

APPENDIX D JUNCTION ANALYSIS - ROUNDABOUTS

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2008 Base.vai"
(drive-on-the-left) at 12:01:34 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.21 | I | 4.82 | I | 3.21 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.56 | I | 3.84 | I | 2.56 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.15 | I | 10.73 | I | 7.15 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.058 | I | 0.942 |
| I | | I | | I | 0.0 | I | 15.0 | I | 242.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2008 Base.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.015 | I | 0.000 | I | 0.985 | I |
| I | I | | I | 3.0 | I | 0.0 | I | 202.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.397 | I | 0.603 | I | 0.000 | I |
| I | I | | I | 227.0 | I | 345.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 3.21 | 16.07 | 0.200 | | 0.0 | 0.2 | 3.6 | | 0.08 |
| ARM B | 2.56 | 18.09 | 0.142 | | 0.0 | 0.2 | 2.4 | | 0.06 |
| ARM C | 7.15 | 20.15 | 0.355 | | 0.0 | 0.5 | 7.9 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 3.84 | 15.64 | 0.245 | | 0.2 | 0.3 | 4.7 | | 0.08 |
| ARM B | 3.06 | 17.77 | 0.172 | | 0.2 | 0.2 | 3.1 | | 0.07 |
| ARM C | 8.54 | 20.15 | 0.424 | | 0.5 | 0.7 | 10.7 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 4.70 | 15.06 | 0.312 | | 0.3 | 0.4 | 6.6 | | 0.10 |
| ARM B | 3.75 | 17.33 | 0.216 | | 0.2 | 0.3 | 4.0 | | 0.07 |
| ARM C | 10.46 | 20.14 | 0.519 | | 0.7 | 1.1 | 15.5 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 4.70 | 15.05 | 0.312 | | 0.4 | 0.5 | 6.8 | | 0.10 |
| ARM B | 3.75 | 17.33 | 0.216 | | 0.3 | 0.3 | 4.1 | | 0.07 |
| ARM C | 10.46 | 20.14 | 0.519 | | 1.1 | 1.1 | 16.0 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 3.84 | 15.63 | 0.245 | | 0.5 | 0.3 | 5.0 | | 0.08 |
| ARM B | 3.06 | 17.76 | 0.172 | | 0.3 | 0.2 | 3.2 | | 0.07 |
| ARM C | 8.54 | 20.15 | 0.424 | | 1.1 | 0.7 | 11.4 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 3.21 | 16.06 | 0.200 | | 0.3 | 0.3 | 3.8 | | 0.08 |
| ARM B | 2.56 | 18.07 | 0.142 | | 0.2 | 0.2 | 2.5 | | 0.06 |
| ARM C | 7.15 | 20.15 | 0.355 | | 0.7 | 0.6 | 8.5 | | 0.08 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.1 * |

17.45 1.1 *
 18.00 0.7 *
 18.15 0.6 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | QUEUEING DELAY | INCLUSIVE QUEUEING DELAY |
|-------|--------------|----------------|--------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 352.4 | 30.6 | 30.6 |
| B | 281.1 | 19.4 | 19.4 |
| C | 784.3 | 70.1 | 70.1 |
| ALL | 1417.8 | 120.0 | 120.0 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Base.vai"
(drive-on-the-left) at 12:03:36 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.03 | I | 6.04 | I | 4.03 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.49 | I | 3.73 | I | 2.49 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.86 | I | 11.79 | I | 7.86 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.062 | I | 0.938 |
| I | | I | | I | 0.0 | I | 20.0 | I | 302.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2026 Base.vao

| | | | | |
|---|-------|---------|---------|---------|
| I | ARM B | 0.045 | 0.000 | 0.955 |
| I | | 9.0 | 0.0 | 190.0 |
| I | | (10.0) | (10.0) | (10.0) |
| I | | | | |
| I | ARM C | 0.461 | 0.539 | 0.000 |
| I | | 290.0 | 339.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) |
| I | | | | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 4.03 | 16.11 | 0.250 | | 0.0 | 0.3 | 4.8 | | 0.08 |
| ARM B | 2.49 | 17.69 | 0.141 | | 0.0 | 0.2 | 2.4 | | 0.07 |
| ARM C | 7.86 | 20.11 | 0.391 | | 0.0 | 0.6 | 9.2 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 4.81 | 15.69 | 0.306 | | 0.3 | 0.4 | 6.4 | | 0.09 |
| ARM B | 2.97 | 17.29 | 0.172 | | 0.2 | 0.2 | 3.0 | | 0.07 |
| ARM C | 9.39 | 20.10 | 0.467 | | 0.6 | 0.9 | 12.7 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 5.89 | 15.11 | 0.389 | | 0.4 | 0.6 | 9.2 | | 0.11 |
| ARM B | 3.64 | 16.75 | 0.217 | | 0.2 | 0.3 | 4.1 | | 0.08 |
| ARM C | 11.50 | 20.08 | 0.573 | | 0.9 | 1.3 | 19.0 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 5.89 | 15.10 | 0.390 | | 0.6 | 0.6 | 9.5 | | 0.11 |
| ARM B | 3.64 | 16.74 | 0.217 | | 0.3 | 0.3 | 4.1 | | 0.08 |
| ARM C | 11.50 | 20.08 | 0.573 | | 1.3 | 1.3 | 19.8 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 4.81 | 15.67 | 0.307 | | 0.6 | 0.4 | 6.9 | | 0.09 |
| ARM B | 2.97 | 17.28 | 0.172 | | 0.3 | 0.2 | 3.2 | | 0.07 |
| ARM C | 9.39 | 20.10 | 0.467 | | 1.3 | 0.9 | 13.7 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 4.03 | 16.10 | 0.250 | | 0.4 | 0.3 | 5.1 | | 0.08 |
| ARM B | 2.49 | 17.67 | 0.141 | | 0.2 | 0.2 | 2.5 | | 0.07 |
| ARM C | 7.86 | 20.11 | 0.391 | | 0.9 | 0.6 | 10.0 | | 0.08 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.9 * |
| 17.30 | 1.3 * |

17.45 1.3 *
 18.00 0.9 *
 18.15 0.6 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 441.5 | 41.9 | 41.9 |
| B | 272.9 | 19.3 | 19.3 |
| C | 862.5 | 84.4 | 84.4 |
| ALL | 1576.9 | 145.7 | 145.7 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site A.vao"
(drive-on-the-left) at 12:04:35 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.49 | I | 8.23 | I | 5.49 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.19 | I | 3.28 | I | 2.19 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.95 | I | 11.92 | I | 7.95 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.059 | I | 0.941 |
| I | | I | | I | 0.0 | I | 26.0 | I | 413.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2026 Site A.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.051 | I | 0.000 | I | 0.949 | I |
| I | I | | I | 9.0 | I | 0.0 | I | 166.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.492 | I | 0.508 | I | 0.000 | I |
| I | I | | I | 313.0 | I | 323.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 5.49 | 16.21 | 0.338 | | 0.0 | 0.5 | 7.3 | | 0.09 |
| ARM B | 2.19 | 16.95 | 0.129 | | 0.0 | 0.1 | 2.2 | | 0.07 |
| ARM C | 7.95 | 20.11 | 0.395 | | 0.0 | 0.6 | 9.4 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 6.55 | 15.81 | 0.414 | | 0.5 | 0.7 | 10.2 | | 0.11 |
| ARM B | 2.61 | 16.41 | 0.159 | | 0.1 | 0.2 | 2.8 | | 0.07 |
| ARM C | 9.49 | 20.10 | 0.472 | | 0.6 | 0.9 | 12.9 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 8.03 | 15.26 | 0.526 | | 0.7 | 1.1 | 15.7 | | 0.14 |
| ARM B | 3.20 | 15.67 | 0.204 | | 0.2 | 0.3 | 3.8 | | 0.08 |
| ARM C | 11.63 | 20.08 | 0.579 | | 0.9 | 1.4 | 19.5 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 8.03 | 15.25 | 0.526 | | 1.1 | 1.1 | 16.4 | | 0.14 |
| ARM B | 3.20 | 15.66 | 0.204 | | 0.3 | 0.3 | 3.8 | | 0.08 |
| ARM C | 11.63 | 20.08 | 0.579 | | 1.4 | 1.4 | 20.4 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 6.55 | 15.80 | 0.415 | | 1.1 | 0.7 | 11.1 | | 0.11 |
| ARM B | 2.61 | 16.39 | 0.159 | | 0.3 | 0.2 | 2.9 | | 0.07 |
| ARM C | 9.49 | 20.10 | 0.472 | | 1.4 | 0.9 | 14.0 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 5.49 | 16.20 | 0.339 | | 0.7 | 0.5 | 8.0 | | 0.09 |
| ARM B | 2.19 | 16.93 | 0.129 | | 0.2 | 0.1 | 2.3 | | 0.07 |
| ARM C | 7.95 | 20.11 | 0.395 | | 0.9 | 0.7 | 10.1 | | 0.08 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.1 * |
| 17.45 | 1.1 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.9 * |
| 17.30 | 1.4 * |

17.45 1.4 *
 18.00 0.9 *
 18.15 0.7 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 602.0 | 68.7 | 68.8 |
| B | 240.0 | 17.7 | 17.7 |
| C | 872.1 | 86.3 | 86.3 |
| ALL | 1714.0 | 172.8 | 172.8 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site D.vao"
(drive-on-the-left) at 12:05:30 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.57 | I | 6.86 | I | 4.57 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.42 | I | 5.14 | I | 3.42 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.79 | I | 13.18 | I | 8.79 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.055 | I | 0.945 |
| I | | I | | I | 0.0 | I | 20.0 | I | 346.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2026 Site D.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.029 | I | 0.000 | I | 0.971 | I |
| I | I | | I | 8.0 | I | 0.0 | I | 266.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.437 | I | 0.563 | I | 0.000 | I |
| I | I | | I | 307.0 | I | 396.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 4.57 | 15.75 | 0.290 | | 0.0 | 0.4 | 5.9 | | 0.09 |
| ARM B | 3.42 | 17.40 | 0.197 | | 0.0 | 0.2 | 3.6 | | 0.07 |
| ARM C | 8.79 | 20.12 | 0.437 | | 0.0 | 0.8 | 11.1 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 5.46 | 15.26 | 0.358 | | 0.4 | 0.6 | 8.1 | | 0.10 |
| ARM B | 4.09 | 16.94 | 0.241 | | 0.2 | 0.3 | 4.7 | | 0.08 |
| ARM C | 10.49 | 20.11 | 0.522 | | 0.8 | 1.1 | 15.6 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 6.69 | 14.59 | 0.459 | | 0.6 | 0.8 | 12.1 | | 0.13 |
| ARM B | 5.01 | 16.32 | 0.307 | | 0.3 | 0.4 | 6.4 | | 0.09 |
| ARM C | 12.85 | 20.09 | 0.640 | | 1.1 | 1.7 | 24.7 | | 0.14 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 6.69 | 14.58 | 0.459 | | 0.8 | 0.8 | 12.6 | | 0.13 |
| ARM B | 5.01 | 16.31 | 0.307 | | 0.4 | 0.4 | 6.6 | | 0.09 |
| ARM C | 12.85 | 20.09 | 0.640 | | 1.7 | 1.8 | 26.2 | | 0.14 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 5.46 | 15.24 | 0.359 | | 0.8 | 0.6 | 8.7 | | 0.10 |
| ARM B | 4.09 | 16.92 | 0.242 | | 0.4 | 0.3 | 4.9 | | 0.08 |
| ARM C | 10.49 | 20.11 | 0.522 | | 1.8 | 1.1 | 17.2 | | 0.11 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 4.57 | 15.73 | 0.291 | | 0.6 | 0.4 | 6.3 | | 0.09 |
| ARM B | 3.42 | 17.38 | 0.197 | | 0.3 | 0.2 | 3.8 | | 0.07 |
| ARM C | 8.79 | 20.12 | 0.437 | | 1.1 | 0.8 | 12.1 | | 0.09 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.6 * |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |
| 18.00 | 0.6 * |
| 18.15 | 0.4 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.8 * |
| 17.15 | 1.1 ** |
| 17.30 | 1.7 ** |

17.45 1.8 **
 18.00 1.1 *
 18.15 0.8 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 501.9 | 53.7 | 53.7 |
| B | 375.7 | 30.0 | 30.0 |
| C | 964.0 | 107.0 | 107.0 |
| ALL | 1841.5 | 190.7 | 190.7 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site E.vao"
(drive-on-the-left) at 12:06:22 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.03 | I | 6.04 | I | 4.03 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.49 | I | 3.73 | I | 2.49 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.78 | I | 11.66 | I | 7.78 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.075 | I | 0.925 |
| I | | I | | I | 0.0 | I | 24.0 | I | 298.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2026 Site E.vao

| | | | | |
|---|-------|---------|---------|---------|
| I | ARM B | 0.045 | 0.000 | 0.955 |
| I | | 9.0 | 0.0 | 190.0 |
| I | | (10.0) | (10.0) | (10.0) |
| I | | | | |
| I | ARM C | 0.461 | 0.539 | 0.000 |
| I | | 287.0 | 335.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) |
| I | | | | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 4.03 | 16.14 | 0.249 | | 0.0 | 0.3 | 4.8 | | 0.08 |
| ARM B | 2.49 | 17.71 | 0.140 | | 0.0 | 0.2 | 2.4 | | 0.07 |
| ARM C | 7.78 | 20.11 | 0.387 | | 0.0 | 0.6 | 9.1 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 4.81 | 15.72 | 0.306 | | 0.3 | 0.4 | 6.4 | | 0.09 |
| ARM B | 2.97 | 17.32 | 0.171 | | 0.2 | 0.2 | 3.0 | | 0.07 |
| ARM C | 9.28 | 20.10 | 0.462 | | 0.6 | 0.8 | 12.4 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 5.89 | 15.15 | 0.389 | | 0.4 | 0.6 | 9.2 | | 0.11 |
| ARM B | 3.64 | 16.79 | 0.217 | | 0.2 | 0.3 | 4.1 | | 0.08 |
| ARM C | 11.37 | 20.08 | 0.566 | | 0.8 | 1.3 | 18.5 | | 0.11 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 5.89 | 15.14 | 0.389 | | 0.6 | 0.6 | 9.5 | | 0.11 |
| ARM B | 3.64 | 16.78 | 0.217 | | 0.3 | 0.3 | 4.1 | | 0.08 |
| ARM C | 11.37 | 20.08 | 0.566 | | 1.3 | 1.3 | 19.3 | | 0.11 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 4.81 | 15.71 | 0.306 | | 0.6 | 0.4 | 6.8 | | 0.09 |
| ARM B | 2.97 | 17.31 | 0.172 | | 0.3 | 0.2 | 3.2 | | 0.07 |
| ARM C | 9.28 | 20.10 | 0.462 | | 1.3 | 0.9 | 13.4 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 4.03 | 16.12 | 0.250 | | 0.4 | 0.3 | 5.1 | | 0.08 |
| ARM B | 2.49 | 17.70 | 0.141 | | 0.2 | 0.2 | 2.5 | | 0.07 |
| ARM C | 7.78 | 20.11 | 0.387 | | 0.9 | 0.6 | 9.8 | | 0.08 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.3 * |

17.45 1.3 *
 18.00 0.9 *
 18.15 0.6 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 441.5 | 41.8 | 41.8 |
| B | 272.9 | 19.3 | 19.3 |
| C | 852.9 | 82.6 | 82.6 |
| ALL | 1567.3 | 143.7 | 143.7 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site F.vao"
(drive-on-the-left) at 12:09:03 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.13 | I | 6.19 | I | 4.13 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.49 | I | 3.73 | I | 2.49 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.19 | I | 12.28 | I | 8.19 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.073 | I | 0.927 |
| I | | I | | I | 0.0 | I | 24.0 | I | 306.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2026 Site F.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.045 | I | 0.000 | I | 0.955 | I |
| I | I | | I | 9.0 | I | 0.0 | I | 190.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.469 | I | 0.531 | I | 0.000 | I |
| I | I | | I | 307.0 | I | 348.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 4.13 | 16.06 | 0.257 | | 0.0 | 0.3 | 5.0 | | 0.08 |
| ARM B | 2.49 | 17.66 | 0.141 | | 0.0 | 0.2 | 2.4 | | 0.07 |
| ARM C | 8.19 | 20.11 | 0.407 | | 0.0 | 0.7 | 9.9 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 4.93 | 15.62 | 0.315 | | 0.3 | 0.5 | 6.7 | | 0.09 |
| ARM B | 2.97 | 17.26 | 0.172 | | 0.2 | 0.2 | 3.1 | | 0.07 |
| ARM C | 9.78 | 20.10 | 0.486 | | 0.7 | 0.9 | 13.6 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 6.03 | 15.03 | 0.401 | | 0.5 | 0.7 | 9.7 | | 0.11 |
| ARM B | 3.64 | 16.71 | 0.218 | | 0.2 | 0.3 | 4.1 | | 0.08 |
| ARM C | 11.97 | 20.08 | 0.596 | | 0.9 | 1.4 | 20.8 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 6.03 | 15.02 | 0.402 | | 0.7 | 0.7 | 10.0 | | 0.11 |
| ARM B | 3.64 | 16.71 | 0.218 | | 0.3 | 0.3 | 4.2 | | 0.08 |
| ARM C | 11.97 | 20.08 | 0.596 | | 1.4 | 1.5 | 21.8 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 4.93 | 15.61 | 0.316 | | 0.7 | 0.5 | 7.2 | | 0.09 |
| ARM B | 2.97 | 17.25 | 0.172 | | 0.3 | 0.2 | 3.2 | | 0.07 |
| ARM C | 9.78 | 20.10 | 0.486 | | 1.5 | 1.0 | 14.9 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 4.13 | 16.04 | 0.257 | | 0.5 | 0.3 | 5.3 | | 0.08 |
| ARM B | 2.49 | 17.65 | 0.141 | | 0.2 | 0.2 | 2.5 | | 0.07 |
| ARM C | 8.19 | 20.11 | 0.407 | | 1.0 | 0.7 | 10.7 | | 0.08 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.7 * |
| 17.15 | 0.9 * |
| 17.30 | 1.4 * |

17.45 1.5 *
 18.00 1.0 *
 18.15 0.7 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 452.5 | 43.8 | 43.8 |
| B | 272.9 | 19.4 | 19.4 |
| C | 898.1 | 91.7 | 91.7 |
| ALL | 1623.5 | 154.9 | 155.0 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site G1.vai"
(drive-on-the-left) at 13:58:46 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 East
ARM C - New Link South
ARM D - A19 West

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 3.75 | I | 5.00 | I | 4.00 | I | 28.00 | I | 46.00 | I | 48.0 | I | 0.525 | I | 21.022 | I |
| I | ARM D | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|------|---|-------|---|------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.95 | I | 5.93 | I | 3.95 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.74 | I | 4.11 | I | 2.74 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.72 | I | 7.09 | I | 4.72 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.32 | I | 12.49 | I | 8.32 | I |

DEMAND SET TITLE: A19/Barlby Rd

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I I | I |

A19 Barlby Rd 2026 Site G1.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.085 | I | 0.016 | I | 0.899 | I |
| I | I | I | I | 0.0 | I | 27.0 | I | 5.0 | I | 284.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.041 | I | 0.000 | I | 0.164 | I | 0.795 | I |
| I | I | I | I | 9.0 | I | 0.0 | I | 36.0 | I | 174.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.108 | I | 0.336 | I | 0.000 | I | 0.556 | I |
| I | I | I | I | 41.0 | I | 127.0 | I | 0.0 | I | 210.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.548 | I | 0.284 | I | 0.168 | I | 0.000 | I |
| I | I | I | I | 365.0 | I | 189.0 | I | 112.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 3.95 | 15.55 | 0.254 | | 0.0 | 0.3 | 4.9 | | 0.09 | I |
| I | I | ARM B | 2.74 | 17.03 | 0.161 | | 0.0 | 0.2 | 2.8 | | 0.07 | I |
| I | I | ARM C | 4.72 | 16.06 | 0.294 | | 0.0 | 0.4 | 6.0 | | 0.09 | I |
| I | I | ARM D | 8.32 | 18.98 | 0.439 | | 0.0 | 0.8 | 11.2 | | 0.09 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 4.72 | 15.01 | 0.314 | | 0.3 | 0.5 | 6.7 | | 0.10 | I |
| I | I | ARM B | 3.27 | 16.50 | 0.198 | | 0.2 | 0.2 | 3.6 | | 0.08 | I |
| I | I | ARM C | 5.64 | 15.46 | 0.365 | | 0.4 | 0.6 | 8.3 | | 0.10 | I |
| I | I | ARM D | 9.94 | 18.74 | 0.531 | | 0.8 | 1.1 | 16.1 | | 0.11 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 5.78 | 14.29 | 0.404 | | 0.5 | 0.7 | 9.7 | | 0.12 | I |
| I | I | ARM B | 4.00 | 15.79 | 0.254 | | 0.2 | 0.3 | 5.0 | | 0.08 | I |
| I | I | ARM C | 6.91 | 14.64 | 0.472 | | 0.6 | 0.9 | 12.7 | | 0.13 | I |
| I | I | ARM D | 12.18 | 18.42 | 0.661 | | 1.1 | 1.9 | 26.8 | | 0.16 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 5.78 | 14.28 | 0.405 | | 0.7 | 0.7 | 10.1 | | 0.12 | I |
| I | I | ARM B | 4.00 | 15.78 | 0.254 | | 0.3 | 0.3 | 5.1 | | 0.08 | I |
| I | I | ARM C | 6.91 | 14.63 | 0.472 | | 0.9 | 0.9 | 13.3 | | 0.13 | I |
| I | I | ARM D | 12.18 | 18.41 | 0.661 | | 1.9 | 1.9 | 28.7 | | 0.16 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 4.72 | 14.99 | 0.315 | | 0.7 | 0.5 | 7.1 | | 0.10 | I |
| I | I | ARM B | 3.27 | 16.48 | 0.198 | | 0.3 | 0.2 | 3.8 | | 0.08 | I |
| I | I | ARM C | 5.64 | 15.44 | 0.365 | | 0.9 | 0.6 | 9.0 | | 0.10 | I |
| I | I | ARM D | 9.94 | 18.73 | 0.531 | | 1.9 | 1.1 | 18.0 | | 0.12 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 3.95 | 15.53 | 0.254 | | 0.5 | 0.3 | 5.3 | | 0.09 | I |
| I | I | ARM B | 2.74 | 17.01 | 0.161 | | 0.2 | 0.2 | 2.9 | | 0.07 | I |
| I | I | ARM C | 4.72 | 16.04 | 0.295 | | 0.6 | 0.4 | 6.5 | | 0.09 | I |
| I | I | ARM D | 8.32 | 18.97 | 0.439 | | 1.1 | 0.8 | 12.2 | | 0.09 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 |
| 18.15 | 0.3 |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |

18.00 0.2
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 0.9 * |
| 18.00 | 0.6 * |
| 18.15 | 0.4 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.8 * |
| 17.15 | 1.1 * |
| 17.30 | 1.9 ** |
| 17.45 | 1.9 ** |
| 18.00 | 1.1 * |
| 18.15 | 0.8 * |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|----------|--------------|-----------|------------------------|-----------|---|
| | | | I | I | I | I | I | I | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | I |
| I | A | I | 433.3 | I 288.9 | I 43.8 | I 0.10 | I 43.8 | I 0.10 | I |
| I | B | I | 300.3 | I 200.2 | I 23.2 | I 0.08 | I 23.2 | I 0.08 | I |
| I | C | I | 518.3 | I 345.5 | I 55.8 | I 0.11 | I 55.8 | I 0.11 | I |
| I | D | I | 913.2 | I 608.8 | I 113.0 | I 0.12 | I 113.0 | I 0.12 | I |
| I | ALL | I | 2165.1 | I 1443.4 | I 235.8 | I 0.11 | I 235.8 | I 0.11 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site G2.vai"
(drive-on-the-left) at 13:59:33 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foley [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 East
ARM C - New Link South
ARM D - A19 West

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 3.75 | I | 5.00 | I | 4.00 | I | 28.00 | I | 46.00 | I | 48.0 | I | 0.525 | I | 21.022 | I |
| I | ARM D | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.95 | I | 5.93 | I | 3.95 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.09 | I | 4.63 | I | 3.09 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.97 | I | 10.46 | I | 6.97 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.74 | I | 13.11 | I | 8.74 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

A19 Barlby Rd 2026 Site G2.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.089 | I | 0.022 | I | 0.889 | I |
| I | I | I | I | 0.0 | I | 28.0 | I | 7.0 | I | 281.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.040 | I | 0.000 | I | 0.231 | I | 0.729 | I |
| I | I | I | I | 10.0 | I | 0.0 | I | 57.0 | I | 180.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.109 | I | 0.330 | I | 0.000 | I | 0.561 | I |
| I | I | I | I | 61.0 | I | 184.0 | I | 0.0 | I | 313.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.569 | I | 0.199 | I | 0.232 | I | 0.000 | I |
| I | I | I | I | 398.0 | I | 139.0 | I | 162.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 3.95 | 15.19 | 0.260 | | 0.0 | 0.3 | 5.1 | | 0.09 | I |
| I | I | ARM B | 3.09 | 16.71 | 0.185 | | 0.0 | 0.2 | 3.3 | | 0.07 | I |
| I | I | ARM C | 6.97 | 16.04 | 0.435 | | 0.0 | 0.8 | 10.9 | | 0.11 | I |
| I | I | ARM D | 8.74 | 18.45 | 0.474 | | 0.0 | 0.9 | 12.8 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 4.72 | 14.59 | 0.323 | | 0.3 | 0.5 | 6.9 | | 0.10 | I |
| I | I | ARM B | 3.69 | 16.11 | 0.229 | | 0.2 | 0.3 | 4.3 | | 0.08 | I |
| I | I | ARM C | 8.33 | 15.43 | 0.540 | | 0.8 | 1.2 | 16.6 | | 0.14 | I |
| I | I | ARM D | 10.43 | 18.11 | 0.576 | | 0.9 | 1.3 | 19.2 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 5.78 | 13.78 | 0.419 | | 0.5 | 0.7 | 10.3 | | 0.12 | I |
| I | I | ARM B | 4.52 | 15.32 | 0.295 | | 0.3 | 0.4 | 6.1 | | 0.09 | I |
| I | I | ARM C | 10.20 | 14.60 | 0.699 | | 1.2 | 2.2 | 30.7 | | 0.22 | I |
| I | I | ARM D | 12.78 | 17.65 | 0.724 | | 1.3 | 2.5 | 34.8 | | 0.20 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 5.78 | 13.75 | 0.420 | | 0.7 | 0.7 | 10.7 | | 0.13 | I |
| I | I | ARM B | 4.52 | 15.30 | 0.295 | | 0.4 | 0.4 | 6.2 | | 0.09 | I |
| I | I | ARM C | 10.20 | 14.59 | 0.699 | | 2.2 | 2.3 | 33.7 | | 0.23 | I |
| I | I | ARM D | 12.78 | 17.64 | 0.725 | | 2.5 | 2.6 | 38.1 | | 0.21 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 4.72 | 14.55 | 0.324 | | 0.7 | 0.5 | 7.5 | | 0.10 | I |
| I | I | ARM B | 3.69 | 16.09 | 0.229 | | 0.4 | 0.3 | 4.6 | | 0.08 | I |
| I | I | ARM C | 8.33 | 15.41 | 0.540 | | 2.3 | 1.2 | 18.9 | | 0.14 | I |
| I | I | ARM D | 10.43 | 18.08 | 0.577 | | 2.6 | 1.4 | 22.0 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 3.95 | 15.16 | 0.261 | | 0.5 | 0.4 | 5.4 | | 0.09 | I |
| I | I | ARM B | 3.09 | 16.68 | 0.185 | | 0.3 | 0.2 | 3.5 | | 0.07 | I |
| I | I | ARM C | 6.97 | 16.01 | 0.436 | | 1.2 | 0.8 | 12.1 | | 0.11 | I |
| I | I | ARM D | 8.74 | 18.43 | 0.474 | | 1.4 | 0.9 | 14.2 | | 0.10 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 |
| 18.15 | 0.4 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |

18.00 0.3
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|----|
| 17.00 | 0.8 | * |
| 17.15 | 1.2 | ** |
| 17.30 | 2.2 | ** |
| 17.45 | 2.3 | ** |
| 18.00 | 1.2 | * |
| 18.15 | 0.8 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|-----|
| 17.00 | 0.9 | * |
| 17.15 | 1.3 | * |
| 17.30 | 2.5 | *** |
| 17.45 | 2.6 | *** |
| 18.00 | 1.4 | * |
| 18.15 | 0.9 | * |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|---|
| | | | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | |
| I | A | I | 433.3 | 288.9 | 46.0 | 0.11 | 46.0 | 0.11 | I |
| I | B | I | 338.7 | 225.8 | 28.0 | 0.08 | 28.0 | 0.08 | I |
| I | C | I | 765.1 | 510.1 | 123.0 | 0.16 | 123.0 | 0.16 | I |
| I | D | I | 958.5 | 639.0 | 141.0 | 0.15 | 141.1 | 0.15 | I |
| I | ALL | I | 2495.6 | 1663.7 | 338.0 | 0.14 | 338.1 | 0.14 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site H1.vai"
(drive-on-the-left) at 14:00:12 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.96 | I | 5.94 | I | 3.96 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.45 | I | 3.68 | I | 2.45 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.09 | I | 10.63 | I | 7.09 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.085 | I | 0.915 |
| I | | I | | I | 0.0 | I | 27.0 | I | 290.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2026 Site H1.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.046 | I | 0.000 | I | 0.954 | I |
| I | I | | I | 9.0 | I | 0.0 | I | 187.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.630 | I | 0.370 | I | 0.000 | I |
| I | I | | I | 357.0 | I | 210.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 3.96 | 16.93 | 0.234 | | 0.0 | 0.3 | 4.4 | | 0.08 |
| ARM B | 2.45 | 17.77 | 0.138 | | 0.0 | 0.2 | 2.3 | | 0.07 |
| ARM C | 7.09 | 20.11 | 0.352 | | 0.0 | 0.5 | 7.9 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 4.73 | 16.66 | 0.284 | | 0.3 | 0.4 | 5.8 | | 0.08 |
| ARM B | 2.93 | 17.38 | 0.168 | | 0.2 | 0.2 | 3.0 | | 0.07 |
| ARM C | 8.46 | 20.10 | 0.421 | | 0.5 | 0.7 | 10.6 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 5.80 | 16.31 | 0.355 | | 0.4 | 0.5 | 8.0 | | 0.09 |
| ARM B | 3.58 | 16.87 | 0.212 | | 0.2 | 0.3 | 4.0 | | 0.08 |
| ARM C | 10.37 | 20.08 | 0.516 | | 0.7 | 1.1 | 15.3 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 5.80 | 16.30 | 0.355 | | 0.5 | 0.5 | 8.2 | | 0.10 |
| ARM B | 3.58 | 16.86 | 0.213 | | 0.3 | 0.3 | 4.0 | | 0.08 |
| ARM C | 10.37 | 20.08 | 0.516 | | 1.1 | 1.1 | 15.8 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 4.73 | 16.66 | 0.284 | | 0.5 | 0.4 | 6.1 | | 0.08 |
| ARM B | 2.93 | 17.38 | 0.168 | | 0.3 | 0.2 | 3.1 | | 0.07 |
| ARM C | 8.46 | 20.10 | 0.421 | | 1.1 | 0.7 | 11.3 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 3.96 | 16.92 | 0.234 | | 0.4 | 0.3 | 4.7 | | 0.08 |
| ARM B | 2.45 | 17.75 | 0.138 | | 0.2 | 0.2 | 2.4 | | 0.07 |
| ARM C | 7.09 | 20.11 | 0.352 | | 0.7 | 0.5 | 8.4 | | 0.08 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |
| 17.45 | 0.5 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.1 * |

17.45 1.1 *
 18.00 0.7 *
 18.15 0.5 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 434.7 | 37.3 | 37.3 |
| B | 268.8 | 18.8 | 18.8 |
| C | 777.5 | 69.3 | 69.3 |
| ALL | 1480.9 | 125.4 | 125.4 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A19 Barlby Rd 2026 Site H2.vai"
(drive-on-the-left) at 14:00:37 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19/Barlby Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A19/Barlby Road Roundabout Assessment

.INPUT DATA

ARM A - Barlby Rd (north)
ARM B - A19 west
ARM C - A19 East

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 3.60 | I | 4.75 | I | 5.00 | I | 21.00 | I | 46.00 | I | 50.0 | I | 0.508 | I | 20.082 | I |
| I | ARM B | I | 3.75 | I | 5.50 | I | 4.00 | I | 34.00 | I | 46.00 | I | 48.0 | I | 0.534 | I | 21.662 | I |
| I | ARM C | I | 4.00 | I | 5.00 | I | 3.50 | I | 23.00 | I | 46.00 | I | 40.0 | I | 0.544 | I | 22.191 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19/Barlby Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.95 | I | 5.93 | I | 3.95 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.73 | I | 2.59 | I | 1.73 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.03 | I | 10.54 | I | 7.03 |

DEMAND SET TITLE: A19/Barlby Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.089 | I | 0.911 |
| I | | I | | I | 0.0 | I | 28.0 | I | 288.0 |
| I | | I | (10.0) |

A19 Barlby Rd 2026 Site H2.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.065 | I | 0.000 | I | 0.935 | I |
| I | I | | I | 9.0 | I | 0.0 | I | 129.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.680 | I | 0.320 | I | 0.000 | I |
| I | I | | I | 382.0 | I | 180.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 3.95 | 17.12 | 0.231 | | 0.0 | 0.3 | 4.4 | | 0.08 |
| ARM B | 1.73 | 17.78 | 0.097 | | 0.0 | 0.1 | 1.6 | | 0.06 |
| ARM C | 7.03 | 20.11 | 0.349 | | 0.0 | 0.5 | 7.8 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 4.72 | 16.89 | 0.279 | | 0.3 | 0.4 | 5.7 | | 0.08 |
| ARM B | 2.06 | 17.40 | 0.118 | | 0.1 | 0.1 | 2.0 | | 0.07 |
| ARM C | 8.39 | 20.10 | 0.417 | | 0.5 | 0.7 | 10.4 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 5.78 | 16.59 | 0.348 | | 0.4 | 0.5 | 7.8 | | 0.09 |
| ARM B | 2.52 | 16.89 | 0.149 | | 0.1 | 0.2 | 2.6 | | 0.07 |
| ARM C | 10.27 | 20.08 | 0.512 | | 0.7 | 1.0 | 15.0 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 5.78 | 16.58 | 0.348 | | 0.5 | 0.5 | 8.0 | | 0.09 |
| ARM B | 2.52 | 16.88 | 0.149 | | 0.2 | 0.2 | 2.6 | | 0.07 |
| ARM C | 10.27 | 20.08 | 0.512 | | 1.0 | 1.0 | 15.6 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 4.72 | 16.89 | 0.279 | | 0.5 | 0.4 | 6.0 | | 0.08 |
| ARM B | 2.06 | 17.39 | 0.118 | | 0.2 | 0.1 | 2.1 | | 0.07 |
| ARM C | 8.39 | 20.10 | 0.417 | | 1.0 | 0.7 | 11.1 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 3.95 | 17.11 | 0.231 | | 0.4 | 0.3 | 4.6 | | 0.08 |
| ARM B | 1.73 | 17.77 | 0.097 | | 0.1 | 0.1 | 1.6 | | 0.06 |
| ARM C | 7.03 | 20.11 | 0.349 | | 0.7 | 0.5 | 8.3 | | 0.08 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |
| 17.45 | 0.5 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.1 |
| 18.15 | 0.1 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |

17.45 1.0 *
 18.00 0.7 *
 18.15 0.5 *

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 433.3 | 36.3 | 36.3 |
| B | 189.2 | 12.5 | 12.5 |
| C | 770.6 | 68.2 | 68.2 |
| ALL | 1393.2 | 117.0 | 117.0 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2008 Base.vai"
(drive-on-the-left) at 12:19:22 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.26 | I | 13.89 | I | 9.26 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.40 | I | 9.60 | I | 6.40 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.50 | I | 6.75 | I | 4.50 |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.730 | I | 0.270 |
| I | | I | | I | 0.0 | I | 541.0 | I | 200.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.992 | I | 0.000 | I | 0.008 | I |
| I | I | | I | 508.0 | I | 0.0 | I | 4.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.958 | I | 0.042 | I | 0.000 | I |
| I | I | | I | 345.0 | I | 15.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | ARM A | 9.26 | 33.60 | 0.276 | | 0.0 | 0.4 | 5.6 | | 0.04 | I |
| I | ARM B | 6.40 | 35.38 | 0.181 | | 0.0 | 0.2 | 3.3 | | 0.03 | I |
| I | ARM C | 4.50 | 30.01 | 0.150 | | 0.0 | 0.2 | 2.6 | | 0.04 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | ARM A | 11.06 | 33.58 | 0.329 | | 0.4 | 0.5 | 7.2 | | 0.04 | I |
| I | ARM B | 7.64 | 35.11 | 0.218 | | 0.2 | 0.3 | 4.1 | | 0.04 | I |
| I | ARM C | 5.37 | 29.36 | 0.183 | | 0.2 | 0.2 | 3.3 | | 0.04 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | ARM A | 13.55 | 33.56 | 0.404 | | 0.5 | 0.7 | 9.9 | | 0.05 | I |
| I | ARM B | 9.36 | 34.74 | 0.269 | | 0.3 | 0.4 | 5.4 | | 0.04 | I |
| I | ARM C | 6.58 | 28.47 | 0.231 | | 0.2 | 0.3 | 4.4 | | 0.05 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.30-17.45 | | | | | | | | | | I |
| I | ARM A | 13.55 | 33.56 | 0.404 | | 0.7 | 0.7 | 10.1 | | 0.05 | I |
| I | ARM B | 9.36 | 34.73 | 0.269 | | 0.4 | 0.4 | 5.5 | | 0.04 | I |
| I | ARM C | 6.58 | 28.47 | 0.231 | | 0.3 | 0.3 | 4.5 | | 0.05 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.45-18.00 | | | | | | | | | | I |
| I | ARM A | 11.06 | 33.58 | 0.329 | | 0.7 | 0.5 | 7.5 | | 0.04 | I |
| I | ARM B | 7.64 | 35.10 | 0.218 | | 0.4 | 0.3 | 4.2 | | 0.04 | I |
| I | ARM C | 5.37 | 29.36 | 0.183 | | 0.3 | 0.2 | 3.4 | | 0.04 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 18.00-18.15 | | | | | | | | | | I |
| I | ARM A | 9.26 | 33.60 | 0.276 | | 0.5 | 0.4 | 5.8 | | 0.04 | I |
| I | ARM B | 6.40 | 35.37 | 0.181 | | 0.3 | 0.2 | 3.4 | | 0.03 | I |
| I | ARM C | 4.50 | 30.00 | 0.150 | | 0.2 | 0.2 | 2.7 | | 0.04 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 |
| 18.15 | 0.4 |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

 .QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 1016.1 | 46.2 | 46.2 |
| B | 702.1 | 25.9 | 25.9 |
| C | 493.6 | 20.9 | 20.9 |
| ALL | 2211.8 | 93.1 | 93.1 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026 Base.vai"
(drive-on-the-left) at 12:19:49 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.50 | I | 17.25 | I | 11.50 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.69 | I | 11.53 | I | 7.69 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.49 | I | 6.73 | I | 4.49 |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 0.791 | 0.209 |
| I | | I | | 0.0 | 728.0 | 192.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |
| I | | I | | I | I | I |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.990 | I | 0.000 | I | 0.010 | I |
| I | I | | I | 609.0 | I | 0.0 | I | 6.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.944 | I | 0.056 | I | 0.000 | I |
| I | I | | I | 339.0 | I | 20.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 11.50 | 33.57 | 0.343 | | 0.0 | 0.5 | 7.6 | | 0.05 | I |
| I | I | ARM B | 7.69 | 35.43 | 0.217 | | 0.0 | 0.3 | 4.1 | | 0.04 | I |
| I | I | ARM C | 4.49 | 29.35 | 0.153 | | 0.0 | 0.2 | 2.7 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 13.73 | 33.54 | 0.409 | | 0.5 | 0.7 | 10.2 | | 0.05 | I |
| I | I | ARM B | 9.18 | 35.17 | 0.261 | | 0.3 | 0.4 | 5.2 | | 0.04 | I |
| I | I | ARM C | 5.36 | 28.58 | 0.188 | | 0.2 | 0.2 | 3.4 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 16.82 | 33.51 | 0.502 | | 0.7 | 1.0 | 14.7 | | 0.06 | I |
| I | I | ARM B | 11.24 | 34.82 | 0.323 | | 0.4 | 0.5 | 7.0 | | 0.04 | I |
| I | I | ARM C | 6.56 | 27.51 | 0.239 | | 0.2 | 0.3 | 4.6 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 16.82 | 33.51 | 0.502 | | 1.0 | 1.0 | 15.0 | | 0.06 | I |
| I | I | ARM B | 11.24 | 34.81 | 0.323 | | 0.5 | 0.5 | 7.1 | | 0.04 | I |
| I | I | ARM C | 6.56 | 27.51 | 0.239 | | 0.3 | 0.3 | 4.7 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 13.73 | 33.54 | 0.409 | | 1.0 | 0.7 | 10.7 | | 0.05 | I |
| I | I | ARM B | 9.18 | 35.17 | 0.261 | | 0.5 | 0.4 | 5.4 | | 0.04 | I |
| I | I | ARM C | 5.36 | 28.57 | 0.188 | | 0.3 | 0.2 | 3.5 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 11.50 | 33.57 | 0.343 | | 0.7 | 0.5 | 8.0 | | 0.05 | I |
| I | I | ARM B | 7.69 | 35.43 | 0.217 | | 0.4 | 0.3 | 4.2 | | 0.04 | I |
| I | I | ARM C | 4.49 | 29.34 | 0.153 | | 0.2 | 0.2 | 2.7 | | 0.04 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 * |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

 .QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 1261.5 | 66.1 | 66.1 |
| B | 843.3 | 33.1 | 33.1 |
| C | 492.3 | 21.6 | 21.6 |
| ALL | 2597.1 | 120.8 | 120.8 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026site a.vai"
(drive-on-the-left) at 12:24:03 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK | I |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|---|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.71 | I | 17.57 | I | 11.71 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.80 | I | 11.70 | I | 7.80 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.36 | I | 6.54 | I | 4.36 | I |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I |
|---|---------------|---|---------|---|---------|---|---------|---|---------|---|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I |
| I | | I | ARM A | I | 0.000 | I | 0.820 | I | 0.180 | I |
| I | | I | | I | 0.0 | I | 768.0 | I | 169.0 | I |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.990 | I | 0.000 | I | 0.010 | I |
| I | I | | I | 618.0 | I | 0.0 | I | 6.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.926 | I | 0.074 | I | 0.000 | I |
| I | I | | I | 323.0 | I | 26.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 11.71 | 33.53 | 0.349 | | 0.0 | 0.5 | 7.9 | | 0.05 | I |
| I | I | ARM B | 7.80 | 35.59 | 0.219 | | 0.0 | 0.3 | 4.1 | | 0.04 | I |
| I | I | ARM C | 4.36 | 29.29 | 0.149 | | 0.0 | 0.2 | 2.6 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 13.99 | 33.50 | 0.418 | | 0.5 | 0.7 | 10.5 | | 0.05 | I |
| I | I | ARM B | 9.31 | 35.36 | 0.263 | | 0.3 | 0.4 | 5.3 | | 0.04 | I |
| I | I | ARM C | 5.21 | 28.51 | 0.183 | | 0.2 | 0.2 | 3.3 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 17.13 | 33.45 | 0.512 | | 0.7 | 1.0 | 15.3 | | 0.06 | I |
| I | I | ARM B | 11.41 | 35.05 | 0.325 | | 0.4 | 0.5 | 7.1 | | 0.04 | I |
| I | I | ARM C | 6.38 | 27.43 | 0.233 | | 0.2 | 0.3 | 4.5 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 17.13 | 33.45 | 0.512 | | 1.0 | 1.0 | 15.7 | | 0.06 | I |
| I | I | ARM B | 11.41 | 35.05 | 0.325 | | 0.5 | 0.5 | 7.2 | | 0.04 | I |
| I | I | ARM C | 6.38 | 27.42 | 0.233 | | 0.3 | 0.3 | 4.5 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 13.99 | 33.50 | 0.418 | | 1.0 | 0.7 | 11.0 | | 0.05 | I |
| I | I | ARM B | 9.31 | 35.36 | 0.263 | | 0.5 | 0.4 | 5.5 | | 0.04 | I |
| I | I | ARM C | 5.21 | 28.50 | 0.183 | | 0.3 | 0.2 | 3.4 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 11.71 | 33.53 | 0.349 | | 0.7 | 0.5 | 8.2 | | 0.05 | I |
| I | I | ARM B | 7.80 | 35.58 | 0.219 | | 0.4 | 0.3 | 4.3 | | 0.04 | I |
| I | I | ARM C | 4.36 | 29.28 | 0.149 | | 0.2 | 0.2 | 2.7 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

 . QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1284.8 | 68.5 | 68.5 |
| B | 855.6 | 33.5 | 33.5 |
| C | 478.6 | 21.0 | 21.0 |
| ALL | 2619.0 | 123.0 | 123.0 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A63 A19 North 2026site d.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.988 | I | 0.000 | I | 0.012 | I |
| I | I | | I | 664.0 | I | 0.0 | I | 8.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.947 | I | 0.053 | I | 0.000 | I |
| I | I | | I | 394.0 | I | 22.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 14.68 | 33.56 | 0.437 | | 0.0 | 0.8 | 11.3 | | 0.05 |
| ARM B | 8.40 | 34.92 | 0.241 | | 0.0 | 0.3 | 4.7 | | 0.04 |
| ARM C | 5.20 | 29.00 | 0.179 | | 0.0 | 0.2 | 3.2 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 17.52 | 33.53 | 0.523 | | 0.8 | 1.1 | 15.9 | | 0.06 |
| ARM B | 10.03 | 34.56 | 0.290 | | 0.3 | 0.4 | 6.0 | | 0.04 |
| ARM C | 6.21 | 28.15 | 0.221 | | 0.2 | 0.3 | 4.2 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 21.46 | 33.49 | 0.641 | | 1.1 | 1.8 | 25.4 | | 0.08 |
| ARM B | 12.28 | 34.07 | 0.361 | | 0.4 | 0.6 | 8.3 | | 0.05 |
| ARM C | 7.60 | 26.99 | 0.282 | | 0.3 | 0.4 | 5.8 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 21.46 | 33.49 | 0.641 | | 1.8 | 1.8 | 26.5 | | 0.08 |
| ARM B | 12.28 | 34.07 | 0.361 | | 0.6 | 0.6 | 8.4 | | 0.05 |
| ARM C | 7.60 | 26.98 | 0.282 | | 0.4 | 0.4 | 5.9 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 17.52 | 33.53 | 0.523 | | 1.8 | 1.1 | 17.0 | | 0.06 |
| ARM B | 10.03 | 34.55 | 0.290 | | 0.6 | 0.4 | 6.2 | | 0.04 |
| ARM C | 6.21 | 28.14 | 0.221 | | 0.4 | 0.3 | 4.3 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 14.68 | 33.56 | 0.437 | | 1.1 | 0.8 | 12.0 | | 0.05 |
| ARM B | 8.40 | 34.91 | 0.241 | | 0.4 | 0.3 | 4.8 | | 0.04 |
| ARM C | 5.20 | 28.98 | 0.179 | | 0.3 | 0.2 | 3.3 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.8 * |
| 17.15 | 1.1 ** |
| 17.30 | 1.8 ** |
| 17.45 | 1.8 ** |
| 18.00 | 1.1 * |
| 18.15 | 0.8 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |

17.45 0.4
 18.00 0.3
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 1609.8 | 108.1 | 108.1 |
| B | 921.5 | 38.5 | 38.5 |
| C | 570.4 | 26.7 | 26.7 |
| ALL | 3101.7 | 173.3 | 173.3 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.
 END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026site E.vai"
(drive-on-the-left) at 12:25:02 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.64 | I | 17.46 | I | 11.64 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.63 | I | 11.44 | I | 7.63 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.50 | I | 6.75 | I | 4.50 |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.794 | I | 0.206 |
| I | | I | | I | 0.0 | I | 739.0 | I | 192.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

A63 A19 North 2026site E.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.990 | I | 0.000 | I | 0.010 | I |
| I | I | | I | 604.0 | I | 0.0 | I | 6.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.931 | I | 0.069 | I | 0.000 | I |
| I | I | | I | 335.0 | I | 25.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 11.64 | 33.54 | 0.347 | | 0.0 | 0.5 | 7.8 | | 0.05 |
| ARM B | 7.63 | 35.43 | 0.215 | | 0.0 | 0.3 | 4.0 | | 0.04 |
| ARM C | 4.50 | 29.39 | 0.153 | | 0.0 | 0.2 | 2.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 13.90 | 33.50 | 0.415 | | 0.5 | 0.7 | 10.4 | | 0.05 |
| ARM B | 9.10 | 35.17 | 0.259 | | 0.3 | 0.3 | 5.2 | | 0.04 |
| ARM C | 5.37 | 28.61 | 0.188 | | 0.2 | 0.2 | 3.4 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 17.02 | 33.46 | 0.509 | | 0.7 | 1.0 | 15.1 | | 0.06 |
| ARM B | 11.15 | 34.82 | 0.320 | | 0.3 | 0.5 | 6.9 | | 0.04 |
| ARM C | 6.58 | 27.56 | 0.239 | | 0.2 | 0.3 | 4.6 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 17.02 | 33.46 | 0.509 | | 1.0 | 1.0 | 15.4 | | 0.06 |
| ARM B | 11.15 | 34.81 | 0.320 | | 0.5 | 0.5 | 7.0 | | 0.04 |
| ARM C | 6.58 | 27.56 | 0.239 | | 0.3 | 0.3 | 4.7 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 13.90 | 33.50 | 0.415 | | 1.0 | 0.7 | 10.9 | | 0.05 |
| ARM B | 9.10 | 35.17 | 0.259 | | 0.5 | 0.4 | 5.3 | | 0.04 |
| ARM C | 5.37 | 28.61 | 0.188 | | 0.3 | 0.2 | 3.5 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 11.64 | 33.54 | 0.347 | | 0.7 | 0.5 | 8.1 | | 0.05 |
| ARM B | 7.63 | 35.43 | 0.215 | | 0.4 | 0.3 | 4.2 | | 0.04 |
| ARM C | 4.50 | 29.37 | 0.153 | | 0.2 | 0.2 | 2.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1276.6 | 67.7 | 67.7 |
| B | 836.4 | 32.7 | 32.7 |
| C | 493.6 | 21.7 | 21.7 |
| ALL | 2606.7 | 122.1 | 122.1 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026site F.vai"
(drive-on-the-left) at 12:25:33 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.52 | I | 17.29 | I | 11.52 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.60 | I | 11.40 | I | 7.60 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.65 | I | 6.98 | I | 4.65 |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 0.791 | 0.209 |
| I | | I | | 0.0 | 729.0 | 193.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |
| I | | I | | I | I | I |

A63 A19 North 2026site F.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.990 | I | 0.000 | I | 0.010 | I |
| I | I | | I | 602.0 | I | 0.0 | I | 6.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.935 | I | 0.065 | I | 0.000 | I |
| I | I | | I | 348.0 | I | 24.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 11.52 | 33.54 | 0.344 | | 0.0 | 0.5 | 7.7 | | 0.05 |
| ARM B | 7.60 | 35.42 | 0.215 | | 0.0 | 0.3 | 4.0 | | 0.04 |
| ARM C | 4.65 | 29.40 | 0.158 | | 0.0 | 0.2 | 2.8 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 13.76 | 33.51 | 0.411 | | 0.5 | 0.7 | 10.2 | | 0.05 |
| ARM B | 9.08 | 35.16 | 0.258 | | 0.3 | 0.3 | 5.1 | | 0.04 |
| ARM C | 5.55 | 28.63 | 0.194 | | 0.2 | 0.2 | 3.6 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 16.85 | 33.47 | 0.504 | | 0.7 | 1.0 | 14.8 | | 0.06 |
| ARM B | 11.11 | 34.81 | 0.319 | | 0.3 | 0.5 | 6.9 | | 0.04 |
| ARM C | 6.80 | 27.58 | 0.247 | | 0.2 | 0.3 | 4.8 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 16.85 | 33.47 | 0.504 | | 1.0 | 1.0 | 15.1 | | 0.06 |
| ARM B | 11.11 | 34.80 | 0.319 | | 0.5 | 0.5 | 7.0 | | 0.04 |
| ARM C | 6.80 | 27.58 | 0.247 | | 0.3 | 0.3 | 4.9 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 13.76 | 33.51 | 0.411 | | 1.0 | 0.7 | 10.7 | | 0.05 |
| ARM B | 9.08 | 35.16 | 0.258 | | 0.5 | 0.3 | 5.3 | | 0.04 |
| ARM C | 5.55 | 28.62 | 0.194 | | 0.3 | 0.2 | 3.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 11.52 | 33.54 | 0.344 | | 0.7 | 0.5 | 8.0 | | 0.05 |
| ARM B | 7.60 | 35.42 | 0.215 | | 0.3 | 0.3 | 4.2 | | 0.04 |
| ARM C | 4.65 | 29.39 | 0.158 | | 0.2 | 0.2 | 2.9 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.3 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 1264.3 | 66.5 | 66.5 |
| B | 833.7 | 32.6 | 32.6 |
| C | 510.1 | 22.6 | 22.6 |
| ALL | 2608.0 | 121.6 | 121.6 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026site G1.vao"
(drive-on-the-left) at 14:07:44 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK | I |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|---|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 12.50 | I | 18.75 | I | 12.50 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.68 | I | 16.01 | I | 10.68 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.29 | I | 6.43 | I | 4.29 | I |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I |
|---|---------------|---|---------|---|---------|---|---------|---|---------|---|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I |
| I | | I | ARM A | I | 0.000 | I | 0.895 | I | 0.105 | I |
| I | | I | | I | 0.0 | I | 895.0 | I | 105.0 | I |
| I | | I | (10.0) | I |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.867 | I | 0.000 | I | 0.133 | I |
| I | I | | I | 740.0 | I | 0.0 | I | 114.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.799 | I | 0.201 | I | 0.000 | I |
| I | I | | I | 274.0 | I | 69.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 12.50 | 33.25 | 0.376 | | 0.0 | 0.6 | 8.8 | | 0.05 | I |
| I | I | ARM B | 10.68 | 36.03 | 0.296 | | 0.0 | 0.4 | 6.2 | | 0.04 | I |
| I | I | ARM C | 4.29 | 28.50 | 0.150 | | 0.0 | 0.2 | 2.6 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 14.93 | 33.16 | 0.450 | | 0.6 | 0.8 | 12.0 | | 0.05 | I |
| I | I | ARM B | 12.75 | 35.89 | 0.355 | | 0.4 | 0.5 | 8.1 | | 0.04 | I |
| I | I | ARM C | 5.12 | 27.56 | 0.186 | | 0.2 | 0.2 | 3.4 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 18.28 | 33.03 | 0.553 | | 0.8 | 1.2 | 17.9 | | 0.07 | I |
| I | I | ARM B | 15.61 | 35.69 | 0.437 | | 0.5 | 0.8 | 11.4 | | 0.05 | I |
| I | I | ARM C | 6.27 | 26.27 | 0.239 | | 0.2 | 0.3 | 4.6 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 18.28 | 33.03 | 0.553 | | 1.2 | 1.2 | 18.5 | | 0.07 | I |
| I | I | ARM B | 15.61 | 35.69 | 0.437 | | 0.8 | 0.8 | 11.6 | | 0.05 | I |
| I | I | ARM C | 6.27 | 26.26 | 0.239 | | 0.3 | 0.3 | 4.7 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 14.93 | 33.15 | 0.450 | | 1.2 | 0.8 | 12.6 | | 0.05 | I |
| I | I | ARM B | 12.75 | 35.89 | 0.355 | | 0.8 | 0.6 | 8.4 | | 0.04 | I |
| I | I | ARM C | 5.12 | 27.55 | 0.186 | | 0.3 | 0.2 | 3.5 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 12.50 | 33.24 | 0.376 | | 0.8 | 0.6 | 9.2 | | 0.05 | I |
| I | I | ARM B | 10.68 | 36.03 | 0.296 | | 0.6 | 0.4 | 6.4 | | 0.04 | I |
| I | I | ARM C | 4.29 | 28.49 | 0.151 | | 0.2 | 0.2 | 2.7 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.2 * |
| 17.45 | 1.2 * |
| 18.00 | 0.8 * |
| 18.15 | 0.6 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.5 * |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |
| 18.00 | 0.6 * |
| 18.15 | 0.4 |

 . QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 1371.2 | 79.0 | 79.0 |
| B | 1171.0 | 52.2 | 52.2 |
| C | 470.3 | 21.5 | 21.5 |
| ALL | 3012.6 | 152.7 | 152.7 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026site G2.vao"
(drive-on-the-left) at 14:08:15 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 12.63 | I | 18.94 | I | 12.63 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.71 | I | 17.57 | I | 11.71 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.39 | I | 6.58 | I | 4.39 |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 0.902 | 0.098 |
| I | | I | | 0.0 | 911.0 | 99.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |
| I | | I | | I | I | I |

A63 A19 North 2026site G2.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.842 | I | 0.000 | I | 0.158 | I |
| I | I | | I | 789.0 | I | 0.0 | I | 148.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.755 | I | 0.245 | I | 0.000 | I |
| I | I | | I | 265.0 | I | 86.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 12.63 | 33.13 | 0.381 | | 0.0 | 0.6 | 9.0 | | 0.05 |
| ARM B | 11.71 | 36.07 | 0.325 | | 0.0 | 0.5 | 7.1 | | 0.04 |
| ARM C | 4.39 | 28.18 | 0.156 | | 0.0 | 0.2 | 2.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 15.08 | 33.02 | 0.457 | | 0.6 | 0.8 | 12.3 | | 0.06 |
| ARM B | 13.99 | 35.94 | 0.389 | | 0.5 | 0.6 | 9.4 | | 0.05 |
| ARM C | 5.24 | 27.18 | 0.193 | | 0.2 | 0.2 | 3.5 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 18.46 | 32.87 | 0.562 | | 0.8 | 1.3 | 18.5 | | 0.07 |
| ARM B | 17.13 | 35.75 | 0.479 | | 0.6 | 0.9 | 13.4 | | 0.05 |
| ARM C | 6.42 | 25.80 | 0.249 | | 0.2 | 0.3 | 4.9 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 18.46 | 32.87 | 0.562 | | 1.3 | 1.3 | 19.1 | | 0.07 |
| ARM B | 17.13 | 35.75 | 0.479 | | 0.9 | 0.9 | 13.7 | | 0.05 |
| ARM C | 6.42 | 25.79 | 0.249 | | 0.3 | 0.3 | 5.0 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 15.08 | 33.02 | 0.457 | | 1.3 | 0.8 | 13.0 | | 0.06 |
| ARM B | 13.99 | 35.93 | 0.389 | | 0.9 | 0.6 | 9.8 | | 0.05 |
| ARM C | 5.24 | 27.16 | 0.193 | | 0.3 | 0.2 | 3.6 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 12.63 | 33.13 | 0.381 | | 0.8 | 0.6 | 9.4 | | 0.05 |
| ARM B | 11.71 | 36.07 | 0.325 | | 0.6 | 0.5 | 7.3 | | 0.04 |
| ARM C | 4.39 | 28.17 | 0.156 | | 0.2 | 0.2 | 2.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.3 * |
| 17.45 | 1.3 * |
| 18.00 | 0.8 * |
| 18.15 | 0.6 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 0.9 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1384.9 | 81.3 | 81.3 |
| B | 1284.8 | 60.7 | 60.7 |
| C | 481.3 | 22.5 | 22.5 |
| ALL | 3151.0 | 164.5 | 164.5 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026site H1.vao"
(drive-on-the-left) at 14:08:45 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.85 | I | 17.78 | I | 11.85 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.96 | I | 14.94 | I | 9.96 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.95 | I | 4.43 | I | 2.95 |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 0.800 | 0.200 |
| I | | I | | 0.0 | 758.0 | 190.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |
| I | | I | | I | I | I |

A63 A19 North 2026site H1.vao

| | | | | | | | | |
|---|-------|---|---------|---|---------|---|---------|---|
| I | ARM B | I | 0.992 | I | 0.000 | I | 0.008 | I |
| I | | I | 791.0 | I | 0.0 | I | 6.0 | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | | I | | I | | I | | I |
| I | ARM C | I | 0.886 | I | 0.114 | I | 0.000 | I |
| I | | I | 209.0 | I | 27.0 | I | 0.0 | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 11.85 | 33.52 | 0.353 | | 0.0 | 0.5 | 8.0 | | 0.05 |
| ARM B | 9.96 | 35.44 | 0.281 | | 0.0 | 0.4 | 5.7 | | 0.04 |
| ARM C | 2.95 | 28.17 | 0.105 | | 0.0 | 0.1 | 1.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 14.15 | 33.49 | 0.423 | | 0.5 | 0.7 | 10.7 | | 0.05 |
| ARM B | 11.90 | 35.19 | 0.338 | | 0.4 | 0.5 | 7.5 | | 0.04 |
| ARM C | 3.52 | 27.16 | 0.130 | | 0.1 | 0.1 | 2.2 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 17.33 | 33.44 | 0.518 | | 0.7 | 1.1 | 15.6 | | 0.06 |
| ARM B | 14.57 | 34.84 | 0.418 | | 0.5 | 0.7 | 10.5 | | 0.05 |
| ARM C | 4.31 | 25.78 | 0.167 | | 0.1 | 0.2 | 3.0 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 17.33 | 33.44 | 0.518 | | 1.1 | 1.1 | 16.0 | | 0.06 |
| ARM B | 14.57 | 34.83 | 0.418 | | 0.7 | 0.7 | 10.7 | | 0.05 |
| ARM C | 4.31 | 25.77 | 0.167 | | 0.2 | 0.2 | 3.0 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 14.15 | 33.49 | 0.423 | | 1.1 | 0.7 | 11.3 | | 0.05 |
| ARM B | 11.90 | 35.18 | 0.338 | | 0.7 | 0.5 | 7.8 | | 0.04 |
| ARM C | 3.52 | 27.15 | 0.130 | | 0.2 | 0.1 | 2.3 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 11.85 | 33.52 | 0.353 | | 0.7 | 0.5 | 8.4 | | 0.05 |
| ARM B | 9.96 | 35.44 | 0.281 | | 0.5 | 0.4 | 6.0 | | 0.04 |
| ARM C | 2.95 | 28.15 | 0.105 | | 0.1 | 0.1 | 1.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.1 * |
| 17.45 | 1.1 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.5 * |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 * |
| 18.15 | 0.4 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.2 |

17.45 0.2
 18.00 0.1
 18.15 0.1

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1299.9 | 70.0 | 70.0 |
| B | 1092.9 | 48.3 | 48.3 |
| C | 323.6 | 14.0 | 14.0 |
| ALL | 2716.4 | 132.3 | 132.3 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 North 2026site H2.vao"
(drive-on-the-left) at 14:09:13 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A19 / A63 North
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby District Council
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby LDF
STATUS: Draft 1
DESCRIPTION: Roundabout Assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - A19 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 9.50 | I | 11.20 | I | 18.00 | I | 80.00 | I | 50.0 | I | 0.533 | I | 37.074 | I |
| I | ARM B | I | 7.75 | I | 10.50 | I | 8.50 | I | 15.00 | I | 80.00 | I | 60.0 | I | 0.552 | I | 40.427 | I |
| I | ARM C | I | 7.00 | I | 9.00 | I | 8.50 | I | 21.00 | I | 80.00 | I | 62.0 | I | 0.521 | I | 36.642 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A19 / A63

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.98 | I | 17.96 | I | 11.98 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.30 | I | 16.95 | I | 11.30 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.60 | I | 3.90 | I | 2.60 |

DEMAND SET TITLE: A19 / A63

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.862 | I | 0.138 |
| I | | I | | I | 0.0 | I | 826.0 | I | 132.0 |
| I | | I | (10.0) |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.993 | I | 0.000 | I | 0.007 | I |
| I | I | | I | 898.0 | I | 0.0 | I | 6.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.865 | I | 0.135 | I | 0.000 | I |
| I | I | | I | 180.0 | I | 28.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 11.98 | 33.52 | 0.357 | | 0.0 | 0.6 | 8.1 | | 0.05 | I |
| I | I | ARM B | 11.30 | 35.84 | 0.315 | | 0.0 | 0.5 | 6.8 | | 0.04 | I |
| I | I | ARM C | 2.60 | 27.48 | 0.095 | | 0.0 | 0.1 | 1.5 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 14.30 | 33.48 | 0.427 | | 0.6 | 0.7 | 10.9 | | 0.05 | I |
| I | I | ARM B | 13.49 | 35.67 | 0.378 | | 0.5 | 0.6 | 9.0 | | 0.05 | I |
| I | I | ARM C | 3.10 | 26.33 | 0.118 | | 0.1 | 0.1 | 2.0 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 17.51 | 33.43 | 0.524 | | 0.7 | 1.1 | 16.0 | | 0.06 | I |
| I | I | ARM B | 16.53 | 35.42 | 0.467 | | 0.6 | 0.9 | 12.8 | | 0.05 | I |
| I | I | ARM C | 3.80 | 24.76 | 0.154 | | 0.1 | 0.2 | 2.7 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 17.51 | 33.43 | 0.524 | | 1.1 | 1.1 | 16.4 | | 0.06 | I |
| I | I | ARM B | 16.53 | 35.42 | 0.467 | | 0.9 | 0.9 | 13.1 | | 0.05 | I |
| I | I | ARM C | 3.80 | 24.75 | 0.154 | | 0.2 | 0.2 | 2.7 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 14.30 | 33.48 | 0.427 | | 1.1 | 0.7 | 11.5 | | 0.05 | I |
| I | I | ARM B | 13.49 | 35.66 | 0.378 | | 0.9 | 0.6 | 9.3 | | 0.05 | I |
| I | I | ARM C | 3.10 | 26.32 | 0.118 | | 0.2 | 0.1 | 2.0 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 11.98 | 33.52 | 0.357 | | 0.7 | 0.6 | 8.5 | | 0.05 | I |
| I | I | ARM B | 11.30 | 35.84 | 0.315 | | 0.6 | 0.5 | 7.0 | | 0.04 | I |
| I | I | ARM C | 2.60 | 27.46 | 0.095 | | 0.1 | 0.1 | 1.6 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.7 * |
| 17.30 | 1.1 * |
| 17.45 | 1.1 * |
| 18.00 | 0.7 * |
| 18.15 | 0.6 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 0.9 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

 . QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.2 |

17.45 0.2
 18.00 0.1
 18.15 0.1

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1313.6 | 71.4 | 71.4 |
| B | 1239.6 | 57.9 | 57.9 |
| C | 285.2 | 12.5 | 12.5 |
| ALL | 2838.4 | 141.9 | 141.9 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2008 Base.vai"
(drive-on-the-left) at 12:32:15 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 10.00 | I | 103.00 | I | 45.0 | I | 0.496 | I | 36.525 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 9.00 | I | 103.00 | I | 55.0 | I | 0.536 | I | 42.485 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 8.00 | I | 103.00 | I | 41.0 | I | 0.585 | I | 47.432 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 10.00 | I | 103.00 | I | 55.0 | I | 0.540 | I | 42.687 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|--|---|------------------------|---|---------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 4.28 | I | 6.41 | I | 4.28 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 7.06 | I | 10.59 | I | 7.06 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 9.21 | I | 13.82 | I | 9.21 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 3.40 | I | 5.10 | I | 3.40 |

DEMAND SET TITLE: A63/A19 South

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.006 | I | 0.792 | I | 0.202 | I |
| I | I | I | I | 0.0 | I | 2.0 | I | 271.0 | I | 69.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.000 | I | 0.000 | I | 0.589 | I | 0.411 | I |
| I | I | I | I | 0.0 | I | 0.0 | I | 333.0 | I | 232.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.457 | I | 0.437 | I | 0.000 | I | 0.106 | I |
| I | I | I | I | 337.0 | I | 322.0 | I | 0.0 | I | 78.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.489 | I | 0.379 | I | 0.132 | I | 0.000 | I |
| I | I | I | I | 133.0 | I | 103.0 | I | 36.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 4.28 | 30.35 | 0.141 | | 0.0 | 0.2 | 2.4 | | 0.04 | I |
| I | I | ARM B | 7.06 | 36.10 | 0.196 | | 0.0 | 0.2 | 3.6 | | 0.03 | I |
| I | I | ARM C | 9.21 | 40.92 | 0.225 | | 0.0 | 0.3 | 4.3 | | 0.03 | I |
| I | I | ARM D | 3.40 | 34.36 | 0.099 | | 0.0 | 0.1 | 1.6 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 5.10 | 29.79 | 0.171 | | 0.2 | 0.2 | 3.1 | | 0.04 | I |
| I | I | ARM B | 8.43 | 35.62 | 0.237 | | 0.2 | 0.3 | 4.6 | | 0.04 | I |
| I | I | ARM C | 11.00 | 40.49 | 0.272 | | 0.3 | 0.4 | 5.5 | | 0.03 | I |
| I | I | ARM D | 4.06 | 33.50 | 0.121 | | 0.1 | 0.1 | 2.0 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 6.25 | 29.03 | 0.215 | | 0.2 | 0.3 | 4.1 | | 0.04 | I |
| I | I | ARM B | 10.33 | 34.94 | 0.296 | | 0.3 | 0.4 | 6.2 | | 0.04 | I |
| I | I | ARM C | 13.47 | 39.90 | 0.338 | | 0.4 | 0.5 | 7.5 | | 0.04 | I |
| I | I | ARM D | 4.97 | 32.30 | 0.154 | | 0.1 | 0.2 | 2.7 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 6.25 | 29.03 | 0.215 | | 0.3 | 0.3 | 4.1 | | 0.04 | I |
| I | I | ARM B | 10.33 | 34.94 | 0.296 | | 0.4 | 0.4 | 6.3 | | 0.04 | I |
| I | I | ARM C | 13.47 | 39.90 | 0.338 | | 0.5 | 0.5 | 7.6 | | 0.04 | I |
| I | I | ARM D | 4.97 | 32.30 | 0.154 | | 0.2 | 0.2 | 2.7 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 5.10 | 29.79 | 0.171 | | 0.3 | 0.2 | 3.1 | | 0.04 | I |
| I | I | ARM B | 8.43 | 35.61 | 0.237 | | 0.4 | 0.3 | 4.7 | | 0.04 | I |
| I | I | ARM C | 11.00 | 40.49 | 0.272 | | 0.5 | 0.4 | 5.7 | | 0.03 | I |
| I | I | ARM D | 4.06 | 33.49 | 0.121 | | 0.2 | 0.1 | 2.1 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 4.28 | 30.34 | 0.141 | | 0.2 | 0.2 | 2.5 | | 0.04 | I |
| I | I | ARM B | 7.06 | 36.10 | 0.196 | | 0.3 | 0.2 | 3.7 | | 0.03 | I |
| I | I | ARM C | 9.21 | 40.91 | 0.225 | | 0.4 | 0.3 | 4.4 | | 0.03 | I |
| I | I | ARM D | 3.40 | 34.34 | 0.099 | | 0.1 | 0.1 | 1.7 | | 0.03 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |

18.00 0.3
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |
| 17.45 | 0.5 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.1 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.1 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|---|
| | | | I | I | I | I | I | I | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | I |
| I | A | I | 469.0 | 312.6 | 19.3 | 0.04 | 19.3 | 0.04 | I |
| I | B | I | 774.7 | 516.5 | 29.1 | 0.04 | 29.1 | 0.04 | I |
| I | C | I | 1010.6 | 673.7 | 35.1 | 0.03 | 35.1 | 0.03 | I |
| I | D | I | 373.0 | 248.6 | 12.8 | 0.03 | 12.8 | 0.03 | I |
| I | ALL | I | 2627.2 | 1751.5 | 96.2 | 0.04 | 96.3 | 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Base.vao"
(drive-on-the-left) at 12:32:59 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.22 | I | 9.34 | I | 6.22 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.02 | I | 12.04 | I | 8.02 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.96 | I | 16.44 | I | 10.96 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.06 | I | 6.09 | I | 4.06 | I |

DEMAND SET TITLE: A63/A19 South

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.010 | I | 0.825 | I | 0.165 | I |
| I | I | I | I | 0.0 | I | 5.0 | I | 411.0 | I | 82.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.000 | I | 0.000 | I | 0.555 | I | 0.445 | I |
| I | I | I | I | 0.0 | I | 0.0 | I | 356.0 | I | 286.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.481 | I | 0.430 | I | 0.000 | I | 0.089 | I |
| I | I | I | I | 422.0 | I | 377.0 | I | 0.0 | I | 78.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.486 | I | 0.385 | I | 0.129 | I | 0.000 | I |
| I | I | I | I | 158.0 | I | 125.0 | I | 42.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 6.22 | 32.04 | 0.194 | | 0.0 | 0.2 | 3.6 | | 0.04 | I |
| I | I | ARM B | 8.02 | 38.12 | 0.210 | | 0.0 | 0.3 | 3.9 | | 0.03 | I |
| I | I | ARM C | 10.96 | 44.41 | 0.247 | | 0.0 | 0.3 | 4.8 | | 0.03 | I |
| I | I | ARM D | 4.06 | 35.98 | 0.113 | | 0.0 | 0.1 | 1.9 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 7.43 | 31.33 | 0.237 | | 0.2 | 0.3 | 4.6 | | 0.04 | I |
| I | I | ARM B | 9.58 | 37.36 | 0.256 | | 0.3 | 0.3 | 5.1 | | 0.04 | I |
| I | I | ARM C | 13.09 | 43.83 | 0.299 | | 0.3 | 0.4 | 6.3 | | 0.03 | I |
| I | I | ARM D | 4.85 | 34.85 | 0.139 | | 0.1 | 0.2 | 2.4 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 9.10 | 30.36 | 0.300 | | 0.3 | 0.4 | 6.3 | | 0.05 | I |
| I | I | ARM B | 11.74 | 36.32 | 0.323 | | 0.3 | 0.5 | 7.0 | | 0.04 | I |
| I | I | ARM C | 16.03 | 43.04 | 0.373 | | 0.4 | 0.6 | 8.8 | | 0.04 | I |
| I | I | ARM D | 5.94 | 33.29 | 0.178 | | 0.2 | 0.2 | 3.2 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 9.10 | 30.36 | 0.300 | | 0.4 | 0.4 | 6.4 | | 0.05 | I |
| I | I | ARM B | 11.74 | 36.31 | 0.323 | | 0.5 | 0.5 | 7.1 | | 0.04 | I |
| I | I | ARM C | 16.03 | 43.04 | 0.373 | | 0.6 | 0.6 | 8.9 | | 0.04 | I |
| I | I | ARM D | 5.94 | 33.29 | 0.178 | | 0.2 | 0.2 | 3.3 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 7.43 | 31.32 | 0.237 | | 0.4 | 0.3 | 4.7 | | 0.04 | I |
| I | I | ARM B | 9.58 | 37.35 | 0.257 | | 0.5 | 0.3 | 5.3 | | 0.04 | I |
| I | I | ARM C | 13.09 | 43.83 | 0.299 | | 0.6 | 0.4 | 6.5 | | 0.03 | I |
| I | I | ARM D | 4.85 | 34.84 | 0.139 | | 0.2 | 0.2 | 2.5 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 6.22 | 32.03 | 0.194 | | 0.3 | 0.2 | 3.7 | | 0.04 | I |
| I | I | ARM B | 8.02 | 38.11 | 0.211 | | 0.3 | 0.3 | 4.1 | | 0.03 | I |
| I | I | ARM C | 10.96 | 44.40 | 0.247 | | 0.4 | 0.3 | 5.0 | | 0.03 | I |
| I | I | ARM D | 4.06 | 35.97 | 0.113 | | 0.2 | 0.1 | 1.9 | | 0.03 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |

18.00 0.3
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | TOTAL DEMAND | | * QUEUEING * * DELAY * | | * INCLUSIVE QUEUEING * * DELAY * | |
|---|-----|--------------|---------|---------------------------|-----------|-------------------------------------|-----------|
| | | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) |
| I | A | 682.9 | 455.2 | 29.3 | 0.04 | 29.3 | 0.04 |
| I | B | 880.3 | 586.9 | 32.5 | 0.04 | 32.5 | 0.04 |
| I | C | 1202.6 | 801.7 | 40.2 | 0.03 | 40.2 | 0.03 |
| I | D | 445.6 | 297.1 | 15.1 | 0.03 | 15.1 | 0.03 |
| I | ALL | 3211.4 | 2140.9 | 117.2 | 0.04 | 117.2 | 0.04 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby_LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site A.vao"
(drive-on-the-left) at 12:33:36 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.14 | I | 9.21 | I | 6.14 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.16 | I | 12.24 | I | 8.16 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.11 | I | 16.67 | I | 11.11 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.03 | I | 6.04 | I | 4.03 | I |

DEMAND SET TITLE: A63/A19 South

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

A63 A19 South 2026 Site A.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.010 | I | 0.825 | I | 0.165 | I |
| I | I | I | I | 0.0 | I | 5.0 | I | 405.0 | I | 81.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.000 | I | 0.000 | I | 0.564 | I | 0.436 | I |
| I | I | I | I | 0.0 | I | 0.0 | I | 368.0 | I | 285.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.489 | I | 0.424 | I | 0.000 | I | 0.087 | I |
| I | I | I | I | 435.0 | I | 377.0 | I | 0.0 | I | 77.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.484 | I | 0.385 | I | 0.130 | I | 0.000 | I |
| I | I | I | I | 156.0 | I | 124.0 | I | 42.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 6.14 | 32.04 | 0.192 | | 0.0 | 0.2 | 3.5 | | 0.04 | I |
| I | I | ARM B | 8.16 | 38.17 | 0.214 | | 0.0 | 0.3 | 4.0 | | 0.03 | I |
| I | I | ARM C | 11.11 | 44.43 | 0.250 | | 0.0 | 0.3 | 4.9 | | 0.03 | I |
| I | I | ARM D | 4.03 | 35.89 | 0.112 | | 0.0 | 0.1 | 1.9 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 7.33 | 31.34 | 0.234 | | 0.2 | 0.3 | 4.5 | | 0.04 | I |
| I | I | ARM B | 9.75 | 37.42 | 0.260 | | 0.3 | 0.4 | 5.2 | | 0.04 | I |
| I | I | ARM C | 13.27 | 43.85 | 0.303 | | 0.3 | 0.4 | 6.4 | | 0.03 | I |
| I | I | ARM D | 4.81 | 34.74 | 0.138 | | 0.1 | 0.2 | 2.4 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 8.98 | 30.37 | 0.296 | | 0.3 | 0.4 | 6.2 | | 0.05 | I |
| I | I | ARM B | 11.94 | 36.39 | 0.328 | | 0.4 | 0.5 | 7.2 | | 0.04 | I |
| I | I | ARM C | 16.25 | 43.06 | 0.377 | | 0.4 | 0.6 | 8.9 | | 0.04 | I |
| I | I | ARM D | 5.89 | 33.15 | 0.178 | | 0.2 | 0.2 | 3.2 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 8.98 | 30.37 | 0.296 | | 0.4 | 0.4 | 6.3 | | 0.05 | I |
| I | I | ARM B | 11.94 | 36.38 | 0.328 | | 0.5 | 0.5 | 7.3 | | 0.04 | I |
| I | I | ARM C | 16.25 | 43.06 | 0.377 | | 0.6 | 0.6 | 9.1 | | 0.04 | I |
| I | I | ARM D | 5.89 | 33.15 | 0.178 | | 0.2 | 0.2 | 3.2 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 7.33 | 31.33 | 0.234 | | 0.4 | 0.3 | 4.7 | | 0.04 | I |
| I | I | ARM B | 9.75 | 37.41 | 0.261 | | 0.5 | 0.4 | 5.4 | | 0.04 | I |
| I | I | ARM C | 13.27 | 43.85 | 0.303 | | 0.6 | 0.4 | 6.6 | | 0.03 | I |
| I | I | ARM D | 4.81 | 34.73 | 0.138 | | 0.2 | 0.2 | 2.4 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 6.14 | 32.04 | 0.192 | | 0.3 | 0.2 | 3.6 | | 0.04 | I |
| I | I | ARM B | 8.16 | 38.16 | 0.214 | | 0.4 | 0.3 | 4.1 | | 0.03 | I |
| I | I | ARM C | 11.11 | 44.42 | 0.250 | | 0.4 | 0.3 | 5.1 | | 0.03 | I |
| I | I | ARM D | 4.03 | 35.87 | 0.112 | | 0.2 | 0.1 | 1.9 | | 0.03 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |

18.00 0.4
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|----------|--------------|-----------|------------------------|-----------|---|
| | | | I | I | I | I | I | I | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | I |
| I | A | I | 673.3 | I 448.8 | I 28.7 | I 0.04 | I 28.7 | I 0.04 | I |
| I | B | I | 895.4 | I 596.9 | I 33.2 | I 0.04 | I 33.2 | I 0.04 | I |
| I | C | I | 1219.0 | I 812.7 | I 41.0 | I 0.03 | I 41.0 | I 0.03 | I |
| I | D | I | 441.5 | I 294.4 | I 15.0 | I 0.03 | I 15.0 | I 0.03 | I |
| I | ALL | I | 3229.2 | I 2152.8 | I 118.0 | I 0.04 | I 118.0 | I 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site D.vao"
(drive-on-the-left) at 12:34:21 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 4.69 | I | 7.03 | I | 4.69 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 9.52 | I | 14.29 | I | 9.52 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 10.81 | I | 16.22 | I | 10.81 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 4.03 | I | 6.04 | I | 4.03 |

DEMAND SET TITLE: A63/A19 South

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

A63 A19 South 2026 Site D.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.013 | I | 0.773 | I | 0.213 | I |
| I | I | I | I | 0.0 | I | 5.0 | I | 290.0 | I | 80.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.000 | I | 0.000 | I | 0.374 | I | 0.626 | I |
| I | I | I | I | 0.0 | I | 0.0 | I | 285.0 | I | 477.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.431 | I | 0.480 | I | 0.000 | I | 0.089 | I |
| I | I | I | I | 373.0 | I | 415.0 | I | 0.0 | I | 77.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.484 | I | 0.385 | I | 0.130 | I | 0.000 | I |
| I | I | I | I | 156.0 | I | 124.0 | I | 42.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 4.69 | 31.79 | 0.147 | | 0.0 | 0.2 | 2.6 | | 0.04 | I |
| I | I | ARM B | 9.52 | 39.02 | 0.244 | | 0.0 | 0.3 | 4.8 | | 0.03 | I |
| I | I | ARM C | 10.81 | 42.90 | 0.252 | | 0.0 | 0.3 | 5.0 | | 0.03 | I |
| I | I | ARM D | 4.03 | 36.06 | 0.112 | | 0.0 | 0.1 | 1.9 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 5.60 | 31.04 | 0.180 | | 0.2 | 0.2 | 3.3 | | 0.04 | I |
| I | I | ARM B | 11.37 | 38.43 | 0.296 | | 0.3 | 0.4 | 6.2 | | 0.04 | I |
| I | I | ARM C | 12.91 | 42.02 | 0.307 | | 0.3 | 0.4 | 6.6 | | 0.03 | I |
| I | I | ARM D | 4.81 | 34.94 | 0.138 | | 0.1 | 0.2 | 2.4 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 6.86 | 30.00 | 0.229 | | 0.2 | 0.3 | 4.4 | | 0.04 | I |
| I | I | ARM B | 13.93 | 37.62 | 0.370 | | 0.4 | 0.6 | 8.7 | | 0.04 | I |
| I | I | ARM C | 15.81 | 40.82 | 0.387 | | 0.4 | 0.6 | 9.3 | | 0.04 | I |
| I | I | ARM D | 5.89 | 33.41 | 0.176 | | 0.2 | 0.2 | 3.2 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 6.86 | 30.00 | 0.229 | | 0.3 | 0.3 | 4.4 | | 0.04 | I |
| I | I | ARM B | 13.93 | 37.62 | 0.370 | | 0.6 | 0.6 | 8.8 | | 0.04 | I |
| I | I | ARM C | 15.81 | 40.82 | 0.387 | | 0.6 | 0.6 | 9.5 | | 0.04 | I |
| I | I | ARM D | 5.89 | 33.40 | 0.176 | | 0.2 | 0.2 | 3.2 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 5.60 | 31.03 | 0.180 | | 0.3 | 0.2 | 3.4 | | 0.04 | I |
| I | I | ARM B | 11.37 | 38.42 | 0.296 | | 0.6 | 0.4 | 6.4 | | 0.04 | I |
| I | I | ARM C | 12.91 | 42.01 | 0.307 | | 0.6 | 0.4 | 6.8 | | 0.03 | I |
| I | I | ARM D | 4.81 | 34.93 | 0.138 | | 0.2 | 0.2 | 2.4 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 4.69 | 31.78 | 0.147 | | 0.2 | 0.2 | 2.6 | | 0.04 | I |
| I | I | ARM B | 9.52 | 39.01 | 0.244 | | 0.4 | 0.3 | 4.9 | | 0.03 | I |
| I | I | ARM C | 10.81 | 42.88 | 0.252 | | 0.4 | 0.3 | 5.1 | | 0.03 | I |
| I | I | ARM D | 4.03 | 36.05 | 0.112 | | 0.2 | 0.1 | 1.9 | | 0.03 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |

18.00 0.4
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | |
|---|-----|--------------|----------|--------------|-----------|------------------------|-----------|
| | | I | I | I | I | I | I |
| I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) |
| I | A | I 514.2 | I 342.8 | I 20.6 | I 0.04 | I 20.6 | I 0.04 |
| I | B | I 1044.9 | I 696.6 | I 39.7 | I 0.04 | I 39.7 | I 0.04 |
| I | C | I 1186.1 | I 790.7 | I 42.2 | I 0.04 | I 42.2 | I 0.04 |
| I | D | I 441.5 | I 294.4 | I 14.9 | I 0.03 | I 14.9 | I 0.03 |
| I | ALL | I 3186.7 | I 2124.5 | I 117.4 | I 0.04 | I 117.4 | I 0.04 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site E.vao"
(drive-on-the-left) at 12:34:54 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|--|---|------------------------|---|-----------------------|---|---------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.49 | I | 9.73 | I | 6.49 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.06 | I | 12.09 | I | 8.06 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.93 | I | 16.39 | I | 10.93 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.18 | I | 7.76 | I | 5.18 |

DEMAND SET TITLE: A63/A19 South

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

A63 A19 South 2026 Site E.vao

| | | | | | |
|---|-------|---------|---------|---------|---------|
| I | ARM A | 0.000 | 0.013 | 0.790 | 0.197 |
| I | | 0.0 | 7.0 | 410.0 | 102.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM B | 0.000 | 0.000 | 0.558 | 0.442 |
| I | | 0.0 | 0.0 | 360.0 | 285.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM C | 0.481 | 0.431 | 0.000 | 0.088 |
| I | | 420.0 | 377.0 | 0.0 | 77.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM D | 0.597 | 0.302 | 0.101 | 0.000 |
| I | | 247.0 | 125.0 | 42.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 6.49 | 32.04 | 0.202 | | 0.0 | 0.3 | 3.7 | | 0.04 |
| ARM B | 8.06 | 37.99 | 0.212 | | 0.0 | 0.3 | 4.0 | | 0.03 |
| ARM C | 10.93 | 44.26 | 0.247 | | 0.0 | 0.3 | 4.8 | | 0.03 |
| ARM D | 5.18 | 36.00 | 0.144 | | 0.0 | 0.2 | 2.5 | | 0.03 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 7.75 | 31.33 | 0.247 | | 0.3 | 0.3 | 4.9 | | 0.04 |
| ARM B | 9.63 | 37.19 | 0.259 | | 0.3 | 0.3 | 5.2 | | 0.04 |
| ARM C | 13.05 | 43.65 | 0.299 | | 0.3 | 0.4 | 6.3 | | 0.03 |
| ARM D | 6.18 | 34.87 | 0.177 | | 0.2 | 0.2 | 3.2 | | 0.03 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 9.49 | 30.36 | 0.313 | | 0.3 | 0.5 | 6.7 | | 0.05 |
| ARM B | 11.79 | 36.11 | 0.327 | | 0.3 | 0.5 | 7.1 | | 0.04 |
| ARM C | 15.98 | 42.82 | 0.373 | | 0.4 | 0.6 | 8.8 | | 0.04 |
| ARM D | 7.57 | 33.31 | 0.227 | | 0.2 | 0.3 | 4.3 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 9.49 | 30.36 | 0.313 | | 0.5 | 0.5 | 6.8 | | 0.05 |
| ARM B | 11.79 | 36.11 | 0.327 | | 0.5 | 0.5 | 7.3 | | 0.04 |
| ARM C | 15.98 | 42.81 | 0.373 | | 0.6 | 0.6 | 8.9 | | 0.04 |
| ARM D | 7.57 | 33.31 | 0.227 | | 0.3 | 0.3 | 4.4 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 7.75 | 31.32 | 0.247 | | 0.5 | 0.3 | 5.0 | | 0.04 |
| ARM B | 9.63 | 37.19 | 0.259 | | 0.5 | 0.4 | 5.3 | | 0.04 |
| ARM C | 13.05 | 43.64 | 0.299 | | 0.6 | 0.4 | 6.5 | | 0.03 |
| ARM D | 6.18 | 34.86 | 0.177 | | 0.3 | 0.2 | 3.3 | | 0.03 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 6.49 | 32.03 | 0.203 | | 0.3 | 0.3 | 3.9 | | 0.04 |
| ARM B | 8.06 | 37.97 | 0.212 | | 0.4 | 0.3 | 4.1 | | 0.03 |
| ARM C | 10.93 | 44.25 | 0.247 | | 0.4 | 0.3 | 5.0 | | 0.03 |
| ARM D | 5.18 | 35.98 | 0.144 | | 0.2 | 0.2 | 2.5 | | 0.03 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |

18.00 0.4
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|----------|--------------|-----------|------------------------|-----------|---|
| | | | I | I | I | I | I | I | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | I |
| I | A | I | 711.7 | I 474.4 | I 31.0 | I 0.04 | I 31.0 | I 0.04 | I |
| I | B | I | 884.4 | I 589.6 | I 33.0 | I 0.04 | I 33.0 | I 0.04 | I |
| I | C | I | 1198.4 | I 799.0 | I 40.3 | I 0.03 | I 40.3 | I 0.03 | I |
| I | D | I | 567.7 | I 378.5 | I 20.2 | I 0.04 | I 20.2 | I 0.04 | I |
| I | ALL | I | 3362.2 | I 2241.5 | I 124.5 | I 0.04 | I 124.5 | I 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site F.vao"
(drive-on-the-left) at 12:35:28 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.20 | I | 9.30 | I | 6.20 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.06 | I | 12.09 | I | 8.06 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.13 | I | 16.69 | I | 11.13 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.05 | I | 6.08 | I | 4.05 | I |

DEMAND SET TITLE: A63/A19 South

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

A63 A19 South 2026 Site F.vao

| | | | | | |
|---|-------|---------|---------|---------|---------|
| I | ARM A | 0.000 | 0.010 | 0.827 | 0.163 |
| I | | 0.0 | 5.0 | 410.0 | 81.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM B | 0.000 | 0.000 | 0.558 | 0.442 |
| I | | 0.0 | 0.0 | 360.0 | 285.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM C | 0.490 | 0.424 | 0.000 | 0.087 |
| I | | 436.0 | 377.0 | 0.0 | 77.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM D | 0.485 | 0.386 | 0.130 | 0.000 |
| I | | 157.0 | 125.0 | 42.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 6.20 | 32.04 | 0.194 | | 0.0 | 0.2 | 3.5 | | 0.04 |
| ARM B | 8.06 | 38.14 | 0.211 | | 0.0 | 0.3 | 4.0 | | 0.03 |
| ARM C | 11.13 | 44.43 | 0.250 | | 0.0 | 0.3 | 4.9 | | 0.03 |
| ARM D | 4.05 | 35.88 | 0.113 | | 0.0 | 0.1 | 1.9 | | 0.03 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 7.40 | 31.33 | 0.236 | | 0.2 | 0.3 | 4.6 | | 0.04 |
| ARM B | 9.63 | 37.38 | 0.258 | | 0.3 | 0.3 | 5.1 | | 0.04 |
| ARM C | 13.28 | 43.85 | 0.303 | | 0.3 | 0.4 | 6.4 | | 0.03 |
| ARM D | 4.84 | 34.73 | 0.139 | | 0.1 | 0.2 | 2.4 | | 0.03 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 9.07 | 30.36 | 0.299 | | 0.3 | 0.4 | 6.3 | | 0.05 |
| ARM B | 11.79 | 36.34 | 0.324 | | 0.3 | 0.5 | 7.1 | | 0.04 |
| ARM C | 16.27 | 43.06 | 0.378 | | 0.4 | 0.6 | 9.0 | | 0.04 |
| ARM D | 5.92 | 33.14 | 0.179 | | 0.2 | 0.2 | 3.2 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 9.07 | 30.36 | 0.299 | | 0.4 | 0.4 | 6.4 | | 0.05 |
| ARM B | 11.79 | 36.33 | 0.325 | | 0.5 | 0.5 | 7.2 | | 0.04 |
| ARM C | 16.27 | 43.06 | 0.378 | | 0.6 | 0.6 | 9.1 | | 0.04 |
| ARM D | 5.92 | 33.14 | 0.179 | | 0.2 | 0.2 | 3.3 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 7.40 | 31.32 | 0.236 | | 0.4 | 0.3 | 4.7 | | 0.04 |
| ARM B | 9.63 | 37.37 | 0.258 | | 0.5 | 0.3 | 5.3 | | 0.04 |
| ARM C | 13.28 | 43.85 | 0.303 | | 0.6 | 0.4 | 6.6 | | 0.03 |
| ARM D | 4.84 | 34.72 | 0.139 | | 0.2 | 0.2 | 2.5 | | 0.03 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 6.20 | 32.03 | 0.194 | | 0.3 | 0.2 | 3.7 | | 0.04 |
| ARM B | 8.06 | 38.13 | 0.211 | | 0.3 | 0.3 | 4.1 | | 0.03 |
| ARM C | 11.13 | 44.42 | 0.250 | | 0.4 | 0.3 | 5.1 | | 0.03 |
| ARM D | 4.05 | 35.87 | 0.113 | | 0.2 | 0.1 | 1.9 | | 0.03 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |

18.00 0.3
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|---|
| | | | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | |
| I | A | I | 680.1 | 453.4 | 29.1 | 0.04 | 29.1 | 0.04 | I |
| I | B | I | 884.4 | 589.6 | 32.7 | 0.04 | 32.7 | 0.04 | I |
| I | C | I | 1220.4 | 813.6 | 41.1 | 0.03 | 41.1 | 0.03 | I |
| I | D | I | 444.3 | 296.2 | 15.1 | 0.03 | 15.1 | 0.03 | I |
| I | ALL | I | 3229.2 | 2152.8 | 118.1 | 0.04 | 118.1 | 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site G1.vai"
(drive-on-the-left) at 14:10:20 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.00 | I | 7.50 | I | 5.00 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.81 | I | 14.72 | I | 9.81 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.02 | I | 16.54 | I | 11.02 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.95 | I | 5.93 | I | 3.95 | I |

DEMAND SET TITLE: A63/A19 South

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

A63 A19 South 2026 Site G1.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.013 | I | 0.788 | I | 0.200 | I |
| I | I | I | I | 0.0 | I | 5.0 | I | 315.0 | I | 80.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.001 | I | 0.000 | I | 0.624 | I | 0.375 | I |
| I | I | I | I | 1.0 | I | 0.0 | I | 490.0 | I | 294.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.473 | I | 0.441 | I | 0.000 | I | 0.086 | I |
| I | I | I | I | 417.0 | I | 389.0 | I | 0.0 | I | 76.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.481 | I | 0.389 | I | 0.130 | I | 0.000 | I |
| I | I | I | I | 152.0 | I | 123.0 | I | 41.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 5.00 | 31.98 | 0.156 | | 0.0 | 0.2 | 2.7 | | 0.04 | I |
| I | I | ARM B | 9.81 | 38.84 | 0.253 | | 0.0 | 0.3 | 5.0 | | 0.03 | I |
| I | I | ARM C | 11.02 | 44.35 | 0.249 | | 0.0 | 0.3 | 4.9 | | 0.03 | I |
| I | I | ARM D | 3.95 | 35.93 | 0.110 | | 0.0 | 0.1 | 1.8 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 5.97 | 31.26 | 0.191 | | 0.2 | 0.2 | 3.5 | | 0.04 | I |
| I | I | ARM B | 11.72 | 38.22 | 0.307 | | 0.3 | 0.4 | 6.5 | | 0.04 | I |
| I | I | ARM C | 13.16 | 43.76 | 0.301 | | 0.3 | 0.4 | 6.4 | | 0.03 | I |
| I | I | ARM D | 4.72 | 34.78 | 0.136 | | 0.1 | 0.2 | 2.3 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 7.31 | 30.27 | 0.242 | | 0.2 | 0.3 | 4.7 | | 0.04 | I |
| I | I | ARM B | 14.35 | 37.37 | 0.384 | | 0.4 | 0.6 | 9.2 | | 0.04 | I |
| I | I | ARM C | 16.12 | 42.96 | 0.375 | | 0.4 | 0.6 | 8.9 | | 0.04 | I |
| I | I | ARM D | 5.78 | 33.21 | 0.174 | | 0.2 | 0.2 | 3.1 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 7.31 | 30.27 | 0.242 | | 0.3 | 0.3 | 4.8 | | 0.04 | I |
| I | I | ARM B | 14.35 | 37.37 | 0.384 | | 0.6 | 0.6 | 9.3 | | 0.04 | I |
| I | I | ARM C | 16.12 | 42.95 | 0.375 | | 0.6 | 0.6 | 9.0 | | 0.04 | I |
| I | I | ARM D | 5.78 | 33.20 | 0.174 | | 0.2 | 0.2 | 3.2 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 5.97 | 31.25 | 0.191 | | 0.3 | 0.2 | 3.6 | | 0.04 | I |
| I | I | ARM B | 11.72 | 38.22 | 0.307 | | 0.6 | 0.4 | 6.7 | | 0.04 | I |
| I | I | ARM C | 13.16 | 43.76 | 0.301 | | 0.6 | 0.4 | 6.6 | | 0.03 | I |
| I | I | ARM D | 4.72 | 34.77 | 0.136 | | 0.2 | 0.2 | 2.4 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 5.00 | 31.97 | 0.156 | | 0.2 | 0.2 | 2.8 | | 0.04 | I |
| I | I | ARM B | 9.81 | 38.83 | 0.253 | | 0.4 | 0.3 | 5.1 | | 0.03 | I |
| I | I | ARM C | 11.02 | 44.34 | 0.249 | | 0.4 | 0.3 | 5.0 | | 0.03 | I |
| I | I | ARM D | 3.95 | 35.91 | 0.110 | | 0.2 | 0.1 | 1.9 | | 0.03 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |

18.00 0.4
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 548.5 | I | 365.7 | I | 22.1 | I | 0.04 | I |
| I | B | I | 1076.4 | I | 717.6 | I | 41.9 | I | 0.04 | I |
| I | C | I | 1209.4 | I | 806.3 | I | 40.7 | I | 0.03 | I |
| I | D | I | 433.3 | I | 288.9 | I | 14.7 | I | 0.03 | I |
| I | ALL | I | 3267.6 | I | 2178.4 | I | 119.4 | I | 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site G2.vai"
(drive-on-the-left) at 14:10:54 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.11 | I | 7.67 | I | 5.11 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.18 | I | 15.26 | I | 10.18 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.09 | I | 16.63 | I | 11.09 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.92 | I | 5.89 | I | 3.92 | I |

DEMAND SET TITLE: A63/A19 South

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I I | I |

A63 A19 South 2026 Site G2.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.012 | I | 0.792 | I | 0.196 | I |
| I | I | I | I | 0.0 | I | 5.0 | I | 324.0 | I | 80.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.001 | I | 0.000 | I | 0.614 | I | 0.385 | I |
| I | I | I | I | 1.0 | I | 0.0 | I | 500.0 | I | 313.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.496 | I | 0.419 | I | 0.000 | I | 0.085 | I |
| I | I | I | I | 440.0 | I | 372.0 | I | 0.0 | I | 75.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.478 | I | 0.392 | I | 0.131 | I | 0.000 | I |
| I | I | I | I | 150.0 | I | 123.0 | I | 41.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 5.11 | 32.09 | 0.159 | | 0.0 | 0.2 | 2.8 | | 0.04 | I |
| I | I | ARM B | 10.18 | 38.78 | 0.262 | | 0.0 | 0.4 | 5.2 | | 0.03 | I |
| I | I | ARM C | 11.09 | 44.20 | 0.251 | | 0.0 | 0.3 | 4.9 | | 0.03 | I |
| I | I | ARM D | 3.92 | 35.88 | 0.109 | | 0.0 | 0.1 | 1.8 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 6.10 | 31.39 | 0.194 | | 0.2 | 0.2 | 3.6 | | 0.04 | I |
| I | I | ARM B | 12.15 | 38.14 | 0.319 | | 0.4 | 0.5 | 6.9 | | 0.04 | I |
| I | I | ARM C | 13.24 | 43.58 | 0.304 | | 0.3 | 0.4 | 6.5 | | 0.03 | I |
| I | I | ARM D | 4.69 | 34.73 | 0.135 | | 0.1 | 0.2 | 2.3 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 7.48 | 30.44 | 0.246 | | 0.2 | 0.3 | 4.8 | | 0.04 | I |
| I | I | ARM B | 14.88 | 37.27 | 0.399 | | 0.5 | 0.7 | 9.8 | | 0.04 | I |
| I | I | ARM C | 16.22 | 42.73 | 0.379 | | 0.4 | 0.6 | 9.0 | | 0.04 | I |
| I | I | ARM D | 5.74 | 33.14 | 0.173 | | 0.2 | 0.2 | 3.1 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 7.48 | 30.43 | 0.246 | | 0.3 | 0.3 | 4.9 | | 0.04 | I |
| I | I | ARM B | 14.88 | 37.27 | 0.399 | | 0.7 | 0.7 | 9.9 | | 0.04 | I |
| I | I | ARM C | 16.22 | 42.73 | 0.379 | | 0.6 | 0.6 | 9.1 | | 0.04 | I |
| I | I | ARM D | 5.74 | 33.14 | 0.173 | | 0.2 | 0.2 | 3.1 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 6.10 | 31.39 | 0.194 | | 0.3 | 0.2 | 3.7 | | 0.04 | I |
| I | I | ARM B | 12.15 | 38.14 | 0.319 | | 0.7 | 0.5 | 7.1 | | 0.04 | I |
| I | I | ARM C | 13.24 | 43.58 | 0.304 | | 0.6 | 0.4 | 6.6 | | 0.03 | I |
| I | I | ARM D | 4.69 | 34.72 | 0.135 | | 0.2 | 0.2 | 2.4 | | 0.03 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 5.11 | 32.08 | 0.159 | | 0.2 | 0.2 | 2.9 | | 0.04 | I |
| I | I | ARM B | 10.18 | 38.77 | 0.262 | | 0.5 | 0.4 | 5.4 | | 0.03 | I |
| I | I | ARM C | 11.09 | 44.19 | 0.251 | | 0.4 | 0.3 | 5.1 | | 0.03 | I |
| I | I | ARM D | 3.92 | 35.87 | 0.109 | | 0.2 | 0.1 | 1.9 | | 0.03 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |

18.00 0.5
18.15 0.4

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 560.8 | I | 373.9 | I | 22.6 | I | 0.04 | I |
| I | B | I | 1116.2 | I | 744.1 | I | 44.4 | I | 0.04 | I |
| I | C | I | 1216.3 | I | 810.8 | I | 41.3 | I | 0.03 | I |
| I | D | I | 430.6 | I | 287.0 | I | 14.6 | I | 0.03 | I |
| I | ALL | I | 3323.8 | I | 2215.9 | I | 122.9 | I | 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site H1.vai"
(drive-on-the-left) at 14:12:06 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.49 | I | 11.23 | I | 7.49 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.66 | I | 14.49 | I | 9.66 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 16.85 | I | 25.28 | I | 16.85 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.00 | I | 6.00 | I | 4.00 | I |

DEMAND SET TITLE: A63/A19 South

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

A63 A19 South 2026 Site H1.vao

| | | | | | |
|---|-------|---------|---------|---------|---------|
| I | ARM A | 0.000 | 0.003 | 0.865 | 0.132 |
| I | | 0.0 | 2.0 | 518.0 | 79.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM B | 0.000 | 0.000 | 0.634 | 0.366 |
| I | | 0.0 | 0.0 | 490.0 | 283.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM C | 0.524 | 0.384 | 0.000 | 0.093 |
| I | | 706.0 | 517.0 | 0.0 | 125.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM D | 0.478 | 0.391 | 0.131 | 0.000 |
| I | | 153.0 | 125.0 | 42.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 7.49 | 31.11 | 0.241 | | 0.0 | 0.3 | 4.7 | | 0.04 |
| ARM B | 9.66 | 37.37 | 0.259 | | 0.0 | 0.3 | 5.1 | | 0.04 |
| ARM C | 16.85 | 44.46 | 0.379 | | 0.0 | 0.6 | 9.0 | | 0.04 |
| ARM D | 4.00 | 32.91 | 0.122 | | 0.0 | 0.1 | 2.0 | | 0.03 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 8.94 | 30.22 | 0.296 | | 0.3 | 0.4 | 6.2 | | 0.05 |
| ARM B | 11.54 | 36.46 | 0.316 | | 0.3 | 0.5 | 6.8 | | 0.04 |
| ARM C | 20.12 | 43.89 | 0.458 | | 0.6 | 0.8 | 12.4 | | 0.04 |
| ARM D | 4.78 | 31.17 | 0.153 | | 0.1 | 0.2 | 2.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 10.95 | 29.00 | 0.378 | | 0.4 | 0.6 | 8.9 | | 0.06 |
| ARM B | 14.13 | 35.21 | 0.401 | | 0.5 | 0.7 | 9.8 | | 0.05 |
| ARM C | 24.64 | 43.11 | 0.572 | | 0.8 | 1.3 | 19.4 | | 0.05 |
| ARM D | 5.85 | 28.80 | 0.203 | | 0.2 | 0.3 | 3.8 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 10.95 | 28.99 | 0.378 | | 0.6 | 0.6 | 9.1 | | 0.06 |
| ARM B | 14.13 | 35.20 | 0.401 | | 0.7 | 0.7 | 10.0 | | 0.05 |
| ARM C | 24.64 | 43.11 | 0.572 | | 1.3 | 1.3 | 19.9 | | 0.05 |
| ARM D | 5.85 | 28.78 | 0.203 | | 0.3 | 0.3 | 3.8 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 8.94 | 30.21 | 0.296 | | 0.6 | 0.4 | 6.4 | | 0.05 |
| ARM B | 11.54 | 36.44 | 0.317 | | 0.7 | 0.5 | 7.1 | | 0.04 |
| ARM C | 20.12 | 43.88 | 0.459 | | 1.3 | 0.9 | 13.0 | | 0.04 |
| ARM D | 4.78 | 31.15 | 0.153 | | 0.3 | 0.2 | 2.8 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 7.49 | 31.10 | 0.241 | | 0.4 | 0.3 | 4.8 | | 0.04 |
| ARM B | 9.66 | 37.35 | 0.259 | | 0.5 | 0.4 | 5.3 | | 0.04 |
| ARM C | 16.85 | 44.45 | 0.379 | | 0.9 | 0.6 | 9.3 | | 0.04 |
| ARM D | 4.00 | 32.88 | 0.122 | | 0.2 | 0.1 | 2.1 | | 0.03 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |

18.00 0.5
18.15 0.4

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.3 * |
| 17.45 | 1.3 * |
| 18.00 | 0.9 * |
| 18.15 | 0.6 * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 821.4 | I | 547.6 | I | 40.1 | I | 0.05 | I |
| I | B | I | 1059.9 | I | 706.6 | I | 44.2 | I | 0.04 | I |
| I | C | I | 1848.4 | I | 1232.3 | I | 83.0 | I | 0.04 | I |
| I | D | I | 438.8 | I | 292.5 | I | 17.2 | I | 0.04 | I |
| I | ALL | I | 4168.5 | I | 2779.0 | I | 184.5 | I | 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600.XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A19 South 2026 Site H2.vai"
(drive-on-the-left) at 14:12:48 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A19 South
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/A19 South Roundabout assessment

.INPUT DATA

ARM A - A19 North
ARM B - A63 East
ARM C - A19 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 7.00 | I | 9.00 | I | 7.00 | I | 31.00 | I | 103.00 | I | 45.0 | I | 0.532 | I | 39.216 | I |
| I | ARM B | I | 8.25 | I | 10.50 | I | 18.00 | I | 29.00 | I | 103.00 | I | 55.0 | I | 0.583 | I | 46.216 | I |
| I | ARM C | I | 9.50 | I | 11.00 | I | 12.00 | I | 28.00 | I | 103.00 | I | 41.0 | I | 0.642 | I | 52.094 | I |
| I | ARM D | I | 8.75 | I | 10.25 | I | 10.50 | I | 31.00 | I | 103.00 | I | 55.0 | I | 0.582 | I | 45.959 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A19 South

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 8.16 | I | 12.24 | I | 8.16 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 10.41 | I | 15.62 | I | 10.41 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 20.13 | I | 30.19 | I | 20.13 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 4.05 | I | 6.08 | I | 4.05 |

DEMAND SET TITLE: A63/A19 South

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

A63 A19 South 2026 Site H2.vao

| | | | | | |
|---|-------|---------|---------|---------|---------|
| I | ARM A | 0.000 | 0.003 | 0.877 | 0.119 |
| I | | 0.0 | 2.0 | 573.0 | 78.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM B | 0.000 | 0.000 | 0.658 | 0.342 |
| I | | 0.0 | 0.0 | 548.0 | 285.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM C | 0.521 | 0.393 | 0.000 | 0.086 |
| I | | 839.0 | 633.0 | 0.0 | 138.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |
| I | ARM D | 0.469 | 0.383 | 0.148 | 0.000 |
| I | | 152.0 | 124.0 | 48.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | | | | | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 8.16 | 30.31 | 0.269 | | 0.0 | 0.4 | 5.4 | | 0.05 |
| ARM B | 10.41 | 36.93 | 0.282 | | 0.0 | 0.4 | 5.8 | | 0.04 |
| ARM C | 20.13 | 44.45 | 0.453 | | 0.0 | 0.8 | 12.1 | | 0.04 |
| ARM D | 4.05 | 31.11 | 0.130 | | 0.0 | 0.1 | 2.2 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 9.75 | 29.26 | 0.333 | | 0.4 | 0.5 | 7.3 | | 0.05 |
| ARM B | 12.43 | 35.93 | 0.346 | | 0.4 | 0.5 | 7.8 | | 0.04 |
| ARM C | 24.03 | 43.88 | 0.548 | | 0.8 | 1.2 | 17.7 | | 0.05 |
| ARM D | 4.84 | 29.02 | 0.167 | | 0.1 | 0.2 | 3.0 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 11.94 | 27.83 | 0.429 | | 0.5 | 0.7 | 10.9 | | 0.06 |
| ARM B | 15.23 | 34.57 | 0.440 | | 0.5 | 0.8 | 11.5 | | 0.05 |
| ARM C | 29.43 | 43.10 | 0.683 | | 1.2 | 2.1 | 30.6 | | 0.07 |
| ARM D | 5.92 | 26.16 | 0.226 | | 0.2 | 0.3 | 4.3 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 11.94 | 27.82 | 0.429 | | 0.7 | 0.7 | 11.2 | | 0.06 |
| ARM B | 15.23 | 34.56 | 0.441 | | 0.8 | 0.8 | 11.8 | | 0.05 |
| ARM C | 29.43 | 43.09 | 0.683 | | 2.1 | 2.1 | 32.0 | | 0.07 |
| ARM D | 5.92 | 26.13 | 0.227 | | 0.3 | 0.3 | 4.4 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 9.75 | 29.24 | 0.333 | | 0.7 | 0.5 | 7.7 | | 0.05 |
| ARM B | 12.43 | 35.92 | 0.346 | | 0.8 | 0.5 | 8.1 | | 0.04 |
| ARM C | 24.03 | 43.87 | 0.548 | | 2.1 | 1.2 | 18.8 | | 0.05 |
| ARM D | 4.84 | 28.97 | 0.167 | | 0.3 | 0.2 | 3.1 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 8.16 | 30.29 | 0.269 | | 0.5 | 0.4 | 5.6 | | 0.05 |
| ARM B | 10.41 | 36.91 | 0.282 | | 0.5 | 0.4 | 6.0 | | 0.04 |
| ARM C | 20.13 | 44.44 | 0.453 | | 1.2 | 0.8 | 12.7 | | 0.04 |
| ARM D | 4.05 | 31.07 | 0.130 | | 0.2 | 0.2 | 2.3 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 * |
| 18.15 | 0.4 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.5 * |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |

18.00 0.5 *
18.15 0.4

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|----|
| 17.00 | 0.8 | * |
| 17.15 | 1.2 | ** |
| 17.30 | 2.1 | ** |
| 17.45 | 2.1 | ** |
| 18.00 | 1.2 | * |
| 18.15 | 0.8 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|---|
| | | | I | I | I | I | I | I | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | I |
| I | A | I | 895.4 | 596.9 | 48.2 | 0.05 | 48.2 | 0.05 | I |
| I | B | I | 1142.2 | 761.5 | 50.9 | 0.04 | 50.9 | 0.04 | I |
| I | C | I | 2207.6 | 1471.8 | 123.8 | 0.06 | 123.8 | 0.06 | I |
| I | D | I | 444.3 | 296.2 | 19.2 | 0.04 | 19.2 | 0.04 | I |
| I | ALL | I | 4689.5 | 3126.4 | 242.2 | 0.05 | 242.2 | 0.05 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT_Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2008 Base.vai"
(drive-on-the-left) at 12:10:42 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 12.35 | I | 18.53 | I | 12.35 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.47 | I | 6.71 | I | 4.47 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.02 | I | 12.04 | I | 8.02 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.32 | I | 7.99 | I | 5.32 |

DEMAND SET TITLE: A63/A1041

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.018 | I | 0.720 | I | 0.262 | I |
| I | I | | I | 0.0 | I | 18.0 | I | 711.0 | I | 259.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM B | I | 0.047 | I | 0.000 | I | 0.746 | I | 0.207 | I |
| I | I | | I | 17.0 | I | 0.0 | I | 267.0 | I | 74.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.908 | I | 0.022 | I | 0.008 | I | 0.062 | I |
| I | I | | I | 583.0 | I | 14.0 | I | 5.0 | I | 40.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM D | I | 0.521 | I | 0.472 | I | 0.007 | I | 0.000 | I |
| I | I | | I | 222.0 | I | 201.0 | I | 3.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 12.35 | 37.91 | 0.326 | | 0.0 | 0.5 | 7.1 | | 0.04 | I |
| I | I | ARM B | 4.47 | 35.65 | 0.126 | | 0.0 | 0.1 | 2.1 | | 0.03 | I |
| I | I | ARM C | 8.02 | 33.44 | 0.240 | | 0.0 | 0.3 | 4.6 | | 0.04 | I |
| I | I | ARM D | 5.32 | 33.13 | 0.161 | | 0.0 | 0.2 | 2.8 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 14.75 | 37.59 | 0.392 | | 0.5 | 0.6 | 9.5 | | 0.04 | I |
| I | I | ARM B | 5.34 | 34.12 | 0.157 | | 0.1 | 0.2 | 2.8 | | 0.03 | I |
| I | I | ARM C | 9.58 | 32.96 | 0.291 | | 0.3 | 0.4 | 6.0 | | 0.04 | I |
| I | I | ARM D | 6.36 | 32.27 | 0.197 | | 0.2 | 0.2 | 3.6 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 18.06 | 37.16 | 0.486 | | 0.6 | 0.9 | 13.8 | | 0.05 | I |
| I | I | ARM B | 6.54 | 32.02 | 0.204 | | 0.2 | 0.3 | 3.8 | | 0.04 | I |
| I | I | ARM C | 11.74 | 32.31 | 0.363 | | 0.4 | 0.6 | 8.4 | | 0.05 | I |
| I | I | ARM D | 7.79 | 31.11 | 0.250 | | 0.2 | 0.3 | 4.9 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 18.06 | 37.16 | 0.486 | | 0.9 | 0.9 | 14.1 | | 0.05 | I |
| I | I | ARM B | 6.54 | 32.01 | 0.204 | | 0.3 | 0.3 | 3.8 | | 0.04 | I |
| I | I | ARM C | 11.74 | 32.31 | 0.363 | | 0.6 | 0.6 | 8.5 | | 0.05 | I |
| I | I | ARM D | 7.79 | 31.10 | 0.250 | | 0.3 | 0.3 | 5.0 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 14.75 | 37.59 | 0.392 | | 0.9 | 0.6 | 9.9 | | 0.04 | I |
| I | I | ARM B | 5.34 | 34.10 | 0.157 | | 0.3 | 0.2 | 2.8 | | 0.03 | I |
| I | I | ARM C | 9.58 | 32.96 | 0.291 | | 0.6 | 0.4 | 6.3 | | 0.04 | I |
| I | I | ARM D | 6.36 | 32.26 | 0.197 | | 0.3 | 0.2 | 3.7 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 12.35 | 37.91 | 0.326 | | 0.6 | 0.5 | 7.4 | | 0.04 | I |
| I | I | ARM B | 4.47 | 35.62 | 0.126 | | 0.2 | 0.1 | 2.2 | | 0.03 | I |
| I | I | ARM C | 8.02 | 33.43 | 0.240 | | 0.4 | 0.3 | 4.8 | | 0.04 | I |
| I | I | ARM D | 5.32 | 33.11 | 0.161 | | 0.2 | 0.2 | 2.9 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 0.9 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |

18.00 0.2
18.15 0.1

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 1354.8 | I | 903.2 | I | 61.8 | I | 0.05 | I |
| I | B | I | 490.9 | I | 327.3 | I | 17.5 | I | 0.04 | I |
| I | C | I | 880.3 | I | 586.9 | I | 38.7 | I | 0.04 | I |
| I | D | I | 584.1 | I | 389.4 | I | 23.0 | I | 0.04 | I |
| I | ALL | I | 3310.1 | I | 2206.7 | I | 141.0 | I | 0.04 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT_Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Base.vai"
(drive-on-the-left) at 12:11:34 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 15.76 | I | 23.64 | I | 15.76 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.70 | I | 8.55 | I | 5.70 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.84 | I | 14.76 | I | 9.84 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.35 | I | 9.52 | I | 6.35 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.017 | I | 0.725 | I | 0.258 | I |
| I | I | I | I | 0.0 | I | 22.0 | I | 914.0 | I | 325.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.072 | I | 0.000 | I | 0.331 | I | 0.596 | I |
| I | I | I | I | 33.0 | I | 0.0 | I | 151.0 | I | 272.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.910 | I | 0.024 | I | 0.008 | I | 0.058 | I |
| I | I | I | I | 716.0 | I | 19.0 | I | 6.0 | I | 46.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.555 | I | 0.437 | I | 0.008 | I | 0.000 | I |
| I | I | I | I | 282.0 | I | 222.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 15.76 | 37.71 | 0.418 | | 0.0 | 0.7 | 10.5 | | 0.05 | I |
| I | I | ARM B | 5.70 | 33.49 | 0.170 | | 0.0 | 0.2 | 3.0 | | 0.04 | I |
| I | I | ARM C | 9.84 | 31.49 | 0.312 | | 0.0 | 0.5 | 6.7 | | 0.05 | I |
| I | I | ARM D | 6.35 | 32.04 | 0.198 | | 0.0 | 0.2 | 3.6 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 18.82 | 37.35 | 0.504 | | 0.7 | 1.0 | 14.8 | | 0.05 | I |
| I | I | ARM B | 6.81 | 31.53 | 0.216 | | 0.2 | 0.3 | 4.1 | | 0.04 | I |
| I | I | ARM C | 11.75 | 30.63 | 0.383 | | 0.5 | 0.6 | 9.1 | | 0.05 | I |
| I | I | ARM D | 7.58 | 30.97 | 0.245 | | 0.2 | 0.3 | 4.8 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 23.05 | 36.86 | 0.625 | | 1.0 | 1.6 | 23.9 | | 0.07 | I |
| I | I | ARM B | 8.34 | 28.86 | 0.289 | | 0.3 | 0.4 | 6.0 | | 0.05 | I |
| I | I | ARM C | 14.39 | 29.46 | 0.488 | | 0.6 | 0.9 | 13.9 | | 0.07 | I |
| I | I | ARM D | 9.29 | 29.52 | 0.315 | | 0.3 | 0.5 | 6.7 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 23.05 | 36.86 | 0.625 | | 1.6 | 1.7 | 24.8 | | 0.07 | I |
| I | I | ARM B | 8.34 | 28.84 | 0.289 | | 0.4 | 0.4 | 6.1 | | 0.05 | I |
| I | I | ARM C | 14.39 | 29.45 | 0.489 | | 0.9 | 1.0 | 14.2 | | 0.07 | I |
| I | I | ARM D | 9.29 | 29.50 | 0.315 | | 0.5 | 0.5 | 6.9 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 18.82 | 37.35 | 0.504 | | 1.7 | 1.0 | 15.7 | | 0.05 | I |
| I | I | ARM B | 6.81 | 31.49 | 0.216 | | 0.4 | 0.3 | 4.2 | | 0.04 | I |
| I | I | ARM C | 11.75 | 30.62 | 0.384 | | 1.0 | 0.6 | 9.6 | | 0.05 | I |
| I | I | ARM D | 7.58 | 30.95 | 0.245 | | 0.5 | 0.3 | 5.0 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 15.76 | 37.70 | 0.418 | | 1.0 | 0.7 | 11.0 | | 0.05 | I |
| I | I | ARM B | 5.70 | 33.45 | 0.170 | | 0.3 | 0.2 | 3.1 | | 0.04 | I |
| I | I | ARM C | 9.84 | 31.48 | 0.313 | | 0.6 | 0.5 | 7.0 | | 0.05 | I |
| I | I | ARM D | 6.35 | 32.02 | 0.198 | | 0.3 | 0.2 | 3.8 | | 0.04 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.7 * |
| 17.15 | 1.0 ** |
| 17.30 | 1.6 *** |
| 17.45 | 1.7 *** |
| 18.00 | 1.0 * |
| 18.15 | 0.7 * |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |

18.00 0.3
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 1.0 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | TOTAL DEMAND | | * QUEUEING * * DELAY * | | * INCLUSIVE QUEUEING * * DELAY * | |
|---|-----|--------------|---------|---------------------------|-----------|-------------------------------------|-----------|
| | | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) |
| I | A | 1729.1 | 1152.7 | 100.8 | 0.06 | 100.8 | 0.06 |
| I | B | 625.3 | 416.8 | 26.5 | 0.04 | 26.5 | 0.04 |
| I | C | 1079.1 | 719.4 | 60.4 | 0.06 | 60.4 | 0.06 |
| I | D | 696.6 | 464.4 | 30.8 | 0.04 | 30.8 | 0.04 |
| I | ALL | 4130.1 | 2753.4 | 218.5 | 0.05 | 218.5 | 0.05 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site A.vai"
(drive-on-the-left) at 12:12:20 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 15.77 | I | 23.66 | I | 15.77 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.88 | I | 8.81 | I | 5.88 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.86 | I | 14.79 | I | 9.86 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.32 | I | 9.49 | I | 6.32 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.018 | I | 0.726 | I | 0.256 | I |
| I | I | I | I | 0.0 | I | 23.0 | I | 916.0 | I | 323.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.070 | I | 0.000 | I | 0.323 | I | 0.606 | I |
| I | I | I | I | 33.0 | I | 0.0 | I | 152.0 | I | 285.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.909 | I | 0.025 | I | 0.009 | I | 0.057 | I |
| I | I | I | I | 717.0 | I | 20.0 | I | 7.0 | I | 45.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.553 | I | 0.439 | I | 0.008 | I | 0.000 | I |
| I | I | I | I | 280.0 | I | 222.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 15.77 | 37.69 | 0.418 | | 0.0 | 0.7 | 10.5 | | 0.05 | I |
| I | I | ARM B | 5.88 | 33.48 | 0.175 | | 0.0 | 0.2 | 3.1 | | 0.04 | I |
| I | I | ARM C | 9.86 | 31.42 | 0.314 | | 0.0 | 0.5 | 6.7 | | 0.05 | I |
| I | I | ARM D | 6.32 | 32.02 | 0.198 | | 0.0 | 0.2 | 3.6 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 18.84 | 37.33 | 0.505 | | 0.7 | 1.0 | 14.9 | | 0.05 | I |
| I | I | ARM B | 7.02 | 31.52 | 0.223 | | 0.2 | 0.3 | 4.2 | | 0.04 | I |
| I | I | ARM C | 11.78 | 30.54 | 0.386 | | 0.5 | 0.6 | 9.2 | | 0.05 | I |
| I | I | ARM D | 7.55 | 30.95 | 0.244 | | 0.2 | 0.3 | 4.8 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 23.07 | 36.84 | 0.626 | | 1.0 | 1.7 | 24.0 | | 0.07 | I |
| I | I | ARM B | 8.59 | 28.85 | 0.298 | | 0.3 | 0.4 | 6.2 | | 0.05 | I |
| I | I | ARM C | 14.42 | 29.35 | 0.491 | | 0.6 | 1.0 | 14.0 | | 0.07 | I |
| I | I | ARM D | 9.25 | 29.48 | 0.314 | | 0.3 | 0.5 | 6.7 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 23.07 | 36.84 | 0.626 | | 1.7 | 1.7 | 24.9 | | 0.07 | I |
| I | I | ARM B | 8.59 | 28.83 | 0.298 | | 0.4 | 0.4 | 6.3 | | 0.05 | I |
| I | I | ARM C | 14.42 | 29.34 | 0.492 | | 1.0 | 1.0 | 14.4 | | 0.07 | I |
| I | I | ARM D | 9.25 | 29.47 | 0.314 | | 0.5 | 0.5 | 6.8 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 18.84 | 37.33 | 0.505 | | 1.7 | 1.0 | 15.8 | | 0.05 | I |
| I | I | ARM B | 7.02 | 31.48 | 0.223 | | 0.4 | 0.3 | 4.4 | | 0.04 | I |
| I | I | ARM C | 11.78 | 30.53 | 0.386 | | 1.0 | 0.6 | 9.7 | | 0.05 | I |
| I | I | ARM D | 7.55 | 30.93 | 0.244 | | 0.5 | 0.3 | 4.9 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 15.77 | 37.69 | 0.419 | | 1.0 | 0.7 | 11.0 | | 0.05 | I |
| I | I | ARM B | 5.88 | 33.44 | 0.176 | | 0.3 | 0.2 | 3.2 | | 0.04 | I |
| I | I | ARM C | 9.86 | 31.40 | 0.314 | | 0.6 | 0.5 | 7.0 | | 0.05 | I |
| I | I | ARM D | 6.32 | 32.00 | 0.198 | | 0.3 | 0.2 | 3.8 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.7 * |
| 17.15 | 1.0 ** |
| 17.30 | 1.7 ** |
| 17.45 | 1.7 ** |
| 18.00 | 1.0 * |
| 18.15 | 0.7 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |

18.00 0.3
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 1730.5 | I | 1153.6 | I | 101.1 | I | 0.06 | I |
| I | B | I | 644.5 | I | 429.6 | I | 27.6 | I | 0.04 | I |
| I | C | I | 1081.9 | I | 721.3 | I | 61.0 | I | 0.06 | I |
| I | D | I | 693.8 | I | 462.6 | I | 30.6 | I | 0.04 | I |
| I | ALL | I | 4150.7 | I | 2767.1 | I | 220.3 | I | 0.05 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site D.vai"
(drive-on-the-left) at 12:13:20 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 15.02 | I | 22.54 | I | 15.02 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.75 | I | 11.63 | I | 7.75 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.75 | I | 14.63 | I | 9.75 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.81 | I | 10.22 | I | 6.81 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.022 | I | 0.710 | I | 0.269 | I |
| I | I | I | I | 0.0 | I | 26.0 | I | 853.0 | I | 323.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.037 | I | 0.000 | I | 0.329 | I | 0.634 | I |
| I | I | I | I | 23.0 | I | 0.0 | I | 204.0 | I | 393.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.908 | I | 0.027 | I | 0.008 | I | 0.058 | I |
| I | I | I | I | 708.0 | I | 21.0 | I | 6.0 | I | 45.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.514 | I | 0.479 | I | 0.007 | I | 0.000 | I |
| I | I | I | I | 280.0 | I | 261.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 15.02 | 37.41 | 0.402 | | 0.0 | 0.7 | 9.8 | | 0.04 |
| ARM B | 7.75 | 33.99 | 0.228 | | 0.0 | 0.3 | 4.3 | | 0.04 |
| ARM C | 9.75 | 30.74 | 0.317 | | 0.0 | 0.5 | 6.8 | | 0.05 |
| ARM D | 6.81 | 32.15 | 0.212 | | 0.0 | 0.3 | 4.0 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 17.94 | 36.99 | 0.485 | | 0.7 | 0.9 | 13.8 | | 0.05 |
| ARM B | 9.25 | 32.13 | 0.288 | | 0.3 | 0.4 | 6.0 | | 0.04 |
| ARM C | 11.64 | 29.73 | 0.392 | | 0.5 | 0.6 | 9.4 | | 0.06 |
| ARM D | 8.13 | 31.11 | 0.262 | | 0.3 | 0.4 | 5.2 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 21.97 | 36.43 | 0.603 | | 0.9 | 1.5 | 21.9 | | 0.07 |
| ARM B | 11.33 | 29.60 | 0.383 | | 0.4 | 0.6 | 9.1 | | 0.05 |
| ARM C | 14.26 | 28.35 | 0.503 | | 0.6 | 1.0 | 14.7 | | 0.07 |
| ARM D | 9.96 | 29.68 | 0.336 | | 0.4 | 0.5 | 7.4 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 21.97 | 36.42 | 0.603 | | 1.5 | 1.5 | 22.6 | | 0.07 |
| ARM B | 11.33 | 29.58 | 0.383 | | 0.6 | 0.6 | 9.3 | | 0.05 |
| ARM C | 14.26 | 28.34 | 0.503 | | 1.0 | 1.0 | 15.1 | | 0.07 |
| ARM D | 9.96 | 29.67 | 0.336 | | 0.5 | 0.5 | 7.6 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 17.94 | 36.99 | 0.485 | | 1.5 | 0.9 | 14.6 | | 0.05 |
| ARM B | 9.25 | 32.10 | 0.288 | | 0.6 | 0.4 | 6.2 | | 0.04 |
| ARM C | 11.64 | 29.71 | 0.392 | | 1.0 | 0.6 | 9.9 | | 0.06 |
| ARM D | 8.13 | 31.09 | 0.262 | | 0.5 | 0.4 | 5.4 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 15.02 | 37.40 | 0.402 | | 0.9 | 0.7 | 10.3 | | 0.04 |
| ARM B | 7.75 | 33.95 | 0.228 | | 0.4 | 0.3 | 4.5 | | 0.04 |
| ARM C | 9.75 | 30.72 | 0.317 | | 0.6 | 0.5 | 7.1 | | 0.05 |
| ARM D | 6.81 | 32.13 | 0.212 | | 0.4 | 0.3 | 4.1 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.7 * |
| 17.15 | 0.9 ** |
| 17.30 | 1.5 ** |
| 17.45 | 1.5 ** |
| 18.00 | 0.9 * |
| 18.15 | 0.7 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |

18.00 0.4
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |
| 17.45 | 0.5 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 1648.2 | I | 1098.8 | I | 92.9 | I | 0.06 | I |
| I | B | I | 850.2 | I | 566.8 | I | 39.4 | I | 0.05 | I |
| I | C | I | 1069.5 | I | 713.0 | I | 63.0 | I | 0.06 | I |
| I | D | I | 747.3 | I | 498.2 | I | 33.7 | I | 0.05 | I |
| I | ALL | I | 4315.2 | I | 2876.8 | I | 229.0 | I | 0.05 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site E.vai"
(drive-on-the-left) at 12:15:11 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 15.76 | I | 23.64 | I | 15.76 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.89 | I | 8.83 | I | 5.89 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.07 | I | 15.11 | I | 10.07 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.36 | I | 9.54 | I | 6.36 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.017 | I | 0.726 | I | 0.257 | I |
| I | I | I | I | 0.0 | I | 22.0 | I | 915.0 | I | 324.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.070 | I | 0.000 | I | 0.344 | I | 0.586 | I |
| I | I | I | I | 33.0 | I | 0.0 | I | 162.0 | I | 276.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.908 | I | 0.030 | I | 0.005 | I | 0.057 | I |
| I | I | I | I | 732.0 | I | 24.0 | I | 4.0 | I | 46.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.556 | I | 0.436 | I | 0.008 | I | 0.000 | I |
| I | I | I | I | 283.0 | I | 222.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 15.76 | 37.69 | 0.418 | | 0.0 | 0.7 | 10.5 | | 0.05 |
| ARM B | 5.89 | 33.51 | 0.176 | | 0.0 | 0.2 | 3.1 | | 0.04 |
| ARM C | 10.07 | 31.47 | 0.320 | | 0.0 | 0.5 | 6.9 | | 0.05 |
| ARM D | 6.36 | 31.91 | 0.199 | | 0.0 | 0.2 | 3.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 18.82 | 37.32 | 0.504 | | 0.7 | 1.0 | 14.8 | | 0.05 |
| ARM B | 7.03 | 31.55 | 0.223 | | 0.2 | 0.3 | 4.2 | | 0.04 |
| ARM C | 12.03 | 30.61 | 0.393 | | 0.5 | 0.6 | 9.5 | | 0.05 |
| ARM D | 7.60 | 30.81 | 0.247 | | 0.2 | 0.3 | 4.8 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 23.05 | 36.83 | 0.626 | | 1.0 | 1.7 | 24.0 | | 0.07 |
| ARM B | 8.61 | 28.89 | 0.298 | | 0.3 | 0.4 | 6.2 | | 0.05 |
| ARM C | 14.73 | 29.43 | 0.501 | | 0.6 | 1.0 | 14.5 | | 0.07 |
| ARM D | 9.30 | 29.32 | 0.317 | | 0.3 | 0.5 | 6.8 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 23.05 | 36.83 | 0.626 | | 1.7 | 1.7 | 24.9 | | 0.07 |
| ARM B | 8.61 | 28.86 | 0.298 | | 0.4 | 0.4 | 6.4 | | 0.05 |
| ARM C | 14.73 | 29.42 | 0.501 | | 1.0 | 1.0 | 15.0 | | 0.07 |
| ARM D | 9.30 | 29.31 | 0.317 | | 0.5 | 0.5 | 7.0 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 18.82 | 37.32 | 0.504 | | 1.7 | 1.0 | 15.7 | | 0.05 |
| ARM B | 7.03 | 31.51 | 0.223 | | 0.4 | 0.3 | 4.4 | | 0.04 |
| ARM C | 12.03 | 30.60 | 0.393 | | 1.0 | 0.7 | 10.0 | | 0.05 |
| ARM D | 7.60 | 30.79 | 0.247 | | 0.5 | 0.3 | 5.0 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 15.76 | 37.68 | 0.418 | | 1.0 | 0.7 | 11.0 | | 0.05 |
| ARM B | 5.89 | 33.46 | 0.176 | | 0.3 | 0.2 | 3.2 | | 0.04 |
| ARM C | 10.07 | 31.46 | 0.320 | | 0.7 | 0.5 | 7.2 | | 0.05 |
| ARM D | 6.36 | 31.88 | 0.200 | | 0.3 | 0.3 | 3.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.7 * |
| 17.15 | 1.0 ** |
| 17.30 | 1.7 ** |
| 17.45 | 1.7 ** |
| 18.00 | 1.0 * |
| 18.15 | 0.7 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |

18.00 0.3
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.3 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | I | I | I | I | I | I | I | I | | |
| I | A | I | 1729.1 | I | 1152.7 | I | 101.0 | I | 0.06 | I |
| I | B | I | 645.8 | I | 430.6 | I | 27.6 | I | 0.04 | I |
| I | C | I | 1105.2 | I | 736.8 | I | 63.1 | I | 0.06 | I |
| I | D | I | 697.9 | I | 465.3 | I | 31.1 | I | 0.04 | I |
| I | ALL | I | 4178.1 | I | 2785.4 | I | 222.7 | I | 0.05 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site F.vai"
(drive-on-the-left) at 12:15:55 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 16.00 | I | 24.00 | I | 16.00 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.75 | I | 8.63 | I | 5.75 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.14 | I | 15.21 | I | 10.14 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.32 | I | 9.49 | I | 6.32 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.017 | I | 0.730 | I | 0.253 | I |
| I | I | I | I | 0.0 | I | 22.0 | I | 934.0 | I | 324.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.072 | I | 0.000 | I | 0.328 | I | 0.600 | I |
| I | I | I | I | 33.0 | I | 0.0 | I | 151.0 | I | 276.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.908 | I | 0.025 | I | 0.011 | I | 0.057 | I |
| I | I | I | I | 736.0 | I | 20.0 | I | 9.0 | I | 46.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.553 | I | 0.439 | I | 0.008 | I | 0.000 | I |
| I | I | I | I | 280.0 | I | 222.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 16.00 | 37.68 | 0.425 | | 0.0 | 0.7 | 10.8 | | 0.05 | I |
| I | I | ARM B | 5.75 | 33.32 | 0.173 | | 0.0 | 0.2 | 3.1 | | 0.04 | I |
| I | I | ARM C | 10.14 | 31.47 | 0.322 | | 0.0 | 0.5 | 7.0 | | 0.05 | I |
| I | I | ARM D | 6.32 | 31.87 | 0.198 | | 0.0 | 0.2 | 3.6 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 19.11 | 37.32 | 0.512 | | 0.7 | 1.0 | 15.3 | | 0.05 | I |
| I | I | ARM B | 6.87 | 31.32 | 0.219 | | 0.2 | 0.3 | 4.1 | | 0.04 | I |
| I | I | ARM C | 12.11 | 30.61 | 0.395 | | 0.5 | 0.7 | 9.6 | | 0.05 | I |
| I | I | ARM D | 7.55 | 30.77 | 0.245 | | 0.2 | 0.3 | 4.8 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 23.40 | 36.82 | 0.636 | | 1.0 | 1.7 | 25.0 | | 0.07 | I |
| I | I | ARM B | 8.41 | 28.61 | 0.294 | | 0.3 | 0.4 | 6.1 | | 0.05 | I |
| I | I | ARM C | 14.83 | 29.43 | 0.504 | | 0.7 | 1.0 | 14.7 | | 0.07 | I |
| I | I | ARM D | 9.25 | 29.27 | 0.316 | | 0.3 | 0.5 | 6.8 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 23.40 | 36.82 | 0.636 | | 1.7 | 1.7 | 25.9 | | 0.07 | I |
| I | I | ARM B | 8.41 | 28.58 | 0.294 | | 0.4 | 0.4 | 6.2 | | 0.05 | I |
| I | I | ARM C | 14.83 | 29.42 | 0.504 | | 1.0 | 1.0 | 15.1 | | 0.07 | I |
| I | I | ARM D | 9.25 | 29.26 | 0.316 | | 0.5 | 0.5 | 6.9 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 19.11 | 37.31 | 0.512 | | 1.7 | 1.1 | 16.3 | | 0.06 | I |
| I | I | ARM B | 6.87 | 31.28 | 0.219 | | 0.4 | 0.3 | 4.3 | | 0.04 | I |
| I | I | ARM C | 12.11 | 30.59 | 0.396 | | 1.0 | 0.7 | 10.1 | | 0.05 | I |
| I | I | ARM D | 7.55 | 30.75 | 0.246 | | 0.5 | 0.3 | 5.0 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 16.00 | 37.67 | 0.425 | | 1.1 | 0.7 | 11.3 | | 0.05 | I |
| I | I | ARM B | 5.75 | 33.27 | 0.173 | | 0.3 | 0.2 | 3.2 | | 0.04 | I |
| I | I | ARM C | 10.14 | 31.46 | 0.322 | | 0.7 | 0.5 | 7.3 | | 0.05 | I |
| I | I | ARM D | 6.32 | 31.85 | 0.199 | | 0.3 | 0.2 | 3.8 | | 0.04 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.7 * |
| 17.15 | 1.0 ** |
| 17.30 | 1.7 ** |
| 17.45 | 1.7 ** |
| 18.00 | 1.1 * |
| 18.15 | 0.7 * |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |

18.00 0.3
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | |
|---|-----|--------------|----------|--------------|-----------|------------------------|-----------|
| | | I | I | I | I | I | I |
| I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) |
| I | A | I 1755.2 | I 1170.1 | I 104.5 | I 0.06 | I 104.5 | I 0.06 |
| I | B | I 630.8 | I 420.5 | I 27.0 | I 0.04 | I 27.0 | I 0.04 |
| I | C | I 1112.1 | I 741.4 | I 63.8 | I 0.06 | I 63.8 | I 0.06 |
| I | D | I 693.8 | I 462.6 | I 30.9 | I 0.04 | I 30.9 | I 0.04 |
| I | ALL | I 4191.8 | I 2794.5 | I 226.2 | I 0.05 | I 226.2 | I 0.05 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site G1.vai"
(drive-on-the-left) at 14:02:11 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|--|---|------------------------|---|-----------------------|---|---------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 15.45 | I | 23.17 | I | 15.45 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.05 | I | 12.08 | I | 8.05 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.93 | I | 14.89 | I | 9.93 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.47 | I | 9.71 | I | 6.47 |

DEMAND SET TITLE: A63/A1041

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.019 | I | 0.725 | I | 0.256 | I |
| I | I | I | I | 0.0 | I | 24.0 | I | 896.0 | I | 316.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.053 | I | 0.000 | I | 0.289 | I | 0.658 | I |
| I | I | I | I | 34.0 | I | 0.0 | I | 186.0 | I | 424.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.894 | I | 0.043 | I | 0.008 | I | 0.055 | I |
| I | I | I | I | 710.0 | I | 34.0 | I | 6.0 | I | 44.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.533 | I | 0.459 | I | 0.008 | I | 0.000 | I |
| I | I | I | I | 276.0 | I | 238.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 15.45 | 37.48 | 0.412 | | 0.0 | 0.7 | 10.2 | | 0.05 | I |
| I | I | ARM B | 8.05 | 33.71 | 0.239 | | 0.0 | 0.3 | 4.6 | | 0.04 | I |
| I | I | ARM C | 9.93 | 30.49 | 0.325 | | 0.0 | 0.5 | 7.1 | | 0.05 | I |
| I | I | ARM D | 6.47 | 31.97 | 0.203 | | 0.0 | 0.3 | 3.7 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 18.45 | 37.08 | 0.498 | | 0.7 | 1.0 | 14.5 | | 0.05 | I |
| I | I | ARM B | 9.61 | 31.79 | 0.302 | | 0.3 | 0.4 | 6.4 | | 0.05 | I |
| I | I | ARM C | 11.85 | 29.44 | 0.403 | | 0.5 | 0.7 | 9.9 | | 0.06 | I |
| I | I | ARM D | 7.73 | 30.89 | 0.250 | | 0.3 | 0.3 | 4.9 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 22.60 | 36.53 | 0.618 | | 1.0 | 1.6 | 23.3 | | 0.07 | I |
| I | I | ARM B | 11.77 | 29.18 | 0.403 | | 0.4 | 0.7 | 9.9 | | 0.06 | I |
| I | I | ARM C | 14.51 | 27.99 | 0.519 | | 0.7 | 1.1 | 15.6 | | 0.07 | I |
| I | I | ARM D | 9.47 | 29.41 | 0.322 | | 0.3 | 0.5 | 7.0 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 22.60 | 36.53 | 0.619 | | 1.6 | 1.6 | 24.1 | | 0.07 | I |
| I | I | ARM B | 11.77 | 29.15 | 0.404 | | 0.7 | 0.7 | 10.1 | | 0.06 | I |
| I | I | ARM C | 14.51 | 27.98 | 0.519 | | 1.1 | 1.1 | 16.0 | | 0.07 | I |
| I | I | ARM D | 9.47 | 29.40 | 0.322 | | 0.5 | 0.5 | 7.1 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 18.45 | 37.08 | 0.498 | | 1.6 | 1.0 | 15.3 | | 0.05 | I |
| I | I | ARM B | 9.61 | 31.75 | 0.303 | | 0.7 | 0.4 | 6.6 | | 0.05 | I |
| I | I | ARM C | 11.85 | 29.42 | 0.403 | | 1.1 | 0.7 | 10.4 | | 0.06 | I |
| I | I | ARM D | 7.73 | 30.87 | 0.250 | | 0.5 | 0.3 | 5.1 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 15.45 | 37.48 | 0.412 | | 1.0 | 0.7 | 10.8 | | 0.05 | I |
| I | I | ARM B | 8.05 | 33.67 | 0.239 | | 0.4 | 0.3 | 4.8 | | 0.04 | I |
| I | I | ARM C | 9.93 | 30.47 | 0.326 | | 0.7 | 0.5 | 7.4 | | 0.05 | I |
| I | I | ARM D | 6.47 | 31.95 | 0.203 | | 0.3 | 0.3 | 3.9 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.7 * |
| 17.15 | 1.0 ** |
| 17.30 | 1.6 ** |
| 17.45 | 1.6 ** |
| 18.00 | 1.0 * |
| 18.15 | 0.7 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |

18.00 0.4
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.7 * |
| 17.30 | 1.1 * |
| 17.45 | 1.1 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.3 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 1694.8 | I | 1129.9 | I | 98.2 | I | 0.06 | I |
| I | B | I | 883.1 | I | 588.7 | I | 42.4 | I | 0.05 | I |
| I | C | I | 1088.7 | I | 725.8 | I | 66.3 | I | 0.06 | I |
| I | D | I | 710.3 | I | 473.5 | I | 31.7 | I | 0.04 | I |
| I | ALL | I | 4376.9 | I | 2917.9 | I | 238.7 | I | 0.05 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site G2.vai"
(drive-on-the-left) at 14:04:22 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 15.43 | I | 23.14 | I | 15.43 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.65 | I | 12.97 | I | 8.65 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.02 | I | 15.04 | I | 10.02 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.26 | I | 9.39 | I | 6.26 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.020 | I | 0.725 | I | 0.254 | I |
| I | I | I | I | 0.0 | I | 25.0 | I | 895.0 | I | 314.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.051 | I | 0.000 | I | 0.290 | I | 0.659 | I |
| I | I | I | I | 35.0 | I | 0.0 | I | 201.0 | I | 456.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.885 | I | 0.052 | I | 0.007 | I | 0.055 | I |
| I | I | I | I | 710.0 | I | 42.0 | I | 6.0 | I | 44.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.547 | I | 0.445 | I | 0.008 | I | 0.000 | I |
| I | I | I | I | 274.0 | I | 223.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 15.43 | 37.53 | 0.411 | | 0.0 | 0.7 | 10.2 | | 0.05 | I |
| I | I | ARM B | 8.65 | 33.73 | 0.256 | | 0.0 | 0.3 | 5.1 | | 0.04 | I |
| I | I | ARM C | 10.02 | 30.28 | 0.331 | | 0.0 | 0.5 | 7.2 | | 0.05 | I |
| I | I | ARM D | 6.26 | 31.91 | 0.196 | | 0.0 | 0.2 | 3.6 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 18.42 | 37.14 | 0.496 | | 0.7 | 1.0 | 14.4 | | 0.05 | I |
| I | I | ARM B | 10.33 | 31.82 | 0.325 | | 0.3 | 0.5 | 7.1 | | 0.05 | I |
| I | I | ARM C | 11.97 | 29.18 | 0.410 | | 0.5 | 0.7 | 10.2 | | 0.06 | I |
| I | I | ARM D | 7.48 | 30.81 | 0.243 | | 0.2 | 0.3 | 4.7 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 22.56 | 36.61 | 0.616 | | 1.0 | 1.6 | 23.1 | | 0.07 | I |
| I | I | ARM B | 12.65 | 29.21 | 0.433 | | 0.5 | 0.8 | 11.1 | | 0.06 | I |
| I | I | ARM C | 14.66 | 27.68 | 0.530 | | 0.7 | 1.1 | 16.2 | | 0.08 | I |
| I | I | ARM D | 9.16 | 29.32 | 0.312 | | 0.3 | 0.5 | 6.7 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 22.56 | 36.60 | 0.616 | | 1.6 | 1.6 | 23.9 | | 0.07 | I |
| I | I | ARM B | 12.65 | 29.19 | 0.433 | | 0.8 | 0.8 | 11.4 | | 0.06 | I |
| I | I | ARM C | 14.66 | 27.66 | 0.530 | | 1.1 | 1.1 | 16.8 | | 0.08 | I |
| I | I | ARM D | 9.16 | 29.31 | 0.313 | | 0.5 | 0.5 | 6.8 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 18.42 | 37.14 | 0.496 | | 1.6 | 1.0 | 15.2 | | 0.05 | I |
| I | I | ARM B | 10.33 | 31.78 | 0.325 | | 0.8 | 0.5 | 7.4 | | 0.05 | I |
| I | I | ARM C | 11.97 | 29.16 | 0.411 | | 1.1 | 0.7 | 10.8 | | 0.06 | I |
| I | I | ARM D | 7.48 | 30.79 | 0.243 | | 0.5 | 0.3 | 4.9 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 15.43 | 37.53 | 0.411 | | 1.0 | 0.7 | 10.7 | | 0.05 | I |
| I | I | ARM B | 8.65 | 33.69 | 0.257 | | 0.5 | 0.3 | 5.3 | | 0.04 | I |
| I | I | ARM C | 10.02 | 30.26 | 0.331 | | 0.7 | 0.5 | 7.6 | | 0.05 | I |
| I | I | ARM D | 6.26 | 31.88 | 0.196 | | 0.3 | 0.2 | 3.7 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.7 * |
| 17.15 | 1.0 ** |
| 17.30 | 1.6 ** |
| 17.45 | 1.6 ** |
| 18.00 | 1.0 * |
| 18.15 | 0.7 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.5 |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |

18.00 0.5
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.7 * |
| 17.30 | 1.1 * |
| 17.45 | 1.1 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 1692.1 | I | 1128.0 | I | 97.4 | I | 0.06 | I |
| I | B | I | 948.9 | I | 632.6 | I | 47.3 | I | 0.05 | I |
| I | C | I | 1099.7 | I | 733.1 | I | 68.8 | I | 0.06 | I |
| I | D | I | 687.0 | I | 458.0 | I | 30.4 | I | 0.04 | I |
| I | ALL | I | 4427.6 | I | 2951.8 | I | 244.0 | I | 0.06 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site H1.vai"
(drive-on-the-left) at 14:05:15 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 16.88 | I | 25.31 | I | 16.88 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.15 | I | 9.23 | I | 6.15 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.91 | I | 16.37 | I | 10.91 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.05 | I | 12.08 | I | 8.05 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.016 | I | 0.693 | I | 0.291 | I |
| I | I | I | I | 0.0 | I | 22.0 | I | 935.0 | I | 393.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.067 | I | 0.000 | I | 0.262 | I | 0.671 | I |
| I | I | I | I | 33.0 | I | 0.0 | I | 129.0 | I | 330.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.832 | I | 0.103 | I | 0.007 | I | 0.058 | I |
| I | I | I | I | 726.0 | I | 90.0 | I | 6.0 | I | 51.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.483 | I | 0.511 | I | 0.006 | I | 0.000 | I |
| I | I | I | I | 311.0 | I | 329.0 | I | 4.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 16.88 | 36.42 | 0.463 | | 0.0 | 0.9 | 12.6 | | 0.05 | I |
| I | I | ARM B | 6.15 | 32.79 | 0.188 | | 0.0 | 0.2 | 3.4 | | 0.04 | I |
| I | I | ARM C | 10.91 | 30.62 | 0.356 | | 0.0 | 0.6 | 8.1 | | 0.05 | I |
| I | I | ARM D | 8.05 | 31.47 | 0.256 | | 0.0 | 0.3 | 5.0 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 20.15 | 35.81 | 0.563 | | 0.9 | 1.3 | 18.6 | | 0.06 | I |
| I | I | ARM B | 7.34 | 30.69 | 0.239 | | 0.2 | 0.3 | 4.6 | | 0.04 | I |
| I | I | ARM C | 13.03 | 29.59 | 0.440 | | 0.6 | 0.8 | 11.5 | | 0.06 | I |
| I | I | ARM D | 9.61 | 30.29 | 0.317 | | 0.3 | 0.5 | 6.8 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 24.68 | 34.97 | 0.706 | | 1.3 | 2.3 | 33.6 | | 0.10 | I |
| I | I | ARM B | 8.99 | 27.84 | 0.323 | | 0.3 | 0.5 | 7.0 | | 0.05 | I |
| I | I | ARM C | 15.96 | 28.18 | 0.566 | | 0.8 | 1.3 | 18.7 | | 0.08 | I |
| I | I | ARM D | 11.77 | 28.69 | 0.410 | | 0.5 | 0.7 | 10.2 | | 0.06 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 24.68 | 34.96 | 0.706 | | 2.3 | 2.4 | 35.5 | | 0.10 | I |
| I | I | ARM B | 8.99 | 27.80 | 0.324 | | 0.5 | 0.5 | 7.1 | | 0.05 | I |
| I | I | ARM C | 15.96 | 28.16 | 0.567 | | 1.3 | 1.3 | 19.4 | | 0.08 | I |
| I | I | ARM D | 11.77 | 28.67 | 0.411 | | 0.7 | 0.7 | 10.4 | | 0.06 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 20.15 | 35.79 | 0.563 | | 2.4 | 1.3 | 20.1 | | 0.06 | I |
| I | I | ARM B | 7.34 | 30.62 | 0.240 | | 0.5 | 0.3 | 4.8 | | 0.04 | I |
| I | I | ARM C | 13.03 | 29.56 | 0.441 | | 1.3 | 0.8 | 12.2 | | 0.06 | I |
| I | I | ARM D | 9.61 | 30.27 | 0.318 | | 0.7 | 0.5 | 7.1 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 16.88 | 36.40 | 0.464 | | 1.3 | 0.9 | 13.3 | | 0.05 | I |
| I | I | ARM B | 6.15 | 32.73 | 0.188 | | 0.3 | 0.2 | 3.5 | | 0.04 | I |
| I | I | ARM C | 10.91 | 30.60 | 0.357 | | 0.8 | 0.6 | 8.5 | | 0.05 | I |
| I | I | ARM D | 8.05 | 31.44 | 0.256 | | 0.5 | 0.3 | 5.3 | | 0.04 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.9 * |
| 17.15 | 1.3 ** |
| 17.30 | 2.3 ** |
| 17.45 | 2.4 ** |
| 18.00 | 1.3 * |
| 18.15 | 0.9 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |

18.00 0.3
18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.3 * |
| 17.45 | 1.3 * |
| 18.00 | 0.8 * |
| 18.15 | 0.6 * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.5 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 |
| 18.15 | 0.3 |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 1851.1 | I | 1234.1 | I | 133.7 | I | 0.07 | I |
| I | B | I | 674.6 | I | 449.8 | I | 30.5 | I | 0.05 | I |
| I | C | I | 1197.1 | I | 798.0 | I | 78.5 | I | 0.07 | I |
| I | D | I | 883.1 | I | 588.7 | I | 44.8 | I | 0.05 | I |
| I | ALL | I | 4605.9 | I | 3070.6 | I | 287.5 | I | 0.06 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A63 A1041 2026 Site H2.vai"
(drive-on-the-left) at 14:06:01 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/A1041
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A53/A1041 roundabout assessment

.INPUT DATA

ARM A - A1041 North
ARM B - A63 East
ARM C - A1041 South
ARM D - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 8.50 | I | 10.50 | I | 8.00 | I | 16.50 | I | 80.00 | I | 57.0 | I | 0.583 | I | 43.485 | I |
| I | ARM B | I | 8.50 | I | 10.50 | I | 8.00 | I | 21.00 | I | 80.00 | I | 35.0 | I | 0.640 | I | 47.807 | I |
| I | ARM C | I | 7.15 | I | 9.00 | I | 9.00 | I | 22.00 | I | 80.00 | I | 47.0 | I | 0.558 | I | 39.466 | I |
| I | ARM D | I | 6.50 | I | 11.25 | I | 18.00 | I | 28.00 | I | 80.00 | I | 63.0 | I | 0.563 | I | 41.223 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/A1041

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 17.09 | I | 25.63 | I | 17.09 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.68 | I | 10.01 | I | 6.68 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.95 | I | 16.42 | I | 10.95 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.49 | I | 14.23 | I | 9.49 | I |

DEMAND SET TITLE: A63/A1041

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.016 | I | 0.693 | I | 0.291 | I |
| I | I | | I | 0.0 | I | 22.0 | I | 947.0 | I | 398.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM B | I | 0.062 | I | 0.000 | I | 0.225 | I | 0.713 | I |
| I | I | | I | 33.0 | I | 0.0 | I | 120.0 | I | 381.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.816 | I | 0.115 | I | 0.007 | I | 0.062 | I |
| I | I | | I | 715.0 | I | 101.0 | I | 6.0 | I | 54.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM D | I | 0.453 | I | 0.542 | I | 0.005 | I | 0.000 | I |
| I | I | | I | 344.0 | I | 411.0 | I | 4.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I |
| I | I | | I | | I | | I | | I | | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 17.09 | 35.74 | 0.478 | | 0.0 | 0.9 | 13.3 | | 0.05 | I |
| I | I | ARM B | 6.68 | 32.65 | 0.204 | | 0.0 | 0.3 | 3.8 | | 0.04 | I |
| I | I | ARM C | 10.95 | 30.23 | 0.362 | | 0.0 | 0.6 | 8.3 | | 0.05 | I |
| I | I | ARM D | 9.49 | 31.47 | 0.301 | | 0.0 | 0.4 | 6.3 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 20.40 | 35.00 | 0.583 | | 0.9 | 1.4 | 20.2 | | 0.07 | I |
| I | I | ARM B | 7.97 | 30.53 | 0.261 | | 0.3 | 0.4 | 5.2 | | 0.04 | I |
| I | I | ARM C | 13.08 | 29.12 | 0.449 | | 0.6 | 0.8 | 11.9 | | 0.06 | I |
| I | I | ARM D | 11.33 | 30.29 | 0.374 | | 0.4 | 0.6 | 8.8 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 24.99 | 33.98 | 0.735 | | 1.4 | 2.7 | 38.3 | | 0.11 | I |
| I | I | ARM B | 9.76 | 27.65 | 0.353 | | 0.4 | 0.5 | 8.0 | | 0.06 | I |
| I | I | ARM C | 16.01 | 27.61 | 0.580 | | 0.8 | 1.4 | 19.7 | | 0.09 | I |
| I | I | ARM D | 13.88 | 28.69 | 0.484 | | 0.6 | 0.9 | 13.6 | | 0.07 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 24.99 | 33.97 | 0.736 | | 2.7 | 2.7 | 40.9 | | 0.11 | I |
| I | I | ARM B | 9.76 | 27.60 | 0.354 | | 0.5 | 0.5 | 8.2 | | 0.06 | I |
| I | I | ARM C | 16.01 | 27.59 | 0.580 | | 1.4 | 1.4 | 20.5 | | 0.09 | I |
| I | I | ARM D | 13.88 | 28.67 | 0.484 | | 0.9 | 0.9 | 14.0 | | 0.07 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 20.40 | 34.98 | 0.583 | | 2.7 | 1.4 | 22.0 | | 0.07 | I |
| I | I | ARM B | 7.97 | 30.45 | 0.262 | | 0.5 | 0.4 | 5.4 | | 0.04 | I |
| I | I | ARM C | 13.08 | 29.09 | 0.449 | | 1.4 | 0.8 | 12.7 | | 0.06 | I |
| I | I | ARM D | 11.33 | 30.26 | 0.374 | | 0.9 | 0.6 | 9.2 | | 0.05 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 17.09 | 35.73 | 0.478 | | 1.4 | 0.9 | 14.2 | | 0.05 | I |
| I | I | ARM B | 6.68 | 32.59 | 0.205 | | 0.4 | 0.3 | 3.9 | | 0.04 | I |
| I | I | ARM C | 10.95 | 30.20 | 0.363 | | 0.8 | 0.6 | 8.7 | | 0.05 | I |
| I | I | ARM D | 9.49 | 31.44 | 0.302 | | 0.6 | 0.4 | 6.6 | | 0.05 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.9 * |
| 17.15 | 1.4 ** |
| 17.30 | 2.7 *** |
| 17.45 | 2.7 *** |
| 18.00 | 1.4 * |
| 18.15 | 0.9 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |
| 17.45 | 0.5 * |

18.00 0.4
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.4 * |
| 17.45 | 1.4 * |
| 18.00 | 0.8 * |
| 18.15 | 0.6 * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.4 * |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 0.9 * |
| 18.00 | 0.6 * |
| 18.15 | 0.4 * |

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | A | I | 1874.4 | I | 1249.6 | I | 148.9 | I | 0.08 | I |
| I | B | I | 732.2 | I | 488.2 | I | 34.5 | I | 0.05 | I |
| I | C | I | 1201.2 | I | 800.8 | I | 81.8 | I | 0.07 | I |
| I | D | I | 1040.7 | I | 693.8 | I | 58.5 | I | 0.06 | I |
| I | ALL | I | 4848.6 | I | 3232.4 | I | 323.7 | I | 0.07 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2008 Base.vai"
(drive-on-the-left) at 12:43:12 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.98 | I | 1.46 | I | 0.98 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.35 | I | 6.52 | I | 4.35 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.19 | I | 7.78 | I | 5.19 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 78.0 |
| I | | I | (10.0) |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.138 | I | 0.000 | I | 0.862 | I |
| I | I | | I | 48.0 | I | 0.0 | I | 300.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.345 | I | 0.655 | I | 0.000 | I |
| I | I | | I | 143.0 | I | 272.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 0.98 | 29.49 | 0.033 | | 0.0 | 0.0 | 0.5 | | 0.04 | I |
| I | I | ARM B | 4.35 | 31.93 | 0.136 | | 0.0 | 0.2 | 2.3 | | 0.04 | I |
| I | I | ARM C | 5.19 | 31.16 | 0.166 | | 0.0 | 0.2 | 2.9 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 1.16 | 29.17 | 0.040 | | 0.0 | 0.0 | 0.6 | | 0.04 | I |
| I | I | ARM B | 5.19 | 31.84 | 0.163 | | 0.2 | 0.2 | 2.9 | | 0.04 | I |
| I | I | ARM C | 6.19 | 31.11 | 0.199 | | 0.2 | 0.2 | 3.7 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 1.43 | 28.73 | 0.050 | | 0.0 | 0.1 | 0.8 | | 0.04 | I |
| I | I | ARM B | 6.36 | 31.71 | 0.201 | | 0.2 | 0.3 | 3.7 | | 0.04 | I |
| I | I | ARM C | 7.59 | 31.03 | 0.245 | | 0.2 | 0.3 | 4.8 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 1.43 | 28.73 | 0.050 | | 0.1 | 0.1 | 0.8 | | 0.04 | I |
| I | I | ARM B | 6.36 | 31.71 | 0.201 | | 0.3 | 0.3 | 3.8 | | 0.04 | I |
| I | I | ARM C | 7.59 | 31.03 | 0.245 | | 0.3 | 0.3 | 4.8 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 1.16 | 29.16 | 0.040 | | 0.1 | 0.0 | 0.6 | | 0.04 | I |
| I | I | ARM B | 5.19 | 31.84 | 0.163 | | 0.3 | 0.2 | 3.0 | | 0.04 | I |
| I | I | ARM C | 6.19 | 31.11 | 0.199 | | 0.3 | 0.2 | 3.8 | | 0.04 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 0.98 | 29.48 | 0.033 | | 0.0 | 0.0 | 0.5 | | 0.04 | I |
| I | I | ARM B | 4.35 | 31.93 | 0.136 | | 0.2 | 0.2 | 2.4 | | 0.04 | I |
| I | I | ARM C | 5.19 | 31.16 | 0.166 | | 0.2 | 0.2 | 3.0 | | 0.04 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

 .QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |

17.45 0.3
 18.00 0.2
 18.15 0.2

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 107.0 | 3.8 | 3.8 |
| B | 477.2 | 18.0 | 18.0 |
| C | 569.1 | 23.1 | 23.1 |
| ALL | 1153.2 | 44.9 | 44.9 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Base.vai"
(drive-on-the-left) at 12:43:41 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE(%) | I |
|---|-----|---|---------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.98 | I | 1.46 | I | 0.98 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.09 | I | 7.63 | I | 5.09 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.43 | I | 9.64 | I | 6.43 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 78.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.093 | I | 0.000 | I | 0.907 | I |
| I | I | | I | 38.0 | I | 0.0 | I | 369.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.368 | I | 0.632 | I | 0.000 | I |
| I | I | | I | 189.0 | I | 325.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | I | I | I | I | I | I | I | I | I | I |
|------|-------------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| I | 16.45-17.00 | | | | | | | | | | |
| I | ARM A | 0.98 | 29.17 | 0.033 | 0.0 | 0.0 | 0.5 | | 0.04 | | |
| I | ARM B | 5.09 | 31.93 | 0.159 | 0.0 | 0.2 | 2.8 | | 0.04 | | |
| I | ARM C | 6.43 | 31.23 | 0.206 | 0.0 | 0.3 | 3.8 | | 0.04 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|------|-------------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| I | 17.00-17.15 | | | | | | | | | | |
| I | ARM A | 1.16 | 28.79 | 0.040 | 0.0 | 0.0 | 0.6 | | 0.04 | | |
| I | ARM B | 6.07 | 31.84 | 0.191 | 0.2 | 0.2 | 3.5 | | 0.04 | | |
| I | ARM C | 7.67 | 31.18 | 0.246 | 0.3 | 0.3 | 4.8 | | 0.04 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|------|-------------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| I | 17.15-17.30 | | | | | | | | | | |
| I | ARM A | 1.43 | 28.27 | 0.050 | 0.0 | 0.1 | 0.8 | | 0.04 | | |
| I | ARM B | 7.44 | 31.71 | 0.235 | 0.2 | 0.3 | 4.5 | | 0.04 | | |
| I | ARM C | 9.40 | 31.12 | 0.302 | 0.3 | 0.4 | 6.4 | | 0.05 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|------|-------------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| I | 17.30-17.45 | | | | | | | | | | |
| I | ARM A | 1.43 | 28.26 | 0.050 | 0.1 | 0.1 | 0.8 | | 0.04 | | |
| I | ARM B | 7.44 | 31.71 | 0.235 | 0.3 | 0.3 | 4.6 | | 0.04 | | |
| I | ARM C | 9.40 | 31.12 | 0.302 | 0.4 | 0.4 | 6.5 | | 0.05 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|------|-------------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| I | 17.45-18.00 | | | | | | | | | | |
| I | ARM A | 1.16 | 28.79 | 0.040 | 0.1 | 0.0 | 0.6 | | 0.04 | | |
| I | ARM B | 6.07 | 31.84 | 0.191 | 0.3 | 0.2 | 3.6 | | 0.04 | | |
| I | ARM C | 7.67 | 31.18 | 0.246 | 0.4 | 0.3 | 5.0 | | 0.04 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|------|-------------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| I | 18.00-18.15 | | | | | | | | | | |
| I | ARM A | 0.98 | 29.16 | 0.033 | 0.0 | 0.0 | 0.5 | | 0.04 | | |
| I | ARM B | 5.09 | 31.93 | 0.159 | 0.2 | 0.2 | 2.9 | | 0.04 | | |
| I | ARM C | 6.43 | 31.23 | 0.206 | 0.3 | 0.3 | 3.9 | | 0.04 | | |

 .QUEUE AT ARM A

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

 .QUEUE AT ARM B

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

 .QUEUE AT ARM C

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |

17.45 0.4
 18.00 0.3
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 107.0 | 3.9 | 3.9 |
| B | 558.1 | 21.9 | 21.9 |
| C | 704.8 | 30.4 | 30.4 |
| ALL | 1369.8 | 56.2 | 56.2 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site A.vai"
(drive-on-the-left) at 12:44:45 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.99 | I | 1.48 | I | 0.99 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.05 | I | 7.58 | I | 5.05 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.50 | I | 9.75 | I | 6.50 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 79.0 |
| I | | I | (10.0) |

17.45 0.4
 18.00 0.3
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 108.3 | 3.9 | 3.9 |
| B | 554.0 | 21.7 | 21.7 |
| C | 713.0 | 30.9 | 30.9 |
| ALL | 1375.3 | 56.5 | 56.5 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site D.vai"
(drive-on-the-left) at 12:45:11 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.98 | I | 1.46 | I | 0.98 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.05 | I | 7.58 | I | 5.05 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.40 | I | 9.60 | I | 6.40 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 78.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 Leeds Rd 2026 Site D.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.092 | I | 0.000 | I | 0.908 | I |
| I | I | | I | 37.0 | I | 0.0 | I | 367.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.371 | I | 0.629 | I | 0.000 | I |
| I | I | | I | 190.0 | I | 322.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | I | I | I | I | I | I | I | I | I | I |
|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| (VEH/MIN) | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| 16.45-17.00 | | | | | | | | | | | |
| ARM A | 0.98 | 29.19 | 0.033 | | 0.0 | 0.0 | 0.5 | | 0.04 | | |
| ARM B | 5.05 | 31.93 | 0.158 | | 0.0 | 0.2 | 2.8 | | 0.04 | | |
| ARM C | 6.40 | 31.23 | 0.205 | | 0.0 | 0.3 | 3.8 | | 0.04 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| (VEH/MIN) | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| 17.00-17.15 | | | | | | | | | | | |
| ARM A | 1.16 | 28.81 | 0.040 | | 0.0 | 0.0 | 0.6 | | 0.04 | | |
| ARM B | 6.03 | 31.84 | 0.189 | | 0.2 | 0.2 | 3.5 | | 0.04 | | |
| ARM C | 7.64 | 31.19 | 0.245 | | 0.3 | 0.3 | 4.8 | | 0.04 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| (VEH/MIN) | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| 17.15-17.30 | | | | | | | | | | | |
| ARM A | 1.43 | 28.29 | 0.050 | | 0.0 | 0.1 | 0.8 | | 0.04 | | |
| ARM B | 7.39 | 31.71 | 0.233 | | 0.2 | 0.3 | 4.5 | | 0.04 | | |
| ARM C | 9.36 | 31.13 | 0.301 | | 0.3 | 0.4 | 6.3 | | 0.05 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| (VEH/MIN) | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| 17.30-17.45 | | | | | | | | | | | |
| ARM A | 1.43 | 28.29 | 0.050 | | 0.1 | 0.1 | 0.8 | | 0.04 | | |
| ARM B | 7.39 | 31.71 | 0.233 | | 0.3 | 0.3 | 4.5 | | 0.04 | | |
| ARM C | 9.36 | 31.13 | 0.301 | | 0.4 | 0.4 | 6.4 | | 0.05 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| (VEH/MIN) | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| 17.45-18.00 | | | | | | | | | | | |
| ARM A | 1.16 | 28.81 | 0.040 | | 0.1 | 0.0 | 0.6 | | 0.04 | | |
| ARM B | 6.03 | 31.84 | 0.189 | | 0.3 | 0.2 | 3.6 | | 0.04 | | |
| ARM C | 7.64 | 31.19 | 0.245 | | 0.4 | 0.3 | 4.9 | | 0.04 | | |

| I | I | I | I | I | I | I | I | I | I | I | I |
|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|---|
| TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | | |
| (VEH/MIN) | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | | |
| | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | | |
| 18.00-18.15 | | | | | | | | | | | |
| ARM A | 0.98 | 29.18 | 0.033 | | 0.0 | 0.0 | 0.5 | | 0.04 | | |
| ARM B | 5.05 | 31.93 | 0.158 | | 0.2 | 0.2 | 2.9 | | 0.04 | | |
| ARM C | 6.40 | 31.23 | 0.205 | | 0.3 | 0.3 | 3.9 | | 0.04 | | |

QUEUE AT ARM A

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

QUEUE AT ARM B

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |

17.45 0.4
 18.00 0.3
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 107.0 | 3.9 | 3.9 |
| B | 554.0 | 21.7 | 21.7 |
| C | 702.1 | 30.2 | 30.2 |
| ALL | 1363.0 | 55.8 | 55.8 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site E.vai"
(drive-on-the-left) at 12:45:37 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.96 | I | 1.44 | I | 0.96 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.28 | I | 7.91 | I | 5.28 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.51 | I | 11.27 | I | 7.51 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 77.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 Leeds Rd 2026 Site E.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.090 | I | 0.000 | I | 0.910 | I |
| I | I | | I | 38.0 | I | 0.0 | I | 384.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.313 | I | 0.687 | I | 0.000 | I |
| I | I | | I | 188.0 | I | 413.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 0.96 | 28.65 | 0.034 | | 0.0 | 0.0 | 0.5 | | 0.04 |
| ARM B | 5.28 | 31.94 | 0.165 | | 0.0 | 0.2 | 2.9 | | 0.04 |
| ARM C | 7.51 | 31.23 | 0.241 | | 0.0 | 0.3 | 4.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 1.15 | 28.16 | 0.041 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 6.30 | 31.85 | 0.198 | | 0.2 | 0.2 | 3.6 | | 0.04 |
| ARM C | 8.97 | 31.18 | 0.288 | | 0.3 | 0.4 | 6.0 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 1.41 | 27.49 | 0.051 | | 0.0 | 0.1 | 0.8 | | 0.04 |
| ARM B | 7.71 | 31.72 | 0.243 | | 0.2 | 0.3 | 4.7 | | 0.04 |
| ARM C | 10.99 | 31.12 | 0.353 | | 0.4 | 0.5 | 8.0 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 1.41 | 27.49 | 0.051 | | 0.1 | 0.1 | 0.8 | | 0.04 |
| ARM B | 7.71 | 31.72 | 0.243 | | 0.3 | 0.3 | 4.8 | | 0.04 |
| ARM C | 10.99 | 31.12 | 0.353 | | 0.5 | 0.5 | 8.2 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 1.15 | 28.15 | 0.041 | | 0.1 | 0.0 | 0.6 | | 0.04 |
| ARM B | 6.30 | 31.84 | 0.198 | | 0.3 | 0.2 | 3.8 | | 0.04 |
| ARM C | 8.97 | 31.18 | 0.288 | | 0.5 | 0.4 | 6.2 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 0.96 | 28.64 | 0.034 | | 0.0 | 0.0 | 0.5 | | 0.04 |
| ARM B | 5.28 | 31.94 | 0.165 | | 0.2 | 0.2 | 3.0 | | 0.04 |
| ARM C | 7.51 | 31.23 | 0.241 | | 0.4 | 0.3 | 4.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |

17.45 0.5 *
 18.00 0.4
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 105.6 | 3.9 | 3.9 |
| B | 578.7 | 22.9 | 22.9 |
| C | 824.1 | 37.8 | 37.8 |
| ALL | 1508.3 | 64.6 | 64.6 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site F.vai"
(drive-on-the-left) at 12:46:02 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.98 | I | 1.46 | I | 0.98 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.05 | I | 7.58 | I | 5.05 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.43 | I | 9.64 | I | 6.43 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 78.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 Leeds Rd 2026 Site F.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.092 | I | 0.000 | I | 0.908 | I |
| I | I | | I | 37.0 | I | 0.0 | I | 367.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.372 | I | 0.628 | I | 0.000 | I |
| I | I | | I | 191.0 | I | 323.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 16.45-17.00 | | | | | | | | | | I |
| I | ARM A | 0.98 | 29.18 | 0.033 | | 0.0 | 0.0 | 0.5 | | 0.04 | I |
| I | ARM B | 5.05 | 31.93 | 0.158 | | 0.0 | 0.2 | 2.8 | | 0.04 | I |
| I | ARM C | 6.43 | 31.23 | 0.206 | | 0.0 | 0.3 | 3.8 | | 0.04 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.00-17.15 | | | | | | | | | | I |
| I | ARM A | 1.16 | 28.81 | 0.040 | | 0.0 | 0.0 | 0.6 | | 0.04 | I |
| I | ARM B | 6.03 | 31.84 | 0.189 | | 0.2 | 0.2 | 3.5 | | 0.04 | I |
| I | ARM C | 7.67 | 31.19 | 0.246 | | 0.3 | 0.3 | 4.8 | | 0.04 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.15-17.30 | | | | | | | | | | I |
| I | ARM A | 1.43 | 28.28 | 0.050 | | 0.0 | 0.1 | 0.8 | | 0.04 | I |
| I | ARM B | 7.39 | 31.71 | 0.233 | | 0.2 | 0.3 | 4.5 | | 0.04 | I |
| I | ARM C | 9.40 | 31.13 | 0.302 | | 0.3 | 0.4 | 6.4 | | 0.05 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.30-17.45 | | | | | | | | | | I |
| I | ARM A | 1.43 | 28.28 | 0.050 | | 0.1 | 0.1 | 0.8 | | 0.04 | I |
| I | ARM B | 7.39 | 31.71 | 0.233 | | 0.3 | 0.3 | 4.5 | | 0.04 | I |
| I | ARM C | 9.40 | 31.13 | 0.302 | | 0.4 | 0.4 | 6.5 | | 0.05 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 17.45-18.00 | | | | | | | | | | I |
| I | ARM A | 1.16 | 28.80 | 0.040 | | 0.1 | 0.0 | 0.6 | | 0.04 | I |
| I | ARM B | 6.03 | 31.84 | 0.189 | | 0.3 | 0.2 | 3.6 | | 0.04 | I |
| I | ARM C | 7.67 | 31.19 | 0.246 | | 0.4 | 0.3 | 5.0 | | 0.04 | I |

| I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | 18.00-18.15 | | | | | | | | | | I |
| I | ARM A | 0.98 | 29.18 | 0.033 | | 0.0 | 0.0 | 0.5 | | 0.04 | I |
| I | ARM B | 5.05 | 31.93 | 0.158 | | 0.2 | 0.2 | 2.9 | | 0.04 | I |
| I | ARM C | 6.43 | 31.23 | 0.206 | | 0.3 | 0.3 | 3.9 | | 0.04 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

 .QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |

17.45 0.4
 18.00 0.3
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 107.0 | 3.9 | 3.9 |
| B | 554.0 | 21.7 | 21.7 |
| C | 704.8 | 30.4 | 30.4 |
| ALL | 1365.7 | 55.9 | 55.9 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site G1.vao"
(drive-on-the-left) at 14:13:29 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.10 | I | 1.65 | I | 1.10 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.11 | I | 7.67 | I | 5.11 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.30 | I | 9.45 | I | 6.30 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 88.0 |
| I | | I | (10.0) |

a63 Leeds Rd 2026 Site G1.vao

| | | | | |
|---|-------|---------|---------|---------|
| I | ARM B | 0.088 | 0.000 | 0.912 |
| I | | 36.0 | 0.0 | 373.0 |
| I | | (10.0) | (10.0) | (10.0) |
| I | | | | |
| I | ARM C | 0.373 | 0.627 | 0.000 |
| I | | 188.0 | 316.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) |
| I | | | | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 1.10 | 29.22 | 0.038 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.11 | 31.87 | 0.160 | | 0.0 | 0.2 | 2.8 | | 0.04 |
| ARM C | 6.30 | 31.24 | 0.202 | | 0.0 | 0.3 | 3.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 1.31 | 28.86 | 0.046 | | 0.0 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.10 | 31.76 | 0.192 | | 0.2 | 0.2 | 3.5 | | 0.04 |
| ARM C | 7.52 | 31.20 | 0.241 | | 0.3 | 0.3 | 4.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 1.61 | 28.35 | 0.057 | | 0.0 | 0.1 | 0.9 | | 0.04 |
| ARM B | 7.48 | 31.62 | 0.236 | | 0.2 | 0.3 | 4.6 | | 0.04 |
| ARM C | 9.21 | 31.14 | 0.296 | | 0.3 | 0.4 | 6.2 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 1.61 | 28.34 | 0.057 | | 0.1 | 0.1 | 0.9 | | 0.04 |
| ARM B | 7.48 | 31.62 | 0.236 | | 0.3 | 0.3 | 4.6 | | 0.04 |
| ARM C | 9.21 | 31.14 | 0.296 | | 0.4 | 0.4 | 6.3 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 1.31 | 28.85 | 0.046 | | 0.1 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.10 | 31.76 | 0.192 | | 0.3 | 0.2 | 3.6 | | 0.04 |
| ARM C | 7.52 | 31.19 | 0.241 | | 0.4 | 0.3 | 4.8 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 1.10 | 29.22 | 0.038 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.11 | 31.87 | 0.160 | | 0.2 | 0.2 | 2.9 | | 0.04 |
| ARM C | 6.30 | 31.24 | 0.202 | | 0.3 | 0.3 | 3.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |

17.45 0.4
 18.00 0.3
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 120.7 | 4.4 | 4.4 |
| B | 560.8 | 22.1 | 22.1 |
| C | 691.1 | 29.6 | 29.6 |
| ALL | 1372.6 | 56.1 | 56.1 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site G2.vao"
(drive-on-the-left) at 14:14:07 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.09 | I | 1.63 | I | 1.09 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.34 | I | 8.01 | I | 5.34 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.28 | I | 9.41 | I | 6.28 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.000 | I | 1.000 |
| I | | I | | I | 0.0 | I | 0.0 | I | 87.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 Leeds Rd 2026 Site G2.vao

| | | | | | | | | |
|---|-------|---|---------|---|---------|---|---------|---|
| I | ARM B | I | 0.084 | I | 0.000 | I | 0.916 | I |
| I | | I | 36.0 | I | 0.0 | I | 391.0 | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | | I | | I | | I | | I |
| I | ARM C | I | 0.375 | I | 0.625 | I | 0.000 | I |
| I | | I | 188.0 | I | 314.0 | I | 0.0 | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 1.09 | 29.24 | 0.037 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.34 | 31.88 | 0.167 | | 0.0 | 0.2 | 3.0 | | 0.04 |
| ARM C | 6.28 | 31.24 | 0.201 | | 0.0 | 0.3 | 3.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 1.30 | 28.87 | 0.045 | | 0.0 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.37 | 31.77 | 0.201 | | 0.2 | 0.3 | 3.7 | | 0.04 |
| ARM C | 7.49 | 31.20 | 0.240 | | 0.3 | 0.3 | 4.7 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 1.59 | 28.36 | 0.056 | | 0.0 | 0.1 | 0.9 | | 0.04 |
| ARM B | 7.81 | 31.63 | 0.247 | | 0.3 | 0.3 | 4.8 | | 0.04 |
| ARM C | 9.18 | 31.14 | 0.295 | | 0.3 | 0.4 | 6.2 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 1.59 | 28.36 | 0.056 | | 0.1 | 0.1 | 0.9 | | 0.04 |
| ARM B | 7.81 | 31.63 | 0.247 | | 0.3 | 0.3 | 4.9 | | 0.04 |
| ARM C | 9.18 | 31.14 | 0.295 | | 0.4 | 0.4 | 6.3 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 1.30 | 28.87 | 0.045 | | 0.1 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.37 | 31.77 | 0.201 | | 0.3 | 0.3 | 3.8 | | 0.04 |
| ARM C | 7.49 | 31.19 | 0.240 | | 0.4 | 0.3 | 4.8 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 1.09 | 29.23 | 0.037 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.34 | 31.87 | 0.167 | | 0.3 | 0.2 | 3.1 | | 0.04 |
| ARM C | 6.28 | 31.24 | 0.201 | | 0.3 | 0.3 | 3.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |

17.45 0.4
 18.00 0.3
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 119.3 | 4.3 | 4.3 |
| B | 585.5 | 23.3 | 23.3 |
| C | 688.3 | 29.4 | 29.4 |
| ALL | 1393.2 | 57.1 | 57.1 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site H1.vao"
(drive-on-the-left) at 14:14:31 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE(%) | I |
|---|-----|---|---------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.05 | I | 1.57 | I | 1.05 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.56 | I | 8.34 | I | 5.56 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.05 | I | 10.58 | I | 7.05 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.012 | I | 0.988 |
| I | | I | | I | 0.0 | I | 1.0 | I | 83.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 Leeds Rd 2026 Site H1.vao

| | | | | | | | | |
|---|-------|---|---------|---|---------|---|---------|---|
| I | ARM B | I | 0.074 | I | 0.000 | I | 0.926 | I |
| I | | I | 33.0 | I | 0.0 | I | 412.0 | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | | I | | I | | I | | I |
| I | ARM C | I | 0.436 | I | 0.564 | I | 0.000 | I |
| I | | I | 246.0 | I | 318.0 | I | 0.0 | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 1.05 | 29.21 | 0.036 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.56 | 31.90 | 0.174 | | 0.0 | 0.2 | 3.1 | | 0.04 |
| ARM C | 7.05 | 31.26 | 0.226 | | 0.0 | 0.3 | 4.3 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 1.25 | 28.84 | 0.043 | | 0.0 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.64 | 31.80 | 0.209 | | 0.2 | 0.3 | 3.9 | | 0.04 |
| ARM C | 8.42 | 31.22 | 0.270 | | 0.3 | 0.4 | 5.5 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 1.54 | 28.33 | 0.054 | | 0.0 | 0.1 | 0.8 | | 0.04 |
| ARM B | 8.13 | 31.66 | 0.257 | | 0.3 | 0.3 | 5.1 | | 0.04 |
| ARM C | 10.31 | 31.16 | 0.331 | | 0.4 | 0.5 | 7.3 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 1.54 | 28.33 | 0.054 | | 0.1 | 0.1 | 0.9 | | 0.04 |
| ARM B | 8.13 | 31.66 | 0.257 | | 0.3 | 0.3 | 5.2 | | 0.04 |
| ARM C | 10.31 | 31.16 | 0.331 | | 0.5 | 0.5 | 7.4 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 1.25 | 28.84 | 0.043 | | 0.1 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.64 | 31.80 | 0.209 | | 0.3 | 0.3 | 4.0 | | 0.04 |
| ARM C | 8.42 | 31.22 | 0.270 | | 0.5 | 0.4 | 5.6 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 1.05 | 29.21 | 0.036 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.56 | 31.90 | 0.174 | | 0.3 | 0.2 | 3.2 | | 0.04 |
| ARM C | 7.05 | 31.26 | 0.226 | | 0.4 | 0.3 | 4.4 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 |

17.45 0.5
 18.00 0.4
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 115.2 | 4.2 | 4.2 |
| B | 610.2 | 24.5 | 24.5 |
| C | 773.4 | 34.5 | 34.5 |
| ALL | 1498.7 | 63.2 | 63.2 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 Leeds Rd 2026 Site H2.vao"
(drive-on-the-left) at 14:14:57 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Leeds Rd
LOCATION: Selby
DATE: 03/09/09
CLIENT: Selby
ENUMERATOR: Foleyd [LEC10579]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Leeds Rd(A63) Roundabout assessment

.INPUT DATA

ARM A - Leeds Rd (A63)
ARM B - A63 East
ARM C - A63 west

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|--------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.25 | I | 8.25 | I | 8.20 | I | 23.00 | I | 100.00 | I | 55.0 | I | 0.482 | I | 34.242 | I |
| I | ARM B | I | 6.00 | I | 9.25 | I | 9.50 | I | 22.00 | I | 100.00 | I | 50.0 | I | 0.497 | I | 35.658 | I |
| I | ARM C | I | 6.25 | I | 8.00 | I | 6.00 | I | 25.00 | I | 100.00 | I | 45.0 | I | 0.493 | I | 34.606 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Leeds Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.09 | I | 1.63 | I | 1.09 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 5.75 | I | 8.63 | I | 5.75 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.45 | I | 11.17 | I | 7.45 |

DEMAND SET TITLE: A63/Leeds Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.023 | I | 0.977 |
| I | | I | | I | 0.0 | I | 2.0 | I | 85.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 Leeds Rd 2026 Site H2.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.061 | I | 0.000 | I | 0.939 | I |
| I | I | | I | 28.0 | I | 0.0 | I | 432.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.460 | I | 0.540 | I | 0.000 | I |
| I | I | | I | 274.0 | I | 322.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 1.09 | 29.19 | 0.037 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.75 | 31.89 | 0.180 | | 0.0 | 0.2 | 3.2 | | 0.04 |
| ARM C | 7.45 | 31.29 | 0.238 | | 0.0 | 0.3 | 4.6 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 1.30 | 28.81 | 0.045 | | 0.0 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.87 | 31.79 | 0.216 | | 0.2 | 0.3 | 4.1 | | 0.04 |
| ARM C | 8.90 | 31.25 | 0.285 | | 0.3 | 0.4 | 5.9 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 1.59 | 28.29 | 0.056 | | 0.0 | 0.1 | 0.9 | | 0.04 |
| ARM B | 8.41 | 31.64 | 0.266 | | 0.3 | 0.4 | 5.3 | | 0.04 |
| ARM C | 10.90 | 31.21 | 0.349 | | 0.4 | 0.5 | 7.9 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 1.59 | 28.29 | 0.056 | | 0.1 | 0.1 | 0.9 | | 0.04 |
| ARM B | 8.41 | 31.64 | 0.266 | | 0.4 | 0.4 | 5.4 | | 0.04 |
| ARM C | 10.90 | 31.21 | 0.349 | | 0.5 | 0.5 | 8.0 | | 0.05 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 1.30 | 28.81 | 0.045 | | 0.1 | 0.0 | 0.7 | | 0.04 |
| ARM B | 6.87 | 31.79 | 0.216 | | 0.4 | 0.3 | 4.2 | | 0.04 |
| ARM C | 8.90 | 31.25 | 0.285 | | 0.5 | 0.4 | 6.1 | | 0.04 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 1.09 | 29.19 | 0.037 | | 0.0 | 0.0 | 0.6 | | 0.04 |
| ARM B | 5.75 | 31.89 | 0.180 | | 0.3 | 0.2 | 3.3 | | 0.04 |
| ARM C | 7.45 | 31.29 | 0.238 | | 0.4 | 0.3 | 4.8 | | 0.04 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |

17.45 0.5 *
 18.00 0.4
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 119.3 | 4.4 | 4.4 |
| B | 630.8 | 25.6 | 25.6 |
| C | 817.2 | 37.2 | 37.2 |
| ALL | 1567.3 | 67.2 | 67.2 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2008 Base.vai"
(drive-on-the-left) at 12:48:29 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.95 | I | 10.42 | I | 6.95 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.40 | I | 9.60 | I | 6.40 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 1.000 | 0.000 |
| I | | I | | 0.0 | 556.0 | 0.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |

| | | | | | | | | | |
|---|-------|---|---------|---|---------|---|---------|---|--|
| I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I | |
| I | | I | 512.0 | I | 0.0 | I | 0.0 | I | |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | |
| I | | I | | I | | I | | I | |
| I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I | |
| I | | I | 0.0 | I | 0.0 | I | 0.0 | I | |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | |
| I | | I | | I | | I | | I | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 6.95 | 31.06 | 0.224 | | 0.0 | 0.3 | 4.2 | | 0.04 |
| ARM B | 6.40 | 39.75 | 0.161 | | 0.0 | 0.2 | 2.8 | | 0.03 |
| ARM C | 0.00 | 24.50 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 8.30 | 31.06 | 0.267 | | 0.3 | 0.4 | 5.4 | | 0.04 |
| ARM B | 7.64 | 39.75 | 0.192 | | 0.2 | 0.2 | 3.5 | | 0.03 |
| ARM C | 0.00 | 23.80 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 10.16 | 31.06 | 0.327 | | 0.4 | 0.5 | 7.2 | | 0.05 |
| ARM B | 9.36 | 39.75 | 0.235 | | 0.2 | 0.3 | 4.6 | | 0.03 |
| ARM C | 0.00 | 22.81 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 10.16 | 31.06 | 0.327 | | 0.5 | 0.5 | 7.3 | | 0.05 |
| ARM B | 9.36 | 39.75 | 0.235 | | 0.3 | 0.3 | 4.6 | | 0.03 |
| ARM C | 0.00 | 22.81 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 8.30 | 31.06 | 0.267 | | 0.5 | 0.4 | 5.6 | | 0.04 |
| ARM B | 7.64 | 39.75 | 0.192 | | 0.3 | 0.2 | 3.6 | | 0.03 |
| ARM C | 0.00 | 23.79 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 6.95 | 31.06 | 0.224 | | 0.4 | 0.3 | 4.4 | | 0.04 |
| ARM B | 6.40 | 39.75 | 0.161 | | 0.2 | 0.2 | 2.9 | | 0.03 |
| ARM C | 0.00 | 24.50 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 |
| 17.45 | 0.5 |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 762.4 | 34.0 | 34.0 |
| B | 702.1 | 22.1 | 22.1 |
| C | 0.0 | 0.0 | 0.0 |
| ALL | 1464.5 | 56.1 | 56.1 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road base2026.vai"
(drive-on-the-left) at 12:49:50 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.35 | I | 14.03 | I | 9.35 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.69 | I | 11.53 | I | 7.69 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 1.000 | I | 0.000 |
| I | | I | | I | 0.0 | I | 748.0 | I | 0.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I |
| I | I | | I | 615.0 | I | 0.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I |
| I | I | | I | 0.0 | I | 0.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 9.35 | 31.06 | 0.301 | | 0.0 | 0.4 | 6.3 | | 0.05 | I |
| I | I | ARM B | 7.69 | 39.75 | 0.193 | | 0.0 | 0.2 | 3.5 | | 0.03 | I |
| I | I | ARM C | 0.00 | 23.78 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 11.16 | 31.06 | 0.359 | | 0.4 | 0.6 | 8.3 | | 0.05 | I |
| I | I | ARM B | 9.18 | 39.75 | 0.231 | | 0.2 | 0.3 | 4.4 | | 0.03 | I |
| I | I | ARM C | 0.00 | 22.92 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 13.67 | 31.06 | 0.440 | | 0.6 | 0.8 | 11.5 | | 0.06 | I |
| I | I | ARM B | 11.24 | 39.75 | 0.283 | | 0.3 | 0.4 | 5.8 | | 0.04 | I |
| I | I | ARM C | 0.00 | 21.74 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 13.67 | 31.06 | 0.440 | | 0.8 | 0.8 | 11.7 | | 0.06 | I |
| I | I | ARM B | 11.24 | 39.75 | 0.283 | | 0.4 | 0.4 | 5.9 | | 0.04 | I |
| I | I | ARM C | 0.00 | 21.73 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 11.16 | 31.06 | 0.359 | | 0.8 | 0.6 | 8.6 | | 0.05 | I |
| I | I | ARM B | 9.18 | 39.75 | 0.231 | | 0.4 | 0.3 | 4.6 | | 0.03 | I |
| I | I | ARM C | 0.00 | 22.91 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 9.35 | 31.06 | 0.301 | | 0.6 | 0.4 | 6.6 | | 0.05 | I |
| I | I | ARM B | 7.69 | 39.75 | 0.193 | | 0.3 | 0.2 | 3.6 | | 0.03 | I |
| I | I | ARM C | 0.00 | 23.77 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.6 * |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |
| 18.00 | 0.6 * |
| 18.15 | 0.4 |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

 . QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 1025.7 | 53.0 | 53.0 |
| B | 843.3 | 27.9 | 27.9 |
| C | 0.0 | 0.0 | 0.0 |
| ALL | 1869.0 | 80.9 | 80.9 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 site a.vai"
(drive-on-the-left) at 12:51:17 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.93 | I | 14.89 | I | 9.93 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.80 | I | 11.70 | I | 7.80 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 1.000 | 0.000 |
| I | | I | | 0.0 | 794.0 | 0.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |

a63 minor road 2026 site a.vao

| | | | | | | | | | | |
|---|-------|---|---------|---|---------|---|---------|---|--|---|
| I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I | | I |
| I | | I | 624.0 | I | 0.0 | I | 0.0 | I | | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | | I | | I | | I | | I | | I |
| I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I | | I |
| I | | I | 0.0 | I | 0.0 | I | 0.0 | I | | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 9.93 | 31.06 | 0.320 | | 0.0 | 0.5 | 6.9 | | 0.05 |
| ARM B | 7.80 | 39.75 | 0.196 | | 0.0 | 0.2 | 3.6 | | 0.03 |
| ARM C | 0.00 | 23.71 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 11.85 | 31.06 | 0.382 | | 0.5 | 0.6 | 9.1 | | 0.05 |
| ARM B | 9.31 | 39.75 | 0.234 | | 0.2 | 0.3 | 4.5 | | 0.03 |
| ARM C | 0.00 | 22.84 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 14.51 | 31.06 | 0.467 | | 0.6 | 0.9 | 12.8 | | 0.06 |
| ARM B | 11.41 | 39.75 | 0.287 | | 0.3 | 0.4 | 6.0 | | 0.04 |
| ARM C | 0.00 | 21.64 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 14.51 | 31.06 | 0.467 | | 0.9 | 0.9 | 13.1 | | 0.06 |
| ARM B | 11.41 | 39.75 | 0.287 | | 0.4 | 0.4 | 6.0 | | 0.04 |
| ARM C | 0.00 | 21.64 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 11.85 | 31.06 | 0.382 | | 0.9 | 0.6 | 9.5 | | 0.05 |
| ARM B | 9.31 | 39.75 | 0.234 | | 0.4 | 0.3 | 4.7 | | 0.03 |
| ARM C | 0.00 | 22.83 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 9.93 | 31.06 | 0.320 | | 0.6 | 0.5 | 7.2 | | 0.05 |
| ARM B | 7.80 | 39.75 | 0.196 | | 0.3 | 0.2 | 3.7 | | 0.03 |
| ARM C | 0.00 | 23.70 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 0.9 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1088.7 | 58.5 | 58.5 |
| B | 855.6 | 28.5 | 28.5 |
| C | 0.0 | 0.0 | 0.0 |
| ALL | 1944.4 | 87.0 | 87.0 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 site d.vai"
(drive-on-the-left) at 12:51:31 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.63 | I | 17.44 | I | 11.63 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.40 | I | 12.60 | I | 8.40 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 1.000 | I | 0.000 |
| I | | I | | I | 0.0 | I | 930.0 | I | 0.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 minor road 2026 site d.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|--|--|
| I | I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I | | |
| I | I | | I | 672.0 | I | 0.0 | I | 0.0 | I | | |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | |
| I | I | | I | | I | | I | | I | | |
| I | I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I | | |
| I | I | | I | 0.0 | I | 0.0 | I | 0.0 | I | | |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | |
| I | I | | I | | I | | I | | I | | |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 11.63 | 31.06 | 0.374 | | 0.0 | 0.6 | 8.7 | | 0.05 | I |
| I | I | ARM B | 8.40 | 39.75 | 0.211 | | 0.0 | 0.3 | 4.0 | | 0.03 | I |
| I | I | ARM C | 0.00 | 23.37 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 13.88 | 31.06 | 0.447 | | 0.6 | 0.8 | 11.8 | | 0.06 | I |
| I | I | ARM B | 10.03 | 39.75 | 0.252 | | 0.3 | 0.3 | 5.0 | | 0.03 | I |
| I | I | ARM C | 0.00 | 22.43 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 17.00 | 31.06 | 0.547 | | 0.8 | 1.2 | 17.5 | | 0.07 | I |
| I | I | ARM B | 12.28 | 39.75 | 0.309 | | 0.3 | 0.4 | 6.6 | | 0.04 | I |
| I | I | ARM C | 0.00 | 21.14 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 17.00 | 31.06 | 0.547 | | 1.2 | 1.2 | 18.0 | | 0.07 | I |
| I | I | ARM B | 12.28 | 39.75 | 0.309 | | 0.4 | 0.4 | 6.7 | | 0.04 | I |
| I | I | ARM C | 0.00 | 21.14 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 13.88 | 31.06 | 0.447 | | 1.2 | 0.8 | 12.5 | | 0.06 | I |
| I | I | ARM B | 10.03 | 39.75 | 0.252 | | 0.4 | 0.3 | 5.1 | | 0.03 | I |
| I | I | ARM C | 0.00 | 22.42 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 11.63 | 31.06 | 0.374 | | 0.8 | 0.6 | 9.2 | | 0.05 | I |
| I | I | ARM B | 8.40 | 39.75 | 0.211 | | 0.3 | 0.3 | 4.1 | | 0.03 | I |
| I | I | ARM C | 0.00 | 23.36 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.2 * |
| 17.45 | 1.2 * |
| 18.00 | 0.8 * |
| 18.15 | 0.6 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.3 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1275.2 | 77.7 | 77.7 |
| B | 921.5 | 31.5 | 31.5 |
| C | 0.0 | 0.0 | 0.0 |
| ALL | 2196.7 | 109.1 | 109.2 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 Site E.vai"
(drive-on-the-left) at 12:52:01 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.55 | I | 14.33 | I | 9.55 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.63 | I | 11.44 | I | 7.63 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 1.000 | 0.000 |
| I | | I | | 0.0 | 764.0 | 0.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |

a63 minor road 2026 Site E.vao

| | | | | | | | | | | |
|---|-------|---|---------|---|---------|---|---------|---|--|---|
| I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I | | I |
| I | | I | 610.0 | I | 0.0 | I | 0.0 | I | | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | | I | | I | | I | | I | | I |
| I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I | | I |
| I | | I | 0.0 | I | 0.0 | I | 0.0 | I | | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 9.55 | 31.06 | 0.307 | | 0.0 | 0.4 | 6.5 | | 0.05 |
| ARM B | 7.63 | 39.75 | 0.192 | | 0.0 | 0.2 | 3.5 | | 0.03 |
| ARM C | 0.00 | 23.81 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 11.40 | 31.06 | 0.367 | | 0.4 | 0.6 | 8.5 | | 0.05 |
| ARM B | 9.10 | 39.75 | 0.229 | | 0.2 | 0.3 | 4.4 | | 0.03 |
| ARM C | 0.00 | 22.96 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 13.97 | 31.06 | 0.450 | | 0.6 | 0.8 | 11.9 | | 0.06 |
| ARM B | 11.15 | 39.75 | 0.281 | | 0.3 | 0.4 | 5.8 | | 0.03 |
| ARM C | 0.00 | 21.79 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 13.97 | 31.06 | 0.450 | | 0.8 | 0.8 | 12.2 | | 0.06 |
| ARM B | 11.15 | 39.75 | 0.281 | | 0.4 | 0.4 | 5.8 | | 0.03 |
| ARM C | 0.00 | 21.79 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 11.40 | 31.06 | 0.367 | | 0.8 | 0.6 | 8.9 | | 0.05 |
| ARM B | 9.10 | 39.75 | 0.229 | | 0.4 | 0.3 | 4.5 | | 0.03 |
| ARM C | 0.00 | 22.95 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 9.55 | 31.06 | 0.307 | | 0.6 | 0.4 | 6.8 | | 0.05 |
| ARM B | 7.63 | 39.75 | 0.192 | | 0.3 | 0.2 | 3.6 | | 0.03 |
| ARM C | 0.00 | 23.80 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.6 * |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |
| 18.00 | 0.6 * |
| 18.15 | 0.4 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN/VEH) |
| A | 1047.6 | 54.9 | 0.05 |
| B | 836.4 | 27.6 | 0.03 |
| C | 0.0 | 0.0 | 0.00 |
| ALL | 1884.0 | 82.5 | 0.04 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby.LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 Site F.vai"
(drive-on-the-left) at 12:52:28 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.41 | I | 14.12 | I | 9.41 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 7.59 | I | 11.38 | I | 7.59 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 1.000 | 0.000 |
| I | | I | | 0.0 | 753.0 | 0.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |

a63 minor road 2026 Site F.vao

| | | | | | | | | | | |
|---|-------|---|---------|---|---------|---|---------|---|--|---|
| I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I | | I |
| I | | I | 607.0 | I | 0.0 | I | 0.0 | I | | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | | I | | I | | I | | I | | I |
| I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I | | I |
| I | | I | 0.0 | I | 0.0 | I | 0.0 | I | | I |
| I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 9.41 | 31.06 | 0.303 | | 0.0 | 0.4 | 6.4 | | 0.05 |
| ARM B | 7.59 | 39.75 | 0.191 | | 0.0 | 0.2 | 3.5 | | 0.03 |
| ARM C | 0.00 | 23.83 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 11.24 | 31.06 | 0.362 | | 0.4 | 0.6 | 8.3 | | 0.05 |
| ARM B | 9.06 | 39.75 | 0.228 | | 0.2 | 0.3 | 4.4 | | 0.03 |
| ARM C | 0.00 | 22.99 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 13.77 | 31.06 | 0.443 | | 0.6 | 0.8 | 11.6 | | 0.06 |
| ARM B | 11.10 | 39.75 | 0.279 | | 0.3 | 0.4 | 5.7 | | 0.03 |
| ARM C | 0.00 | 21.82 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 13.77 | 31.06 | 0.443 | | 0.8 | 0.8 | 11.9 | | 0.06 |
| ARM B | 11.10 | 39.75 | 0.279 | | 0.4 | 0.4 | 5.8 | | 0.03 |
| ARM C | 0.00 | 21.82 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 11.24 | 31.06 | 0.362 | | 0.8 | 0.6 | 8.7 | | 0.05 |
| ARM B | 9.06 | 39.75 | 0.228 | | 0.4 | 0.3 | 4.5 | | 0.03 |
| ARM C | 0.00 | 22.98 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 9.41 | 31.06 | 0.303 | | 0.6 | 0.4 | 6.6 | | 0.05 |
| ARM B | 7.59 | 39.75 | 0.191 | | 0.3 | 0.2 | 3.6 | | 0.03 |
| ARM C | 0.00 | 23.82 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.6 * |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |
| 18.00 | 0.6 * |
| 18.15 | 0.4 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.3 |
| 18.15 | 0.2 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN/VEH) |
| A | 1032.5 | 688.3 | 53.6 |
| B | 832.3 | 554.9 | 27.4 |
| C | 0.0 | 0.0 | 0.0 |
| ALL | 1864.8 | 1243.2 | 81.0 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 Site G1.vai"
(drive-on-the-left) at 14:15:39 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 12.05 | I | 18.08 | I | 12.05 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.94 | I | 13.41 | I | 8.94 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 4.74 | I | 7.11 | I | 4.74 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.949 | I | 0.051 |
| I | | I | | I | 0.0 | I | 915.0 | I | 49.0 |
| I | | I | (10.0) |

a63 minor road 2026 Site G1.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.855 | I | 0.000 | I | 0.145 | I |
| I | I | | I | 611.0 | I | 0.0 | I | 104.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.641 | I | 0.359 | I | 0.000 | I |
| I | I | | I | 243.0 | I | 136.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 12.05 | 30.05 | 0.401 | | 0.0 | 0.7 | 9.7 | | 0.06 | I |
| I | I | ARM B | 8.94 | 39.33 | 0.227 | | 0.0 | 0.3 | 4.3 | | 0.03 | I |
| I | I | ARM C | 4.74 | 21.64 | 0.219 | | 0.0 | 0.3 | 4.1 | | 0.06 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 14.39 | 29.85 | 0.482 | | 0.7 | 0.9 | 13.5 | | 0.06 | I |
| I | I | ARM B | 10.67 | 39.25 | 0.272 | | 0.3 | 0.4 | 5.5 | | 0.03 | I |
| I | I | ARM C | 5.66 | 20.86 | 0.271 | | 0.3 | 0.4 | 5.5 | | 0.07 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 17.62 | 29.58 | 0.596 | | 0.9 | 1.5 | 21.1 | | 0.08 | I |
| I | I | ARM B | 13.07 | 39.13 | 0.334 | | 0.4 | 0.5 | 7.4 | | 0.04 | I |
| I | I | ARM C | 6.93 | 19.80 | 0.350 | | 0.4 | 0.5 | 7.8 | | 0.08 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 17.62 | 29.58 | 0.596 | | 1.5 | 1.5 | 21.9 | | 0.08 | I |
| I | I | ARM B | 13.07 | 39.13 | 0.334 | | 0.5 | 0.5 | 7.5 | | 0.04 | I |
| I | I | ARM C | 6.93 | 19.80 | 0.350 | | 0.5 | 0.5 | 8.0 | | 0.08 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 14.39 | 29.85 | 0.482 | | 1.5 | 0.9 | 14.4 | | 0.06 | I |
| I | I | ARM B | 10.67 | 39.24 | 0.272 | | 0.5 | 0.4 | 5.7 | | 0.04 | I |
| I | I | ARM C | 5.66 | 20.86 | 0.271 | | 0.5 | 0.4 | 5.7 | | 0.07 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 12.05 | 30.05 | 0.401 | | 0.9 | 0.7 | 10.3 | | 0.06 | I |
| I | I | ARM B | 8.94 | 39.33 | 0.227 | | 0.4 | 0.3 | 4.5 | | 0.03 | I |
| I | I | ARM C | 4.74 | 21.63 | 0.219 | | 0.4 | 0.3 | 4.3 | | 0.06 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.7 * |
| 17.15 | 0.9 * |
| 17.30 | 1.5 * |
| 17.45 | 1.5 * |
| 18.00 | 0.9 * |
| 18.15 | 0.7 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 |
| 17.45 | 0.5 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.5 * |

17.45 0.5 *
 18.00 0.4
 18.15 0.3

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN/VEH) |
| A | 1321.8 | 91.0 | 0.07 |
| B | 980.4 | 34.9 | 0.04 |
| C | 519.7 | 35.4 | 0.07 |
| ALL | 2822.0 | 161.4 | 0.06 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 Site G2.vai"
(drive-on-the-left) at 14:16:02 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 12.46 | I | 18.69 | I | 12.46 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.46 | I | 14.19 | I | 9.46 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 6.97 | I | 10.46 | I | 6.97 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 0.931 | I | 0.069 |
| I | | I | | I | 0.0 | I | 928.0 | I | 69.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 minor road 2026 Site G2.vao

| | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|
| I | I | ARM B | I | 0.793 | I | 0.000 | I | 0.207 | I |
| I | I | | I | 600.0 | I | 0.0 | I | 157.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.604 | I | 0.396 | I | 0.000 | I |
| I | I | | I | 337.0 | I | 221.0 | I | 0.0 | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I |
| I | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 12.46 | 29.42 | 0.424 | | 0.0 | 0.7 | 10.7 | | 0.06 |
| ARM B | 9.46 | 39.16 | 0.242 | | 0.0 | 0.3 | 4.7 | | 0.03 |
| ARM C | 6.97 | 21.71 | 0.321 | | 0.0 | 0.5 | 6.9 | | 0.07 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 14.88 | 29.10 | 0.511 | | 0.7 | 1.0 | 15.2 | | 0.07 |
| ARM B | 11.30 | 39.04 | 0.289 | | 0.3 | 0.4 | 6.0 | | 0.04 |
| ARM C | 8.33 | 20.95 | 0.398 | | 0.5 | 0.7 | 9.6 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 18.23 | 28.66 | 0.636 | | 1.0 | 1.7 | 24.8 | | 0.09 |
| ARM B | 13.84 | 38.88 | 0.356 | | 0.4 | 0.6 | 8.1 | | 0.04 |
| ARM C | 10.20 | 19.91 | 0.512 | | 0.7 | 1.0 | 15.0 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 18.23 | 28.66 | 0.636 | | 1.7 | 1.7 | 25.9 | | 0.10 |
| ARM B | 13.84 | 38.88 | 0.356 | | 0.6 | 0.6 | 8.3 | | 0.04 |
| ARM C | 10.20 | 19.90 | 0.513 | | 1.0 | 1.0 | 15.6 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 14.88 | 29.09 | 0.512 | | 1.7 | 1.1 | 16.3 | | 0.07 |
| ARM B | 11.30 | 39.03 | 0.289 | | 0.6 | 0.4 | 6.2 | | 0.04 |
| ARM C | 8.33 | 20.94 | 0.398 | | 1.0 | 0.7 | 10.3 | | 0.08 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 12.46 | 29.41 | 0.424 | | 1.1 | 0.7 | 11.3 | | 0.06 |
| ARM B | 9.46 | 39.15 | 0.242 | | 0.4 | 0.3 | 4.8 | | 0.03 |
| ARM C | 6.97 | 21.70 | 0.321 | | 0.7 | 0.5 | 7.3 | | 0.07 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.7 * |
| 17.15 | 1.0 ** |
| 17.30 | 1.7 ** |
| 17.45 | 1.7 ** |
| 18.00 | 1.1 * |
| 18.15 | 0.7 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |

17.45 1.0 *
 18.00 0.7 *
 18.15 0.5

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | QUEUEING DELAY | INCLUSIVE QUEUEING DELAY |
|-------|--------------|----------------|--------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1367.1 | 104.2 | 104.2 |
| B | 1038.0 | 38.2 | 38.2 |
| C | 765.1 | 64.7 | 64.7 |
| ALL | 3170.2 | 207.0 | 207.0 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 Site H1.vai"
(drive-on-the-left) at 14:16:19 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.80 | I | 14.70 | I | 9.80 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.96 | I | 14.94 | I | 9.96 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | I | | | I |
|---|---------------|---|---------|---------|---------|---------|
| | | | FROM/TO | ARM A | ARM B | |
| I | 16.45 - 18.15 | I | I | I | I | I |
| I | | I | ARM A | 0.000 | 1.000 | 0.000 |
| I | | I | | 0.0 | 784.0 | 0.0 |
| I | | I | | (10.0) | (10.0) | (10.0) |

a63 minor road 2026 Site H1.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|--|---|
| I | I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I | | I |
| I | I | | I | 797.0 | I | 0.0 | I | 0.0 | I | | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I | | I |
| I | I | | I | 0.0 | I | 0.0 | I | 0.0 | I | | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | I | | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 9.80 | 31.06 | 0.316 | | 0.0 | 0.5 | 6.7 | | 0.05 |
| ARM B | 9.96 | 39.75 | 0.251 | | 0.0 | 0.3 | 4.9 | | 0.03 |
| ARM C | 0.00 | 22.48 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 11.70 | 31.06 | 0.377 | | 0.5 | 0.6 | 8.9 | | 0.05 |
| ARM B | 11.90 | 39.75 | 0.299 | | 0.3 | 0.4 | 6.3 | | 0.04 |
| ARM C | 0.00 | 21.36 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 14.33 | 31.06 | 0.461 | | 0.6 | 0.9 | 12.5 | | 0.06 |
| ARM B | 14.57 | 39.75 | 0.366 | | 0.4 | 0.6 | 8.5 | | 0.04 |
| ARM C | 0.00 | 19.84 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 14.33 | 31.06 | 0.461 | | 0.9 | 0.9 | 12.8 | | 0.06 |
| ARM B | 14.57 | 39.75 | 0.366 | | 0.6 | 0.6 | 8.7 | | 0.04 |
| ARM C | 0.00 | 19.83 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 11.70 | 31.06 | 0.377 | | 0.9 | 0.6 | 9.3 | | 0.05 |
| ARM B | 11.90 | 39.75 | 0.299 | | 0.6 | 0.4 | 6.5 | | 0.04 |
| ARM C | 0.00 | 21.35 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 9.80 | 31.06 | 0.316 | | 0.6 | 0.5 | 7.0 | | 0.05 |
| ARM B | 9.96 | 39.75 | 0.251 | | 0.4 | 0.3 | 5.1 | | 0.03 |
| ARM C | 0.00 | 22.46 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.6 * |
| 17.30 | 0.9 * |
| 17.45 | 0.9 * |
| 18.00 | 0.6 * |
| 18.15 | 0.5 |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |
| 18.00 | 0.4 |
| 18.15 | 0.3 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| A | 1075.0 | 57.3 | 57.3 |
| B | 1092.9 | 40.0 | 40.0 |
| C | 0.0 | 0.0 | 0.0 |
| ALL | 2167.9 | 97.3 | 97.3 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
a63 minor road 2026 Site H2.vai"
(drive-on-the-left) at 14:16:40 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A63/Minor Road
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby CC
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A63/Minor road junction assessment

.INPUT DATA

ARM A - A63 North
ARM B - A63 South
ARM C - Minor Road

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 6.50 | I | 8.00 | I | 7.80 | I | 19.00 | I | 60.00 | I | 55.0 | I | 0.594 | I | 34.163 | I |
| I | ARM B | I | 8.00 | I | 10.25 | I | 11.00 | I | 18.00 | I | 60.00 | I | 50.0 | I | 0.697 | I | 43.730 | I |
| I | ARM C | I | 4.75 | I | 8.25 | I | 10.50 | I | 19.00 | I | 60.00 | I | 68.0 | I | 0.520 | I | 28.165 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A63/Minor Road

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.68 | I | 16.01 | I | 10.68 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.30 | I | 16.95 | I | 11.30 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 0.00 | I | 0.00 | I | 0.00 |

DEMAND SET TITLE: A63/Minor Road

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C |
|---|---------------|---|---------|---|---------|---|---------|---|---------|
| I | 16.45 - 18.15 | I | | I | | I | | I | |
| I | | I | ARM A | I | 0.000 | I | 1.000 | I | 0.000 |
| I | | I | | I | 0.0 | I | 854.0 | I | 0.0 |
| I | | I | | I | (10.0) | I | (10.0) | I | (10.0) |

a63 minor road 2026 Site H2.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|--|---|
| I | I | ARM B | I | 1.000 | I | 0.000 | I | 0.000 | I | | I |
| I | I | | I | 904.0 | I | 0.0 | I | 0.0 | I | | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | I | | I | | I | | I | | I | | I |
| I | I | ARM C | I | 0.000 | I | 0.000 | I | 0.000 | I | | I |
| I | I | | I | 0.0 | I | 0.0 | I | 0.0 | I | | I |
| I | I | | I | (10.0) | I | (10.0) | I | (10.0) | I | | I |
| I | I | | I | | I | | I | | I | | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 10.68 | 31.06 | 0.344 | | 0.0 | 0.5 | 7.7 | | 0.05 |
| ARM B | 11.30 | 39.75 | 0.284 | | 0.0 | 0.4 | 5.8 | | 0.04 |
| ARM C | 0.00 | 21.72 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 12.75 | 31.06 | 0.410 | | 0.5 | 0.7 | 10.2 | | 0.05 |
| ARM B | 13.49 | 39.75 | 0.339 | | 0.4 | 0.5 | 7.6 | | 0.04 |
| ARM C | 0.00 | 20.45 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 15.61 | 31.06 | 0.503 | | 0.7 | 1.0 | 14.7 | | 0.06 |
| ARM B | 16.53 | 39.75 | 0.416 | | 0.5 | 0.7 | 10.5 | | 0.04 |
| ARM C | 0.00 | 18.72 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 15.61 | 31.06 | 0.503 | | 1.0 | 1.0 | 15.1 | | 0.06 |
| ARM B | 16.53 | 39.75 | 0.416 | | 0.7 | 0.7 | 10.6 | | 0.04 |
| ARM C | 0.00 | 18.71 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 12.75 | 31.06 | 0.410 | | 1.0 | 0.7 | 10.7 | | 0.05 |
| ARM B | 13.49 | 39.75 | 0.339 | | 0.7 | 0.5 | 7.8 | | 0.04 |
| ARM C | 0.00 | 20.44 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 10.68 | 31.06 | 0.344 | | 0.7 | 0.5 | 8.0 | | 0.05 |
| ARM B | 11.30 | 39.75 | 0.284 | | 0.5 | 0.4 | 6.0 | | 0.04 |
| ARM C | 0.00 | 21.70 | 0.000 | | 0.0 | 0.0 | 0.0 | | 0.00 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.5 * |
| 17.15 | 0.7 * |
| 17.30 | 1.0 * |
| 17.45 | 1.0 * |
| 18.00 | 0.7 * |
| 18.15 | 0.5 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.4 |
| 17.15 | 0.5 * |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |
| 18.00 | 0.5 * |
| 18.15 | 0.4 |

QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.0 |
| 17.15 | 0.0 |
| 17.30 | 0.0 |

17.45 0.0
 18.00 0.0
 18.15 0.0

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND | * QUEUEING * * DELAY * | * INCLUSIVE QUEUEING * * DELAY * |
|-------|--------------|---------------------------|-------------------------------------|
| (VEH) | (VEH/H) | (MIN) | (MIN) |
| | | (MIN/VEH) | (MIN/VEH) |
| A | 1171.0 | 66.4 | 66.4 |
| B | 1239.6 | 48.4 | 48.4 |
| C | 0.0 | 0.0 | 0.0 |
| ALL | 2410.6 | 114.8 | 114.8 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2008 Base.vao"
(drive-on-the-left) at 11:51:23 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | IF FALLING | I | RATE OF FLOW (VEH/MIN) | I | BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|--|---|------------------------|---|------------|---|------------------------|---|-------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 8.06 | I | 12.09 | I | 8.06 | I | 8.06 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.36 | I | 3.54 | I | 2.36 | I | 2.36 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.39 | I | 15.58 | I | 10.39 | I | 10.39 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.42 | I | 2.14 | I | 1.42 | I | 1.42 |

DEMAND SET TITLE: A1041/Abbots Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.009 | I | 0.909 | I | 0.082 | I |
| I | I | I | I | 0.0 | I | 6.0 | I | 586.0 | I | 53.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.079 | I | 0.000 | I | 0.889 | I | 0.032 | I |
| I | I | I | I | 15.0 | I | 0.0 | I | 168.0 | I | 6.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.721 | I | 0.155 | I | 0.000 | I | 0.124 | I |
| I | I | I | I | 599.0 | I | 129.0 | I | 0.0 | I | 103.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.693 | I | 0.018 | I | 0.289 | I | 0.000 | I |
| I | I | I | I | 79.0 | I | 2.0 | I | 33.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 . QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 8.06 | 21.86 | 0.369 | | 0.0 | 0.6 | 8.5 | | 0.07 | I |
| I | I | ARM B | 2.36 | 14.69 | 0.161 | | 0.0 | 0.2 | 2.8 | | 0.08 | I |
| I | I | ARM C | 10.39 | 23.29 | 0.446 | | 0.0 | 0.8 | 11.6 | | 0.08 | I |
| I | I | ARM D | 1.42 | 13.22 | 0.108 | | 0.0 | 0.1 | 1.8 | | 0.08 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 9.63 | 21.62 | 0.445 | | 0.6 | 0.8 | 11.6 | | 0.08 | I |
| I | I | ARM B | 2.82 | 13.79 | 0.205 | | 0.2 | 0.3 | 3.8 | | 0.09 | I |
| I | I | ARM C | 12.40 | 23.18 | 0.535 | | 0.8 | 1.1 | 16.5 | | 0.09 | I |
| I | I | ARM D | 1.70 | 12.26 | 0.139 | | 0.1 | 0.2 | 2.4 | | 0.09 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 11.79 | 21.30 | 0.554 | | 0.8 | 1.2 | 17.7 | | 0.10 | I |
| I | I | ARM B | 3.46 | 12.57 | 0.275 | | 0.3 | 0.4 | 5.5 | | 0.11 | I |
| I | I | ARM C | 15.19 | 23.03 | 0.660 | | 1.1 | 1.9 | 27.0 | | 0.13 | I |
| I | I | ARM D | 2.08 | 10.97 | 0.190 | | 0.2 | 0.2 | 3.4 | | 0.11 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 11.79 | 21.29 | 0.554 | | 1.2 | 1.2 | 18.4 | | 0.11 | I |
| I | I | ARM B | 3.46 | 12.55 | 0.275 | | 0.4 | 0.4 | 5.7 | | 0.11 | I |
| I | I | ARM C | 15.19 | 23.03 | 0.660 | | 1.9 | 1.9 | 28.6 | | 0.13 | I |
| I | I | ARM D | 2.08 | 10.95 | 0.190 | | 0.2 | 0.2 | 3.5 | | 0.11 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 9.63 | 21.61 | 0.445 | | 1.2 | 0.8 | 12.5 | | 0.08 | I |
| I | I | ARM B | 2.82 | 13.76 | 0.205 | | 0.4 | 0.3 | 4.0 | | 0.09 | I |
| I | I | ARM C | 12.40 | 23.18 | 0.535 | | 1.9 | 1.2 | 18.1 | | 0.09 | I |
| I | I | ARM D | 1.70 | 12.23 | 0.139 | | 0.2 | 0.2 | 2.5 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 8.06 | 21.85 | 0.369 | | 0.8 | 0.6 | 9.0 | | 0.07 | I |
| I | I | ARM B | 2.36 | 14.66 | 0.161 | | 0.3 | 0.2 | 3.0 | | 0.08 | I |
| I | I | ARM C | 10.39 | 23.29 | 0.446 | | 1.2 | 0.8 | 12.5 | | 0.08 | I |
| I | I | ARM D | 1.42 | 13.18 | 0.108 | | 0.2 | 0.1 | 1.9 | | 0.09 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.6 * |
| 17.15 | 0.8 * |
| 17.30 | 1.2 * |
| 17.45 | 1.2 * |
| 18.00 | 0.8 * |
| 18.15 | 0.6 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.3 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |

18.00 0.3
 18.15 0.2

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|----|
| 17.00 | 0.8 | * |
| 17.15 | 1.1 | ** |
| 17.30 | 1.9 | ** |
| 17.45 | 1.9 | ** |
| 18.00 | 1.2 | * |
| 18.15 | 0.8 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.2 |
| 17.45 | 0.2 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

 . QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | I | I | I | I | I | I | I | I | | |
| I | A | I | 884.4 | I | 589.6 | I | 77.7 | I | 0.09 | I |
| I | B | I | 259.2 | I | 172.8 | I | 24.6 | I | 0.10 | I |
| I | C | I | 1139.5 | I | 759.7 | I | 114.4 | I | 0.10 | I |
| I | D | I | 156.3 | I | 104.2 | I | 15.4 | I | 0.10 | I |
| I | ALL | I | 2439.4 | I | 1626.3 | I | 232.1 | I | 0.10 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Base.vao"
(drive-on-the-left) at 11:54:03 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 10.24 | I | 15.36 | I | 10.24 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 2.99 | I | 4.48 | I | 2.99 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 10.88 | I | 16.31 | I | 10.88 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 1.74 | I | 2.61 | I | 1.74 |

DEMAND SET TITLE: A1041/Abbots Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

| | | | | | |
|---|-------|---------|---------|---------|---------|
| I | ARM A | 0.000 | 0.009 | 0.917 | 0.074 |
| I | | 0.0 | 7.0 | 751.0 | 61.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM B | 0.075 | 0.000 | 0.883 | 0.042 |
| I | | 18.0 | 0.0 | 211.0 | 10.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM C | 0.670 | 0.182 | 0.000 | 0.148 |
| I | | 583.0 | 158.0 | 0.0 | 129.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM D | 0.676 | 0.022 | 0.302 | 0.000 |
| I | | 94.0 | 3.0 | 42.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 10.24 | 21.57 | 0.475 | | 0.0 | 0.9 | 12.9 | | 0.09 |
| ARM B | 2.99 | 13.46 | 0.222 | | 0.0 | 0.3 | 4.1 | | 0.10 |
| ARM C | 10.88 | 23.18 | 0.469 | | 0.0 | 0.9 | 12.7 | | 0.08 |
| ARM D | 1.74 | 13.12 | 0.132 | | 0.0 | 0.2 | 2.2 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 12.22 | 21.28 | 0.574 | | 0.9 | 1.3 | 19.2 | | 0.11 |
| ARM B | 3.57 | 12.31 | 0.290 | | 0.3 | 0.4 | 5.9 | | 0.11 |
| ARM C | 12.99 | 23.05 | 0.563 | | 0.9 | 1.3 | 18.5 | | 0.10 |
| ARM D | 2.07 | 12.14 | 0.171 | | 0.2 | 0.2 | 3.0 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 14.97 | 20.88 | 0.717 | | 1.3 | 2.4 | 34.2 | | 0.16 |
| ARM B | 4.37 | 10.78 | 0.405 | | 0.4 | 0.7 | 9.7 | | 0.16 |
| ARM C | 15.90 | 22.87 | 0.695 | | 1.3 | 2.2 | 31.4 | | 0.14 |
| ARM D | 2.54 | 10.82 | 0.235 | | 0.2 | 0.3 | 4.4 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 14.97 | 20.87 | 0.717 | | 2.4 | 2.5 | 37.0 | | 0.17 |
| ARM B | 4.37 | 10.74 | 0.407 | | 0.7 | 0.7 | 10.1 | | 0.16 |
| ARM C | 15.90 | 22.87 | 0.696 | | 2.2 | 2.2 | 33.6 | | 0.14 |
| ARM D | 2.54 | 10.80 | 0.235 | | 0.3 | 0.3 | 4.6 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 12.22 | 21.27 | 0.575 | | 2.5 | 1.4 | 21.6 | | 0.11 |
| ARM B | 3.57 | 12.26 | 0.291 | | 0.7 | 0.4 | 6.4 | | 0.12 |
| ARM C | 12.99 | 23.04 | 0.564 | | 2.2 | 1.3 | 20.5 | | 0.10 |
| ARM D | 2.07 | 12.10 | 0.171 | | 0.3 | 0.2 | 3.2 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|-------------------------------|---|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 10.24 | 21.56 | 0.475 | | 1.4 | 0.9 | 14.1 | | 0.09 |
| ARM B | 2.99 | 13.41 | 0.223 | | 0.4 | 0.3 | 4.4 | | 0.10 |
| ARM C | 10.88 | 23.17 | 0.469 | | 1.3 | 0.9 | 13.8 | | 0.08 |
| ARM D | 1.74 | 13.08 | 0.133 | | 0.2 | 0.2 | 2.4 | | 0.09 |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.9 * |
| 17.15 | 1.3 ** |
| 17.30 | 2.4 ** |
| 17.45 | 2.5 ** |
| 18.00 | 1.4 * |
| 18.15 | 0.9 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |

18.00 0.4
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.9 * |
| 17.15 | 1.3 * |
| 17.30 | 2.2 ** |
| 17.45 | 2.2 ** |
| 18.00 | 1.3 * |
| 18.15 | 0.9 * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

 . QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | |
| I | I | I | I | I | I | I | I | I | | |
| I | A | I | 1123.0 | I | 748.7 | I | 139.1 | I | 0.12 | I |
| I | B | I | 327.7 | I | 218.5 | I | 40.7 | I | 0.12 | I |
| I | C | I | 1193.0 | I | 795.3 | I | 130.3 | I | 0.11 | I |
| I | D | I | 190.6 | I | 127.1 | I | 19.8 | I | 0.10 | I |
| I | ALL | I | 2834.3 | I | 1889.5 | I | 329.9 | I | 0.12 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site A.vai"
(drive-on-the-left) at 11:55:34 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.91 | I | 14.87 | I | 9.91 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.35 | I | 5.02 | I | 3.35 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.93 | I | 16.39 | I | 10.93 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.79 | I | 2.68 | I | 1.79 | I |

DEMAND SET TITLE: A1041/Abbots Rd

| I | I | I | TURNING PROPORTIONS | I | | | | |
|---|---------------|---|-------------------------|-------|-------|-------|-------|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I | | | | |
| I | I | I | (PERCENTAGE OF H.V.S) | I | | | | |
| I | I | I | | I | | | | |
| I | TIME | I | FROM/TO I | ARM A | ARM B | ARM C | ARM D | I |
| I | 16.45 - 18.15 | I | I | I | I | I | I | I |

A1041 Abbots Rd 2026 Site A.vao

| | | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|---|
| I | I | ARM A | I | 0.000 | I | 0.009 | I | 0.948 | I | 0.043 | I | I |
| I | I | I | I | 0.0 | I | 7.0 | I | 752.0 | I | 34.0 | I | I |
| I | I | I | I | (10.0) | I | I |
| I | I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.071 | I | 0.000 | I | 0.787 | I | 0.142 | I | I |
| I | I | I | I | 19.0 | I | 0.0 | I | 211.0 | I | 38.0 | I | I |
| I | I | I | I | (10.0) | I | I |
| I | I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.672 | I | 0.182 | I | 0.000 | I | 0.146 | I | I |
| I | I | I | I | 587.0 | I | 159.0 | I | 0.0 | I | 128.0 | I | I |
| I | I | I | I | (10.0) | I | I |
| I | I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.678 | I | 0.028 | I | 0.294 | I | 0.000 | I | I |
| I | I | I | I | 97.0 | I | 4.0 | I | 42.0 | I | 0.0 | I | I |
| I | I | I | I | (10.0) | I | I |
| I | I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | I |
|---|---|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|
| I | I | | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | I |
| I | I | | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | I |
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 9.91 | 21.56 | 0.460 | | 0.0 | 0.8 | 12.2 | | 0.09 | I |
| I | I | ARM B | 3.35 | 13.64 | 0.246 | | 0.0 | 0.3 | 4.7 | | 0.10 | I |
| I | I | ARM C | 10.93 | 23.17 | 0.472 | | 0.0 | 0.9 | 12.8 | | 0.08 | I |
| I | I | ARM D | 1.79 | 13.08 | 0.137 | | 0.0 | 0.2 | 2.3 | | 0.09 | I |

| I | I | TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | I |
|---|---|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|
| I | I | | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | I |
| I | I | | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | I |
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 11.84 | 21.26 | 0.557 | | 0.8 | 1.2 | 17.9 | | 0.11 | I |
| I | I | ARM B | 4.00 | 12.52 | 0.319 | | 0.3 | 0.5 | 6.8 | | 0.12 | I |
| I | I | ARM C | 13.05 | 23.03 | 0.566 | | 0.9 | 1.3 | 18.7 | | 0.10 | I |
| I | I | ARM D | 2.13 | 12.09 | 0.177 | | 0.2 | 0.2 | 3.1 | | 0.10 | I |

| I | I | TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | I |
|---|---|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|
| I | I | | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | I |
| I | I | | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | I |
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 14.50 | 20.86 | 0.695 | | 1.2 | 2.2 | 31.1 | | 0.15 | I |
| I | I | ARM B | 4.90 | 11.03 | 0.444 | | 0.5 | 0.8 | 11.3 | | 0.16 | I |
| I | I | ARM C | 15.98 | 22.85 | 0.699 | | 1.3 | 2.3 | 31.9 | | 0.14 | I |
| I | I | ARM D | 2.61 | 10.77 | 0.243 | | 0.2 | 0.3 | 4.6 | | 0.12 | I |

| I | I | TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | I |
|---|---|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|
| I | I | | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | I |
| I | I | | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | I |
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 14.50 | 20.85 | 0.695 | | 2.2 | 2.2 | 33.4 | | 0.16 | I |
| I | I | ARM B | 4.90 | 11.00 | 0.445 | | 0.8 | 0.8 | 11.9 | | 0.16 | I |
| I | I | ARM C | 15.98 | 22.84 | 0.699 | | 2.3 | 2.3 | 34.2 | | 0.15 | I |
| I | I | ARM D | 2.61 | 10.74 | 0.243 | | 0.3 | 0.3 | 4.8 | | 0.12 | I |

| I | I | TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | I |
|---|---|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|
| I | I | | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | I |
| I | I | | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | I |
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 11.84 | 21.25 | 0.557 | | 2.2 | 1.3 | 20.0 | | 0.11 | I |
| I | I | ARM B | 4.00 | 12.47 | 0.321 | | 0.8 | 0.5 | 7.4 | | 0.12 | I |
| I | I | ARM C | 13.05 | 23.02 | 0.567 | | 2.3 | 1.3 | 20.7 | | 0.10 | I |
| I | I | ARM D | 2.13 | 12.05 | 0.177 | | 0.3 | 0.2 | 3.3 | | 0.10 | I |

| I | I | TIME | DEMAND | CAPACITY | DEMAND/ | PEDESTRIAN | START | END | DELAY | GEOMETRIC DELAY | AVERAGE DELAY | I |
|---|---|-------------|-----------|-----------|----------|------------|--------|--------|---------------|-----------------|---------------|---|
| I | I | | (VEH/MIN) | (VEH/MIN) | CAPACITY | FLOW | QUEUE | QUEUE | (VEH.MIN/ | (VEH.MIN/ | PER ARRIVING | I |
| I | I | | | | (RFC) | (PEDS/MIN) | (VEHS) | (VEHS) | TIME SEGMENT) | TIME SEGMENT) | VEHICLE (MIN) | I |
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 9.91 | 21.55 | 0.460 | | 1.3 | 0.9 | 13.3 | | 0.09 | I |
| I | I | ARM B | 3.35 | 13.59 | 0.247 | | 0.5 | 0.3 | 5.1 | | 0.10 | I |
| I | I | ARM C | 10.93 | 23.16 | 0.472 | | 1.3 | 0.9 | 13.9 | | 0.08 | I |
| I | I | ARM D | 1.79 | 13.04 | 0.137 | | 0.2 | 0.2 | 2.4 | | 0.09 | I |

 .QUEUE AT ARM A

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.8 * |
| 17.15 | 1.2 ** |
| 17.30 | 2.2 ** |
| 17.45 | 2.2 ** |
| 18.00 | 1.3 * |
| 18.15 | 0.9 * |

 .QUEUE AT ARM B

| TIME SEGMENT | NO. OF |
|--------------|----------|
| ENDING | VEHICLES |
| | IN QUEUE |
| 17.00 | 0.3 |
| 17.15 | 0.5 |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |

18.00 0.5
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|----|
| 17.00 | 0.9 | * |
| 17.15 | 1.3 | * |
| 17.30 | 2.3 | ** |
| 17.45 | 2.3 | ** |
| 18.00 | 1.3 | * |
| 18.15 | 0.9 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|---|
| | | | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | |
| I | A | I | 1087.4 | 724.9 | 127.9 | 0.12 | 127.9 | 0.12 | I |
| I | B | I | 367.5 | 245.0 | 47.1 | 0.13 | 47.1 | 0.13 | I |
| I | C | I | 1198.4 | 799.0 | 132.2 | 0.11 | 132.2 | 0.11 | I |
| I | D | I | 196.1 | 130.7 | 20.6 | 0.11 | 20.6 | 0.11 | I |
| I | ALL | I | 2849.4 | 1899.6 | 327.8 | 0.12 | 327.9 | 0.12 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site D.vai"
(drive-on-the-left) at 11:57:08 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.66 | I | 14.49 | I | 9.66 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 2.96 | I | 4.44 | I | 2.96 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.88 | I | 16.31 | I | 10.88 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.91 | I | 2.87 | I | 1.91 | I |

DEMAND SET TITLE: A1041/Abbots Rd

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I | I |

A1041 Abbots Rd 2026 Site D.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.008 | I | 0.909 | I | 0.083 | I |
| I | I | I | I | 0.0 | I | 6.0 | I | 703.0 | I | 64.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.076 | I | 0.000 | I | 0.882 | I | 0.042 | I |
| I | I | I | I | 18.0 | I | 0.0 | I | 209.0 | I | 10.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.672 | I | 0.180 | I | 0.000 | I | 0.147 | I |
| I | I | I | I | 585.0 | I | 157.0 | I | 0.0 | I | 128.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.699 | I | 0.026 | I | 0.275 | I | 0.000 | I |
| I | I | I | I | 107.0 | I | 4.0 | I | 42.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 9.66 | 21.57 | 0.448 | | 0.0 | 0.8 | 11.6 | | 0.08 | I |
| I | I | ARM B | 2.96 | 13.77 | 0.215 | | 0.0 | 0.3 | 4.0 | | 0.09 | I |
| I | I | ARM C | 10.88 | 23.16 | 0.470 | | 0.0 | 0.9 | 12.7 | | 0.08 | I |
| I | I | ARM D | 1.91 | 13.11 | 0.146 | | 0.0 | 0.2 | 2.5 | | 0.09 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 11.54 | 21.28 | 0.542 | | 0.8 | 1.2 | 16.9 | | 0.10 | I |
| I | I | ARM B | 3.54 | 12.68 | 0.279 | | 0.3 | 0.4 | 5.6 | | 0.11 | I |
| I | I | ARM C | 12.99 | 23.02 | 0.564 | | 0.9 | 1.3 | 18.5 | | 0.10 | I |
| I | I | ARM D | 2.28 | 12.13 | 0.188 | | 0.2 | 0.2 | 3.4 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 14.13 | 20.88 | 0.677 | | 1.2 | 2.0 | 28.8 | | 0.15 | I |
| I | I | ARM B | 4.33 | 11.22 | 0.386 | | 0.4 | 0.6 | 9.0 | | 0.14 | I |
| I | I | ARM C | 15.90 | 22.84 | 0.696 | | 1.3 | 2.2 | 31.5 | | 0.14 | I |
| I | I | ARM D | 2.80 | 10.81 | 0.259 | | 0.2 | 0.3 | 5.0 | | 0.12 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 14.13 | 20.87 | 0.677 | | 2.0 | 2.1 | 30.8 | | 0.15 | I |
| I | I | ARM B | 4.33 | 11.19 | 0.387 | | 0.6 | 0.6 | 9.4 | | 0.15 | I |
| I | I | ARM C | 15.90 | 22.83 | 0.697 | | 2.2 | 2.3 | 33.7 | | 0.14 | I |
| I | I | ARM D | 2.80 | 10.79 | 0.259 | | 2.2 | 0.3 | 5.2 | | 0.12 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 11.54 | 21.27 | 0.543 | | 2.1 | 1.2 | 18.8 | | 0.10 | I |
| I | I | ARM B | 3.54 | 12.63 | 0.280 | | 0.6 | 0.4 | 6.1 | | 0.11 | I |
| I | I | ARM C | 12.99 | 23.01 | 0.564 | | 2.3 | 1.3 | 20.5 | | 0.10 | I |
| I | I | ARM D | 2.28 | 12.09 | 0.189 | | 0.3 | 0.2 | 3.6 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 9.66 | 21.56 | 0.448 | | 1.2 | 0.8 | 12.7 | | 0.08 | I |
| I | I | ARM B | 2.96 | 13.72 | 0.216 | | 0.4 | 0.3 | 4.3 | | 0.09 | I |
| I | I | ARM C | 10.88 | 23.15 | 0.470 | | 1.3 | 0.9 | 13.8 | | 0.08 | I |
| I | I | ARM D | 1.91 | 13.07 | 0.146 | | 0.2 | 0.2 | 2.6 | | 0.09 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.8 * |
| 17.15 | 1.2 ** |
| 17.30 | 2.0 ** |
| 17.45 | 2.1 ** |
| 18.00 | 1.2 * |
| 18.15 | 0.8 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.6 * |
| 17.45 | 0.6 * |

18.00 0.4
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---------------------|--------------------------|----|
| 17.00 | 0.9 | * |
| 17.15 | 1.3 | * |
| 17.30 | 2.2 | ** |
| 17.45 | 2.3 | ** |
| 18.00 | 1.3 | * |
| 18.15 | 0.9 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * * DELAY * | | * INCLUSIVE QUEUEING * * DELAY * | | I |
|---|-----|---|--------------|---------|---------------------------|-----------|-------------------------------------|-----------|---|
| | | | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | |
| I | A | I | 1059.9 | 706.6 | 119.6 | 0.11 | 119.6 | 0.11 | I |
| I | B | I | 325.0 | 216.7 | 38.2 | 0.12 | 38.2 | 0.12 | I |
| I | C | I | 1193.0 | 795.3 | 130.8 | 0.11 | 130.8 | 0.11 | I |
| I | D | I | 209.8 | 139.9 | 22.3 | 0.11 | 22.3 | 0.11 | I |
| I | ALL | I | 2787.7 | 1858.4 | 311.0 | 0.11 | 311.0 | 0.11 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site E.vai"
(drive-on-the-left) at 11:58:19 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | FLOW STOPS IF FALLING | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|-----------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.07 | I | 16.61 | I | 11.07 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.08 | I | 4.61 | I | 3.08 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 11.50 | I | 17.25 | I | 11.50 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.76 | I | 2.64 | I | 1.76 |

DEMAND SET TITLE: A1041/Abbots Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

A1041 Abbots Rd 2026 Site E.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.014 | I | 0.893 | I | 0.094 | I |
| I | I | I | I | 0.0 | I | 12.0 | I | 791.0 | I | 83.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.126 | I | 0.000 | I | 0.833 | I | 0.041 | I |
| I | I | I | I | 31.0 | I | 0.0 | I | 205.0 | I | 10.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.698 | I | 0.155 | I | 0.000 | I | 0.147 | I |
| I | I | I | I | 642.0 | I | 143.0 | I | 0.0 | I | 135.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.695 | I | 0.028 | I | 0.277 | I | 0.000 | I |
| I | I | I | I | 98.0 | I | 4.0 | I | 39.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 11.07 | 21.70 | 0.510 | | 0.0 | 1.0 | 14.8 | | 0.09 | I |
| I | I | ARM B | 3.08 | 13.06 | 0.235 | | 0.0 | 0.3 | 4.4 | | 0.10 | I |
| I | I | ARM C | 11.50 | 22.92 | 0.502 | | 0.0 | 1.0 | 14.4 | | 0.09 | I |
| I | I | ARM D | 1.76 | 12.75 | 0.138 | | 0.0 | 0.2 | 2.3 | | 0.09 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 13.22 | 21.43 | 0.617 | | 1.0 | 1.6 | 22.7 | | 0.12 | I |
| I | I | ARM B | 3.67 | 11.84 | 0.310 | | 0.3 | 0.4 | 6.5 | | 0.12 | I |
| I | I | ARM C | 13.73 | 22.73 | 0.604 | | 1.0 | 1.5 | 21.6 | | 0.11 | I |
| I | I | ARM D | 2.10 | 11.70 | 0.180 | | 0.2 | 0.2 | 3.2 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 16.20 | 21.07 | 0.769 | | 1.6 | 3.2 | 43.4 | | 0.20 | I |
| I | I | ARM B | 4.50 | 10.21 | 0.441 | | 0.4 | 0.8 | 11.1 | | 0.17 | I |
| I | I | ARM C | 16.82 | 22.49 | 0.748 | | 1.5 | 2.8 | 39.6 | | 0.17 | I |
| I | I | ARM D | 2.58 | 10.29 | 0.250 | | 0.2 | 0.3 | 4.8 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 16.20 | 21.06 | 0.769 | | 3.2 | 3.2 | 48.1 | | 0.20 | I |
| I | I | ARM B | 4.50 | 10.15 | 0.443 | | 0.8 | 0.8 | 11.7 | | 0.18 | I |
| I | I | ARM C | 16.82 | 22.48 | 0.748 | | 2.8 | 2.9 | 43.2 | | 0.18 | I |
| I | I | ARM D | 2.58 | 10.25 | 0.251 | | 0.3 | 0.3 | 5.0 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 13.22 | 21.42 | 0.618 | | 3.2 | 1.6 | 26.1 | | 0.13 | I |
| I | I | ARM B | 3.67 | 11.76 | 0.312 | | 0.8 | 0.5 | 7.1 | | 0.12 | I |
| I | I | ARM C | 13.73 | 22.72 | 0.604 | | 2.9 | 1.6 | 24.5 | | 0.11 | I |
| I | I | ARM D | 2.10 | 11.64 | 0.181 | | 0.3 | 0.2 | 3.4 | | 0.11 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 11.07 | 21.69 | 0.511 | | 1.6 | 1.1 | 16.4 | | 0.09 | I |
| I | I | ARM B | 3.08 | 13.00 | 0.236 | | 0.5 | 0.3 | 4.8 | | 0.10 | I |
| I | I | ARM C | 11.50 | 22.91 | 0.502 | | 1.6 | 1.0 | 15.8 | | 0.09 | I |
| I | I | ARM D | 1.76 | 12.70 | 0.139 | | 0.2 | 0.2 | 2.5 | | 0.09 | I |

 .QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 1.0 * |
| 17.15 | 1.6 ** |
| 17.30 | 3.2 *** |
| 17.45 | 3.2 *** |
| 18.00 | 1.6 ** |
| 18.15 | 1.1 * |

 .QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.8 * |
| 17.45 | 0.8 * |

18.00 0.5
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 1.0 * |
| 17.15 | 1.5 * |
| 17.30 | 2.8 *** |
| 17.45 | 2.9 *** |
| 18.00 | 1.6 ** |
| 18.15 | 1.0 * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | | | | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|-------|---|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | | | | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | | | | | |
| I | A | I | 1214.9 | I | 809.9 | I | 171.4 | I | 0.14 | I | 171.5 | I | 0.14 | I |
| I | B | I | 337.3 | I | 224.9 | I | 45.6 | I | 0.14 | I | 45.6 | I | 0.14 | I |
| I | C | I | 1261.5 | I | 841.0 | I | 159.0 | I | 0.13 | I | 159.1 | I | 0.13 | I |
| I | D | I | 193.3 | I | 128.9 | I | 21.2 | I | 0.11 | I | 21.2 | I | 0.11 | I |
| I | ALL | I | 3007.1 | I | 2004.7 | I | 397.3 | I | 0.13 | I | 397.4 | I | 0.13 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site F.vai"
(drive-on-the-left) at 11:59:33 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | | | | | | | | |
|---|-------|---|--|---|------------------------|---|-------|---|-------|---|-------|---|-------|---|
| I | I | I | FLOW STARTS I TOP OF PEAK I FLOW STOPS I BEFORE I AT TOP I AFTER I | I | I | I | | | | | | | | |
| I | I | I | TO RISE I IS REACHED IF FALLING I PEAK I OF PEAK I PEAK I | I | I | I | | | | | | | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.26 | I | 15.39 | I | 10.26 | I |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.08 | I | 4.61 | I | 3.08 | I |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.84 | I | 16.26 | I | 10.84 | I |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.96 | I | 2.94 | I | 1.96 | I |

DEMAND SET TITLE: A1041/Abbots Rd

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|---|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | | I |
| I | TIME | I | FROM/TO I ARM A I ARM B I ARM C I ARM D I | I |
| I | 16.45 - 18.15 | I | I I I I I I I | I |

A1041 Abbots Rd 2026 Site F.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.009 | I | 0.914 | I | 0.078 | I |
| I | I | I | I | 0.0 | I | 7.0 | I | 750.0 | I | 64.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.106 | I | 0.000 | I | 0.854 | I | 0.041 | I |
| I | I | I | I | 26.0 | I | 0.0 | I | 210.0 | I | 10.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.670 | I | 0.181 | I | 0.000 | I | 0.149 | I |
| I | I | I | I | 581.0 | I | 157.0 | I | 0.0 | I | 129.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.707 | I | 0.025 | I | 0.268 | I | 0.000 | I |
| I | I | I | I | 111.0 | I | 4.0 | I | 42.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 10.26 | 21.57 | 0.476 | | 0.0 | 0.9 | 13.0 | | 0.09 | I |
| I | I | ARM B | 3.08 | 13.45 | 0.229 | | 0.0 | 0.3 | 4.3 | | 0.10 | I |
| I | I | ARM C | 10.84 | 23.10 | 0.469 | | 0.0 | 0.9 | 12.7 | | 0.08 | I |
| I | I | ARM D | 1.96 | 13.08 | 0.150 | | 0.0 | 0.2 | 2.6 | | 0.09 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 12.25 | 21.28 | 0.576 | | 0.9 | 1.3 | 19.3 | | 0.11 | I |
| I | I | ARM B | 3.67 | 12.30 | 0.299 | | 0.3 | 0.4 | 6.1 | | 0.12 | I |
| I | I | ARM C | 12.94 | 22.95 | 0.564 | | 0.9 | 1.3 | 18.5 | | 0.10 | I |
| I | I | ARM D | 2.34 | 12.10 | 0.194 | | 0.2 | 0.2 | 3.5 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 15.01 | 20.88 | 0.719 | | 1.3 | 2.5 | 34.5 | | 0.17 | I |
| I | I | ARM B | 4.50 | 10.76 | 0.418 | | 0.4 | 0.7 | 10.2 | | 0.16 | I |
| I | I | ARM C | 15.85 | 22.75 | 0.697 | | 1.3 | 2.2 | 31.6 | | 0.14 | I |
| I | I | ARM D | 2.87 | 10.78 | 0.266 | | 0.2 | 0.4 | 5.2 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 15.01 | 20.87 | 0.719 | | 2.5 | 2.5 | 37.3 | | 0.17 | I |
| I | I | ARM B | 4.50 | 10.72 | 0.420 | | 0.7 | 0.7 | 10.7 | | 0.16 | I |
| I | I | ARM C | 15.85 | 22.74 | 0.697 | | 2.2 | 2.3 | 33.8 | | 0.14 | I |
| I | I | ARM D | 2.87 | 10.75 | 0.267 | | 0.4 | 0.4 | 5.4 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 12.25 | 21.27 | 0.576 | | 2.5 | 1.4 | 21.7 | | 0.11 | I |
| I | I | ARM B | 3.67 | 12.24 | 0.300 | | 0.7 | 0.4 | 6.7 | | 0.12 | I |
| I | I | ARM C | 12.94 | 22.94 | 0.564 | | 2.3 | 1.3 | 20.5 | | 0.10 | I |
| I | I | ARM D | 2.34 | 12.06 | 0.194 | | 0.4 | 0.2 | 3.7 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 10.26 | 21.56 | 0.476 | | 1.4 | 0.9 | 14.2 | | 0.09 | I |
| I | I | ARM B | 3.08 | 13.40 | 0.230 | | 0.4 | 0.3 | 4.6 | | 0.10 | I |
| I | I | ARM C | 10.84 | 23.09 | 0.469 | | 1.3 | 0.9 | 13.8 | | 0.08 | I |
| I | I | ARM D | 1.96 | 13.04 | 0.150 | | 0.2 | 0.2 | 2.7 | | 0.09 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.9 * |
| 17.15 | 1.3 ** |
| 17.30 | 2.5 *** |
| 17.45 | 2.5 **** |
| 18.00 | 1.4 * |
| 18.15 | 0.9 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |

18.00 0.4
 18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|----|
| 17.00 | 0.9 | * |
| 17.15 | 1.3 | * |
| 17.30 | 2.2 | ** |
| 17.45 | 2.3 | ** |
| 18.00 | 1.3 | * |
| 18.15 | 0.9 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.4 |
| 17.45 | 0.4 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | |
| I | A | I | 1125.8 | I | 750.5 | I | 140.0 | I | 0.12 |
| I | B | I | 337.3 | I | 224.9 | I | 42.6 | I | 0.13 |
| I | C | I | 1188.8 | I | 792.6 | I | 130.8 | I | 0.11 |
| I | D | I | 215.3 | I | 143.5 | I | 23.2 | I | 0.11 |
| I | ALL | I | 2867.2 | I | 1911.5 | I | 336.6 | I | 0.12 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site G1.vai"
(drive-on-the-left) at 13:18:06 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN | I | RATE OF FLOW (VEH/MIN) | I | BEFORE I | I | AT TOP | I | AFTER I | | |
|---|-------|---|-----------------------------------|---|------------------------|---|--------------|---|--------|---|-----------|---|-------|
| I | I | I | FLOW STARTS I | I | TOP OF PEAK I | I | FLOW STOPS I | I | PEAK I | I | OF PEAK I | | |
| I | I | I | TO RISE I | I | IS REACHED IF | I | FALLING I | I | PEAK I | I | PEAK I | | |
| I | ARM A | I | 15.00 | I | 45.00 | I | 75.00 | I | 9.69 | I | 14.53 | I | 9.69 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 75.00 | I | 3.30 | I | 4.95 | I | 3.30 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 75.00 | I | 10.76 | I | 16.14 | I | 10.76 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 75.00 | I | 1.70 | I | 2.55 | I | 1.70 |

DEMAND SET TITLE: A1041/Abbots Rd

| I | I | I | TURNING PROPORTIONS | I |
|---|---------------|---|-------------------------|---|
| I | I | I | TURNING COUNTS (VEH/HR) | I |
| I | I | I | (PERCENTAGE OF H.V.S) | I |
| I | I | I | TIME | I |
| I | I | I | FROM/TO I | I |
| I | I | I | ARM A I | I |
| I | I | I | ARM B I | I |
| I | I | I | ARM C I | I |
| I | I | I | ARM D I | I |
| I | 16.45 - 18.15 | I | I | I |

A1041 Abbots Rd 2026 Site G1.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.009 | I | 0.950 | I | 0.041 | I |
| I | I | I | I | 0.0 | I | 7.0 | I | 736.0 | I | 32.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.068 | I | 0.000 | I | 0.784 | I | 0.148 | I |
| I | I | I | I | 18.0 | I | 0.0 | I | 207.0 | I | 39.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.671 | I | 0.182 | I | 0.000 | I | 0.146 | I |
| I | I | I | I | 578.0 | I | 157.0 | I | 0.0 | I | 126.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.662 | I | 0.037 | I | 0.301 | I | 0.000 | I |
| I | I | I | I | 90.0 | I | 5.0 | I | 41.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

 QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 9.69 | 21.57 | 0.449 | | 0.0 | 0.8 | 11.7 | | 0.08 | I |
| I | I | ARM B | 3.30 | 13.77 | 0.240 | | 0.0 | 0.3 | 4.5 | | 0.10 | I |
| I | I | ARM C | 10.76 | 23.18 | 0.464 | | 0.0 | 0.9 | 12.4 | | 0.08 | I |
| I | I | ARM D | 1.70 | 13.16 | 0.129 | | 0.0 | 0.1 | 2.2 | | 0.09 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 11.57 | 21.28 | 0.544 | | 0.8 | 1.2 | 17.0 | | 0.10 | I |
| I | I | ARM B | 3.94 | 12.68 | 0.311 | | 0.3 | 0.4 | 6.5 | | 0.11 | I |
| I | I | ARM C | 12.85 | 23.05 | 0.558 | | 0.9 | 1.2 | 18.0 | | 0.10 | I |
| I | I | ARM D | 2.03 | 12.19 | 0.167 | | 0.1 | 0.2 | 2.9 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 14.17 | 20.88 | 0.678 | | 1.2 | 2.0 | 29.0 | | 0.15 | I |
| I | I | ARM B | 4.83 | 11.22 | 0.430 | | 0.4 | 0.7 | 10.7 | | 0.16 | I |
| I | I | ARM C | 15.74 | 22.87 | 0.688 | | 1.2 | 2.1 | 30.4 | | 0.14 | I |
| I | I | ARM D | 2.49 | 10.88 | 0.229 | | 0.2 | 0.3 | 4.3 | | 0.12 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 14.17 | 20.87 | 0.679 | | 2.0 | 2.1 | 31.0 | | 0.15 | I |
| I | I | ARM B | 4.83 | 11.19 | 0.431 | | 0.7 | 0.8 | 11.2 | | 0.16 | I |
| I | I | ARM C | 15.74 | 22.87 | 0.688 | | 2.1 | 2.2 | 32.5 | | 0.14 | I |
| I | I | ARM D | 2.49 | 10.85 | 0.229 | | 0.3 | 0.3 | 4.4 | | 0.12 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 11.57 | 21.27 | 0.544 | | 2.1 | 1.2 | 18.9 | | 0.10 | I |
| I | I | ARM B | 3.94 | 12.63 | 0.312 | | 0.8 | 0.5 | 7.1 | | 0.12 | I |
| I | I | ARM C | 12.85 | 23.04 | 0.558 | | 2.2 | 1.3 | 20.0 | | 0.10 | I |
| I | I | ARM D | 2.03 | 12.15 | 0.167 | | 0.3 | 0.2 | 3.1 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 9.69 | 21.56 | 0.449 | | 1.2 | 0.8 | 12.7 | | 0.08 | I |
| I | I | ARM B | 3.30 | 13.72 | 0.241 | | 0.5 | 0.3 | 4.9 | | 0.10 | I |
| I | I | ARM C | 10.76 | 23.17 | 0.464 | | 1.3 | 0.9 | 13.5 | | 0.08 | I |
| I | I | ARM D | 1.70 | 13.12 | 0.130 | | 0.2 | 0.1 | 2.3 | | 0.09 | I |

 . QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.8 * |
| 17.15 | 1.2 ** |
| 17.30 | 2.0 ** |
| 17.45 | 2.1 ** |
| 18.00 | 1.2 * |
| 18.15 | 0.8 * |

 . QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.7 * |
| 17.45 | 0.8 * |

18.00 0.5
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.9 * |
| 17.15 | 1.2 * |
| 17.30 | 2.1 ** |
| 17.45 | 2.2 ** |
| 18.00 | 1.3 * |
| 18.15 | 0.9 * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| ARM | TOTAL DEMAND (VEH) | DEMAND (VEH/H) | QUEUEING DELAY (MIN) | QUEUEING DELAY (MIN/VEH) | INCLUSIVE QUEUEING DELAY (MIN) | INCLUSIVE QUEUEING DELAY (MIN/VEH) |
|-----|--------------------|----------------|----------------------|--------------------------|--------------------------------|------------------------------------|
| A | 1062.7 | 708.5 | 120.4 | 0.11 | 120.4 | 0.11 |
| B | 362.0 | 241.3 | 45.0 | 0.12 | 45.0 | 0.12 |
| C | 1180.6 | 787.1 | 126.9 | 0.11 | 126.9 | 0.11 |
| D | 186.5 | 124.3 | 19.2 | 0.10 | 19.2 | 0.10 |
| ALL | 2791.8 | 1861.2 | 311.4 | 0.11 | 311.4 | 0.11 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site G2.vai"
(drive-on-the-left) at 13:18:39 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 9.69 | I | 14.53 | I | 9.69 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 3.29 | I | 4.93 | I | 3.29 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 10.74 | I | 16.11 | I | 10.74 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 1.70 | I | 2.55 | I | 1.70 |

DEMAND SET TITLE: A1041/Abbots Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

A1041 Abbots Rd 2026 Site G2.vao

| | | | | | |
|---|-------|---------|---------|---------|---------|
| I | ARM A | 0.000 | 0.009 | 0.950 | 0.041 |
| I | | 0.0 | 7.0 | 736.0 | 32.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM B | 0.068 | 0.000 | 0.783 | 0.148 |
| I | | 18.0 | 0.0 | 206.0 | 39.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM C | 0.673 | 0.182 | 0.000 | 0.146 |
| I | | 578.0 | 156.0 | 0.0 | 125.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |
| I | ARM D | 0.647 | 0.051 | 0.301 | 0.000 |
| I | | 88.0 | 7.0 | 41.0 | 0.0 |
| I | | (10.0) | (10.0) | (10.0) | (10.0) |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 16.45-17.00 | | | | | | | | | |
| ARM A | 9.69 | 21.57 | 0.449 | | 0.0 | 0.8 | 11.7 | | 0.08 |
| ARM B | 3.29 | 13.77 | 0.239 | | 0.0 | 0.3 | 4.5 | | 0.10 |
| ARM C | 10.74 | 23.18 | 0.463 | | 0.0 | 0.9 | 12.4 | | 0.08 |
| ARM D | 1.70 | 13.16 | 0.129 | | 0.0 | 0.1 | 2.2 | | 0.09 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.00-17.15 | | | | | | | | | |
| ARM A | 11.57 | 21.27 | 0.544 | | 0.8 | 1.2 | 17.1 | | 0.10 |
| ARM B | 3.93 | 12.68 | 0.310 | | 0.3 | 0.4 | 6.5 | | 0.11 |
| ARM C | 12.82 | 23.05 | 0.556 | | 0.9 | 1.2 | 18.0 | | 0.10 |
| ARM D | 2.03 | 12.19 | 0.166 | | 0.1 | 0.2 | 2.9 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.15-17.30 | | | | | | | | | |
| ARM A | 14.17 | 20.87 | 0.679 | | 1.2 | 2.1 | 29.1 | | 0.15 |
| ARM B | 4.81 | 11.22 | 0.429 | | 0.4 | 0.7 | 10.6 | | 0.15 |
| ARM C | 15.70 | 22.87 | 0.687 | | 1.2 | 2.1 | 30.2 | | 0.14 |
| ARM D | 2.49 | 10.89 | 0.228 | | 0.2 | 0.3 | 4.3 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.30-17.45 | | | | | | | | | |
| ARM A | 14.17 | 20.86 | 0.679 | | 2.1 | 2.1 | 31.1 | | 0.15 |
| ARM B | 4.81 | 11.19 | 0.430 | | 0.7 | 0.7 | 11.1 | | 0.16 |
| ARM C | 15.70 | 22.87 | 0.687 | | 2.1 | 2.2 | 32.2 | | 0.14 |
| ARM D | 2.49 | 10.86 | 0.229 | | 0.3 | 0.3 | 4.4 | | 0.12 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 17.45-18.00 | | | | | | | | | |
| ARM A | 11.57 | 21.26 | 0.544 | | 2.1 | 1.2 | 18.9 | | 0.10 |
| ARM B | 3.93 | 12.63 | 0.311 | | 0.7 | 0.5 | 7.1 | | 0.12 |
| ARM C | 12.82 | 23.04 | 0.556 | | 2.2 | 1.3 | 19.9 | | 0.10 |
| ARM D | 2.03 | 12.15 | 0.167 | | 0.3 | 0.2 | 3.1 | | 0.10 |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|-------------|------------------|--------------------|-----------------------|----------------------------|--------------------|------------------|------------------------------|--|--|
| 18.00-18.15 | | | | | | | | | |
| ARM A | 9.69 | 21.55 | 0.449 | | 1.2 | 0.8 | 12.7 | | 0.08 |
| ARM B | 3.29 | 13.72 | 0.240 | | 0.5 | 0.3 | 4.9 | | 0.10 |
| ARM C | 10.74 | 23.17 | 0.463 | | 1.3 | 0.9 | 13.4 | | 0.08 |
| ARM D | 1.70 | 13.12 | 0.130 | | 0.2 | 0.1 | 2.3 | | 0.09 |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.8 * |
| 17.15 | 1.2 ** |
| 17.30 | 2.1 ** |
| 17.45 | 2.1 ** |
| 18.00 | 1.2 * |
| 18.15 | 0.8 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---------------------|--------------------------|
| 17.00 | 0.3 |
| 17.15 | 0.4 |
| 17.30 | 0.7 * |
| 17.45 | 0.7 * |

18.00 0.5
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|----|
| 17.00 | 0.9 | * |
| 17.15 | 1.2 | * |
| 17.30 | 2.1 | ** |
| 17.45 | 2.2 | ** |
| 18.00 | 1.3 | * |
| 18.15 | 0.9 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.1 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.1 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | | | | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|-------|---|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | | | | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | | | | | |
| I | A | I | 1062.7 | I | 708.5 | I | 120.5 | I | 0.11 | I | 120.6 | I | 0.11 | I |
| I | B | I | 360.6 | I | 240.4 | I | 44.7 | I | 0.12 | I | 44.7 | I | 0.12 | I |
| I | C | I | 1177.9 | I | 785.2 | I | 126.1 | I | 0.11 | I | 126.1 | I | 0.11 | I |
| I | D | I | 186.5 | I | 124.3 | I | 19.2 | I | 0.10 | I | 19.2 | I | 0.10 | I |
| I | ALL | I | 2787.7 | I | 1858.4 | I | 310.5 | I | 0.11 | I | 310.6 | I | 0.11 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site H1.vai"
(drive-on-the-left) at 13:19:16 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 11.34 | I | 17.01 | I | 11.34 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 3.00 | I | 4.50 | I | 3.00 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 11.39 | I | 17.08 | I | 11.39 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 1.70 | I | 2.55 | I | 1.70 |

DEMAND SET TITLE: A1041/Abbots Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

18.00 0.5
18.15 0.3

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|------------------------|--------------------------------|-----|
| 17.00 | 1.0 | * |
| 17.15 | 1.4 | * |
| 17.30 | 2.6 | *** |
| 17.45 | 2.6 | *** |
| 18.00 | 1.5 | * |
| 18.15 | 1.0 | * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | I | * QUEUEING * | I | * INCLUSIVE QUEUEING * | I | | | | | | |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|------|---|-------|---|------|---|
| I | I | I | I | I | * DELAY * | I | * DELAY * | I | | | | | | |
| I | I | I | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | | | | | | |
| I | A | I | 1243.7 | I | 829.1 | I | 191.9 | I | 0.15 | I | 192.0 | I | 0.15 | I |
| I | B | I | 329.1 | I | 219.4 | I | 45.5 | I | 0.14 | I | 45.5 | I | 0.14 | I |
| I | C | I | 1249.2 | I | 832.8 | I | 146.8 | I | 0.12 | I | 146.9 | I | 0.12 | I |
| I | D | I | 186.5 | I | 124.3 | I | 20.0 | I | 0.11 | I | 20.0 | I | 0.11 | I |
| I | ALL | I | 3008.4 | I | 2005.6 | I | 404.3 | I | 0.13 | I | 404.3 | I | 0.13 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

(c) Copyright TRL Limited, 2004

Adapted from ARCADY/3 which is Crown Copyright
by permission of the controller of HMSO

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\JC\FeeNo\B1368600 XT Selby LDF Option Appraisal\Modelling\Junctions\Arcady\Arcady Files KD\
A1041 Abbots Rd 2026 Site H2.vai"
(drive-on-the-left) at 13:19:48 on Tuesday, 22 September 2009

.FILE PROPERTIES

RUN TITLE: A1041/Abbots Rd
LOCATION: Selby
DATE: 02/09/09
CLIENT: Selby
ENUMERATOR: holdenv [NEW25515]
JOB NUMBER: Selby
STATUS:
DESCRIPTION: A1041/Abbots Rd Roundabout Assessment

.INPUT DATA

ARM A - A1041 North
ARM B - Abbots Rd East
ARM C - A1041 South
ARM D - Shop Car Park

.GEOMETRIC DATA

| I | ARM | I | V (M) | I | E (M) | I | L (M) | I | R (M) | I | D (M) | I | PHI (DEG) | I | SLOPE | I | INTERCEPT (PCU/MIN) | I |
|---|-------|---|-------|---|-------|---|-------|---|-------|---|-------|---|-----------|---|-------|---|---------------------|---|
| I | ARM A | I | 5.50 | I | 5.50 | I | 0.00 | I | 20.00 | I | 35.00 | I | 55.0 | I | 0.589 | I | 25.366 | I |
| I | ARM B | I | 3.50 | I | 5.75 | I | 5.50 | I | 23.00 | I | 35.00 | I | 50.0 | I | 0.545 | I | 21.172 | I |
| I | ARM C | I | 5.25 | I | 5.75 | I | 3.00 | I | 15.00 | I | 35.00 | I | 45.0 | I | 0.605 | I | 26.235 | I |
| I | ARM D | I | 3.75 | I | 5.00 | I | 3.00 | I | 19.00 | I | 35.00 | I | 53.0 | I | 0.523 | I | 19.860 | I |

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

| I | ARM | I | FLOW SCALE (%) | I |
|---|-----|---|----------------|---|
| I | A | I | 100 | I |
| I | B | I | 100 | I |
| I | C | I | 100 | I |
| I | D | I | 100 | I |

.TIME PERIOD BEGINS 16.45 AND ENDS 18.15
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: A1041/Abbots Rd

| I | ARM | I | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | I | TOP OF PEAK IS REACHED | I | RATE OF FLOW (VEH/MIN) BEFORE PEAK | I | AT TOP OF PEAK | I | AFTER PEAK |
|---|-------|---|---|---|------------------------|---|------------------------------------|---|----------------|---|------------|
| I | ARM A | I | 15.00 | I | 45.00 | I | 11.20 | I | 16.80 | I | 11.20 |
| I | ARM B | I | 15.00 | I | 45.00 | I | 4.05 | I | 6.08 | I | 4.05 |
| I | ARM C | I | 15.00 | I | 45.00 | I | 11.66 | I | 17.49 | I | 11.66 |
| I | ARM D | I | 15.00 | I | 45.00 | I | 1.69 | I | 2.53 | I | 1.69 |

DEMAND SET TITLE: A1041/Abbots Rd

| I | TIME | I | FROM/TO | I | ARM A | I | ARM B | I | ARM C | I | ARM D |
|---|---------------|---|---------|---|-------|---|-------|---|-------|---|-------|
| I | 16.45 - 18.15 | I | | I | | I | | I | | I | |

A1041 Abbots Rd 2026 Site H2.vao

| | | | | | | | | | | | |
|---|---|-------|---|---------|---|---------|---|---------|---|---------|---|
| I | I | ARM A | I | 0.000 | I | 0.007 | I | 0.960 | I | 0.033 | I |
| I | I | I | I | 0.0 | I | 6.0 | I | 860.0 | I | 30.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM B | I | 0.052 | I | 0.000 | I | 0.833 | I | 0.114 | I |
| I | I | I | I | 17.0 | I | 0.0 | I | 270.0 | I | 37.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM C | I | 0.684 | I | 0.178 | I | 0.000 | I | 0.138 | I |
| I | I | I | I | 638.0 | I | 166.0 | I | 0.0 | I | 129.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |
| I | I | ARM D | I | 0.667 | I | 0.030 | I | 0.304 | I | 0.000 | I |
| I | I | I | I | 90.0 | I | 4.0 | I | 41.0 | I | 0.0 | I |
| I | I | I | I | (10.0) | I |
| I | I | I | I | I | I | I | I | I | I | I | I |

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 16.45-17.00 | | | | | | | | | | I |
| I | I | ARM A | 11.20 | 21.52 | 0.521 | | 0.0 | 1.1 | 15.4 | | 0.10 | I |
| I | I | ARM B | 4.05 | 12.94 | 0.313 | | 0.0 | 0.5 | 6.5 | | 0.11 | I |
| I | I | ARM C | 11.66 | 23.22 | 0.502 | | 0.0 | 1.0 | 14.4 | | 0.09 | I |
| I | I | ARM D | 1.69 | 12.72 | 0.133 | | 0.0 | 0.2 | 2.2 | | 0.09 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.00-17.15 | | | | | | | | | | I |
| I | I | ARM A | 13.37 | 21.21 | 0.631 | | 1.1 | 1.7 | 23.9 | | 0.13 | I |
| I | I | ARM B | 4.84 | 11.69 | 0.414 | | 0.5 | 0.7 | 10.0 | | 0.15 | I |
| I | I | ARM C | 13.93 | 23.09 | 0.603 | | 1.0 | 1.5 | 21.6 | | 0.11 | I |
| I | I | ARM D | 2.02 | 11.66 | 0.173 | | 0.2 | 0.2 | 3.0 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.15-17.30 | | | | | | | | | | I |
| I | I | ARM A | 16.38 | 20.80 | 0.788 | | 1.7 | 3.5 | 47.4 | | 0.22 | I |
| I | I | ARM B | 5.92 | 10.04 | 0.590 | | 0.7 | 1.4 | 19.4 | | 0.24 | I |
| I | I | ARM C | 17.06 | 22.93 | 0.744 | | 1.5 | 2.8 | 38.9 | | 0.17 | I |
| I | I | ARM D | 2.47 | 10.24 | 0.241 | | 0.2 | 0.3 | 4.6 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.30-17.45 | | | | | | | | | | I |
| I | I | ARM A | 16.38 | 20.79 | 0.788 | | 3.5 | 3.6 | 53.2 | | 0.23 | I |
| I | I | ARM B | 5.92 | 9.97 | 0.594 | | 1.4 | 1.4 | 21.2 | | 0.25 | I |
| I | I | ARM C | 17.06 | 22.92 | 0.744 | | 2.8 | 2.8 | 42.3 | | 0.17 | I |
| I | I | ARM D | 2.47 | 10.20 | 0.242 | | 0.3 | 0.3 | 4.7 | | 0.13 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 17.45-18.00 | | | | | | | | | | I |
| I | I | ARM A | 13.37 | 21.19 | 0.631 | | 3.6 | 1.7 | 27.8 | | 0.13 | I |
| I | I | ARM B | 4.84 | 11.60 | 0.417 | | 1.4 | 0.7 | 11.4 | | 0.15 | I |
| I | I | ARM C | 13.93 | 23.08 | 0.603 | | 2.8 | 1.5 | 24.3 | | 0.11 | I |
| I | I | ARM D | 2.02 | 11.60 | 0.174 | | 0.3 | 0.2 | 3.3 | | 0.10 | I |

| I | I | TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) | I |
|---|---|-------------|---------------------|-----------------------|------------------------------|----------------------------------|--------------------------|------------------------|-------------------------------------|---|--|---|
| I | I | 18.00-18.15 | | | | | | | | | | I |
| I | I | ARM A | 11.20 | 21.50 | 0.521 | | 1.7 | 1.1 | 17.1 | | 0.10 | I |
| I | I | ARM B | 4.05 | 12.88 | 0.314 | | 0.7 | 0.5 | 7.2 | | 0.11 | I |
| I | I | ARM C | 11.66 | 23.21 | 0.502 | | 1.5 | 1.0 | 15.8 | | 0.09 | I |
| I | I | ARM D | 1.69 | 12.67 | 0.133 | | 0.2 | 0.2 | 2.4 | | 0.09 | I |

QUEUE AT ARM A

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 1.1 * |
| 17.15 | 1.7 ** |
| 17.30 | 3.5 *** |
| 17.45 | 3.6 **** |
| 18.00 | 1.7 ** |
| 18.15 | 1.1 * |

QUEUE AT ARM B

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.5 |
| 17.15 | 0.7 * |
| 17.30 | 1.4 * |
| 17.45 | 1.4 * |

18.00 0.7 *
18.15 0.5

.QUEUE AT ARM C

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 1.0 * |
| 17.15 | 1.5 * |
| 17.30 | 2.8 **** |
| 17.45 | 2.8 **** |
| 18.00 | 1.5 ** |
| 18.15 | 1.0 * |

.QUEUE AT ARM D

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|------------------------|--------------------------------|
| 17.00 | 0.2 |
| 17.15 | 0.2 |
| 17.30 | 0.3 |
| 17.45 | 0.3 |
| 18.00 | 0.2 |
| 18.15 | 0.2 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| I | ARM | I | TOTAL DEMAND | | * QUEUEING * | | * INCLUSIVE QUEUEING * | | I |
|---|-----|---|--------------|---------|--------------|-----------|------------------------|-----------|---|
| | | | (VEH) | (VEH/H) | (MIN) | (MIN/VEH) | (MIN) | (MIN/VEH) | |
| I | A | I | 1228.6 | 819.1 | 184.9 | 0.15 | 184.9 | 0.15 | I |
| I | B | I | 444.3 | 296.2 | 75.7 | 0.17 | 75.8 | 0.17 | I |
| I | C | I | 1279.3 | 852.9 | 157.4 | 0.12 | 157.4 | 0.12 | I |
| I | D | I | 185.1 | 123.4 | 20.2 | 0.11 | 20.2 | 0.11 | I |
| I | ALL | I | 3137.3 | 2091.6 | 438.2 | 0.14 | 438.3 | 0.14 | I |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

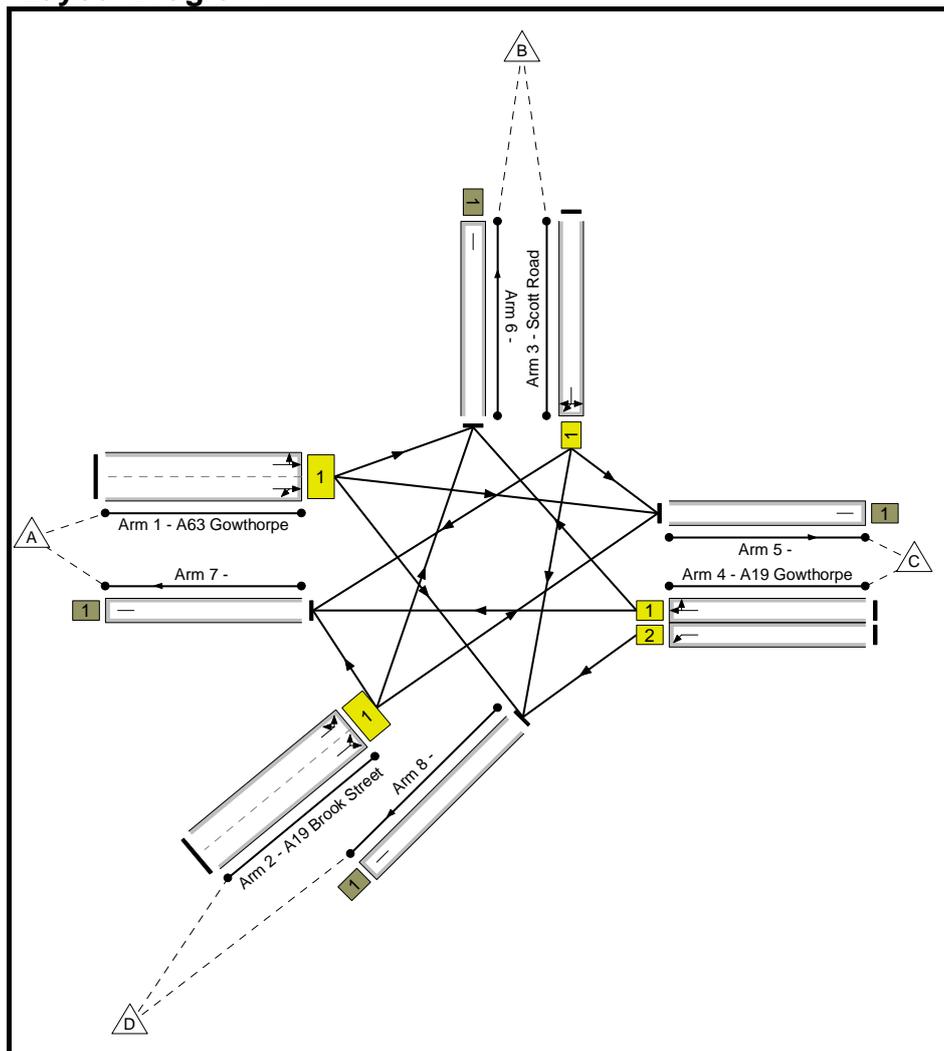
APPENDIX E JUNCTION ANALYSIS – SIGNALS

Gowthorpe Crossroads

User and Project Details

| | |
|--------------------|--|
| Project: | Selby VISUM |
| Title: | Gowthorpe/Brooke Street/Scott Road/Leeds Road |
| Location: | Selby |
| File name: | KD Gowthorpe Junction.lsgx |
| Author: | Edward Downer |
| Company: | Jacobs Consultancy |
| Address: | Horsley House, Regent Centre, Gosforth, Newcastle upon Tyne, NE3 3 |
| Controller: | Generic |
| SCN: | NY124 |
| Notes: | |

Junction Layout Diagram



Gowthorpe Crossroads

Scenario 2: 'Base 2008'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 3: 'Base 2008'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 55 | 111 | 42 | 208 | |
| B | 75 | 0 | 126 | 224 | 425 | |
| C | 116 | 114 | 0 | 171 | 401 | |
| D | 24 | 191 | 182 | 0 | 397 | |
| Tot. | 215 | 360 | 419 | 437 | 1431 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 14 | - | 208 | 3600 | 3600 | 563 | 37.0 | - | - | - | 2.4 | 41.3 | 5.2 |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 12 | - | 397 | 3600 | 3600 | 488 | 81.4 | - | - | - | 6.5 | 59.3 | 12.4 |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 25 | - | 425 | 1800 | 1800 | 488 | 87.2 | - | - | - | 7.0 | 59.6 | 13.8 |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 14 | - | 230 | 1800 | 1800 | 281 | 81.8 | - | - | - | 4.6 | 71.7 | 8.0 |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 33 | 19 | 171 | 1800 | 1800 | 637 | 26.8 | - | - | - | 1.2 | 26.0 | 3.4 |
| PRC for Signalled Links (%): | | | | | 3.2 | Total Delay for Signalled Links (pcuHr): | | | | | 21.78 | | | | | | | |
| PRC Over All Links (%): | | | | | 3.2 | Total Delay Over All Links(pcuHr): | | | | | 21.78 | Cycle Time (s): 96 | | | | | | |

Gowthorpe Crossroads

Scenario 3: 'Base 2026'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 4: 'Base 2026'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 68 | 134 | 48 | 250 | |
| B | 107 | 0 | 140 | 297 | 544 | |
| C | 108 | 125 | 0 | 187 | 420 | |
| D | 29 | 234 | 246 | 0 | 509 | |
| Tot. | 244 | 427 | 520 | 532 | 1723 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 11 | - | 250 | 3600 | 3600 | 450 | 55.6 | - | - | - | 3.4 | 48.5 | 6.9 | |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 13 | - | 509 | 3600 | 3600 | 525 | 97.0 | - | - | - | 13.7 | 97.2 | 21.4 | |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 27 | - | 544 | 1800 | 1800 | 525 | 103.6 | - | - | - | 23.3 | 154.1 | 32.4 | |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 11 | - | 233 | 1800 | 1800 | 225 | 103.6 | - | - | - | 13.0 | 200.9 | 16.3 | |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 31 | 20 | 187 | 1800 | 1800 | 600 | 31.2 | - | - | - | 1.5 | 28.2 | 3.9 | |
| PRC for Signalled Links (%): | | | | | | -15.1 | Total Delay for Signalled Links (pcuHr): | | | | 54.85 | | | | | | | | |
| PRC Over All Links (%): | | | | | | -15.1 | Total Delay Over All Links(pcuHr): | | | | 54.85 | Cycle Time (s): | | | | 96 | | | |

Gowthorpe Crossroads

Scenario 4: '2026 Site A'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 5: '2026 Site A'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | | |
|--------|-------------|-----|-----|-----|-----|------|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 84 | 173 | 49 | 306 |
| | B | 148 | 0 | 125 | 303 | 576 |
| | C | 203 | 135 | 0 | 166 | 504 |
| | D | 31 | 248 | 237 | 0 | 516 |
| | Tot. | 382 | 467 | 535 | 518 | 1902 |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 15 | - | 306 | 3600 | 3600 | 600 | 51.0 | - | - | - | 3.6 | 42.5 | 7.9 |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 11 | - | 516 | 3600 | 3600 | 450 | 114.7 | - | - | - | 46.1 | 321.9 | 53.4 |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 25 | - | 576 | 1800 | 1800 | 488 | 118.2 | - | - | - | 56.5 | 353.4 | 65.0 |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 15 | - | 338 | 1800 | 1800 | 300 | 112.7 | - | - | - | 28.3 | 301.7 | 32.7 |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 33 | 18 | 166 | 1800 | 1800 | 637 | 26.0 | - | - | - | 1.2 | 25.9 | 3.3 |
| PRC for Signalled Links (%): | | | | | | -31.3 | Total Delay for Signalled Links (pcuHr): | | | | | | 135.82 | | | | | |
| PRC Over All Links (%): | | | | | | -31.3 | Total Delay Over All Links(pcuHr): | | | | | | 135.82 | | Cycle Time (s): 96 | | | |

Gowthorpe Crossroads

Scenario 5: '2026 Site D'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 6: '2026 Site D'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 67 | 144 | 48 | 259 | |
| B | 98 | 0 | 128 | 280 | 506 | |
| C | 119 | 127 | 0 | 158 | 404 | |
| D | 28 | 234 | 212 | 0 | 474 | |
| Tot. | 245 | 428 | 484 | 486 | 1643 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 13 | - | 259 | 3600 | 3600 | 525 | 49.3 | - | - | - | 3.2 | 44.5 | 6.8 | |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 12 | - | 474 | 3600 | 3600 | 488 | 97.2 | - | - | - | 13.5 | 102.3 | 20.5 | |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 26 | - | 506 | 1800 | 1800 | 506 | 100.0 | - | - | - | 16.0 | 114.1 | 24.5 | |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 13 | - | 246 | 1800 | 1800 | 263 | 93.7 | - | - | - | 7.5 | 109.9 | 11.2 | |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 32 | 19 | 158 | 1800 | 1800 | 619 | 25.5 | - | - | - | 1.2 | 26.6 | 3.2 | |
| PRC for Signalled Links (%): | | | | | | -11.1 | Total Delay for Signalled Links (pcuHr): | | | | 41.37 | | | | | | | | |
| PRC Over All Links (%): | | | | | | -11.1 | Total Delay Over All Links(pcuHr): | | | | 41.37 | | Cycle Time (s): 96 | | | | | | |

Gowthorpe Crossroads

Scenario 6: '2026 Site E'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 7: '2020 Site E'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 68 | 136 | 48 | 252 | |
| B | 112 | 0 | 137 | 314 | 563 | |
| C | 105 | 125 | 0 | 202 | 432 | |
| D | 28 | 240 | 331 | 0 | 599 | |
| Tot. | 245 | 433 | 604 | 564 | 1846 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 11 | - | 252 | 3600 | 3600 | 450 | 56.0 | - | - | - | 3.4 | 48.6 | 6.9 |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 14 | - | 599 | 3600 | 3600 | 563 | 106.5 | - | - | - | 33.1 | 199.1 | 41.8 |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 26 | - | 563 | 1800 | 1800 | 506 | 111.2 | - | - | - | 40.5 | 258.8 | 49.2 |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 11 | - | 230 | 1800 | 1800 | 225 | 102.2 | - | - | - | 11.9 | 185.7 | 15.2 |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 32 | 21 | 202 | 1800 | 1800 | 619 | 32.6 | - | - | - | 1.5 | 27.6 | 4.2 |
| PRC for Signalled Links (%): | | | | | | -23.6 | Total Delay for Signalled Links (pcuHr): | | | | 90.41 | | | | | | | |
| PRC Over All Links (%): | | | | | | -23.6 | Total Delay Over All Links(pcuHr): | | | | 90.41 | Cycle Time (s): | | 96 | | | | |

Gowthorpe Crossroads

Scenario 7: '2026 Site F'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 8: '2026 Site F'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | | |
|--------|-------------|-----|-----|-----|-----|------|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 67 | 133 | 48 | 248 |
| | B | 111 | 0 | 138 | 345 | 594 |
| | C | 103 | 125 | 0 | 220 | 448 |
| | D | 28 | 249 | 286 | 0 | 563 |
| | Tot. | 242 | 441 | 557 | 613 | 1853 |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 10 | - | 248 | 3600 | 3600 | 412 | 60.1 | - | - | - | 3.5 | 51.3 | 7.0 | |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 13 | - | 563 | 3600 | 3600 | 525 | 107.2 | - | - | - | 33.2 | 212.2 | 41.3 | |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 28 | - | 594 | 1800 | 1800 | 544 | 109.2 | - | - | - | 37.7 | 228.6 | 47.2 | |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 10 | - | 228 | 1800 | 1800 | 206 | 110.5 | - | - | - | 18.5 | 292.2 | 21.4 | |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 30 | 20 | 220 | 1800 | 1800 | 581 | 37.8 | - | - | - | 1.8 | 30.0 | 4.8 | |
| PRC for Signalled Links (%): | | | | | | -22.8 | Total Delay for Signalled Links (pcuHr): | | | | 94.78 | | | | | | | | |
| PRC Over All Links (%): | | | | | | -22.8 | Total Delay Over All Links(pcuHr): | | | | 94.78 | Cycle Time (s): | | 96 | | | | | |

Gowthorpe Crossroads

Scenario 8: '2026 Site G1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 9: '2026 Site G1'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 69 | 145 | 47 | 261 | |
| B | 96 | 0 | 124 | 333 | 553 | |
| C | 137 | 127 | 0 | 234 | 498 | |
| D | 28 | 259 | 227 | 0 | 514 | |
| Tot. | 261 | 455 | 496 | 614 | 1826 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 12 | - | 261 | 3600 | 3600 | 488 | 53.5 | - | - | - | 3.4 | 46.6 | 7.0 |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 12 | - | 514 | 3600 | 3600 | 488 | 105.4 | - | - | - | 27.1 | 190.0 | 34.4 |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 27 | - | 553 | 1800 | 1800 | 525 | 105.3 | - | - | - | 27.1 | 176.3 | 36.2 |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 12 | - | 264 | 1800 | 1800 | 244 | 108.3 | - | - | - | 18.7 | 254.6 | 22.2 |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 31 | 19 | 234 | 1800 | 1800 | 600 | 39.0 | - | - | - | 1.9 | 29.4 | 5.1 |
| PRC for Signalled Links (%): | | | | | | -20.3 | Total Delay for Signalled Links (pcuHr): | | | | 78.17 | | | | | | | |
| PRC Over All Links (%): | | | | | | -20.3 | Total Delay Over All Links(pcuHr): | | | | 78.17 | Cycle Time (s): | | 96 | | | | |

Gowthorpe Crossroads

Scenario 9: '2026 Site G2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 10: '2026 Site G2'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 68 | 152 | 46 | 266 | |
| B | 92 | 0 | 127 | 337 | 556 | |
| C | 146 | 129 | 0 | 241 | 516 | |
| D | 27 | 283 | 234 | 0 | 544 | |
| Tot. | 265 | 480 | 513 | 624 | 1882 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 13 | - | 266 | 3600 | 3600 | 525 | 50.7 | - | - | - | 3.3 | 44.8 | 7.0 | |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 12 | - | 544 | 3600 | 3600 | 488 | 111.6 | - | - | - | 41.8 | 276.5 | 49.5 | |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 26 | - | 556 | 1800 | 1800 | 506 | 109.8 | - | - | - | 37.0 | 239.4 | 45.7 | |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 13 | - | 275 | 1800 | 1800 | 263 | 104.8 | - | - | - | 15.7 | 205.9 | 19.7 | |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 32 | 19 | 241 | 1800 | 1800 | 619 | 38.9 | - | - | - | 1.9 | 28.6 | 5.1 | |
| PRC for Signalled Links (%): | | | | | | -24.0 | Total Delay for Signalled Links (pcuHr): | | | | 99.72 | | | | | | | | |
| PRC Over All Links (%): | | | | | | -24.0 | Total Delay Over All Links(pcuHr): | | | | 99.72 | Cycle Time (s): | | | | 96 | | | |

Gowthorpe Crossroads

Scenario 10: '2026 Site H1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 11: '2026 Site H1'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 82 | 152 | 55 | 289 | |
| B | 114 | 0 | 122 | 327 | 563 | |
| C | 100 | 123 | 0 | 206 | 429 | |
| D | 28 | 307 | 341 | 0 | 676 | |
| Tot. | 242 | 512 | 615 | 588 | 1957 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 10 | - | 289 | 3600 | 3600 | 412 | 70.1 | - | - | - | 4.4 | 55.2 | 8.5 |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 15 | - | 676 | 3600 | 3600 | 600 | 112.7 | - | - | - | 53.7 | 286.0 | 63.5 |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 26 | - | 563 | 1800 | 1800 | 506 | 111.2 | - | - | - | 40.5 | 258.9 | 49.2 |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 10 | - | 223 | 1800 | 1800 | 206 | 108.1 | - | - | - | 16.2 | 261.7 | 19.1 |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 32 | 22 | 206 | 1800 | 1800 | 619 | 33.3 | - | - | - | 1.6 | 27.7 | 4.3 |
| PRC for Signalled Links (%): | | | | | | -25.2 | Total Delay for Signalled Links (pcuHr): | | | | | | 116.42 | | | | | |
| PRC Over All Links (%): | | | | | | -25.2 | Total Delay Over All Links(pcuHr): | | | | | | 116.42 | | Cycle Time (s): 96 | | | |

Gowthorpe Crossroads

Scenario 11: '2026 Site H2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 12: '2026 Site H2'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 88 | 167 | 54 | 309 | |
| B | 106 | 0 | 364 | 120 | 590 | |
| C | 108 | 123 | 0 | 234 | 465 | |
| D | 27 | 335 | 384 | 0 | 746 | |
| Tot. | 241 | 546 | 915 | 408 | 2110 | |

Link Results

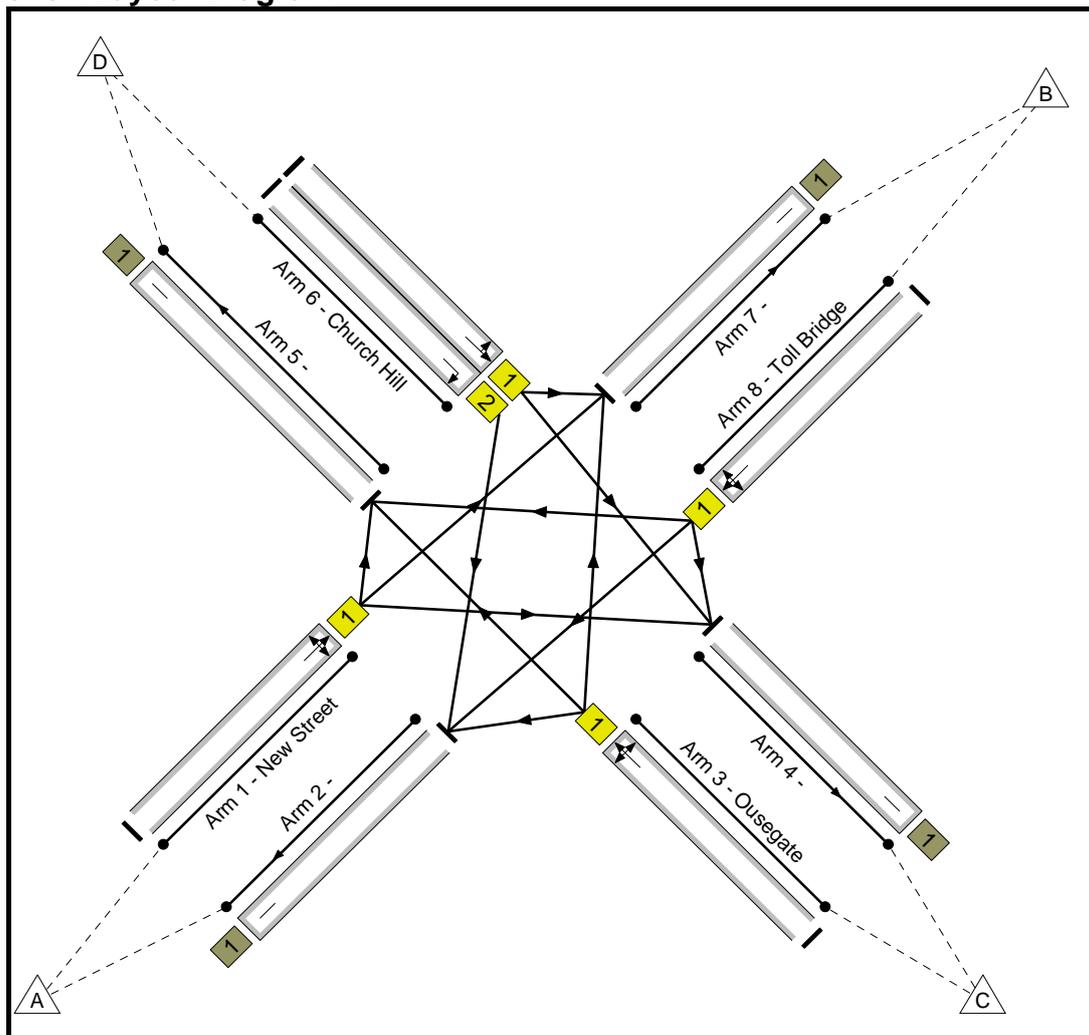
| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A63 Gowthorpe Ahead Left U-Turn | U | A | | 1 | 10 | - | 309 | 3600 | 3600 | 412 | 74.9 | - | - | - | 5.0 | 58.1 | 9.3 | |
| 2/1 | A19 Brook Street Ahead Left U-Turn | U | D | | 1 | 16 | - | 746 | 3600 | 3600 | 637 | 117.0 | - | - | - | 71.6 | 345.7 | 82.6 | |
| 3/1 | Scott Road Left Right Right2 | U | C | | 1 | 25 | - | 590 | 1800 | 1800 | 488 | 121.0 | - | - | - | 64.1 | 391.1 | 72.4 | |
| 4/1 | A19 Gowthorpe Right Ahead | U | B | | 1 | 10 | - | 231 | 1800 | 1800 | 206 | 112.0 | - | - | - | 19.9 | 310.7 | 22.8 | |
| 4/2 | A19 Gowthorpe Left | U | B | E | 1 | 33 | 23 | 234 | 1800 | 1800 | 637 | 36.7 | - | - | - | 1.8 | 27.5 | 4.9 | |
| PRC for Signalled Links (%): | | | | | | -34.5 | Total Delay for Signalled Links (pcuHr): | | | | | | 162.44 | | | | | | |
| PRC Over All Links (%): | | | | | | -34.5 | Total Delay Over All Links(pcuHr): | | | | | | 162.44 | Cycle Time (s): 96 | | | | | |

Selby Toll Bridge

User and Project Details

| | |
|--------------------|--|
| Project: | |
| Title: | |
| Location: | |
| File name: | KD Selby Toll Bridge.lsgx |
| Author: | Edward Downer |
| Company: | Jacobs Consultancy |
| Address: | Horsley House, Regent Centre, Gosforth, Newcastle upon Tyne, NE3 3 |
| Controller: | Generic |
| SCN: | |
| Notes: | |

Junction Layout Diagram



Selby Toll Bridge

Scenario 2: 'Base 2008'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 2: 'Base 2008'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 524 | 80 | 76 | 680 | |
| B | 302 | 0 | 52 | 170 | 524 | |
| C | 27 | 46 | 0 | 85 | 158 | |
| D | 51 | 173 | 52 | 0 | 276 | |
| Tot. | 380 | 743 | 184 | 331 | 1638 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|----------|------------------------------|-----------|------------|-------------|------------------------------|-----------------|-----------------|--|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 36 | - | 680 | 1800 | 1800 | 802 | 84.7 | - | - | - | 6.5 | 34.6 | 16.5 |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 11 | - | 158 | 1800 | 1800 | 260 | 60.7 | - | - | - | 2.2 | 50.6 | 4.1 |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 11 | - | 225 | 1800 | 1800 | 260 | 86.5 | - | - | - | 4.9 | 78.9 | 7.8 |
| 6/2 | Church Hill Right | U | C | | 1 | 11 | - | 51 | 1800 | 1800 | 260 | 19.6 | - | - | - | 0.6 | 39.9 | 1.2 |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 36 | - | 524 | 1800 | 1800 | 802 | 65.3 | - | - | - | 3.6 | 24.4 | 10.3 |
| | | | | | PRC for Signalled Links (%): | | 4.1 | Total Delay for Signalled Links (pcuHr): | | | 17.80 | | | | | | | |
| | | | | | PRC Over All Links (%): | | 4.1 | Total Delay Over All Links (pcuHr): | | | 17.80 | | Cycle Time (s): 83 | | | | | |

Selby Toll Bridge

Scenario 3: 'Base 2026'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 3: 'Base 2026'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 598 | 90 | 83 | 771 | |
| B | 319 | 0 | 164 | 233 | 716 | |
| C | 1 | 76 | 0 | 102 | 179 | |
| D | 42 | 203 | 68 | 0 | 313 | |
| Tot. | 362 | 877 | 322 | 418 | 1979 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 35 | - | 771 | 1800 | 1800 | 781 | 98.8 | - | - | - | 16.6 | 77.7 | 29.2 | |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 12 | - | 179 | 1800 | 1800 | 282 | 63.5 | - | - | - | 2.5 | 50.0 | 4.7 | |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 12 | - | 271 | 1800 | 1800 | 282 | 96.1 | - | - | - | 8.6 | 113.7 | 12.1 | |
| 6/2 | Church Hill Right | U | C | | 1 | 12 | - | 42 | 1800 | 1800 | 282 | 14.9 | - | - | - | 0.4 | 37.8 | 0.9 | |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 35 | - | 716 | 1800 | 1800 | 781 | 91.7 | - | - | - | 9.2 | 46.3 | 20.3 | |
| PRC for Signalled Links (%): | | | | | | -9.7 | Total Delay for Signalled Links (pcuHr): | | | | | | 37.34 | | | | | | |
| PRC Over All Links (%): | | | | | | -9.7 | Total Delay Over All Links (pcuHr): | | | | | | 37.34 | Cycle Time (s): 83 | | | | | |

Selby Toll Bridge

Scenario 4: '2026 Site A'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 4: '2026 Site A'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 514 | 71 | 75 | 660 | |
| B | 353 | 0 | 151 | 300 | 804 | |
| C | 37 | 68 | 0 | 122 | 227 | |
| D | 44 | 285 | 80 | 0 | 409 | |
| Tot. | 434 | 867 | 302 | 497 | 2100 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 33 | - | 660 | 1800 | 1800 | 737 | 89.5 | - | - | - | 8.1 | 44.0 | 18.0 |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 14 | - | 227 | 1800 | 1800 | 325 | 69.8 | - | - | - | 3.1 | 49.8 | 6.0 |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 14 | - | 365 | 1800 | 1800 | 325 | 112.2 | - | - | - | 28.3 | 279.4 | 33.0 |
| 6/2 | Church Hill Right | U | C | | 1 | 14 | - | 44 | 1800 | 1800 | 325 | 13.5 | - | - | - | 0.4 | 35.0 | 0.9 |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 33 | - | 804 | 1800 | 1800 | 737 | 109.0 | - | - | - | 46.6 | 208.6 | 58.6 |
| PRC for Signalled Links (%): | | | | | -24.7 | Total Delay for Signalled Links (pcuHr): | | | | | 86.53 | | | | | | | |
| PRC Over All Links (%): | | | | | -24.7 | Total Delay Over All Links(pcuHr): | | | | | 86.53 | Cycle Time (s): 83 | | | | | | |

Selby Toll Bridge

Scenario 5: '2026 Site D'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 5: '2026 Site D'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | | |
|--------|-------------|-----|-----|-----|-----|------|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 652 | 90 | 79 | 821 |
| | B | 271 | 0 | 111 | 254 | 636 |
| | C | 1 | 93 | 0 | 96 | 190 |
| | D | 46 | 200 | 63 | 0 | 309 |
| | Tot. | 318 | 945 | 264 | 429 | 1956 |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 36 | - | 821 | 1800 | 1800 | 802 | 102.3 | - | - | - | 25.7 | 112.5 | 39.1 | |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 11 | - | 190 | 1800 | 1800 | 260 | 73.0 | - | - | - | 3.1 | 58.7 | 5.5 | |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 11 | - | 263 | 1800 | 1800 | 260 | 101.1 | - | - | - | 11.5 | 157.4 | 15.0 | |
| 6/2 | Church Hill Right | U | C | | 1 | 11 | - | 46 | 1800 | 1800 | 260 | 17.7 | - | - | - | 0.5 | 39.6 | 1.0 | |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 36 | - | 636 | 1800 | 1800 | 802 | 79.3 | - | - | - | 5.4 | 30.3 | 14.4 | |
| PRC for Signalled Links (%): | | | | | -13.7 | Total Delay for Signalled Links (pcuHr): | | | | | 46.12 | | | | | | | | |
| PRC Over All Links (%): | | | | | -13.7 | Total Delay Over All Links (pcuHr): | | | | | 46.12 | Cycle Time (s): 83 | | | | | | | |

Selby Toll Bridge

Scenario 6: '2026 Site E'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 6: '2026 Site E'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 587 | 119 | 83 | 789 | |
| B | 326 | 0 | 148 | 238 | 712 | |
| C | 25 | 75 | 0 | 101 | 201 | |
| D | 44 | 200 | 68 | 0 | 312 | |
| Tot. | 395 | 862 | 335 | 422 | 2014 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|--|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 35 | - | 789 | 1800 | 1800 | 781 | 101.1 | - | - | - | 21.7 | 99.2 | 34.6 | | |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 12 | - | 201 | 1800 | 1800 | 282 | 71.3 | - | - | - | 3.1 | 54.8 | 5.6 | | |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 12 | - | 268 | 1800 | 1800 | 282 | 95.1 | - | - | - | 8.0 | 107.4 | 11.5 | | |
| 6/2 | Church Hill Right | U | C | | 1 | 12 | - | 44 | 1800 | 1800 | 282 | 15.6 | - | - | - | 0.5 | 37.9 | 1.0 | | |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 35 | - | 712 | 1800 | 1800 | 781 | 91.2 | - | - | - | 8.9 | 45.1 | 19.8 | | |
| PRC for Signalled Links (%): | | | | | -12.3 | Total Delay for Signalled Links (pcuHr): | | | | | 42.18 | | | | | | | | | |
| PRC Over All Links (%): | | | | | -12.3 | Total Delay Over All Links (pcuHr): | | | | | 42.18 | Cycle Time (s): | | | | 83 | | | | |

Selby Toll Bridge

Scenario 7: '2026 Site F'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 7: '2026 Site F'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 615 | 94 | 81 | 790 | |
| B | 337 | 0 | 147 | 237 | 721 | |
| C | 32 | 74 | 0 | 101 | 207 | |
| D | 44 | 213 | 66 | 0 | 323 | |
| Tot. | 413 | 902 | 307 | 419 | 2041 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | | | | | | | | | | | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|-------------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|------------------------------------|--|--|--|--|-------|-----------------|--|--|--|--|----|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 35 | - | 790 | 1800 | 1800 | 781 | 101.2 | - | - | - | 22.1 | 100.6 | 35.0 | | | | | | | | | | | |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 12 | - | 207 | 1800 | 1800 | 282 | 73.4 | - | - | - | 3.3 | 56.6 | 5.9 | | | | | | | | | | | |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 12 | - | 279 | 1800 | 1800 | 282 | 99.0 | - | - | - | 10.4 | 133.7 | 14.0 | | | | | | | | | | | |
| 6/2 | Church Hill Right | U | C | | 1 | 12 | - | 44 | 1800 | 1800 | 282 | 15.6 | - | - | - | 0.5 | 37.9 | 1.0 | | | | | | | | | | | |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 35 | - | 721 | 1800 | 1800 | 781 | 92.4 | - | - | - | 9.6 | 47.9 | 20.8 | | | | | | | | | | | |
| PRC for Signalled Links (%): | | | | | -12.4 | Total Delay for Signalled Links (pcuHr): | | | | | 45.74 | PRC Over All Links (%): | | | | | -12.4 | Total Delay Over All Links(pcuHr): | | | | | 45.74 | Cycle Time (s): | | | | | 83 |

Selby Toll Bridge

Scenario 8: '2026 Site G1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 8: '2026 Site G1'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 430 | 22 | 67 | 519 | |
| B | 274 | 0 | 143 | 332 | 749 | |
| C | 43 | 111 | 0 | 96 | 250 | |
| D | 45 | 349 | 92 | 0 | 486 | |
| Tot. | 362 | 890 | 257 | 495 | 2004 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 30 | - | 519 | 1800 | 1800 | 672 | 77.2 | - | - | - | 5.0 | 34.4 | 12.2 |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 17 | - | 250 | 1800 | 1800 | 390 | 64.0 | - | - | - | 2.9 | 42.2 | 6.1 |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 17 | - | 441 | 1800 | 1800 | 390 | 113.0 | - | - | - | 34.6 | 282.6 | 40.4 |
| 6/2 | Church Hill Right | U | C | | 1 | 17 | - | 45 | 1800 | 1800 | 390 | 11.5 | - | - | - | 0.4 | 31.4 | 0.9 |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 30 | - | 749 | 1800 | 1800 | 672 | 111.4 | - | - | - | 51.1 | 245.7 | 61.8 |
| PRC for Signalled Links (%): | | | | | -25.5 | Total Delay for Signalled Links (pcuHr): | | | | | 94.03 | | | | | | | |
| PRC Over All Links (%): | | | | | -25.5 | Total Delay Over All Links(pcuHr): | | | | | 94.03 | Cycle Time (s): 83 | | | | | | |

Selby Toll Bridge

Scenario 9: '2026 Site G2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 9: '2026 Site G2'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 393 | 17 | 42 | 452 | |
| B | 319 | 0 | 154 | 371 | 844 | |
| C | 9 | 135 | 0 | 92 | 236 | |
| D | 42 | 387 | 100 | 0 | 529 | |
| Tot. | 370 | 915 | 271 | 505 | 2061 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 30 | - | 452 | 1800 | 1800 | 672 | 67.2 | - | - | - | 3.7 | 29.9 | 9.7 |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 17 | - | 236 | 1800 | 1800 | 390 | 60.5 | - | - | - | 2.7 | 40.8 | 5.6 |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 17 | - | 487 | 1800 | 1800 | 390 | 124.8 | - | - | - | 58.1 | 429.4 | 64.2 |
| 6/2 | Church Hill Right | U | C | | 1 | 17 | - | 42 | 1800 | 1800 | 390 | 10.8 | - | - | - | 0.4 | 31.3 | 0.8 |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 30 | - | 844 | 1800 | 1800 | 672 | 125.5 | - | - | - | 101.0 | 430.9 | 111.7 |
| PRC for Signalled Links (%): | | | | | -39.5 | Total Delay for Signalled Links (pcuHr): | | | | | 165.90 | | | | | | | |
| PRC Over All Links (%): | | | | | -39.5 | Total Delay Over All Links(pcuHr): | | | | | 165.90 | Cycle Time (s): 83 | | | | | | |

Selby Toll Bridge

Scenario 10: '2026 Site H1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 10: '2026 Site H1'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 600 | 104 | 74 | 778 | |
| B | 317 | 0 | 183 | 245 | 745 | |
| C | 2 | 72 | 0 | 97 | 171 | |
| D | 42 | 217 | 60 | 0 | 319 | |
| Tot. | 361 | 889 | 347 | 416 | 2013 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 35 | - | 778 | 1800 | 1800 | 781 | 99.7 | - | - | - | 18.3 | 84.9 | 31.0 | |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 12 | - | 171 | 1800 | 1800 | 282 | 60.7 | - | - | - | 2.3 | 48.6 | 4.4 | |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 12 | - | 277 | 1800 | 1800 | 282 | 98.3 | - | - | - | 9.9 | 128.2 | 13.5 | |
| 6/2 | Church Hill Right | U | C | | 1 | 12 | - | 42 | 1800 | 1800 | 282 | 14.9 | - | - | - | 0.4 | 37.8 | 0.9 | |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 35 | - | 745 | 1800 | 1800 | 781 | 95.4 | - | - | - | 12.1 | 58.4 | 23.9 | |
| PRC for Signalled Links (%): | | | | | -10.7 | Total Delay for Signalled Links (pcuHr): | | | | | 43.04 | | | | | | | | |
| PRC Over All Links (%): | | | | | -10.7 | Total Delay Over All Links (pcuHr): | | | | | 43.04 | Cycle Time (s): 83 | | | | | | | |

Selby Toll Bridge

Scenario 11: '2026 Site H2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 11: '2026 Site H2'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | | |
|--------|-------------|-----|-----|-----|-----|------|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 618 | 126 | 74 | 818 |
| | B | 225 | 0 | 220 | 239 | 684 |
| | C | 41 | 68 | 0 | 96 | 205 |
| | D | 42 | 221 | 61 | 0 | 324 |
| | Tot. | 308 | 907 | 407 | 409 | 2031 |

Link Results

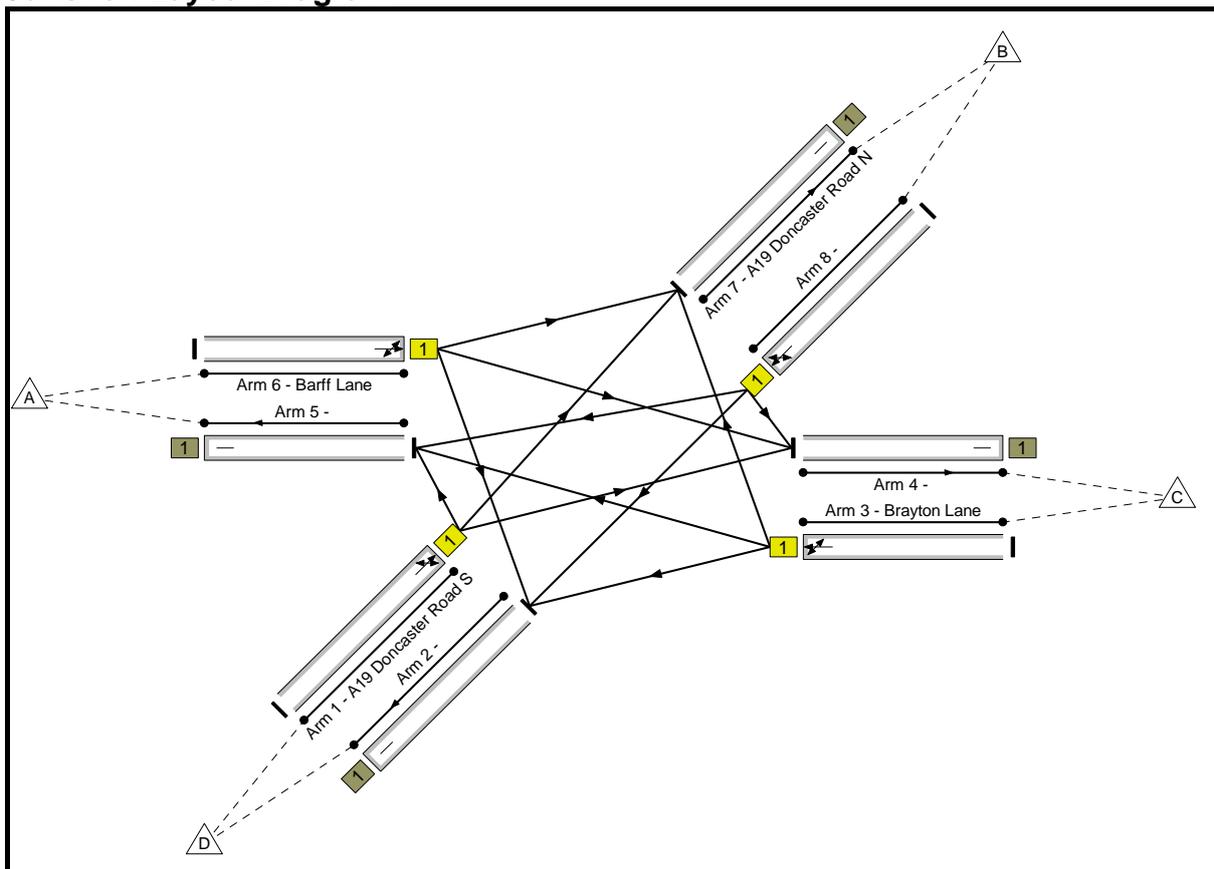
| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | New Street Right Left Ahead | U | A | | 1 | 35 | - | 818 | 1800 | 1800 | 781 | 104.8 | - | - | - | 33.2 | 145.9 | 46.1 | |
| 3/1 | Ousegate Left Ahead Right | U | D | | 1 | 12 | - | 205 | 1800 | 1800 | 282 | 72.7 | - | - | - | 3.2 | 56.0 | 5.7 | |
| 6/1 | Church Hill Ahead Left | U | C | | 1 | 12 | - | 282 | 1800 | 1800 | 282 | 100.0 | - | - | - | 11.2 | 142.4 | 14.9 | |
| 6/2 | Church Hill Right | U | C | | 1 | 12 | - | 42 | 1800 | 1800 | 282 | 14.9 | - | - | - | 0.4 | 37.8 | 0.9 | |
| 8/1 | Toll Bridge Ahead Left Right | U | B | | 1 | 35 | - | 684 | 1800 | 1800 | 781 | 87.6 | - | - | - | 7.4 | 38.9 | 17.6 | |
| PRC for Signalled Links (%): | | | | | -16.4 | Total Delay for Signalled Links (pcuHr): | | | | | 55.32 | | | | | | | | |
| PRC Over All Links (%): | | | | | -16.4 | Total Delay Over All Links(pcuHr): | | | | | 55.32 | Cycle Time (s): 83 | | | | | | | |

Brayton Crossroads

User and Project Details

| | |
|--------------------|--|
| Project: | Selby VISUM |
| Title: | Brayton Crossroads |
| Location: | Selby |
| File name: | KD Brayton Crossroads.lsgx |
| Author: | Edward Downer |
| Company: | Jacobs Consultancy |
| Address: | Horsley House, Regent Centre, Gosforth, Newcastle upon Tyne, NE3 3 |
| Controller: | Generic |
| SCN: | |
| Notes: | |

Junction Layout Diagram



Basic Results Summary

Scenario 2: 'Base 2008'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 2: 'Base 2008'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 9 | 59 | 14 | 82 | |
| B | 48 | 0 | 17 | 352 | 417 | |
| C | 81 | 24 | 0 | 31 | 136 | |
| D | 22 | 427 | 39 | 0 | 488 | |
| Tot. | 151 | 460 | 115 | 397 | 1123 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|--|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 38 | - | 488 | 1800 | 1800 | 878 | 55.6 | - | - | - | 2.6 | 19.0 | 8.2 |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 10 | - | 136 | 1800 | 1800 | 248 | 54.9 | - | - | - | 1.8 | 48.2 | 3.4 |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 10 | - | 82 | 1800 | 1800 | 248 | 33.1 | - | - | - | 1.0 | 42.0 | 1.9 |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 38 | - | 417 | 1800 | 1800 | 878 | 47.5 | - | - | - | 2.0 | 17.6 | 6.6 |
| PRC for Signalled Links (%): | | | | | | 61.8 | Total Delay for Signalled Links (pcuHr): | | | | 7.39 | | | | | | | |
| PRC Over All Links (%): | | | | | | 61.8 | Total Delay Over All Links (pcuHr): | | | | 7.39 | Cycle Time (s): | | 80 | | | | |

Basic Results Summary

Scenario 3: 'Base 2026'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 3: 'Base 2026'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 10 | 72 | 17 | 99 | |
| B | 61 | 0 | 21 | 505 | 587 | |
| C | 98 | 32 | 0 | 37 | 167 | |
| D | 24 | 533 | 43 | 0 | 600 | |
| Tot. | 183 | 575 | 136 | 559 | 1453 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 38 | - | 600 | 1800 | 1800 | 878 | 68.4 | - | - | - | 3.7 | 22.2 | 11.2 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 10 | - | 167 | 1800 | 1800 | 248 | 67.5 | - | - | - | 2.5 | 54.6 | 4.5 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 10 | - | 99 | 1800 | 1800 | 248 | 40.0 | - | - | - | 1.2 | 43.6 | 2.3 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 38 | - | 587 | 1800 | 1800 | 878 | 66.9 | - | - | - | 3.5 | 21.7 | 10.8 | |
| PRC for Signalled Links (%): | | | | | 31.6 | Total Delay for Signalled Links (pcuHr): | | | | | 10.98 | | | | | | | | |
| PRC Over All Links (%): | | | | | 31.6 | Total Delay Over All Links (pcuHr): | | | | | 10.98 | Cycle Time (s): | | 80 | | | | | |

Basic Results Summary

Scenario 4: '2026 Site A'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 4: '2026 Site A'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 10 | 73 | 17 | 100 | |
| B | 60 | 0 | 25 | 500 | 585 | |
| C | 98 | 38 | 0 | 37 | 173 | |
| D | 24 | 546 | 43 | 0 | 613 | |
| Tot. | 182 | 594 | 141 | 554 | 1471 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 38 | - | 613 | 1800 | 1800 | 878 | 69.9 | - | - | - | 3.9 | 22.7 | 11.7 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 10 | - | 173 | 1800 | 1800 | 248 | 69.9 | - | - | - | 2.7 | 56.4 | 4.8 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 10 | - | 100 | 1800 | 1800 | 248 | 40.4 | - | - | - | 1.2 | 43.7 | 2.4 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 38 | - | 585 | 1800 | 1800 | 878 | 66.7 | - | - | - | 3.5 | 21.7 | 10.7 | |
| PRC for Signalled Links (%): | | | | | 28.8 | Total Delay for Signalled Links (pcuHr): | | | | | 11.31 | | | | | | | | |
| PRC Over All Links (%): | | | | | 28.8 | Total Delay Over All Links (pcuHr): | | | | | 11.31 | Cycle Time (s): | | 80 | | | | | |

Basic Results Summary

Scenario 5: '2026 Site D'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 5: '2026 Site D'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 10 | 71 | 17 | 98 | |
| B | 60 | 0 | 21 | 383 | 464 | |
| C | 97 | 31 | 0 | 37 | 165 | |
| D | 24 | 485 | 43 | 0 | 552 | |
| Tot. | 181 | 526 | 135 | 437 | 1279 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 37 | - | 552 | 1800 | 1800 | 855 | 64.6 | - | - | - | 3.3 | 21.8 | 10.1 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 11 | - | 165 | 1800 | 1800 | 270 | 61.1 | - | - | - | 2.2 | 48.7 | 4.2 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 11 | - | 98 | 1800 | 1800 | 270 | 36.3 | - | - | - | 1.1 | 41.0 | 2.2 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 37 | - | 464 | 1800 | 1800 | 855 | 54.3 | - | - | - | 2.5 | 19.4 | 7.8 | |
| PRC for Signalled Links (%): | | | | | | 39.4 | Total Delay for Signalled Links (pcuHr): | | | | 9.20 | | | | | | | | |
| PRC Over All Links (%): | | | | | | 39.4 | Total Delay Over All Links(pcuHr): | | | | 9.20 | Cycle Time (s): | | | | 80 | | | |

Basic Results Summary

Scenario 6: '2026 Site E'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 6: '2026 Site E'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 13 | 72 | 17 | 102 | |
| B | 65 | 0 | 139 | 525 | 729 | |
| C | 98 | 208 | 0 | 37 | 343 | |
| D | 24 | 622 | 40 | 0 | 686 | |
| Tot. | 187 | 843 | 251 | 579 | 1860 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 33 | - | 686 | 1800 | 1800 | 765 | 89.7 | - | - | - | 8.0 | 42.1 | 18.0 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 15 | - | 343 | 1800 | 1800 | 360 | 95.3 | - | - | - | 9.0 | 94.0 | 13.5 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 15 | - | 102 | 1800 | 1800 | 360 | 28.3 | - | - | - | 1.0 | 34.1 | 2.1 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 33 | - | 729 | 1800 | 1800 | 765 | 95.3 | - | - | - | 11.7 | 57.9 | 22.8 | |
| PRC for Signalled Links (%): | | | | | | -5.9 | Total Delay for Signalled Links (pcuHr): | | | | 29.67 | | | | | | | | |
| PRC Over All Links (%): | | | | | | -5.9 | Total Delay Over All Links(pcuHr): | | | | 29.67 | Cycle Time (s): | | | | 80 | | | |

Basic Results Summary

Scenario 7: '2026 Site F'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 7: '2026 Site F'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 10 | 71 | 17 | 98 | |
| B | 60 | 0 | 47 | 503 | 610 | |
| C | 97 | 86 | 0 | 37 | 220 | |
| D | 24 | 548 | 43 | 0 | 615 | |
| Tot. | 181 | 644 | 161 | 557 | 1543 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|--|-----------------|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 36 | - | 615 | 1800 | 1800 | 833 | 73.9 | - | - | - | 4.4 | 25.7 | 12.5 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 12 | - | 220 | 1800 | 1800 | 293 | 75.2 | - | - | - | 3.4 | 55.8 | 6.1 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 12 | - | 98 | 1800 | 1800 | 293 | 33.5 | - | - | - | 1.1 | 38.9 | 2.2 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 36 | - | 610 | 1800 | 1800 | 833 | 73.3 | - | - | - | 4.3 | 25.5 | 12.4 | |
| PRC for Signalled Links (%): | | | | | 19.7 | Total Delay for Signalled Links (pcuHr): | | | | | 13.18 | | | | | | | | |
| PRC Over All Links (%): | | | | | 19.7 | Total Delay Over All Links (pcuHr): | | | | | 13.18 | Cycle Time (s): | | 80 | | | | | |

Basic Results Summary

Scenario 8: '2026 Site G1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 8: '2026 Site G1'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 10 | 82 | 17 | 109 | |
| B | 59 | 0 | 22 | 409 | 490 | |
| C | 106 | 34 | 0 | 39 | 179 | |
| D | 24 | 524 | 42 | 0 | 590 | |
| Tot. | 189 | 568 | 146 | 465 | 1368 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 37 | - | 590 | 1800 | 1800 | 855 | 69.0 | - | - | - | 3.8 | 23.1 | 11.3 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 11 | - | 179 | 1800 | 1800 | 270 | 66.3 | - | - | - | 2.6 | 51.5 | 4.7 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 11 | - | 109 | 1800 | 1800 | 270 | 40.4 | - | - | - | 1.3 | 41.9 | 2.5 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 37 | - | 490 | 1800 | 1800 | 855 | 57.3 | - | - | - | 2.7 | 20.1 | 8.4 | |
| PRC for Signalled Links (%): | | | | | | 30.4 | Total Delay for Signalled Links (pcuHr): | | | | 10.35 | | | | | | | | |
| PRC Over All Links (%): | | | | | | 30.4 | Total Delay Over All Links (pcuHr): | | | | 10.35 | Cycle Time (s): | | | | 80 | | | |

Basic Results Summary

Scenario 9: '2026 Site G2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 9: '2026 Site G2'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 10 | 86 | 17 | 113 | |
| B | 58 | 0 | 22 | 419 | 499 | |
| C | 110 | 34 | 0 | 40 | 184 | |
| D | 24 | 546 | 42 | 0 | 612 | |
| Tot. | 192 | 590 | 150 | 476 | 1408 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 37 | - | 612 | 1800 | 1800 | 855 | 71.6 | - | - | - | 4.1 | 24.0 | 12.0 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 11 | - | 184 | 1800 | 1800 | 270 | 68.1 | - | - | - | 2.7 | 52.6 | 4.9 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 11 | - | 113 | 1800 | 1800 | 270 | 41.9 | - | - | - | 1.3 | 42.3 | 2.6 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 37 | - | 499 | 1800 | 1800 | 855 | 58.4 | - | - | - | 2.8 | 20.3 | 8.7 | |
| PRC for Signalled Links (%): | | | | | | 25.7 | Total Delay for Signalled Links (pcuHr): | | | | 10.92 | | | | | | | | |
| PRC Over All Links (%): | | | | | | 25.7 | Total Delay Over All Links(pcuHr): | | | | 10.92 | Cycle Time (s): | | | | 80 | | | |

Basic Results Summary

Scenario 10: '2026 Site H1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 10: '2026 Site H1'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | | |
|--------|-------------|-----|-----|-----|------|--|
| | A | B | C | D | Tot. | |
| A | 0 | 10 | 71 | 41 | 122 | |
| B | 58 | 0 | 20 | 580 | 658 | |
| C | 97 | 30 | 0 | 38 | 165 | |
| D | 48 | 782 | 46 | 0 | 876 | |
| Tot. | 203 | 822 | 137 | 659 | 1821 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 41 | - | 876 | 1800 | 1800 | 945 | 92.7 | - | - | - | 9.8 | 40.1 | 23.5 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 7 | - | 165 | 1800 | 1800 | 180 | 91.7 | - | - | - | 5.3 | 116.1 | 7.3 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 7 | - | 122 | 1800 | 1800 | 180 | 67.8 | - | - | - | 2.2 | 64.8 | 3.6 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 41 | - | 658 | 1800 | 1800 | 945 | 69.6 | - | - | - | 3.7 | 20.4 | 11.9 | |
| PRC for Signalled Links (%): | | | | | | -3.0 | Total Delay for Signalled Links (pcuHr): | | | | 21.01 | | | | | | | | |
| PRC Over All Links (%): | | | | | | -3.0 | Total Delay Over All Links(pcuHr): | | | | 21.01 | Cycle Time (s): | | 80 | | | | | |

Basic Results Summary

Scenario 11: '2026 Site H2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 11: '2026 Site H2'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | | |
|--------|-------------|-----|-----|-----|-----|------|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 10 | 70 | 52 | 132 |
| | B | 57 | 0 | 20 | 622 | 699 |
| | C | 96 | 30 | 0 | 39 | 165 |
| | D | 59 | 898 | 48 | 0 | 1005 |
| | Tot. | 212 | 938 | 138 | 713 | 2001 |

Link Results

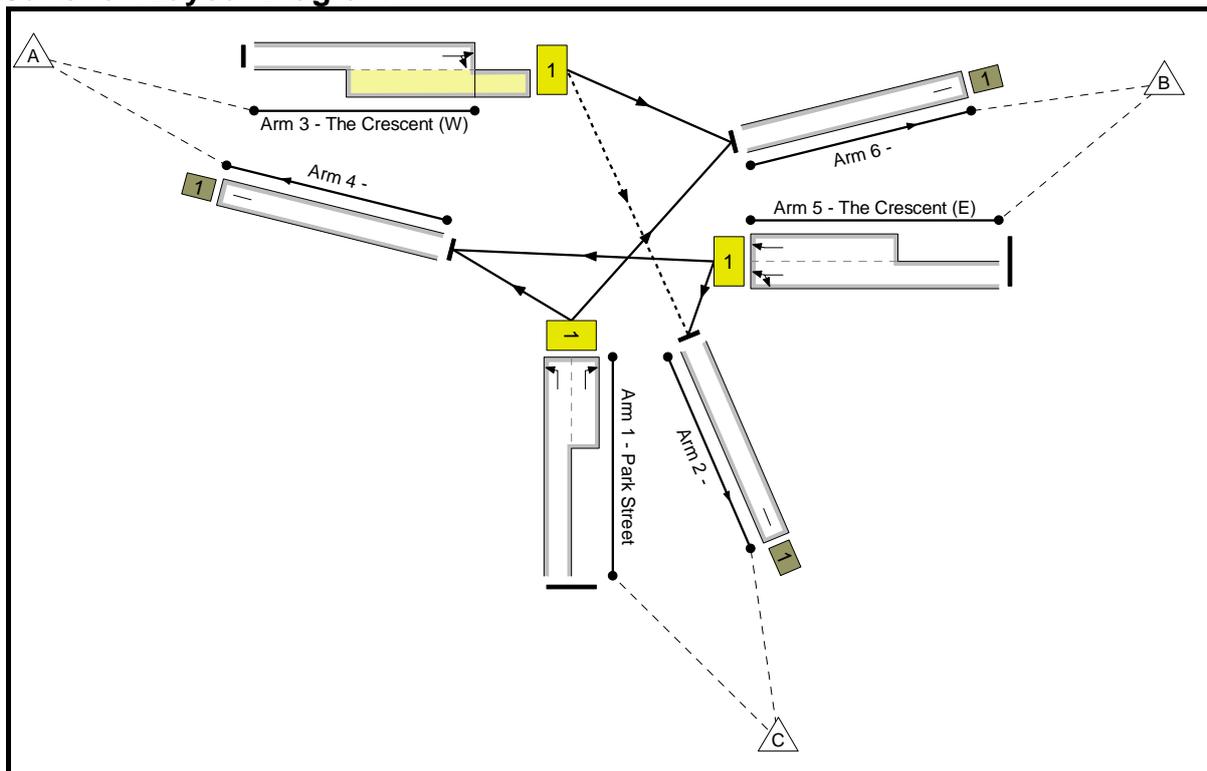
| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|--|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | A19 Doncaster Road S Ahead U-Turn Left | U | C | | 1 | 41 | - | 1005 | 1800 | 1800 | 945 | 106.3 | - | - | - | 44.3 | 158.7 | 60.5 | |
| 3/1 | Brayton Lane Left Ahead Right | U | B | | 1 | 7 | - | 165 | 1800 | 1800 | 180 | 91.7 | - | - | - | 5.3 | 116.1 | 7.3 | |
| 6/1 | Barff Lane U-Turn Ahead Left | U | D | | 1 | 7 | - | 132 | 1800 | 1800 | 180 | 73.3 | - | - | - | 2.6 | 70.5 | 4.1 | |
| 8/1 | Left U-Turn Ahead | U | A | | 1 | 41 | - | 699 | 1800 | 1800 | 945 | 74.0 | - | - | - | 4.3 | 22.0 | 13.4 | |
| PRC for Signalled Links (%): | | | | | | -18.2 | Total Delay for Signalled Links (pcuHr): | | | | 56.48 | | | | | | | | |
| PRC Over All Links (%): | | | | | | -18.2 | Total Delay Over All Links(pcuHr): | | | | 56.48 | Cycle Time (s): | | | | 80 | | | |

Park Street T-Junction

User and Project Details

| | |
|--------------------|--|
| Project: | Selby VISUM |
| Title: | Park Street T-Junction |
| Location: | Selby |
| File name: | KD Park Street T-Junction.lsgx |
| Author: | Edward Downer |
| Company: | Jacobs Consultancy |
| Address: | Horsley House, Regent Centre, Gosforth, Newcastle upon Tyne, NE3 3 |
| Controller: | Generic |
| SCN: | NY126 |
| Notes: | |

Junction Layout Diagram



Park Street T- Junction

Scenario 2: 'Base 2008'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 3: 'Base 2008'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | |
|--------|-------------|-----|-----|-----|------|
| | | A | B | C | Tot. |
| Origin | A | 0 | 294 | 196 | 490 |
| | B | 254 | 0 | 147 | 401 |
| | C | 235 | 280 | 0 | 515 |
| | Tot. | 489 | 574 | 343 | 1406 |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 21 | - | 515 | 3600 | 2618 | 768 | 67.1 | - | - | - | 4.1 | 28.9 | 9.7 | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 22 | - | 490 | 1800 | 2339 | 717 | 68.3 | 193 | 0 | 3 | 4.4 | 32.1 | 6.4 | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 22 | - | 401 | 3600 | 3052 | 936 | 42.8 | - | - | - | 2.6 | 23.7 | 6.8 | |
| PRC for Signalled Links (%): | | | | | | 31.8 | Total Delay for Signalled Links (pcuHr): | | | | | 11.15 | | | | | | | |
| PRC Over All Links (%): | | | | | | 31.8 | Total Delay Over All Links(pcuHr): | | | | | 11.15 | Cycle Time (s): 75 | | | | | | |

Park Street T- Junction

Scenario 3: 'Base 2026'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 4: 'Base 2026'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | Tot. |
|--------|-------------|-----|-----|------|------|
| | A | B | C | Tot. | |
| A | 0 | 317 | 241 | 558 | |
| B | 205 | 0 | 190 | 395 | |
| C | 316 | 327 | 0 | 643 | |
| Tot. | 521 | 644 | 431 | 1596 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 23 | - | 643 | 3600 | 2550 | 816 | 78.8 | - | - | - | 5.6 | 31.4 | 13.1 | | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 20 | - | 558 | 1800 | 2509 | 703 | 79.4 | 180 | 0 | 59 | 6.3 | 40.8 | 8.0 | | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 20 | - | 395 | 3600 | 3171 | 888 | 44.5 | - | - | - | 2.8 | 25.5 | 7.0 | | |
| PRC for Signalled Links (%): | | | | | | 13.3 | Total Delay for Signalled Links (pcuHr): | | | | 14.72 | | | | | | | | | |
| PRC Over All Links (%): | | | | | | 13.3 | Total Delay Over All Links(pcuHr): | | | | 14.72 | Cycle Time (s): | | | | 75 | | | | |

Park Street T- Junction

Scenario 4: '2026 Site A'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 5: '2026 Site A'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | |
|--------|-------------|-----|-----|------|--|
| | A | B | C | Tot. | |
| A | 0 | 245 | 274 | 519 | |
| B | 295 | 0 | 171 | 466 | |
| C | 314 | 302 | 0 | 616 | |
| Tot. | 609 | 547 | 445 | 1601 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 19 | - | 616 | 3600 | 2700 | 720 | 85.6 | - | - | - | 7.0 | 40.8 | 14.4 | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 24 | - | 519 | 1800 | 1831 | 610 | 85.0 | 201 | 0 | 73 | 6.3 | 44.0 | 7.9 | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 24 | - | 466 | 3600 | 2952 | 984 | 47.4 | - | - | - | 2.9 | 22.6 | 7.8 | |
| PRC for Signalled Links (%): | | | | | | 5.2 | Total Delay for Signalled Links (pcuHr): | | | | | 16.26 | | | | | | | |
| PRC Over All Links (%): | | | | | | 5.2 | Total Delay Over All Links(pcuHr): | | | | | 16.26 | Cycle Time (s): 75 | | | | | | |

Park Street T- Junction

Scenario 5: '2026 Site D'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 6: '2026 Site D'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | |
|--------|-------------|-----|-----|------|--|
| | A | B | C | Tot. | |
| A | 0 | 310 | 242 | 552 | |
| B | 199 | 0 | 152 | 351 | |
| C | 323 | 373 | 0 | 696 | |
| Tot. | 522 | 683 | 394 | 1599 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|
| 1/1 | Park Street Left Right | U | C | | 1 | 25 | - | 696 | 3600 | 2492 | 864 | 80.6 | - | - | - | 5.9 | 30.4 | 14.2 |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 18 | - | 552 | 1800 | 2685 | 680 | 81.2 | 173 | 0 | 69 | 6.6 | 43.0 | 8.2 |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 18 | - | 351 | 3600 | 3316 | 840 | 41.8 | - | - | - | 2.6 | 26.8 | 6.4 |
| PRC for Signalled Links (%): | | | | | | 10.9 | Total Delay for Signalled Links (pcuHr): | | | | 15.09 | | | | | | | |
| PRC Over All Links (%): | | | | | | 10.9 | Total Delay Over All Links (pcuHr): | | | | 15.09 | Cycle Time (s): 75 | | | | | | |

Park Street T- Junction

Scenario 6: '2026 Site E'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 7: '2026 Site E'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | |
|--------|-------------|-----|-----|------|--|
| | A | B | C | Tot. | |
| A | 0 | 340 | 307 | 647 | |
| B | 228 | 0 | 200 | 428 | |
| C | 305 | 326 | 0 | 631 | |
| Tot. | 533 | 666 | 507 | 1706 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 19 | - | 631 | 3600 | 2700 | 720 | 87.6 | - | - | - | 7.6 | 43.4 | 15.4 | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 24 | - | 647 | 1800 | 2248 | 749 | 86.3 | 223 | 0 | 84 | 7.5 | 42.0 | 9.2 | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 24 | - | 428 | 3600 | 2952 | 984 | 43.5 | - | - | - | 2.6 | 22.2 | 7.0 | |
| PRC for Signalled Links (%): | | | | | | 2.7 | Total Delay for Signalled Links (pcuHr): | | | | | | 17.79 | | | | | | |
| PRC Over All Links (%): | | | | | | 2.7 | Total Delay Over All Links(pcuHr): | | | | | | 17.79 | Cycle Time (s): 75 | | | | | |

Park Street T- Junction

Scenario 7: '2026 Site F'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 8: '2026 Site F'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | |
|--------|-------------|-----|-----|-----|------|
| | | A | B | C | Tot. |
| Origin | A | 0 | 347 | 242 | 589 |
| | B | 246 | 0 | 200 | 446 |
| | C | 300 | 322 | 0 | 622 |
| | Tot. | 546 | 669 | 442 | 1657 |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 21 | - | 622 | 3600 | 2618 | 768 | 81.0 | - | - | - | 6.0 | 34.7 | 13.3 | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 22 | - | 589 | 1800 | 2329 | 714 | 82.5 | 182 | 0 | 60 | 6.5 | 39.9 | 8.7 | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 22 | - | 446 | 3600 | 3052 | 936 | 47.6 | - | - | - | 3.0 | 24.3 | 7.8 | |
| PRC for Signalled Links (%): | | | | | | 9.2 | Total Delay for Signalled Links (pcuHr): | | | | 15.53 | | | | | | | | |
| PRC Over All Links (%): | | | | | | 9.2 | Total Delay Over All Links(pcuHr): | | | | 15.53 | Cycle Time (s): | | | | 75 | | | |

Park Street T- Junction

Scenario 8: '2026 Site G1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 9: '2026 Site G1'

Traffic Flow Matrix

Desired Flow :

| | Destination | | | | |
|--------|-------------|-----|-----|-----|------|
| | | A | B | C | Tot. |
| Origin | A | 0 | 127 | 299 | 426 |
| | B | 273 | 0 | 121 | 394 |
| | C | 309 | 305 | 0 | 614 |
| | Tot. | 582 | 432 | 420 | 1434 |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 19 | - | 614 | 3600 | 2700 | 720 | 85.3 | - | - | - | 6.9 | 40.5 | 14.4 | | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 24 | - | 426 | 1800 | 1523 | 508 | 83.9 | 238 | 0 | 61 | 5.5 | 46.9 | 8.4 | | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 24 | - | 394 | 3600 | 2952 | 984 | 40.0 | - | - | - | 2.4 | 21.8 | 6.5 | | |
| PRC for Signalled Links (%): | | | | | | 5.5 | Total Delay for Signalled Links (pcuHr): | | | | 14.85 | | | | | | | | | |
| PRC Over All Links (%): | | | | | | 5.5 | Total Delay Over All Links (pcuHr): | | | | 14.85 | Cycle Time (s): | | | | 75 | | | | |

Park Street T- Junction

Scenario 9: '2026 Site G2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 10: '2026 Site G2'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | |
|--------|-------------|-----|-----|------|--|
| | A | B | C | Tot. | |
| A | 0 | 116 | 309 | 425 | |
| B | 277 | 0 | 126 | 403 | |
| C | 335 | 262 | 0 | 597 | |
| Tot. | 612 | 378 | 435 | 1425 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 18 | - | 597 | 3600 | 2747 | 696 | 85.8 | - | - | - | 7.0 | 42.3 | 14.1 | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 25 | - | 425 | 1800 | 1449 | 502 | 84.6 | 247 | 0 | 62 | 5.6 | 47.7 | 8.7 | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 25 | - | 403 | 3600 | 2908 | 1008 | 40.0 | - | - | - | 2.4 | 21.0 | 6.5 | |
| PRC for Signalled Links (%): | | | | | | 4.9 | Total Delay for Signalled Links (pcuHr): | | | | | | 15.00 | | | | | | |
| PRC Over All Links (%): | | | | | | 4.9 | Total Delay Over All Links(pcuHr): | | | | | | 15.00 | Cycle Time (s): 75 | | | | | |

Park Street T- Junction

Scenario 10: '2026 Site H1'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 11: '2026 Site H1'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | |
|--------|-------------|-----|-----|------|------|
| | | A | B | C | Tot. |
| A | 0 | 354 | 266 | 620 | |
| B | 210 | 0 | 183 | 393 | |
| C | 318 | 310 | 0 | 628 | |
| Tot. | 528 | 664 | 449 | 1641 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 20 | - | 628 | 3600 | 2657 | 744 | 84.4 | - | - | - | 6.7 | 38.5 | 14.3 | | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 23 | - | 620 | 1800 | 2351 | 752 | 82.4 | 220 | 0 | 46 | 6.6 | 38.3 | 8.8 | | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 23 | - | 393 | 3600 | 3000 | 960 | 40.9 | - | - | - | 2.5 | 22.6 | 6.6 | | |
| PRC for Signalled Links (%): | | | | | | 6.6 | Total Delay for Signalled Links (pcuHr): | | | | 15.78 | | | | | | | | | |
| PRC Over All Links (%): | | | | | | 6.6 | Total Delay Over All Links(pcuHr): | | | | 15.78 | Cycle Time (s): | | | | 75 | | | | |

Park Street T- Junction

Scenario 11: '2026 Site H2'

Staging Plan 1: 'Staging Plan No. 1'

Flow Group 12: '2026 Site H2'

Traffic Flow Matrix

Desired Flow :

| Origin | Destination | | | | |
|--------|-------------|-----|-----|------|--|
| | A | B | C | Tot. | |
| A | 0 | 420 | 250 | 670 | |
| B | 222 | 0 | 118 | 340 | |
| C | 302 | 290 | 0 | 592 | |
| Tot. | 524 | 710 | 368 | 1602 | |

Link Results

| Link Num | Link Desc | Link Type | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Max Sat Flow (pcu/Hr) | Ave Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Total Delay (pcuHr) | Av. Delay Per Veh (s/pcu) | Mean Max Queue (pcu) | |
|------------------------------|------------------------------|-----------|------------|-------------|------------|-----------------|--|-------------------|-----------------------|-----------------------|----------------|-------------|-----------------------|------------------------------|-----------------------------|---------------------|---------------------------|----------------------|--|
| 1/1 | Park Street Left Right | U | C | | 1 | 18 | - | 592 | 3600 | 2747 | 696 | 85.1 | - | - | - | 6.8 | 41.5 | 13.9 | |
| 3/1 | The Crescent (W) Right Ahead | O | A | | 1 | 25 | - | 670 | 1800 | 2273 | 788 | 85.0 | 247 | 0 | 3 | 6.9 | 37.1 | 11.2 | |
| 5/1 | The Crescent (E) Left Ahead | U | B | | 1 | 25 | - | 340 | 3600 | 2908 | 1008 | 33.7 | - | - | - | 1.9 | 20.4 | 5.4 | |
| PRC for Signalled Links (%): | | | | | | 5.8 | Total Delay for Signalled Links (pcuHr): | | | | | 15.66 | | | | | | | |
| PRC Over All Links (%): | | | | | | 5.8 | Total Delay Over All Links (pcuHr): | | | | | 15.66 | Cycle Time (s): 75 | | | | | | |

APPENDIX F TRIP GENERATION

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : A - OFFICE
 VEHICLES

Selected regions and areas:

| | | |
|----|-------------------|--------|
| 02 | SOUTH EAST | |
| | EX ESSEX | 1 days |
| | HC HAMPSHIRE | 2 days |
| | KC KENT | 2 days |
| | SC SURREY | 2 days |
| 03 | SOUTH WEST | |
| | CW CORNWALL | 1 days |
| 04 | EAST ANGLIA | |
| | CA CAMBRIDGESHIRE | 1 days |
| 06 | WEST MIDLANDS | |
| | WM WEST MIDLANDS | 1 days |
| 08 | NORTH WEST | |
| | LC LANCASHIRE | 1 days |

Filtering Stage 2 selection:

Parameter: Gross floor area
 Range: 10000 to 175000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 11/12/08

Selected survey days:

| | |
|----------|--------|
| Monday | 2 days |
| Tuesday | 2 days |
| Thursday | 7 days |

Selected survey types:

| | |
|-----------------------|---------|
| Manual count | 11 days |
| Directional ATC Count | 0 days |

Selected Locations:

| | |
|------------------------------------|---|
| Town Centre | 1 |
| Edge of Town Centre | 3 |
| Suburban Area (PPS6 Out of Centre) | 3 |
| Edge of Town | 4 |

Selected Location Sub Categories:

| | |
|------------------|---|
| Commercial Zone | 3 |
| Residential Zone | 3 |
| Built-Up Zone | 3 |
| No Sub Category | 2 |

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|----------|-----------|------------|----------|-----------|----------|----------|-----------|
| | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate |
| 00:00 - 00:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 00:30 - 01:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:00 - 01:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:30 - 02:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:00 - 02:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:30 - 03:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:00 - 03:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:30 - 04:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:00 - 04:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:30 - 05:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:00 - 05:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:30 - 06:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:00 - 06:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:30 - 07:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 07:00 - 07:30 | 11 | 18519 | 0.163 | 11 | 18519 | 0.022 | 11 | 18519 | 0.185 |
| 07:30 - 08:00 | 11 | 18519 | 0.445 | 11 | 18519 | 0.047 | 11 | 18519 | 0.492 |
| 08:00 - 08:30 | 11 | 18519 | 0.709 | 11 | 18519 | 0.078 | 11 | 18519 | 0.787 |
| 08:30 - 09:00 | 11 | 18519 | 0.713 | 11 | 18519 | 0.086 | 11 | 18519 | 0.799 |
| 09:00 - 09:30 | 11 | 18519 | 0.471 | 11 | 18519 | 0.090 | 11 | 18519 | 0.561 |
| 09:30 - 10:00 | 11 | 18519 | 0.274 | 11 | 18519 | 0.070 | 11 | 18519 | 0.344 |
| 10:00 - 10:30 | 11 | 18519 | 0.149 | 11 | 18519 | 0.081 | 11 | 18519 | 0.230 |
| 10:30 - 11:00 | 11 | 18519 | 0.123 | 11 | 18519 | 0.077 | 11 | 18519 | 0.200 |
| 11:00 - 11:30 | 11 | 18519 | 0.092 | 11 | 18519 | 0.102 | 11 | 18519 | 0.194 |
| 11:30 - 12:00 | 11 | 18519 | 0.092 | 11 | 18519 | 0.085 | 11 | 18519 | 0.177 |
| 12:00 - 12:30 | 11 | 18519 | 0.101 | 11 | 18519 | 0.179 | 11 | 18519 | 0.280 |
| 12:30 - 13:00 | 11 | 18519 | 0.148 | 11 | 18519 | 0.182 | 11 | 18519 | 0.330 |
| 13:00 - 13:30 | 11 | 18519 | 0.144 | 11 | 18519 | 0.129 | 11 | 18519 | 0.273 |
| 13:30 - 14:00 | 11 | 18519 | 0.162 | 11 | 18519 | 0.134 | 11 | 18519 | 0.296 |
| 14:00 - 14:30 | 11 | 18519 | 0.143 | 11 | 18519 | 0.113 | 11 | 18519 | 0.256 |
| 14:30 - 15:00 | 11 | 18519 | 0.090 | 11 | 18519 | 0.105 | 11 | 18519 | 0.195 |
| 15:00 - 15:30 | 11 | 18519 | 0.087 | 11 | 18519 | 0.148 | 11 | 18519 | 0.235 |
| 15:30 - 16:00 | 11 | 18519 | 0.082 | 11 | 18519 | 0.178 | 11 | 18519 | 0.260 |
| 16:00 - 16:30 | 11 | 18519 | 0.076 | 11 | 18519 | 0.420 | 11 | 18519 | 0.496 |
| 16:30 - 17:00 | 11 | 18519 | 0.082 | 11 | 18519 | 0.450 | 11 | 18519 | 0.532 |
| 17:00 - 17:30 | 11 | 18519 | 0.077 | 11 | 18519 | 0.741 | 11 | 18519 | 0.818 |
| 17:30 - 18:00 | 11 | 18519 | 0.047 | 11 | 18519 | 0.468 | 11 | 18519 | 0.515 |
| 18:00 - 18:30 | 11 | 18519 | 0.032 | 11 | 18519 | 0.277 | 11 | 18519 | 0.309 |
| 18:30 - 19:00 | 11 | 18519 | 0.015 | 11 | 18519 | 0.118 | 11 | 18519 | 0.133 |
| 19:00 - 19:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 19:30 - 20:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 20:00 - 20:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 20:30 - 21:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 21:00 - 21:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 21:30 - 22:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 22:00 - 22:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 22:30 - 23:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:00 - 23:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:30 - 24:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| Total Rates: | | | 4.517 | | | 4.380 | | | 8.897 |

Parameter summary

| | |
|--|-----------------------------|
| Trip rate parameter range selected: | 10000 - 175000 (units: sqm) |
| Survey date date range: | 01/01/01 - 11/12/08 |
| Number of weekdays (Monday-Friday): | 11 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 0 |

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
VEHICLES

Selected regions and areas:

| | | |
|----|--------------------------------|--------|
| 02 | SOUTH EAST | |
| | EX ESSEX | 1 days |
| 04 | EAST ANGLIA | |
| | SF SUFFOLK | 1 days |
| 05 | EAST MIDLANDS | |
| | DS DERBYSHIRE | 1 days |
| | NT NOTTINGHAMSHIRE | 1 days |
| 07 | YORKSHIRE & NORTH LINCOLNSHIRE | |
| | WY WEST YORKSHIRE | 1 days |
| 08 | NORTH WEST | |
| | CH CHESHIRE | 1 days |
| 09 | NORTH | |
| | TW TYNE & WEAR | 1 days |

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 20484 to 234115 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 07/09/08

Selected survey days:

| | |
|----------|--------|
| Monday | 1 days |
| Tuesday | 2 days |
| Thursday | 2 days |
| Friday | 2 days |

Selected survey types:

| | |
|-----------------------|--------|
| Manual count | 7 days |
| Directional ATC Count | 0 days |

Selected Locations:

| | |
|------------------------------------|---|
| Suburban Area (PPS6 Out of Centre) | 2 |
| Edge of Town | 5 |

Selected Location Sub Categories:

| | |
|-----------------|---|
| Industrial Zone | 4 |
| Built-Up Zone | 1 |
| No Sub Category | 2 |

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
 VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|----------|-----------|------------|----------|-----------|----------|----------|-----------|
| | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate |
| 00:00 - 00:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 00:30 - 01:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:00 - 01:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:30 - 02:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:00 - 02:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:30 - 03:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:00 - 03:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:30 - 04:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:00 - 04:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:30 - 05:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:00 - 05:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:30 - 06:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:00 - 06:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:30 - 07:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 07:00 - 07:30 | 7 | 44885 | 0.130 | 7 | 44885 | 0.054 | 7 | 44885 | 0.184 |
| 07:30 - 08:00 | 7 | 44885 | 0.165 | 7 | 44885 | 0.078 | 7 | 44885 | 0.243 |
| 08:00 - 08:30 | 7 | 44885 | 0.154 | 7 | 44885 | 0.068 | 7 | 44885 | 0.222 |
| 08:30 - 09:00 | 7 | 44885 | 0.173 | 7 | 44885 | 0.076 | 7 | 44885 | 0.249 |
| 09:00 - 09:30 | 7 | 44885 | 0.126 | 7 | 44885 | 0.078 | 7 | 44885 | 0.204 |
| 09:30 - 10:00 | 7 | 44885 | 0.090 | 7 | 44885 | 0.088 | 7 | 44885 | 0.178 |
| 10:00 - 10:30 | 7 | 44885 | 0.097 | 7 | 44885 | 0.096 | 7 | 44885 | 0.193 |
| 10:30 - 11:00 | 7 | 44885 | 0.090 | 7 | 44885 | 0.088 | 7 | 44885 | 0.178 |
| 11:00 - 11:30 | 7 | 44885 | 0.091 | 7 | 44885 | 0.096 | 7 | 44885 | 0.187 |
| 11:30 - 12:00 | 7 | 44885 | 0.101 | 7 | 44885 | 0.111 | 7 | 44885 | 0.212 |
| 12:00 - 12:30 | 7 | 44885 | 0.087 | 7 | 44885 | 0.120 | 7 | 44885 | 0.207 |
| 12:30 - 13:00 | 7 | 44885 | 0.094 | 7 | 44885 | 0.104 | 7 | 44885 | 0.198 |
| 13:00 - 13:30 | 7 | 44885 | 0.113 | 7 | 44885 | 0.126 | 7 | 44885 | 0.239 |
| 13:30 - 14:00 | 7 | 44885 | 0.114 | 7 | 44885 | 0.096 | 7 | 44885 | 0.210 |
| 14:00 - 14:30 | 7 | 44885 | 0.098 | 7 | 44885 | 0.109 | 7 | 44885 | 0.207 |
| 14:30 - 15:00 | 7 | 44885 | 0.086 | 7 | 44885 | 0.096 | 7 | 44885 | 0.182 |
| 15:00 - 15:30 | 7 | 44885 | 0.078 | 7 | 44885 | 0.101 | 7 | 44885 | 0.179 |
| 15:30 - 16:00 | 7 | 44885 | 0.081 | 7 | 44885 | 0.113 | 7 | 44885 | 0.194 |
| 16:00 - 16:30 | 7 | 44885 | 0.074 | 7 | 44885 | 0.137 | 7 | 44885 | 0.211 |
| 16:30 - 17:00 | 7 | 44885 | 0.075 | 7 | 44885 | 0.173 | 7 | 44885 | 0.248 |
| 17:00 - 17:30 | 7 | 44885 | 0.051 | 7 | 44885 | 0.167 | 7 | 44885 | 0.218 |
| 17:30 - 18:00 | 7 | 44885 | 0.036 | 7 | 44885 | 0.122 | 7 | 44885 | 0.158 |
| 18:00 - 18:30 | 7 | 44885 | 0.034 | 7 | 44885 | 0.068 | 7 | 44885 | 0.102 |
| 18:30 - 19:00 | 7 | 44885 | 0.026 | 7 | 44885 | 0.046 | 7 | 44885 | 0.072 |
| 19:00 - 19:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 19:30 - 20:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 20:00 - 20:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 20:30 - 21:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 21:00 - 21:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 21:30 - 22:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 22:00 - 22:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 22:30 - 23:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:00 - 23:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:30 - 24:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| Total Rates: | | | 2.264 | | | 2.411 | | | 4.675 |

Parameter summary

| | |
|--|-----------------------------|
| Trip rate parameter range selected: | 20484 - 234115 (units: sqm) |
| Survey date date range: | 01/01/01 - 07/09/08 |
| Number of weekdays (Monday-Friday): | 7 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 0 |

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
VEHICLES

Selected regions and areas:

| | | |
|----|--------------------|--------|
| 02 | SOUTH EAST | |
| | BU BUCKINGHAMSHIRE | 1 days |
| | HF HERTFORDSHIRE | 2 days |
| 06 | WEST MIDLANDS | |
| | WO WORCESTERSHIRE | 1 days |
| 09 | NORTH | |
| | TV TEES VALLEY | 2 days |
| 10 | WALES | |
| | NW NEWPORT | 1 days |

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 15881 to 80066 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 07/10/08

Selected survey days:

| | |
|----------|--------|
| Tuesday | 1 days |
| Thursday | 4 days |
| Friday | 2 days |

Selected survey types:

| | |
|-----------------------|--------|
| Manual count | 7 days |
| Directional ATC Count | 0 days |

Selected Locations:

| | |
|------------------------------------|---|
| Suburban Area (PPS6 Out of Centre) | 2 |
| Edge of Town | 5 |

Selected Location Sub Categories:

| | |
|-----------------|---|
| Industrial Zone | 4 |
| Commercial Zone | 2 |
| No Sub Category | 1 |

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|----------|-----------|------------|----------|-----------|----------|----------|-----------|
| | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate |
| 00:00 - 00:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 00:30 - 01:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:00 - 01:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:30 - 02:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:00 - 02:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:30 - 03:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:00 - 03:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:30 - 04:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:00 - 04:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:30 - 05:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:00 - 05:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:30 - 06:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:00 - 06:30 | 1 | 30187 | 0.036 | 1 | 30187 | 0.086 | 1 | 30187 | 0.122 |
| 06:30 - 07:00 | 1 | 30187 | 0.056 | 1 | 30187 | 0.063 | 1 | 30187 | 0.119 |
| 07:00 - 07:30 | 7 | 44096 | 0.040 | 7 | 44096 | 0.046 | 7 | 44096 | 0.086 |
| 07:30 - 08:00 | 7 | 44096 | 0.068 | 7 | 44096 | 0.033 | 7 | 44096 | 0.101 |
| 08:00 - 08:30 | 7 | 44096 | 0.039 | 7 | 44096 | 0.028 | 7 | 44096 | 0.067 |
| 08:30 - 09:00 | 7 | 44096 | 0.058 | 7 | 44096 | 0.030 | 7 | 44096 | 0.088 |
| 09:00 - 09:30 | 7 | 44096 | 0.050 | 7 | 44096 | 0.033 | 7 | 44096 | 0.083 |
| 09:30 - 10:00 | 7 | 44096 | 0.056 | 7 | 44096 | 0.035 | 7 | 44096 | 0.091 |
| 10:00 - 10:30 | 7 | 44096 | 0.035 | 7 | 44096 | 0.039 | 7 | 44096 | 0.074 |
| 10:30 - 11:00 | 7 | 44096 | 0.035 | 7 | 44096 | 0.032 | 7 | 44096 | 0.067 |
| 11:00 - 11:30 | 7 | 44096 | 0.037 | 7 | 44096 | 0.031 | 7 | 44096 | 0.068 |
| 11:30 - 12:00 | 7 | 44096 | 0.040 | 7 | 44096 | 0.036 | 7 | 44096 | 0.076 |
| 12:00 - 12:30 | 7 | 44096 | 0.040 | 7 | 44096 | 0.041 | 7 | 44096 | 0.081 |
| 12:30 - 13:00 | 7 | 44096 | 0.038 | 7 | 44096 | 0.039 | 7 | 44096 | 0.077 |
| 13:00 - 13:30 | 7 | 44096 | 0.064 | 7 | 44096 | 0.046 | 7 | 44096 | 0.110 |
| 13:30 - 14:00 | 7 | 44096 | 0.116 | 7 | 44096 | 0.098 | 7 | 44096 | 0.214 |
| 14:00 - 14:30 | 7 | 44096 | 0.052 | 7 | 44096 | 0.092 | 7 | 44096 | 0.144 |
| 14:30 - 15:00 | 7 | 44096 | 0.060 | 7 | 44096 | 0.075 | 7 | 44096 | 0.135 |
| 15:00 - 15:30 | 7 | 44096 | 0.038 | 7 | 44096 | 0.061 | 7 | 44096 | 0.099 |
| 15:30 - 16:00 | 7 | 44096 | 0.051 | 7 | 44096 | 0.060 | 7 | 44096 | 0.111 |
| 16:00 - 16:30 | 7 | 44096 | 0.040 | 7 | 44096 | 0.061 | 7 | 44096 | 0.101 |
| 16:30 - 17:00 | 7 | 44096 | 0.036 | 7 | 44096 | 0.065 | 7 | 44096 | 0.101 |
| 17:00 - 17:30 | 7 | 44096 | 0.027 | 7 | 44096 | 0.053 | 7 | 44096 | 0.080 |
| 17:30 - 18:00 | 7 | 44096 | 0.047 | 7 | 44096 | 0.056 | 7 | 44096 | 0.103 |
| 18:00 - 18:30 | 6 | 46414 | 0.019 | 6 | 46414 | 0.038 | 6 | 46414 | 0.057 |
| 18:30 - 19:00 | 6 | 46414 | 0.018 | 6 | 46414 | 0.023 | 6 | 46414 | 0.041 |
| 19:00 - 19:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 19:30 - 20:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 20:00 - 20:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 20:30 - 21:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 21:00 - 21:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 21:30 - 22:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 22:00 - 22:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 22:30 - 23:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:00 - 23:30 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:30 - 24:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| Total Rates: | | | 1.196 | | | 1.300 | | | 2.496 |

Parameter summary

| | |
|--|----------------------------|
| Trip rate parameter range selected: | 15881 - 80066 (units: sqm) |
| Survey date date range: | 01/01/01 - 07/10/08 |
| Number of weekdays (Monday-Friday): | 7 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys manually removed from selection: | 0 |

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 VEHICLES

Selected regions and areas:

| | | |
|----|-----------------------|--------|
| 02 | SOUTH EAST | |
| | ES EAST SUSSEX | 1 days |
| | EX ESSEX | 1 days |
| 04 | EAST ANGLIA | |
| | CA CAMBRIDGESHIRE | 1 days |
| | SF SUFFOLK | 1 days |
| 06 | WEST MIDLANDS | |
| | WO WORCESTERSHIRE | 3 days |
| 08 | NORTH WEST | |
| | GM GREATER MANCHESTER | 1 days |
| | MS MERSEYSIDE | 1 days |
| 09 | NORTH | |
| | TV TEES VALLEY | 1 days |
| 10 | WALES | |
| | CF CARDIFF | 1 days |

Filtering Stage 2 selection:

Parameter: Number of dwellings
 Range: 201 to 1216 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 26/11/08

Selected survey days:

| | |
|----------|--------|
| Tuesday | 1 days |
| Thursday | 8 days |
| Friday | 2 days |

Selected survey types:

| | |
|-----------------------|---------|
| Manual count | 11 days |
| Directional ATC Count | 0 days |

Selected Locations:

| | |
|--|---|
| Edge of Town Centre | 1 |
| Suburban Area (PPS6 Out of Centre) | 2 |
| Edge of Town | 7 |
| Neighbourhood Centre (PPS6 Local Centre) | 1 |

Selected Location Sub Categories:

| | |
|------------------|---|
| Residential Zone | 7 |
| No Sub Category | 4 |

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|-------------|-----------|------------|-------------|-----------|----------|-------------|-----------|
| | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:00 - 02:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:00 - 03:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:00 - 04:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:00 - 05:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:00 - 06:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:00 - 07:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 07:00 - 08:00 | 11 | 330 | 0.068 | 11 | 330 | 0.239 | 11 | 330 | 0.307 |
| 08:00 - 09:00 | 11 | 330 | 0.144 | 11 | 330 | 0.410 | 11 | 330 | 0.554 |
| 09:00 - 10:00 | 11 | 330 | 0.157 | 11 | 330 | 0.204 | 11 | 330 | 0.361 |
| 10:00 - 11:00 | 11 | 330 | 0.142 | 11 | 330 | 0.175 | 11 | 330 | 0.317 |
| 11:00 - 12:00 | 11 | 330 | 0.177 | 11 | 330 | 0.166 | 11 | 330 | 0.343 |
| 12:00 - 13:00 | 11 | 330 | 0.185 | 11 | 330 | 0.165 | 11 | 330 | 0.350 |
| 13:00 - 14:00 | 11 | 330 | 0.165 | 11 | 330 | 0.159 | 11 | 330 | 0.324 |
| 14:00 - 15:00 | 11 | 330 | 0.181 | 11 | 330 | 0.181 | 11 | 330 | 0.362 |
| 15:00 - 16:00 | 11 | 330 | 0.264 | 11 | 330 | 0.198 | 11 | 330 | 0.462 |
| 16:00 - 17:00 | 11 | 330 | 0.287 | 11 | 330 | 0.182 | 11 | 330 | 0.469 |
| 17:00 - 18:00 | 11 | 330 | 0.382 | 11 | 330 | 0.205 | 11 | 330 | 0.587 |
| 18:00 - 19:00 | 11 | 330 | 0.293 | 11 | 330 | 0.219 | 11 | 330 | 0.512 |
| 19:00 - 20:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 20:00 - 21:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 21:00 - 22:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 22:00 - 23:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:00 - 24:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| Total Rates: | | | 2.445 | | | 2.503 | | | 4.948 |

Parameter summary

Trip rate parameter range selected: 201 - 1216 (units:)
 Survey date date range: 01/01/01 - 26/11/08
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : A - HOTELS
 VEHICLES

Selected regions and areas:

| | | |
|----|-----------------------|--------|
| 02 | SOUTH EAST | |
| | KC KENT | 1 days |
| | SC SURREY | 1 days |
| 04 | EAST ANGLIA | |
| | CA CAMBRIDGESHIRE | 1 days |
| 05 | EAST MIDLANDS | |
| | NR NORTHAMPTONSHIRE | 1 days |
| 06 | WEST MIDLANDS | |
| | WM WEST MIDLANDS | 1 days |
| | WO WORCESTERSHIRE | 1 days |
| 08 | NORTH WEST | |
| | CH CHESHIRE | 1 days |
| | GM GREATER MANCHESTER | 1 days |
| 10 | WALES | |
| | CF CARDIFF | 1 days |

Filtering Stage 2 selection:

Parameter: Gross floor area
 Range: 5700 to 9700 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 25/11/08

Selected survey days:

| | |
|-----------|--------|
| Monday | 1 days |
| Tuesday | 4 days |
| Wednesday | 1 days |
| Thursday | 1 days |
| Friday | 2 days |

Selected survey types:

| | |
|-----------------------|--------|
| Manual count | 9 days |
| Directional ATC Count | 0 days |

Selected Locations:

| | |
|--|---|
| Town Centre | 2 |
| Edge of Town Centre | 3 |
| Neighbourhood Centre (PPS6 Local Centre) | 2 |
| Free Standing (PPS6 Out of Town) | 2 |

Selected Location Sub Categories:

| | |
|-----------------|---|
| Built-Up Zone | 2 |
| Village | 1 |
| Out of Town | 1 |
| No Sub Category | 5 |

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS
 VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|----------|-----------|------------|----------|-----------|----------|----------|-----------|
| | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate |
| 00:00 - 01:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:00 - 02:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:00 - 03:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:00 - 04:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:00 - 05:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:00 - 06:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:00 - 07:00 | 3 | 7983 | 0.129 | 3 | 7983 | 0.100 | 3 | 7983 | 0.229 |
| 07:00 - 08:00 | 9 | 7257 | 0.155 | 9 | 7257 | 0.184 | 9 | 7257 | 0.339 |
| 08:00 - 09:00 | 9 | 7257 | 0.299 | 9 | 7257 | 0.296 | 9 | 7257 | 0.595 |
| 09:00 - 10:00 | 9 | 7257 | 0.263 | 9 | 7257 | 0.207 | 9 | 7257 | 0.470 |
| 10:00 - 11:00 | 9 | 7257 | 0.149 | 9 | 7257 | 0.149 | 9 | 7257 | 0.298 |
| 11:00 - 12:00 | 9 | 7257 | 0.182 | 9 | 7257 | 0.165 | 9 | 7257 | 0.347 |
| 12:00 - 13:00 | 9 | 7257 | 0.201 | 9 | 7257 | 0.199 | 9 | 7257 | 0.400 |
| 13:00 - 14:00 | 9 | 7257 | 0.171 | 9 | 7257 | 0.159 | 9 | 7257 | 0.330 |
| 14:00 - 15:00 | 9 | 7257 | 0.199 | 9 | 7257 | 0.196 | 9 | 7257 | 0.395 |
| 15:00 - 16:00 | 9 | 7257 | 0.214 | 9 | 7257 | 0.254 | 9 | 7257 | 0.468 |
| 16:00 - 17:00 | 9 | 7257 | 0.199 | 9 | 7257 | 0.247 | 9 | 7257 | 0.446 |
| 17:00 - 18:00 | 9 | 7257 | 0.276 | 9 | 7257 | 0.273 | 9 | 7257 | 0.549 |
| 18:00 - 19:00 | 9 | 7257 | 0.308 | 9 | 7257 | 0.214 | 9 | 7257 | 0.522 |
| 19:00 - 20:00 | 6 | 7291 | 0.359 | 6 | 7291 | 0.256 | 6 | 7291 | 0.615 |
| 20:00 - 21:00 | 6 | 7291 | 0.222 | 6 | 7291 | 0.187 | 6 | 7291 | 0.409 |
| 21:00 - 22:00 | 5 | 7164 | 0.165 | 5 | 7164 | 0.195 | 5 | 7164 | 0.360 |
| 22:00 - 23:00 | 2 | 7850 | 0.217 | 2 | 7850 | 0.318 | 2 | 7850 | 0.535 |
| 23:00 - 24:00 | 2 | 7850 | 0.051 | 2 | 7850 | 0.134 | 2 | 7850 | 0.185 |
| Total Rates: | | | 3.759 | | | 3.733 | | | 7.492 |

Parameter summary

Trip rate parameter range selected: 5700 - 9700 (units: sqm)
 Survey date date range: 01/01/01 - 25/11/08
 Number of weekdays (Monday-Friday): 9
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK

Category : C - PUB/RESTAURANT

VEHICLES

Selected regions and areas:

| | | |
|----|--------------------------------|--------|
| 02 | SOUTH EAST | |
| | EX ESSEX | 1 days |
| | HC HAMPSHIRE | 1 days |
| 03 | SOUTH WEST | |
| | CW CORNWALL | 1 days |
| 05 | EAST MIDLANDS | |
| | NT NOTTINGHAMSHIRE | 1 days |
| 06 | WEST MIDLANDS | |
| | SH SHROPSHIRE | 1 days |
| | WO WORCESTERSHIRE | 1 days |
| 07 | YORKSHIRE & NORTH LINCOLNSHIRE | |
| | NO NORTH LINCOLNSHIRE | 1 days |
| 09 | NORTH | |
| | TV TEES VALLEY | 1 days |

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 112 to 2384 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 18/10/08

Selected survey days:

Friday 8 days

Selected survey types:

Manual count 8 days
Directional ATC Count 0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre) 5
Edge of Town 2
Neighbourhood Centre (PPS6 Local Centre) 1

Selected Location Sub Categories:

Residential Zone 2
No Sub Category 6

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT
 VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|----------|-----------|------------|----------|-----------|----------|----------|-----------|
| | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate |
| 00:00 - 01:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:00 - 02:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:00 - 03:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:00 - 04:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:00 - 05:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:00 - 06:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:00 - 07:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 07:00 - 08:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 08:00 - 09:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 09:00 - 10:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 10:00 - 11:00 | 7 | 978 | 0.380 | 7 | 978 | 0.204 | 7 | 978 | 0.584 |
| 11:00 - 12:00 | 8 | 925 | 1.555 | 8 | 925 | 0.635 | 8 | 925 | 2.190 |
| 12:00 - 13:00 | 8 | 925 | 3.313 | 8 | 925 | 1.717 | 8 | 925 | 5.030 |
| 13:00 - 14:00 | 8 | 925 | 2.488 | 8 | 925 | 2.880 | 8 | 925 | 5.368 |
| 14:00 - 15:00 | 8 | 925 | 1.650 | 8 | 925 | 2.691 | 8 | 925 | 4.341 |
| 15:00 - 16:00 | 8 | 925 | 1.474 | 8 | 925 | 1.609 | 8 | 925 | 3.083 |
| 16:00 - 17:00 | 8 | 925 | 2.028 | 8 | 925 | 1.366 | 8 | 925 | 3.394 |
| 17:00 - 18:00 | 8 | 925 | 3.110 | 8 | 925 | 2.258 | 8 | 925 | 5.368 |
| 18:00 - 19:00 | 8 | 925 | 2.812 | 8 | 925 | 2.610 | 8 | 925 | 5.422 |
| 19:00 - 20:00 | 8 | 925 | 2.961 | 8 | 925 | 2.474 | 8 | 925 | 5.435 |
| 20:00 - 21:00 | 8 | 925 | 1.893 | 8 | 925 | 2.299 | 8 | 925 | 4.192 |
| 21:00 - 22:00 | 8 | 925 | 1.379 | 8 | 925 | 2.258 | 8 | 925 | 3.637 |
| 22:00 - 23:00 | 8 | 925 | 0.663 | 8 | 925 | 1.650 | 8 | 925 | 2.313 |
| 23:00 - 24:00 | 8 | 925 | 0.243 | 8 | 925 | 1.420 | 8 | 925 | 1.663 |
| Total Rates: | | | 25.949 | | | 26.071 | | | 52.020 |

Parameter summary

Trip rate parameter range selected: 112 - 2384 (units: sqm)
 Survey date date range: 01/01/01 - 18/10/08
 Number of weekdays (Monday-Friday): 8
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
Category : C - LEISURE CENTRE
VEHICLES

Selected regions and areas:

| | | |
|----|-----------------------|--------|
| 02 | SOUTH EAST | |
| | WS WEST SUSSEX | 1 days |
| 03 | SOUTH WEST | |
| | GS GLOUCESTERSHIRE | 1 days |
| 06 | WEST MIDLANDS | |
| | WO WORCESTERSHIRE | 1 days |
| 08 | NORTH WEST | |
| | GM GREATER MANCHESTER | 1 days |
| | MS MERSEYSIDE | 1 days |
| 09 | NORTH | |
| | CB CUMBRIA | 1 days |

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 5000 to 17000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 16/10/08

Selected survey days:

| | |
|-----------|--------|
| Monday | 1 days |
| Tuesday | 1 days |
| Wednesday | 3 days |
| Friday | 1 days |

Selected survey types:

| | |
|-----------------------|--------|
| Manual count | 6 days |
| Directional ATC Count | 0 days |

Selected Locations:

| | |
|---------------------|---|
| Edge of Town Centre | 2 |
| Edge of Town | 4 |

Selected Location Sub Categories:

| | |
|------------------|---|
| Residential Zone | 2 |
| Built-Up Zone | 2 |
| No Sub Category | 2 |

TRIP RATE for Land Use 07 - LEISURE/C - LEISURE CENTRE
 VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|----------|-----------|------------|----------|-----------|----------|----------|-----------|
| | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate | No. Days | Ave. GFA | Trip Rate |
| 00:00 - 01:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 01:00 - 02:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 02:00 - 03:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 03:00 - 04:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 04:00 - 05:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 05:00 - 06:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 06:00 - 07:00 | 2 | 12500 | 0.180 | 2 | 12500 | 0.016 | 2 | 12500 | 0.196 |
| 07:00 - 08:00 | 6 | 8308 | 0.510 | 6 | 8308 | 0.171 | 6 | 8308 | 0.681 |
| 08:00 - 09:00 | 6 | 8308 | 0.538 | 6 | 8308 | 0.455 | 6 | 8308 | 0.993 |
| 09:00 - 10:00 | 6 | 8308 | 0.754 | 6 | 8308 | 0.399 | 6 | 8308 | 1.153 |
| 10:00 - 11:00 | 6 | 8308 | 0.459 | 6 | 8308 | 0.449 | 6 | 8308 | 0.908 |
| 11:00 - 12:00 | 6 | 8308 | 0.361 | 6 | 8308 | 0.485 | 6 | 8308 | 0.846 |
| 12:00 - 13:00 | 6 | 8308 | 0.463 | 6 | 8308 | 0.421 | 6 | 8308 | 0.884 |
| 13:00 - 14:00 | 6 | 8308 | 0.496 | 6 | 8308 | 0.510 | 6 | 8308 | 1.006 |
| 14:00 - 15:00 | 6 | 8308 | 0.445 | 6 | 8308 | 0.490 | 6 | 8308 | 0.935 |
| 15:00 - 16:00 | 6 | 8308 | 0.806 | 6 | 8308 | 0.620 | 6 | 8308 | 1.426 |
| 16:00 - 17:00 | 6 | 8308 | 1.083 | 6 | 8308 | 0.831 | 6 | 8308 | 1.914 |
| 17:00 - 18:00 | 6 | 8308 | 1.515 | 6 | 8308 | 1.180 | 6 | 8308 | 2.695 |
| 18:00 - 19:00 | 6 | 8308 | 1.705 | 6 | 8308 | 1.507 | 6 | 8308 | 3.212 |
| 19:00 - 20:00 | 6 | 8308 | 1.465 | 6 | 8308 | 1.563 | 6 | 8308 | 3.028 |
| 20:00 - 21:00 | 6 | 8308 | 0.666 | 6 | 8308 | 1.348 | 6 | 8308 | 2.014 |
| 21:00 - 22:00 | 6 | 8308 | 0.183 | 6 | 8308 | 0.859 | 6 | 8308 | 1.042 |
| 22:00 - 23:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| 23:00 - 24:00 | 0 | 0 | 0.000 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| Total Rates: | | | 11.629 | | | 11.304 | | | 22.933 |

Parameter summary

Trip rate parameter range selected: 5000 - 17000 (units: sqm)
 Survey date date range: 01/01/01 - 16/10/08
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 14 - CAR SHOW ROOMS
 Category : A - CAR SHOW ROOMS
 VEHICLES

Selected regions and areas:

| | | |
|----|--------------------------------|--------|
| 03 | SOUTH WEST | |
| | WL WILTSHIRE | 1 days |
| 04 | EAST ANGLIA | |
| | CA CAMBRIDGESHIRE | 1 days |
| 05 | EAST MIDLANDS | |
| | LE LEICESTERSHIRE | 2 days |
| | NR NORTHAMPTONSHIRE | 1 days |
| 06 | WEST MIDLANDS | |
| | WM WEST MIDLANDS | 1 days |
| 07 | YORKSHIRE & NORTH LINCOLNSHIRE | |
| | NY NORTH YORKSHIRE | 2 days |
| 08 | NORTH WEST | |
| | GM GREATER MANCHESTER | 1 days |
| | LC LANCASHIRE | 1 days |
| 09 | NORTH | |
| | TV TEES VALLEY | 3 days |

Filtering Stage 2 selection:

Parameter: Site area
 Range: 0.50 to 2.00 (units: hect)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/01 to 26/11/08

Selected survey days:

| | |
|-----------|--------|
| Monday | 1 days |
| Tuesday | 4 days |
| Wednesday | 2 days |
| Thursday | 2 days |
| Friday | 4 days |

Selected survey types:

| | |
|-----------------------|---------|
| Manual count | 13 days |
| Directional ATC Count | 0 days |

Selected Locations:

| | |
|--|---|
| Edge of Town Centre | 1 |
| Suburban Area (PPS6 Out of Centre) | 4 |
| Edge of Town | 7 |
| Neighbourhood Centre (PPS6 Local Centre) | 1 |

Selected Location Sub Categories:

| | |
|------------------|---|
| Industrial Zone | 5 |
| Commercial Zone | 2 |
| Residential Zone | 2 |
| Built-Up Zone | 1 |
| Village | 1 |
| No Sub Category | 2 |

TRIP RATE for Land Use 14 - CAR SHOW ROOMS/A - CAR SHOW ROOMS
 VEHICLES

Calculation factor: 1 hect

BOLD print indicates peak (busiest) period

| Time Range | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---------------------|----------|-----------|-----------|------------|-----------|-----------|----------|-----------|-----------|
| | No. Days | Ave. AREA | Trip Rate | No. Days | Ave. AREA | Trip Rate | No. Days | Ave. AREA | Trip Rate |
| 00:00 - 01:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 01:00 - 02:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 02:00 - 03:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 03:00 - 04:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 04:00 - 05:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 05:00 - 06:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 06:00 - 07:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 07:00 - 08:00 | 7 | 0.74 | 18.605 | 7 | 0.74 | 5.039 | 7 | 0.74 | 23.644 |
| 08:00 - 09:00 | 13 | 0.65 | 45.873 | 13 | 0.65 | 14.741 | 13 | 0.65 | 60.614 |
| 09:00 - 10:00 | 13 | 0.65 | 34.906 | 13 | 0.65 | 23.585 | 13 | 0.65 | 58.491 |
| 10:00 - 11:00 | 13 | 0.65 | 26.297 | 13 | 0.65 | 26.415 | 13 | 0.65 | 52.712 |
| 11:00 - 12:00 | 13 | 0.65 | 25.825 | 13 | 0.65 | 26.297 | 13 | 0.65 | 52.122 |
| 12:00 - 13:00 | 13 | 0.65 | 28.892 | 13 | 0.65 | 30.542 | 13 | 0.65 | 59.434 |
| 13:00 - 14:00 | 13 | 0.65 | 31.840 | 13 | 0.65 | 25.943 | 13 | 0.65 | 57.783 |
| 14:00 - 15:00 | 13 | 0.65 | 27.712 | 13 | 0.65 | 29.363 | 13 | 0.65 | 57.075 |
| 15:00 - 16:00 | 13 | 0.65 | 24.528 | 13 | 0.65 | 29.599 | 13 | 0.65 | 54.127 |
| 16:00 - 17:00 | 13 | 0.65 | 23.349 | 13 | 0.65 | 27.123 | 13 | 0.65 | 50.472 |
| 17:00 - 18:00 | 13 | 0.65 | 14.623 | 13 | 0.65 | 41.038 | 13 | 0.65 | 55.661 |
| 18:00 - 19:00 | 13 | 0.65 | 3.538 | 13 | 0.65 | 14.033 | 13 | 0.65 | 17.571 |
| 19:00 - 20:00 | 7 | 0.66 | 3.017 | 7 | 0.66 | 8.405 | 7 | 0.66 | 11.422 |
| 20:00 - 21:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 21:00 - 22:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 22:00 - 23:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| 23:00 - 24:00 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 | 0 | 0.00 | 0.000 |
| Total Rates: | | | 309.005 | | | 302.123 | | | 611.128 |

Parameter summary

Trip rate parameter range selected: 0.50 to 2.00 (units: hect)
 Survey date date range: 01/01/01 - 26/11/08
 Number of weekdays (Monday-Friday): 13
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0