 | 1182 |
| 2 | 6 | 0.666 | 1043 |
| | 4 | 0.647 | 1182 |
| | 5 | 0.648 | 1222 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2024 Base | AM | ONE HOUR | 08:00 | 09:30 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 2 | 4 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 4 | 1 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| 1 | 1 | | ✓ | 406 | 100.000 |
| | 2 | | ✓ | 41 | 100.000 |
| | 3 | ✓ | | | |
| 2 | 6 | | ✓ | 103 | 100.000 |
| | 4 | ✓ | | | |
| | 5 | | ✓ | 466 | 100.000 |

## Origin-Destination Data

**Demand (PCU/hr)**

**Junction 2**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 38 | 65 |
| | 4 | 87 | 0 | 398 |
| | 5 | 133 | 333 | 0 |

**Demand (PCU/hr)**

| | To | | | |
|---|---|---|---|---|
| | | | | |

**Junction 1**

| | | 1 | 2 | 3 |
|---|---|---|---|---|
| From | 1 | 0 | 23 | 383 |
| | 2 | 26 | 0 | 15 |
| | 3 | 371 | 47 | 0 |

## Vehicle Mix

**Junction 2**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 0 |

**Junction 1**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|---|
| 1 | 1 | 0.41 | 5.66 | 0.7 | A |
| | 2 | 0.08 | 6.61 | 0.1 | A |
| | 3 | 0.35 | 4.77 | 0.5 | A |
| 2 | 6 | 0.14 | 5.25 | 0.2 | A |
| | 4 | 0.39 | 5.16 | 0.6 | A |
| | 5 | 0.44 | 5.47 | 0.8 | A |

### Main Results for each time segment

**08:00 - 08:15**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 306 | 31 | 1092 | 0.280 | 304 | 0.4 | 4.561 | A |
| | 2 | 31 | 287 | 671 | 0.046 | 31 | 0.0 | 5.617 | A |
| | 3 | 278 | 19 | 1169 | 0.238 | 277 | 0.3 | 4.029 | A |
| 2 | 6 | 78 | 250 | 877 | 0.088 | 77 | 0.1 | 4.501 | A |
| | 4 | 298 | 49 | 1150 | 0.259 | 297 | 0.3 | 4.212 | A |
| | 5 | 351 | 53 | 1188 | 0.295 | 349 | 0.4 | 4.283 | A |

**08:15 - 08:30**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 365 | 37 | 1088 | 0.335 | 365 | 0.5 | 4.972 | A |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 37 | 344 | 637 | 0.058 | 37 | 0.1 | 6.001 | A |
| | 3 | 333 | 23 | 1166 | 0.286 | 333 | 0.4 | 4.316 | A |
| 2 | 6 | 93 | 299 | 844 | 0.110 | 92 | 0.1 | 4.792 | A |
| | 4 | 357 | 58 | 1144 | 0.312 | 357 | 0.5 | 4.573 | A |
| | 5 | 419 | 64 | 1181 | 0.355 | 418 | 0.5 | 4.718 | A |

**08:30 - 08:45**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 447 | 46 | 1083 | 0.413 | 446 | 0.7 | 5.649 | A |
| | 2 | 45 | 421 | 590 | 0.077 | 45 | 0.1 | 6.609 | A |
| | 3 | 408 | 29 | 1163 | 0.351 | 407 | 0.5 | 4.760 | A |
| 2 | 6 | 113 | 366 | 799 | 0.142 | 113 | 0.2 | 5.248 | A |
| | 4 | 437 | 71 | 1135 | 0.385 | 437 | 0.6 | 5.148 | A |
| | 5 | 513 | 78 | 1172 | 0.438 | 512 | 0.8 | 5.451 | A |

**08:45 - 09:00**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 447 | 46 | 1083 | 0.413 | 447 | 0.7 | 5.663 | A |
| | 2 | 45 | 422 | 589 | 0.077 | 45 | 0.1 | 6.614 | A |
| | 3 | 408 | 29 | 1163 | 0.351 | 408 | 0.5 | 4.770 | A |
| 2 | 6 | 113 | 367 | 799 | 0.142 | 113 | 0.2 | 5.253 | A |
| | 4 | 438 | 72 | 1135 | 0.386 | 438 | 0.6 | 5.164 | A |
| | 5 | 513 | 79 | 1171 | 0.438 | 513 | 0.8 | 5.467 | A |

**09:00 - 09:15**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 365 | 38 | 1088 | 0.336 | 366 | 0.5 | 4.992 | A |
| | 2 | 37 | 345 | 636 | 0.058 | 37 | 0.1 | 6.012 | A |
| | 3 | 334 | 23 | 1166 | 0.287 | 335 | 0.4 | 4.333 | A |
| 2 | 6 | 93 | 300 | 843 | 0.110 | 93 | 0.1 | 4.799 | A |
| | 4 | 359 | 59 | 1144 | 0.314 | 359 | 0.5 | 4.594 | A |
| | 5 | 419 | 64 | 1181 | 0.355 | 420 | 0.6 | 4.737 | A |

**09:15 - 09:30**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 306 | 31 | 1092 | 0.280 | 306 | 0.4 | 4.586 | A |
| | 2 | 31 | 289 | 670 | 0.046 | 31 | 0.0 | 5.633 | A |
| | 3 | 280 | 20 | 1169 | 0.239 | 280 | 0.3 | 4.051 | A |
| 2 | 6 | 78 | 251 | 876 | 0.089 | 78 | 0.1 | 4.512 | A |
| | 4 | 300 | 49 | 1150 | 0.261 | 301 | 0.4 | 4.242 | A |
| | 5 | 351 | 54 | 1187 | 0.295 | 351 | 0.4 | 4.310 | A |

# 2024 Base, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Mini-roundabout | Junction 2 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 4 and 5 have 84% of the total flow for the roundabout for one or more time segments] |
| Warning | Mini-roundabout | Junction 1 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 95% of the total flow for the roundabout for one or more time segments] |
| Warning | Linked Roundabout | Junction 2 - Arm 4 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 1 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Vehicle Mix | Junction 2 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |
| Warning | Vehicle Mix | Junction 1 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| **1** | untitled | Mini-roundabout | | 1, 2, 3 | 5.27 | A |
| **2** | untitled | Mini-roundabout | | 6, 4, 5 | 5.20 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 55 | Junction 2 - Arm 4 | 5.23 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D2** | 2024 Base | PM | ONE HOUR | 16:30 | 18:00 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| **1** | **3** | 2 | 4 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| **2** | **4** | 1 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | | ✓ | 385 | 100.000 |
| | 2 | | ✓ | 40 | 100.000 |
| | 3 | ✓ | | | |
| 2 | 6 | | ✓ | 154 | 100.000 |
| | 4 | ✓ | | | |
| | 5 | | ✓ | 421 | 100.000 |

## Origin-Destination Data

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 39 | 115 |
| | 4 | 68 | 0 | 352 |
| | 5 | 71 | 350 | 0 |

**Junction 1**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 33 | 352 |
| | 2 | 30 | 0 | 10 |
| | 3 | 389 | 58 | 0 |

## Vehicle Mix

**Junction 2**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 0 |

**Junction 1**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|---|
| 1 | 1 | 0.39 | 5.52 | 0.6 | A |
| | 2 | 0.07 | 6.36 | 0.1 | A |
| | 3 | 0.37 | 4.92 | 0.6 | A |
| 2 | 6 | 0.22 | 5.84 | 0.3 | A |
| | 4 | 0.36 | 5.13 | 0.6 | A |
| | 5 | 0.39 | 5.02 | 0.6 | A |

## Main Results for each time segment

### 16:30 - 16:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 290 | 38 | 1088 | 0.266 | 288 | 0.4 | 4.495 | A |
| | 2 | 30 | 264 | 686 | 0.044 | 30 | 0.0 | 5.490 | A |
| | 3 | 292 | 22 | 1167 | 0.250 | 290 | 0.3 | 4.100 | A |
| 2 | 6 | 116 | 262 | 868 | 0.134 | 115 | 0.2 | 4.778 | A |
| | 4 | 271 | 86 | 1126 | 0.241 | 270 | 0.3 | 4.200 | A |
| | 5 | 317 | 44 | 1194 | 0.265 | 316 | 0.4 | 4.091 | A |

### 16:45 - 17:00

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 346 | 45 | 1083 | 0.320 | 346 | 0.5 | 4.880 | A |
| | 2 | 36 | 316 | 654 | 0.055 | 36 | 0.1 | 5.827 | A |
| | 3 | 349 | 27 | 1164 | 0.300 | 349 | 0.4 | 4.414 | A |
| 2 | 6 | 138 | 314 | 833 | 0.166 | 138 | 0.2 | 5.177 | A |
| | 4 | 325 | 103 | 1115 | 0.292 | 325 | 0.4 | 4.554 | A |
| | 5 | 378 | 53 | 1188 | 0.319 | 378 | 0.5 | 4.441 | A |

### 17:00 - 17:15

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 424 | 55 | 1077 | 0.394 | 423 | 0.6 | 5.504 | A |
| | 2 | 44 | 387 | 610 | 0.072 | 44 | 0.1 | 6.354 | A |
| | 3 | 428 | 33 | 1160 | 0.369 | 427 | 0.6 | 4.906 | A |
| 2 | 6 | 170 | 385 | 786 | 0.216 | 169 | 0.3 | 5.830 | A |
| | 4 | 398 | 126 | 1100 | 0.362 | 397 | 0.6 | 5.120 | A |
| | 5 | 464 | 64 | 1181 | 0.393 | 463 | 0.6 | 5.009 | A |

### 17:15 - 17:30

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 424 | 56 | 1077 | 0.394 | 424 | 0.6 | 5.515 | A |
| | 2 | 44 | 388 | 610 | 0.072 | 44 | 0.1 | 6.359 | A |
| | 3 | 428 | 33 | 1160 | 0.369 | 428 | 0.6 | 4.918 | A |
| 2 | 6 | 170 | 385 | 786 | 0.216 | 170 | 0.3 | 5.838 | A |
| | 4 | 399 | 127 | 1100 | 0.362 | 399 | 0.6 | 5.134 | A |
| | 5 | 464 | 65 | 1181 | 0.393 | 464 | 0.6 | 5.020 | A |

### 17:30 - 17:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 346 | 46 | 1083 | 0.320 | 347 | 0.5 | 4.896 | A |
| | 2 | 36 | 317 | 653 | 0.055 | 36 | 0.1 | 5.837 | A |
| | 3 | 350 | 27 | 1164 | 0.301 | 351 | 0.4 | 4.430 | A |
| 2 | 6 | 138 | 315 | 833 | 0.166 | 139 | 0.2 | 5.190 | A |
| | 4 | 326 | 104 | 1114 | 0.293 | 327 | 0.4 | 4.572 | A |
| | 5 | 378 | 53 | 1188 | 0.319 | 379 | 0.5 | 4.453 | A |

**17:45 - 18:00**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 290 | 38 | 1088 | 0.267 | 290 | 0.4 | 4.519 | A |
| | 2 | 30 | 265 | 684 | 0.044 | 30 | 0.0 | 5.503 | A |
| | 3 | 293 | 23 | 1167 | 0.251 | 294 | 0.3 | 4.124 | A |
| 2 | 6 | 116 | 264 | 867 | 0.134 | 116 | 0.2 | 4.796 | A |
| | 4 | 273 | 87 | 1125 | 0.243 | 273 | 0.3 | 4.228 | A |
| | 5 | 317 | 44 | 1194 | 0.266 | 317 | 0.4 | 4.110 | A |

# 2030 Do Minimum, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Mini-roundabout | Junction 2 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 4 and 5 have 90% of the total flow for the roundabout for one or more time segments] |
| Warning | Mini-roundabout | Junction 1 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 95% of the total flow for the roundabout for one or more time segments] |
| Warning | Linked Roundabout | Junction 2 - Arm 4 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 1 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Vehicle Mix | Junction 2 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |
| Warning | Vehicle Mix | Junction 1 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| **1** | untitled | Mini-roundabout | | 1, 2, 3 | 5.37 | A |
| **2** | untitled | Mini-roundabout | | 6, 4, 5 | 5.32 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 53 | Junction 2 - Arm 4 | 5.34 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D3** | 2030 Do Minimum | AM | ONE HOUR | 08:00 | 09:30 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| **1** | **3** | 2 | 4 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| **2** | **4** | 1 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | | ✓ | 406 | 100.000 |
| | 2 | | ✓ | 41 | 100.000 |
| | 3 | ✓ | | | |
| 2 | 6 | | ✓ | 103 | 100.000 |
| | 4 | ✓ | | | |
| | 5 | | ✓ | 466 | 100.000 |

## Origin-Destination Data

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 38 | 65 |
| | 4 | 87 | 0 | 398 |
| | 5 | 133 | 333 | 0 |

**Junction 1**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 23 | 383 |
| | 2 | 26 | 0 | 15 |
| | 3 | 372 | 74 | 0 |

## Vehicle Mix

**Junction 2**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 0 |

**Junction 1**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|---|
| 1 | 1 | 0.42 | 5.79 | 0.7 | A |
| | 2 | 0.08 | 6.61 | 0.1 | A |
| | 3 | 0.35 | 4.77 | 0.5 | A |
| 2 | 6 | 0.14 | 5.25 | 0.2 | A |
| | 4 | 0.39 | 5.16 | 0.6 | A |
| | 5 | 0.44 | 5.47 | 0.8 | A |

## Main Results for each time segment

### 08:00 - 08:15

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 306 | 46 | 1083 | 0.282 | 304 | 0.4 | 4.614 | A |
| | 2 | 31 | 287 | 671 | 0.046 | 31 | 0.0 | 5.617 | A |
| | 3 | 278 | 19 | 1169 | 0.238 | 277 | 0.3 | 4.029 | A |
| 2 | 6 | 78 | 250 | 877 | 0.088 | 77 | 0.1 | 4.501 | A |
| | 4 | 298 | 49 | 1150 | 0.259 | 297 | 0.3 | 4.212 | A |
| | 5 | 351 | 53 | 1188 | 0.295 | 349 | 0.4 | 4.283 | A |

### 08:15 - 08:30

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 365 | 55 | 1077 | 0.339 | 365 | 0.5 | 5.051 | A |
| | 2 | 37 | 344 | 637 | 0.058 | 37 | 0.1 | 6.001 | A |
| | 3 | 333 | 23 | 1166 | 0.286 | 333 | 0.4 | 4.316 | A |
| 2 | 6 | 93 | 299 | 844 | 0.110 | 92 | 0.1 | 4.792 | A |
| | 4 | 357 | 58 | 1144 | 0.312 | 357 | 0.5 | 4.573 | A |
| | 5 | 419 | 64 | 1181 | 0.355 | 418 | 0.5 | 4.718 | A |

### 08:30 - 08:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 447 | 68 | 1069 | 0.418 | 446 | 0.7 | 5.774 | A |
| | 2 | 45 | 421 | 590 | 0.077 | 45 | 0.1 | 6.609 | A |
| | 3 | 408 | 29 | 1163 | 0.351 | 407 | 0.5 | 4.760 | A |
| 2 | 6 | 113 | 366 | 799 | 0.142 | 113 | 0.2 | 5.248 | A |
| | 4 | 437 | 71 | 1135 | 0.385 | 437 | 0.6 | 5.148 | A |
| | 5 | 513 | 78 | 1172 | 0.438 | 512 | 0.8 | 5.451 | A |

### 08:45 - 09:00

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 447 | 68 | 1069 | 0.418 | 447 | 0.7 | 5.789 | A |
| | 2 | 45 | 422 | 589 | 0.077 | 45 | 0.1 | 6.614 | A |
| | 3 | 408 | 29 | 1163 | 0.351 | 408 | 0.5 | 4.770 | A |
| 2 | 6 | 113 | 367 | 799 | 0.142 | 113 | 0.2 | 5.253 | A |
| | 4 | 438 | 72 | 1135 | 0.386 | 438 | 0.6 | 5.164 | A |
| | 5 | 513 | 79 | 1171 | 0.438 | 513 | 0.8 | 5.467 | A |

### 09:00 - 09:15

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 365 | 56 | 1077 | 0.339 | 366 | 0.5 | 5.072 | A |
| | 2 | 37 | 345 | 636 | 0.058 | 37 | 0.1 | 6.012 | A |
| | 3 | 334 | 23 | 1166 | 0.287 | 335 | 0.4 | 4.333 | A |
| 2 | 6 | 93 | 300 | 843 | 0.110 | 93 | 0.1 | 4.799 | A |
| | 4 | 359 | 59 | 1144 | 0.314 | 359 | 0.5 | 4.594 | A |
| | 5 | 419 | 64 | 1181 | 0.355 | 420 | 0.6 | 4.738 | A |

**09:15 - 09:30**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 306 | 46 | 1082 | 0.282 | 306 | 0.4 | 4.640 | A |
| | 2 | 31 | 289 | 670 | 0.046 | 31 | 0.0 | 5.633 | A |
| | 3 | 280 | 20 | 1169 | 0.239 | 280 | 0.3 | 4.053 | A |
| 2 | 6 | 78 | 251 | 876 | 0.089 | 78 | 0.1 | 4.513 | A |
| | 4 | 300 | 49 | 1150 | 0.261 | 301 | 0.4 | 4.240 | A |
| | 5 | 351 | 54 | 1187 | 0.295 | 351 | 0.4 | 4.308 | A |

# 2030 Do Minimum, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Mini-roundabout | Junction 2 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 4 and 5 have 84% of the total flow for the roundabout for one or more time segments] |
| Warning | Mini-roundabout | Junction 1 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 95% of the total flow for the roundabout for one or more time segments] |
| Warning | Linked Roundabout | Junction 2 - Arm 4 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 1 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Vehicle Mix | Junction 2 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |
| Warning | Vehicle Mix | Junction 1 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| **1** | untitled | Mini-roundabout | | 1, 2, 3 | 5.27 | A |
| **2** | untitled | Mini-roundabout | | 6, 4, 5 | 5.20 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 55 | Junction 2 - Arm 4 | 5.23 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D4** | 2030 Do Minimum | PM | ONE HOUR | 16:30 | 18:00 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| **1** | **3** | 2 | 4 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| **2** | **4** | 1 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | | ✓ | 385 | 100.000 |
| | 2 | | ✓ | 40 | 100.000 |
| | 3 | ✓ | | | |
| 2 | 6 | | ✓ | 154 | 100.000 |
| | 4 | ✓ | | | |
| | 5 | | ✓ | 421 | 100.000 |

## Origin-Destination Data

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 39 | 115 |
| | 4 | 68 | 0 | 362 |
| | 5 | 71 | 350 | 0 |

**Junction 1**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 33 | 352 |
| | 2 | 30 | 0 | 10 |
| | 3 | 389 | 58 | 0 |

## Vehicle Mix

**Junction 2**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 0 |

**Junction 1**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|---|
| 1 | 1 | 0.39 | 5.52 | 0.6 | A |
| | 2 | 0.07 | 6.36 | 0.1 | A |
| | 3 | 0.37 | 4.92 | 0.6 | A |
| 2 | 6 | 0.22 | 5.84 | 0.3 | A |
| | 4 | 0.36 | 5.13 | 0.6 | A |
| | 5 | 0.39 | 5.01 | 0.6 | A |

## Main Results for each time segment

### 16:30 - 16:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 290 | 38 | 1088 | 0.266 | 288 | 0.4 | 4.495 | A |
| | 2 | 30 | 264 | 686 | 0.044 | 30 | 0.0 | 5.490 | A |
| | 3 | 292 | 22 | 1167 | 0.250 | 290 | 0.3 | 4.100 | A |
| 2 | 6 | 116 | 262 | 868 | 0.134 | 115 | 0.2 | 4.778 | A |
| | 4 | 271 | 86 | 1126 | 0.241 | 270 | 0.3 | 4.200 | A |
| | 5 | 317 | 43 | 1195 | 0.265 | 316 | 0.4 | 4.088 | A |

### 16:45 - 17:00

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 346 | 45 | 1083 | 0.320 | 346 | 0.5 | 4.880 | A |
| | 2 | 36 | 316 | 654 | 0.055 | 36 | 0.1 | 5.827 | A |
| | 3 | 349 | 27 | 1164 | 0.300 | 349 | 0.4 | 4.414 | A |
| 2 | 6 | 138 | 314 | 833 | 0.166 | 138 | 0.2 | 5.177 | A |
| | 4 | 325 | 103 | 1115 | 0.292 | 325 | 0.4 | 4.554 | A |
| | 5 | 378 | 51 | 1189 | 0.318 | 378 | 0.5 | 4.437 | A |

### 17:00 - 17:15

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 424 | 55 | 1077 | 0.394 | 423 | 0.6 | 5.504 | A |
| | 2 | 44 | 387 | 610 | 0.072 | 44 | 0.1 | 6.354 | A |
| | 3 | 428 | 33 | 1160 | 0.369 | 427 | 0.6 | 4.906 | A |
| 2 | 6 | 170 | 385 | 786 | 0.216 | 169 | 0.3 | 5.830 | A |
| | 4 | 398 | 126 | 1100 | 0.362 | 397 | 0.6 | 5.120 | A |
| | 5 | 464 | 63 | 1182 | 0.392 | 463 | 0.6 | 5.002 | A |

### 17:15 - 17:30

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 424 | 56 | 1077 | 0.394 | 424 | 0.6 | 5.515 | A |
| | 2 | 44 | 388 | 610 | 0.072 | 44 | 0.1 | 6.359 | A |
| | 3 | 428 | 33 | 1160 | 0.369 | 428 | 0.6 | 4.918 | A |
| 2 | 6 | 170 | 385 | 786 | 0.216 | 170 | 0.3 | 5.838 | A |
| | 4 | 399 | 127 | 1100 | 0.362 | 399 | 0.6 | 5.134 | A |
| | 5 | 464 | 63 | 1181 | 0.392 | 464 | 0.6 | 5.013 | A |

### 17:30 - 17:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 346 | 46 | 1083 | 0.320 | 347 | 0.5 | 4.895 | A |
| | 2 | 36 | 317 | 653 | 0.055 | 36 | 0.1 | 5.837 | A |
| | 3 | 350 | 27 | 1164 | 0.301 | 351 | 0.4 | 4.432 | A |
| 2 | 6 | 138 | 315 | 833 | 0.166 | 139 | 0.2 | 5.190 | A |
| | 4 | 326 | 104 | 1114 | 0.293 | 327 | 0.4 | 4.572 | A |
| | 5 | 378 | 52 | 1189 | 0.318 | 379 | 0.5 | 4.451 | A |

**17:45 - 18:00**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 290 | 38 | 1088 | 0.267 | 290 | 0.4 | 4.517 | A |
| | 2 | 30 | 265 | 684 | 0.044 | 30 | 0.0 | 5.503 | A |
| | 3 | 293 | 23 | 1167 | 0.251 | 294 | 0.3 | 4.124 | A |
| 2 | 6 | 116 | 264 | 867 | 0.134 | 116 | 0.2 | 4.796 | A |
| | 4 | 273 | 87 | 1125 | 0.243 | 273 | 0.3 | 4.228 | A |
| | 5 | 317 | 43 | 1194 | 0.265 | 317 | 0.4 | 4.108 | A |

# 2030 With Development, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Mini-roundabout | Junction 2 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 4 and 5 have 90% of the total flow for the roundabout for one or more time segments] |
| Warning | Mini-roundabout | Junction 1 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 94% of the total flow for the roundabout for one or more time segments] |
| Warning | Linked Roundabout | Junction 2 - Arm 4 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 1 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Vehicle Mix | Junction 2 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |
| Warning | Vehicle Mix | Junction 1 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| **1** | untitled | Mini-roundabout | | 1, 2, 3 | 5.39 | A |
| **2** | untitled | Mini-roundabout | | 6, 4, 5 | 5.40 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 52 | Junction 2 - Arm 4 | 5.39 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D5** | 2030 With Development | AM | ONE HOUR | 08:00 | 09:30 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| **1** | **3** | 2 | 4 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| **2** | **4** | 1 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | | ✓ | 410 | 100.000 |
| | 2 | | ✓ | 48 | 100.000 |
| | 3 | ✓ | | | |
| 2 | 6 | | ✓ | 103 | 100.000 |
| | 4 | ✓ | | | |
| | 5 | | ✓ | 473 | 100.000 |

## Origin-Destination Data

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 38 | 65 |
| | 4 | 105 | 0 | 400 |
| | 5 | 133 | 340 | 0 |

**Junction 1**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 25 | 385 |
| | 2 | 33 | 0 | 15 |
| | 3 | 378 | 52 | 0 |

## Vehicle Mix

**Junction 2**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 0 |

**Junction 1**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|---|
| 1 | 1 | 0.42 | 5.73 | 0.7 | A |
| | 2 | 0.09 | 6.73 | 0.1 | A |
| | 3 | 0.36 | 4.85 | 0.6 | A |
| 2 | 6 | 0.14 | 5.29 | 0.2 | A |
| | 4 | 0.39 | 5.18 | 0.6 | A |
| | 5 | 0.45 | 5.60 | 0.8 | A |

## Main Results for each time segment

### 08:00 - 08:15

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 309 | 34 | 1090 | 0.283 | 307 | 0.4 | 4.588 | A |
| | 2 | 36 | 288 | 670 | 0.054 | 36 | 0.1 | 5.672 | A |
| | 3 | 283 | 25 | 1166 | 0.243 | 282 | 0.3 | 4.068 | A |
| 2 | 6 | 78 | 255 | 873 | 0.089 | 77 | 0.1 | 4.521 | A |
| | 4 | 300 | 49 | 1150 | 0.261 | 298 | 0.4 | 4.219 | A |
| | 5 | 356 | 62 | 1182 | 0.301 | 354 | 0.4 | 4.340 | A |

### 08:15 - 08:30

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 369 | 41 | 1086 | 0.339 | 368 | 0.5 | 5.013 | A |
| | 2 | 43 | 346 | 636 | 0.068 | 43 | 0.1 | 6.075 | A |
| | 3 | 339 | 30 | 1162 | 0.292 | 339 | 0.4 | 4.370 | A |
| 2 | 6 | 93 | 305 | 839 | 0.110 | 92 | 0.1 | 4.819 | A |
| | 4 | 359 | 58 | 1144 | 0.314 | 359 | 0.5 | 4.584 | A |
| | 5 | 425 | 75 | 1174 | 0.362 | 425 | 0.6 | 4.801 | A |

### 08:30 - 08:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 451 | 50 | 1080 | 0.418 | 451 | 0.7 | 5.713 | A |
| | 2 | 53 | 423 | 588 | 0.090 | 53 | 0.1 | 6.721 | A |
| | 3 | 415 | 36 | 1158 | 0.359 | 415 | 0.6 | 4.839 | A |
| 2 | 6 | 113 | 374 | 794 | 0.143 | 113 | 0.2 | 5.287 | A |
| | 4 | 440 | 71 | 1135 | 0.387 | 439 | 0.6 | 5.164 | A |
| | 5 | 521 | 91 | 1163 | 0.448 | 520 | 0.8 | 5.587 | A |

### 08:45 - 09:00

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 451 | 50 | 1080 | 0.418 | 451 | 0.7 | 5.728 | A |
| | 2 | 53 | 424 | 588 | 0.090 | 53 | 0.1 | 6.726 | A |
| | 3 | 416 | 36 | 1158 | 0.359 | 416 | 0.6 | 4.852 | A |
| 2 | 6 | 113 | 374 | 793 | 0.143 | 113 | 0.2 | 5.293 | A |
| | 4 | 440 | 72 | 1135 | 0.388 | 440 | 0.6 | 5.180 | A |
| | 5 | 521 | 92 | 1163 | 0.448 | 521 | 0.8 | 5.604 | A |

### 09:00 - 09:15

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 369 | 41 | 1086 | 0.340 | 369 | 0.5 | 5.031 | A |
| | 2 | 43 | 347 | 635 | 0.068 | 43 | 0.1 | 6.085 | A |
| | 3 | 341 | 30 | 1162 | 0.293 | 341 | 0.4 | 4.388 | A |
| 2 | 6 | 93 | 306 | 839 | 0.110 | 93 | 0.1 | 4.826 | A |
| | 4 | 360 | 59 | 1144 | 0.315 | 361 | 0.5 | 4.605 | A |
| | 5 | 425 | 75 | 1174 | 0.362 | 426 | 0.6 | 4.821 | A |

**09:15 - 09:30**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 309 | 35 | 1090 | 0.283 | 309 | 0.4 | 4.615 | A |
| | 2 | 36 | 290 | 669 | 0.054 | 36 | 0.1 | 5.688 | A |
| | 3 | 285 | 25 | 1165 | 0.245 | 285 | 0.3 | 4.093 | A |
| 2 | 6 | 78 | 256 | 872 | 0.089 | 78 | 0.1 | 4.533 | A |
| | 4 | 302 | 49 | 1150 | 0.262 | 302 | 0.4 | 4.249 | A |
| | 5 | 356 | 63 | 1182 | 0.301 | 357 | 0.4 | 4.368 | A |

# 2030 With Development, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Mini-roundabout | Junction 2 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 4 and 5 have 84% of the total flow for the roundabout for one or more time segments] |
| Warning | Mini-roundabout | Junction 1 | Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 3 have 95% of the total flow for the roundabout for one or more time segments] |
| Warning | Linked Roundabout | Junction 2 - Arm 4 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 1 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Vehicle Mix | Junction 2 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |
| Warning | Vehicle Mix | Junction 1 | HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| **1** | untitled | Mini-roundabout | | 1, 2, 3 | 5.40 | A |
| **2** | untitled | Mini-roundabout | | 6, 4, 5 | 5.25 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network residual capacity (%) | First arm reaching threshold | Network delay (s) | Network LOS |
|---|---|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 54 | Junction 2 - Arm 4 | 5.32 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| **D6** | 2030 With Development | PM | ONE HOUR | 16:30 | 18:00 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| **1** | **3** | 2 | 4 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| **2** | **4** | 1 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | 1 | | ✓ | 399 | 100.000 |
| | 2 | | ✓ | 43 | 100.000 |
| | 3 | ✓ | | | |
| 2 | 6 | | ✓ | 154 | 100.000 |
| | 4 | ✓ | | | |
| | 5 | | ✓ | 424 | 100.000 |

## Origin-Destination Data

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 39 | 115 |
| | 4 | 77 | 0 | 369 |
| | 5 | 71 | 353 | 0 |

**Junction 1**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 40 | 359 |
| | 2 | 33 | 0 | 10 |
| | 3 | 392 | 75 | 0 |

## Vehicle Mix

**Junction 2**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 6 | 4 | 5 |
| From | 6 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 0 |

**Junction 1**

**Heavy Vehicle Percentages**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|---|---|---|---|---|---|
| 1 | 1 | 0.41 | 5.73 | 0.7 | A |
| | 2 | 0.08 | 6.45 | 0.1 | A |
| | 3 | 0.37 | 4.95 | 0.6 | A |
| 2 | 6 | 0.22 | 5.86 | 0.3 | A |
| | 4 | 0.37 | 5.19 | 0.6 | A |
| | 5 | 0.40 | 5.07 | 0.7 | A |

## Main Results for each time segment

### 16:30 - 16:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 300 | 47 | 1082 | 0.278 | 299 | 0.4 | 4.589 | A |
| | 2 | 32 | 269 | 682 | 0.047 | 32 | 0.0 | 5.535 | A |
| | 3 | 294 | 25 | 1166 | 0.252 | 292 | 0.3 | 4.117 | A |
| 2 | 6 | 116 | 265 | 867 | 0.134 | 115 | 0.2 | 4.788 | A |
| | 4 | 276 | 86 | 1126 | 0.246 | 275 | 0.3 | 4.226 | A |
| | 5 | 319 | 47 | 1192 | 0.268 | 318 | 0.4 | 4.113 | A |

### 16:45 - 17:00

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 359 | 56 | 1076 | 0.333 | 358 | 0.5 | 5.012 | A |
| | 2 | 39 | 322 | 650 | 0.059 | 39 | 0.1 | 5.889 | A |
| | 3 | 352 | 30 | 1162 | 0.303 | 352 | 0.4 | 4.438 | A |
| 2 | 6 | 138 | 317 | 832 | 0.166 | 138 | 0.2 | 5.190 | A |
| | 4 | 331 | 103 | 1115 | 0.297 | 331 | 0.4 | 4.591 | A |
| | 5 | 381 | 57 | 1185 | 0.322 | 381 | 0.5 | 4.472 | A |

### 17:00 - 17:15

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 439 | 69 | 1068 | 0.411 | 439 | 0.7 | 5.712 | A |
| | 2 | 47 | 395 | 606 | 0.078 | 47 | 0.1 | 6.445 | A |
| | 3 | 431 | 36 | 1158 | 0.372 | 430 | 0.6 | 4.942 | A |
| 2 | 6 | 170 | 388 | 784 | 0.216 | 169 | 0.3 | 5.850 | A |
| | 4 | 406 | 126 | 1100 | 0.369 | 405 | 0.6 | 5.177 | A |
| | 5 | 467 | 70 | 1177 | 0.397 | 466 | 0.7 | 5.058 | A |

### 17:15 - 17:30

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 439 | 69 | 1068 | 0.411 | 439 | 0.7 | 5.727 | A |
| | 2 | 47 | 395 | 605 | 0.078 | 47 | 0.1 | 6.450 | A |
| | 3 | 432 | 36 | 1158 | 0.373 | 432 | 0.6 | 4.955 | A |
| 2 | 6 | 170 | 389 | 784 | 0.216 | 170 | 0.3 | 5.859 | A |
| | 4 | 406 | 127 | 1100 | 0.369 | 406 | 0.6 | 5.191 | A |
| | 5 | 467 | 70 | 1177 | 0.397 | 467 | 0.7 | 5.069 | A |

### 17:30 - 17:45

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 359 | 57 | 1076 | 0.333 | 359 | 0.5 | 5.032 | A |
| | 2 | 39 | 323 | 649 | 0.060 | 39 | 0.1 | 5.897 | A |
| | 3 | 353 | 30 | 1162 | 0.304 | 354 | 0.4 | 4.455 | A |
| 2 | 6 | 138 | 318 | 831 | 0.167 | 139 | 0.2 | 5.204 | A |
| | 4 | 332 | 104 | 1114 | 0.298 | 333 | 0.4 | 4.612 | A |
| | 5 | 381 | 57 | 1185 | 0.322 | 382 | 0.5 | 4.485 | A |

**17:45 - 18:00**

| Junction | Arm | Total Demand (PCU/hr) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 300 | 48 | 1082 | 0.278 | 301 | 0.4 | 4.615 | A |
| | 2 | 32 | 271 | 681 | 0.048 | 32 | 0.1 | 5.548 | A |
| | 3 | 296 | 25 | 1165 | 0.254 | 296 | 0.3 | 4.143 | A |
| 2 | 6 | 116 | 266 | 866 | 0.134 | 116 | 0.2 | 4.804 | A |
| | 4 | 278 | 87 | 1125 | 0.247 | 279 | 0.3 | 4.253 | A |
| | 5 | 319 | 48 | 1191 | 0.268 | 320 | 0.4 | 4.134 | A |

# Appendix D

*TRANSYT Junction Model Results*

# TRANSYT 16

Version: 16.1.0.1929


For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com



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## Summary of network performance

| | AM | | | | | PM | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Set ID | PI (£ per hr) | Total delay (PCU-hr/hr) | Highest DOS | Number oversaturated | Set ID | PI (£ per hr) | Total delay (PCU-hr/hr) | Highest DOS | Number oversaturated |
| | AM - 2024 Base | | | | | | | | | |
| Network | A1 D1 | 282.94 | 18.48 | 87% (TS 5/1) | 0 (0%) | A1 D2 | 204.39 | 13.24 | 82% (TS 5/1) | 0 (0%) |
| | AM - 2030 Do Min | | | | | | | | | |
| Network | A1 D3 | 311.30 | 20.30 | 87% (TS 5/1) | 0 (0%) | A1 D4 | 224.71 | 14.53 | 82% (TS 5/1) | 0 (0%) |
| | AM - 2030 With Dev | | | | | | | | | |
| Network | A1 D5 | 322.75 | 21.06 | 88% (TS 5/1) | 0 (0%) | A1 D6 | 233.35 | 15.10 | 83% (TS 5/1) | 0 (0%) |

## File summary

### File description

| | |
|---|---|
| **File title** | (untitled) |
| **Location** | |
| **Site number** | |
| **Driving side** | Left |
| **Date** | 08/01/2025 |
| **Version** | |
| **Status** | (new file) |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | DESKTOP-AIMMLSN\Rory Osborne |
| **Description** | |

## Model and Results

| Enable controller offsets | Enable fuel consumption | Enable quick flares | Display journey time results | Display OD matrix distances | Display level of service results | Display blocking and starvation results | Display end of red and green queue results | Display excess queue results | Display separate uniform and random results | Display unweighted results | Display TRANSYT 12 style timings | Display effective greens in results | Display Red-With-Amber | Display End-Of-Green Amber | Display controller phase minimums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## Units

| Cost units | Speed units | Distance units | Fuel economy units | Fuel rate units | Mass units | Traffic units input | Traffic units results | Flow units | Average delay units | Total delay units | Rate of delay units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| £ | kph | m | mpg | l/h | kg | PCU | PCU | perHour | s | -Hour | perHour |

## Sorting

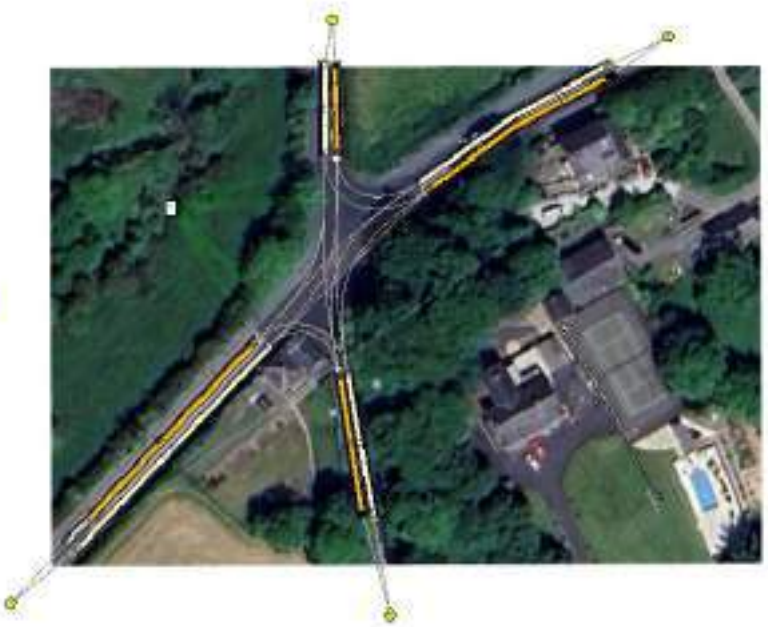
| Show names instead of IDs | Sorting direction | Sorting type | Ignore prefixes when sorting | Analysis/demand set sorting | Link grouping | Source grouping | Colour Analysis/Demand Sets |
|---|---|---|---|---|---|---|---|
| | Ascending | Numerical | | ID | Normal | Normal | ✓ |

## Simulation options

| Criteria type | Stop criteria (%) | Stop criteria time (s) | Stop criteria number of trials | Random seed | Results refresh speed | Average animation capture interval (s) | Use quick response | Do flow sampling | Uniform vehicle generation | Last run random seed | Last run number of | Last run time taken |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | (s) | | | | | | trials | (s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Delay | 3.00 | 999 | 200 | -1 | 3 | 60 | ✓ | | | 0 | 0 | 0.00 |

## Network Diagrams



# A1 - AM
# D1 - 2024 Base, AM

## Summary

### Data Errors and Warnings

*No errors or warnings*

### Run Summary

| Analysis set used | Run start time | Run finish time | Run duration (s) | Modelling start time (HH:mm) | Network Cycle Time (s) | Performance Index (£ per hr) | Total network delay (PCU-hr/hr) | Highest DOS (%) | Item with highest DOS | Number of oversaturated items | Percentage of oversaturated items (%) | Item with worst signalised PRC | Item with worst unsignalised PRC | Item with worst overall PRC | Network within capacity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21/01/2025 16:47:41 | 21/01/2025 16:47:41 | 0.38 | 08:00 | 100 | 282.94 | 18.48 | 87.20 | 5/1 | 0 | 0 | 5/1 | 3/1 | 5/1 | ✓ |

### Analysis Set Details

| Name | Use Simulation | Description | Use specific Demand Set(s) | Specific Demand Set(s) | Optimise specific Demand Set(s) | Include in report | Locked |
|---|---|---|---|---|---|---|---|
| AM | | | ✓ | D1,D2,D3,D4,D5,D6 | | ✓ | |

### Demand Set Details

| Scenario name | Time Period name | Description | Composite | Demand sets | Start time (HH:mm) | Locked | Run automatically |
|---|---|---|---|---|---|---|---|
| 2024 Base | AM | | | | 08:00 | | ✓ |

## Network Options

### Network timings

| Network cycle time (s) | Minimum possible cycle time (s) | Absolute minimum possible cycle time (s) | Restrict to SCOOT cycle times | Time segment length (min) | Number of time segments | Modelled time period (min) |
|---|---|---|---|---|---|---|
| 100 | 29 | 29 | | 60 | 1 | 60 |

### Signals options

| Start displacement (s) | End displacement (s) |
|---|---|
| 2 | 3 |

### Advanced

| Phase minimum broken penalty (£) | Phase maximum broken penalty (£) | Intergreen broken penalty (£) | Starting Red-with-Amber (s) | Missing stage transition options |
|---|---|---|---|---|
| 10000.00 | 10000.00 | 10000.00 | 2 | Assume banned |

### Traffic options

| Traffic model | Vehicle flow scaling factor (%) | Pedestrian flow scaling factor (%) | Cruise times or speeds |
|---|---|---|---|
| Platoon Dispersion (PDM) | 100 | 100 | Cruise Speeds |

### Advanced

| Resolution | DOS Threshold (%) | Cruise scaling factor (%) | Use link stop weightings | Use link delay weightings | Exclude pedestrians from traffic model | Exclude pedestrians from results calculation | Random delay mode | Type of Vehicle-in-Service | Type of random parameter | PCU Length (m) | Calculate results for Path Segments | Generate PDM Profile Data |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 90 | 100 | ✓ | ✓ | | | Complex | Automatic | Automatic | 5.75 | | ✓ |

### Normal Traffic parameters

| Dispersion type | Dispersion coefficient | Travel time coefficient |
|---|---|---|
| Default | 35 | 80 |

### Normal Traffic Types

| Name | PCU Factor |
|---|---|
| Normal | 1.00 |

### Bus parameters

| Name | PCU Factor | Dispersion type | Acceleration (ms^[-2]) | Stationary time coefficient | Cruise time coefficient |
|---|---|---|---|---|---|
| Bus | 1.00 | Default | 0.94 | 30 | 85 |

### Tram parameters

| Name | PCU Factor | Dispersion type | Acceleration (ms^[-2]) | Stationary time coefficient | Cruise time coefficient |
|---|---|---|---|---|---|
| Tram | 1.00 | Default | 0.94 | 100 | 100 |

### Pedestrian parameters

| Dispersion type |
|---|
| Default |

### Optimisation options

| Enable optimisation | Auto redistribute | Optimisation level | Enable OUT Profile accuracy |
|---|---|---|---|
| ✓ | ✓ | Offsets And Green Splits | ✓ |

### Advanced

| Optimisation type | Hill climb increments | OUTProfile accuracy (%) | Use enhanced optimisation | Auto optimisation order | Optimisation order | Master controller | Offsets relative to master controller | Master controller offset after each run |
|---|---|---|---|---|---|---|---|---|
| Standard accuracy Hill Climb | 15, 40, -1, 15, 40, 1, -1, 1 | 50, 50, 5, 5, 0.5, 0.5, 0.05, 0.05 | | ✓ | 1 | | | Do nothing |

### Economics

| Vehicle Monetary Value Of Delay (£ per PCU-hr) | Vehicle Monetary Value Of Stops (£ per 100 stops) | Pedestrian monetary value of delay (£ per Ped-hr) |
|---|---|---|
| 14.20 | 2.60 | 14.20 |

## Arms and Traffic Streams

### Arms

| Arm | Name | Description | Traffic node |
|---|---|---|---|
| (ALL) | | | |

### Traffic Streams

| Arm | Traffic Stream | Name | Description | Auto length | Length (m) | Has Saturation Flow | Saturation flow source | Saturation flow (PCU/hr) | Is signal controlled | Is give way | Traffic type | Allow Nearside Turn On Red |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | | ✓ | 55.25 | ✓ | Sum of lanes | 1800 | ✓ | | Normal | |
| 2 | 1 | | | ✓ | 68.76 | ✓ | Sum of lanes | 1800 | ✓ | | Normal | |
| 3 | 1 | | | ✓ | 102.20 | | | | | | Normal | |
| 4 | 1 | | | ✓ | 113.16 | | | | | | Normal | |
| 5 | 1 | | | ✓ | 23.22 | ✓ | Sum of lanes | 1800 | ✓ | | Normal | |
| 6 | 1 | | | ✓ | 69.45 | | | | | | Normal | |
| 7 | 1 | | | ✓ | 81.77 | | | | | | Normal | |
| 8 | 1 | | | ✓ | 36.35 | ✓ | Sum of lanes | 1800 | ✓ | | Normal | |

### Lanes

| Arm | Traffic Stream | Lane | Name | Description | Use RR67 | Saturation flow (PCU/hr) |
|---|---|---|---|---|---|---|
| 1 | 1 | 1 | (untitled) | | | 1800 |
| 2 | 1 | 1 | (untitled) | | | 1800 |
| 3 | 1 | 1 | (untitled) | | | |
| 4 | 1 | 1 | (untitled) | | | |
| 5 | 1 | 1 | (untitled) | | | 1800 |
| 6 | 1 | 1 | (untitled) | | | |
| 7 | 1 | 1 | (untitled) | | | |
| 8 | 1 | 1 | (untitled) | | | 1800 |

### Modelling

| Arm | Traffic Stream | Traffic model | Stop weighting multiplier (%) | Delay weighting multiplier (%) | Assignment Cost Weighting (%) | Exclude from results calculation | Max queue storage (PCU) | Has queue limit | Has degree of saturation limit |
|---|---|---|---|---|---|---|---|---|---|
| (ALL) | 1 | NetworkDefault | 100 | 100 | 100 | | 0.00 | | |

### Modelling - Advanced

| Arm | Traffic Stream | Initial queue (PCU) | Type of Vehicle-in-Service | Vehicle-in-Service | Type of random parameter | Random parameter | Auto cycle time | Cycle time |
|---|---|---|---|---|---|---|---|---|
| (ALL) | 1 | 0.00 | NetworkDefault | Not-Included | NetworkDefault | 0.50 | ✓ | 120 |

### Normal traffic - Modelling

| Arm | Traffic Stream | Stop weighting (%) | Delay weighting (%) |
|---|---|---|---|
| (ALL) | 1 | 100 | 100 |

### Normal traffic - Advanced

| Arm | Traffic Stream | Dispersion type for Normal Traffic |
|---|---|---|
| (ALL) | 1 | NetworkDefault |

### Flows

| Arm | Traffic Stream | Total Flow (PCU/hr) | Normal Flow (PCU/hr) |
|---|---|---|---|
| 1 | 1 | 930 | 930 |
| 2 | 1 | 639 | 639 |
| 3 | 1 | 602 | 602 |
| 4 | 1 | 1057 | 1057 |
| 5 | 1 | 327 | 327 |
| 6 | 1 | 305 | 305 |
| 7 | 1 | 235 | 235 |
| 8 | 1 | 303 | 303 |

### Signals

| Arm | Traffic Stream | Controller stream | Phase | Second phase enabled |
|---|---|---|---|---|
| 1 | 1 | 1 | B | |
| 2 | 1 | 1 | A | |
| 5 | 1 | 1 | D | |
| 8 | 1 | 1 | C | |

### Entry Sources

| Arm | Traffic Stream | Cruise time for Normal Traffic (s) | Cruise speed for Normal Traffic (kph) |
|---|---|---|---|
| 1 | 1 | 6.63 | 30.00 |
| 2 | 1 | 8.25 | 30.00 |
| 5 | 1 | 2.79 | 30.00 |

| | | | |
|---|---|---|---|
| 8 | 1 | 4.36 | 30.00 |

### Sources

| Arm | Traffic Stream | Source | Source traffic stream | Destination traffic stream | Cruise time for Normal Traffic (s) | Cruise speed for Normal Traffic (kph) | Auto turning radius | Traffic turn style | Turning radius (m) |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 1 | 8/1 | 3/1 | 12.26 | 30.00 | ✓ | Offside | 47.60 |
| 4 | 1 | 1 | 1/1 | 4/1 | 13.58 | 30.00 | ✓ | Straight | Straight Movement |
| 6 | 1 | 1 | 8/1 | 6/1 | 8.33 | 30.00 | ✓ | Straight | Straight Movement |
| 7 | 1 | 1 | 5/1 | 7/1 | 9.81 | 30.00 | ✓ | Straight | Straight Movement |
| 3 | 1 | 2 | 5/1 | 3/1 | 12.26 | 30.00 | ✓ | Nearside | 8.82 |
| 4 | 1 | 2 | 8/1 | 4/1 | 13.58 | 30.00 | ✓ | Nearside | 8.33 |
| 6 | 1 | 2 | 2/1 | 6/1 | 8.33 | 30.00 | ✓ | Nearside | 65.45 |
| 7 | 1 | 2 | 2/1 | 7/1 | 9.81 | 30.00 | ✓ | Offside | 12.30 |
| 3 | 1 | 3 | 2/1 | 3/1 | 12.26 | 30.00 | ✓ | Straight | Straight Movement |
| 4 | 1 | 3 | 5/1 | 4/1 | 13.58 | 30.00 | ✓ | Offside | 64.28 |
| 6 | 1 | 3 | 1/1 | 6/1 | 8.33 | 30.00 | ✓ | Offside | 10.81 |
| 7 | 1 | 3 | 1/1 | 7/1 | 9.81 | 30.00 | ✓ | Nearside | 45.24 |

## Local OD Matrix - Local Matrix: 1

### Local Matrix Options

| OD Matrix | Name | Use for point to point table | Auto calculate | Allocation mode | Allow paths past exit locations | Allow looped paths on arms | Allow looped paths on traffic nodes | Copy flows | Matrix to copy flows from | Limit paths by length | Path length limit multiplier | Limit paths by number | Path number limit | Limit paths by flow | Low path flow threshold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | (untitled) | ✓ | ✓ | Path Equalisation | | | ✓ | | | ✓ | 1.25 | | | | |

### Normal Input Flows (PCU/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0 | 66 | 164 | 97 |
| | 2 | 54 | 0 | 30 | 846 |
| | 3 | 170 | 19 | 0 | 114 |
| | 4 | 81 | 517 | 41 | 0 |

Bus Input Flows not shown as they are blank.

Tram Input Flows not shown as they are blank.

Pedestrian Input Flows not shown as they are blank.

### Locations

| OD Matrix | Location | Name | Entries | Exits | Colour |
|---|---|---|---|---|---|
| 1 | 1 | (untitled) | 5/1 | 6/1 | #0000FF |
| | 2 | (untitled) | 1/1 | 3/1 | #FF0000 |
| | 3 | (untitled) | 8/1 | 7/1 | #00FF00 |
| | 4 | (untitled) | 2/1 | 4/1 | #FFFF00 |

### Normal Paths and Flows

| OD Matrix | Path | Description | From location | To location | Path items | Allocation type | Normal Calculated Flow (PCU/hr) |
|---|---|---|---|---|---|---|---|
| 1 | 8 | | 3 | 2 | 8/1, 3/1 | Normal | 19 |
| | 9 | | 1 | 4 | 5/1, 4/1 | Normal | 97 |
| | 10 | | 4 | 3 | 2/1, 7/1 | Normal | 41 |
| | 11 | | 2 | 4 | 1/1, 4/1 | Normal | 846 |
| | 12 | | 4 | 2 | 2/1, 3/1 | Normal | 517 |
| | 13 | | 4 | 1 | 2/1, 6/1 | Normal | 81 |
| | 14 | | 3 | 4 | 8/1, 4/1 | Normal | 114 |
| | 15 | | 3 | 1 | 8/1, 6/1 | Normal | 170 |
| | 16 | | 1 | 2 | 5/1, 3/1 | Normal | 66 |
| | 17 | | 1 | 3 | 5/1, 7/1 | Normal | 164 |
| | 18 | | 2 | 1 | 1/1, 6/1 | Normal | 54 |
| | 19 | | 2 | 3 | 1/1, 7/1 | Normal | 30 |

## Signal Timings

**Network Default: 100s cycle time; 100 steps**

### Controller Stream 1

| Controller Stream | Name | Description | Use sequence | Cycle time source | Cycle time (s) | Minimum possible cycle time (s) |
|---|---|---|---|---|---|---|
| 1 | (untitled) | | 1 | Manual | 120 | 29 |

### Controller Stream 1 - Properties

| Controller Stream | Manufacturer name | Type | Model number | (Telephone) Line Number | Site number | Grid reference | Gaining delay type |
|---|---|---|---|---|---|---|---|
| 1 | Unspecified | | | | | | Absolute |

### Controller Stream 1 - Optimisation

| Controller Stream | Allow offset optimisation | Allow green split optimisation | Optimisation level | Auto redistribute | Enable stage constraint |
|---|---|---|---|---|---|
| 1 | | | Offsets And Green Splits | | |

| | | | | | |
|---|---|---|---|---|---|
| | ✓ | ✓ | | ✓ | |

## Phases

| Controller Stream | Phase | Name | Street minimum green (s) | Maximum green (s) | Relative start displacement (s) | Relative end displacement (s) | Type |
|---|---|---|---|---|---|---|---|
| 1 | (ALL) | (untitled) | 7 | 300 | 0 | 0 | Traffic |

## Library Stages

| Controller Stream | Library Stage | Phases in stage | User stage minimum (s) | Allow intermittent occurrence |
|---|---|---|---|---|
| 1 | 1 | A, B | 1 | |
| | 2 | C, D | 1 | |

## Stage Sequences

| Controller Stream | Sequence | Name | Multiple cycling | Stage IDs | Stage ends | Minimum possible cycle time (s) | Exclude from analysis |
|---|---|---|---|---|---|---|---|
| 1 | 1 | (untitled) | Single | 1, 2 | 81, 112 | 29 | |

## Intergreen Matrix for Controller Stream 1

| | | To | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| From | A | | | 7 | 7 |
| | B | | | 7 | 7 |
| | C | 8 | 8 | | |
| | D | 8 | 8 | | |

## Banned Stage transitions for Controller Stream 1

| | | To | |
|---|---|---|---|
| | | 1 | 2 |
| From | 1 | | |
| | 2 | | |

## Interstage Matrix for Controller Stream 1

| | | To | |
|---|---|---|---|
| | | 1 | 2 |
| From | 1 | 0 | 7 |
| | 2 | 8 | 0 |

## Resultant Stages

| Controller Stream | Resultant Stage | Is base stage | Library Stage ID | Phases in this stage | Stage start (s) | Stage end (s) | Stage duration (s) | User stage minimum (s) | Stage minimum (s) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | 1 | A,B | 0 | 81 | 81 | 1 | 7 |
| | 2 | ✓ | 2 | C,D | 88 | 112 | 24 | 1 | 7 |

## Resultant Phase Green Periods

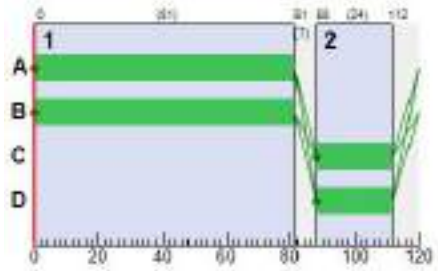
| Controller Stream | Phase | Green period | Is base green period | Start time (s) | End time (s) | Duration (s) |
|---|---|---|---|---|---|---|
| 1 | A | 1 | ✓ | 0 | 81 | 81 |
| | B | 1 | ✓ | 0 | 81 | 81 |
| | C | 1 | ✓ | 88 | 112 | 24 |
| | D | 1 | ✓ | 88 | 112 | 24 |

## Traffic Stream Green Times

| Arm | Traffic Stream | Traffic Node | Controller Stream | Phase | Green Period 1 | | |
|---|---|---|---|---|---|---|---|
| | | | | | Start | End | Duration |
| 1 | 1 | | 1 | B | 0 | 81 | 81 |
| 2 | 1 | | 1 | A | 0 | 81 | 81 |
| 5 | 1 | | 1 | D | 88 | 112 | 24 |
| 8 | 1 | | 1 | C | 88 | 112 | 24 |

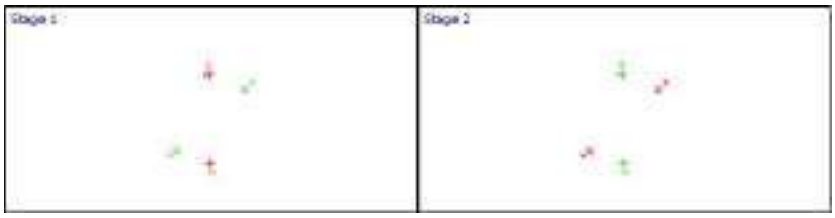
## Phase Timings Diagram

### Phase Timings Diagram for Controller Stream 1




## Stage Sequence Diagram

### Stage Sequence Diagram for Controller Stream 1




### Resultant penalties

| Time Segment | Controller stream | Phase min max penalty (£ per hr) | Intergreen broken penalty (£ per hr) | Stage constraint broken penalty (£ per hr) | Cost of controller stream penalties (£ per hr) |
|---|---|---|---|---|---|
| 08:00-09:00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 |

## Results - Link

## Results - Traffic Stream

### Results - Traffic Stream: Vehicle summary

| Time Segment | Arm | Traffic Stream | Name | Phase | Calculated flow entering (PCU/hr) | Calculated sat flow (PCU/hr) | Actual green (s (per cycle)) | Calculated capacity (PCU/hr) | Degree of saturation (%) | Practical reserve capacity (%) | Mean Delay per Veh (s) | Mean max queue (PCU) | Utilised storage (%) | JourneyTime (s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:00-09:00 | 1 | 1 | | B | 930 | 1800 | 81 | 1230 | 76 | 19 | 16.93 | 21.31 | 221.76 | 23.56 |
| | 2 | 1 | | A | 639 | 1800 | 81 | 1230 | 52 | 73 | 10.91 | 10.58 | 88.43 | 19.16 |
| | 3 | 1 | | | 602 | Unrestricted | 120 | Unrestricted | 0 | Unrestricted | 0.00 | 0.00 | 0.00 | 12.26 |
| | 4 | 1 | | | 1057 | Unrestricted | 120 | Unrestricted | 0 | Unrestricted | 0.00 | 0.00 | 0.00 | 13.58 |
| | 5 | 1 | | D | 327 | 1800 | 24 | 375 | 87 | 3 | 74.53 | 13.13 | 325.16 | 77.32 |
| | 6 | 1 | | | 305 | Unrestricted | 120 | Unrestricted | 0 | Unrestricted | 0.00 | 0.00 | 0.00 | 8.33 |
| | 7 | 1 | | | 235 | Unrestricted | 120 | Unrestricted | 0 | Unrestricted | 0.00 | 0.00 | 0.00 | 9.81 |
| | 8 | 1 | | C | 303 | 1800 | 24 | 375 | 81 | 11 | 64.16 | 11.19 | 176.99 | 68.52 |

## Data Entry - Stage Start and End

### Resultant Stage

| Controller Stream | Resultant Stage | Is base stage | Library Stage ID | Phases in this stage | Stage start (s) | Stage end (s) | Stage duration (s) | User stage minimum (s) | Stage minimum (s) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | 1 | A,B | 0 | 81 | 81 | 1 | 7 |
| | 2 | ✓ | 2 | C,D | 88 | 112 | 24 | 1 | 7 |

## Data Entry - Phase

### Phase

| Controller Stream | Phase | Phase | Street minimum green (s) | Maximum green (s) | Relative start displacement (s) | Relative end displacement (s) | Type |
|---|---|---|---|---|---|---|---|
| 1 | A | A | 7 | 300 | 0 | 0 | Traffic |
| | B | B | 7 | 300 | 0 | 0 | Traffic |
| | C | C | 7 | 300 | 0 | 0 | Traffic |
| | D | D | 7 | 300 | 0 | 0 | Traffic |

## Data Entry - Traffic Stream

### Traffic Stream

| Arm | Traffic Stream | Auto length | Length (m) | Traffic model | Max queue storage (PCU) | Traffic type | Has Saturation Flow | Is signal controlled | Is give way | Saturation flow source | Saturation flow (PCU/hr) | Delay weighting multiplier (%) | Stop weighting multiplier (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | 55.25 | NetworkDefault | 0.00 | Normal | ✓ | ✓ | | Sum of lanes | 1800 | 100 | 100 |
| 2 | 1 | ✓ | 68.76 | NetworkDefault | 0.00 | Normal | ✓ | ✓ | | Sum of lanes | 1800 | 100 | 100 |
| 3 | 1 | ✓ | 102.20 | NetworkDefault | 0.00 | Normal | | | | | | 100 | 100 |
| 4 | 1 | ✓ | 113.16 | NetworkDefault | 0.00 | Normal | | | | | | 100 | 100 |
| 5 | 1 | ✓ | 23.22 | NetworkDefault | 0.00 | Normal | ✓ | ✓ | | Sum of lanes | 1800 | 100 | 100 |
| 6 | 1 | ✓ | 69.45 | NetworkDefault | 0.00 | Normal | | | | | | 100 | 100 |
| 7 | 1 | ✓ | 81.77 | NetworkDefault | 0.00 | Normal | | | | | | 100 | 100 |
| 8 | 1 | ✓ | 36.35 | NetworkDefault | 0.00 | Normal | ✓ | ✓ | | Sum of lanes | 1800 | 100 | 100 |

## Data entry - Link

## Results - Pedestrian

## Traffic Stream Results

### Traffic Stream Results: Vehicle summary

| Time Segment | Arm | Traffic Stream | Degree of saturation (%) | Practical reserve capacity (%) | Calculated flow entering (PCU/hr) | Calculated sat flow (PCU/hr) | Actual green (s (per cycle)) | Mean Delay per Veh (s) | Mean max queue (PCU) | Utilised storage (%) | Weighted cost of delay (£ per hr) | Weighted cost of stops (£ per hr) | Performance Index (£ per hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:00-09:00 | 1 | 1 | 76 | 19 | 930 | 1800 | 81 | 16.93 | 21.31 | 221.76 | 62.10 | 7.73 | 69.83 |
| | 2 | 1 | 52 | 73 | 639 | 1800 | 81 | 10.91 | 10.58 | 88.43 | 27.49 | 3.86 | 31.35 |
| | 3 | 1 | 0 | Unrestricted | 602 | Unrestricted | 120 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4 | 1 | 0 | Unrestricted | 1057 | Unrestricted | 120 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 5 | 1 | 87 | 3 | 327 | 1800 | 24 | 74.53 | 13.13 | 325.16 | 96.13 | 4.81 | 100.95 |
| | 6 | 1 | 0 | Unrestricted | 305 | Unrestricted | 120 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 7 | 1 | 0 | Unrestricted | 235 | Unrestricted | 120 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8 | 1 | 81 | 11 | 303 | 1800 | 24 | 64.16 | 11.19 | 176.99 | 76.68 | 4.13 | 80.81 |

### Traffic Stream Results: Flows and signals

| Time Segment | Arm | Traffic Stream | Calculated flow entering (PCU/hr) | Calculated flow out (PCU/hr) | Flow discrepancy (PCU/hr) | Adjusted flow warning | Calculated sat flow (PCU/hr) | Calculated capacity (PCU/hr) | Degree of saturation (%) | DOS Threshold exceeded | Practical reserve capacity (%) | Mean modulus of error | Actual green (s (per cycle)) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:00-09:00 | 1 | 1 | 930 | 930 | 0 | | 1800 | 1230 | 76 | | 19 | 0.00 | 81 |
| | 2 | 1 | 639 | 639 | 0 | | 1800 | 1230 | 52 | | 73 | 0.00 | 81 |
| | 3 | 1 | 602 | 602 | 0 | | Unrestricted | Unrestricted | 0 | | Unrestricted | 0.43 | 120 |
| | 4 | 1 | 1057 | 1057 | 0 | | Unrestricted | Unrestricted | 0 | | Unrestricted | 0.33 | 120 |
| | 5 | 1 | 327 | 327 | 0 | | 1800 | 375 | 87 | | 3 | 0.00 | 24 |
| | 6 | 1 | 305 | 305 | 0 | | Unrestricted | Unrestricted | 0 | | Unrestricted | 0.68 | 120 |
| | 7 | 1 | 235 | 235 | 0 | | Unrestricted | Unrestricted | 0 | | Unrestricted | 0.91 | 120 |
| | 8 | 1 | 303 | 303 | 0 | | 1800 | 375 | 81 | | 11 | 0.00 | 24 |

### Traffic Stream Results: Stops and delays

| Time Segment | Arm | Traffic Stream | Mean Cruise Time per Veh (s) | Mean Delay per Veh (s) | Total delay (PCU-hr/hr) | Weighted cost of delay (£ per hr) | Mean stops per Veh (%) | Total stops (Stops per hr) | Weighted cost of stops (£ per hr) |
|---|---|---|---|---|---|---|---|---|---|
| 08:00-09:00 | 1 | 1 | 6.63 | 16.93 | 4.37 | 62.10 | 66.31 | 616.72 | 7.73 |
| | 2 | 1 | 8.25 | 10.91 | 1.94 | 27.49 | 48.18 | 307.85 | 3.86 |
| | 3 | 1 | 12.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4 | 1 | 13.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 5 | 1 | 2.79 | 74.53 | 6.77 | 96.13 | 117.42 | 383.97 | 4.81 |
| | 6 | 1 | 8.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 7 | 1 | 9.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8 | 1 | 4.36 | 64.16 | 5.40 | 76.68 | 108.80 | 329.66 | 4.13 |

### Traffic Stream Results: Queues and blocking

| Time Segment | Arm | Traffic Stream | Initial queue (PCU) | Mean max queue (PCU) | Max queue storage (PCU) | Utilised storage (%) | Excess queue penalty (£ per hr) | Wasted time total (s (per cycle)) | Estimated blocking |
|---|---|---|---|---|---|---|---|---|---|
| 08:00-09:00 | 1 | 1 | 0.00 | 21.31 | 9.61 | 221.76 | 0.00 | 0.00 | |
| | 2 | 1 | 0.00 | 10.58 | 11.96 | 88.43 | 0.00 | 0.00 | |
| | 3 | 1 | 0.00 | 0.00 | 17.77 | 0.00 | 0.00 | 2.00 | |
| | 4 | 1 | 0.00 | 0.00 | 19.68 | 0.00 | 0.00 | 0.00 | |
| | 5 | 1 | 0.00 | 13.13 | 4.04 | 325.16 | 0.00 | 0.00 | |
| | 6 | 1 | 0.00 | 0.00 | 12.08 | 0.00 | 0.00 | 7.00 | |
| | 7 | 1 | 0.00 | 0.00 | 14.22 | 0.00 | 0.00 | 8.00 | |
| | 8 | 1 | 0.00 | 11.19 | 6.32 | 176.99 | 0.00 | 0.00 | |

### Traffic Stream Results: Advanced

| Time Segment | Arm | Traffic Stream | Degree of saturation penalty (£ per hr) | Ped gap accepting penalty (£ per hr) | Warmed up | Mean Max Queue EoTS (PCU) | Mean End of Green Queue EoTS (PCU) | Mean End of Red Queue EoTS (PCU) | PCU Factor | Cost of traffic penalties (£ per hr) | Performance Index (£ per hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:00-09:00 | 1 | 1 | 0.00 | 0.00 | ✓ | 21.31 | 1.16 | 10.98 | 1.00 | 0.00 | 69.83 |
| | 2 | 1 | 0.00 | 0.00 | ✓ | 10.58 | 0.28 | 7.03 | 1.00 | 0.00 | 31.35 |
| | 3 | 1 | 0.00 | 0.00 | ✓ | 0.00 | | | 1.00 | 0.00 | 0.00 |
| | 4 | 1 | 0.00 | 0.00 | ✓ | 0.00 | | | 1.00 | 0.00 | 0.00 |
| | 5 | 1 | 0.00 | 0.00 | ✓ | 13.30 | 2.76 | 11.39 | 1.00 | 0.00 | 100.95 |
| | 6 | 1 | 0.00 | 0.00 | ✓ | 0.00 | | | 1.00 | 0.00 | 0.00 |
| | 7 | 1 | 0.00 | 0.00 | ✓ | 0.00 | | | 1.00 | 0.00 | 0.00 |
| | 8 | 1 | 0.00 | 0.00 | ✓ | 11.24 | 1.64 | 9.64 | 1.00 | 0.00 | 80.81 |

## Collections

## Point to Point Journey Time

### Average Journey Time (s) for Local Matrix: 1

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| From | 1 | 0.0 | 89.6 | 87.1 | 90.9 |
| | 2 | 31.9 | 0.0 | 33.4 | 37.1 |
| | 3 | 76.9 | 80.8 | 0.0 | 82.1 |
| | 4 | 27.5 | 31.4 | 29.0 | 0.0 |

### Path Journey Time

| Path | From Location | To Location | Normal Calculated Flow (PCU/hr) | Normal journey time (s) | Normal journey dist (m) | Bus journeydist (m) | Tram journey dist (m) | Pedestrian journey dist (m) | Calculated Total Flow (PCU/hr) | Avg journey time (s) | Avg journey dist (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 3 | 2 | 19 | 80.78 | 138.55 | 0.00 | 0.00 | 0.00 | 19 | 80.78 | 138.55 |
| 9 | 1 | 4 | 97 | 90.90 | 136.38 | 0.00 | 0.00 | 0.00 | 97 | 90.90 | 136.38 |
| 10 | 4 | 3 | 41 | 28.97 | 150.54 | 0.00 | 0.00 | 0.00 | 41 | 28.97 | 150.54 |
| 11 | 2 | 4 | 846 | 37.14 | 168.40 | 0.00 | 0.00 | 0.00 | 846 | 37.14 | 168.40 |
| 12 | 4 | 2 | 517 | 31.42 | 170.96 | 0.00 | 0.00 | 0.00 | 517 | 31.42 | 170.96 |
| 13 | 4 | 1 | 81 | 27.49 | 138.21 | 0.00 | 0.00 | 0.00 | 81 | 27.49 | 138.21 |
| 14 | 3 | 4 | 114 | 82.10 | 149.51 | 0.00 | 0.00 | 0.00 | 114 | 82.10 | 149.51 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **15** | 3 | 1 | 170 | 76.85 | 105.80 | 0.00 | 0.00 | 0.00 | 170 | 76.85 | 105.80 |
| **16** | 1 | 2 | 66 | 89.58 | 125.42 | 0.00 | 0.00 | 0.00 | 66 | 89.58 | 125.42 |
| **17** | 1 | 3 | 164 | 87.13 | 105.00 | 0.00 | 0.00 | 0.00 | 164 | 87.13 | 105.00 |
| **18** | 2 | 1 | 54 | 31.89 | 124.69 | 0.00 | 0.00 | 0.00 | 54 | 31.89 | 124.69 |
| **19** | 2 | 3 | 30 | 33.37 | 137.02 | 0.00 | 0.00 | 0.00 | 30 | 33.37 | 137.02 |

## Final Prediction Table

### Traffic Stream Results

| | | | | SIGNALS | | FLOWS | | PERFORMANCE | | | | PER PCU | | | QUEUES | WEIGHTS | | PENALTIES | P.I. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arm** | **Traffic Stream** | **Name** | **Traffic node** | **Controller stream** | **Phase** | **Calculated flow entering (PCU/hr)** | **Calculated sat flow (PCU/hr)** | **Actual green (s (per cycle))** | **Wasted time total (s (per cycle))** | **Degree of saturation (%)** | **Practical reserve capacity (%)** | **JourneyTime (s)** | **Mean Delay per Veh (s)** | **Mean stops per Veh (%)** | **Mean max queue (PCU)** | **Delay weighting multiplier (%)** | **Stop weighting multiplier (%)** | **Cost of traffic penalties (£ per hr)** | **P.I.** |
| **1** | **1** | | | 1 | B | 930 < | 1800 | 81 | 0.00 | 76 | 19 | 23.56 | 16.93 | 66.31 | 21.31 + | 100 | 100 | 0.00 | 69.83 |
| **2** | **1** | | | 1 | A | 639 | 1800 | 81 | 0.00 | 52 | 73 | 19.16 | 10.91 | 48.18 | 10.58 | 100 | 100 | 0.00 | 31.35 |
| **3** | **1** | | | | | 602 | Unrestricted | 120 | 2.00 | 0 | Unrestricted | 12.26 | 0.00 | 0.00 | 0.00 | 100 | 100 | 0.00 | 0.00 |
| **4** | **1** | | | | | 1057 | Unrestricted | 120 | 0.00 | 0 | Unrestricted | 13.58 | 0.00 | 0.00 | 0.00 | 100 | 100 | 0.00 | 0.00 |
| **5** | **1** | | | 1 | D | 327 < | 1800 | 24 | 0.00 | 87 | 3 | 77.32 | 74.53 | 117.42 | 13.13 + | 100 | 100 | 0.00 | 100.95 |
| **6** | **1** | | | | | 305 | Unrestricted | 120 | 7.00 | 0 | Unrestricted | 8.33 | 0.00 | 0.00 | 0.00 | 100 | 100 | 0.00 | 0.00 |
| **7** | **1** | | | | | 235 | Unrestricted | 120 | 8.00 | 0 | Unrestricted | 9.81 | 0.00 | 0.00 | 0.00 | 100 | 100 | 0.00 | 0.00 |
| **8** | **1** | | | 1 | C | 303 < | 1800 | 24 | 0.00 | 81 | 11 | 68.52 | 64.16 | 108.80 | 11.19 + | 100 | 100 | 0.00 | 80.81 |

### Network Results

| | Distance travelled (PCU-km/hr) | Time spent (PCU-hr/hr) | Mean journey speed (kph) | Total delay (PCU-hr/hr) | Weighted cost of delay (£ per hr) | Weighted cost of stops (£ per hr) | Excess queue penalty (£ per hr) | Performance Index (£ per hr) |
|---|---|---|---|---|---|---|---|---|
| **Normal traffic** | 335.46 | 29.66 | 11.31 | 18.48 | 262.40 | 20.54 | 0.00 | 282.94 |
| **Bus** | | | | | | | | |
| **Tram** | | | | | | | | |
| **Pedestrians** | | | | | | | | |
| **TOTAL** | 335.46 | 29.66 | 11.31 | 18.48 | 262.40 | 20.54 | 0.00 | 282.94 |

- *< = adjusted flow warning (upstream links/traffic streams are over-saturated)*
- ** = Traffic Stream - Normal, Bus or Tram Stop or Delay weighting has been set to a value other than 100%*
- *^ = Traffic Stream - Normal, Bus or Tram Stop or Delay Path weighting has been set to a value other than 100%*
- *+ = average link/traffic stream excess queue is greater than 0*
- ***P.I. = PERFORMANCE INDEX***