

## **TRANSPORT STATEMENT**

### **PROPOSED RESIDENTIAL DEVELOPMENT ON LAND AT BUTT LANE, SNAITH, GOOLE**

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## **1.0 INTRODUCTION**

- 1.01 This Transport Statement (TS) has been prepared on behalf of Midlands Construction Ltd for a proposed residential development on land at Butt Lane, Snaith, Goole.
- 1.02 The 1.96 ha development site is presently farmland situated on the western side of Butt Lane.
- 1.03 The site is allocated for housing use and received outline planning permission (Ref: DC/16/02440/OUT) for residential development on 21 October 2016, subject to 16 conditions.
- 1.04 This full planning application involves the construction of 43 detached houses, semi-detached houses and bungalows, as shown on the site layout plan attached at Appendix A.
- 1.05 The TS will show that the development fulfils the objectives of the National Planning Policy Framework (NPPF) which at paragraph 3.2 states that plans and decisions should take account of whether:-
- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
  - Safe and suitable access to the site can be achieved for all people; and
  - Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.
- 1.06 The TS evaluates the volume of traffic likely to be generated by the development and concludes that the additional traffic will have no material impact on the local highway network.
- 1.07 The TS analyses the operation of the proposed site access and concludes that the access arrangements will be able to accommodate the traffic generated by the development in a safe and satisfactory manner.
- 1.08 The TS describes the opportunities available for future residents to travel by sustainable modes of transport and concludes that the site lies within convenient walking and cycling distance of local community facilities, is well served by public transport and is therefore in a sustainable location, as encouraged by national planning policy.

## **2.0 THE LOCAL HIGHWAY NETWORK AND ITS USE**

- 2.01 The development site is located on the western side of Butt Lane, Snaith, approximately 500m to the southeast of the town centre, as shown on the location plan attached at Appendix B.
- 2.02 Butt Lane is an all-purpose access road which provides a northwest to southeast link between Snaith and the village of West Cowick.
- 2.03 A plan of the local highway network is attached at Appendix C. In the vicinity of the site frontage, Butt Lane has a 5.5m wide carriageway. There is a variable width verge along the site frontage and a 1.3m footway opposite.
- 2.04 Butt Lane in the vicinity of the site frontage is lit to side road standard and is subject to a 30mph speed limit.
- 2.05 In order to assess the current usage of the existing highway network in the vicinity of the site and traffic distribution patterns, traffic surveys were carried out on Butt Lane on Tuesday, 6 November 2018 between 07.30 – 09.30 and 16.00 – 18.00.
- 2.06 The surveys show that the peak hour flows occur on the local highway network between 08.00 – 09.00 and 17.00 – 18.00, as shown on the diagrams attached at Appendix E. Observations on site reveal that no significant traffic congestion occurs on Butt Lane in the vicinity of the site in the morning and evening peak periods.
- 2.07 One personal injury accident has occurred on Butt Lane in the vicinity of the site frontage in the past 10 years (Courtesy Crashmap.co.uk). The accident, which occurred in 2013, involved slight injury.
- 2.08 The accident record and surveys have shown that there are no road safety, highway geometric or speed related reasons why a new residential development should not take access from Butt Lane, as proposed.

## **3.0 PROPOSED SITE ACCESS ARRANGEMENTS**

- 3.01 The detailed planning application by Midlands Construction involves the construction of 43 houses and bungalows accessed from Butt Lane by way of a new simple priority junction, as shown on the site layout plan attached at Appendix A. A plan showing the proposed site access arrangements is attached at Appendix E.
- 3.02 A well-used public footpath runs along the northern boundary of the site, turning north to provide a link via South Parkway to the Town Centre and local schools.

- 3.03 An informal pedestrian crossing with dropped kerbs and tactile paving will be provided across Butt Lane midway between the site access junction and the health centre access located on the eastern side of Butt Lane. The pedestrian crossing will provide a link between the development site/public footpath referred to above, both of which are located on the western side of Butt Lane and the following destinations accessed via the continuous eastern footway on Butt Lane:-
- The village of West Cowick.
  - Harron Homes residential development located between Butt Lane and Cowick Road.
  - The Marshes Health Centre
- 3.04 Please note that the outline planning permission granted on 21 October 2016 included a condition requiring the construction of a new footway on the western side of Butt Lane, linking the development to the existing footway some 57m to the north. The width of verge is less than 500mm in on location therefore rendering the construction of a continuous footway non-viable.
- 3.05 Drivers entering Butt Lane from the proposed site access will be able to see vehicles approaching from both directions when they are in excess of 43m away, measured from a point 2.4m back from the give way line. The Stopping Sight Distance (SSD) required for a junction located in a 30 mph zone is 43m based on Manual for Streets recommended standards. The available visibility in both directions therefore exceeds the required SSDs. It may therefore be concluded that drivers on Butt Lane would be able to stop safely, if necessary, to avoid a collision with a vehicle entering the road from the proposed site access.

#### **4.0 TRAFFIC IMPACT**

- 4.01 As noted previously the development proposals involve the erection of 43 dwellings, served by a new junction on Butt Lane. The application site is allocated for housing use and has an extant outline permission for residential development.
- 4.02 The assessment of the capacity of the proposed site access junction is based on a step-by-step approach, as follows:-
- a) Existing peak hour traffic flows at the junction of The Marshes Health Centre with Butt Lane
  - b) Base 2023 flows – traffic flows obtained from 2018 surveys growthed to 2023 using TEMPRO local growth factors.
  - c) Determination of residential trip rates using TRICS database.
  - d) Assignment of generated traffic flows in proportion to existing turning movements.
  - e) Predicted peak hour flows in 2023 with development.
  - f) Analysis of peak hour performance of the site access staggered junction, with Butt Lane and the health centre access, using TRL PICADY software.

- 4.03 The diagrams at Appendix H show the base traffic flows in 2023, obtained by applying TEMPRO local growth factors to the existing 2018 flows at Appendix E. Guidance on Transport Assessment published by DfT advises that analysis should be carried out five years after a planning application has been submitted. The assessment will therefore be carried out in 2023. The TEMPRO local growth factors for Snaith used in the analysis are:-

AM Peak 1.0585 PM Peak 1.0643.

A copy of the TEMPRO calculation sheet is attached with the base traffic flows at Appendix F.

- 4.04 The TRICS database provides trip rates for houses privately owned and the trip data included in the database is attached at Appendix G. The proposed houses are likely to generate the following vehicular trip rate characteristics during the peak traffic hours:-

Trip Rate per dwelling	AM Peak		PM Peak	
	Inbound	Outbound	Inbound	Outbound
	0.129	0.386	0.339	0.161

- 4.05 Based on the above trip rates 43 dwellings are likely to generate the following traffic flows through the site access during the peak hours:-

Traffic Generation 43 Dwellings	AM Peak		PM Peak	
	Inbound	Outbound	Inbound	Outbound
	6	17	15	7

- 4.06 Diagrams showing the assignment of generated traffic, based on the distribution patterns of existing traffic are attached at Appendix H.
- 4.07 The junction diagrams attached at Appendix I obtained by adding the generated traffic flows at Appendix H to the base 2023 traffic flows at Appendix F show the predicted traffic flows in the year 2023, including development traffic.
- 4.08 The operation of the staggered junction between the proposed site access and the existing health centre access in 2023, with development traffic, has been analysed using TRL PICADY software and the results are attached at Appendix J and are summarised in the Table below:-

Maximum RFC		Average Delay (Min/Veh)		Max Q (Veh)	
am peak	pm peak	am peak	pm peak	am peak	pm peak
0.019	0.057	0.12	0.13	0.02	0.06

**Summary of PICADY Results  
2023 Traffic Flow Conditions with Development**



- 4.09 An RFC value of 0.85 is the normally accepted threshold of practical capacity of a junction. The analysis therefore indicates that the junction will be operating within its practical capacity in the peak periods in 2023 with development traffic. The results also confirm that right turning queues in the peak periods do not exceed 1 vehicle and are therefore unlikely to cause obstruction.

## **5.0 SUSTAINABLE TRANSPORT INFORMATION**

### **Walking**

- 5.01 The site is located within a convenient walking distance of Snaith town centre. A well-used public footpath runs along the northern boundary of the site, turning north to provide a link to South Parkway, The Parkway, Town Centre and schools. The following schools are located within a 2.0 km walking distance of the site:-

- The Snaith School (Secondary)
- Snaith Primary School

A plan showing the 2km walking radius for the site is attached at Appendix K.

- 5.02 The following initiatives are proposed to help pedestrians:-

- The public footpath described above will be surfaced and lit;
- An informal pedestrian crossing with dropped kerbs and tactile paving will be provided across Butt Lane midway between the site access junction and the health centre access located on the eastern side of Butt Lane.

- 5.03 All garages will have internal dimensions of 3m wide by 6m long which is sufficient to accommodate cycles in addition to a car and gardening equipment. Plots with no garage will have a garden shed to accommodate cycles as well as gardening equipment.

### **Cycling**

- 5.04 A plan showing local cycle routes is attached at Appendix L. A plan showing the 5km cycling radius for the site is attached at Appendix M.

### **Bus Travel**

- 5.05 Bus stops are located on both sides of Butt Lane within 300m of the site access. Pedestrian access to both bus stops will be made safer by the provision of the new footway.
- 5.06 The main scheduled services which use the stops are the 400, 401 and X8 services with hourly weekday and Saturday daytime services between Goole, Snaith and Selby. Full details of these services are attached at Appendix N, together with a bus stop location plan.

- 5.07 Snaith train station is located approximately 600m to the north of the development site. On Mondays to Saturdays the station provides two services per day towards Leeds at 07.15 and 19.01 with one service per day towards Goole at 08.10.
- 5.08 It is concluded that the site is well served by non-car modes of transport and is in a sustainable location.

## **6.0 SUMMARY AND CONCLUSIONS**

- 6.01 This Transport Statement (TS) has been prepared on behalf of Midlands Construction Ltd for a proposed residential development on land at Butt Lane, Snaith, Goole.
- 6.02 The 1.96 ha development site is presently farmland situated on the western side of Butt Lane.
- 6.03 The site is allocated for housing use and received outline planning permission (Ref: DC/16/02440/OUT) for residential development on 21 October 2016, subject to 16 conditions.
- 6.04 This full planning application involves the construction of 43 detached houses, semi-detached houses and bungalows.
- 6.05 The Transport Statement has assessed the volume of traffic likely to be generated by the development and concludes that the traffic can be accommodated at the proposed new junction which will operate in a safe manner with no significant traffic congestion.
- 6.06 The Transport Statement has also described the opportunities available for future residents to travel by sustainable modes of travel. The statement concludes that the proposed development is in a sustainable location with regard to access by non-car modes of travel.
- 6.07 NPPF advises that development should only be prevented or refused on transport grounds where the residual impacts are severe. The impacts in this case are not severe therefore there is no reason why planning permission should be withheld on transport grounds.



Signed:











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M W Jennings MSc C Eng MICE MCIHT Consultant

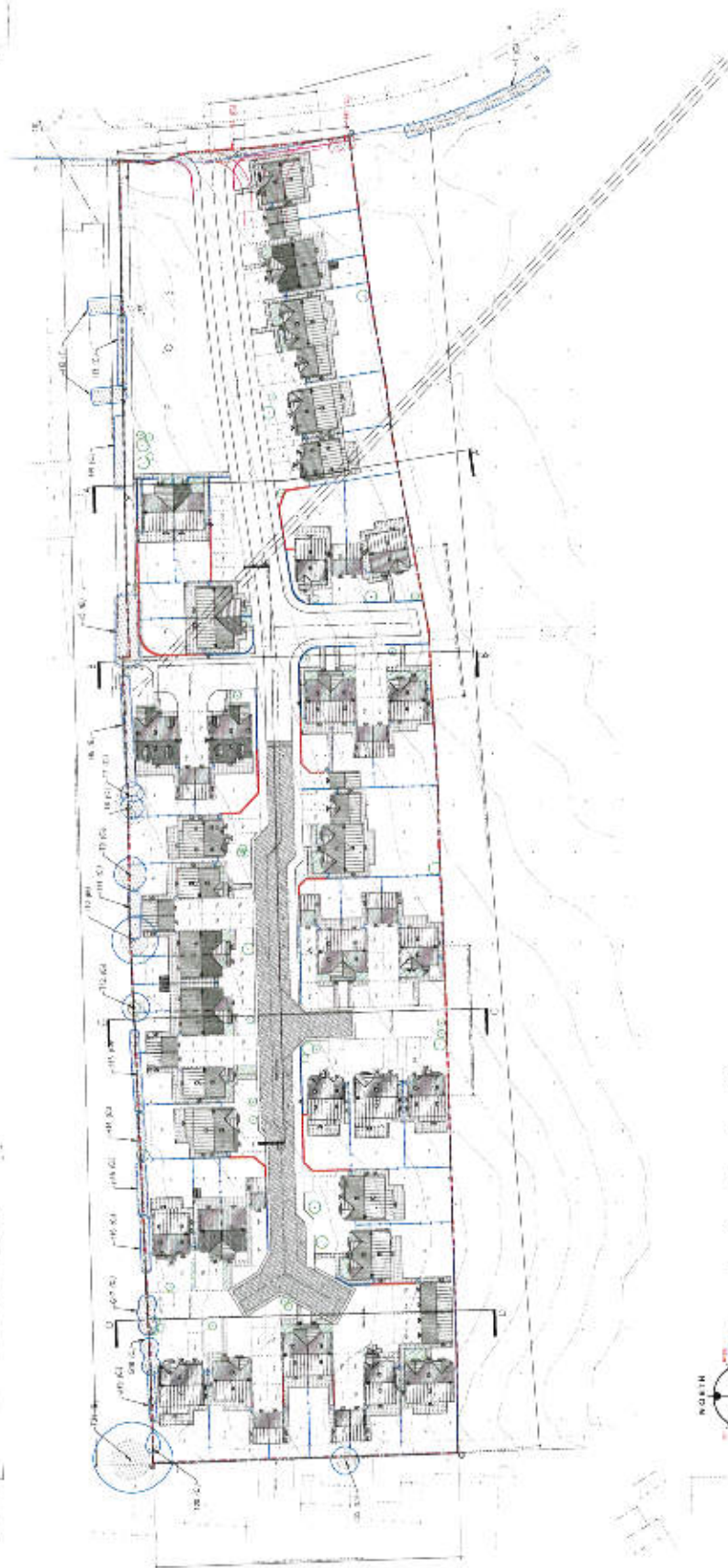
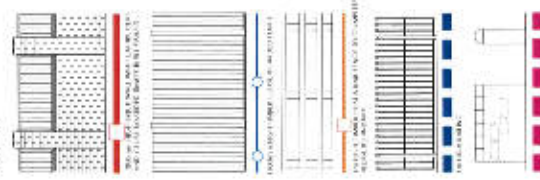
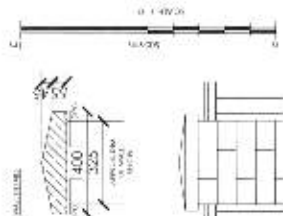
## **APPENDIX A**

### **PROPOSED LAYOUT PLAN**



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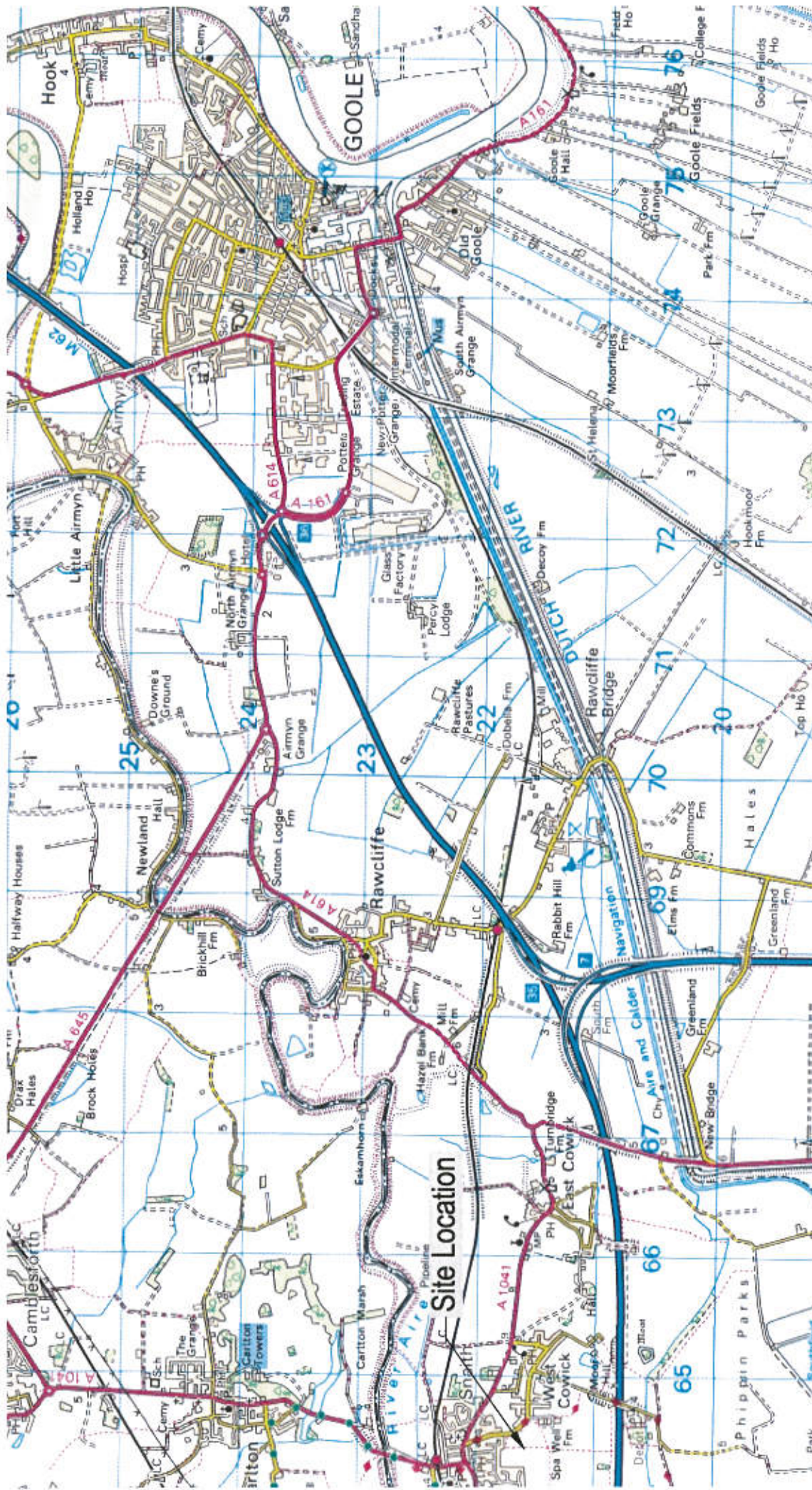
STREETSCAPE / SITE SECTION EE

<b>MIDLAND CONSTRUCTION</b>		<b>BUILT LANSI, MARIU</b>
<b>SITE PLAN &amp; SITE SCHEDULES</b>		
DATE: 11-10-2010	DRAWN BY: J. HARRIS	CHECKED BY: J. HARRIS
SCALE: AS SHOWN	PROJECT NO.: 100101	DATE OF ISSUE: 11-10-2010
<p><b>LEGEND:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Private</li> <li><input checked="" type="checkbox"/> Public</li> <li><input checked="" type="checkbox"/> Other</li> <li><input checked="" type="checkbox"/> Road</li> <li><input checked="" type="checkbox"/> Water</li> <li><input checked="" type="checkbox"/> Sewer</li> <li><input checked="" type="checkbox"/> Gas</li> <li><input checked="" type="checkbox"/> Electric</li> <li><input checked="" type="checkbox"/> Telephone</li> <li><input checked="" type="checkbox"/> Cable TV</li> <li><input checked="" type="checkbox"/> Other</li> </ul>		

## **APPENDIX B**

### **LOCATION PLAN**





Site Location

# CoDa+Transportation

Consulting Transportation Engineers

14 Springfield Court

Gubley

Leeds LS20 8YD

Tel: 01943 872567

Fax: 01943 870824



Project Butt Lane, Snaith

Title Location Plan

Drawn RD

Date 14.11.18

Scale NTS

Checked RD

Dwg. No.

7849/Fig3

Rev.

—

## **APPENDIX C**

### **PLAN SHOWING LOCAL HIGHWAY NETWORK**



# CoDa+ Transportation

Consulting Transportation Engineers

14 Springfield Court

Guiseley

Leeds LS20 8PD

Tel: 01943 872587

Fax: 01943 870824

Project Butt Lane, Snaith

Title Existing Highway Network

Drawn  
RD

Date  
14.11.18

Dwg. No.

Rev.

Scale  
NTS

Checked  
MJ

7849/Fig6

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## **APPENDIX D**

### **RESULTS OF TRAFFIC SURVEY**





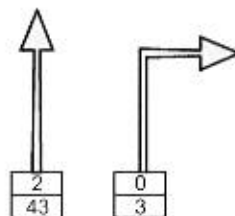
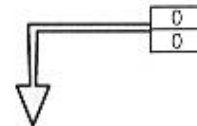
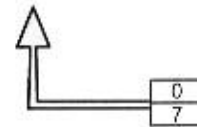
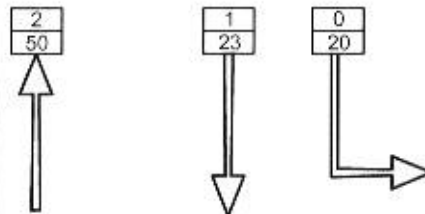
## BUTT LANE (NORTH)

Existing Vehicular Flows  
 Morning Peak Hour 07.30-08.30  
 Tuesday 6th November 2018

EXISTING HEALTH  
 CENTRE ACCESS

### Vehicular Flows

 Heavy Vehicles  
 Light Vehicles



PROPOSED  
 SITE ACCESS

BUTT LANE (SOUTH)





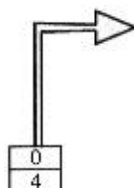
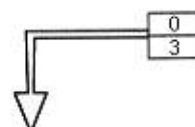
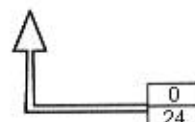
## BUTT LANE (NORTH)

Existing Vehicular Flows  
Evening Peak Hour 17.00-18.00  
Tuesday 6th November 2018

EXISTING HEALTH  
CENTRE ACCESS

### Vehicular Flows

 Heavy Vehicles  
 Light Vehicles



PROPOSED  
SITE ACCESS

## BUTT LANE (SOUTH)

## **APPENDIX E**

### **PLAN SHOWING PROPOSED SITE ACCESS ARRANGEMENTS**

# BUTT LANE, SNAITH

## SITE PLAN



## **APPENDIX F**

### **BASE 2023 TRAFFIC FLOWS AND TEMPO CALCULATION SHEET**

## Butt Lane, Snaith Tempro Calculation 2018-2023

Estimating AM peak period traffic growth from 2018-2023 on an uncongested Principal road which primarily serves the East Riding of Yorkshire area.

NTM growth on roads in East Riding of Yorkshire = 1.0575

Tempro AM peak hour car driver trip end growth for East Riding of Yorkshire = 1.0334

Tempro average day car driver trip end growth for East Riding of Yorkshire 042 = 1.0324  
(origins or destinations – same at regional level)

Adjust local peak period growth factor =  $1.0575 \times 1.0334 / 1.0324 = 1.0585$

Estimating PM peak period traffic growth from 2018-2023 on an uncongested Principal road which primarily serves the East Riding of Yorkshire area.

NTM growth on roads in East Riding of Yorkshire = 1.0575

Tempro PM peak hour car driver trip end growth for East Riding of Yorkshire = 1.0391

Tempro average day car driver trip end growth for East Riding of Yorkshire 042 = 1.0324  
(origins or destinations – same at regional level)

Adjust local peak period growth factor =  $1.0575 \times 1.0391 / 1.0324 = 1.0643$

All figures taken from Tempro Version 7.2





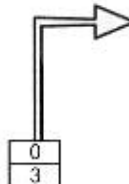
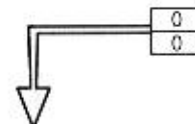
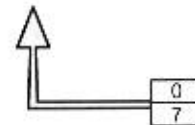
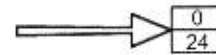
## BUTT LANE (NORTH)

Base 2023 Traffic Flows  
Morning Peak Hour

EXISTING HEALTH  
CENTRE ACCESS

### Vehicular Flows

Heavy Vehicles  
Light Vehicles



PROPOSED  
SITE ACCESS

## BUTT LANE (SOUTH)

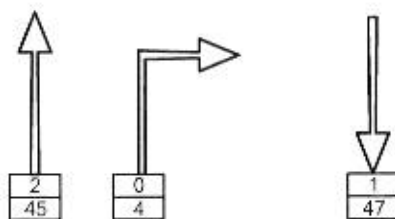
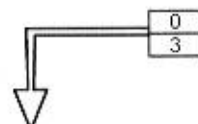
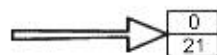
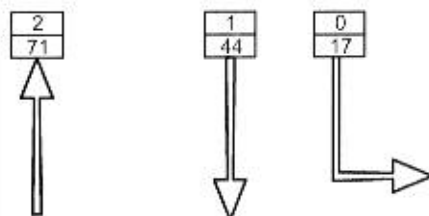
**BUTT LANE (NORTH)**

Base 2023 Traffic Flows  
 Evening Peak Hour

**EXISTING HEALTH  
 CENTRE ACCESS**

Vehicular Flows

Heavy Vehicles  
 Light Vehicles



**PROPOSED  
 SITE ACCESS**

**BUTT LANE (SOUTH)**

## **APPENDIX G**

### **TRICS DATA FOR PRIVATE HOUSES**

Calculation Reference: AUDIT-849401-181031-1005

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED

**VEHICLES**Selected regions and areas:

<b>02 SOUTH EAST</b>	
ES EAST SUSSEX	3 days
HC HAMPSHIRE	1 days
KC KENT	4 days
SC SURREY	1 days
WS WEST SUSSEX	4 days
<b>03 SOUTH WEST</b>	
DV DEVON	3 days
SM SOMERSET	1 days
WL WILTSHIRE	1 days
<b>04 EAST ANGLIA</b>	
CA CAMBRIDGESHIRE	2 days
NF NORFOLK	3 days
SF SUFFOLK	2 days
<b>05 EAST MIDLANDS</b>	
LN LINCOLNSHIRE	1 days
<b>06 WEST MIDLANDS</b>	
SH SHROPSHIRE	2 days
ST STAFFORDSHIRE	2 days
WK WARWICKSHIRE	1 days
<b>07 YORKSHIRE &amp; NORTH LINCOLNSHIRE</b>	
NE NORTH EAST LINCOLNSHIRE	1 days
NY NORTH YORKSHIRE	7 days
<b>08 NORTH WEST</b>	
CH CHESHIRE	2 days
LC LANCASHIRE	1 days
<b>09 NORTH</b>	
DH DURHAM	1 days
<b>10 WALES</b>	
PS POWYS	1 days
VG VALE OF GLAMORGAN	1 days

Secondary Filtering selection:

Parameter: Number of dwellings  
 Actual Range: 6 to 805 (units: )  
 Range Selected by User: 6 to 4334 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 19/04/18

Selected survey days:

Monday	11 days
Tuesday	8 days
Wednesday	10 days
Thursday	9 days
Friday	7 days

Selected survey types:

Manual count	45 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	22
Edge of Town	23

Selected Location Sub Categories:

Residential Zone	42
No Sub Category	3

**Secondary Filtering selection:**Use Class:

C3

44 days

Population within 1 mile:

1,000 or Less

1 days

1,001 to 5,000

6 days

5,001 to 10,000

8 days

10,001 to 15,000

15 days

15,001 to 20,000

6 days

20,001 to 25,000

6 days

25,001 to 50,000

3 days

Population within 5 miles:

5,001 to 25,000

7 days

25,001 to 50,000

3 days

50,001 to 75,000

7 days

75,001 to 100,000

13 days

100,001 to 125,000

2 days

125,001 to 250,000

13 days

Car ownership within 5 miles:

0.6 to 1.0

12 days

1.1 to 1.5

33 days

Travel Plan:

Yes

6 days

No

39 days

PTAL Rating:

No PTAL Present

45 days

TRIP RATE for Land Use D3 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	45	95	0.082	45	95	0.289	45	95	0.371
08:00 - 09:00	45	95	0.129	45	<b>95</b>	<b>0.386</b>	45	<b>95</b>	<b>0.515</b>
09:00 - 10:00	45	95	0.149	45	95	0.169	45	95	0.318
10:00 - 11:00	45	95	0.131	45	95	0.157	45	95	0.288
11:00 - 12:00	45	95	0.142	45	95	0.154	45	95	0.296
12:00 - 13:00	45	95	0.160	45	95	0.156	45	95	0.316
13:00 - 14:00	45	95	0.164	45	95	0.160	45	95	0.324
14:00 - 15:00	45	95	0.165	45	95	0.186	45	95	0.351
15:00 - 16:00	45	95	0.262	45	95	0.182	45	95	0.444
16:00 - 17:00	45	95	0.282	45	95	0.174	45	95	0.456
17:00 - 18:00	<b>45</b>	<b>95</b>	<b>0.339</b>	45	95	0.161	45	95	0.500
18:00 - 19:00	45	95	0.287	45	95	0.179	45	95	0.466
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.292			2.353			4.645



**Parameter summary**

Trip rate parameter range selected:	6 - 805 (units: )
Survey date date range:	01/01/10 - 19/04/18
Number of weekdays (Monday-Friday):	45
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

## **APPENDIX H**



### **ASSIGNMENT OF GENERATED TRAFFIC**

# CoDa+—Transportation

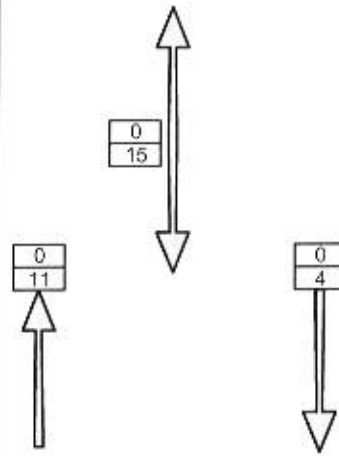
Consulting Transportation Engineers  
14 Springfield Court  
Guiselby  
Leeds LS20 8PD  
Tel: 01943 875587  
Fax: 01943 876624



## Vehicular Flows

 Heavy Vehicles  
 Light Vehicles

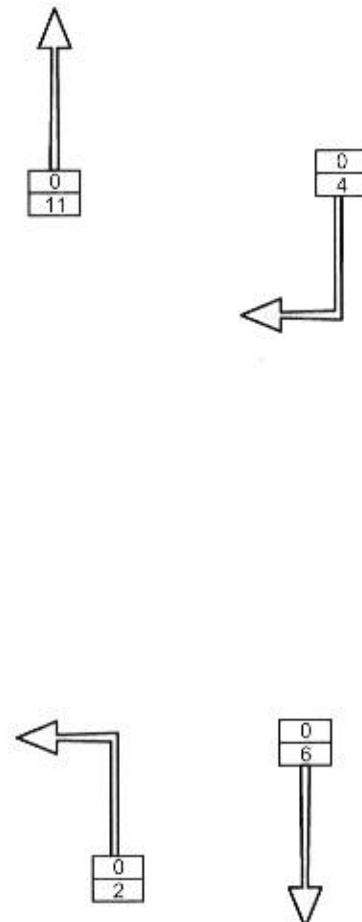
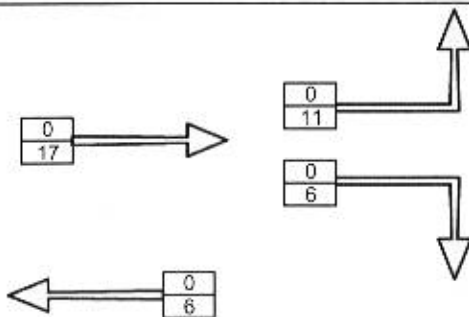
## BUTT LANE (NORTH)



Generated Traffic Flows  
43 Dwellings  
Morning Peak Hour

EXISTING HEALTH  
CENTRE ACCESS

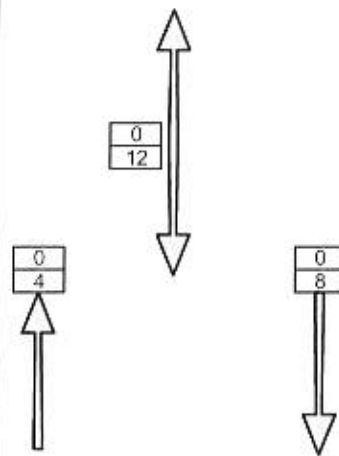
## PROPOSED SITE ACCESS



## BUTT LANE (SOUTH)





## BUTT LANE (NORTH)



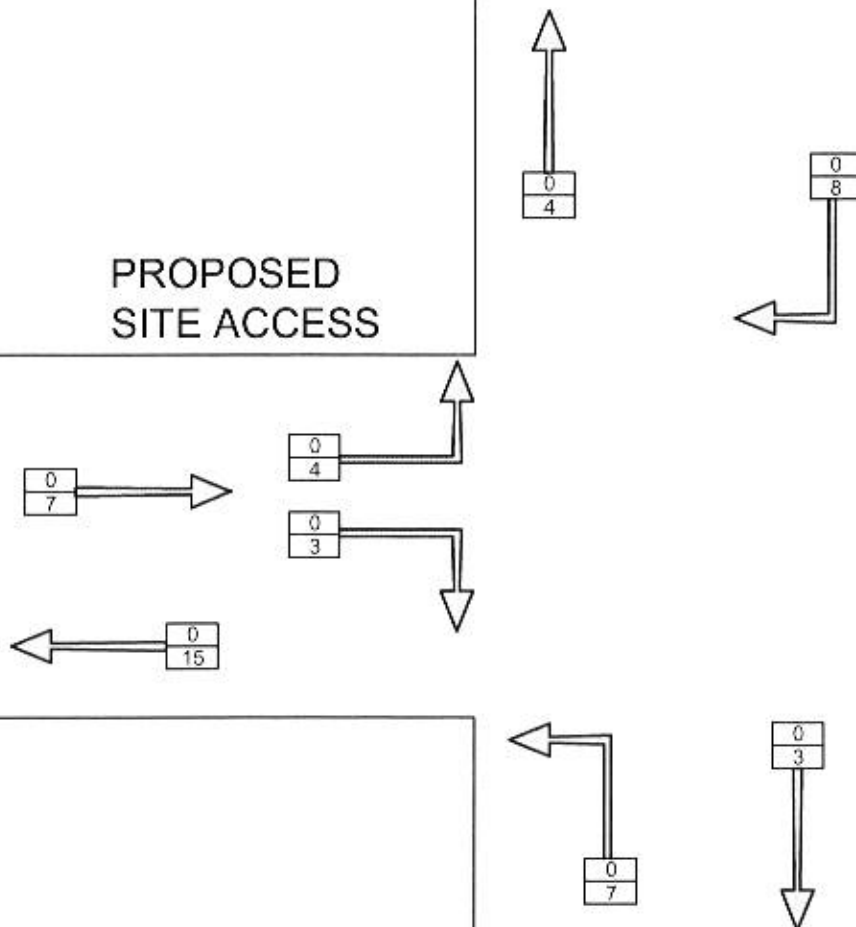
Generated Traffic Flows  
43 Dwellings  
Evening Peak Hour

### Vehicular Flows

 Heavy Vehicles  
 Light Vehicles

EXISTING HEALTH  
CENTRE ACCESS

## PROPOSED SITE ACCESS



## BUTT LANE (SOUTH)

## **APPENDIX I**

### **PREDICTED 2023 TRAFFIC FLOWS**

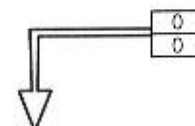
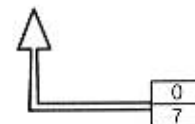
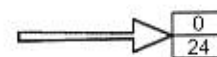
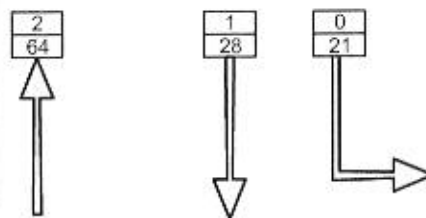
## BUTT LANE (NORTH)

Predicted 2023 Traffic Flows  
 Morning Peak Hour

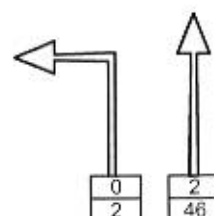
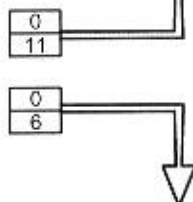
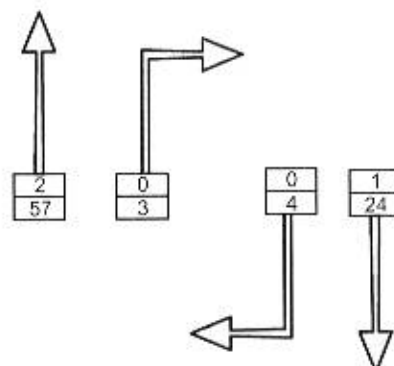
EXISTING HEALTH  
 CENTRE ACCESS

### Vehicular Flows

Heavy Vehicles  
 Light Vehicles



PROPOSED  
 SITE ACCESS



## BUTT LANE (SOUTH)





## BUTT LANE (NORTH)

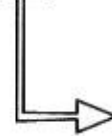
2  
75



1  
52



0  
17



Predicted 2023 Traffic Flows  
Evening Peak Hour

EXISTING HEALTH  
CENTRE ACCESS

0  
21



0  
26



0  
3



2  
49



0  
4



0  
8



1  
47



PROPOSED  
SITE ACCESS

0  
7



0  
4



0  
3



0  
15



0  
7




2  
45



## BUTT LANE (SOUTH)

## **APPENDIX J**

### **PICADY RESULTS – PREDICTED 2023 TRAFFIC FLOWS**

<b>PICADY</b>		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
© Copyright TRL Limited, 2010 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: <a href="mailto:software@trl.co.uk">software@trl.co.uk</a> Web: <a href="http://www.trlsoftware.co.uk">www.trlsoftware.co.uk</a>
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	H:\Ben\Transport Planning\Coda\Butt Lane Predicted 2023 AM.vpi
Date Run	12 November 2018
Time Run	20:30:28
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Butt Lane (South)	100
Arm B	Proposed Site Access	100
Arm C	Butt Lane (North)	100
Arm D	Existing Health Centre Access	100

## Stream Labelling Convention

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

## Run Information

Parameter	Values
Run Title	Site Access/Butt Lane, Predicted 2023
Location	-
Date	12 November 2018
Enumerator	B Jennings
Job Number	-
Status	-
Client	-
Description	-

## Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

## Geometric Data

### Geometric Parameters

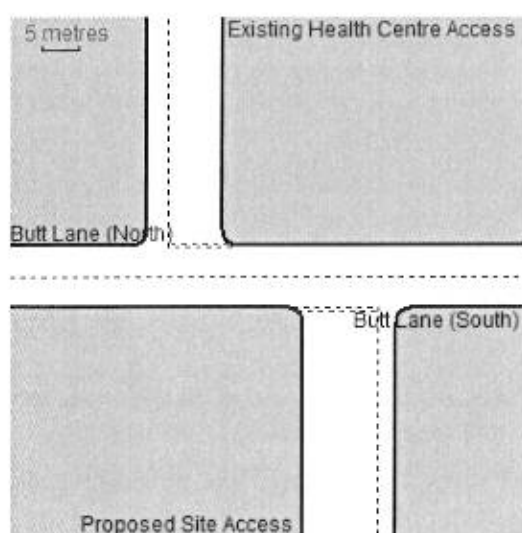
Parameter	Minor Arm B	Minor Arm D
Major Road Carriageway Width (m)	6.00	6.00
Major Road Kerbed Central Reserve Width (m)	0.00	0.00
Major Road Right Turning Lane Width (m)	2.20	2.20
Minor Road Width 0m Back from Junction (m)	10.00	7.30
Minor Road Width 5m Back from Junction (m)	3.60	3.20
Minor Road Width 10m Back from Junction (m)	2.75	3.20
Minor Road Width 15m Back from Junction (m)	2.75	3.20
Minor Road Width 20m Back from Junction (m)	2.75	3.20
Minor Road Derived Flare Length (PCU)	0.000	0.000
Minor Road Visibility To Right (m)	35	35
Minor Road Visibility To Left (m)	38	22
Major Road Right Turn Visibility (m)	40	120
Major Road Right Turn Blocks Traffic	Yes (if over 0 veh)	Yes (if over 0 veh)

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
B-CD	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-
B-A	0.000	0.000	0.000	0.000	-	-	0.000	0.000	-	0.000	0.000
D-AB	0.000	-	-	-	-	-	0.000	0.000	0.000	-	-
D-C	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-
CD-B	643.456	0.231	0.231	0.000	-	-	-	-	-	-	-
AB-D	643.456	-	-	-	-	-	-	-	0.249	-	-

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:** Site Access/Butt Lane, Predicted 2023

**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	2.0	45.0	3.0
Arm B	6.0	0.0	11.0	0.0
Arm C	25.0	4.0	0.0	21.0
Arm D	0.0	0.0	7.0	0.0

**ODTAB Synthesised Flows****Demand Set:** Site Access/Butt Lane, Predicted 2023**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	0.625	08:30	0.938	09:00	0.625
Arm B	08:00	0.213	08:30	0.319	09:00	0.213
Arm C	08:00	0.625	08:30	0.938	09:00	0.625
Arm D	08:00	0.087	08:30	0.131	09:00	0.087

**Heavy Vehicles Percentages****Demand Set:** Site Access/Butt Lane, Predicted 2023**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	-	0.0	4.4	0.0
Arm B	0.0	-	0.0	0.0
Arm C	4.0	0.0	-	0.0
Arm D	0.0	0.0	0.0	-

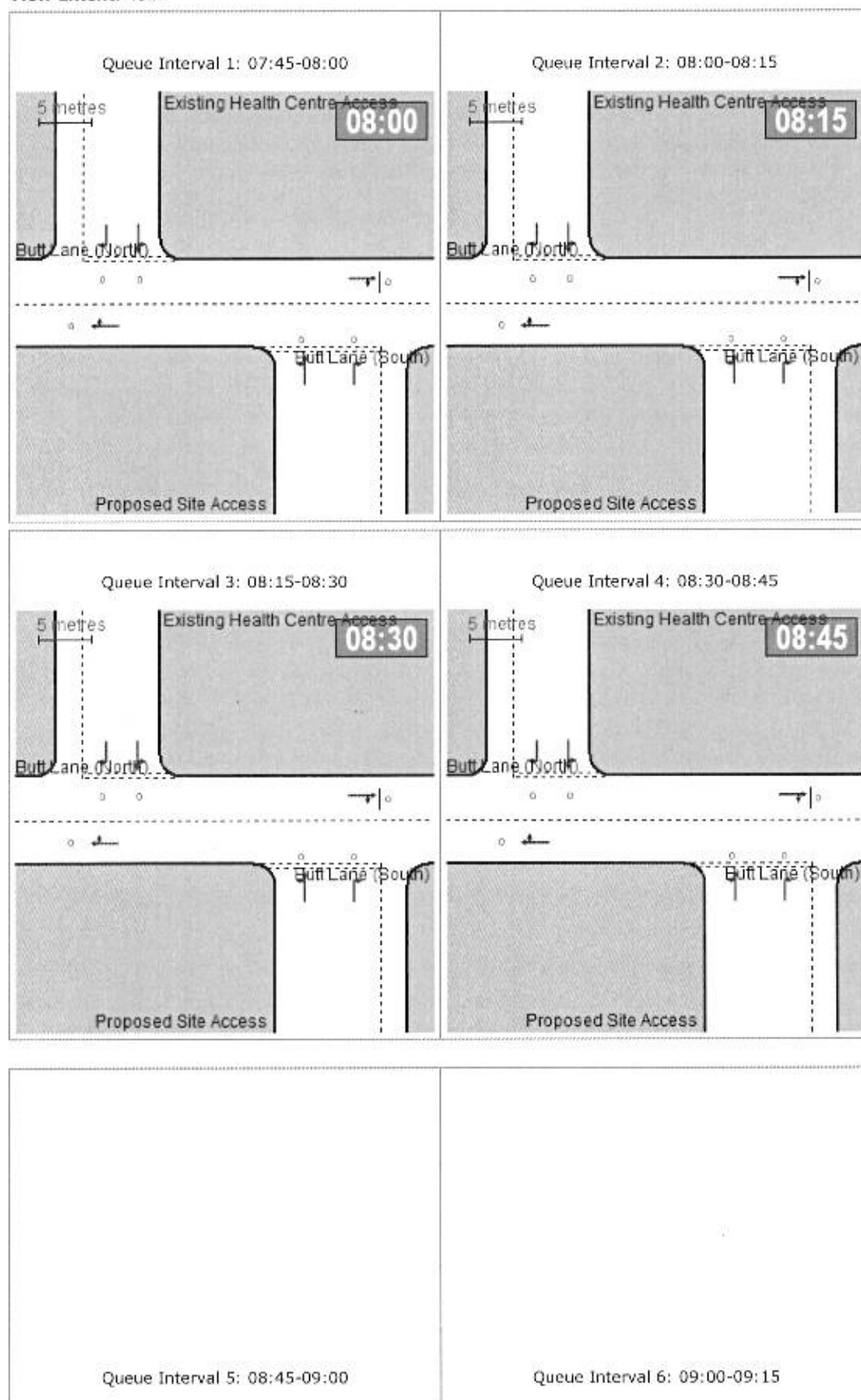


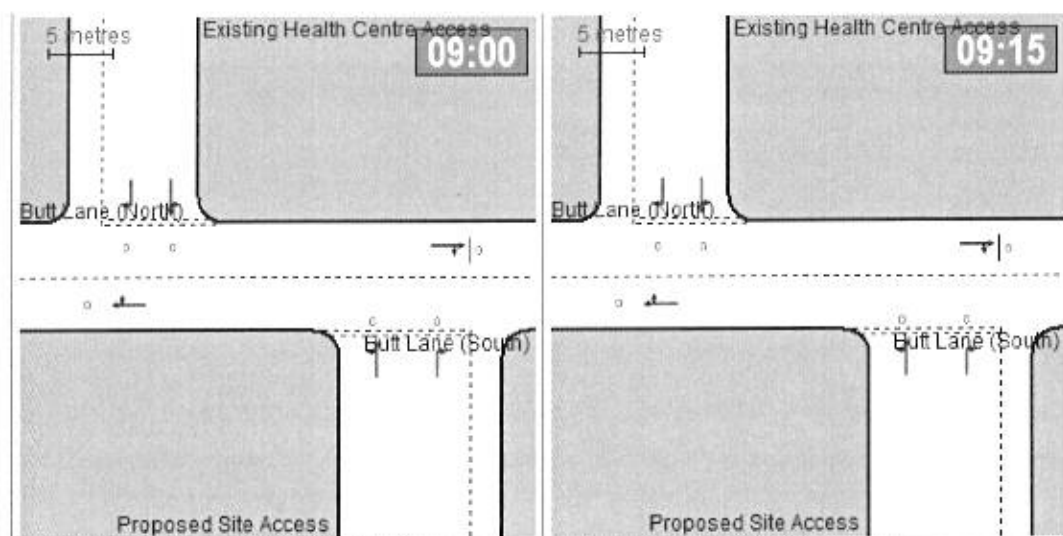
## Queue Diagrams

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

**Modelling Period:** 07:45-09:15

**View Extent:** 40m

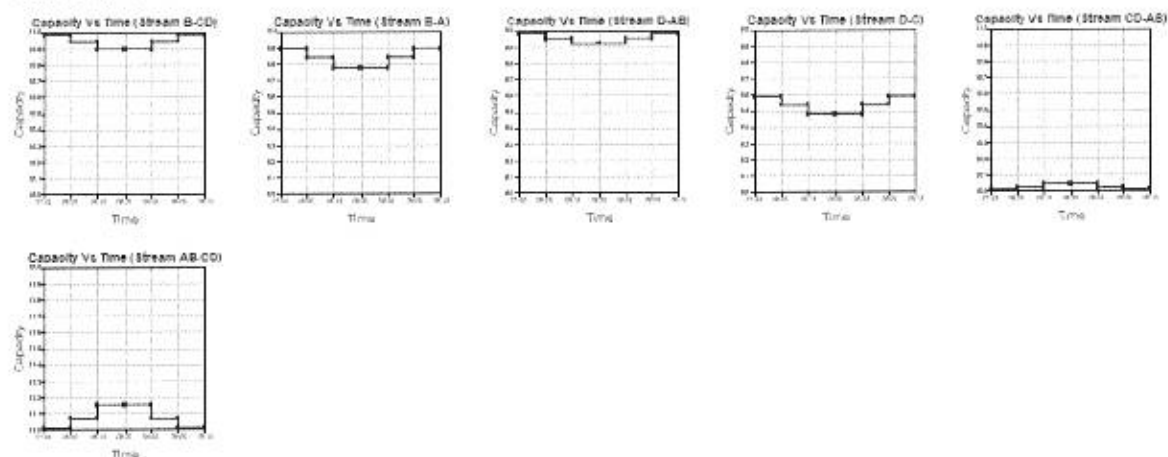




## Capacity Graph

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

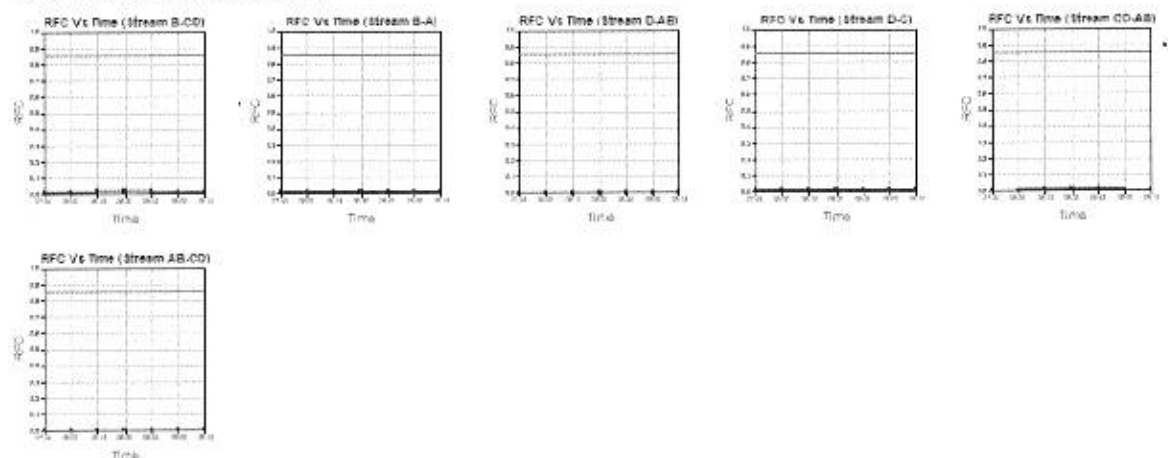
**Modelling Period:** 07:45-09:15



## RFC Graph

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

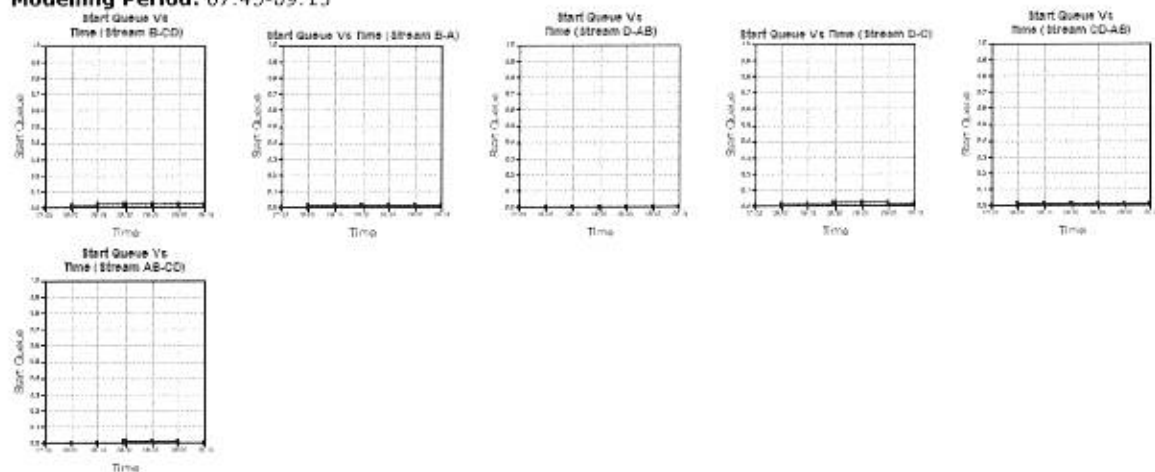
**Modelling Period:** 07:45-09:15



## Start Queue Graph

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

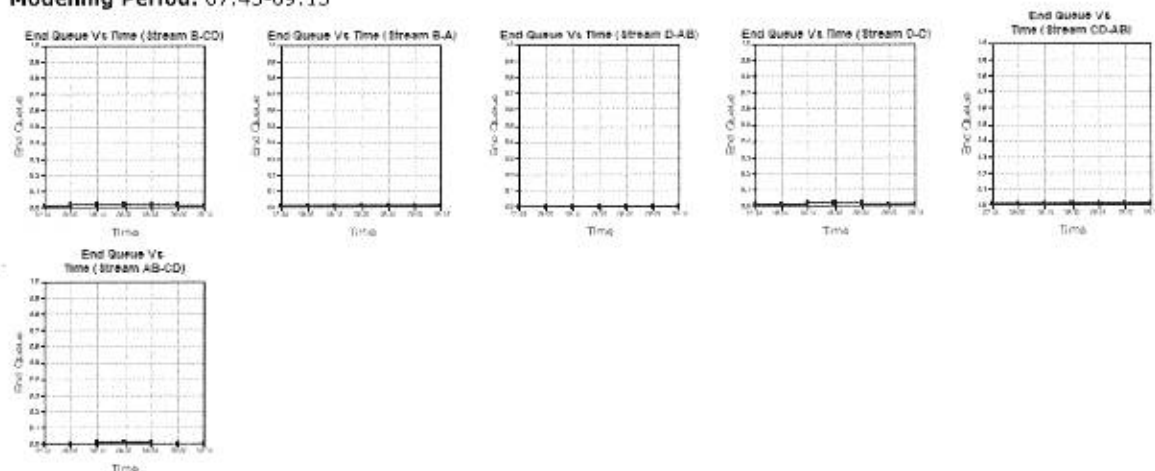
**Modelling Period:** 07:45-09:15



## End Queue Graph

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

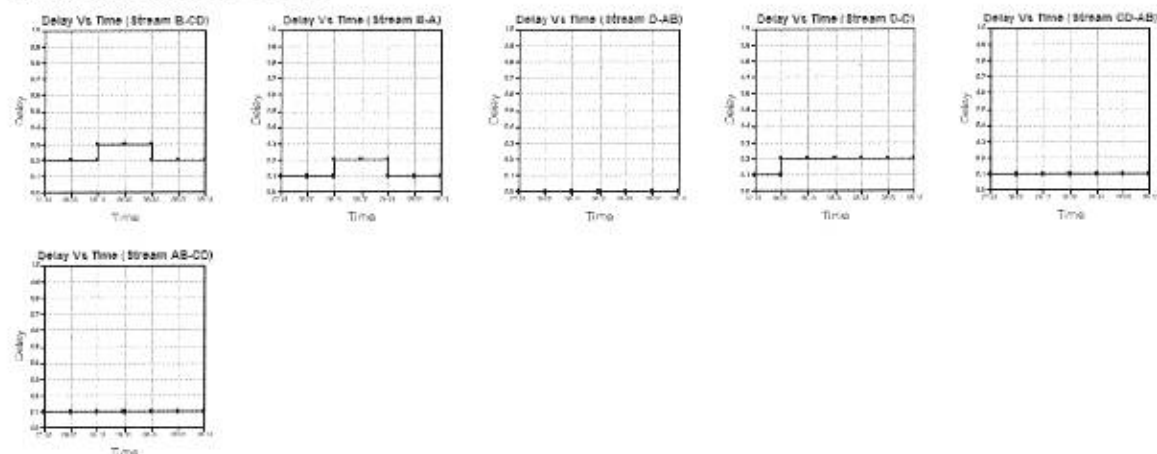
**Modelling Period:** 07:45-09:15



## 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-CD	0.14	10.98	0.013	-	0.00	0.01	-	0.2	0.09
	B-A	0.08	9.89	0.008	-	0.00	0.01	-	0.1	0.10
	D-AB	0.00	8.98	0.000	-	0.00	0.00	-	0.0	0.00
	D-C	0.09	8.59	0.010	-	0.00	0.01	-	0.1	0.12
	CD-AB	0.05	10.01	0.005	-	0.00	0.01	-	0.1	0.10
	CD-A	0.31	-	-	-	-	-	-	-	-
	C-A	0.31	-	-	-	-	-	-	-	-
	C-B	0.05	-	-	-	-	-	-	-	-
	C-D	0.26	-	-	-	-	-	-	-	-
	AB-CD	0.04	11.01	0.004	-	0.00	0.00	-	0.1	0.09
	AB-C	0.70	-	-	-	-	-	-	-	-
	A-B	0.03	-	-	-	-	-	-	-	-
	A-C	0.56	-	-	-	-	-	-	-	-
	A-D	0.04	-	-	-	-	-	-	-	-

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)
08:00-08:15	B-CD	0.16	10.94	0.015	-	0.01	0.02	-	0.2	0.09
	B-A	0.09	9.84	0.009	-	0.01	0.01	-	0.1	0.10
	D-AB	0.00	8.95	0.000	-	0.00	0.00	-	0.0	0.00
	D-C	0.10	8.54	0.012	-	0.01	0.01	-	0.2	0.12
	CD-AB	0.06	10.02	0.006	-	0.01	0.01	-	0.1	0.10
	CD-A	0.37	-	-	-	-	-	-	-	-
	C-A	0.37	-	-	-	-	-	-	-	-
	C-B	0.06	-	-	-	-	-	-	-	-
	C-D	0.31	-	-	-	-	-	-	-	-
	AB-CD	0.05	11.07	0.004	-	0.00	0.00	-	0.1	0.09
	AB-C	0.84	-	-	-	-	-	-	-	-

	A-B	0.03	-	-	-	-	-	-	-	-
	A-C	0.67	-	-	-	-	-	-	-	-
	A-D	0.04	-	-	-	-	-	-	-	-
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)
08:15- 08:30	B-CD	0.20	10.89	0.019	-	0.02	0.02	-	0.3	0.09
	B-A	0.11	9.77	0.011	-	0.01	0.01	-	0.2	0.10
	D-AB	0.00	8.92	0.000	-	0.00	0.00	-	0.0	0.00
	D-C	0.13	8.48	0.015	-	0.01	0.02	-	0.2	0.12
	CD-AB	0.08	10.04	0.008	-	0.01	0.01	-	0.1	0.10
	CD-A	0.46	-	-	-	-	-	-	-	-
	C-A	0.46	-	-	-	-	-	-	-	-
	C-B	0.07	-	-	-	-	-	-	-	-
	C-D	0.39	-	-	-	-	-	-	-	-
	AB-CD	0.06	11.15	0.005	-	0.00	0.01	-	0.1	0.09
	AB-C	1.02	-	-	-	-	-	-	-	-
	A-B	0.04	-	-	-	-	-	-	-	-
	A-C	0.83	-	-	-	-	-	-	-	-
	A-D	0.06	-	-	-	-	-	-	-	-



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)
08:30- 08:45	B-CD	0.20	10.89	0.019	-	0.02	0.02	-	0.3	0.09
	B-A	0.11	9.77	0.011	-	0.01	0.01	-	0.2	0.10
	D-AB	0.00	8.92	0.000	-	0.00	0.00	-	0.0	0.00
	D-C	0.13	8.48	0.015	-	0.02	0.02	-	0.2	0.12
	CD-AB	0.08	10.04	0.008	-	0.01	0.01	-	0.1	0.10
	CD-A	0.46	-	-	-	-	-	-	-	-
	C-A	0.46	-	-	-	-	-	-	-	-
	C-B	0.07	-	-	-	-	-	-	-	-
	C-D	0.39	-	-	-	-	-	-	-	-
	AB-CD	0.06	11.15	0.005	-	0.01	0.01	-	0.1	0.09
	AB-C	1.02	-	-	-	-	-	-	-	-
	A-B	0.04	-	-	-	-	-	-	-	-
	A-C	0.83	-	-	-	-	-	-	-	-
	A-D	0.06	-	-	-	-	-	-	-	-
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)
08:45- 09:00	B-CD	0.16	10.94	0.015	-	0.02	0.02	-	0.2	0.09
	B-A	0.09	9.84	0.009	-	0.01	0.01	-	0.1	0.10
	D-AB	0.00	8.95	0.000	-	0.00	0.00	-	0.0	0.00
	D-C	0.10	8.54	0.012	-	0.02	0.01	-	0.2	0.12
	CD-AB	0.06	10.02	0.006	-	0.01	0.01	-	0.1	0.10
	CD-A	0.37	-	-	-	-	-	-	-	-
	C-A	0.37	-	-	-	-	-	-	-	-
	C-B	0.06	-	-	-	-	-	-	-	-
	C-D	0.31	-	-	-	-	-	-	-	-
	AB-CD	0.05	11.07	0.004	-	0.01	0.00	-	0.1	0.09
	AB-C	0.84	-	-	-	-	-	-	-	-
	A-B	0.03	-	-	-	-	-	-	-	-
	A-C	0.67	-	-	-	-	-	-	-	-
	A-D	0.04	-	-	-	-	-	-	-	-

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-CD	0.14	10.98	0.013	-	0.02	0.01	-	0.2	0.09
	B-A	0.08	9.89	0.008	-	0.01	0.01	-	0.1	0.10
	D-AB	0.00	8.98	0.000	-	0.00	0.00	-	0.0	0.00
	D-C	0.09	8.59	0.010	-	0.01	0.01	-	0.2	0.12
	CD-AB	0.05	10.01	0.005	-	0.01	0.01	-	0.1	0.10
	CD-A	0.31	-	-	-	-	-	-	-	-
	C-A	0.31	-	-	-	-	-	-	-	-
	C-B	0.05	-	-	-	-	-	-	-	-
	C-D	0.26	-	-	-	-	-	-	-	-
	AB-CD	0.04	11.01	0.004	-	0.00	0.00	-	0.1	0.09
	AB-C	0.70	-	-	-	-	-	-	-	-
	A-B	0.03	-	-	-	-	-	-	-	-
	A-C	0.56	-	-	-	-	-	-	-	-
	A-D	0.04	-	-	-	-	-	-	-	-

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-CD	15.1	10.1	1.4	0.1	1.4	0.1
B-A	8.3	5.5	0.8	0.1	0.8	0.1
D-AB	0.0	0.0	0.0	0.0	0.0	0.0
D-C	9.6	6.4	1.1	0.1	1.1	0.1
CD-AB	5.7	3.8	0.6	0.1	0.6	0.1
CD-A	34.2	22.8	-	-	-	-
C-A	34.4	22.9	-	-	-	-
C-B	5.5	3.7	-	-	-	-
C-D	28.9	19.3	-	-	-	-
AB-CD	4.5	3.0	0.4	0.1	0.4	0.1
AB-C	76.7	51.1	-	-	-	-
A-B	2.8	1.8	-	-	-	-
A-C	61.9	41.3	-	-	-	-
A-D	4.1	2.8	-	-	-	-
<b>All</b>	<b>170.7</b>	<b>113.8</b>	<b>4.4</b>	<b>0.0</b>	<b>4.4</b>	<b>0.0</b>

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**

<b>PICADY</b>		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
© Copyright TRL Limited, 2010 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: <a href="mailto:software@trl.co.uk">software@trl.co.uk</a> Web: <a href="http://www.trlsoftware.co.uk">www.trlsoftware.co.uk</a>
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	H:\Ben\Transport Planning\Coda\Butt Lane Predicted 2023 PM.vpi
Date Run	12 November 2018
Time Run	20:42:19
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Butt Lane (South)	100
Arm B	Proposed Site Access	100
Arm C	Butt Lane (North)	100
Arm D	Existing Health Centre Access	100

## Stream Labelling Convention

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

## Run Information

Parameter	Values
Run Title	Site Access/Butt Lane, Predicted 2023
Location	-
Date	12 November 2018
Enumerator	B Jennings
Job Number	-
Status	-
Client	-
Description	-

## Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

## Geometric Data

### Geometric Parameters

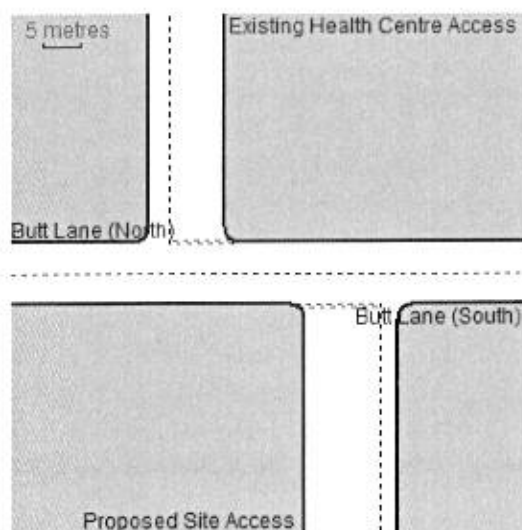
Parameter	Minor Arm B	Minor Arm D
Major Road Carriageway Width (m)	6.00	6.00
Major Road Kerbed Central Reserve Width (m)	0.00	0.00
Major Road Right Turning Lane Width (m)	2.20	2.20
Minor Road Width 0m Back from Junction (m)	10.00	7.30
Minor Road Width 5m Back from Junction (m)	3.60	3.20
Minor Road Width 10m Back from Junction (m)	2.75	3.20
Minor Road Width 15m Back from Junction (m)	2.75	3.20
Minor Road Width 20m Back from Junction (m)	2.75	3.20
Minor Road Derived Flare Length (PCU)	0.000	0.000
Minor Road Visibility To Right (m)	35	35
Minor Road Visibility To Left (m)	38	22
Major Road Right Turn Visibility (m)	40	120
Major Road Right Turn Blocks Traffic	Yes (if over 0 veh)	Yes (if over 0 veh)

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
B-CD	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-
B-A	0.000	0.000	0.000	0.000	-	-	0.000	0.000	-	0.000	0.000
D-AB	0.000	-	-	-	-	-	0.000	0.000	0.000	-	-
D-C	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-
CD-B	643.456	0.231	0.231	0.000	-	-	-	-	-	-	-
AB-D	643.456	-	-	-	-	-	-	-	0.249	-	-

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:** Site Access/Butt Lane, Predicted 2023

**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	7.0	43.0	4.0
Arm B	3.0	0.0	4.0	0.0
Arm C	45.0	8.0	0.0	17.0
Arm D	3.0	0.0	26.0	0.0



### ODTAB Synthesised Flows

**Demand Set:** Site Access/Butt Lane, Predicted 2023

**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	0.675	17:30	1.013	18:00	0.675
Arm B	17:00	0.087	17:30	0.131	18:00	0.087
Arm C	17:00	0.875	17:30	1.313	18:00	0.875
Arm D	17:00	0.363	17:30	0.544	18:00	0.363

### Heavy Vehicles Percentages

**Demand Set:** Site Access/Butt Lane, Predicted 2023

**Modelling Period:** 16:45-18:15

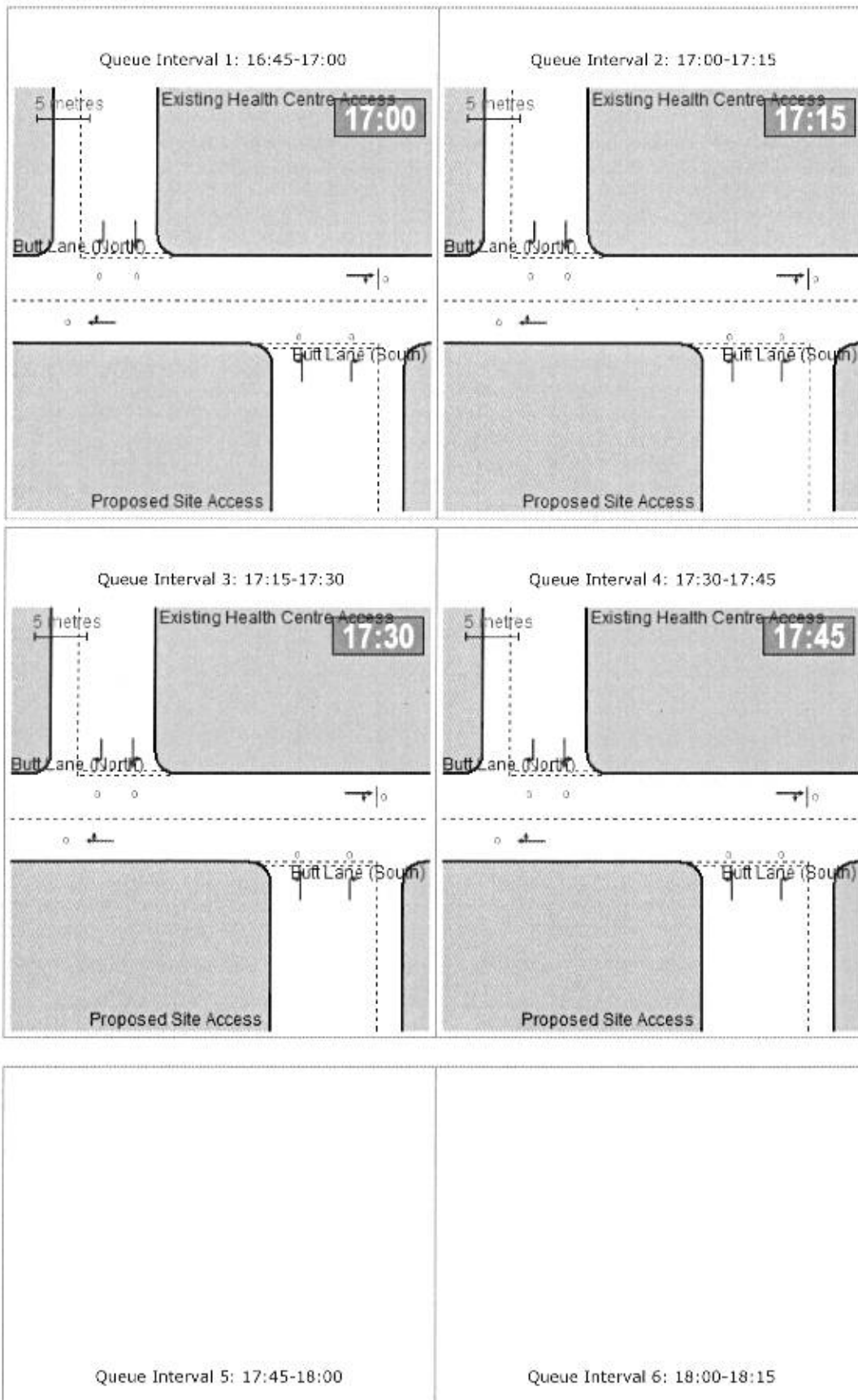
From/To	Arm A	Arm B	Arm C	Arm D
Arm A	-	0.0	4.7	0.0
Arm B	0.0	-	0.0	0.0
Arm C	2.2	0.0	-	0.0
Arm D	0.0	0.0	0.0	-

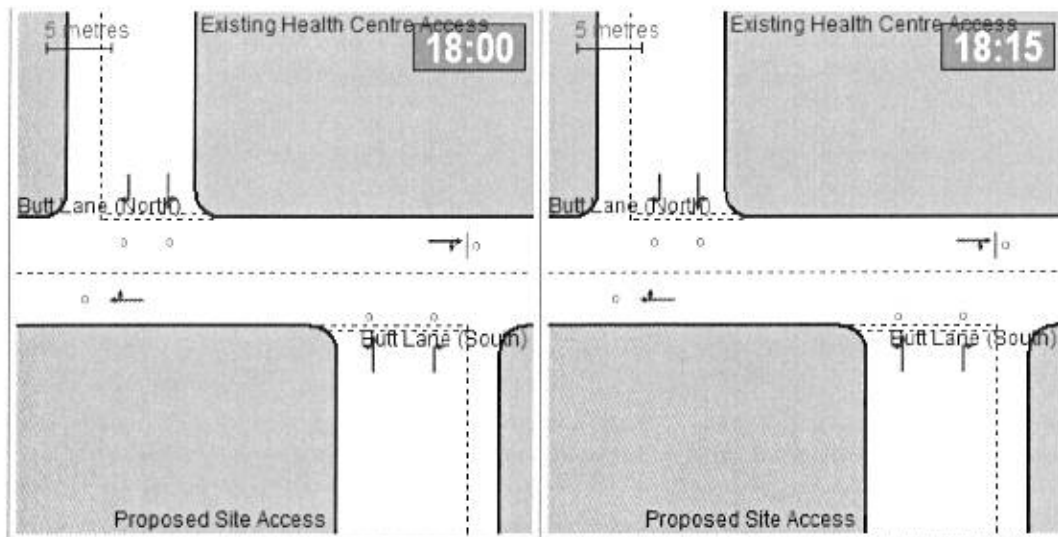
## Queue Diagrams

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

**Modelling Period:** 16:45-18:15

**View Extent:** 40m

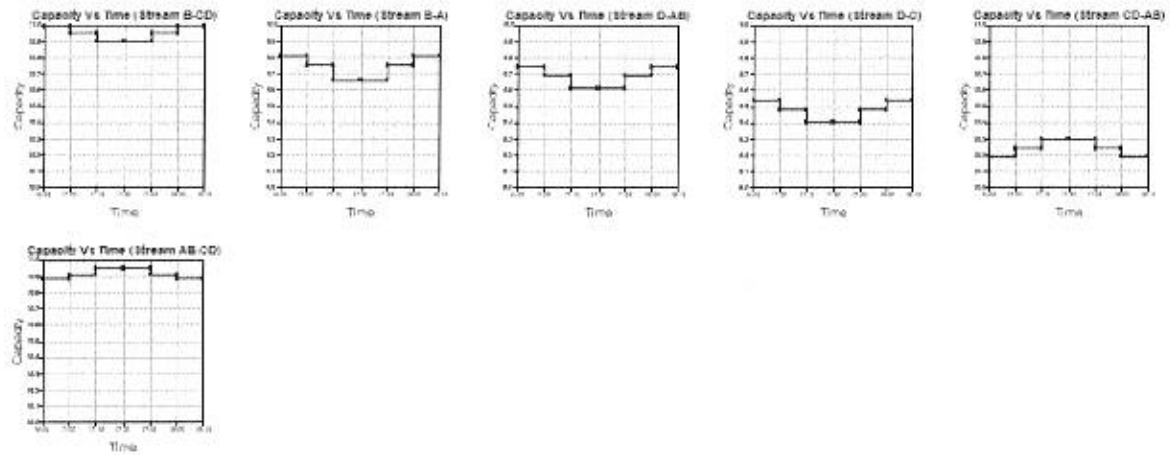




## Capacity Graph

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

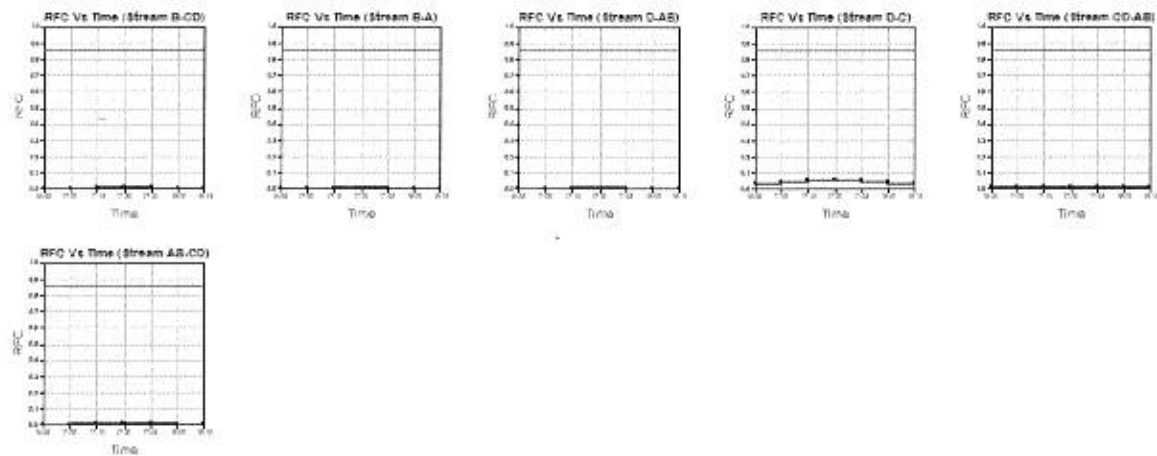
**Modelling Period:** 16:45-18:15



## RFC Graph

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

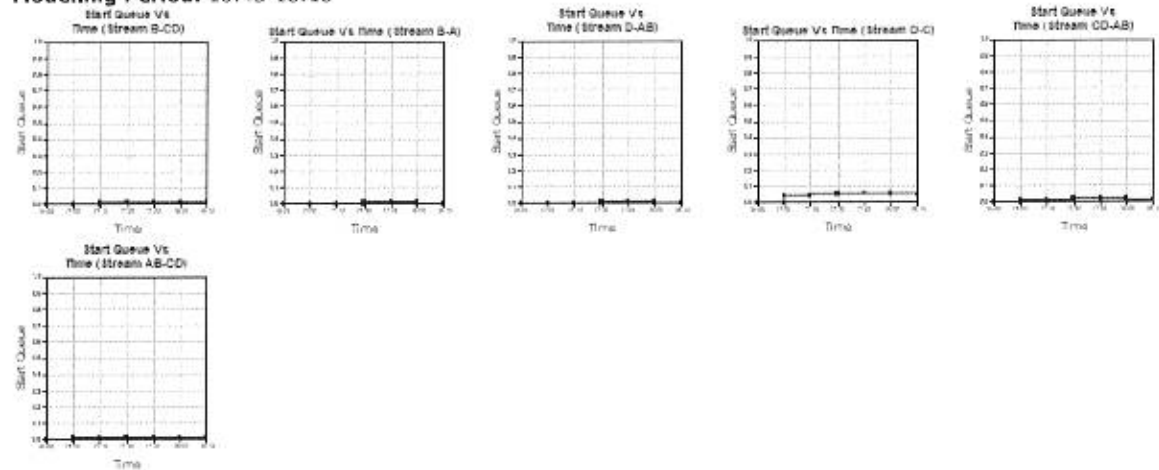
**Modelling Period:** 16:45-18:15



## Start Queue Graph

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

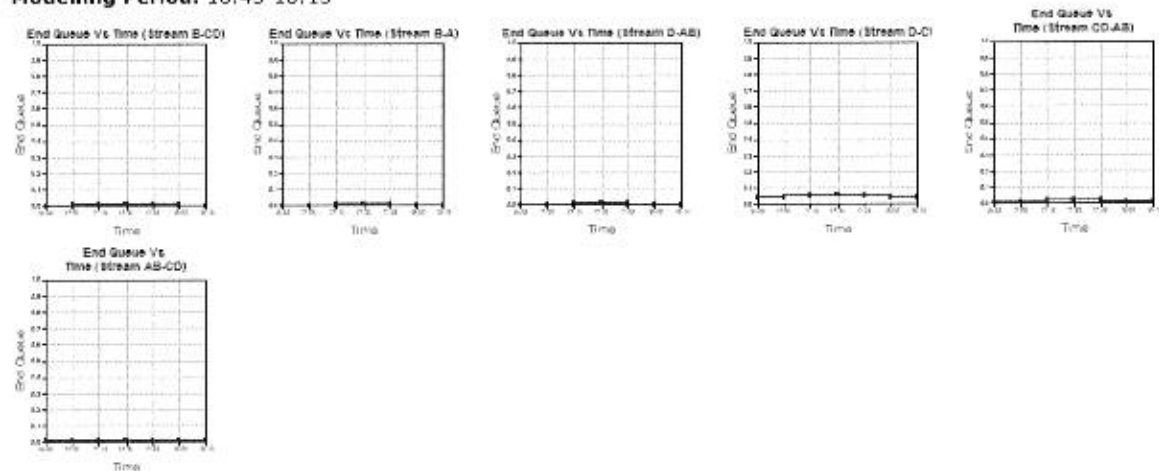
**Modelling Period:** 16:45-18:15



## End Queue Graph

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

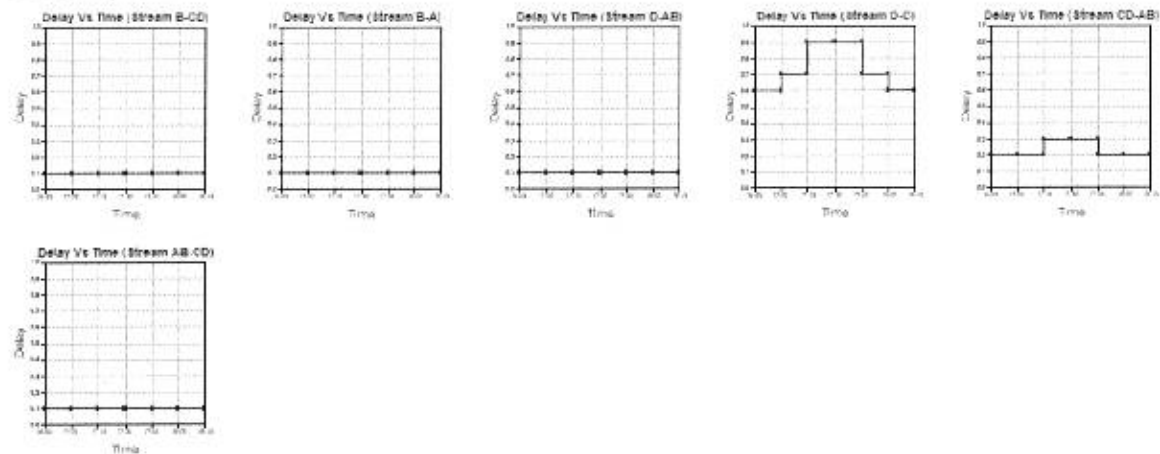
**Modelling Period:** 16:45-18:15



## Delay Graph

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

**Modelling Period:** 16:45-18:15



## Queues & Delays

**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)
16:45-17:00	B-CD	0.05	10.99	0.005	-	0.00	0.00	-	0.1	0.09
	B-A	0.04	9.81	0.004	-	0.00	0.00	-	0.1	0.10
	D-AB	0.04	9.74	0.004	-	0.00	0.00	-	0.1	0.10
	D-C	0.33	8.54	0.038	-	0.00	0.04	-	0.6	0.12
	CD-AB	0.11	10.19	0.010	-	0.00	0.01	-	0.2	0.10
	CD-A	0.60	-	-	-	-	-	-	-	-
	C-A	0.56	-	-	-	-	-	-	-	-
	C-B	0.10	-	-	-	-	-	-	-	-
	C-D	0.21	-	-	-	-	-	-	-	-
	AB-CD	0.05	10.88	0.005	-	0.00	0.01	-	0.1	0.09
	AB-C	0.59	-	-	-	-	-	-	-	-
	A-B	0.09	-	-	-	-	-	-	-	-
	A-C	0.54	-	-	-	-	-	-	-	-
	A-D	0.05	-	-	-	-	-	-	-	-

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)
17:00-17:15	B-CD	0.06	10.95	0.005	-	0.00	0.01	-	0.1	0.09
	B-A	0.04	9.75	0.005	-	0.00	0.00	-	0.1	0.10
	D-AB	0.04	9.69	0.005	-	0.00	0.00	-	0.1	0.10
	D-C	0.39	8.48	0.046	-	0.04	0.05	-	0.7	0.12
	CD-AB	0.13	10.24	0.013	-	0.01	0.01	-	0.2	0.10
	CD-A	0.71	-	-	-	-	-	-	-	-
	C-A	0.67	-	-	-	-	-	-	-	-
	C-B	0.12	-	-	-	-	-	-	-	-
	C-D	0.25	-	-	-	-	-	-	-	-
	AB-CD	0.06	10.91	0.006	-	0.01	0.01	-	0.1	0.09
	AB-C	0.70	-	-	-	-	-	-	-	-

	A-B	0.10	-	-	-	-	-	-	-	-
	A-C	0.64	-	-	-	-	-	-	-	-
	A-D	0.06	-	-	-	-	-	-	-	-
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)
17:15- 17:30	B-CD	0.07	10.90	0.007	-	0.01	0.01	-	0.1	0.09
	B-A	0.06	9.66	0.006	-	0.00	0.01	-	0.1	0.10
	D-AB	0.06	9.61	0.006	-	0.00	0.01	-	0.1	0.10
	D-C	0.48	8.40	0.057	-	0.05	0.06	-	0.9	0.13
	CD-AB	0.16	10.30	0.016	-	0.01	0.02	-	0.3	0.10
	CD-A	0.87	-	-	-	-	-	-	-	-
	C-A	0.83	-	-	-	-	-	-	-	-
	C-B	0.15	-	-	-	-	-	-	-	-
	C-D	0.31	-	-	-	-	-	-	-	-
	AB-CD	0.08	10.95	0.007	-	0.01	0.01	-	0.1	0.09
	AB-C	0.86	-	-	-	-	-	-	-	-
	A-B	0.13	-	-	-	-	-	-	-	-
	A-C	0.79	-	-	-	-	-	-	-	-
	A-D	0.07	-	-	-	-	-	-	-	-

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)
17:30- 17:45	B-CD	0.07	10.90	0.007	-	0.01	0.01	-	0.1	0.09
	B-A	0.06	9.66	0.006	-	0.01	0.01	-	0.1	0.10
	D-AB	0.06	9.61	0.006	-	0.01	0.01	-	0.1	0.10
	D-C	0.48	8.40	0.057	-	0.06	0.06	-	0.9	0.13
	CD-AB	0.16	10.30	0.016	-	0.02	0.02	-	0.3	0.10
	CD-A	0.87	-	-	-	-	-	-	-	-
	C-A	0.83	-	-	-	-	-	-	-	-
	C-B	0.15	-	-	-	-	-	-	-	-
	C-D	0.31	-	-	-	-	-	-	-	-
	AB-CD	0.08	10.95	0.007	-	0.01	0.01	-	0.1	0.09
	AB-C	0.86	-	-	-	-	-	-	-	-
	A-B	0.13	-	-	-	-	-	-	-	-
	A-C	0.79	-	-	-	-	-	-	-	-
	A-D	0.07	-	-	-	-	-	-	-	-
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)
17:45- 18:00	B-CD	0.06	10.95	0.005	-	0.01	0.01	-	0.1	0.09
	B-A	0.04	9.75	0.005	-	0.01	0.00	-	0.1	0.10
	D-AB	0.04	9.69	0.005	-	0.01	0.00	-	0.1	0.10
	D-C	0.39	8.48	0.046	-	0.06	0.05	-	0.7	0.12
	CD-AB	0.13	10.24	0.013	-	0.02	0.01	-	0.2	0.10
	CD-A	0.71	-	-	-	-	-	-	-	-
	C-A	0.67	-	-	-	-	-	-	-	-
	C-B	0.12	-	-	-	-	-	-	-	-
	C-D	0.25	-	-	-	-	-	-	-	-
	AB-CD	0.06	10.91	0.006	-	0.01	0.01	-	0.1	0.09
	AB-C	0.70	-	-	-	-	-	-	-	-
	A-B	0.10	-	-	-	-	-	-	-	-
	A-C	0.64	-	-	-	-	-	-	-	-
	A-D	0.06	-	-	-	-	-	-	-	-



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-CD	0.05	10.99	0.005	-	0.01	0.00	-	0.1	0.09
	B-A	0.04	9.81	0.004	-	0.00	0.00	-	0.1	0.10
	D-AB	0.04	9.74	0.004	-	0.00	0.00	-	0.1	0.10
	D-C	0.33	8.54	0.038	-	0.05	0.04	-	0.6	0.12
	CD-AB	0.11	10.19	0.010	-	0.01	0.01	-	0.2	0.10
	CD-A	0.60	-	-	-	-	-	-	-	-
	C-A	0.56	-	-	-	-	-	-	-	-
	C-B	0.10	-	-	-	-	-	-	-	-
	C-D	0.21	-	-	-	-	-	-	-	-
	AB-CD	0.05	10.88	0.005	-	0.01	0.01	-	0.1	0.09
	AB-C	0.59	-	-	-	-	-	-	-	-
	A-B	0.09	-	-	-	-	-	-	-	-
	A-C	0.54	-	-	-	-	-	-	-	-
	A-D	0.05	-	-	-	-	-	-	-	-

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-CD	5.5	3.7	0.5	0.1	0.5	0.1
B-A	4.1	2.8	0.4	0.1	0.4	0.1
D-AB	4.1	2.8	0.4	0.1	0.4	0.1
D-C	35.8	23.9	4.4	0.1	4.4	0.1
CD-AB	11.9	7.9	1.3	0.1	1.3	0.1
CD-A	65.2	43.5	-	-	-	-
C-A	61.9	41.3	-	-	-	-
C-B	11.0	7.3	-	-	-	-
C-D	23.4	15.6	-	-	-	-
AB-CD	5.9	3.9	0.6	0.1	0.6	0.1
AB-C	64.3	42.9	-	-	-	-
A-B	9.6	6.4	-	-	-	-
A-C	59.2	39.5	-	-	-	-
A-D	5.5	3.7	-	-	-	-
<b>All</b>	<b>220.2</b>	<b>146.8</b>	<b>7.6</b>	<b>0.0</b>	<b>7.6</b>	<b>0.0</b>

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**

## **APPENDIX K**

### **2KM WALKING RADIUS**

# CoDa+ Transportation

Consulting Transportation Engineers

14 Springfield Court

Guiseley

Leeds LS20 8PD

Tel: 01943 872567

Fax: 01943 870824

Project Butt Lane, Snaith

Title 2km Walking Radius from the Site

Drawn

RD

Date

14.11.18

Drg. No.

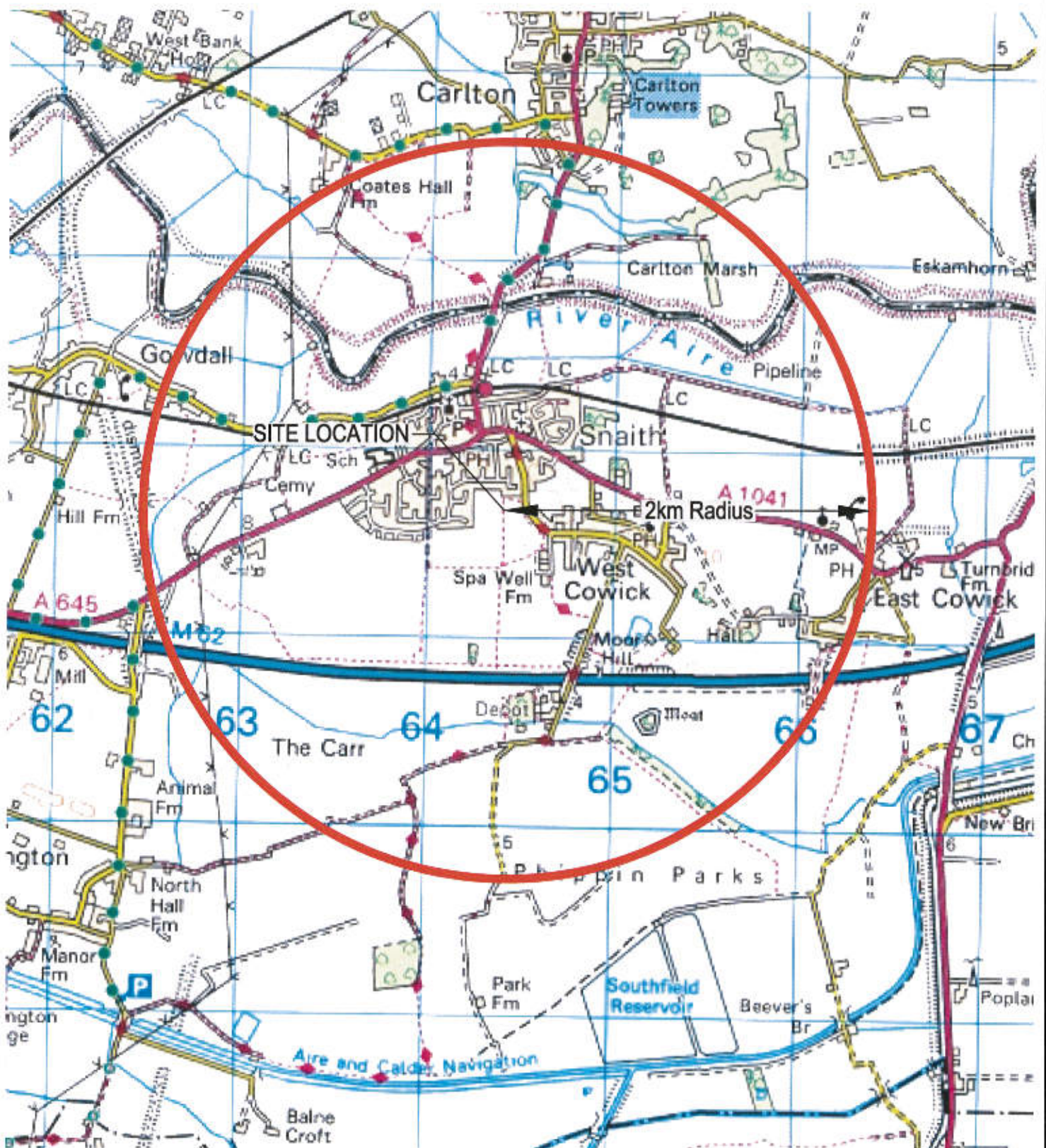
7849/Fig2

Rev.

—

Scale  
NTS

Checked  
MJ



## **APPENDIX L**

### **PLAN SHOWING LOCAL CYCLE ROUTES**





### Site Location

## CoDa+Transportation

Consulting Transportation Engineers

14 Springfield Court

Guiseley

Leeds LS20 8PD

Tel: 01943 872567

Fax: 01943 870824



Project	Butt Lane, Snaith			
Title	Cycle Routes			
Drawn	RD	Date	14.11.18	Rev.
Scale	NTS	Checked	RD	7849/FIG4
				—

## **APPENDIX M**

### **5KM CYCLING RADIUS**



# CoDa+ Transportation

Consulting Transportation Engineers

14 Springfield Court

Guiseley

Leeds LS20 8PD

Tel: 01943 872567

Fax: 01943 870824



Project Butt Lane, Snaith

Title 5km Cycling Radius from the Site

Drawn RD

Date

14.11.18

Drg. No.

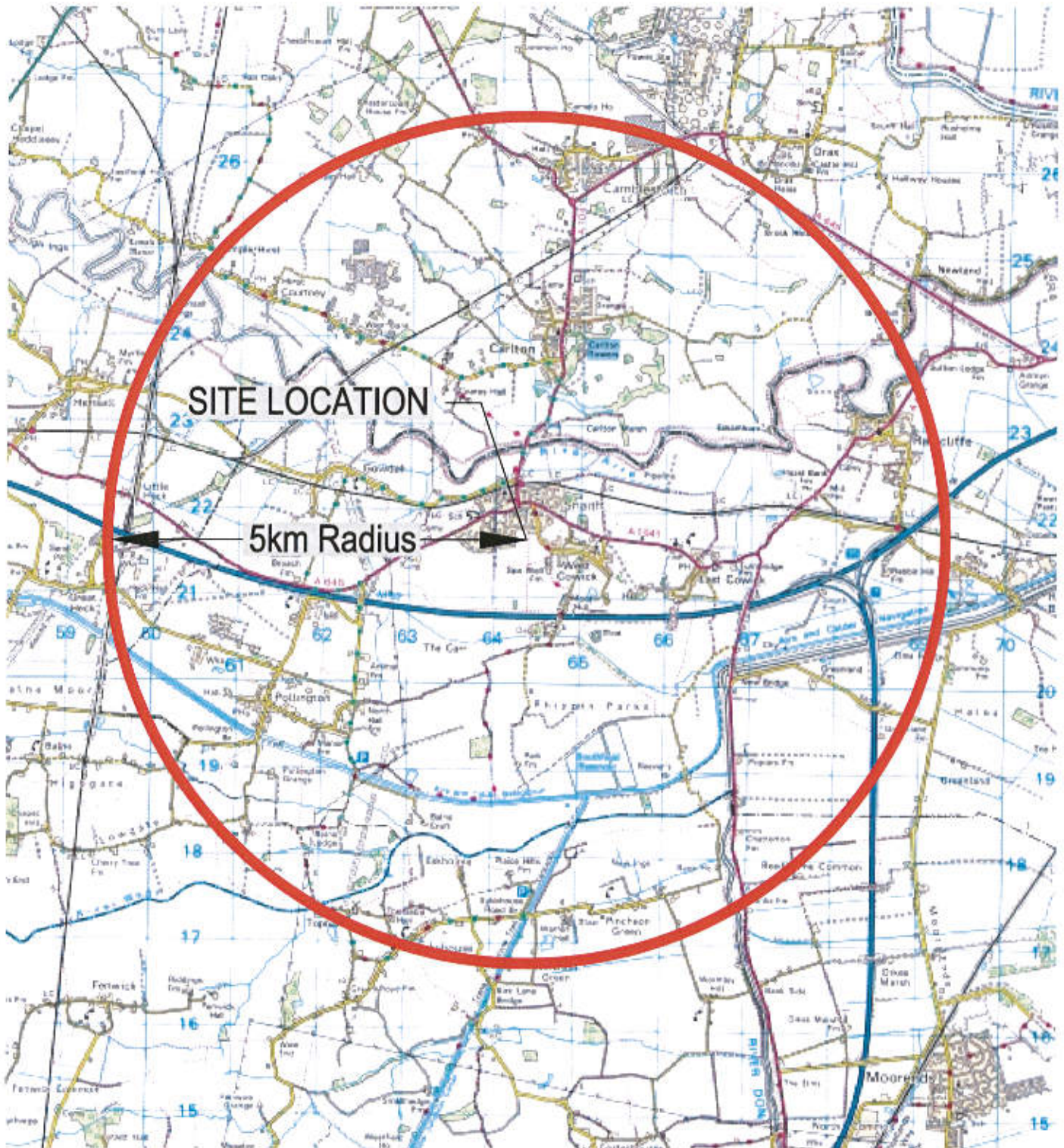
7849/Fig5

Rev.

Scale  
NTS

Checked  
MJ

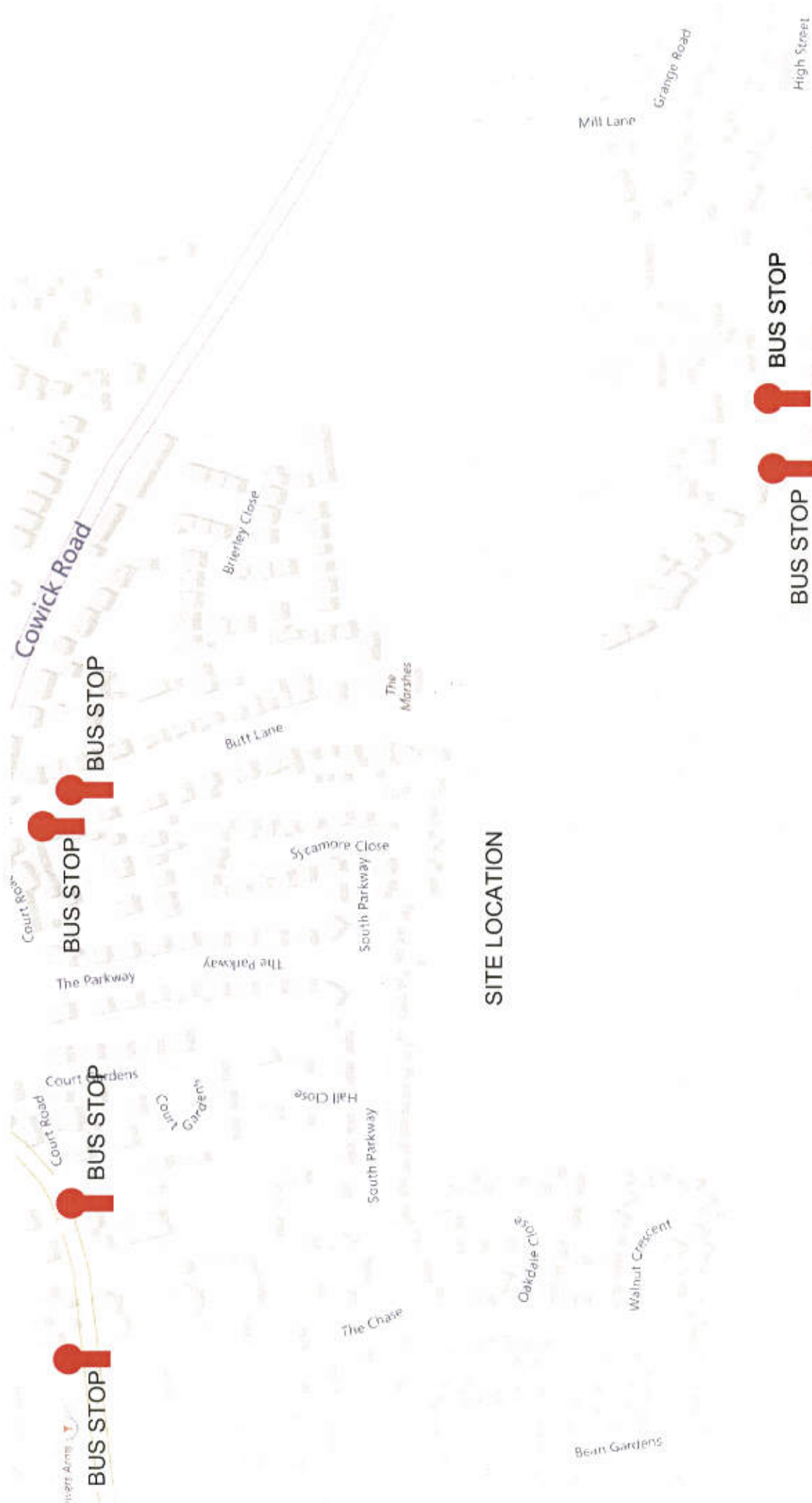
—





## **APPENDIX N**

### **DETAILS OF BUS SERVICES**



**CoDa+Transportation**

Consulting Transportation Engineers

14 Springfield Court

Guiseley

Leeds LS20 8TD

Tel: 01943 872567

Fax: 01943 870824



Project Butt Lane, Snaith

Title Bus Stop Location Plan

Drawn RD

Date 14.11.18

Drwg. No.

7849/Fig1

Rev.

—

Checked RD

Scale NTS

Table T032-F

**Mondays to Fridays**

21 May to 7 December

**Bradford, Leeds and Wakefield - Pontefract,  
Knottingley and Goole**

[illegible][illegible][illegible]

Please check the 'Additional Notes to Individual Tables' section for any other general notes that apply to this Table

Table T032-F

**Saturdays**

26 May to 8 December

**Bradford, Leeds and Wakefield - Pontefract, Knottingley and Goole**

[illegible]

A To Sheffield

Table T032-F

Sundays

20 May to 2 December

**Bradford, Leeds and Wakefield - Pontefract,  
Knottingley and Goole**

[illegible]

A To Shaft etc





Table T032-R

### Saturdays

26 May to 8 December

**Goole, Knottingley and Pontefract - Wakefield and Leeds, Bradford**

[illegible]

Please check the 'Additional Notes to Individual Tables' section for any other general notes that apply to this Table

Table T032-R

Sundays

20 May to 2 December

**Goole, Knottingley and Pontefract - Wakefield and Leeds, Bradford**

[illegible]

**A** From Stetfield



## Monday to Friday - towards Goole Supermarket

	401	400	400 <sup>1</sup>	400 <sup>2</sup>	401 <sup>1</sup>	401 <sup>2</sup>	401	401	401	401	401	401	401 <sup>1</sup>	X8 <sup>1</sup>	401 <sup>2</sup>	401	401
Selby Bus Stn Stand 2	0830	0720	0818	0833	0915	0915	1010	1110	1210	1310	1410	1510	1630	1635	1635	1735	1810
Selby College	--	--	--	--	--	--	--	--	--	--	--	--	1640	1640	--	--	--
Camblesforth Village Hall	0841	0731	0831	0844	0926	0926	1021	1121	1221	1321	1421	1521	1647	1649	1647	1746	1821
Camblesforth English Salad Growers	0842	0732	0833	0845	0927	0927	1022	1122	1222	1322	1422	1522	1648	1650	1648	1747	1822
Snailth Railway Stn	0847	0738	0844	0851	0933	0933	1028	1128	1228	1328	1428	1528	1654	1700	1654	1753	1828
Snailth Pontefract Road	--	--	0848	--	--	--	--	--	--	--	--	--	--	1700	--	--	--
Gowdall Field Lane	--	--	--	--	--	--	--	--	--	--	--	--	--	1706	--	--	--
Pollington Long Lane	--	--	--	--	--	--	--	--	--	--	--	--	--	1725	--	--	--
Great Heck Walnut Tree	--	--	--	--	--	--	--	--	--	--	--	--	--	1730	--	--	--
Norton Broc-O-Bank	--	--	--	--	--	--	--	--	--	--	--	--	--	1745	--	--	--
Askern Newmarche Drive	--	--	--	--	--	--	--	--	--	--	--	--	--	1753	--	--	--
West Cowick High Street	0660	0741	0854	0854	0936	0936	1031	1131	1231	1331	1431	1531	1657	--	1657	1756	1831
Rawcliffe Hall Gardens	0657	0749	0902	0902	0944	0944	1039	1139	1239	1339	1439	1539	1705	--	1705	1804	--
Airmyn High Street	--	0755	0908	0908	--	--	--	--	--	--	--	--	1713	--	--	--	--
Goole Hospital Grounds	--	0802	0915	0915	--	--	--	--	--	--	--	--	--	--	--	--	--
Goole Supermarket	0710	0810	0923	0923	0959	0959	1054	1154	1254	1354	1454	1554	1720	--	1720	1818	--

<sup>1</sup>Term Time Only <sup>2</sup>Only During School Holidays

## Monday to Friday - towards Selby Bus Stn Stand 2

	401	401	400 <sup>1</sup>	400 <sup>2</sup>	X8 <sup>1</sup>	401 <sup>1</sup>	401 <sup>2</sup>	401	401	401	401	401 <sup>1</sup>	401 <sup>2</sup>	400 <sup>1</sup>	400 <sup>2</sup>	401 <sup>1</sup>	401 <sup>2</sup>	401	401
Askern Rushy Moor Avenue	--	--	--	--	0815	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Askern High Street	--	--	--	--	0818	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Campsall Balk	--	--	--	--	0821	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norton Broc-O-Bank	--	--	--	--	0825	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pollington Gowdall Lane	--	--	--	--	0840	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gowdall Field Lane	--	--	--	--	0845	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Goole Supermarket	--	0718	0815	0815	--	0910	0910	1005	1100	1200	1300	1400	1400	1500	1500	1600	1600	1725	1823
Goole Hospital Grounds	--	--	0823	0823	--	--	--	--	--	--	--	--	--	1508	1508	--	--	--	--
Airmyn High Street	--	--	0829	0829	--	--	--	--	--	--	--	--	--	1514	1514	--	--	--	--
Rawcliffe High Street	0702	0730	0835	0835	--	0924	0924	1019	1114	1214	1314	1414	1414	1520	1520	1614	1614	1739	1836
West Cowick High Street	0709	0737	0842	0842	--	0931	0931	1026	1121	1221	1321	1421	1421	1527	1527	1621	1621	1746	1843
Snailth Selby Road	0713	0741	0846	0846	0852	0935	0935	1030	1125	1225	1325	1425	1425	1531	1531	1625	1625	1750	1847
Carlton Holy Family RC School	--	--	--	--	0854	--	--	--	--	--	--	--	--	1538	--	--	--	--	--
Camblesforth Comus Inn	--	--	--	--	--	--	--	--	--	--	--	--	--	1542	--	--	--	--	--
Camblesforth Village Hall	0721	0749	0854	0854	0857	0943	0943	1038	1133	1233	1333	1433	1433	--	1539	1633	1633	1758	1854
Selby College	--	--	0905	--	0906	--	--	--	--	--	--	--	--	--	--	1640	--	--	--
Selby Bus Stn Stand 2	0732	0800	0910	0905	0912	0954	0954	1049	1144	1244	1344	1444	1444	1554	1550	1649	1644	1809	1905

<sup>1</sup>Term Time Only <sup>2</sup>Only During School Holidays

## Saturday - towards Goole Supermarket

	401	401	401	401	401
Selby Bus Stn Stand 2	0810	0910		10	1710 1810
Camblesforth Village Hall	0821	0921	Then at	21	past 1721 1821
Snailth Railway Stn	0828	0928	at	28	each 1728 1828
West Cowick High Street	0831	0931	these mins	31	hour 1731 1831
Rawcliffe Hall Gardens	0839	0939		39	until 1739 --
Goole Supermarket	0854	0954		54	1754 --

## Saturday - towards Selby Bus Stn Stand 2

	401	401	401	401	400	400
Goole Supermarket	--	0900	1000	00	1700	1800
Rawcliffe High Street	--	0914	1014	14	past	1714 1814
West Cowick High Street	--	0921	1021	21	each	1721 1821
Snailth Selby Road	0815	0925	1025	25	hour	1725 1825
Camblesforth Village Hall	0823	0933	1033	33	until	1733 1833
Selby Bus Stn Stand 2	0834	0944	1044	44		1744 1844