

2031 65% WL, 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 | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1 | untitled | Crossroads | Two-way | | 0.98 | A |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Left | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D2 | 2031 65% WL | PM | ONE HOUR | 17:00 | 18:30 | 15 | ✓ |

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

Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|------------------------|------------|--------------|--------------|-------------------------|--------------------|
| A - Whittingham Lane E | | ONE HOUR | ✓ | 264 | 100.000 |
| B - Site Access | | ONE HOUR | ✓ | 45 | 100.000 |
| C - Whittingham Lane W | | ONE HOUR | ✓ | 271 | 100.000 |
| D - Housing Access | | ONE HOUR | ✓ | 0 | 100.000 |

Origin-Destination Data

Demand (PCU/hr)

| | | To | | | |
|------|------------------------|------------------------|-----------------|------------------------|--------------------|
| | | A - Whittingham Lane E | B - Site Access | C - Whittingham Lane W | D - Housing Access |
| From | A - Whittingham Lane E | 0 | 68 | 191 | 5 |
| | B - Site Access | 38 | 0 | 7 | 0 |
| | C - Whittingham Lane W | 256 | 14 | 0 | 1 |
| | D - Housing Access | 0 | 0 | 0 | 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | | To | | | |
|------|------------------------|------------------------|-----------------|------------------------|--------------------|
| | | A - Whittingham Lane E | B - Site Access | C - Whittingham Lane W | D - Housing Access |
| From | A - Whittingham Lane E | 0 | 0 | 0 | 0 |
| | B - Site Access | 0 | 0 | 0 | 0 |
| | C - Whittingham Lane W | 0 | 0 | 0 | 0 |
| | D - Housing Access | 0 | 0 | 0 | 0 |

Results

Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD | 0.11 | 9.24 | 0.1 | A | 41 | 62 |
| A-BCD | 0.01 | 5.10 | 0.0 | A | 7 | 10 |
| A-B | | | | | 62 | 93 |
| A-C | | | | | 174 | 260 |
| D-ABC | 0.00 | 0.00 | 0.0 | A | 0 | 0 |
| C-ABD | 0.03 | 5.31 | 0.0 | A | 19 | 29 |
| C-D | | | | | 0.89 | 1 |
| C-A | | | | | 228 | 342 |

Main Results for each time segment

17:00 - 17:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD | 34 | 8 | 470 | 0.072 | 34 | 0.0 | 0.1 | 8.251 | A |
| A-BCD | 5 | 1 | 711 | 0.007 | 5 | 0.0 | 0.0 | 5.099 | A |
| A-B | 51 | 13 | | | 51 | | | | |
| A-C | 143 | 36 | | | 143 | | | | |
| D-ABC | 0 | 0 | 407 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-ABD | 15 | 4 | 693 | 0.021 | 15 | 0.0 | 0.0 | 5.309 | A |
| C-D | 0.74 | 0.18 | | | 0.74 | | | | |
| C-A | 189 | 47 | | | 189 | | | | |

17:15 - 17:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD | 40 | 10 | 457 | 0.089 | 40 | 0.1 | 0.1 | 8.646 | A |
| A-BCD | 7 | 2 | 729 | 0.009 | 7 | 0.0 | 0.0 | 4.984 | A |
| A-B | 61 | 15 | | | 61 | | | | |
| A-C | 170 | 43 | | | 170 | | | | |
| D-ABC | 0 | 0 | 396 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-ABD | 19 | 5 | 711 | 0.026 | 19 | 0.0 | 0.0 | 5.199 | A |
| C-D | 0.88 | 0.22 | | | 0.88 | | | | |
| C-A | 224 | 56 | | | 224 | | | | |

17:30 - 17:45

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD | 50 | 12 | 439 | 0.113 | 49 | 0.1 | 0.1 | 9.237 | A |
| A-BCD | 9 | 2 | 754 | 0.012 | 9 | 0.0 | 0.0 | 4.831 | A |
| A-B | 74 | 18 | | | 74 | | | | |
| A-C | 208 | 52 | | | 208 | | | | |
| D-ABC | 0 | 0 | 380 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-ABD | 25 | 6 | 737 | 0.034 | 25 | 0.0 | 0.0 | 5.054 | A |
| C-D | 1 | 0.27 | | | 1 | | | | |
| C-A | 272 | 68 | | | 272 | | | | |

17:45 - 18:00

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD | 50 | 12 | 439 | 0.113 | 50 | 0.1 | 0.1 | 9.243 | A |
| A-BCD | 9 | 2 | 754 | 0.012 | 9 | 0.0 | 0.0 | 4.832 | A |
| A-B | 74 | 18 | | | 74 | | | | |
| A-C | 208 | 52 | | | 208 | | | | |
| D-ABC | 0 | 0 | 380 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-ABD | 25 | 6 | 737 | 0.034 | 25 | 0.0 | 0.0 | 5.057 | A |
| C-D | 1 | 0.27 | | | 1 | | | | |
| C-A | 272 | 68 | | | 272 | | | | |

18:00 - 18:15

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD | 40 | 10 | 457 | 0.089 | 41 | 0.1 | 0.1 | 8.654 | A |
| A-BCD | 7 | 2 | 729 | 0.009 | 7 | 0.0 | 0.0 | 4.985 | A |
| A-B | 61 | 15 | | | 61 | | | | |
| A-C | 170 | 43 | | | 170 | | | | |
| D-ABC | 0 | 0 | 396 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-ABD | 19 | 5 | 711 | 0.026 | 19 | 0.0 | 0.0 | 5.200 | A |
| C-D | 0.88 | 0.22 | | | 0.88 | | | | |
| C-A | 224 | 56 | | | 224 | | | | |

18:15 - 18:30

| Stream | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|--------|-----------------------|-------------------------|-------------------|-------|---------------------|-------------------|-----------------|-----------|-------------------------------|
| B-ACD | 34 | 8 | 470 | 0.072 | 34 | 0.1 | 0.1 | 8.266 | A |
| A-BCD | 5 | 1 | 711 | 0.007 | 5 | 0.0 | 0.0 | 5.101 | A |
| A-B | 51 | 13 | | | 51 | | | | |
| A-C | 143 | 36 | | | 143 | | | | |
| D-ABC | 0 | 0 | 407 | 0.000 | 0 | 0.0 | 0.0 | 0.000 | A |
| C-ABD | 15 | 4 | 693 | 0.021 | 15 | 0.0 | 0.0 | 5.312 | A |
| C-D | 0.74 | 0.18 | | | 0.74 | | | | |
| C-A | 189 | 47 | | | 189 | | | | |

| |
|---|
| <h1>Junctions 9</h1> |
| <h2>ARCADY 9 - Roundabout Module</h2> |
| Version: 9.5.0.6896 © Copyright TRL Limited, 2018 |
| For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |

Filename: B5269-James Towers Way Roundabout.j9

Path: Z:\Job Library\2020\200590 - Keyfold Farm Residential Development\Traffic Data\Junction Models\Future Neighbourhood Plan Development Junction Models

Report generation date: 23/12/2021 10:44:14

-
- »2031 + 330 Dev No Connection, AM
 - »2031 + 330 Dev No Connection , PM
 - »2031 + 330 Dev 50% WL , AM
 - »2031 + 330 Dev 50% WL, PM
 - »2031 + 280 Dev No Connection, AM
 - »2031 + 280 Dev No Connection, PM
 - »2031 + 280 Dev 50% WL , AM
 - »2031 + 280 Dev 50% WL , PM
 - »2031 + Committed, AM
 - »2031 + Committed, PM

Summary of junction performance

| | AM | | | | PM | | | |
|-------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
| | Queue (PCU) | Delay (s) | RFC | LOS | Queue (PCU) | Delay (s) | RFC | LOS |
| 2031 + 330 Dev No Connection | | | | | | | | |
| 1 - Whittingham Lane (B5269) East | 11.7 | 36.89 | 0.94 | E | 4.6 | 15.28 | 0.82 | C |
| 2 - James Towers Way (A6) South | 1.2 | 3.39 | 0.54 | A | 5.8 | 10.36 | 0.86 | B |
| 3 - Whittingham Lane (B5269) West | 0.6 | 6.43 | 0.35 | A | 1.4 | 17.40 | 0.58 | C |
| 4 - James Towers Way (A6) North | 3.0 | 9.76 | 0.75 | A | 6.2 | 21.01 | 0.87 | C |
| 2031 + 330 Dev 50% WL | | | | | | | | |
| 1 - Whittingham Lane (B5269) East | 11.0 | 34.48 | 0.93 | D | 4.5 | 15.00 | 0.81 | B |
| 2 - James Towers Way (A6) South | 1.2 | 3.38 | 0.54 | A | 5.6 | 10.01 | 0.85 | B |
| 3 - Whittingham Lane (B5269) West | 0.5 | 6.27 | 0.34 | A | 1.3 | 16.81 | 0.56 | C |
| 4 - James Towers Way (A6) North | 2.9 | 9.51 | 0.75 | A | 6.0 | 20.43 | 0.87 | C |
| 2031 + 280 Dev No Connection | | | | | | | | |
| 1 - Whittingham Lane (B5269) East | 10.6 | 33.45 | 0.93 | D | 4.5 | 14.82 | 0.81 | B |
| 2 - James Towers Way (A6) South | 1.2 | 3.37 | 0.53 | A | 5.5 | 9.81 | 0.85 | A |
| 3 - Whittingham Lane (B5269) West | 0.5 | 6.21 | 0.33 | A | 1.3 | 16.57 | 0.56 | C |
| 4 - James Towers Way (A6) North | 2.9 | 9.41 | 0.74 | A | 5.9 | 20.21 | 0.86 | C |
| 2031 + 280 Dev 50% WL | | | | | | | | |
| 1 - Whittingham Lane (B5269) East | 10.5 | 32.95 | 0.93 | D | 4.4 | 14.75 | 0.81 | B |
| 2 - James Towers Way (A6) South | 1.2 | 3.37 | 0.53 | A | 5.4 | 9.73 | 0.85 | A |
| 3 - Whittingham Lane (B5269) West | 0.5 | 6.18 | 0.32 | A | 1.3 | 16.41 | 0.55 | C |
| 4 - James Towers Way (A6) North | 2.9 | 9.36 | 0.74 | A | 5.9 | 20.07 | 0.86 | C |
| 2031 + Committed | | | | | | | | |
| 1 - Whittingham Lane (B5269) East | 8.3 | 26.04 | 0.90 | D | 4.2 | 13.78 | 0.80 | B |
| 2 - James Towers Way (A6) South | 1.2 | 3.32 | 0.53 | A | 4.7 | 8.54 | 0.82 | A |
| 3 - Whittingham Lane (B5269) West | 0.4 | 5.67 | 0.26 | A | 1.0 | 14.55 | 0.50 | B |
| 4 - James Towers Way (A6) North | 2.7 | 8.59 | 0.73 | A | 5.4 | 18.40 | 0.85 | C |

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

File summary

File Description

| | |
|-------------|-----------------|
| Title | (untitled) |
| Location | |
| Site number | |
| Date | 03/05/2018 |
| Version | |
| Status | (new file) |
| Identifier | |
| Client | |
| Jobnumber | |
| Enumerator | SCP\sam.chapman |
| 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

| Vehicle length (m) | Calculate Queue Percentiles | Calculate detailed queueing delay | Calculate residual capacity | RFC Threshold | Average Delay threshold (s) | Queue threshold (PCU) |
|--------------------|-----------------------------|-----------------------------------|-----------------------------|---------------|-----------------------------|-----------------------|
| 5.75 | | | | 0.85 | 36.00 | 20.00 |

Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D1 | 2031 + 330 Dev No Connection | AM | ONE HOUR | 07:00 | 08:30 | 15 | ✓ |
| D2 | 2031 + 330 Dev No Connection | PM | ONE HOUR | 16:00 | 17:30 | 15 | ✓ |
| D3 | 2031 + 330 Dev 50% WL | AM | ONE HOUR | 07:00 | 08:30 | 15 | ✓ |
| D4 | 2031 + 330 Dev 50% WL | PM | ONE HOUR | 16:00 | 17:30 | 15 | ✓ |
| D5 | 2031 + 280 Dev No Connection | AM | ONE HOUR | 07:00 | 08:30 | 15 | ✓ |
| D6 | 2031 + 280 Dev No Connection | PM | ONE HOUR | 16:00 | 17:30 | 15 | ✓ |
| D7 | 2031 + 280 Dev 50% WL | AM | ONE HOUR | 07:00 | 08:30 | 15 | ✓ |
| D8 | 2031 + 280 Dev 50% WL | PM | ONE HOUR | 16:00 | 17:30 | 15 | ✓ |
| D9 | 2031 + Committed | AM | ONE HOUR | 07:00 | 08:30 | 15 | ✓ |
| D10 | 2031 + Committed | PM | ONE HOUR | 16:00 | 17:30 | 15 | ✓ |

Analysis Set Details

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

2031 + 330 Dev No Connection, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|-------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1 | Whittingham Lane / James Towers Way | Standard Roundabout | | 1, 2, 3, 4 | 15.71 | C |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Left | Normal/unknown |

Arms

Arms

| Arm | Name | Description |
|-----|-------------------------------|-------------|
| 1 | Whittingham Lane (B5269) East | |
| 2 | James Towers Way (A6) South | |
| 3 | Whittingham Lane (B5269) West | |
| 4 | James Towers Way (A6) North | |

Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit only |
|-----------------------------------|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1 - Whittingham Lane (B5269) East | 3.50 | 8.00 | 29.6 | 30.2 | 60.0 | 12.0 | |
| 2 - James Towers Way (A6) South | 7.00 | 9.10 | 9.0 | 40.0 | 60.0 | 19.5 | |
| 3 - Whittingham Lane (B5269) West | 3.80 | 7.00 | 10.0 | 14.0 | 60.0 | 14.0 | |
| 4 - James Towers Way (A6) North | 5.00 | 7.00 | 14.0 | 25.0 | 60.0 | 14.0 | |

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|-----------------------------------|-------------|--------------------------|
| 1 - Whittingham Lane (B5269) East | 0.653 | 2134 |
| 2 - James Towers Way (A6) South | 0.735 | 2637 |
| 3 - Whittingham Lane (B5269) West | 0.564 | 1687 |
| 4 - James Towers Way (A6) North | 0.636 | 2057 |

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) | Run automatically |
|----|------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D1 | 2031 + 330 Dev No Connection | AM | ONE HOUR | 07:00 | 08:30 | 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 - Whittingham Lane (B5269) East | | ONE HOUR | ✓ | 1111 | 100.000 |
| 2 - James Towers Way (A6) South | | ONE HOUR | ✓ | 1190 | 100.000 |
| 3 - Whittingham Lane (B5269) West | | ONE HOUR | ✓ | 294 | 100.000 |
| 4 - James Towers Way (A6) North | | ONE HOUR | ✓ | 1032 | 100.000 |

Origin-Destination Data

Demand (PCU/hr)

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 866 | 138 | 107 |
| | 2 - James Towers Way (A6) South | 487 | 0 | 61 | 642 |
| | 3 - Whittingham Lane (B5269) West | 92 | 196 | 0 | 6 |
| | 4 - James Towers Way (A6) North | 77 | 953 | 2 | 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 6 | 6 | 0 |
| | 2 - James Towers Way (A6) South | 10 | 0 | 4 | 4 |
| | 3 - Whittingham Lane (B5269) West | 10 | 5 | 0 | 5 |
| | 4 - James Towers Way (A6) North | 0 | 3 | 2 | 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 - Whittingham Lane (B5269) East | 0.94 | 36.89 | 11.7 | E | 1019 | 1529 |
| 2 - James Towers Way (A6) South | 0.54 | 3.39 | 1.2 | A | 1092 | 1638 |
| 3 - Whittingham Lane (B5269) West | 0.35 | 6.43 | 0.6 | A | 270 | 405 |
| 4 - James Towers Way (A6) North | 0.75 | 9.76 | 3.0 | A | 947 | 1420 |

Main Results for each time segment

07:00 - 07:15

| 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 - Whittingham Lane (B5269) East | 836 | 209 | 863 | 1571 | 0.533 | 832 | 492 | 0.0 | 1.2 | 5.102 | A |
| 2 - James Towers Way (A6) South | 896 | 224 | 185 | 2501 | 0.358 | 894 | 1509 | 0.0 | 0.6 | 2.380 | A |
| 3 - Whittingham Lane (B5269) West | 221 | 55 | 928 | 1164 | 0.190 | 220 | 151 | 0.0 | 0.2 | 4.061 | A |
| 4 - James Towers Way (A6) North | 777 | 194 | 582 | 1687 | 0.461 | 773 | 567 | 0.0 | 0.9 | 4.034 | A |

07:15 - 07:30

| 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 - Whittingham Lane (B5269) East | 999 | 250 | 1033 | 1460 | 0.684 | 995 | 589 | 1.2 | 2.2 | 8.086 | A |
| 2 - James Towers Way (A6) South | 1070 | 267 | 221 | 2474 | 0.432 | 1069 | 1806 | 0.6 | 0.8 | 2.724 | A |
| 3 - Whittingham Lane (B5269) West | 264 | 66 | 1110 | 1061 | 0.249 | 264 | 180 | 0.2 | 0.4 | 4.808 | A |
| 4 - James Towers Way (A6) North | 928 | 232 | 696 | 1614 | 0.575 | 926 | 678 | 0.9 | 1.4 | 5.358 | A |

07:30 - 07:45

| 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 - Whittingham Lane (B5269) East | 1223 | 306 | 1261 | 1311 | 0.933 | 1192 | 721 | 2.2 | 9.9 | 27.079 | D |
| 2 - James Towers Way (A6) South | 1310 | 328 | 265 | 2442 | 0.537 | 1309 | 2188 | 0.8 | 1.2 | 3.375 | A |
| 3 - Whittingham Lane (B5269) West | 324 | 81 | 1356 | 922 | 0.351 | 323 | 217 | 0.4 | 0.6 | 6.390 | A |
| 4 - James Towers Way (A6) North | 1136 | 284 | 852 | 1515 | 0.750 | 1130 | 827 | 1.4 | 3.0 | 9.447 | A |

07:45 - 08:00

| 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 - Whittingham Lane (B5269) East | 1223 | 306 | 1267 | 1307 | 0.936 | 1216 | 722 | 9.9 | 11.7 | 36.894 | E |
| 2 - James Towers Way (A6) South | 1310 | 328 | 270 | 2438 | 0.537 | 1310 | 2213 | 1.2 | 1.2 | 3.395 | A |
| 3 - Whittingham Lane (B5269) West | 324 | 81 | 1360 | 920 | 0.352 | 324 | 220 | 0.6 | 0.6 | 6.430 | A |
| 4 - James Towers Way (A6) North | 1136 | 284 | 853 | 1514 | 0.750 | 1136 | 831 | 3.0 | 3.0 | 9.764 | A |

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 - Whittingham Lane (B5269) East | 999 | 250 | 1041 | 1454 | 0.687 | 1036 | 591 | 11.7 | 2.4 | 9.860 | A |
| 2 - James Towers Way (A6) South | 1070 | 267 | 230 | 2467 | 0.434 | 1071 | 1847 | 1.2 | 0.8 | 2.746 | A |
| 3 - Whittingham Lane (B5269) West | 264 | 66 | 1116 | 1057 | 0.250 | 265 | 185 | 0.6 | 0.4 | 4.846 | A |
| 4 - James Towers Way (A6) North | 928 | 232 | 698 | 1613 | 0.575 | 934 | 683 | 3.0 | 1.4 | 5.501 | 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 - Whittingham Lane (B5269) East | 836 | 209 | 869 | 1567 | 0.534 | 841 | 495 | 2.4 | 1.2 | 5.263 | A |
| 2 - James Towers Way (A6) South | 896 | 224 | 187 | 2499 | 0.358 | 897 | 1523 | 0.8 | 0.6 | 2.390 | A |
| 3 - Whittingham Lane (B5269) West | 221 | 55 | 932 | 1161 | 0.191 | 222 | 152 | 0.4 | 0.3 | 4.083 | A |
| 4 - James Towers Way (A6) North | 777 | 194 | 584 | 1685 | 0.461 | 779 | 569 | 1.4 | 0.9 | 4.092 | A |

2031 + 330 Dev No Connection , PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|-------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1 | Whittingham Lane / James Towers Way | Standard Roundabout | | 1, 2, 3, 4 | 14.57 | B |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Left | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|------------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D2 | 2031 + 330 Dev No Connection | PM | ONE HOUR | 16:00 | 17:30 | 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 - Whittingham Lane (B5269) East | | ONE HOUR | ✓ | 1021 | 100.000 |
| 2 - James Towers Way (A6) South | | ONE HOUR | ✓ | 1897 | 100.000 |
| 3 - Whittingham Lane (B5269) West | | ONE HOUR | ✓ | 270 | 100.000 |
| 4 - James Towers Way (A6) North | | ONE HOUR | ✓ | 1010 | 100.000 |

Origin-Destination Data

Demand (PCU/hr)

| From | To | | | |
|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| 1 - Whittingham Lane (B5269) East | 0 | 789 | 121 | 111 |
| 2 - James Towers Way (A6) South | 847 | 0 | 118 | 932 |
| 3 - Whittingham Lane (B5269) West | 116 | 149 | 0 | 5 |
| 4 - James Towers Way (A6) North | 105 | 896 | 9 | 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 8 | 3 | 25 |
| | 2 - James Towers Way (A6) South | 4 | 0 | 4 | 1 |
| | 3 - Whittingham Lane (B5269) West | 5 | 5 | 0 | 10 |
| | 4 - James Towers Way (A6) North | 0 | 1 | 1 | 0 |

Results

Results Summary for whole modelled period

| Am | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|-----------------------------------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| 1 - Whittingham Lane (B5269) East | 0.82 | 15.28 | 4.6 | C | 937 | 1405 |
| 2 - James Towers Way (A6) South | 0.86 | 10.36 | 5.8 | B | 1741 | 2611 |
| 3 - Whittingham Lane (B5269) West | 0.58 | 17.40 | 1.4 | C | 248 | 372 |
| 4 - James Towers Way (A6) North | 0.87 | 21.01 | 6.2 | C | 927 | 1390 |

Main Results for each time segment

16:00 - 16:15

| Am | 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 - Whittingham Lane (B5269) East | 769 | 192 | 789 | 1619 | 0.475 | 765 | 801 | 0.0 | 1.0 | 4.574 | A |
| 2 - James Towers Way (A6) South | 1428 | 357 | 181 | 2504 | 0.570 | 1423 | 1374 | 0.0 | 1.3 | 3.397 | A |
| 3 - Whittingham Lane (B5269) West | 203 | 51 | 1417 | 888 | 0.229 | 202 | 186 | 0.0 | 0.3 | 5.508 | A |
| 4 - James Towers Way (A6) North | 760 | 190 | 834 | 1527 | 0.498 | 756 | 786 | 0.0 | 1.0 | 4.692 | A |

16:15 - 16:30

| Am | 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 - Whittingham Lane (B5269) East | 918 | 229 | 944 | 1517 | 0.605 | 915 | 958 | 1.0 | 1.6 | 6.488 | A |
| 2 - James Towers Way (A6) South | 1705 | 426 | 216 | 2478 | 0.688 | 1702 | 1644 | 1.3 | 2.2 | 4.734 | A |
| 3 - Whittingham Lane (B5269) West | 243 | 61 | 1695 | 731 | 0.332 | 242 | 222 | 0.3 | 0.5 | 7.724 | A |
| 4 - James Towers Way (A6) North | 908 | 227 | 997 | 1423 | 0.638 | 905 | 940 | 1.0 | 1.7 | 6.976 | A |

16:30 - 16:45

| Am | 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 - Whittingham Lane (B5269) East | 1124 | 281 | 1145 | 1387 | 0.811 | 1113 | 1167 | 1.6 | 4.3 | 13.852 | B |
| 2 - James Towers Way (A6) South | 2089 | 522 | 263 | 2443 | 0.855 | 2075 | 1995 | 2.2 | 5.6 | 9.678 | A |
| 3 - Whittingham Lane (B5269) West | 297 | 74 | 2067 | 521 | 0.570 | 294 | 271 | 0.5 | 1.3 | 16.411 | C |
| 4 - James Towers Way (A6) North | 1112 | 278 | 1215 | 1284 | 0.866 | 1096 | 1146 | 1.7 | 5.7 | 18.024 | C |

16:45 - 17:00

| Am | 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 - Whittingham Lane (B5269) East | 1124 | 281 | 1159 | 1377 | 0.816 | 1123 | 1175 | 4.3 | 4.6 | 15.279 | C |
| 2 - James Towers Way (A6) South | 2089 | 522 | 265 | 2442 | 0.855 | 2088 | 2017 | 5.6 | 5.8 | 10.363 | B |
| 3 - Whittingham Lane (B5269) West | 297 | 74 | 2080 | 514 | 0.578 | 297 | 273 | 1.3 | 1.4 | 17.395 | C |
| 4 - James Towers Way (A6) North | 1112 | 278 | 1224 | 1279 | 0.870 | 1110 | 1153 | 5.7 | 6.2 | 21.005 | C |

17:00 - 17:15

| Am | 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 - Whittingham Lane (B5269) East | 918 | 229 | 965 | 1504 | 0.610 | 929 | 970 | 4.6 | 1.7 | 6.957 | A |
| 2 - James Towers Way (A6) South | 1705 | 426 | 219 | 2475 | 0.689 | 1719 | 1675 | 5.8 | 2.3 | 4.970 | A |
| 3 - Whittingham Lane (B5269) West | 243 | 61 | 1714 | 721 | 0.337 | 246 | 225 | 1.4 | 0.5 | 8.029 | A |
| 4 - James Towers Way (A6) North | 908 | 227 | 1009 | 1415 | 0.642 | 925 | 950 | 6.2 | 1.8 | 7.668 | A |

17:15 - 17:30

| Am | 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 - Whittingham Lane (B5269) East | 769 | 192 | 797 | 1614 | 0.476 | 772 | 806 | 1.7 | 1.0 | 4.675 | A |
| 2 - James Towers Way (A6) South | 1428 | 357 | 182 | 2503 | 0.571 | 1432 | 1386 | 2.3 | 1.4 | 3.457 | A |
| 3 - Whittingham Lane (B5269) West | 203 | 51 | 1427 | 882 | 0.230 | 204 | 187 | 0.5 | 0.3 | 5.587 | A |
| 4 - James Towers Way (A6) North | 760 | 190 | 840 | 1523 | 0.499 | 764 | 791 | 1.8 | 1.0 | 4.804 | A |

2031 + 330 Dev 50% WL , AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|-------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1 | Whittingham Lane / James Towers Way | Standard Roundabout | | 1, 2, 3, 4 | 14.93 | B |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Left | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|-----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D3 | 2031 + 330 Dev 50% WL | AM | ONE HOUR | 07:00 | 08:30 | 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 - Whittingham Lane (B5269) East | | ONE HOUR | ✓ | 1111 | 100.000 |
| 2 - James Towers Way (A6) South | | ONE HOUR | ✓ | 1186 | 100.000 |
| 3 - Whittingham Lane (B5269) West | | ONE HOUR | ✓ | 280 | 100.000 |
| 4 - James Towers Way (A6) North | | ONE HOUR | ✓ | 1031 | 100.000 |

Origin-Destination Data

Demand (PCU/hr)

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 866 | 138 | 107 |
| | 2 - James Towers Way (A6) South | 487 | 0 | 57 | 642 |
| | 3 - Whittingham Lane (B5269) West | 91 | 184 | 0 | 5 |
| | 4 - James Towers Way (A6) North | 77 | 953 | 1 | 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 6 | 6 | 0 |
| | 2 - James Towers Way (A6) South | 10 | 0 | 4 | 4 |
| | 3 - Whittingham Lane (B5269) West | 10 | 5 | 0 | 5 |
| | 4 - James Towers Way (A6) North | 0 | 3 | 2 | 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 - Whittingham Lane (B5269) East | 0.93 | 34.48 | 11.0 | D | 1019 | 1529 |
| 2 - James Towers Way (A6) South | 0.54 | 3.38 | 1.2 | A | 1088 | 1632 |
| 3 - Whittingham Lane (B5269) West | 0.34 | 6.27 | 0.5 | A | 257 | 385 |
| 4 - James Towers Way (A6) North | 0.75 | 9.51 | 2.9 | A | 946 | 1419 |

Main Results for each time segment

07:00 - 07:15

| 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 - Whittingham Lane (B5269) East | 836 | 209 | 853 | 1577 | 0.530 | 832 | 492 | 0.0 | 1.2 | 5.060 | A |
| 2 - James Towers Way (A6) South | 893 | 223 | 184 | 2501 | 0.357 | 891 | 1500 | 0.0 | 0.6 | 2.375 | A |
| 3 - Whittingham Lane (B5269) West | 211 | 53 | 928 | 1164 | 0.181 | 210 | 147 | 0.0 | 0.2 | 4.018 | A |
| 4 - James Towers Way (A6) North | 776 | 194 | 572 | 1693 | 0.458 | 773 | 566 | 0.0 | 0.9 | 4.005 | A |

07:15 - 07:30

| 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 - Whittingham Lane (B5269) East | 999 | 250 | 1021 | 1467 | 0.681 | 995 | 588 | 1.2 | 2.2 | 7.960 | A |
| 2 - James Towers Way (A6) South | 1066 | 267 | 220 | 2475 | 0.431 | 1065 | 1795 | 0.6 | 0.8 | 2.716 | A |
| 3 - Whittingham Lane (B5269) West | 252 | 63 | 1110 | 1061 | 0.237 | 251 | 176 | 0.2 | 0.3 | 4.736 | A |
| 4 - James Towers Way (A6) North | 927 | 232 | 684 | 1622 | 0.572 | 925 | 677 | 0.9 | 1.4 | 5.294 | A |

07:30 - 07:45

| 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 - Whittingham Lane (B5269) East | 1223 | 306 | 1247 | 1320 | 0.927 | 1194 | 720 | 2.2 | 9.4 | 25.882 | D |
| 2 - James Towers Way (A6) South | 1306 | 326 | 264 | 2442 | 0.535 | 1304 | 2177 | 0.8 | 1.2 | 3.361 | A |
| 3 - Whittingham Lane (B5269) West | 308 | 77 | 1357 | 922 | 0.334 | 307 | 212 | 0.3 | 0.5 | 6.236 | A |
| 4 - James Towers Way (A6) North | 1135 | 284 | 838 | 1524 | 0.745 | 1129 | 826 | 1.4 | 2.9 | 9.219 | A |

07:45 - 08:00

| 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 - Whittingham Lane (B5269) East | 1223 | 306 | 1253 | 1316 | 0.930 | 1217 | 721 | 9.4 | 11.0 | 34.484 | D |
| 2 - James Towers Way (A6) South | 1306 | 326 | 269 | 2438 | 0.536 | 1306 | 2200 | 1.2 | 1.2 | 3.380 | A |
| 3 - Whittingham Lane (B5269) West | 308 | 77 | 1360 | 920 | 0.335 | 308 | 215 | 0.5 | 0.5 | 6.272 | A |
| 4 - James Towers Way (A6) North | 1135 | 284 | 839 | 1523 | 0.745 | 1135 | 830 | 2.9 | 2.9 | 9.509 | A |

08:00 - 08:15

| Am | 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 - Whittingham Lane (B5269) East | 999 | 250 | 1029 | 1462 | 0.683 | 1033 | 590 | 11.0 | 2.3 | 9.535 | A |
| 2 - James Towers Way (A6) South | 1066 | 267 | 229 | 2468 | 0.432 | 1068 | 1834 | 1.2 | 0.8 | 2.739 | A |
| 3 - Whittingham Lane (B5269) West | 252 | 63 | 1116 | 1058 | 0.238 | 253 | 181 | 0.5 | 0.3 | 4.770 | A |
| 4 - James Towers Way (A6) North | 927 | 232 | 686 | 1620 | 0.572 | 933 | 682 | 2.9 | 1.4 | 5.432 | A |

08:15 - 08:30

| Am | 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 - Whittingham Lane (B5269) East | 836 | 209 | 859 | 1573 | 0.532 | 841 | 494 | 2.3 | 1.2 | 5.214 | A |
| 2 - James Towers Way (A6) South | 893 | 223 | 186 | 2500 | 0.357 | 894 | 1514 | 0.8 | 0.6 | 2.387 | A |
| 3 - Whittingham Lane (B5269) West | 211 | 53 | 932 | 1161 | 0.182 | 211 | 148 | 0.3 | 0.2 | 4.040 | A |
| 4 - James Towers Way (A6) North | 776 | 194 | 574 | 1692 | 0.459 | 778 | 569 | 1.4 | 0.9 | 4.060 | A |

2031 + 330 Dev 50% WL, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|-------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1 | Whittingham Lane / James Towers Way | Standard Roundabout | | 1, 2, 3, 4 | 14.17 | B |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Left | Normal/unknown |

Traffic Demand

Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|-----------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D4 | 2031 + 330 Dev 50% WL | PM | ONE HOUR | 16:00 | 17:30 | 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 - Whittingham Lane (B5269) East | | ONE HOUR | ✓ | 1021 | 100.000 |
| 2 - James Towers Way (A6) South | | ONE HOUR | ✓ | 1886 | 100.000 |
| 3 - Whittingham Lane (B5269) West | | ONE HOUR | ✓ | 263 | 100.000 |
| 4 - James Towers Way (A6) North | | ONE HOUR | ✓ | 1009 | 100.000 |

Origin-Destination Data

Demand (PCU/hr)

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 789 | 121 | 111 |
| | 2 - James Towers Way (A6) South | 847 | 0 | 107 | 932 |
| | 3 - Whittingham Lane (B5269) West | 116 | 143 | 0 | 4 |
| | 4 - James Towers Way (A6) North | 105 | 896 | 8 | 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 8 | 3 | 25 |
| | 2 - James Towers Way (A6) South | 4 | 0 | 4 | 1 |
| | 3 - Whittingham Lane (B5269) West | 5 | 5 | 0 | 10 |
| | 4 - James Towers Way (A6) North | 0 | 1 | 1 | 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 - Whittingham Lane (B5269) East | 0.81 | 15.00 | 4.5 | B | 937 | 1405 |
| 2 - James Towers Way (A6) South | 0.85 | 10.01 | 5.6 | B | 1731 | 2596 |
| 3 - Whittingham Lane (B5269) West | 0.56 | 16.81 | 1.3 | C | 241 | 362 |
| 4 - James Towers Way (A6) North | 0.87 | 20.43 | 6.0 | C | 926 | 1389 |

Main Results for each time segment

16:00 - 16:15

| 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 - Whittingham Lane (B5269) East | 769 | 192 | 784 | 1622 | 0.474 | 765 | 801 | 0.0 | 1.0 | 4.557 | A |
| 2 - James Towers Way (A6) South | 1420 | 355 | 180 | 2504 | 0.567 | 1415 | 1369 | 0.0 | 1.3 | 3.369 | A |
| 3 - Whittingham Lane (B5269) West | 198 | 50 | 1417 | 888 | 0.223 | 197 | 177 | 0.0 | 0.3 | 5.467 | A |
| 4 - James Towers Way (A6) North | 760 | 190 | 829 | 1530 | 0.497 | 756 | 785 | 0.0 | 1.0 | 4.670 | A |

16:15 - 16:30

| 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 - Whittingham Lane (B5269) East | 918 | 229 | 938 | 1521 | 0.603 | 915 | 958 | 1.0 | 1.6 | 6.444 | A |
| 2 - James Towers Way (A6) South | 1695 | 424 | 215 | 2478 | 0.684 | 1692 | 1638 | 1.3 | 2.2 | 4.671 | A |
| 3 - Whittingham Lane (B5269) West | 236 | 59 | 1696 | 731 | 0.324 | 236 | 212 | 0.3 | 0.5 | 7.626 | A |
| 4 - James Towers Way (A6) North | 907 | 227 | 992 | 1426 | 0.636 | 904 | 939 | 1.0 | 1.7 | 6.918 | A |

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 - Whittingham Lane (B5269) East | 1124 | 281 | 1137 | 1391 | 0.808 | 1114 | 1167 | 1.6 | 4.3 | 13.652 | B |
| 2 - James Towers Way (A6) South | 2077 | 519 | 262 | 2444 | 0.850 | 2064 | 1989 | 2.2 | 5.4 | 9.392 | A |
| 3 - Whittingham Lane (B5269) West | 290 | 72 | 2068 | 521 | 0.556 | 286 | 258 | 0.5 | 1.3 | 15.926 | C |
| 4 - James Towers Way (A6) North | 1111 | 278 | 1209 | 1288 | 0.862 | 1096 | 1145 | 1.7 | 5.5 | 17.652 | C |

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 - Whittingham Lane (B5269) East | 1124 | 281 | 1151 | 1382 | 0.813 | 1123 | 1175 | 4.3 | 4.5 | 14.998 | B |
| 2 - James Towers Way (A6) South | 2077 | 519 | 264 | 2442 | 0.850 | 2076 | 2010 | 5.4 | 5.6 | 10.007 | B |
| 3 - Whittingham Lane (B5269) West | 290 | 72 | 2080 | 514 | 0.563 | 289 | 260 | 1.3 | 1.3 | 16.807 | C |
| 4 - James Towers Way (A6) North | 1111 | 278 | 1217 | 1283 | 0.866 | 1109 | 1152 | 5.5 | 6.0 | 20.430 | C |

17:00 - 17:15

| Am | 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 - Whittingham Lane (B5269) East | 918 | 229 | 958 | 1508 | 0.608 | 929 | 969 | 4.5 | 1.7 | 6.898 | A |
| 2 - James Towers Way (A6) South | 1695 | 424 | 218 | 2476 | 0.685 | 1709 | 1669 | 5.6 | 2.3 | 4.890 | A |
| 3 - Whittingham Lane (B5269) West | 236 | 59 | 1713 | 721 | 0.328 | 240 | 214 | 1.3 | 0.5 | 7.908 | A |
| 4 - James Towers Way (A6) North | 907 | 227 | 1003 | 1419 | 0.639 | 924 | 949 | 6.0 | 1.8 | 7.576 | A |

17:15 - 17:30

| Am | 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 - Whittingham Lane (B5269) East | 769 | 192 | 792 | 1617 | 0.475 | 772 | 806 | 1.7 | 1.0 | 4.655 | A |
| 2 - James Towers Way (A6) South | 1420 | 355 | 181 | 2503 | 0.567 | 1424 | 1382 | 2.3 | 1.4 | 3.430 | A |
| 3 - Whittingham Lane (B5269) West | 198 | 50 | 1427 | 882 | 0.224 | 199 | 178 | 0.5 | 0.3 | 5.539 | A |
| 4 - James Towers Way (A6) North | 760 | 190 | 835 | 1526 | 0.498 | 763 | 790 | 1.8 | 1.0 | 4.782 | A |

2031 + 280 Dev No Connection, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|----------|-------------------------------------|---------------------|-----------------------|------------|--------------------|--------------|
| 1 | Whittingham Lane / James Towers Way | Standard Roundabout | | 1, 2, 3, 4 | 14.60 | B |

Junction Network Options

| Driving side | Lighting |
|--------------|----------------|
| Left | Normal/unknown |

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 | 2031 + 280 Dev No Connection | AM | ONE HOUR | 07:00 | 08:30 | 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 - Whittingham Lane (B5269) East | | ONE HOUR | ✓ | 1111 | 100.000 |
| 2 - James Towers Way (A6) South | | ONE HOUR | ✓ | 1184 | 100.000 |
| 3 - Whittingham Lane (B5269) West | | ONE HOUR | ✓ | 274 | 100.000 |
| 4 - James Towers Way (A6) North | | ONE HOUR | ✓ | 1031 | 100.000 |

Origin-Destination Data

Demand (PCU/hr)

| From | To | | | |
|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| 1 - Whittingham Lane (B5269) East | 0 | 866 | 138 | 107 |
| 2 - James Towers Way (A6) South | 487 | 0 | 55 | 642 |
| 3 - Whittingham Lane (B5269) West | 91 | 178 | 0 | 5 |
| 4 - James Towers Way (A6) North | 77 | 953 | 1 | 0 |

Vehicle Mix

Heavy Vehicle Percentages

| | | To | | | |
|------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | | 1 - Whittingham Lane (B5269) East | 2 - James Towers Way (A6) South | 3 - Whittingham Lane (B5269) West | 4 - James Towers Way (A6) North |
| From | 1 - Whittingham Lane (B5269) East | 0 | 6 | 6 | 0 |
| | 2 - James Towers Way (A6) South | 10 | 0 | 4 | 4 |
| | 3 - Whittingham Lane (B5269) West | 10 | 5 | 0 | 5 |
| | 4 - James Towers Way (A6) North | 0 | 3 | 2 | 0 |

Results

Results Summary for whole modelled period

| Am | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|-----------------------------------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| 1 - Whittingham Lane (B5269) East | 0.93 | 33.45 | 10.6 | D | 1019 | 1529 |
| 2 - James Towers Way (A6) South | 0.53 | 3.37 | 1.2 | A | 1086 | 1630 |
| 3 - Whittingham Lane (B5269) West | 0.33 | 6.21 | 0.5 | A | 251 | 377 |
| 4 - James Towers Way (A6) North | 0.74 | 9.41 | 2.9 | A | 946 | 1419 |

Main Results for each time segment

07:00 - 07:15

| Am | 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 - Whittingham Lane (B5269) East | 836 | 209 | 848 | 1580 | 0.529 | 832 | 492 | 0.0 | 1.2 | 5.040 | A |
| 2 - James Towers Way (A6) South | 891 | 223 | 184 | 2501 | 0.356 | 889 | 1496 | 0.0 | 0.6 | 2.373 | A |
| 3 - Whittingham Lane (B5269) West | 206 | 52 | 928 | 1164 | 0.177 | 205 | 145 | 0.0 | 0.2 | 4.002 | A |
| 4 - James Towers Way (A6) North | 776 | 194 | 567 | 1696 | 0.458 | 773 | 566 | 0.0 | 0.9 | 3.993 | A |

07:15 - 07:30

| Am | 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 - Whittingham Lane (B5269) East | 999 | 250 | 1016 | 1471 | 0.679 | 995 | 588 | 1.2 | 2.2 | 7.904 | A |
| 2 - James Towers Way (A6) South | 1064 | 266 | 220 | 2475 | 0.430 | 1064 | 1790 | 0.6 | 0.8 | 2.713 | A |
| 3 - Whittingham Lane (B5269) West | 246 | 62 | 1110 | 1061 | 0.232 | 246 | 174 | 0.2 | 0.3 | 4.707 | A |
| 4 - James Towers Way (A6) North | 927 | 232 | 679 | 1625 | 0.570 | 925 | 677 | 0.9 | 1.3 | 5.268 | A |

07:30 - 07:45

| Am | 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 - Whittingham Lane (B5269) East | 1223 | 306 | 1240 | 1324 | 0.924 | 1195 | 720 | 2.2 | 9.2 | 25.353 | D |
| 2 - James Towers Way (A6) South | 1304 | 326 | 265 | 2442 | 0.534 | 1302 | 2171 | 0.8 | 1.2 | 3.355 | A |
| 3 - Whittingham Lane (B5269) West | 302 | 75 | 1357 | 922 | 0.327 | 301 | 210 | 0.3 | 0.5 | 6.172 | A |
| 4 - James Towers Way (A6) North | 1135 | 284 | 831 | 1528 | 0.743 | 1129 | 827 | 1.3 | 2.9 | 9.128 | A |