

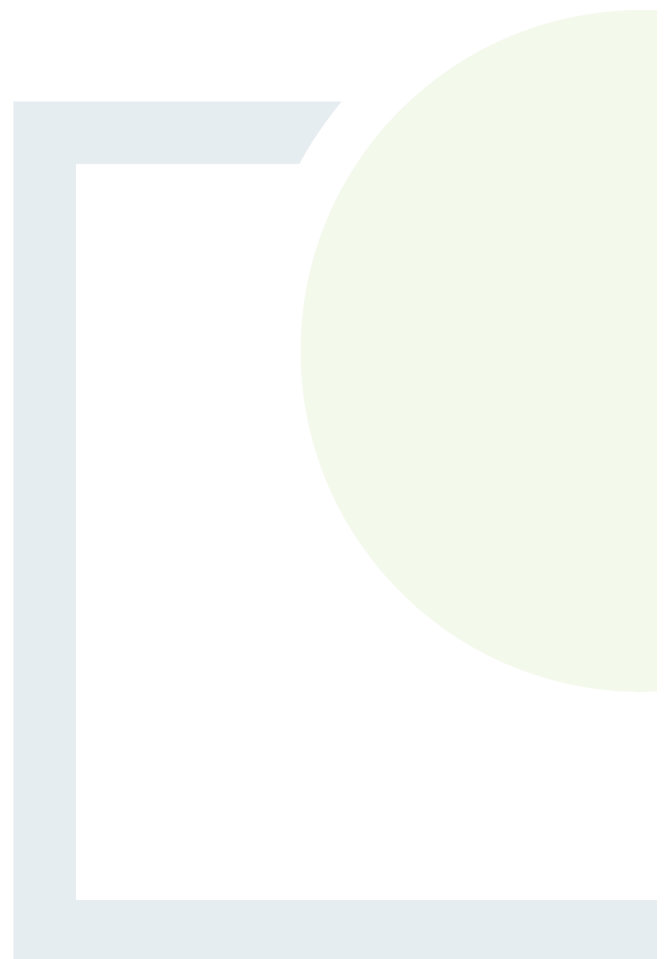


**FEHILY
TIMONEY**

**CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING**

APPENDIX 11.3

Junction Capacity Test Results



PICADY

GUI Version: 5.1 AD
Analysis Program Release: 4.0 (SEPT 2008)

© Copyright TRL Limited, 2008
Adapted from PICADY/3 which is Crown Copyright by permission of the controller of HMSO

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

TRL Limited
Crowthorne House
Nine Mile Ride
Wokingham, Berks.
RG40 3GA, UK



Tel: +44 (0)1344 770758
Fax: +44 (0)1344 770864
E-mail: software@trl.co.uk
Web: www.trlsoftware.co.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 Analysis

Parameter	Values
File Run	C:\AL Traffic jobs\Picady - Barnadivane\PM 2028 with construction.vpi
Date Run	01 March 2023
Time Run	14:56:20
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	R585 west	100
Arm B	L6008	100
Arm C	R585 east	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Barnadivane Wind Farm - R585 / L6008 junction
Location	County Cork
Date	23 January 2023
Enumerator	adl [ADL-PC]
Job Number	3790
Status	TIA
Client	Barna Wind Energy Ltd / Arran Wind Farm
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

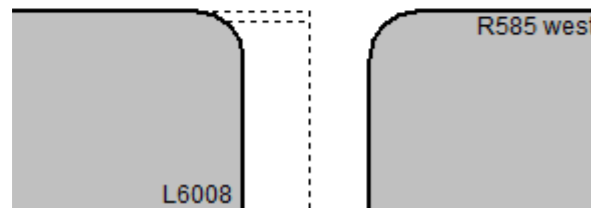
Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	2.75
Minor Road Visibility To Right (m)	50
Minor Road Visibility To Left (m)	50
Major Road Right Turn Visibility (m)	70
Major Road Right Turn Blocks Traffic	Yes

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	505.529	0.092	0.233	0.146	0.332
B-C	639.009	0.098	0.248	-	-
C-B	614.501	0.238	0.238	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15

ODTAB Turning Counts

Demand Set: Barnadivane Wind Farm - R585 / L6008 junction
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	4.0	110.0
Arm B	28.0	0.0	10.0
Arm C	298.0	2.0	0.0

ODTAB Synthesised Flows

Demand Set: Barnadivane Wind Farm - R585 / L6008 junction
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	1.425	08:30	2.137	09:00	1.425
Arm B	08:00	0.475	08:30	0.712	09:00	0.475
Arm C	08:00	3.750	08:30	5.625	09:00	3.750

Heavy Vehicles Percentages

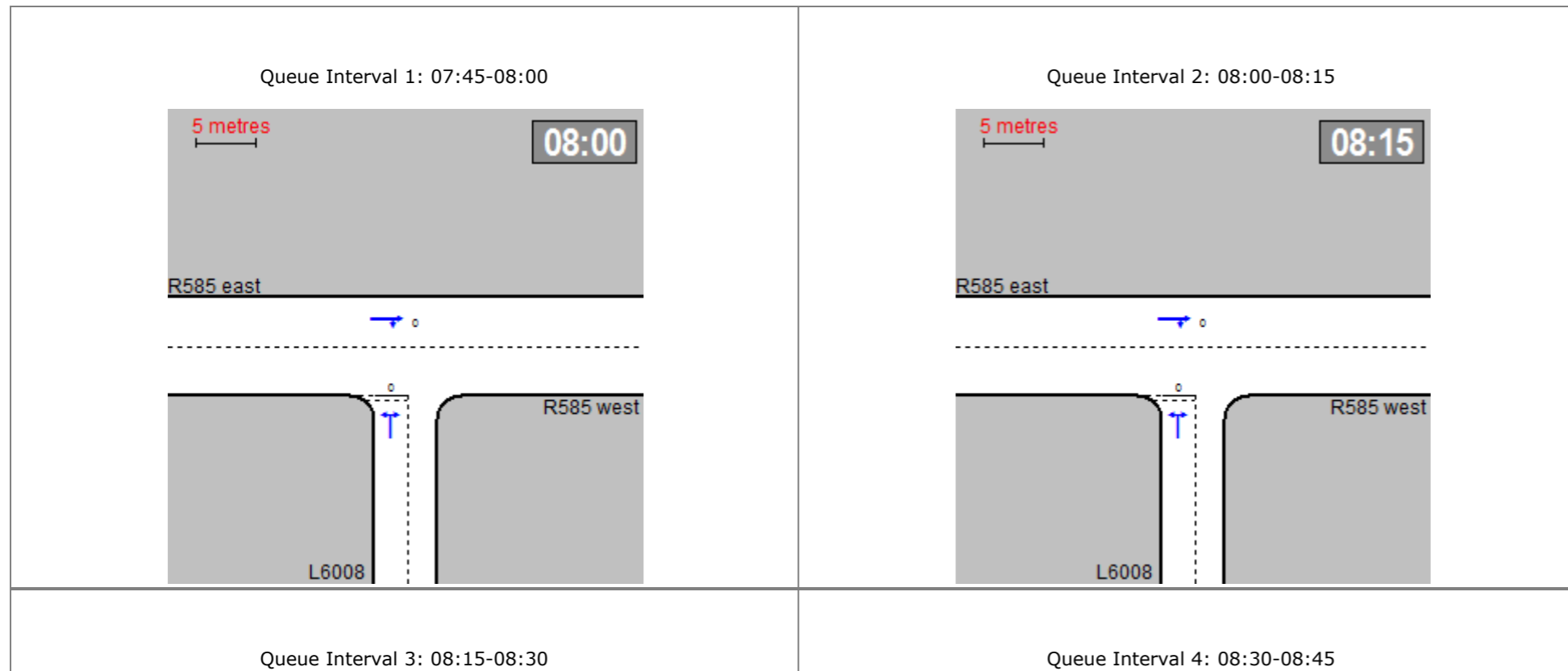
Demand Set: Barnadivane Wind Farm - R585 / L6008 junction
Modelling Period: 07:45-09:15

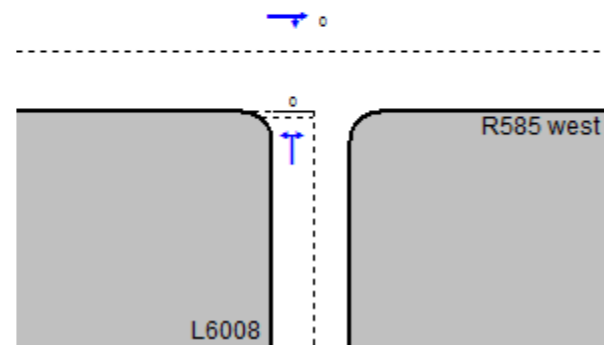
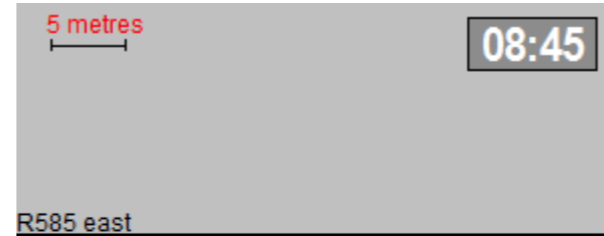
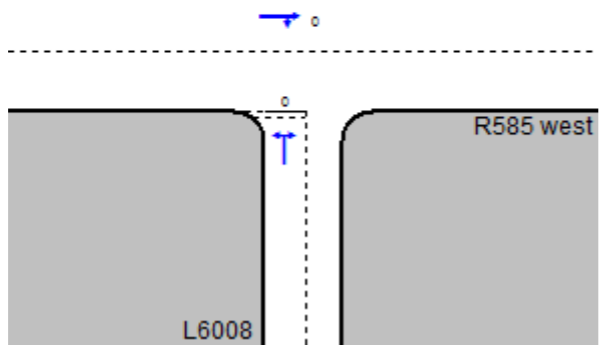
From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

Default proportions of heavy vehicles are used

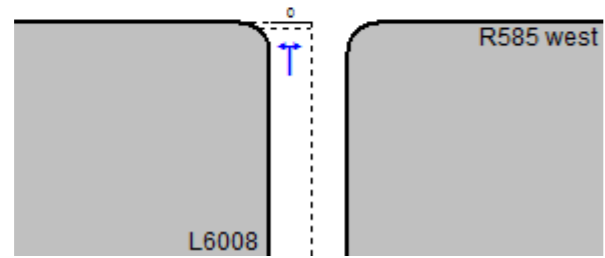
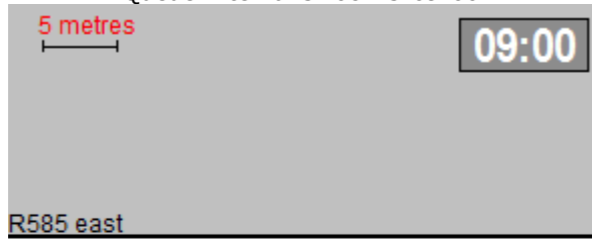
Queue Diagrams

Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15
Modelling Period: 07:45-09:15
View Extent: 40m

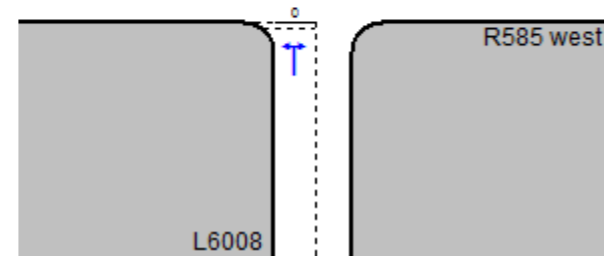




Queue Interval 5: 08:45-09:00

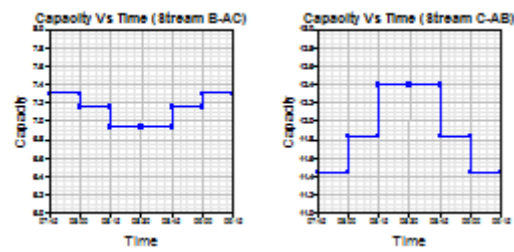


Queue Interval 6: 09:00-09:15



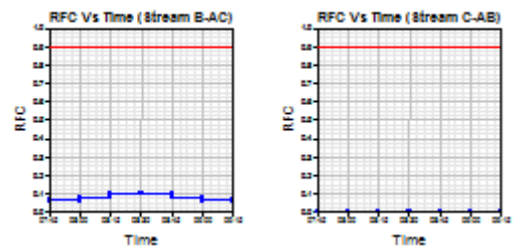
Capacity Graph

Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15
Modelling Period: 07:45-09:15



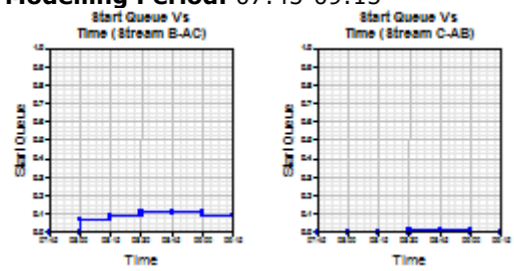
RFC Graph

Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15
Modelling Period: 07:45-09:15



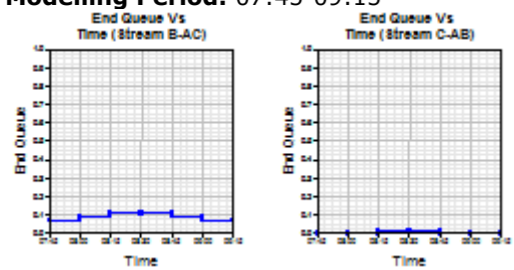
Start Queue Graph

Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15
Modelling Period: 07:45-09:15



End Queue Graph

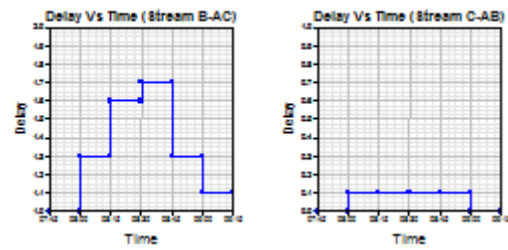
Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15
Modelling Period: 07:45-09:15



Delay Graph

Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15

Modelling Period: 07:45-09:15



Queues & Delays

Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15

Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	0.48	7.30	0.065	-	0.00	0.07	-	1.0	0.15
	C-AB	0.04	11.44	0.003	-	0.00	0.00	-	0.0	0.09
	C-A	3.73	-	-	-	-	-	-	-	-
	A-B	0.05	-	-	-	-	-	-	-	-
	A-C	1.38	-	-	-	-	-	-	-	-
08:00-08:15	B-AC	0.57	7.15	0.080	-	0.07	0.09	-	1.3	0.15
	C-AB	0.05	11.84	0.004	-	0.00	0.00	-	0.1	0.08
	C-A	4.45	-	-	-	-	-	-	-	-
	A-B	0.06	-	-	-	-	-	-	-	-
	A-C	1.65	-	-	-	-	-	-	-	-
08:15-08:30	B-AC	0.70	6.93	0.101	-	0.09	0.11	-	1.6	0.16
	C-AB	0.06	12.39	0.005	-	0.00	0.01	-	0.1	0.08
	C-A	5.44	-	-	-	-	-	-	-	-
	A-B	0.07	-	-	-	-	-	-	-	-
	A-C	2.02	-	-	-	-	-	-	-	-
08:30-08:45	B-AC	0.70	6.93	0.101	-	0.11	0.11	-	1.7	0.16
	C-AB	0.06	12.39	0.005	-	0.01	0.01	-	0.1	0.08

	C-A	5.44	-	-	-	-	-	-	-	-
	A-B	0.07	-	-	-	-	-	-	-	-
	A-C	2.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand(veh/min)	Capacity(veh/min)	RFC	Ped.Flow(ped/min)	Start Queue(veh)	End Queue(veh)	Geometric Delay(veh.min/segment)	Delay(veh.min/segment)	Mean Arriving Vehicle Delay(min)
09:00-09:15	B-AC	0.48	7.30	0.065	-	0.09	0.07	-	1.1	0.15
	C-AB	0.04	11.44	0.003	-	0.00	0.00	-	0.0	0.09
	C-A	3.73	-	-	-	-	-	-	-	-
	A-B	0.05	-	-	-	-	-	-	-	-
	A-C	1.38	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period


Demand Set: Sum of Demand Sets for Modelling Period: 07:45 - 09:15

Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	52.3	34.9	8.0	0.2	8.0	0.2
C-AB	4.4	2.9	0.4	0.1	0.4	0.1
C-A	408.6	272.4	-	-	-	-
A-B	5.5	3.7	-	-	-	-
A-C	151.4	100.9	-	-	-	-
All	622.1	414.8	8.3	0.0	8.3	0.0

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing 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.

PICADY 5 Run Successful

PICADY		
GUI Version: 5.1 AD Analysis Program Release: 4.0 (SEPT 2008)		
© Copyright TRL Limited, 2008 Adapted from PICADY/3 which is Crown Copyright by permission of the controller of HMSO		
For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770758 Fax: +44 (0)1344 770864 E-mail: software@trl.co.uk Web: www.trlsoftware.co.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 Analysis

Parameter	Values
File Run	C:\AL Traffic jobs\Picady - Barnadivane\N22 junction PM 2028 with const.vpi
Date Run	01 March 2023
Time Run	15:00:44
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	N22 (East)	100
Arm B	R585	100
Arm C	N22 (West)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	Banrnadivane WF - N22 / R585 junction
Location	Crookstown, Co Cork
Date	04 January 2023
Enumerator	adl [ADL-PC]
Job Number	3790
Status	TIA
Client	Barna Wind Farm Ltd / Arran Wind Farm
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.50
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road Width 0m Back from Junction (m)	6.00
Minor Road Width 5m Back from Junction (m)	5.00
Minor Road Width 10m Back from Junction (m)	3.00
Minor Road Width 15m Back from Junction (m)	3.00
Minor Road Width 20m Back from Junction (m)	3.00
Minor Road Derived Flare Length (PCU)	1.000
Minor Road Visibility To Right (m)	80
Minor Road Visibility To Left (m)	80
Major Road Right Turn Visibility (m)	100
Major Road Right Turn Blocks Traffic	Yes

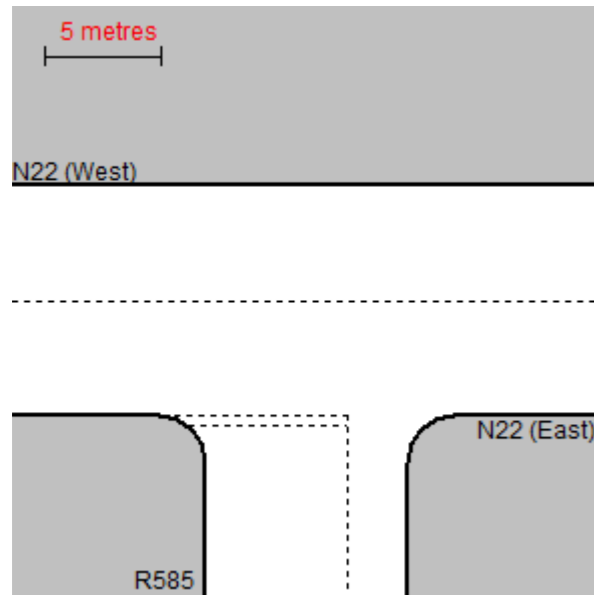
The junction modelled can carry high-speed major road traffic

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	0.000	0.000	0.000	0.000	0.000
B-C	0.000	0.000	0.000	-	-
C-B	631.874	0.229	0.229	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set:
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	321.0	1008.0
Arm B	91.0	0.0	7.0
Arm C	504.0	1.0	0.0

ODTAB Synthesised Flows

Demand Set:
Modelling Period: 16:45-18:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	17:00	16.612	17:30	24.919	18:00	16.612
Arm B	17:00	1.225	17:30	1.838	18:00	1.225
Arm C	17:00	6.313	17:30	9.469	18:00	6.313

Heavy Vehicles Percentages

Demand Set:

Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	10.0	10.0
Arm B	10.0	-	10.0
Arm C	10.0	10.0	-

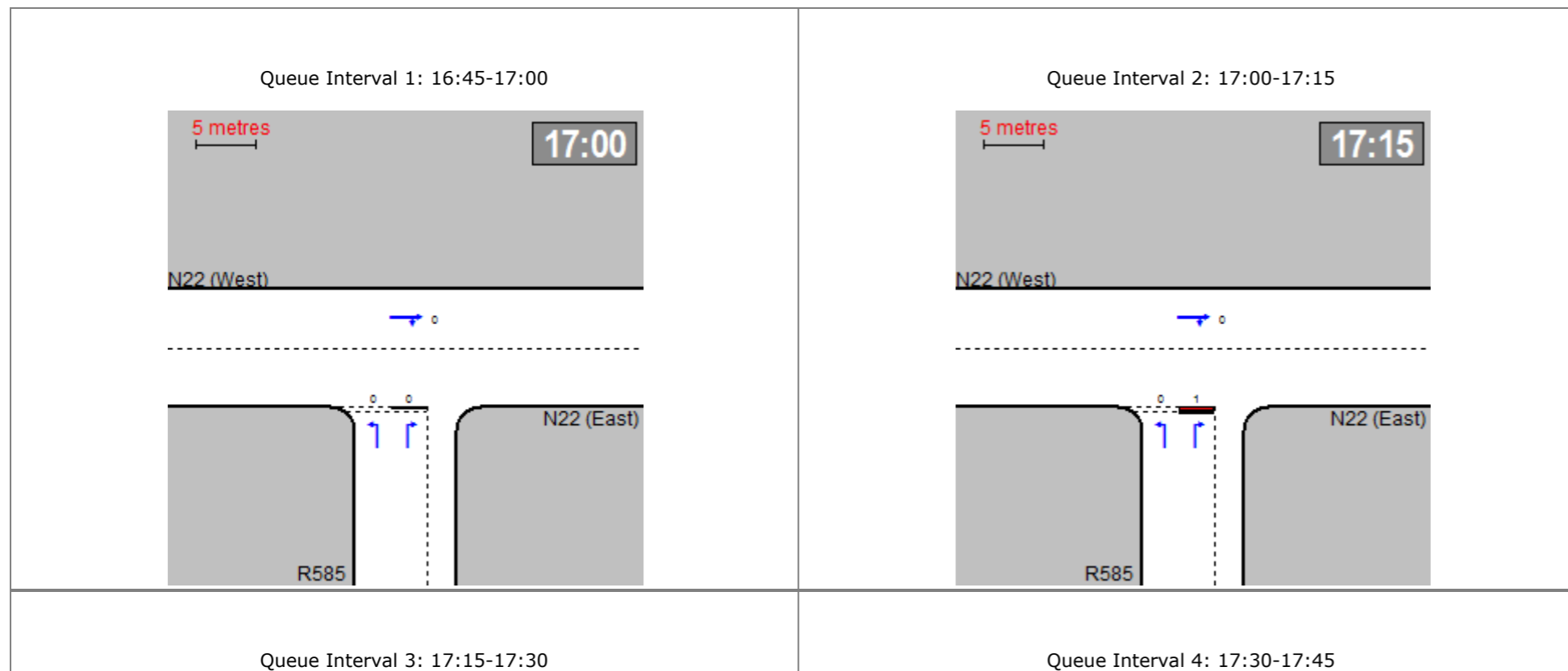
Default proportions of heavy vehicles are used

Queue Diagrams

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15

Modelling Period: 16:45-18:15

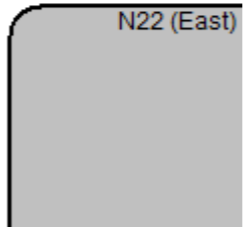
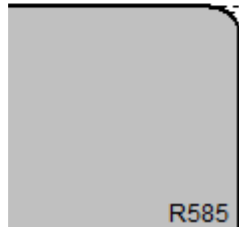
View Extent: 40m



5 metres

17:30

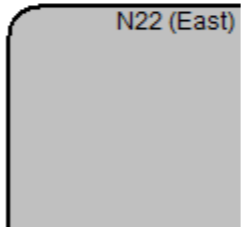
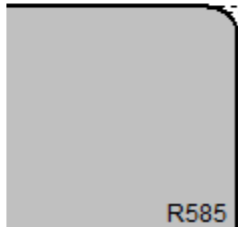
N22 (West)



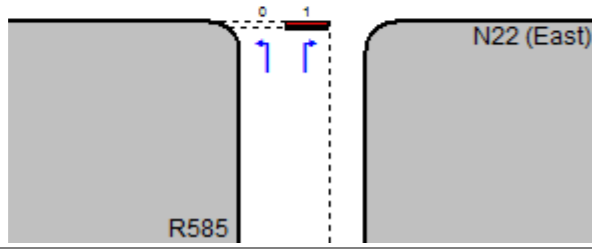
5 metres

17:45

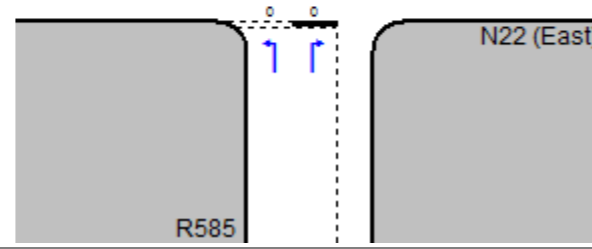
N22 (West)



Queue Interval 5: 17:45-18:00

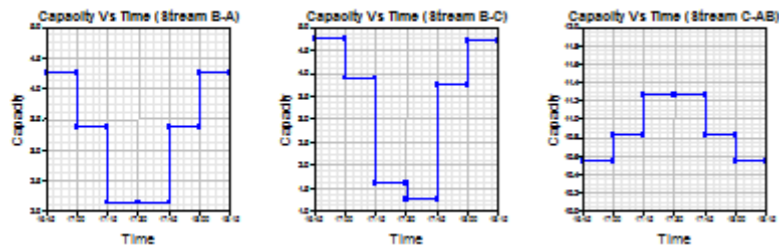


Queue Interval 6: 18:00-18:15



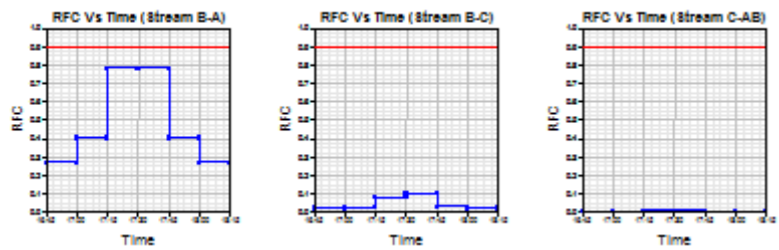
Capacity Graph

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15
Modelling Period: 16:45-18:15



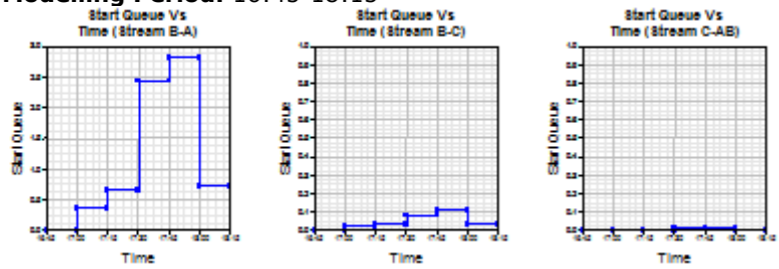
RFC Graph

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15
Modelling Period: 16:45-18:15



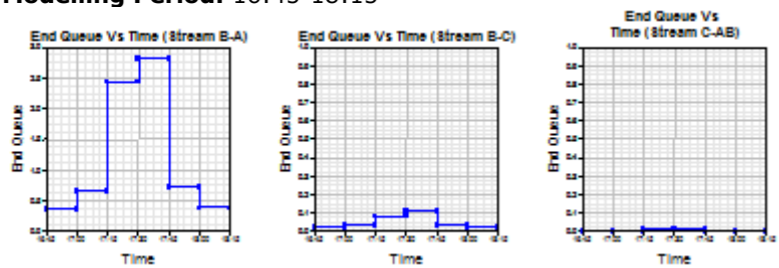
Start Queue Graph

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15
Modelling Period: 16:45-18:15



End Queue Graph

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15
Modelling Period: 16:45-18:15



Segment	Stream	Demand(veh/min)	Capacity(veh/min)	RFC	Ped.Flow(ped/min)	Start Queue(veh)	End Queue(veh)	Geometric Delay(veh.min/segment)	Delay(veh.min/segment)	Mean Arriving Vehicle Delay(min)
18:00-18:15	B-A	1.14	4.26	0.268	-	0.72	0.38	-	6.0	0.33
	B-C	0.09	4.71	0.019	-	0.03	0.02	-	0.3	0.22
	C-AB	0.03	10.54	0.003	-	0.00	0.00	-	0.0	0.10
	C-A	6.31	-	-	-	-	-	-	-	-
	A-B	4.03	-	-	-	-	-	-	-	-
	A-C	12.65	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: Sum of Demand Sets for Modelling Period: 16:45 - 18:15
Modelling Period: 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-A	125.3	83.5	101.4	0.8	101.4	0.8
B-C	9.6	6.4	4.1	0.4	4.1	0.4
C-AB	4.2	2.8	0.4	0.1	0.4	0.1
C-A	690.9	460.6	-	-	-	-
A-B	441.8	294.6	-	-	-	-
A-C	1387.4	925.0	-	-	-	-
All	2659.3	1772.8	105.9	0.0	105.9	0.0

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing 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.

PICADY 5 Run Successful