

eastbound A41 approach lanes with 3 potential exits. Failure to mark the two lanes correctly which is fully understood by drivers will lead to confusion and lane changing within the circulatory carriageway or approaches. This may lead to side swipe collisions, sudden braking and/or front to rear impact collisions.

RECOMMENDATION Ensure lane designation on the approaches is clear and unambiguous. If this is not achievable a single lane approach may be the safer option at the expense of capacity and queuing.

3.8 LOCATION Whole site.

PROBLEM Provision for cyclists, pedestrians and horse riders.

SUMMARY There is a shared use cycle way within the Venture Park site leading to and from the gatahouse. It is likely therefore that with increased occupancy more pedestrians will be using cycles and buses to travel via the roundabout. No provision appears to have been made for these users. There is also evidence of equestrian traffic on the grass verges outside the site. Failure to provide safe routes for these road users may result in them using the road, crossing at inappropriate places or a 3 lane carriageway with the risk of motor vehicle versus pedestrian / cyclist / rider casualties.

RECOMMENDATION Carry out a Walking, Cycling & Horse-Riding Assessment and Review (HD42/17). Provide suitable crossing points across the A41 and side roads. Provide cycle facilities for safe egress onto the A41.

3.9 LOCATION A41, east side of the proposed roundabout.

PROBLEM Re-positioning of the bus stops

SUMMARY It has been identified that the two bus stops on the eastern side of the proposed roundabout will need to be repositioned due to their close proximity to the approach and exit. The plan indicates these may be "re-aligned onto the A41". Buses slowing down, to pull into and out of the bus stops in both directions, will result in vehicles having to slow on the eastbound A41 exit or A41 westbound approach, or drivers may be tempted to overtake the bus. This may lead to head on collisions close to the roundabout or sudden braking / rear shunt type collisions.

RECOMMENDATION Relocate the bus stops further east, away from potential conflict points close to the roundabout. Retain the bus lay-bys to enable buses to stop off the main A41 carriageway.

4. **AUDIT STATEMENT**

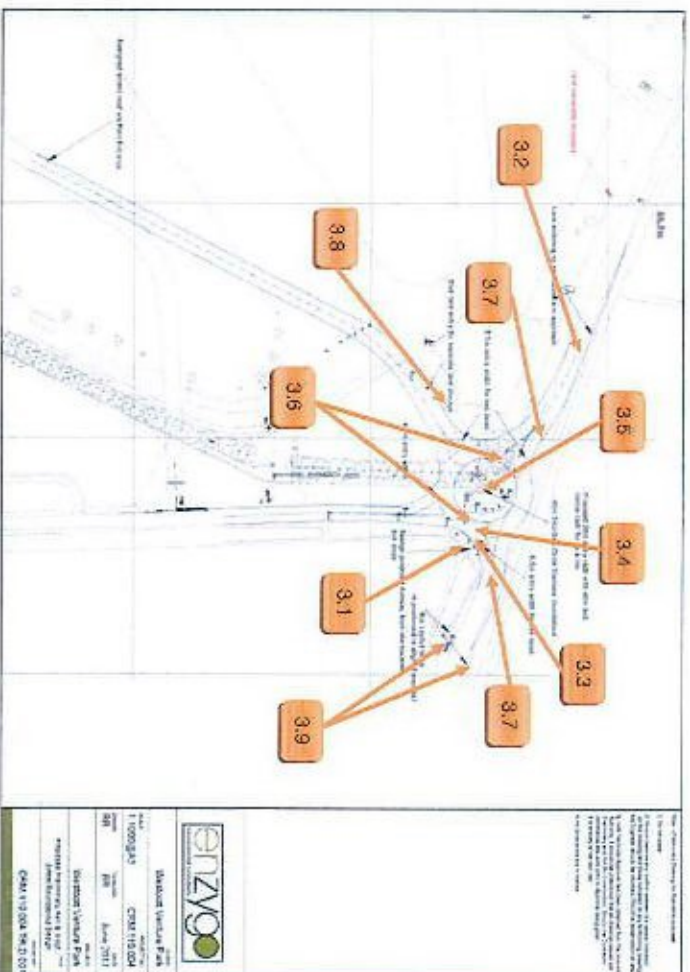
We certify that this audit has been carried out in accordance with HD 19/15.

Audit Team Leader:
Peter Chapman, MCHV, MARSMA

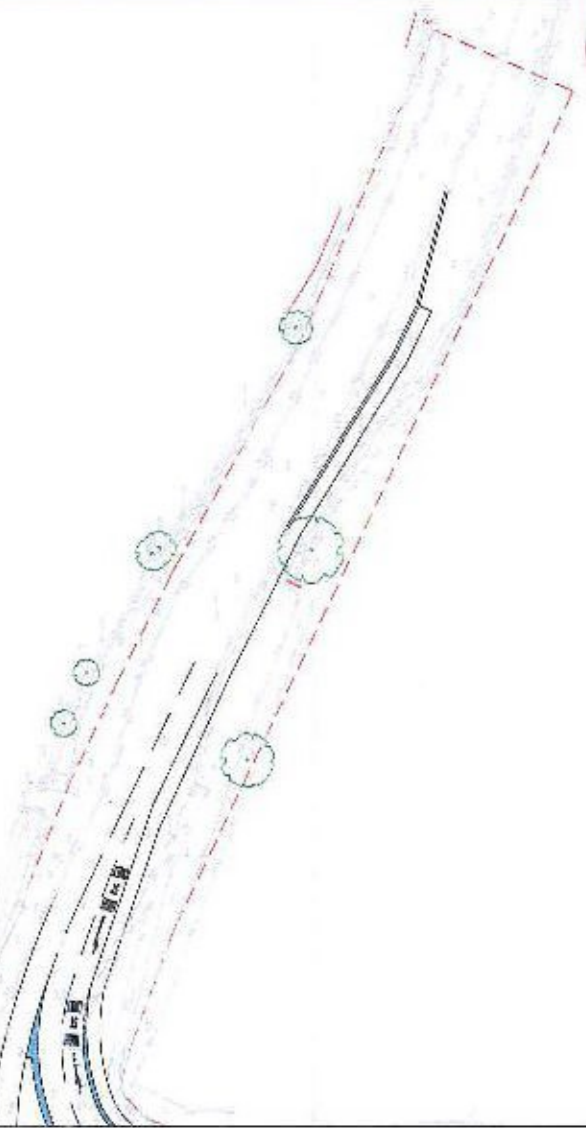
Audit team Member
Sue Brown, MCHV



5. PLAN WITH PROBLEM LOCATIONS.



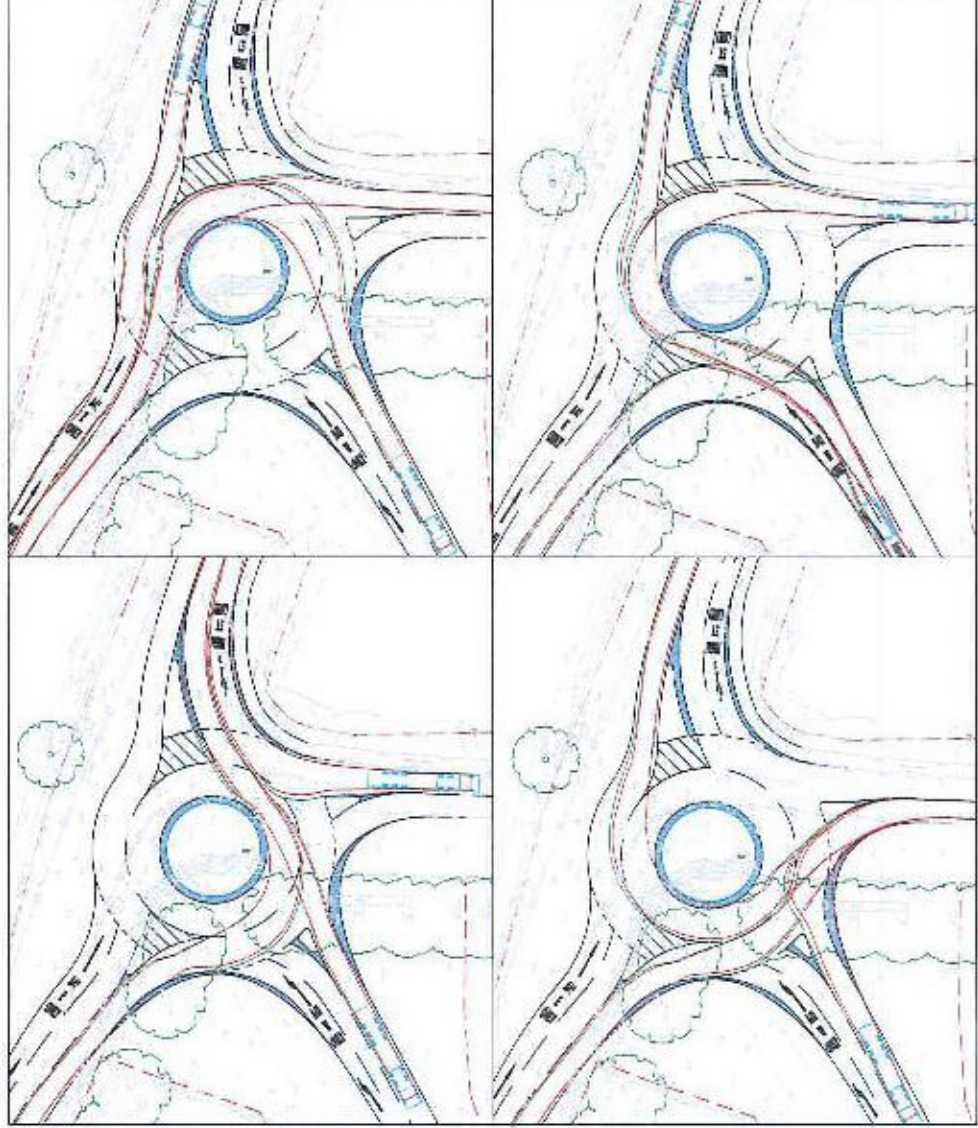
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PROJECT NO	SS	DATE	RR	DATE	APR 2018
CLIENT		WESTCOAST VENTURE PARK		PROJECT	
ADDRESS		WESTCOAST VENTURE PARK		CITY	
PROJECT NO		SHF-110.001		PROJECT NO	
PROJECT NO		SHF-110.001		PROJECT NO	
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PROJECT: Westcoast Venture Park
CITY: TRD, CA
PROJECT NO: SHF-110.001-TR.D.100A

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PROJECT NO		SHF-110.001		PROJECT NO	

PROJECT: Westcoast Venture Park
CITY: TRD, CA
PROJECT NO: SHF-110.001-TR.D.100C

APPENDIX 11

Rowland Hills and Trip Races

TABLE W1

SUMMARY OF TRIP RATE INFORMATION
TRICS DATABASE 2008b (VERSION 6.2.2)

(a) B1(a) Offices

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	1.145	0.128	1.273
PM Peak 17.00 to 18.00 hrs	0.195	1.260	1.455
Daily (24 hrs)	5.945	6.657	12.602

(b) B1(b) R&D

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	0.845	0.070	0.915
PM Peak 17.00 to 18.00 hrs	0.081	1.146	1.227
Daily (07.00 to 19.00 hrs)	3.467	3.429	6.896

(c) B1(c) Light Industrial Use

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	0.437	0.056	0.493
PM Peak 17.00 to 18.00 hrs	0.933	0.249	1.182
Daily (07.00 to 19.00 hrs)	1.845	1.975	3.818

(d) Light and General Industrial Use - mixed B1(c) and B2

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	0.331	0.066	0.397
PM Peak 17.00 to 18.00 hrs	0.056	0.311	0.367
Daily (06.00 to 23.00 hrs)	1.761	1.821	3.582

(e) B2 General Industrial Use

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	0.289	0.054	0.343
PM Peak 17.00 to 18.00 hrs	0.066	0.135	0.201
Daily (06.00 to 23.00 hrs)	1.623	1.689	3.312

(f) B2 Storage Warehouse

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	0.060	0.017	0.077
PM Peak 17.00 to 18.00 hrs	0.036	0.075	0.111
Daily (07.00 to 20.00 hrs)	0.910	1.006	1.916

(g) B2 Commercial Warehouse

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	0.206	0.098	0.304
PM Peak 17.00 to 18.00 hrs	0.354	0.211	0.565
Daily (24 hours)	2.919	2.944	5.863

(h) Open Storage (Arcomet)

Trip Rate per 100 sq metres GFA	Arrivals	Departures	Combined
AM Peak 07.30 to 08.30 hrs	0.010*	0.003*	0.013*
PM Peak 17.00 to 18.00 hrs	0.006*	0.012*	0.018*
Daily (24 hours)	0.160	0.150	0.320

* Factored proportionally from trip rates for ARCOMET B2 Open Storage

DATE	DESCRIPTION	BY	CHKD
2017-01-20	1.005		
2017-01-20	1.006		
2017-01-20	1.007		
2017-01-20	1.008		
2017-01-20	1.009		
2017-01-20	1.010		

DATE	DESCRIPTION	BY	CHKD
2017-01-20	1.005		
2017-01-20	1.006		
2017-01-20	1.007		
2017-01-20	1.008		
2017-01-20	1.009		
2017-01-20	1.010		

DATE	DESCRIPTION	BY	CHKD
2017-01-20	1.005		
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DATE	DESCRIPTION	BY	CHKD
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2017-01-20	1.006		
2017-01-20	1.007		
2017-01-20	1.008		
2017-01-20	1.009		
2017-01-20	1.010		

Junctions 8	
PICADY 8 - Priority Intersection Module	
Version: 8.3.4.457 [15035;24/03/2014]	
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Filename: A41 & High Street Junction - Original Junction - 2015-2017-2022.arb
 Path: I:\Projects\CRM.110.004 - Engine Testing Facility at Westcott Venture Park\Reporting\Transport\A41 & High Street.jc
 model
 Report generation date: 04/01/2017 11:08:40

- » (Default Analysis Set) - 2015, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
A1 - 2015								
Stream B-C	0.21	12.59	0.18	B	0.44	18.19	0.31	C
Stream B-A	0.93	36.41	0.46	E	2.41	98.45	0.73	F
Stream C-AB	0.15	10.10	0.16	B	0.13	8.73	0.12	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - 2017								
Stream B-C	0.24	13.57	0.15	B	0.61	25.15	0.30	D
Stream B-A	1.09	42.22	0.53	E	3.19	75.95	0.79	F
Stream C-AB	0.21	10.36	0.17	B	0.14	8.60	0.12	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - 2017 with all dev traffic (inc. Shanks)								
Stream B-C	0.27	15.34	0.21	C	6.80	259.82	1.10	F
Stream B-A	1.39	56.59	0.56	F	14.17	231.79	1.08	F
Stream C-AB	0.34	11.87	0.25	B	0.14	8.90	0.12	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - 2017 with Shanks								
Stream B-C	0.24	13.75	0.20	B	0.84	33.10	0.47	D
Stream B-A	1.13	43.59	0.54	F	3.73	96.22	0.82	F
Stream C-AB	0.22	10.55	0.18	B	0.14	8.90	0.12	A
Stream C-A	-	-	-	-	-	-	-	-

Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - 2022								
Stream B-C	0.37	20.15	0.28	C	5.72	212.53	1.01	F
Stream B-A	1.98	73.10	0.80	F	8.97	178.39	0.99	F
Stream C-AB	0.23	11.39	0.18	B	0.15	9.39	0.13	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - 2022 with all dev traffic (inc. Shanks)								
Stream B-C	0.56	35.05	0.40	F	17.88	517.01	1.36	F
Stream B-A	3.00	113.43	0.79	F	31.65	482.79	1.22	F
Stream C-AB	0.38	12.80	0.28	B	0.15	9.39	0.13	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - 2022 with Shanks								
Stream B-C	0.39	21.11	0.29	C	6.75	235.25	1.05	F
Stream B-A	2.08	77.64	0.79	F	10.24	205.93	1.03	F
Stream C-AB	0.25	11.30	0.20	B	0.15	9.39	0.13	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

- 01 - 2015 AM model duration: 07:45 - 08:15
- 02 - 2015 PM model duration: 16:45 - 18:15
- 03 - 2017 AM model duration: 07:45 - 08:15
- 04 - 2017 PM model duration: 16:45 - 18:15
- 05 - 2017 All Shanks AM model duration: 07:45 - 08:15
- 06 - 2017 All Shanks PM model duration: 16:45 - 18:15
- 07 - 2017 All dev traffic inc. Shanks AM model duration: 07:45 - 08:15
- 08 - 2017 All dev traffic inc. Shanks PM model duration: 16:45 - 18:15
- 09 - 2022 AM model duration: 07:45 - 08:15
- 10 - 2022 PM model duration: 16:45 - 18:15
- 11 - 2022 All Shanks AM model duration: 07:45 - 08:15
- 12 - 2022 All Shanks PM model duration: 16:45 - 18:15
- 13 - 2022 All dev traffic inc. Shanks AM model duration: 07:45 - 08:15
- 14 - 2022 All dev traffic inc. Shanks PM model duration: 16:45 - 18:15

Run using Junctions 8.18.0.4.457 at 04/01/2017 11:08:20

File summary

Title	WvP - Junction Modelling
Location	Westcott A41 & High Street Junction
Site Number	
Date	04/01/2017
Version	
Status	(new file)
Identifier	
Client	Recesspring
Job number	CRM110004
Enumerator	Ryan Zaitse
Description	

Analysis Options

Vehicle Length	5.75	ft
Do Queue Variables	Calculate Roundel Capacity	
Queue Length Threshold (PCU)	10	
Average Delay Threshold	36.00	sec

Units

Queue Units	veh
Space Units	veh
Traffic Units Input	veh
Traffic Units Output	veh
Flow Units	veh/hour
Average Delay Units	sec
Flow Delay Units	veh
Rate of Delay Units	veh/hour

(Default Analysis Set) - 2015, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometric Delay	Arm A - Geometric Delay	Geometric delay: (Value includes upstream-queue speed, otherwise results may be unreliable)
Warning	Geometric Delay	Arm B - Geometric Delay	Geometric delay: (Value includes upstream-queue speed, otherwise results may be unreliable)
Warning	Geometric Delay	Arm C - Geometric Delay	Geometric delay: (Value includes upstream-queue speed, otherwise results may be unreliable)

Analysis Set Details

Name	Roundabout	Departure	Report	Include In Demand Delay	Use Specific Demand Set	Specific Demand Set	Specific Demand Set	Locked	Scaling Factor (%)	Reason For Scaling
Default	N/A		<input checked="" type="checkbox"/>						100.000	100.000
Analysis Set										

Demand Set Details

Name	Scenario Name	Time	Description	Traffic Profile Type	Mode	Start Time	End Time	Flow	Length	Time Period	Time	Relationship
		09:15		Default	09:15	09:15	15					

Junction Network

Junctions

Junction Name	Junction Type	Direction	Order	Priority	Relationship
Junction Delay	Two-way	A/B/C	1	27.50	

Junction Network Options

Driving Side	Lighting
Left	Normal/Unknown

Arms

Arms

Arm Name	Name	Description	Arm Type
A	A1 East	Queue	Queue
B	B1 North	Queue	Queue
C	C1 West	Queue	Queue

Major Arm Geometry

Arm	Width of	Has kerbed central reserve	Width of kerbed central reserve (m)	Has light	Width kerbed central reserve (m)	Writing For Right	Writing For Right	Writing For Right	Writing For Right	Writing For Right	Writing For Right
A	6.00										
B	6.00										
C	6.00										

Geometry for Arm C one measure opposite Arm B, dimensions for Arm A (values) are measured opposite Arm C.

Arm	Motor Lane	Width (m)	Width (m)	Width (m)	Width (m)	Width (m)	Width (m)	Width (m)	Width (m)	Width (m)	Width (m)	Width (m)
A	Motor Lane	10.00	8.00	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
B	Motor Lane	10.00	8.00	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
C	Motor Lane	10.00	8.00	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50

Geometric Delay Data for Priority Intersections

Arm	Delay Speed (mph)	Delay Rate (sec/mi)	Stop Rate (sec/mi)	Stop Rate (sec/mi)	Stop Rate (sec/mi)	Stop Rate (sec/mi)	Stop Rate (sec/mi)	Stop Rate (sec/mi)	Stop Rate (sec/mi)
A	48.00	48.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B	48.00	48.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	48.00	48.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Slope / Intercept / Capacity

Junction	Stream	Intercept (Value)	Slope	Slope	Slope
1	A-B	0.178	0.285	0.187	0.428
1	B-C	0.178	0.285	0.187	0.428
1	C-B	0.178	0.285	0.187	0.428

The inputs and outputs shown above do NOT include any corrections or adjustments.

Streams may be combined in which case capacity will be adjusted. Values are shown for the first line segment only, they may differ for subsequent line segments.

Traffic Flows

Demand Set Data Options

Vehicle No. (PCU)	Vehicle No. (PCU)	2.00
Default Turning Proportions	Default Turning Proportions	
Vehicle No. (PCU)	Vehicle No. (PCU)	2.00
Default Turning Proportions	Default Turning Proportions	
Vehicle No. (PCU)	Vehicle No. (PCU)	2.00
Default Turning Proportions	Default Turning Proportions	

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	CNEHOUR	✓	796.00	100.000
B	CNEHOUR	✓	142.00	100.000
C	CNEHOUR	✓	708.00	100.000

Turning Proportions

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

		To		
		A	B	C
From	A	0.000	124.000	672.000
	B	88.000	0.000	58.000
	C	645.000	83.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.15	0.84
	B	0.51	0.00	0.39
	C	0.91	0.69	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.300	1.100	1.300
	B	1.300	1.000	1.200
	C	1.300	1.100	1.300

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	10.0	0.0
	B	0.0	0.0	20.0
	C	0.0	11.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queuing Delay (Veh-min)	Average Queuing Delay (s)	Rate Of Queuing Delay (Veh-min/min)	Inclusive Total Queuing Delay (Veh-min)	Inclusive Average Queuing Delay (s)
B-C	0.12	12.59	0.21	B	51.39	77.38	13.25	10.28	0.15	13.21	10.28
B-A	0.45	36.41	0.83	E	79.82	118.37	40.80	25.22	0.51	45.81	25.22
C-AB	0.16	10.10	0.19	B	57.88	86.52	13.03	9.01	0.14	13.04	9.01
C-A	-	-	-	-	391.79	507.68	-	-	-	-	-
A-B	-	-	-	-	113.75	170.68	-	-	-	-	-
A-C	-	-	-	-	616.64	924.56	-	-	-	-	-

Geometric Delay Results for modelled period

Geometric Delay per light vehicle (s) - Junction 1

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	8.38	0.00	0.00
	C	0.00	0.00	0.00

Inclusive Geometric Delay (Veh-min) - Junction 1

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	16.86	0.00	0.00
	C	0.00	0.00	0.00

Point to Point Journey Times Summary (s) - Junction 1

		To		
		A	B	C
From	A	0.00	0.00	1.55
	B	33.30	0.00	0.00
	C	10.54	0.00	0.00

Main Results for each time segment

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

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demands (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	42.16	10.34	41.77	0.00	428.35	0.000	0.00	0.10	8.430	A
B-A	54.75	16.19	63.78	0.00	319.37	0.202	0.00	0.25	13.599	E
C-AB	47.44	11.85	47.00	0.00	504.30	0.004	0.00	0.10	7.564	A
C-A	455.58	121.40	485.28	0.00	-	-	-	-	-	-
A-B	90.35	23.34	69.35	0.00	-	-	-	-	-	-
A-C	506.92	126.48	505.62	0.00	-	-	-	-	-	-



Queueing Delay Results for each time segment

System	Queueing Total Delay (ms)	Queueing Rate Of Delay (Per-minute)	Average Delay Per Arriving Vehicle (s)	Unsignalized Level Of Service	Signalized Level Of Service
B-C	1.41	0.09	2.50	A	A
B-A	7.94	0.18	7.94	A	A
C-A	-	-	-	-	-
C-B	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

System	Queueing Total Delay (ms)	Queueing Rate Of Delay (Per-minute)	Average Delay Per Arriving Vehicle (s)	Unsignalized Level Of Service	Signalized Level Of Service
B-C	2.11	0.14	5.19	A	A
B-A	5.79	0.49	19.98	C	E
C-A	-	-	-	-	-
C-B	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

System	Queueing Total Delay (ms)	Queueing Rate Of Delay (Per-minute)	Average Delay Per Arriving Vehicle (s)	Unsignalized Level Of Service	Signalized Level Of Service
B-C	1.00	0.10	9.00	A	A
B-A	3.04	0.38	15.88	C	B
C-A	-	-	-	-	-
C-B	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

System	Queueing Total Delay (ms)	Queueing Rate Of Delay (Per-minute)	Average Delay Per Arriving Vehicle (s)	Unsignalized Level Of Service	Signalized Level Of Service
B-C	2.05	0.20	12.42	B	B
B-A	12.07	0.90	35.21	E	D
C-A	-	-	-	-	-
C-B	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

System	Queueing Total Delay (ms)	Queueing Rate Of Delay (Per-minute)	Average Delay Per Arriving Vehicle (s)	Unsignalized Level Of Service	Signalized Level Of Service
B-C	3.18	0.21	7.92	B	B
B-A	13.72	0.81	39.49	E	D
C-A	-	-	-	-	-
C-B	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

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

System	Queueing Total Delay (ms)	Queueing Rate Of Delay (Per-minute)	Average Delay Per Arriving Vehicle (s)	Unsignalized Level Of Service	Signalized Level Of Service
B-C	2.93	0.20	10.10	B	B
B-A	13.72	0.81	39.49	E	D
C-A	-	-	-	-	-
C-B	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)



Queueing Delay Results for each time segment

System	Total Demand (Veh/hr)	Function Arrivals (Veh/hr)	Entry Flow (Veh/hr)	Passenger Demand (Veh/hr)	Capacity (Veh/hr)	RFQ	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	50.24	50.24	50.24	0.00	427.82	0.18	0.10	0.10	9.530	A
B-A	77.37	19.30	76.72	0.60	265.77	0.29	0.40	0.20	18.082	C
C-A	58.57	14.17	56.54	0.00	471.20	0.30	0.10	0.16	8.677	A
C-B	579.01	144.80	575.01	0.00	0.00	0.00	0.00	0.00	0.000	-
A-B	111.47	27.87	111.47	0.00	0.00	0.00	0.00	0.00	0.000	-
A-C	604.11	151.00	604.11	0.00	0.00	0.00	0.00	0.00	0.000	-

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

System	Total Demand (Veh/hr)	Function Arrivals (Veh/hr)	Entry Flow (Veh/hr)	Passenger Demand (Veh/hr)	Capacity (Veh/hr)	RFQ	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	50.24	50.24	50.24	0.00	429.27	0.21	0.14	0.14	9.519	A
B-A	77.21	19.20	76.34	0.00	257.16	0.30	0.42	0.20	19.263	C
C-A	579.01	144.80	579.01	0.00	0.00	0.00	0.00	0.00	0.000	-
C-B	586.87	144.17	56.86	0.00	471.26	0.120	0.15	0.14	8.691	A
A-B	111.47	27.87	111.47	0.00	0.00	0.00	0.00	0.00	0.000	-
A-C	604.11	151.00	604.11	0.00	0.00	0.00	0.00	0.00	0.000	-

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

System	Total Demand (Veh/hr)	Function Arrivals (Veh/hr)	Entry Flow (Veh/hr)	Passenger Demand (Veh/hr)	Capacity (Veh/hr)	RFQ	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	18.65	18.65	18.65	0.00	347.02	0.177	0.21	0.21	12.982	B
B-A	94.89	23.87	64.57	0.00	192.11	0.460	0.60	0.93	38.409	E
C-A	69.03	17.90	69.03	0.00	429.31	0.163	0.19	0.19	10.101	B
C-B	709.99	177.90	709.99	0.00	0.00	0.00	0.00	0.00	0.000	-
A-B	158.55	34.13	158.55	0.00	0.00	0.00	0.00	0.00	0.000	-
A-C	739.89	184.97	739.89	0.00	0.00	0.00	0.00	0.00	0.000	-

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

System	Total Demand (Veh/hr)	Function Arrivals (Veh/hr)	Entry Flow (Veh/hr)	Passenger Demand (Veh/hr)	Capacity (Veh/hr)	RFQ	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
B-C	50.24	50.24	50.24	0.00	427.82	0.18	0.10	0.10	9.530	A
B-A	77.37	19.30	76.72	0.60	265.77	0.29	0.40	0.20	18.082	C
C-A	58.57	14.17	56.54	0.00	471.20	0.30	0.10	0.16	8.677	A
C-B	579.01	144.80	575.01	0.00	0.00	0.00	0.00	0.00	0.000	-
A-B	111.47	27.87	111.47	0.00	0.00	0.00	0.00	0.00	0.000	-
A-C	604.11	151.00	604.11	0.00	0.00	0.00	0.00	0.00	0.000	-

Main results: (08:45-09:00)

Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	1.54	0.10	2.476	A	A
B-A	4.05	0.27	14.168	B	B
C-AB	1.57	0.10	7.522	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Geometric Delay Results for each time segment
Geometric Delay results: (07:45-08:00)

Stream	Geometric Total Delay (Veh-min)	Geometric Rate Of Delay (Veh-min/min)
B-C	0.00	0.00
B-A	2.27	0.15
C-AB	0.00	0.00
C-A	0.00	0.00
A-B	0.00	0.00
A-C	0.00	0.00

Geometric Delay results: (08:00-08:15)

Stream	Geometric Total Delay (Veh-min)	Geometric Rate Of Delay (Veh-min/min)
B-C	0.00	0.00
B-A	2.73	0.18
C-AB	0.00	0.00
C-A	0.00	0.00
A-B	0.00	0.00
A-C	0.00	0.00

Geometric Delay results: (08:15-08:30)

Stream	Geometric Total Delay (Veh-min)	Geometric Rate Of Delay (Veh-min/min)
B-C	0.00	0.00
B-A	3.30	0.22
C-AB	0.00	0.00
C-A	0.00	0.00
A-B	0.00	0.00
A-C	0.00	0.00

Geometric Delay results: (08:30-08:45)

Stream	Geometric Total Delay (Veh-min)	Geometric Rate Of Delay (Veh-min/min)
B-C	0.00	0.00
B-A	3.37	0.22
C-AB	0.00	0.00
C-A	0.00	0.00
A-B	0.00	0.00
A-C	0.00	0.00

Geometric Delay results: (08:45-09:00)

Stream	Geometric Total Delay (Veh-min)	Geometric Rate Of Delay (Veh-min/min)
B-C	0.00	0.00
B-A	2.22	0.15
C-AB	0.00	0.00
C-A	0.00	0.00
A-B	0.00	0.00
A-C	0.00	0.00

Geometric Delay results: (09:00-09:15)

Stream	Geometric Total Delay (Veh-min)	Geometric Rate Of Delay (Veh-min/min)
B-C	0.00	0.00
B-A	2.23	0.15
C-AB	0.00	0.00
C-A	0.00	0.00
A-B	0.00	0.00
A-C	0.00	0.00

Total Geometric Delay By Turn (Veh-min) - Junction 1 - (07:45-08:00)

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	2.18	0.00	0.00
	C	0.00	0.00	0.00

Total Geometric Delay By Turn (Veh-min) - Junction 1 - (08:00-08:15)

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	2.63	0.00	0.00
	C	0.00	0.00	0.00

Total Geometric Delay By Turn (Veh-min) - Junction 1 - (08:15-08:30)

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	3.17	0.00	0.00
	C	0.00	0.00	0.00

Total Geometric Delay By Turn (Veh-min) - Junction 1 - (08:30-08:45)

		To		
		A	B	C
From	A	0.00	0.00	0.00
	B	3.24	0.00	0.00
	C	0.00	0.00	0.00

Total Geometric Delay By Turn (Veh-min) - Junction 1 - (08:45-09:00)

To		A	B	C
From	A	0.00	0.00	0.00
	B	2.12	0.00	0.00
	C	0.00	0.00	0.00

Total Geometric Delay By Turn (Veh-min) - Junction 1 - (09:00-09:15)

To		A	B	C
From	A	0.00	0.00	0.00
	B	2.24	0.00	0.00
	C	0.00	0.00	0.00

Point to Point Journey Times By Turn (s) - Junction 1 - (07:45-08:00)

To		A	B	C
From	A	0.00	0.00	1.53
	B	24.08	0.00	0.00
	C	9.46	0.00	0.00

Point to Point Journey Times By Turn (s) - Junction 1 - (08:00-08:15)

To		A	B	C
From	A	0.00	0.00	1.53
	B	20.06	0.00	0.00
	C	10.21	0.00	0.00

Point to Point Journey Times By Turn (s) - Junction 1 - (08:15-08:30)

To		A	B	C
From	A	0.00	0.00	1.53
	B	46.50	0.00	0.00
	C	11.82	0.00	0.00

Point to Point Journey Times By Turn (s) - Junction 1 - (08:30-08:45)

To		A	B	C
From	A	0.00	0.00	1.53
	B	46.43	0.00	0.00
	C	11.83	0.00	0.00

Point to Point Journey Times By Turn (s) - Junction 1 - (08:45-09:00)

To		A	B	C
From	A	0.00	0.00	1.53
	B	25.44	0.00	0.00
	C	10.22	0.00	0.00

Point to Point Journey Times By Turn (s) - Junction 1 - (08:00-08:15)

To		A	B	C
From	A	0.00	0.00	1.53
	B	24.25	0.00	0.00
	C	9.42	0.00	0.00

Junctions 8
ARCADY 8 - Roundabout Module
Version: 1.0 (2/24/2010), 2/21/2010 © Caltrans/UTRL, Updated 2010
For details and installation information, program usage and maintenance, contact UTRC, Tel: +661 (213) 344-70756, Email: utrc@utrc.utd.edu, FAX: (714) 261-3241, utrc@utrc.utd.edu
The user of this computer program for his/her failure of using existing program are to be held liable for the consequences of the software.

Filename: Revised Layout Jan 2018, successful, and
 Path: J:\Project\10 - Trusteed of Redding - Harrow Property Link Trust\00 - Advanced Version Revs Junction Design\DefaultModeling\Case 2017
 Report generation date: 10/01/2018 10:17:03

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
A1 - 2018 -P1								
Arm 1	0.73	2.77	0.42	A	0.56	3.47	0.46	A
Arm 2	1.04	3.55	0.52	A	0.54	2.76	0.39	A
Arm 3	0.78	3.07	0.35	A	0.33	4.18	0.11	A
Arm 4	0.09	3.36	0.26	A	1.22	6.37	0.57	A
A1 - 2023 -P1+P2								
Arm 1	0.80	2.50	0.45	A	0.56	3.74	0.49	A
Arm 2	1.24	3.89	0.58	A	1.89	2.85	0.41	A
Arm 3	0.90	5.43	0.24	A	1.33	4.73	0.12	A
Arm 4	0.09	3.44	0.29	A	1.09	6.09	0.53	A
A1 - 2028 -P1+P2								
Arm 1	0.91	3.11	0.48	A	1.37	4.15	0.54	A
Arm 2	1.47	4.23	0.50	A	1.90	3.25	0.45	A
Arm 3	0.95	11.02	0.27	B	0.14	3.57	0.13	A
Arm 4	0.11	3.67	0.30	A	2.00	9.44	0.57	A

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

101 - 2018 -P1, AV, model/schedule: 07:15 - 08:45
 102 - 2018 -P1, AV, model/schedule: 16:15 - 17:45
 103 - 2023 -P1+P2, AV, model/schedule: 07:15 - 08:45
 104 - 2023 -P1+P2, AV, model/schedule: 16:15 - 17:45
 105 - 2028 -P1+P2, AV, model/schedule: 07:15 - 08:45
 106 - 2028 -P1+P2, AV, model/schedule: 16:15 - 17:45

San Josep Avenue 6.2 (347) at 185 (1018) 17:45:00

File summary

Title	Junctions
Location	Advanced AV & High Street Roundabout
Site Number	
Date	03/02/2017
Version	
Status	Final EIR
Version	
Client	Walworth Ventures Park
Job Number	0201110004
Drawn by	Ryan Seaton
Description	

Analysis Options

Vehicle Length (ft)	Do Queue Variations	On-ramp Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	30.00	30.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
ft	mi/h	veh	veh	veh/h	s	-/mi	per/h

(Default Analysis Set) - 2018 -P1, AM

Data Errors and Warnings

No errors or warnings.

Analysis Set Details

Name	Roundabout Capacity Mode	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set ID	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (minutes)	Model Finish Time (minutes)	Model Time Period Length (mins)	Time Segment Length (mins)	Results For Control (How Often)	Single Time Segment Only	Locked	Run automatically	Use Relationship	Relationship
2018 -P1 -AM	2018 -P1	AM		CNC (C-1)	07:15	08:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(1-18) (1)	Roundabout	1,2,3,4				3.22	A

Junction Network Options

Driving Side	Lighting
Left	Normal/Unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	AV1 (AV)	
2	2	AV1 (SB)	
3	3	High Street	
4	4	San Josep	

Capacity Options

Arm	Minimum Capacity (PCU/h)	Maximum Capacity (PCU/h)	Assume Flat from Profile	Initial Queue (PCU)
1	0.00	32888.00		0.00
2	0.00	32888.00		0.00
3	0.00	32888.00		0.00
4	0.00	32888.00		0.00

Roundabout Geometry

Arm	V - Approach road half width (m)	E - Entry width (m)	F - Effective flow length (m)	R - Entry radius (m)	D - Circled circle diameter (m)	P4 - Conflict (entry) angle (deg)	Flat Only
1	7.00	7.00	0.00	20.00	36.00	0.00	
2	7.00	7.00	0.00	14.00	36.00	0.00	
3	3.42	4.50	9.00	11.00	36.00	0.00	
4	3.52	7.00	12.70	11.00	36.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Entry slope and Intercept (entry)	On-ramp slope	On-ramp Intercept (PCU/h)	Final Slope	Final Intercept (PCU/h)
1		100.00000	100.00000	0.010	2341.100

Results

Results Summary for whole modelled period

Arm	Max PCU	Max Delay (s)	Max LOS	Average Delay (s)	Total Delay (veh-h)	Average Queue Length (veh)	Queue Delay (veh-h)	Queueing Delay (veh-h)	Incidents (per 1000 veh-h)	Incidents per 1000 veh-h
1	0.00	0.77	A	19.8	198.0	0.00	0.00	0.00	0.00	0.00
2	0.00	0.55	A	15.3	153.0	0.00	0.00	0.00	0.00	0.00
3	0.00	0.57	A	14.9	149.0	0.00	0.00	0.00	0.00	0.00
4	0.00	0.57	A	14.9	149.0	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.57	A	14.9	149.0	0.00	0.00	0.00	0.00	0.00

(Default Analysis Set) - 2018 - P1, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Analysis Set
Analysis Set	Analysis Set	Analysis Set

Demand Set Details

Arm	Mode	Flow	Direction	Volume	Time	Start	End	Priority	Queue	Capacity	Vehicle
2018-P1-PM	Mode	Flow	Direction	Volume	Time	Start	End	Priority	Queue	Capacity	Vehicle

Junction Network

Junctions

Junction	Name	Location	Arm Order	Grade	Design	Control	Control	Control	Control
1	Junction 1	Location	1, 2, 3, 4	Grade	Design	Control	Control	Control	Control

Junction Network Options

Option	Value
Queueing Delay	Value

Arms

Arms

Arm	Mode	Direction
1	Mode	Direction

Capacity Options

Option	Value
Capacity	Value

Item	Value	Unit
1	Value	Unit
2	Value	Unit
3	Value	Unit
4	Value	Unit

The above table shows the results of the analysis and adjustments.

Traffic Flows

Demand Set Data Options

Option	Value
Option	Value

Entry Flows

General Flows Data

Flow	Value
Flow	Value

Turning Proportions

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

Flow	Count	Proportion
Flow	Count	Proportion

Turning Proportions (Veh/h) - Junction 1 (for whole period)

Flow	Count	Proportion
Flow	Count	Proportion

Vehicle Mix

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

Flow	Value
Flow	Value

Heavy Vehicle Percentages - Junction 1 (for whole period)

Flow	Value
Flow	Value

1	0.00	22228.00		0.00
4	0.00	22228.00		0.00

Roundabout Geometry

Arm	V - Approach road width (m)	E - Entry width (m)	L - Effective lane length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Overlap
1	7.00	7.00	0.00	20.00	34.00	0.00	
2	7.00	7.00	0.00	14.00	31.00	0.00	
3	3.40	4.50	6.00	12.00	31.00	0.00	
4	3.50	7.50	12.00	10.00	32.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Entered slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final intercept (PCU/hr)
1		parked	not entered	0.812	2541.706
2		parked	not entered	0.706	2297.306
3		parked	not entered	0.600	1360.500
4		parked	not entered	0.697	1784.397

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Day	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from 100/100/100 counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Day
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	100/100/100	3.00				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (veh/hr)	Flow Scaling Factor (%)
1	CVC HOUR	<input checked="" type="checkbox"/>	0.00	100.000
2	CVC HOUR	<input checked="" type="checkbox"/>	70.00	100.000
3	CVC HOUR	<input checked="" type="checkbox"/>	20.00	100.000
4	CVC HOUR	<input checked="" type="checkbox"/>	695.00	100.000

Turning Proportions

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

From	To			
	1	2	3	4
1	0.00	745.00	30.00	28.00
2	695.00	0.00	70.00	36.00
3	25.00	50.00	0.00	12.00
4	222.00	120.00	111.00	0.00

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

From	To			
	1	2	3	4
1	0.00	0.82	0.16	0.02
2	0.66	0.00	0.29	0.05
3	0.24	0.50	0.00	0.23
4	0.35	0.43	0.17	0.05

Vehicle Mix

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

From	To			
	1	2	3	4
1	1.000	1.000	1.000	1.000
2	1.000	1.000	1.000	1.000
3	1.000	1.000	1.000	1.000
4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

From	To			
	1	2	3	4
1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max WPC	Max Delay (s)	Max Queue (veh)	Max LOS	Average Demand (veh/hr)	Total Junction Arrivals (veh)	Total Queueing Delay (veh-hr)	Average Queueing Delay (s)	Ratio Of Queueing Delay (Veh-min/hr)	Percentage Total Queue (g Delay (veh-hr))	Inclusive Average Queueing Delay (s)
1	0.42	2.47	0.00	A	745.00	1174.01	55.12	2.97	0.61	86.72	2.97
2	0.22	2.15	0.04	A	670.37	1247.45	45.41	2.89	0.39	49.42	2.89
3	0.11	4.15	0.15	A	62.68	1259.88	6.55	4.15	0.10	4.56	4.15
4	0.57	0.67	1.22	A	692.52	674.03	72.09	5.20	0.25	76.92	5.20

(Default Analysis Set) - 2023 -P1+P2, AM

Data Errors and Warnings

No errors or warnings.

Analysis Set Details

Name	Roundabout Capacity Method	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Network Performance Scaling Factors
Default Analysis Set	ARCADY		<input checked="" type="checkbox"/>				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (hh:mm)	Model Finish Time (hh:mm)	Model Time Period Length (min)	Time Segment Length (hr)	Reset For Control Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2023 -P1+P2 -AM	2023 -P1+P2	AM		CVC HOUR	07:00	09:45	60	15				<input checked="" type="checkbox"/>		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Circle Separated	Large Roundabout	Co-Geometric Circle	Junct on Delay (s)	Junction LOS
1	Junction1	Roundabout	1,2,3,4				2.88	A

Junction Network Options

Driving Side	Lighting
Left	Normal/over

Arms

Arm	Arm	Turn	Description
1	1	Left	1
2	2	Left	2
3	3	Right	3
4	4	Through	4

Capacity Options

Arm	Maximal Capacity (veh/hr)	Maximal Capacity (ped/hr)	Maximal Capacity (bicy/hr)	Maximal Capacity (Total)
1	2,000	20,000	10,000	32,000
2	2,000	20,000	10,000	32,000
3	2,000	10,000	10,000	22,000
4	2,000	10,000	10,000	22,000

Roundabout Geometry

Arm	Approach road width (m)	Circle width (m)	Circle flow width (m)	Circle flow width (m)	Circle flow width (m)	Circle flow width (m)	Circle flow width (m)	Circle flow width (m)	Circle flow width (m)
1	7.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
2	7.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
3	7.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
4	7.00	7.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00

Slope / Intercept / Capacity

Arm	Intercept (veh)	Slope (veh/veh)	Capacity (veh/hr)
1	0.00	0.00	20,000
2	0.00	0.00	20,000
3	0.00	0.00	20,000
4	0.00	0.00	20,000

Roundabout Slope and Intercept used in model

Arm	Intercept (veh)	Slope (veh/veh)	Capacity (veh/hr)	Intercept (veh)	Slope (veh/veh)	Capacity (veh/hr)
1	0.00	0.00	20,000	0.00	0.00	20,000
2	0.00	0.00	20,000	0.00	0.00	20,000
3	0.00	0.00	20,000	0.00	0.00	20,000
4	0.00	0.00	20,000	0.00	0.00	20,000

The default values are shown in bold and can be overridden by the user.

Traffic Flows

Arm	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Demand Set Data Options

Arm	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix	Vehicle Mix
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Entry Flows

Arm	Peak Type	Max Turnp Counts	Average Demand From (Veh/hr)	Flow Counts (veh/hr)
1	0	10,000	10,000	10,000
2	0	10,000	10,000	10,000
3	0	10,000	10,000	10,000
4	0	10,000	10,000	10,000

General Flows Data

Turning Proportions

Arm	Peak Type	Max Turnp Counts	Average Demand From (Veh/hr)	Flow Counts (veh/hr)
1	0	10,000	10,000	10,000
2	0	10,000	10,000	10,000
3	0	10,000	10,000	10,000
4	0	10,000	10,000	10,000

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

Vehicle Mix

Time	1	2	3	4
1	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00

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

Time	1	2	3	4
1	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00

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

Time	1	2	3	4
1	1.000	1.000	1.000	1.000
2	1.000	1.000	1.000	1.000
3	1.000	1.000	1.000	1.000
4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

Time	1	2	3	4
1	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00

Results

Results Summary for whole modelled period

Arm	PCU	Flow	Capacity	Utilisation	Queue	Delay	Stoppage	Throughput	Throughput
1	0.00	10,000	20,000	0.50	0.00	0.00	0.00	10,000	10,000
2	0.00	10,000	20,000	0.50	0.00	0.00	0.00	10,000	10,000
3	0.00	10,000	20,000	0.50	0.00	0.00	0.00	10,000	10,000
4	0.00	10,000	20,000	0.50	0.00	0.00	0.00	10,000	10,000

(Default Analysis Set) - 2023 -P1+P2, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow
Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set

Demand Set Details

Name	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow	Design Flow
Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set

2020 - P1+P2 PM	2020 - P1+P2 PM	PM	C/S	10.15	17.45	00	-9			✓
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Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Circle Separation	Large Roundabout	Dr Geometric Delay	Junction Delay (s)	Junction LOS
1	Junction	Roundabout	1,2,3,4				6.72	A

Junction Network Options

Driving Side	Lighting
Left	Normal/None

Arms

Arms

Arm	Arm	Name	Description
1	1	A41 RN	
2	2	A41 RB	
3	3	High Street	
4	4	St. Andrews	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Full Start Profile	Initial Queue (VEH)
1	2.00	9999.00		0.00
2	2.00	9999.00		0.00
3	2.00	9999.00		0.00
4	2.00	9999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	F - Effective lane length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PH - Conflict (entry) angle (deg)	Exit Only
1	7.00	7.00	0.00	20.00	22.00	0.00	
2	7.00	7.00	0.00	14.00	22.00	0.00	
3	2x0	4.00	0.00	12.00	22.00	1.00	
4	2.50	7.00	12.10	18.00	22.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Entered slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final intercept (PCU/hr)
1	(calculated)	(calculated)	(calculated)	0.792	2847.790
2	(calculated)	(calculated)	(calculated)	0.790	2287.245
3	(calculated)	(calculated)	(calculated)	0.000	1300.593
4	(calculated)	(calculated)	(calculated)	0.000	1786.267

The slope and intercept values above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Varies Over Lane	PCU Factor for entry (PCU)	Default Turning Proportions	Estimate from entry lane course	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
	✓	✓	✓	R Percentage	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (veh/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	04.00	100.000
2	ONE HOUR	✓	750.00	100.000
3	ONE HOUR	✓	31.00	100.000
4	ONE HOUR	✓	680.00	100.000

Turning Proportions

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

From	To			
	1	2	3	4
1	0.000	777.000	50.000	22.000
2	875.000	0.000	72.000	41.000
3	24.000	11.000	1.000	13.000
4	206.000	300.000	117.000	0.000

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

From	To			
	1	2	3	4
1	0.000	0.997	0.025	0.000
2	0.960	0.000	0.026	0.014
3	0.31	0.35	0.03	0.14
4	0.34	0.49	0.17	0.00

Vehicle Mix

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

From	To			
	1	2	3	4
1	1.000	1.000	1.000	1.000
2	1.000	1.000	1.000	1.000
3	1.000	1.000	1.000	1.000
4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

From	To			
	1	2	3	4
1	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max VPC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (veh/hr)	Total Junction Arrivals (Veh)	Total Queuing Delay (Veh-hr)	Average Queuing Delay (s)	Ratio Of Queuing Delay (Veh-hr/veh)	Inclusive Total Queuing Delay (veh-hr)	Inclusive Average Queuing Delay (s)
1	0.49	3.74	0.80	A	774.07	1151.70	60.74	51.4	0.07	60.74	51.4
2	0.41	2.85	0.80	A	720.75	1220.15	40.30	2.59	0.32	40.37	2.59
3	0.12	4.71	0.15	A	85.00	120.23	8.85	4.34	0.10	5.85	4.24
4	0.65	1.69	1.69	A	530.24	648.91	66.80	5.93	1.14	84.81	5.94

(Default Analysis Set) - 2028 -P1+P2, AM

Data Errors and Warnings

The group is empty.

Analysis Set Details

Name	Source	Description	Report	Link Specific	Link Specific	Link Specific	Link Specific	Link Specific	Link Specific
Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set	Analysis Set

Demand Set Details

Name	Source	Description	Time	Time	Time	Time	Time	Time	Time
Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set	Demand Set

Junction Network

Junctions

Junction	Name	Location	Time	Time	Time	Time	Time	Time	Time
Junction	Junction	Junction	Junction	Junction	Junction	Junction	Junction	Junction	Junction

Junction Network Options

Option	Value
Option	Value

Arms

Arms

Arm	Order	Name	Description
Arm	Order	Name	Description

Capacity Options

Arm	Maximum Capacity (PCU)	Maximum Capacity (PCU)	Maximum Capacity (PCU)	Maximum Capacity (PCU)
Arm	Maximum Capacity (PCU)	Maximum Capacity (PCU)	Maximum Capacity (PCU)	Maximum Capacity (PCU)

Roundabout Geometry

Arm	Approach Road Width	Approach Road Width	Approach Road Width	Approach Road Width
Arm	Approach Road Width	Approach Road Width	Approach Road Width	Approach Road Width

Slope / Intercept / Capacity

Arm	Slope	Intercept	Capacity
Arm	Slope	Intercept	Capacity

Roundabout Slope and Intercept used in model

The slope and intercept values shown in this table are for the 'default' model.

Arm	Slope	Intercept	Capacity
Arm	Slope	Intercept	Capacity

Traffic Flows

Demand Set Data Options

Option	Description	Value
Option	Description	Value

Entry Flows

General Flows Data

Arm	Flow Type	Flow Type	Flow Type	Flow Type
Arm	Flow Type	Flow Type	Flow Type	Flow Type

Turning Proportions

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

From	To	1	2	3	4
From	To	1	2	3	4

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

From	To	1	2	3	4
From	To	1	2	3	4

Vehicle Mix

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

From	To	1	2	3	4
From	To	1	2	3	4

Heavy Vehicle Percentages - Junction 1 (for whole period)

From	To	1	2	3	4
From	To	1	2	3	4

Results

Results Summary for whole modelled period

Arm	Dist. HPC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queuing Delay (Veh*hr)	Average Queue Length (s)	Ratio Of Queuing Delay (Veh*hr/Veh)	Inclusive Total Queuing Delay (Veh*hr)	Inclusive Average Queuing Delay (s)
1	0.43	9.11	0.93	A	897.43	1346.14	21.15	2.72	0.03	0.15	2.72
2	0.22	4.25	1.47	A	1041.90	1582.24	22.34	2.17	1.00	32.22	3.47
3	0.27	11.00	0.52	B	162.42	242.60	32.69	6.09	0.36	32.52	8.22
4	0.10	3.57	0.11	A	22.80	140.40	7.04	2.59	0.09	7.00	3.22

(Default Analysis Set) - 2028 -P1+P2, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Included in Report	User Specific Demand Set (s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factor
Default Analysis Set	NRCAFV		<input checked="" type="checkbox"/>				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (H:MM)	Model End Time (H:MM)	Code Time Period Length (min)	Time Segment Length (min)	Scale For Control Hour Only	Single Time Segment Only	Locked	Run Automatically	Job Relationship	Relationship
2028 P1+P2 PM	2028 P1+P2	PM		CHE HCUR	12.15	17.45	30	15				<input checked="" type="checkbox"/>		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Co-Geometric Entry	Junction Date of	Queue LOS
1	Griffin	Roundabout	1,2,3,4				2025	A

Junction Network Options

Entry Queue	Lighting
1st	None (see notes)

Arms

Arm	Arm	Name	Date of Start
1	1	Art HW	
2	2	Art SE	
3	3	High Street	
4	4	St. Andrew	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Full Street Profile	Initial Queue (PCU)
1	0.20	20229.20		5.00
2	0.20	19999.20		5.00
3	0.20	28899.20		5.00
4	0.20	28899.20		5.00

Roundabout Geometry

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Arm	V-Approach road left-Width (m)	E-Entry width (m)	L-Effective flare length (m)	R-Entry radius (m)	D-Inscribed circle diameter (m)	PH-Geometry angle (deg)	Ext. Only
1	7.00	7.00	0.00	20.00	28.00	0.00	
2	7.00	7.00	0.00	20.00	28.00	0.00	
3	3.40	4.90	3.22	19.20	28.00	0.00	
4	3.90	7.00	12.70	19.20	28.00	0.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Slope against intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final intercept (PCU/hr)
1		0.000	0.000	0.012	2041.796
2		0.000	0.000	0.006	2257.546
3		0.000	0.000	0.005	1282.560
4		0.000	0.000	0.007	1754.297

The slope and intercept shown above include any corrections and adjustments

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for all PCU	Default Turning Proportions	Estimate from empirical counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	100 Percentage	2.00				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand (Veh)	Flow Scaling Factor (%)
1	CHE HCUR	<input checked="" type="checkbox"/>	824.00	100.000
2	CHE HCUR	<input checked="" type="checkbox"/>	844.00	100.000
3	CHE HCUR	<input checked="" type="checkbox"/>	86.00	100.000
4	CHE HCUR	<input checked="" type="checkbox"/>	721.00	100.000

Turning Proportions

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

		To			
		1	2	3	4
From	1	0.00	892.00	90.00	25.00
	2	705.00	0.00	72.00	47.00
	3	23.00	25.00	2.00	15.00
	4	240.00	242.00	118.00	0.00

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

		To			
		1	2	3	4
From	1	0.00	0.12	0.04	0.14
	2	0.86	0.00	0.08	0.22
	3	0.30	0.24	0.00	0.15
	4	0.34	0.41	0.17	0.00

Vehicle Mix

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

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000

From 1	1,000	1,000	1,000
From 4	1,000	1,000	1,000

Heavy Vehicle Percentages - Junction 1 (for whole period)

From 1	1	2	4
From 2	20	20	20
From 3	20	20	20
From 4	20	20	20

Results

Results Summary for whole modelled period

Link	Total Demand (Veh)	Total Demand (Veh)	Total Demand (Veh)	Total Demand (Veh)	Total Demand (Veh)	Total Demand (Veh)	Average Delay (Veh)	Size of Queue (Veh)	Link or Total Delay (Veh)	Link or Total Delay (Veh)
1	415	17	432	271	77	348	3.60	71	71	1.00
2	426	200	626	198	428	626	2.58	204	204	1.70
3	415	20	435	198	237	435	2.11	87	87	4.20
4	507	27	534	302	232	534	1.78	93	93	6.00



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Buckingham - Steeple Claydon - Bicester

Logbook Table

The information on this timetable is expected to be valid until at least 21st March 2018. Where we know of variations, before or after this date, then we show these at the top of each affected column in the table.

Direction of stops: where shown (eg: W-bound), this is the compass direction towards which the bus is pointing when it stops.

Mondays to Fridays

Buckingham, High Street (S-bound)	0850	0907	1402	1450
Buckingham, Town (Stop D)		0911	1411	
Buckingham, Town (Stop D)		0920	1424	1454
Patbury, Main Street (W-bound)		0944	1419	1454
Steeple Claydon, opp The Fountain	0959	0952	1427	1457
Causton, opp Corporation Hall	1009	0956	1430	1454
Cherryton, opp Beaumont Ground	1039	1004	1436	1514
Twyford, off The Green	1042	1008	1441	1514
Rowden, Poundon Turn (S-bound)	1047	1004	1443	1514
Twyford, off The Green	1050	1011	1445	1522
LEWIS, opp The Bull Inn	1059	1020	1454	1524
Station, Aylesbury, opp Glen Close	1030			
Bicester, High Street (W-bound)	1038	1028	1501	1541
Bicester, Town, George V (W-bound)	1048	1032	1504	1544

Sundays

Buckingham, High Street (S-bound)	0850	0907	1402	1450
Buckingham, Town (Stop D)		0911	1411	
Buckingham, Town (Stop D)		0920	1424	1454
Patbury, Main Street (W-bound)		0944	1419	1454
Steeple Claydon, opp The Fountain	0959	0952	1427	1457
Causton, opp Corporation Hall	1009	0956	1430	1454
Cherryton, opp Beaumont Ground	1039	1004	1436	1514
Twyford, off The Green	1042	1008	1441	1514
Rowden, Poundon Turn (S-bound)	1047	1004	1443	1514
Twyford, off The Green	1050	1011	1445	1522
LEWIS, opp The Bull Inn	1059	1020	1454	1524
Station, Aylesbury, opp Glen Close	1030			
Bicester, High Street (W-bound)	1038	1028	1501	1541
Bicester, Town, George V (W-bound)	1048	1032	1504	1544



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Bicester - Steeple Claydon - Buckingham

Logbook Table

The information on this timetable is expected to be valid until at least 21st March 2018. Where we know of variations, before or after this date, then we show these at the top of each affected column in the table.

Direction of stops: where shown (eg: W-bound), this is the compass direction towards which the bus is pointing when it stops.

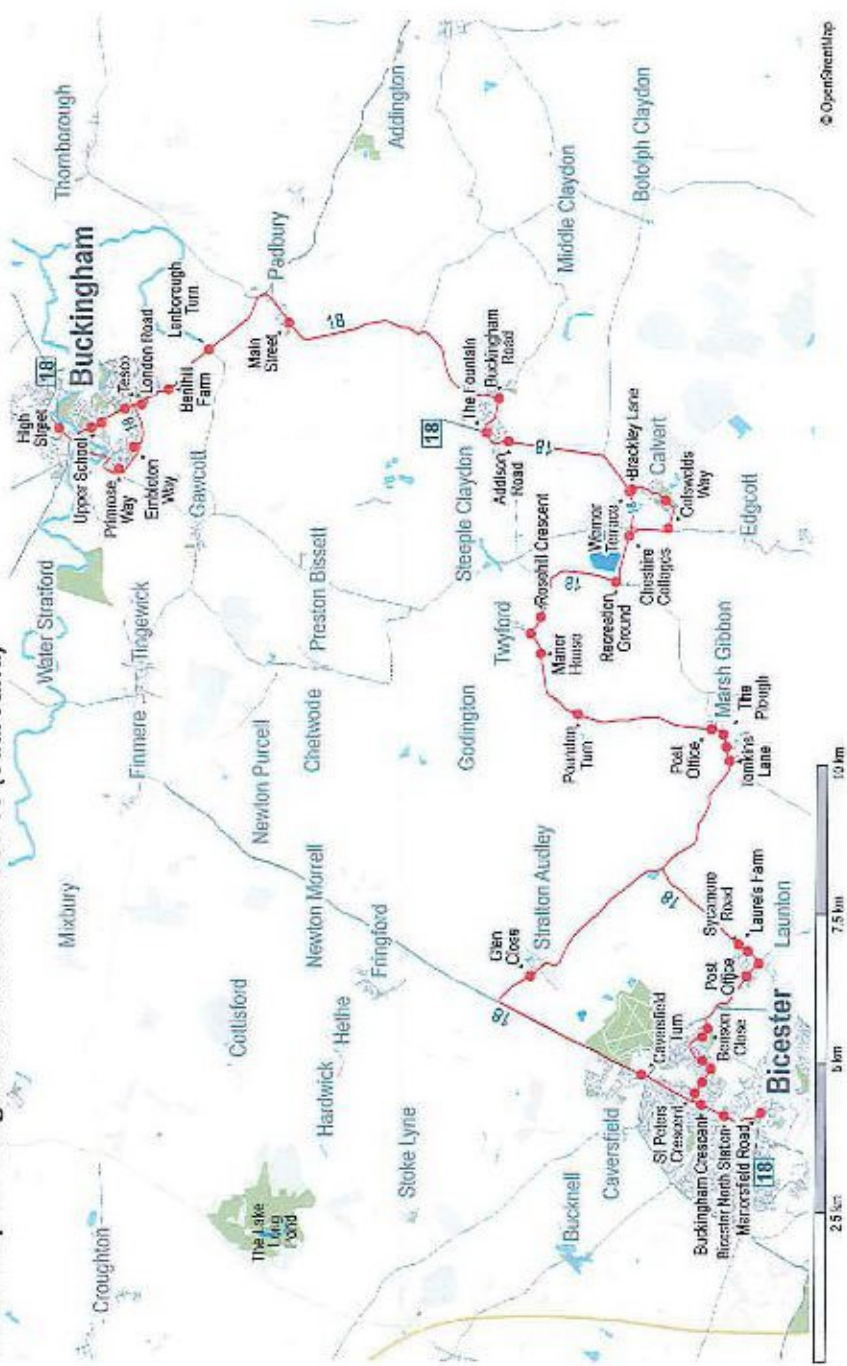
Mondays to Fridays

Bicester, Town, George V (W-bound)	0835	0935	1310	1350	1400
Buckingham, opp Beaumont Hall (W-bound)	0839	1039	1310	1350	1400
LEWIS, opp The Bull Inn	0845	1045	1300	1310	
Patbury, Main Street (W-bound)			1319		
Steeple Claydon, opp The Fountain	0852	1052	1327	1407	1417
Causton, Poundon Turn (W-bound)	0855	1055	1330	1410	1420
Twyford, opp The Green	0857	1057	1332	1412	1422
Cherryton, opp Beaumont Ground	0903	1100	1338	1418	1428
Rowden, opp Corporation Hall	0905	1105	1340	1420	1430
Steeple Claydon, opp The Fountain	0911	1111	1345	1425	1435
Steeple Claydon, opp The Fountain					1444
Patbury, Main Street (W-bound)	0918	1118	1350	1430	
Buckingham, Town (Stop D)	0920	1120	1350	1430	
Buckingham, Town, George V (W-bound)	0928	1128	1352	1432	

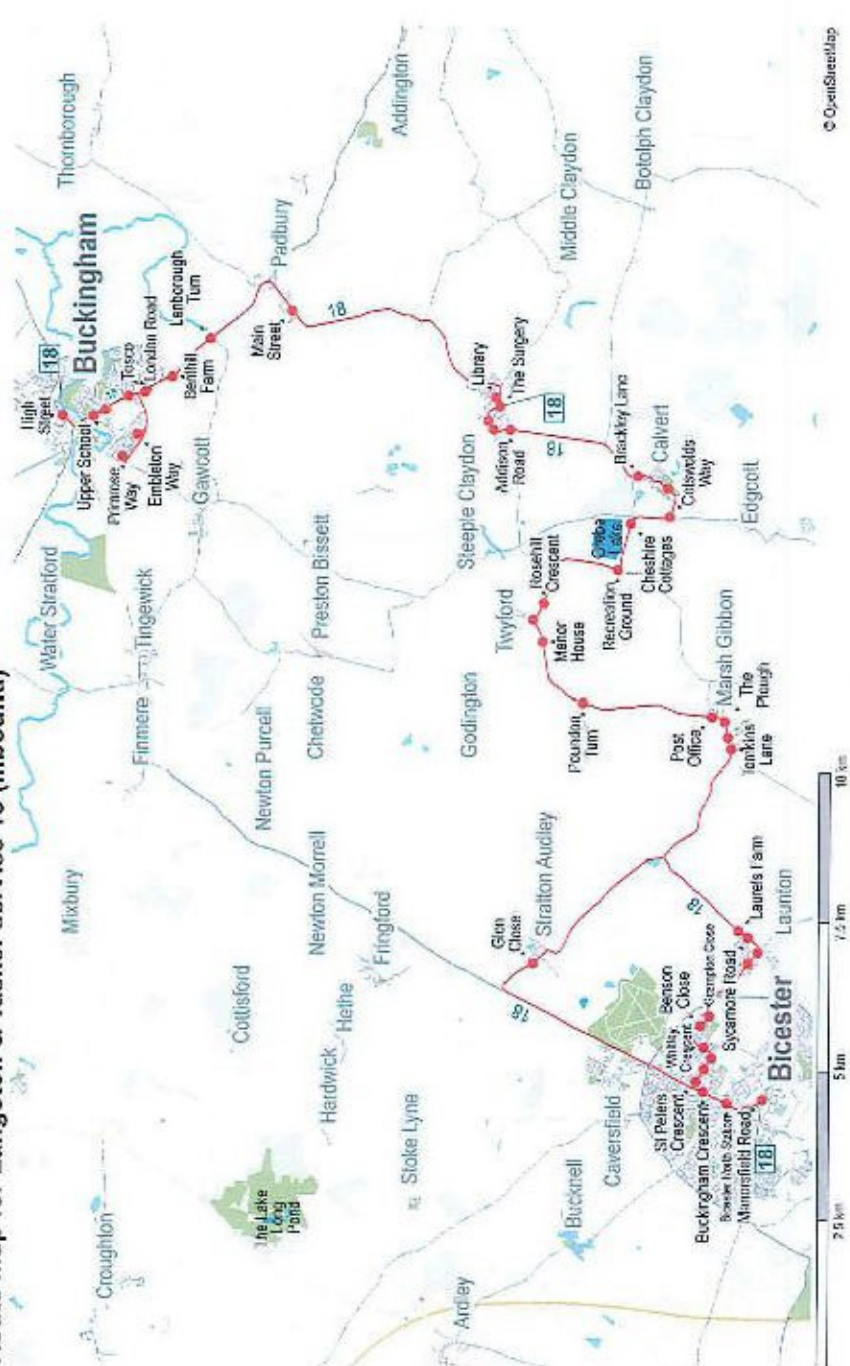
Sundays

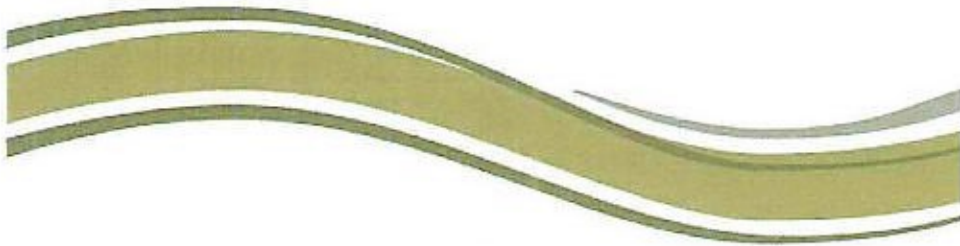
Bicester, Town, George V (W-bound)	0835	0935	1310	1350	1400
Buckingham, opp Beaumont Hall (W-bound)	0839	1039	1310	1350	1400
LEWIS, opp The Bull Inn	0845	1045	1300	1310	
Patbury, Main Street (W-bound)			1319		
Steeple Claydon, opp The Fountain	0852	1052	1327	1407	1417
Causton, Poundon Turn (W-bound)	0855	1055	1330	1410	1420
Twyford, opp The Green	0857	1057	1332	1412	1422
Cherryton, opp Beaumont Ground	0903	1100	1338	1418	1428
Rowden, opp Corporation Hall	0905	1105	1340	1420	1430
Steeple Claydon, opp The Fountain	0911	1111	1345	1425	1435
Steeple Claydon, opp The Fountain					1444
Patbury, Main Street (W-bound)	0918	1118	1350	1430	
Buckingham, Town (Stop D)	0920	1120	1350	1430	
Buckingham, Town, George V (W-bound)	0928	1128	1352	1432	

Route map for Langston & Tasker service 18 (outbound)



Route map for Langston & Tasker service 18 (inbound)





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