
Technical Note

Project No: ITB14224
Project Title: Chalcroft Nursery
Title: Supplementary Information – Access Capacity
Ref: ITB14224-006 TN
Date: 24 July 2020

SECTION 1 Introduction

- 1.1 Landform Bersted Ltd has appointed i-Transport LLP to provide highways and transport advice for the proposed re-development of Chalcroft Nursery. The proposal comprises the modernisation of the existing commercial offering and the provision an additional 1,542 sqm of commercial space (including B1(b), B1(c), B8 and A1 land uses), 20 residential dwellings, landscaping, infrastructure and a new vehicular access.
- 1.2 The site forms a part of the wider 'West of Bersted' Strategic Allocation, which is identified in the Adoption Arun Local Plan 2011 – 2031 (2018) under policy H SP2a (SD3). The whole West of Bersted allocation has been identified as being able to deliver at least 2,500 dwellings over the plan period.
- 1.3 While not a matter for determination as part of the Chalcroft Nursery planning application, the access has been designed to accommodate traffic associated with a limited number of residential dwellings of the wider allocated site. It is envisaged that, in addition to traffic associated with the Chalcroft Nursery application, the access would serve, approximately, a further 210 residential dwellings.
- 1.4 Following initial pre-application engagement with West Sussex County Council (WSCC), in their capacity as the local highway authority, modelling of the site access junction has been undertaken to demonstrate that the access provides residual capacity to accommodate limited access to the wider site and that the proposed Chalcroft Nursery development would not prejudice future access arrangements.

SECTION 2 Assessment Parameters

2.1 Trip Generation - Chalcroft Nursery Development

2.1.1 The trip generation of the proposed Chalcroft Nursery development is detailed in the Transport Statement (ref: *ITB14224-002A*) accompanying the planning application. The forecast network peak hour trip generation of the proposed development is summarised in **Table 2.1**.

Table 2.1: Forecast Trip Generation - Chalcroft Nursery Total Development

Use	Morning Peak Period (08:00-09:00)			Evening Peak Period (17:00-18:00)		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
Residential Development	6	2	8	2	6	8
Nursery and Aquatics Centre	5	2	7	2	3	5
Furniture Outlet	2	1	3	4	4	8
New B1 / B8 Land Uses	9	7	16	4	6	10
New A1 Land Uses	1	0	1	0	1	1
Total Development	23	12	35	12	20	32

Source: ITB14224-002A

2.2 Trip Generation - Potential Future Development

2.2.1 The adopted The Arun Local Plan (2011-2031) was supported by a Transport Study Stage 3 Report prepared by Systra. The report identifies trip rates obtained from the TRICS database to calculate origin and destination trip rates for residential developments during the AM Peak (0800-0900) and PM Peak (1700-1800) hours. A summary of the residential trip rates used in the modelling report are set out in **Table 2.2** below:

Table 2.2: Vehicle Trip Rates from Arun Transport Study Stage 3 Report

Time	Trip Rate (per dwelling)		
	Arrivals	Departures	Two-Way
Residential – Weekday Morning Peak	0.091	0.259	0.350
Residential – Weekday Evening Peak	0.243	0.100	0.343

Source: Arun Transport Study

- 2.2.2 The trip rates set out in Table 2.3 have been used to forecast the number of trips expected to be generated by an additional 210 units, which are summarised in **Table 2.3**.

Table 2.3: Anticipated Trip Generation (210 dwellings)

Time	Trip Generation (210 dwellings)		
	Arrivals	Departures	Two-Way
Residential – Weekday Morning Peak	19	54	73
Residential – Weekday Evening Peak	51	21	72

Source: Consultants' calculations

- 2.2.3 **Table 2.3** demonstrates that an additional 210 units is anticipated to generate 72-73 two-way vehicle movements during the morning and evening peak periods. This equates to on average circa just over one vehicle movement every minute during the busiest periods of the day.

2.3 Vehicular Trip Distribution and Assignment - Residential

Journey Purpose

- 2.3.1 The likely journey purpose for the generated car driver peak hour trips can be identified using the National Travel Survey (NTS) 2019 (*DfT*). The proportion of peak hour trips by journey purpose by car is presented in **Table 2.4**.

Table 2.4: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

Trip Purpose	AM Peak (0800-0900)	PM Peak (1700-1800)
Commuting/Business	37.6%	43.9%
All Other Journey Purposes	62.4%	56.1%
Total	100%	100%

Source: Car driver trip start time by trip purpose (Monday to Friday only): Great Britain, 2014/18, National Travel Survey, DfT, 2019

2.3.2 Some 38% of the total vehicular trips generated by an additional 210 units will be for employment journeys in the morning peak hour period. The remaining 62% of the vehicle trips will be all other purposes, including education, shopping, leisure and personal business trips. In the evening peak hour, 44% of journeys are employment related with other journeys comprising 56% of the total vehicular trips.

2.3.3 For the purpose of this assessment, the analysis has been undertaken on the basis that 44% of the total vehicular trips generated by an additional 210 units will be for employment journeys and the remaining 56% of the vehicle trips will be for all other purposes for both the morning and evening peak hours. This provides a robust estimate because it assumes a greater proportion of non-local journeys.

Trip Distribution

2.3.4 To provide an accurate assessment of the likely distribution of traffic, separate methodologies have been applied to consider the destinations of commuting and business trips to other trip purposes:

- For commuting and business trips, the 2011 National Census Journey to Work statistics (for car drivers) has been used. This dataset identifies existing resident's employment locations and thus existing commuting patterns; and
- For other journey purpose trips, a P/T^2 gravity model has been produced using the population of key urban areas (from the 2011 Census) within a 30-minute drive time of the site (estimated from Google Maps Directions facility).

2.3.5 The two sets of data have then been combined to generate a single set of distribution parameters by destination to inform the trip assignment. The combined employment and other journey purpose destinations are summarised in **Table 2.5**.

Table 2.5: Distribution of Car Drivers

Destination	Percentage of Combined Trips (%)
Bognor Regis	21.1%
North Bersted	18.0%
Aldwick	13.5%
Chichester	10.8%
Littlehampton	4.6%
Pagham	3.8%
Felpham	3.5%
North Mundham	3.3%

Destination	Percentage of Combined Trips (%)
Westergate / Eastergate	3.0%
Ford	2.3%
Westhampnett	1.8%
West Wittering	1.2%
Horsham	1.2%
Other - North	1.1%
Portsmouth	1.0%
Worthing south	1.0%
Havant	1.0%
Southbourne	1.0%
Other	6.8%
Total	100.0%

Source: Consultants' calculations

- 2.3.6 It can be seen from **Table 2.5** that the greatest attractor of combined employment and other trips is Bognor Regis (21%) followed by North Bersted (18%) Aldwick (13%) and Chichester (11%).

Assignment

- 2.3.7 To determine the routing of vehicle trips to these destinations, trips have been assigned to the road network based on the quickest route from the site to the destination location, which is identified using the Google Maps 'Directions' Facility. Within the Directions facility, a start time for journeys of 08:00 has been utilised to reflect peak period traffic conditions.
- 2.3.8 In some cases, a single route option is identified by the assessment. However, for some destinations, the assessment identifies multiple routes. In these cases, development trips have been assigned to the possible routes based upon the journey times identified, with the quickest route assigned a larger number of trips. **Table 2.6** provides a summary of the assignment of development generated trips.

Table 2.6: Summary of Proposed Development Traffic Assignment

Description of Route out of Development Site	% Traffic	Vehicle Movements		
		In	Out	Two-Way
		Morning Peak		
Chalcroft Lane N	62.7%	13	38	51
Chalcroft Lane S	37.3%	8	22	30
Evening Peak				
Chalcroft Lane N	62.7%	36	14	50

Description of Route out of Development Site	% Traffic	Vehicle Movements		
		In	Out	Two-Way
Chalcroft Lane S	37.3%	21	9	30

Source: Consultants' calculations

- 2.3.9 Based on the above, it can be seen that approximately 63% of development traffic will route to/from the north of the access on Chalcroft Lane with the remaining 37% routing to the south.

2.4 Vehicular Trip Distribution and Assignment - Commercial

Commercial Development

- 2.4.1 The vehicle trips associated with the A1 commercial land uses have been distributed to/from the development site in line with the existing travel patterns observed on Chalcroft Lane. An ATC Survey was undertaken on Chalcroft Lane in November 2018. The observed traffic flows and direction of travel on Chalcroft Lane during the peak hours is summarised in **Table 2.7**.

Table 2.7: Summary of Proposed Commercial Development Traffic Distribution and Assignment

Direction of Travel	Morning peak		Evening peak	
	Flow (Vehicles)	Percentage (%)	Flow (Vehicles)	Percentage (%)
Chalcroft Lane Northbound	650	53.7%	593	44.3%
Chalcroft Lane Southbound	560	46.3%	747	55.7%
Two Way	1,210	100.0%	1,340	100.0%

Source: Consultants' calculations

- 2.4.2 The observed traffic flows demonstrate that in the morning peak hour the majority of traffic is travelling northbound on Chalcroft Lane, with approximately 54% of traffic travelling north and 46% travelling south. In the evening peak hour, the majority of traffic is travelling southbound on Chalcroft Lane, with approximately 56% of traffic travelling south and 44% travelling north. It is on this basis that traffic has been distributed from the site access onto the local highway network.
- 2.4.3 **Table 2.8** provides a summary of the assignment of development generated trips from the proposed site access.

Table 2.8: Summary of Proposed Residential Development Traffic Assignment

Description of Route out of Development Site	% Traffic	In	Out	Two-Way
		Morning Peak		
Chalcroft Lane N	53.70%	9	5	14
Chalcroft Lane S	46.30%	8	5	13
Evening Peak				
Chalcroft Lane N	44.30%	4	6	11
Chalcroft Lane S	55.70%	6	7	13

Source: Consultant's Calculations

SECTION 3 Operational Assessment

3.1 Assessment Years

3.1.1 In line with WSCC guidance, capacity assessment of the site access junction has been undertaken for the proposed opening year for the development (2023) and for five years from the submission of the Chalcroft Nursery application (2025). In addition, a 2031 'Local Plan horizon' assessment has also been undertaken.

3.2 Traffic Growth

Committed Development

3.2.1 The assessment has taken into account the cumulative traffic impact of other developments in the vicinity of the site, including:

- Landform Southwest of New Barn Lane – 99 dwellings;
- Church Commissioners land Southeast of New Barn Lane – 50 dwellings;
- Land North of Sefter Road, Pagham - 280 dwellings;
- Land South of Summer Lane & West of Pagham Road Pagham – 400 dwellings;
- Land North of Hook Lane, Pagham – 300 dwellings; and
- Church Barton House Horns Lane, Pagham – 65 dwellings.

3.2.2 As such, a total of 1,194 dwellings have been included within committed development. In addition, a growth factor has been applied to the observed baseline traffic growth which has been derived from TEMPro. The calculated growth rates are summarised in **Table 3.1**.

Table 3.1: Calculated Local Peak Period Growth Rates

Growth Period	Time Period	Growth Rate
2018-2023	AM Peak	1.0255
	PM Peak	1.0203
2018-2025	AM Peak	1.0345
	PM Peak	1.0280
2018-2031	AM Peak	1.0586
	PM Peak	1.0495

Source: TEMPRO and Consultant Calculated

3.3 Junction Capacity Assessment

- 3.3.1 Utilising the parameters set out above and in Section 2 of this TN, Junctions 9 has been used to model the operation of the proposed access junction (as shown in **Drawing ITB14224-GA-001 Rev B**) to provide limited access (approximately 210 additional residential dwellings) to the wider West of Bersted development site at Chalcroft Fields. The modelling outputs are summarised in **Table 3.2** and a copy of the full outputs are provided at **Appendix A**.

Table 3.2: Site Access with Future Development Modelling

	Morning Peak (0800-0900)			Evening Peak (1700-1800)		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
2023 Base with Committed Developments, Proposed Development + 210 Dwellings						
Access	<1	14	0.22	<1	13	0.13
Chalcroft Lane	<1	5	0.10	1	4	0.18
2025 with Committed Developments, Proposed Development + 210 Dwellings						
Access	<1	14	0.22	<1	13	0.13
Chalcroft Lane	<1	5	0.10	1	4	0.18
2031 with Committed Developments, Proposed Development + 210 Dwellings						
Access	<1	14	0.24	<1	14	0.13
Chalcroft Lane	<1	5	0.10	1	4	0.19

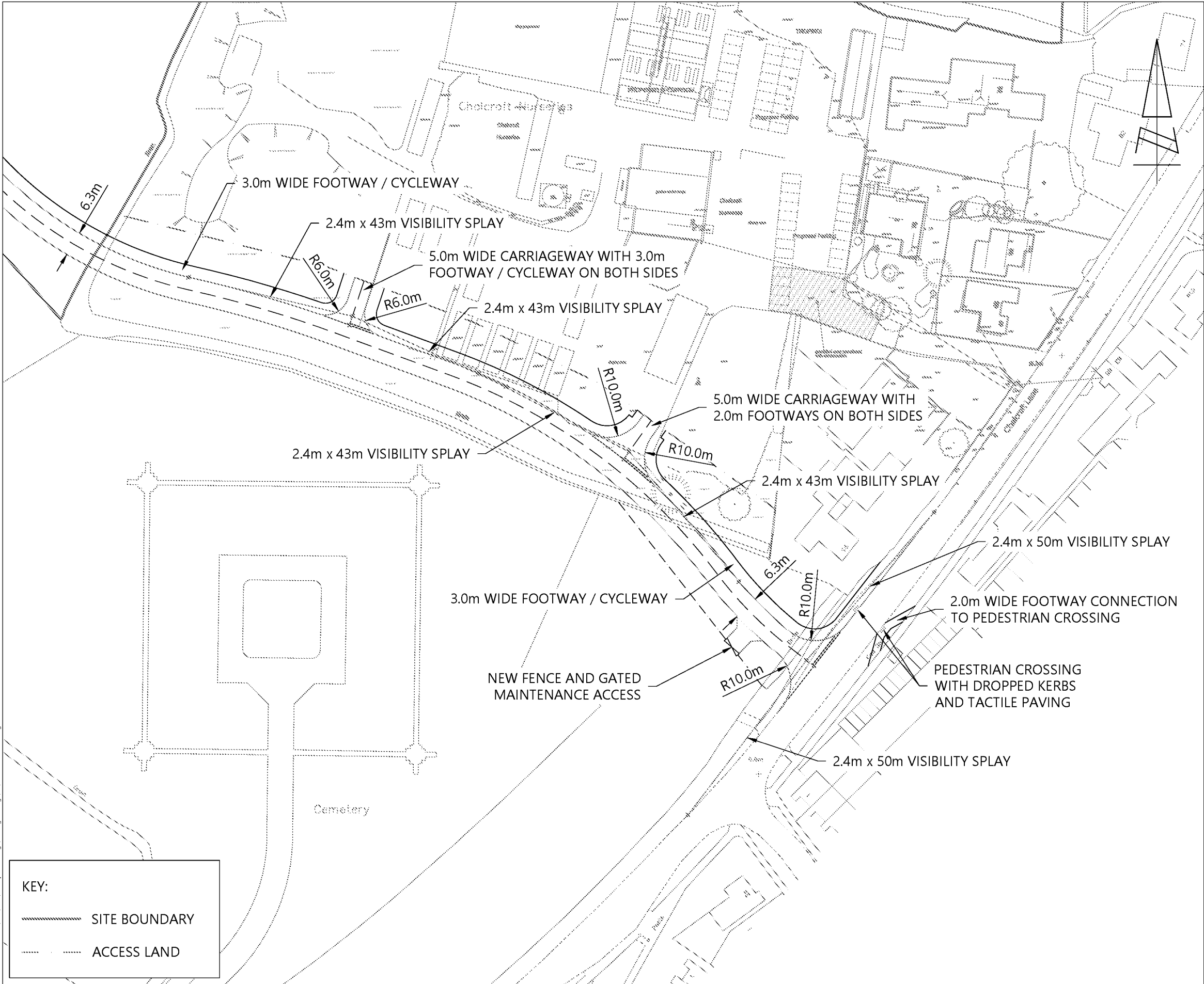
Source: Junctions 9

- 3.3.2 The results demonstrate that the proposed access will operate well within capacity in all scenarios, with little queuing or delay on any arm, should it provide access to a limited number of properties associated with the Chalcroft Fields element of the wider West of Bersted strategic housing allocation SD3.
- 3.3.3 On this basis, it is demonstrated that the proposed access arrangements associated with the Chalcroft Nursery planning application will not prejudice the delivery of the future development.

SECTION 4 Summary

- 4.1 Landform Bersted Ltd has appointed i-Transport LLP to provide highways and transport advice for the proposed re-development of Chalcroft Nursery. The proposal comprises the modernisation of the existing commercial offering and the provision an additional 1,542 sqm of commercial space (including B1(b), B1(c), B8 and A1 land uses), 20 residential dwellings, landscaping, infrastructure and a new vehicular access.
- 4.2 The site forms a part of the wider 'West of Bersted' Strategic Allocation, which is identified in the Adoption Arun Local Plan 2011 – 2031 (2018) under policy H SP2a (SD3). The whole West of Bersted allocation has been identified as being able to deliver at least 2,500 dwellings over the plan period.
- 4.3 While not a matter for determination as part of the Chalcroft Nursery planning application, the access has been designed to accommodate traffic associated with a limited number of residential dwellings of the wider allocated site. It is envisaged that, in addition to traffic associated with the Chalcroft Nursery application, the access would serve approximately 210 additional residential dwellings.
- 4.4 Junction capacity modelling of the proposed access arrangement has been undertaken to demonstrate that the proposed Chalcroft Nursery development would not prejudice the delivery of an additional limited number of dwellings via the access. The assessment includes all traffic associated with the proposed Chalcroft Nursery development in addition to the forecast traffic associated with an additional 210 units; the latter has been calculated using trip rates contained within the Arun Transport Study.
- 4.5 Movements to and from Chalcroft Lane have been assigned using Census data and a Gravity Model. The traffic impact of 1,194 consented residential dwellings across the wider area has been accounted for within the assessment, in addition to background traffic growth derived through TEMPro.
- 4.6 The operational capacity of the junction has been modelled using Junctions 9 software. The exercise demonstrates that the access would operate well within capacity during all assessment scenarios, with little queuing or delay to vehicles using Chalcroft Lane.
- 4.7 On this basis, it has been demonstrated that the proposed access arrangements associated with the Chalcroft Nursery planning application do not prejudice the future delivery of a limited number of additional residential dwellings via the access.

DRAWINGS



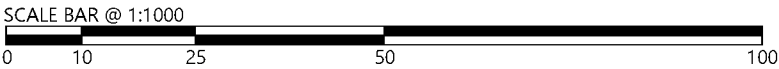
KEY:

SITE BOUNDARY

ACCESS LAND

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. LICENCE No. 100044286. © CROWN COPYRIGHT RESERVED.

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B	22.07.20	JD	ACCESS ARRANGEMENT AMENDED	DS	DS
A	16.07.20	JD	ACCESS ARRANGEMENT AMENDED	DS	DS
REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS:			FOR INFORMATION		
i-Transport Grove House, Lutyens Close, Chineham Basingstoke, Hampshire, RG24 8AG Tel: 01256 338640 www.i-transport.co.uk					
TITLE: SITE ACCESS ARRANGEMENT					
PROJECT: LAND WEST OF BERSTED					
CLIENT: LANDFORM ESTATES					
DRAWN: JD		CHECKED: IN		APPROVED: DS	
PROJECT No: ITB14224		SCALE @ A3: 1:1000		DATE: 21.04.20	
DRAWING No: ITB14224-GA-001				REV: B	

APPENDIX A. JUNCTIONS 9 OUTPUTS

2023 With Development + 210 Dwellings, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D13	2023 With Development + 210 Dwellings	AM	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	713	100.000
B		✓	67	100.000
C		✓	617	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	17	696
	B	26	0	41
	C	592	25	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.22	13.92	0.3	E
C-AB	0.10	4.56	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	50	418	0.121	50	0.1	9.756	A
C-AB	41	832	0.049	40	0.1	4.547	A
C-A	424			424			
A-B	13			13			
A-C	524			524			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	60	383	0.157	60	0.2	11.134	E
C-AB	58	875	0.066	57	0.1	4.399	A
C-A	497			497			
A-B	15			15			
A-C	626			626			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	74	332	0.222	73	0.3	13.881	E
C-AB	90	939	0.096	90	0.2	4.236	A
C-A	589			589			
A-B	19			19			
A-C	766			766			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	74	332	0.222	74	0.3	13.924	E
C-AB	91	940	0.096	91	0.2	4.244	A
C-A	589			589			
A-B	19			19			
A-C	766			766			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	60	383	0.157	61	0.2	11.175	B
C-AB	58	876	0.066	58	0.1	4.413	A
C-A	497			497			
A-B	15			15			
A-C	626			626			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	50	418	0.121	51	0.1	9.797	A
C-AB	41	832	0.049	41	0.1	4.556	A
C-A	424			424			
A-B	13			13			
A-C	524			524			

2023 With Development + 210 Dwellings, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.72	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D14	2023 With Development + 210 Dwellings	PM	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	650	100.000
B		✓	37	100.000
C		✓	827	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
From		A	B	C
	A	0	27	623
	B	16	0	21
	C	787	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	0	2
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.13	13.21	0.1	E
C-AB	0.18	4.17	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	28	406	0.069	28	0.1	9.505	A
C-AB	81	946	0.085	80	0.2	4.156	A
C-A	542			542			
A-B	20			20			
A-C	469			469			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	368	0.090	33	0.1	10.732	E
C-AB	120	1013	0.118	119	0.3	4.031	A
C-A	624			624			
A-B	24			24			
A-C	560			560			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	313	0.130	41	0.1	13.183	E
C-AB	202	1111	0.182	201	0.6	3.960	A
C-A	709			709			
A-B	30			30			
A-C	686			686			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	313	0.130	41	0.1	13.210	B
C-AB	203	1112	0.182	203	0.6	3.974	A
C-A	708			708			
A-B	30			30			
A-C	686			686			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	368	0.090	33	0.1	10.758	B
C-AB	121	1014	0.119	122	0.3	4.047	A
C-A	623			623			
A-B	24			24			
A-C	560			560			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	28	406	0.069	28	0.1	9.527	A
C-AB	81	946	0.086	82	0.2	4.169	A
C-A	541			541			
A-B	20			20			
A-C	469			469			

2025 With Development + 210 Dwellings, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D15	2025 With Development + 210 Dwellings	AM	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	718	100.000
B		✓	67	100.000
C		✓	622	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	17	701
	B	26	0	41
	C	597	25	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.22	14.04	0.3	E
C-AB	0.10	4.55	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	50	417	0.121	50	0.1	9.791	A
C-AB	41	834	0.049	41	0.1	4.537	A
C-A	427			427			
A-B	13			13			
A-C	528			528			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	60	382	0.158	60	0.2	11.190	E
C-AB	58	878	0.066	58	0.1	4.390	A
C-A	501			501			
A-B	15			15			
A-C	630			630			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	74	330	0.223	73	0.3	13.993	E
C-AB	91	943	0.097	91	0.2	4.227	A
C-A	593			593			
A-B	19			19			
A-C	772			772			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	74	330	0.223	74	0.3	14.037	E
C-AB	92	943	0.097	92	0.2	4.233	A
C-A	593			593			
A-B	19			19			
A-C	772			772			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	60	381	0.158	61	0.2	11.232	B
C-AB	58	878	0.066	59	0.1	4.403	A
C-A	501			501			
A-B	15			15			
A-C	630			630			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	50	417	0.121	51	0.1	9.832	A
C-AB	41	834	0.049	41	0.1	4.548	A
C-A	427			427			
A-B	13			13			
A-C	528			528			

2025 With Development + 210 Dwellings, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.72	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D16	2025 With Development + 210 Dwellings	PM	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	655	100.000
B		✓	37	100.000
C		✓	833	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	27	628
	B	16	0	21
	C	793	40	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.13	13.32	0.1	E
C-AB	0.18	4.16	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	28	405	0.069	28	0.1	9.540	A
C-AB	81	948	0.086	81	0.2	4.147	A
C-A	546			546			
A-B	20			20			
A-C	473			473			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	367	0.091	33	0.1	10.789	E
C-AB	121	1016	0.119	121	0.3	4.022	A
C-A	628			628			
A-B	24			24			
A-C	565			565			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	311	0.131	41	0.1	13.297	E
C-AB	205	1115	0.184	203	0.6	3.956	A
C-A	712			712			
A-B	30			30			
A-C	691			691			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	311	0.131	41	0.1	13.324	E
C-AB	206	1116	0.184	205	0.6	3.966	A
C-A	712			712			
A-B	30			30			
A-C	691			691			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	366	0.091	33	0.1	10.816	B
C-AB	122	1017	0.120	123	0.3	4.038	A
C-A	627			627			
A-B	24			24			
A-C	565			565			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	28	404	0.069	28	0.1	9.565	A
C-AB	82	949	0.086	82	0.2	4.162	A
C-A	545			545			
A-B	20			20			
A-C	473			473			

2031 With Development + 210 Dwellings , AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D17	2031 With Development + 210 Dwellings	AM	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	735	100.000
B		✓	70	100.000
C		✓	636	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	18	717
	B	28	0	42
	C	611	25	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.24	14.77	0.3	B
C-AB	0.10	4.52	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	53	410	0.128	52	0.1	10.030	B
C-AB	42	839	0.050	41	0.1	4.513	A
C-A	437			437			
A-B	14			14			
A-C	540			540			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	63	374	0.168	63	0.2	11.563	B
C-AB	60	884	0.067	59	0.1	4.362	A
C-A	512			512			
A-B	16			16			
A-C	645			645			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	77	321	0.240	77	0.3	14.714	B
C-AB	94	951	0.099	94	0.2	4.198	A
C-A	606			606			
A-B	20			20			
A-C	789			789			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	77	321	0.240	77	0.3	14.766	B
C-AB	95	951	0.099	95	0.2	4.204	A
C-A	606			606			
A-B	20			20			
A-C	789			789			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	63	374	0.168	63	0.2	11.613	B
C-AB	60	885	0.068	60	0.1	4.374	A
C-A	512			512			
A-B	16			16			
A-C	645			645			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	53	410	0.128	53	0.1	10.078	B
C-AB	42	839	0.050	42	0.1	4.522	A
C-A	437			437			
A-B	14			14			
A-C	540			540			

2031 With Development + 210 Dwellings, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D18	2031 With Development + 210 Dwellings	PM	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	667	100.000
B		✓	37	100.000
C		✓	849	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	27	640
	B	16	0	21
	C	809	40	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.13	13.62	0.2	E
C-AB	0.19	4.14	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	28	401	0.069	28	0.1	9.638	A
C-AB	83	955	0.087	82	0.2	4.122	A
C-A	556			556			
A-B	20			20			
A-C	482			482			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	362	0.092	33	0.1	10.934	E
C-AB	124	1025	0.121	124	0.3	3.998	A
C-A	639			639			
A-B	24			24			
A-C	575			575			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	305	0.133	41	0.2	13.589	E
C-AB	212	1126	0.188	211	0.6	3.938	A
C-A	722			722			
A-B	30			30			
A-C	705			705			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	41	305	0.134	41	0.2	13.621	E
C-AB	213	1127	0.189	213	0.6	3.951	A
C-A	722			722			
A-B	30			30			
A-C	705			705			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	362	0.092	33	0.1	10.962	B
C-AB	125	1026	0.122	127	0.3	4.015	A
C-A	638			638			
A-B	24			24			
A-C	575			575			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	28	401	0.069	28	0.1	9.656	A
C-AB	84	956	0.088	84	0.2	4.135	A
C-A	555			555			
A-B	20			20			
A-C	482			482			