Appendix G

Access, visibility review
& swept path analysis data

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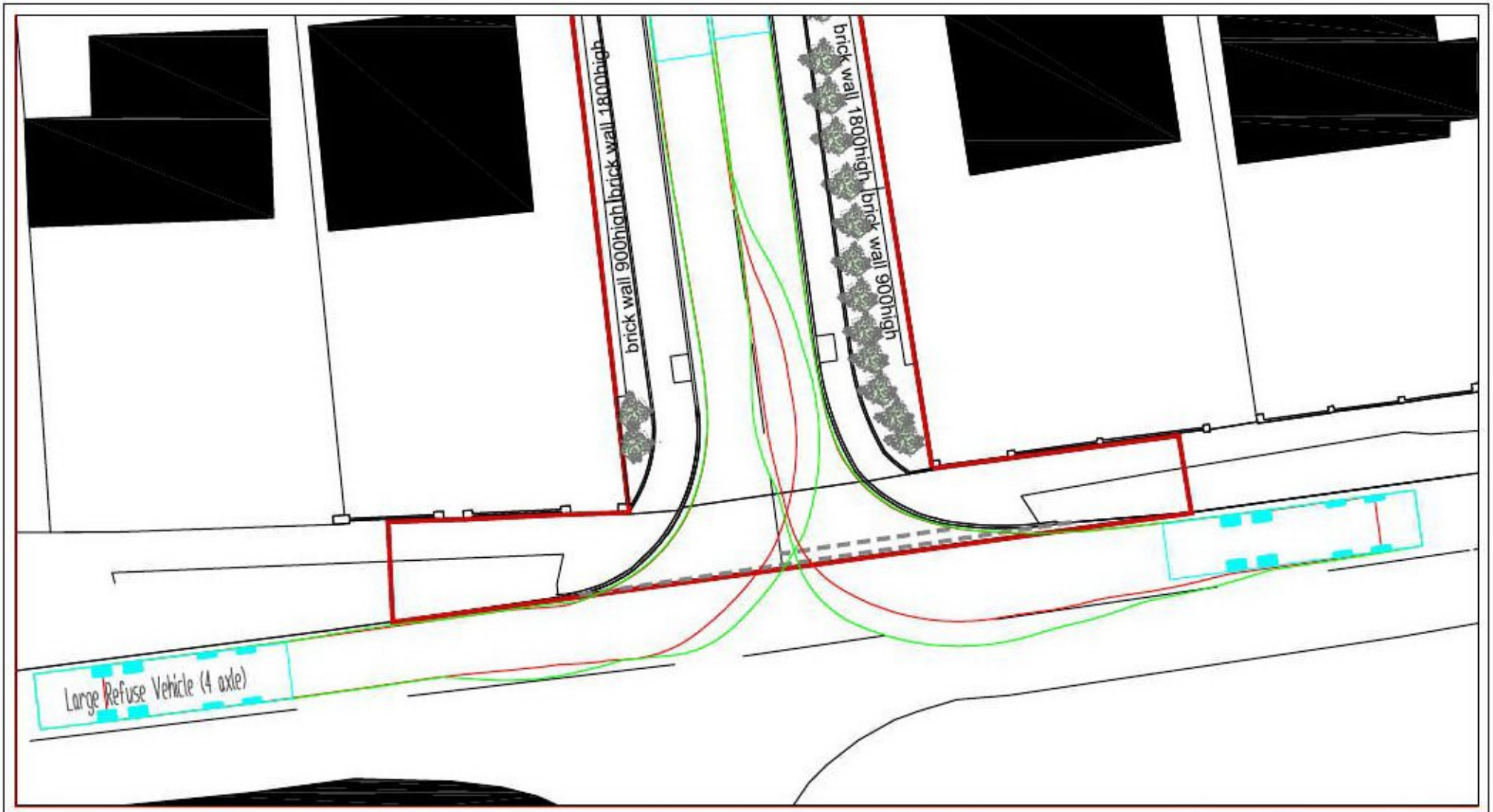
environmental & transportation

2nd & 3rd Floors | Northgate House | Upper Borough Walls | Bath | BA1 1RG

[redacted]

PROJECT TITLE	ST JOHN'S ROAD, CLACTON-ON-SEA		
DRAWING TITLE	VISIBILITY REVIEW		
DATE MAY 21	SCALE 1:1000 AT A4	STATUS	
DRAWN JPB	CHECKED RF	APPROVED RF	
DRG SIZE A4	DRAWING NUMBER SK001	REV B	

NOTE:
WITHIN THE VISIBILITY SPLAY, NO VISIBLE OBSTRUCTION BETWEEN 0.6m AND 2m



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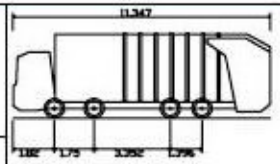
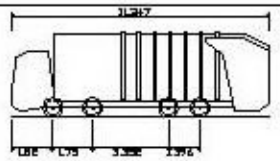
[redacted]

PROJECT TITLE	ST JOHN'S ROAD, CLACTON-ON-SEA		
DRAWING TITLE	SWEPT PATH ANALYSIS - 4 AXLE VEHICLE		
DATE MAY 21	SCALE 1:250 AT A4	STATUS	
DRAWN JPB	CHECKED RF	APPROVED RF	
DRG SIZE A4	DRAWING NUMBER SK002	REV B	



Large Refuse Vehicle (4 axle)	
Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.330m



Large Refuse Vehicle (4 axle)

Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s

REV	DATE	REVISION DETAILS	BY

entran
environmental & transportation

2nd & 3rd Floors | Kerrigold House | Upper Borough Walls | Bath | BA1 1RX

[redacted]

PROJECT TITLE
ST JOHN'S ROAD,
CLACTON-ON-SEA

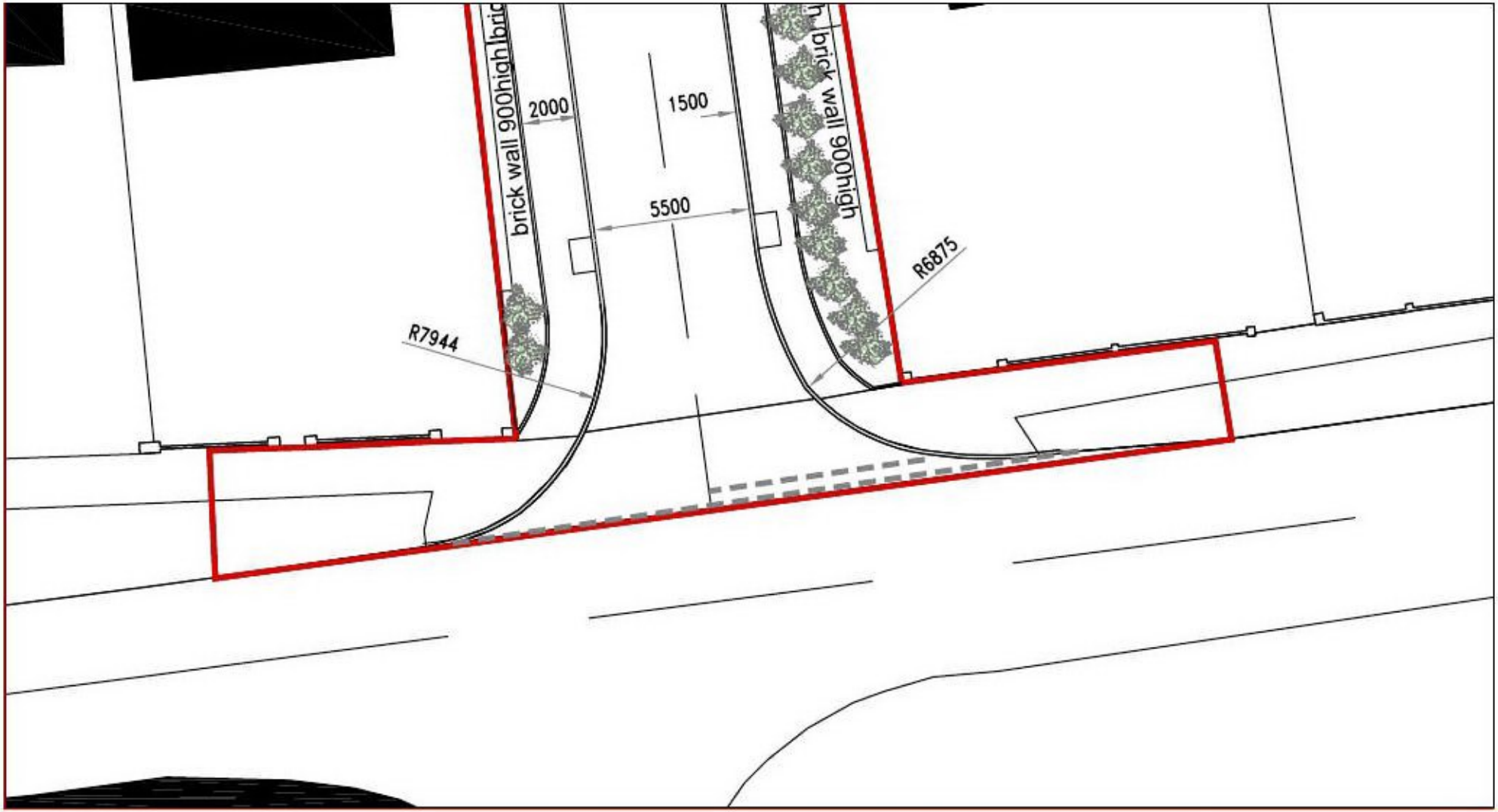
DRAWING TITLE
SWEPT PATH ANALYSIS
4 AXLE REFUSE VEHICLE

CLIENT / ARCHITECT

STATUS

SCALE		DRAWN
1:1000	AT A3	JPB
CHECKED		APPROVED
RF		RF

DRG SIZE	DATE	DRAWING NUMBER	REV
A3	MAY 21	SK004	B



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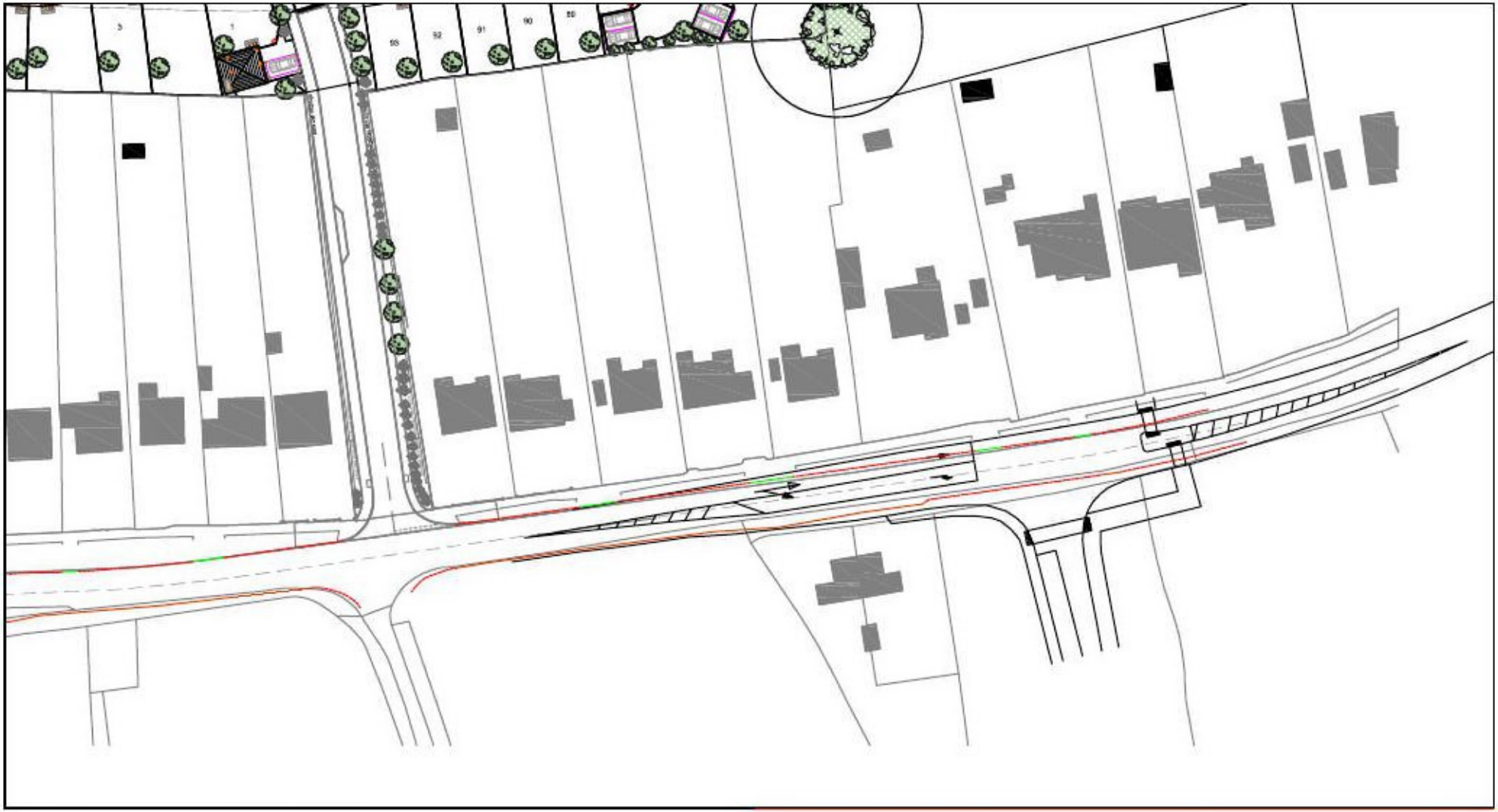
[redacted]

PROJECT TITLE	ST JOHN'S ROAD, CLACTON-ON-SEA		
DRAWING TITLE	PROPOSED ACCESS ARRANGEMENT		
DATE MAY 21	SCALE 1:200 AT A4	STATUS	
DRAWN JPB	CHECKED RF	APPROVED RF	
DRG SIZE A4	DRAWING NUMBER SK006	REV D	



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[redacted]

PROJECT TITLE	ST JOHN'S ROAD, CLACTON-ON-SEA ROUSES FARM PROPOSED TRAFFIC SIGNAL JUNCTION		
DRAWING TITLE	PROPOSED ACCESS ARRANGEMENT		
DATE MAY 21	SCALE 1:1000 AT A4	STATUS	
DRAWN JPB	CHECKED RF	APPROVED RF	
DRG SIZE A4	DRAWING NUMBER SK007	REV C	

Appendix H

TRICS output

Calculation Reference: AUDT-337901-180904-0923

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 03 - RESIDENTIAL
Category C - FLATS PRIVATELY OWNED
VEHICLES

Selected regions and areas:

04	**EAST ANGLIA**		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
	NT	NOTTINGHAMSHIRE	1 days
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 28 to 56 (units:)
Range Selected by User: 22 to 66 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 11/11/16

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	2 days
Wednesday	1 days
Thursday	1 days
Friday	1 days
Saturday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	1 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	4

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	3
Built-Up Zone	1
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:
C3 5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS ®.

Population within 1 mile:
1,001 to 5,000 1 days
10,001 to 15,000 2 days
20,001 to 25,000 1 days
35,001 to 50,000 2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
50,001 to 75,000 2 days
125,001 to 250,000 1 days
350,001 to 500,000 2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
1.0 to 1.0 1 days
1.1 to 1.5 5 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:
No 6 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:
No PTAL Present 6 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **CA-03-C-02** **BLOCK OF FLATS** **CAMBRIDGESHIRE**
WESTFIELD ROAD
WETHERTON
PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings 44
Survey date: *TUESDAY* *10/10/11* Survey Type: MANUAL

2 **DS-03-C-02** **FLATS** **DERBYSHIRE**
BURTON ROAD
NEW NORMANTON
DERBY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings 25
Survey date: *SATURDAY* *08/07/11* Survey Type: MANUAL

3 **NF-03-C-01** **BLOCKS OF FLATS** **NORFOLK**
PAGE STAIR LANE

KING'S LYNN
Edge of Town Centre
Built-Up Zone
Total Number of dwellings 51
Survey date: *THURSDAY* *11/12/14* Survey Type: MANUAL

4 **NT-03-C-01** **HOUSES (SPLIT INTO FLATS)** **NOTTINGHAMSHIRE**
LAWRENCE WAY

NOTTINGHAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings 56
Survey date: *TUESDAY* *08/11/15* Survey Type: MANUAL

5 **SF-03-C-03** **BLOCKS OF FLATS** **SUFFOLK**
TOLLGATE LANE

BURY ST EDMUNDS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings 30
Survey date: *WEDNESDAY* *03/12/14* Survey Type: MANUAL

6 **WM-03-C-04** **BLOCKS OF FLATS** **WEST MIDLANDS**
GILLGLAST WAY
FARMSIDE
COVENTRY
Edge of Town Centre
Residential Zone
Total Number of dwellings 58
Survey date: *FRIDAY* *11/11/15* Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CB-03-C-01	Not suitable - Location
CB-03-C-02	Not suitable - Location
CB-03-C-03	Not suitable - Location

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	6	44	0.122	6	44	0.136	6	44	0.258
08:00 - 09:00	6	44	0.038	**6**	**44**	**0.205**	6	44	0.243
09:00 - 10:00	6	44	0.091	6	44	0.152	6	44	0.243
10:00 - 11:00	6	44	0.117	6	44	0.114	6	44	0.231
11:00 - 12:00	6	44	0.172	6	44	0.102	6	44	0.274
12:00 - 13:00	6	44	0.091	6	44	0.076	6	44	0.167
13:00 - 14:00	6	44	0.091	6	44	0.139	6	44	0.230
14:00 - 15:00	6	44	0.095	6	44	0.095	6	44	0.190
15:00 - 16:00	6	44	0.114	6	44	0.083	6	44	0.197
16:00 - 17:00	6	44	0.136	6	44	0.114	6	44	0.250
17:00 - 18:00	6	44	0.178	6	44	0.076	6	44	0.254
18:00 - 19:00	**6**	**44**	**0.182**	6	44	0.087	**6**	**44**	**0.269**
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.337			1.369			2.706

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split up three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	28 - 56 (units:)
Survey date date range:	01/01/09 - 11/11/16
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	1
Number of Sundays:	1
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	3

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDT-337901-180904-0925

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	DV DEVON	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	1 days
09	NORTH	
	DH DURHAM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 108 to 180 (units:)
Range Selected by User: 108 to 318 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 27/03/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	2 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	6 days
Directional ATC Count	1 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	5
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	6 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS ®.

Population within 1 mile:

5,001 to 10,000	3 days
10,001 to 15,000	2 days
20,001 to 25,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	4 days
75,001 to 100,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.0 to 1.0	1 days
1.1 to 1.5	5 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	6 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **DH-03-A-02** **MIXED HOUSES** **DURHAM**
LEAZES LANE
ST HELEN AUCKLAND
BISHOP AUCKLAND
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings 125
Survey date: MONDAY 27/05/17 Survey Type: MANUAL

2 **DV-03-A-02** **HOUSES & BUNGALOWS** **DEVON**
MILLHEAD ROAD

HONITON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings 116
Survey date: FRIDAY 25/05/12 Survey Type: MANUAL

3 **NE-03-A-03** **PRIVATE HOUSES** **NORTH EAST LINCOLNSHIRE**
STATION ROAD

SCUNTHORPE
Edge of Town Centre
Residential Zone
Total Number of dwellings 180
Survey date: TUESDAY 20/05/14 Survey Type: MANUAL

4 **NY-03-A-06** **BUNGALOWS & SEMI DET.** **NORTH YORKSHIRE**
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings 115
Survey date: FRIDAY 14/10/11 Survey Type: MANUAL

5 **SH-03-A-04** **TERRACED** **SHROPSHIRE**
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings 108
Survey date: THURSDAY 11/06/09 Survey Type: MANUAL

6 **WS-03-A-04** **MIXED HOUSES** **WEST SUSSEX**
HILLS FARM LANE
BROADBRIDGE HEATH
HORSHAM
Edge of Town
Residential Zone
Total Number of dwellings 151
Survey date: THURSDAY 13/12/14 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	6	133	0.047	6	133	0.201	6	133	0.248
08:00 - 09:00	6	133	0.132	**6**	**133**	**0.288**	**6**	**133**	**0.420**
09:00 - 10:00	6	133	0.136	6	133	0.127	6	133	0.263
10:00 - 11:00	6	133	0.131	6	133	0.160	6	133	0.291
11:00 - 12:00	6	133	0.123	6	133	0.142	6	133	0.265
12:00 - 13:00	6	133	0.130	6	133	0.132	6	133	0.262
13:00 - 14:00	6	133	0.143	6	133	0.112	6	133	0.255
14:00 - 15:00	6	133	0.112	6	133	0.143	6	133	0.255
15:00 - 16:00	6	133	0.214	6	133	0.148	6	133	0.362
16:00 - 17:00	6	133	0.181	6	133	0.138	6	133	0.319
17:00 - 18:00	**6**	**133**	**0.249**	6	133	0.166	6	133	0.415
18:00 - 19:00	6	133	0.131	6	133	0.138	6	133	0.269
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.719			1.875			3.594

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the columns) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	105 - 180 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	1
Number of Sundays:	1
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDT-337901-180904-0935

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 01 - RETAIL
Category H - GARDEN CENTRE
VEHICLES

Selected regions and areas:

08	NORTH WEST	
	CH CHESHIRE	1 days
	GM GREATER MANCHESTER	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Parking spaces
Actual Range:	30 to 35 (units:)
Range Selected by User:	1 to 2620 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 05/06/13

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday	1 days
Sunday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	2 days
Directional ATC Count	1 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Village	1
Not Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

A1	2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

100,001 to 125,000	1 days
250,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.0 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey count	1 days
Excluded from count or no filling station	2 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **CH-01-H-03** **GARDEN CENTRE** **CHESHIRE**
WHITCHURCH ROAD
CHRISTLETON
CHESTER
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Parking spaces: 35
Survey date: SATURDAY 19/10/09 Survey Type: MANUAL

2 **GM-01-H-06** **GARDEN CENTRE** **GREATER MANCHESTER**
CHURCH STREET
WESTHOUGHTON
BOLTON
Edge of Town
No Sub Category
Total Parking spaces: 21
Survey date: SATURDAY 08/06/13 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address; the selected trip rate calculation parameter and its value; the day of the week and date of each survey; and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE
VEHICLES
Calculation factor: 1 PARKING SPACES
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	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									
08:00 - 09:00	2	28	0.081	2	28	0.065	2	28	0.146
09:00 - 10:00	2	28	0.194	2	28	0.079	2	28	0.273
10:00 - 11:00	2	28	0.410	2	28	0.455	2	28	0.865
11:00 - 12:00	2	28	0.382	2	28	0.345	2	28	0.727
12:00 - 13:00	2	28	0.491	2	28	0.529	2	28	1.020
13:00 - 14:00	2	28	0.491	2	28	0.309	2	28	0.800
14:00 - 15:00	**2**	**28**	**0.655**	**2**	**28**	**0.800**	**2**	**28**	**1.455**
15:00 - 16:00	2	28	0.564	2	28	0.527	2	28	1.091
16:00 - 17:00	2	28	0.382	2	28	0.473	2	28	0.855
17:00 - 18:00	2	28	0.018	2	28	0.055	2	28	0.073
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.838			3.437			7.275

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	20 - 35 (units:)
Survey date date range:	01/01/09 - 03/06/13
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	1
Number of Sundays:	1
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 01 - RETAIL/H - GARDEN CENTRE
OGVS
Calculation factor: 1 PARKING SPACES
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	Trip Rate	No. Days	Ave. PARKING	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									
08:00 - 09:00	2	25	0.001	2	25	0.001	2	25	0.001
09:00 - 10:00	2	25	0.001	2	25	0.001	2	25	0.001
10:00 - 11:00	2	25	0.001	2	25	0.001	2	25	0.001
11:00 - 12:00	2	25	0.001	2	25	0.001	2	25	0.001
12:00 - 13:00	2	25	0.001	2	25	0.001	2	25	0.001
13:00 - 14:00	2	25	0.001	2	25	0.001	2	25	0.001
14:00 - 15:00	2	25	0.001	2	25	0.001	2	25	0.001
15:00 - 16:00	2	25	0.001	2	25	0.001	2	25	0.001
16:00 - 17:00	2	25	0.001	2	25	0.001	2	25	0.001
17:00 - 18:00	2	25	0.001	2	25	0.001	2	25	0.001
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.001			0.001			0.001

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	30 - 35 (units:)
Survey date date range:	01/01/09 - 08/06/13
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	1
Number of Sundays:	1
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix I

TN1 and letter L4 (27/6/20)

Our Ref: TP53xx_L4_RF

Your Ref: 18/01779/FUL

Date: 27th June 2020

Entran Ltd
78 York Street
London
W1H 1DP

[redacted]

Michael Robinson
E3 Design
Durrants House
Durrants Road
Berkhamstead
HP4 3PG

Dear Michael,

LAND AT 700 ST JOHNS ROAD, CLACTON – 18/01779/FUL

I am writing to provide you with details of an exchange of correspondence with Essex County Council (ECC) as local highway authority following Tendring District Council's (TDC) decision to refuse planning permission for new homes on this site earlier this year.

Please find attached our Technical Note 1 (TN1) and a written response from the local highway authority.

As stated in the note, Reason 2 claimed that the proposed 'T' junction would be inadequate when taking into account the proposed access to the Rouses Farm development located a short distance to the east. Reason 2 also claimed that the residual cumulative impact on the existing highway network from the traffic movements created by the two developments in such close proximity would be severe.

The Transport Assessment (TA) which was submitted in support of the planning application showed that the site access had been designed in such a way that it would be wholly compatible with the approved access to Rouses Farm and the Essex Design Guide.

The TA included an assessment of cumulative effects of the development traffic and Rouses Farm, and took account of other committed development. That assessment found the site access to operate with ample spare capacity and no queuing into or out of the site during the busiest highway peak periods. That assessment informed the local highway authority's consultation response in which they raised no objection to this development.

Notwithstanding the above, following the refusal of planning permission we have undertaken an even more robust assessment of the effects on the highway network, in direct response to the Council's reasons for refusal. This even more robust assessment has the same overall conclusion as the submitted TA.

TN1 demonstrates that the proposed vehicular access, comprising a new simple priority 'T' junction, does meet current design standards and guidance and is adequate even in combination with the Rouses Lane development (planning application 17/01229/OUT). The evidence shows that the residual cumulative impact on the capacity of the existing highway network from the traffic movements created by the two developments and further committed developments in the vicinity, identified by the County Highway Authority, are not severe.

The proposed junction and means of access is confirmed as fit for purpose; it will be practical, safe and convenient to road users including pedestrians and cyclists, and the effects of its introduction on the highway network, including its physical and environmental capacity are also acceptable, they are not severe and accord with the objectives of Tendring District Council's Policy TR1a.

I have attached our exchange of correspondence with ECC here as Appendix L4-A. In the interests of transparency I have included the full exchange of correspondence. You will see that the Strategic Development Engineer at ECC has reviewed TN1 in detail and supports our conclusions. I have also attached Technical Note 1 here as Appendix L4-B for completeness.

I trust this information is of use to you. Please do not hesitate to contact me if you have any queries or require anything further at this stage.

Yours sincerely

[redacted]

Richard Fitter
Director FCILT, FICE, FIHE
M. 07798 766025

Appendix L4_A
Exchange of correspondence with ECC

From: Chris Stoneham, Strategic Development Engineer [redacted]
Sent: 18 June 2020 15:47
To: Richard Fitter [redacted]
Subject: FW: Planning Application Consultation (18/01779/FUL)

Richard,

Sorry for the delay in coming back to you on this; the last few weeks have been slightly hectic to say the least!

Many thanks for sending across the above Technical Note in association with application: 18/01779/FUL and below are some comments/ observations I wanted to add in addition to the points made in the Technical Note, they are:

The Rouses Farm Application:

- In relation to planning application 17/01229/OUT: Rouses Farm, Land adjacent and to the rear of 755 and 757 St Johns Road, this site was identified in Tendring District Council's submission draft Local Plan. As such several highway improvements were identified as part of the draft Local Plan to mitigate any potential impact on the highway network and these have been fed into the conditions which form the basis of the Highway Authority's response to this application.
- As with all large planning applications the Highway Authority has undertaken extensive investigation and analysis of the submitted transport assessment and travel plan accompanying this planning application. This work has concluded that the proposal is not contrary to current National and Local policy and safety criteria and has been found acceptable to the Highway Authority in terms of its impact upon the local highway network. Consequently, given the package of appropriate mitigation secured in connection with this development, the Highway Authority concludes that the proposal will not be detrimental to St Johns Road or the wider local highway network.

700 St Johns Road St Johns Nursery Site Earls Hall Drive Application:

- Unlike application 17/01229/FUL: 700 St Johns Road St Johns Nursery Site Earls Hall Drive Clacton On Sea; this was a speculative application and did not form part of the draft Local Plan as such, no pre application discussion took place with the Highway Authority who were required to deal with the planning application on its merits.
- As you are well aware the proposed development includes the demolition of number 700 St John's Road and the construction of a new priority junction.
- The Transport Assessment submitted in support of the Planning Application and the modelling used to ensure the proposed junction is fit for purpose in terms of operational capacity showed that a ghosted right turn lane would not be a requirement, in addition, the site constraints meant that accommodating a right turn within the constraints of the publicly maintainable highway would be nigh impossible.

Ghosted Right Turn Lane:

- I note that concerns regarding the proposed access to this site and the overall impact that it will have on St Johns Road were raised. Again, the Highway Authority undertook extensive investigation and analysis of the submitted transport assessment for this application for the proposed 195 residential units.
- In any event, the guidance basis as to whether a new development should be provided with a ghosted right turn lane is based on traffic flows on both the major and minor roads. In this case St Johns Road being the major road and the access road serving the development being the minor road. Guidance suggests that the

intervention point for consideration of a right turn lane is where 2-way annual average daily traffic flows (AADT) on the major road are in excess of 13,000; St Johns Road does not fall into these criteria.

- Due the location of the site entrance here meant that the provision of a shared cycleway/ footway outweighed the benefits of a ghosted right turn lane. It is Essex County Council Policy, but also National Government policy about the essential nature of pushing modal shift from non-sustainable to sustainable modes of transport, as such, the Highway Authority must take this key consideration when considering planning applications.

General Comments:

- The Transport Assessment for this application highlighted the net effect of the proposed development on the St Johns Road and Jaywick Lane junction, this demonstrated that the proportional increase in traffic as a result of the proposed development would not exceed 3% at any arm of the roundabout during the AM or PM peak (Proportional increase in traffic 2023).
- It is noted that there are currently five live planning applications within approximately 806 metres along St John's Road.
- In relation to applications 15/00899/OUT and 18/00379/OUT these are much smaller applications to the two referred to above and due to the number (less than 20) and type of dwellings (bungalows) the traffic movements are likely to have a lesser impact during the peak periods for St Johns Road.
- ECC Policy requires a transport assessment to be submitted for 50 houses and above and these assessments would take account of current traffic flows, predicted traffic growth and the impact of committed developments (development with a current planning consent).

Rouses Farm has an obligation to improve the capacity of several junctions in the vicinity of application 18/01779/FUL and the others referred to above. Those capacity improvements combined with the reduction in car borne trips resulting from improvements to local cycling and walking facilities and bus services are anticipated to accommodate any proportional increase in traffic flows associated with this development.

I hope these additional points are useful.

Many thanks

Chris Stoneham
Strategic Development Engineer
Transportation and Smarter Travel

Essex County Council [redacted]

Essex County Council

From: Richard Fitter [redacted]
Sent: 03 June 2020 16:32
To: Chris Stoneham, Strategic Development Engineer [redacted]
Subject: RE: Planning Application Consultation (18/01779/FUL)

Chris,

Further to our exchange of correspondence in April, we have now had an opportunity to review the Transport Assessments from all the committed developments and produce a short Technical Note addressing the issue of cumulative effects. In short, this explains the method we used in our submitted TA and compares it to a more wide-reaching cumulative impact assessment. We have then re-assessed the operational capacity of the site access and concluded that this Sensitivity Test draws the same conclusions as the TA.

I would be very grateful if you could review this note and let us have your comments at your earliest convenience.

As explained in the note, this is *not* an appeal statement; it is a Technical Note which examines this single issue in order to inform any future applications or appeals.

Needless to say, please give me a call (on my mobile) if you have any queries or require anything further.

Many thanks,

Richard Fitter
Director

[redacted]

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78 York Street | London | W1H 1DP | [redacted]
7 Greenway Farm | Bath Road | Wick | Bristol | BS30 5RL
Titan House | Cardiff | CF24 5BS [redacted]

From: Chris Stoneham, Strategic Development Engineer [redacted]
Sent: 03 April 2020 10:01
To: Richard Fitter [redacted]
Subject: RE: Planning Application Consultation (18/01779/FUL)

Richard,

Many thanks for your email yesterday and update in connection with the above application. In response to your query please find below a list of consented developments you should take into account as being expected to add traffic to St John's Road; you will note that I have not included the Rouses Farm development as you are well aware of this application. The other notable sites are as follows:

- **15/00899/FUL** - Land Between 691 and 717 St Johns Road Clacton On Sea Essex CO16 8BJ. Erection of 14 dwellings with associated garages plus additional 22 bungalows.
- **16/00656/FUL** - St Osyth Priory The Bury St Osyth Clacton On Sea - Demolition of existing property at 7 Mill Street and the creation of 72 no. two, three and four bedroom houses, plus associated roads, car parking, garages and landscaping. (St John's Road will be the main route into Clacton for this development).
- **18/00379/OUT** - 820 St Johns Road Clacton On Sea Essex CO16 8BS - Outline application for proposed residential development of 14 dwellings including replacement of existing dwelling (following demolition of 824 St Johns Road).
- **18/01476/DETAIL**- St Osyth Priory The Bury St Osyth Clacton On Sea Essex CO16 8NZ - Erection of 190 dwellings on 16.3 hectares of land; new junction and access roads; driveways; parking; footpaths; landscaping and all ancillary works. (Again, St John's Road will be the main route into Clacton for this development).

In addition to the above:

New Application:

- **19/01946/OUT -** Land South of Clacton Road and East of Rochford Road St Osyth - Outline Planning with some matters reserved, except access, for the demolition of existing buildings and the development of up to 100 new homes, public open space, a woodland walk and associated infrastructure. (Again, St John's Road will be the main route into Clacton).

I hope this information is of assistance, in the meantime, no doubt we will speak soon.

Kind regards

Chris

Chris Stoneham
Strategic Development Engineer
Transportation and Smarter Travel

Essex County Council [redacted]

Essex County Council

From: Richard Fitter [redacted]
Sent: 02 April 2020 14:53
To: Chris Stoneham, Strategic Development Engineer [redacted]
Subject: RE: Planning Application Consultation (18/01779/FUL)

Chris,

We had a useful Con with our client's barrister this morning. We focused on reason for refusal 2 (attached). Reason 2 says that the Council considers the "*residual cumulative impact on the existing highway network from the traffic movements created by the two developments in such close proximity would be severe*". The two developments they refer to are ours and Rouses Farm.

Our TA assessed the capacity of the site access for the year of completion (2023) with and without development, including the Rouses Farm traffic. We therefore believe that we have fully addressed the concerns raised by the planning committee. However, because Reason 2 makes specific reference to cumulative impact we are considering a further review of committed and consented development in the area, but we would not anticipate any change in outcome. As stated in the TA, we allowed for an increase in background traffic (including other developments) by applying growth to the survey baseline, and then added the Rouses Farm traffic on top.

If we were to re-visit the cumulative impact point, **could you advise what other consented developments we should take into account as being expected to add traffic to St John's Road?**

In due course, as part of our Transport Appeal Statement we would like to append a simple exchange of correspondence with ECC setting out areas of agreement with respect to the TA methodology, means of access, internal layout and off-site improvements. However, we would like to examine the cumulative impact point first to ensure we cover off all matters fully.

Needless to say, please let me know if you have any queries, otherwise I look forward to receiving your advice on the point highlighted above.

Kind regards,

Richard Fitter
Director

[redacted]

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Appendix L4-B
Technical Note 1

DATE: June 2020

Land at 700 St Johns Road, Clacton on Sea (18/01779/FUL)

TECHNICAL NOTE 1

Committed development, cumulative impact – Sensitivity Test

1. Introduction

1.1. On 19th February 2020 Tendring District Council (TDC) refused planning permission for 195 residential dwellings including 8 live/work units on land at St Johns Road, Clacton, against officer recommendation. Essex County Council (ECC) as local highway authority raised no objection to the application subject to conditions and obligations. The application (18/01779/FUL) was refused for five reasons; reason 2 claimed that the proposed 'T' junction would be inadequate when taking into account the proposed access to a new residential development of 950 dwellings located a short distance to the east. Reason 2 claimed that the residual cumulative impact on the existing highway network from the traffic movements created by the two developments in such close proximity would be severe.

1.2. This Technical Note is not an appeal statement; it has been prepared to inform discussions with the highway authority and planning authority prior to any appeal or new planning application being submitted. The purpose of this note is to examine specifically the cumulative effects of committed development and assess the impact on the highway network.

2. Submitted Transport Assessment

2.1. The planning application was supported by a Transport Assessment (TA) (October 2018) prepared by Entran. Chapter 7 of the TA assessed the predicted traffic generation associated with the proposed development based on an interrogation of survey data contained within the TRICS® database. That methodology was agreed with ECC as local highway authority, as was the predicted AM peak, PM peak and daily traffic generation from the proposed development.

2.2. Baseline traffic flows on St Johns Road were derived from an automatic traffic count (ATC) commissioned by Leisure Fame Ltd in April 2017.

2.3. The anticipated year of completion for the proposed development was 2023. As stated at paragraph 9.5 of the TA, the future baseline traffic for St Johns Road was derived by applying low NRTF[1] growth to the observed baseline to take account of committed development, other than Rouses Farm. It was acknowledged that the scale of the Rouses Farm development, and the proximity of its northern access meant that the Rouses Farm traffic would need to be accounted for separately.

2.4. The Rouses Farm planning application (17/01229/OUT) was supported by a Transport Assessment prepared by Conisbee in July 2017. That TA included a robust traffic impact assessment which examined the effects of development on nine local junctions, including their proposed northern access. Their northern access was designed as three-arm signal controlled junction onto St Johns Road.

2.5. Section 5 of the Conisbee TA for Rouses Farm set out the methodology by which the traffic effects of development were assessed. Their baseline traffic flows were based on a series of traffic surveys at each of the junctions in their study area between 2014 and 2016. They then derived 2017 and 2022 baseline flows by applying locally adjusted NTM[2] growth factors to the observed baseline traffic flows.

2.6. Paragraph 5.4.6 of the Conisbee TA explains that traffic associated with four committed developments was then added to the baseline flows. Those sites were:

[1] Department for Transport, National Road Traffic Forecasts
[2] Department for Transport, National Transport Model

- Land north of St Johns Road (completed March 2016 and included in baseline surveys)
- Land at Wellwick Field/Priory St Osyth
- Brook Park West
- The former Tendring Waterworks 100 site

2.7. The Conisbee TA stated that final future traffic flows were derived by combining the 2022 base traffic flows, the committed development traffic and the traffic generated by the Rouses Farm development. It states that these figures represent the 'worst case' scenario as they are based on combining the peak periods at each individual junction with the likely development peak traffic generation. It also states that there is an element of double-counting as the final future traffic flows include NTM background traffic growth (which includes known/committed development) together with traffic generated by individual known/committed developments within Clacton-on Sea.

2.8. The final future traffic flows (base plus committed development, plus Rouses Farm 950 dwellings) at each of the nine junction were included in Appendix G of the Conisbee TA. The two-way flows on St Johns Road, west of their northern access (i.e. passing the St Johns Road site) are summarised below.

Table 2.1 – Two-way flows on St Johns Road (final future traffic flows) from Conisbee TA

	Eastbound (towards Clacton)	Westbound (away from Clacton)
AM peak	676	778
PM peak	866	752

2.9. The Conisbee TA included detailed junction capacity analyses of each of the nine junctions, including the northern access signal junction (Junction 1). The LinSig[3] analysis of Junction 1 showed the signals operating with adequate spare capacity during the highway peak periods in 2022, even accounting for the compounded 'double counting' of background growth and committed development.

2.10. The Conisbee TA found four junctions to be operating over capacity in the final future traffic scenario, so the Rouses Farm development proposes capacity improvements to each of those junctions. Their analysis demonstrated that the modified junctions would have sufficient capacity to accommodate the future predicted traffic flows.

2.11. The Entran TA which supported the St Johns Road application used a slightly different methodology. Baseline observed traffic flows were based on the 2017 ATC data from Leisure Fame Ltd. The future baseline year (2023) was derived by applying NRTF growth rates to the observed baseline to take account of other committed development, and then adding the Rouses Farm traffic on top.

2.12. Due to the slightly different methodology, and the one year difference in the future year assessment (2023 as opposed to 2022) the future baseline traffic flows in the Entran TA differ slightly from those in the Conisbee TA; however, the final future traffic flows (baseline, plus committed development, plus development) were shown in Appendix H of the TA and are summarised below for St Johns Road (east of the site access):

[3] JCT Consultancy, LinSig traffic signal design and assessment software

Table 2.2 – Two way flows on St Johns Road (final future traffic flows) from Entran TA

	Eastbound (towards Clacton)	Westbound (away from Clacton)
AM peak	810	717
PM peak	793	666

2.13. A simple comparison of tables 2.1 and 2.2 shows that with the exception of the eastbound traffic in the morning peak, the traffic generation derived using the agreed methodology in the Entran TA results in lower figures than those used by Conisbee to assess the operational capacity of the traffic signal junction. The net difference in the eastbound AM peak equates to 2 additional vehicles per minute. The LinSig analysis using the Conisbee figures showed 27% reserve capacity on that arm during the morning peak so this net difference would not be expected to have any material effect.

2.14. The Entran TA included a PICADY[4] assessment of the proposed site access to the St Johns Road site. It showed that in the busiest peak hours the site access would have a minimum reserve capacity of 69% (greater in most instances) and no queues of vehicles turning into or out of the Site.

3. Sensitivity Test

3.1. Reason for refusal 2 refers to the cumulative effect of the proposed St Johns Road development and the Rouses Farm development. Section 2 above demonstrates that the TA submitted in support of the application already takes account of that cumulative effect, both in terms of the proposed site access and the operational capacity of the Rouses Farm northern access.

3.2. Notwithstanding the above, a Sensitivity test has been carried out to specifically take account of all local committed development in the baseline flows, rather than relying on NRTF growth (plus Rouses Farm). Discussions have been held with ECC regarding committed development (approved or pending) that would be likely to route traffic along St Johns Road past the Site and through the Rouses Farm Junction 1. The following Sites have been assessed:

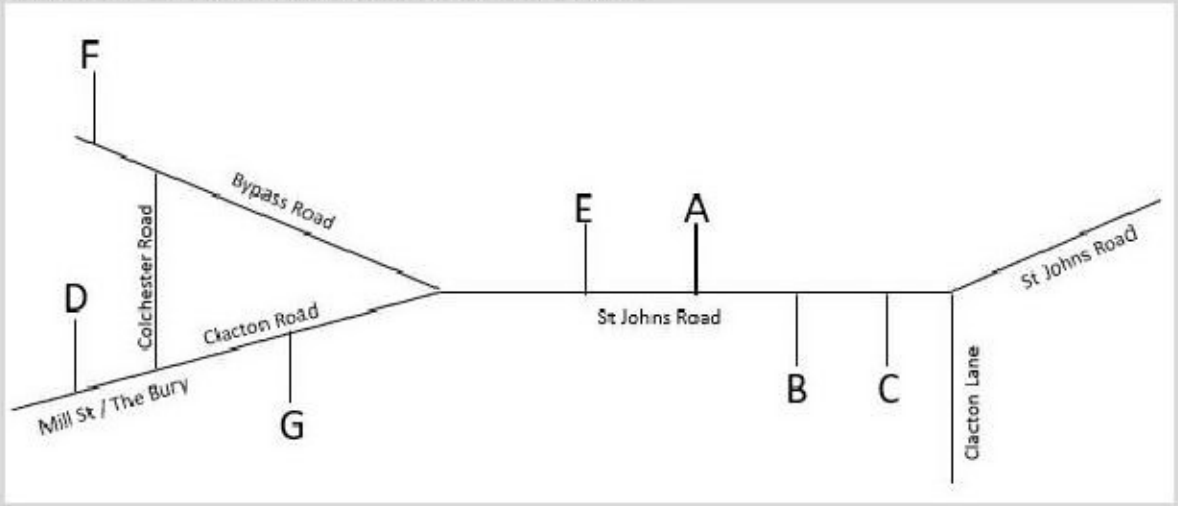
Table 3.1 – Committed development sites (provided by ECC)

	Site	Application reference
A	St Johns Plant Centre	18/01779/FUL
B	Rouses Farm	17/01229/OUT
C	Land between 691 - 717 St John's Rd	C-15/00899/FUL
D	Mill Street, St Osyth Priory	D-16/00656/FUL
E	Land North of 782 - 828 St John's Road	E-18/00379/OUT
F	Wellwick, St Osyth Priory	F-18/01476/DETAIL
G	Land South of Clacton Rd	G-19/01946/OUT

3.3. The location of these sites is shown in Figure 3.1 below.

[4] TRL, PICADY priority intersection design and assessment software

Figure 3.1 – Committed development site locations.



3.4. In each case, the Transport Assessment submitted in support of these planning application (where one exists) has been reviewed and the development-generated traffic distributed onto St Johns Road. It is important to note that not all of the TAs use the same method of distribution. The Entran TA for the St Johns Road application used baseline traffic flow as a gravity model to derive eastbound and westbound traffic from the Site access. Some of the other TAs used Census 'journey to work' origin and destination data to distribute traffic onto the wider transport network. Where no TA was provided, or no traffic distribution was included, we have applied the most appropriate form of traffic distribution to the stated development traffic generation. The distribution methods are summarised in Table 3.2 below.

Table 3.2 – Committed development sites method of traffic distribution

	Site	Method of traffic distribution
A	St Johns Plant Centre	Gravity model based on baseline flows
B	Rouses Farm	2011 journey to work data
C	Land between 691 - 717 St John's Rd	Gravity model based on baseline flows (Entran)
D	Mill Street, St Osyth Priory	Journey to work
E	Land North of 782 - 828 St John's Road	Journey to work
F	Wellwick, St Osyth Priory	Journey to work
G	Land South of Clacton Rd	70/30 split east/west; justified in TA

3.5. The 2023 final future traffic flows for the Site access are included as **Appendix A**. For completeness, the flows used in the TA and the Sensitivity Test flows are both included for comparison purposes. It is important to note that the Sensitivity Test traffic flows have the same caveat as those used in the Conisbee TA for Rouses Farm; they are extremely robust as they include an element of double-counting. The 2023 baseline has been derived by applying 4.4% background growth to the observed 2017 flows (which includes an element of committed/known development traffic), and then the additional committed development traffic has been added on top. The St Johns Road development traffic has been added to this compounded baseline to derive the final future baseline traffic flows.

3.6. The Site access junction has been re-assessed using PICADY. For ease of reference Table 3.2 below shows the PICADY output data summary as set out in the TA (Table 9.2), and then Table 3.3 shows the PICADY output data summary for the Sensitivity Test final future traffic flows.

Table 3.2 – PICADY output data summary from Entran TA 2018

	2023 Base plus Development					
	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
B-AC	0.4	18.17	0.31	0.2	15.24	0.16
C-AB	0.1	4.42	0.06	0.4	4.81	0.14

Table 3.3 – PICADY output data summary – Sensitivity Test

	2023 Base plus committed plus Development					
	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
B-AC	0.6	23.76	0.37	0.2	18.91	0.19
C-AB	0.1	4.30	0.07	0.5	4.60	

Movement B-AC represents traffic leaving the Site; movement C-AB represents traffic turning right into the Site.

3.7. Table 3.3 shows that even using the very robust future traffic data which compounds background traffic growth and committed development traffic, the Site access would still have at least 63% reserve capacity and no queuing into or out of the Site. The simple priority junction would operate with ample spare capacity so no other form of junction (ghost right turn lane, mini-roundabout etc.) is required for the purpose of operational capacity. The evidence demonstrates that the function of the proposed Site access would have no interactive effect on the operation of the Rouses Farm signal junction.

3.8. This robust Sensitivity Test demonstrates that the cumulative effect of the proposed development, together with Rouses Farm and six other committed developments, would not be severe. The findings and conclusions of the TA remain correct, even taking account of this robust method of assessment. The findings and conclusions of the Conisbee TA for Rouses Farm remain correct and their proposed highway improvements would adequately accommodate the combined traffic from their development and the committed developments assessed here.

4. Junction proximity

4.1. Guidance on the design of at-grade and signal controlled junctions is contained in the DfT document CD 123. The recommended minimum stagger distances for left/right staggered junctions is dependent on the design speed of the major road. In the case of St Johns Road the posted speed limit is 40mph (64kph) so the appropriate design speed is 70kph. Table 2.25 of CD 123 states that the stagger distance should be a minimum of 60m when measured between side road centre lines. The distance between the proposed Site access and the Rouses Farm northern access is 110m. This actually exceeds the minimum stagger distance for a 100kph road. For information, the distance between the Site access road and the traffic signal stop line is 97m.

4.2. The Entran TA included a set of plans at appendix F to demonstrate that the design of the proposed access would have adequate geometry and driver visibility as a stand-alone junction, but would also be entirely compatible with the Rouses Farm signal junction if both accesses were to be implemented.

4.3. The proximity of the proposed Site access and the Rouses Farm signal junction is wholly compliant with current national guidance and, coupled with the operational capacity findings set out in Section 2, demonstrates that there would be no adverse interaction between these two junctions.

5. Junction design

5.1. Reason for refusal 2 does not suggest that the proposed access is considered inadequate because it is a simple priority junction, but due to its proximity to the proposed Rouses Farm signals and the combined traffic from both developments. These points are covered in full in Sections 2 and 3 above. However, as the reason for refusal does refer to the access as a 'T' junction it would be prudent to address the design of the access here.

5.2. Paragraphs 5.4-5.7 of the Entran TA describe the proposed means of access. The initial access into the development follows the design parameters of a Feeder Road in accordance with the Essex Design Guide, whereas the internal roads have been designed to the configuration of an 'Access' street type. The access junction has been designed as a simple priority junction (T-junction). The access geometry has been designed around the swept path of a large 4-axle refuse vehicle which is the biggest vehicle likely to access the development site.

5.3. An independent Stage 1 Road Safety Audit (RSA1) was carried out in February 2019. That audit stated that due to the scale of development, and the speed limit on St Johns Road the developer should "carry out further assessment and analysis of the traffic model to determine the appropriate level of right turn provision required". A detailed designer's response was carried out which considered the operational capacity of the junction and the interaction with the Rouses Farm signals. That response included a review of the PICADY data and confirmation of the geometric compliance with DMRB (CD123). The designer's response concluded that the simple priority junction was a safe and appropriate form of access for this scale of development, in this location either with or without the Rouses Farm signals in place.

5.4. The RSA1 and designer's response were sent to ECC with an explanatory cover letter dated 11th June 2019. ECC gave careful consideration to the submitted evidence and the need to secure safe and convenient means of access to the Site. They concluded that the evidence demonstrates that the proposed access arrangements would be safe and suitable, and that the provision of a 3m wide shared footway/cycleway on the north side of St Johns Road should be a priority for local highway improvements rather than a ghost right turn lane into the Site.

6. Summary and conclusion

6.1. Planning application (18/01779/FUL) for 195 residential dwellings including 8 live/work units on land at St Johns Road, Clacton was refused for five reasons. Reason 2 claimed that the proposed means of access would be inadequate when taking into account the proposed access to a new residential development At Rouses Farm. It also claimed that the residual cumulative impact on the existing highway network from the traffic movements created by the two developments in such close proximity would be severe.

6.2. The TA which supported the planning application showed that the site access has been designed in such a way that it would be wholly compatible with the approved access to Rouses Farm and the Essex Design Guide. This Technical Note demonstrates that the proximity of the two junctions far exceeds the minimum requirements set out by national guidance.

6.3. The TA included an assessment of cumulative effects of the development traffic and Rouses Farm, and took account of other committed development by applying a level of growth to the observed baseline traffic. That assessment found the site access to operate with ample spare capacity and no queuing into or out of the site during the busiest highway peak periods.

6.4. As a Sensitivity Test, a new analysis has been carried out to examine the effects of traffic associated with specific committed developments. For a very robust assessment, background growth has still been applied to the observed baseline traffic, but the committed development site traffic has been added on top. When combined with the traffic from the proposed development, the final future traffic flows can be considered 'worst case'. The site access has been remodelled using the worst case traffic flows and shown to still operate with ample spare capacity and no queues. This demonstrates that the proposed site access would have no interactive effects on the Rouses Farm signals.

6.5. It should be noted that the approved Rouses Farm signals were assessed using a similar method, applying growth to the baseline traffic and then adding committed developments on top. Those signals were shown to operate with ample spare capacity. The final future traffic flows derived for the Sensitivity Test in this Technical Note are commensurate with those used to assess the signal junction. The evidence therefore demonstrates that even using very robust assessment methodology the proposed site access and the approved signal junction would operate safely, with spare operational capacity and with no adverse junction interaction.

6.6. The conclusions of the TA remain correct.

Appendix A
Sensitivity Test
Final future traffic flows

Development Traffic

Development traffic distribution

Site/St John's Rd

All Vehicle movement

AM Peak

	A	B	C
A	/	14	0
B	40	/	42
C	0	14	/

PM Peak

	A	B	C
A	/	33	0
B	18	/	22
C	0	38	/

2017 BASE

Observed 24/04/2017

Site/St John's Rd

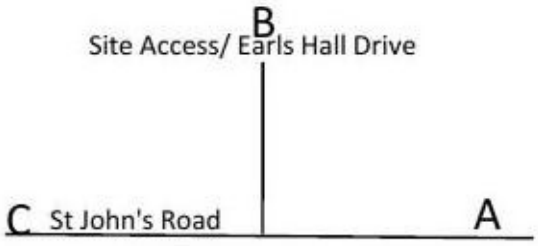
All Vehicle movement

AM Peak

	A	B	C
A	/	0	673
B	0	/	0
C	738	0	/

PM Peak

	A	B	C
A	/	0	606
B	0	/	0
C	742	0	/



2023 BASE

NRTF low growth 1.04

Site/St John's Rd

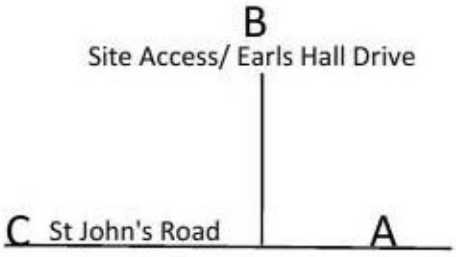
All Vehicle movement

AM Peak

	A	B	C
A	/	0	703
B	0	/	0
C	770	0	/

PM Peak

	A	B	C
A	/	0	633
B	0	/	0
C	775	0	/



2023 BASE + DEV (as per TA)

NRTF low growth 1.04

Site/St John's Rd

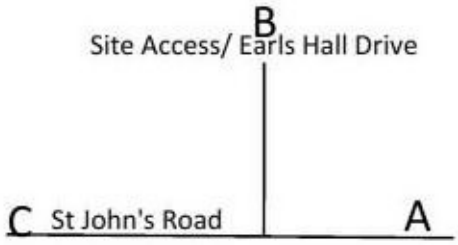
All Vehicle movement

AM Peak

	A	B	C
A	/	14	703
B	40	/	42
C	770	14	/

PM Peak

	A	B	C
A	/	33	633
B	18	/	22
C	775	38	/



2023 BASE+ COMMITTED DEV (Future Baseline)

NRTF low growth 1.04

Site/St John's Rd

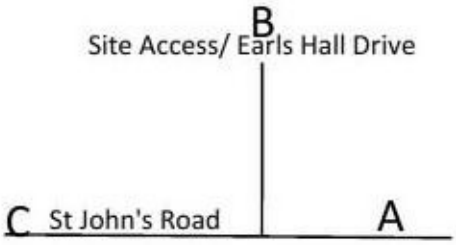
All Vehicle movement

AM Peak

	A	B	C
A	/	/	786
B	/	/	/
C	886	/	/

PM Peak

	A	B	C
A	/	/	749
B	/	/	/
C	871	/	/



2023 BASE + DEV + COMMITTED DEV

NRTF low growth 1.04

Site/St John's Rd

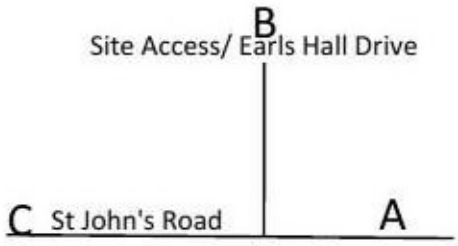
All Vehicle movement

AM Peak

	A	B	C
A	/	14	786
B	40	/	42
C	886	14	/

PM Peak

	A	B	C
A	/	33	749
B	18	/	22
C	871	38	/



Site	Site map ref	Method of distribution	Traffic generated on St John's road past A			
			AM		PM	
		Direction of traffic	East	West	East	West
St John's Plant Centre	A-18/01779/FUL	Leisure Fame				
Rouses Farm	B- 17/01229/OUT	2011 journey to work	15	41	33	24
Land between 691 - 717 St John's Rd	C-15/00899/FUL	2017 Leisure Fame (Entran)	1	2	2	1
Mill Street, St Osyth Priory	D-16/00656/FUL	Journey to work	30	12	18	27
Land North of 782 - 828 St John's Road	E-18/00379/OUT	Journey to work	4	2	2	4
Wellwick, St Osyth Priory	F-18/01476/DETAIL	Journey to work	48	16	28	37
Land South of Clacton Rd	G-19/01946/OUT	30/70 split justified in TA	18	10	13	23
	Total		116	83	96	116

ST JOHNS ROAD, CLACTON

Sensitivity test

am peak (0800-0900)

Site	Arrivals	Departures	Total	% Generated traffic passing site on St Johns Rd	No. vehicles passing site on St Johns Rd
B - 17/01229/OUT	125	338	463	12%	56
C - 15/00899/FUL	2	4	6	50%	3
D & F - 16/00656/FUL	73	163	236	45%	111
E - 18/00379/OUT	6	9	15	40%	6
G-19/01946/OUT	15	33	48	58%	28
				Total	199

pm peak (1700-1800)

Site	Arrivals	Departures	Total	% Generated traffic passing site on St Johns Rd	No. vehicles passing site on St Johns Rd
B - 17/01229/OUT	275	200	475	12%	57
C - 15/00899/FUL	3	2	5	60%	3
D & F – 16/00656/FUL	118	75	193	51%	99
E – 18/00379/OUT	7	5	12	50%	6
G-19/01946/OUT	15	33	48	58%	28
				Total	193

Appendix B
Sensitivity Test
PICADY output data

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: St Johns Rd_Site Access.j9
Path: E:\clients\EnTran\Clacton
Report generation date: 27/05/2020 19:06:58

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	Junction Delay (s)
	2023 Base + Development							
Stream B-AC	0.4	18.17	0.31	1.07	0.2	15.24	0.16	0.71
Stream C-AB	0.1	4.42	0.06		0.4	4.81	0.14	
	2023 Base + Committed + Development							
Stream B-AC	0.6	23.76	0.37	1.23	0.2	18.91	0.19	0.76
Stream C-AB	0.1	4.30	0.07		0.5	4.60	0.16	

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

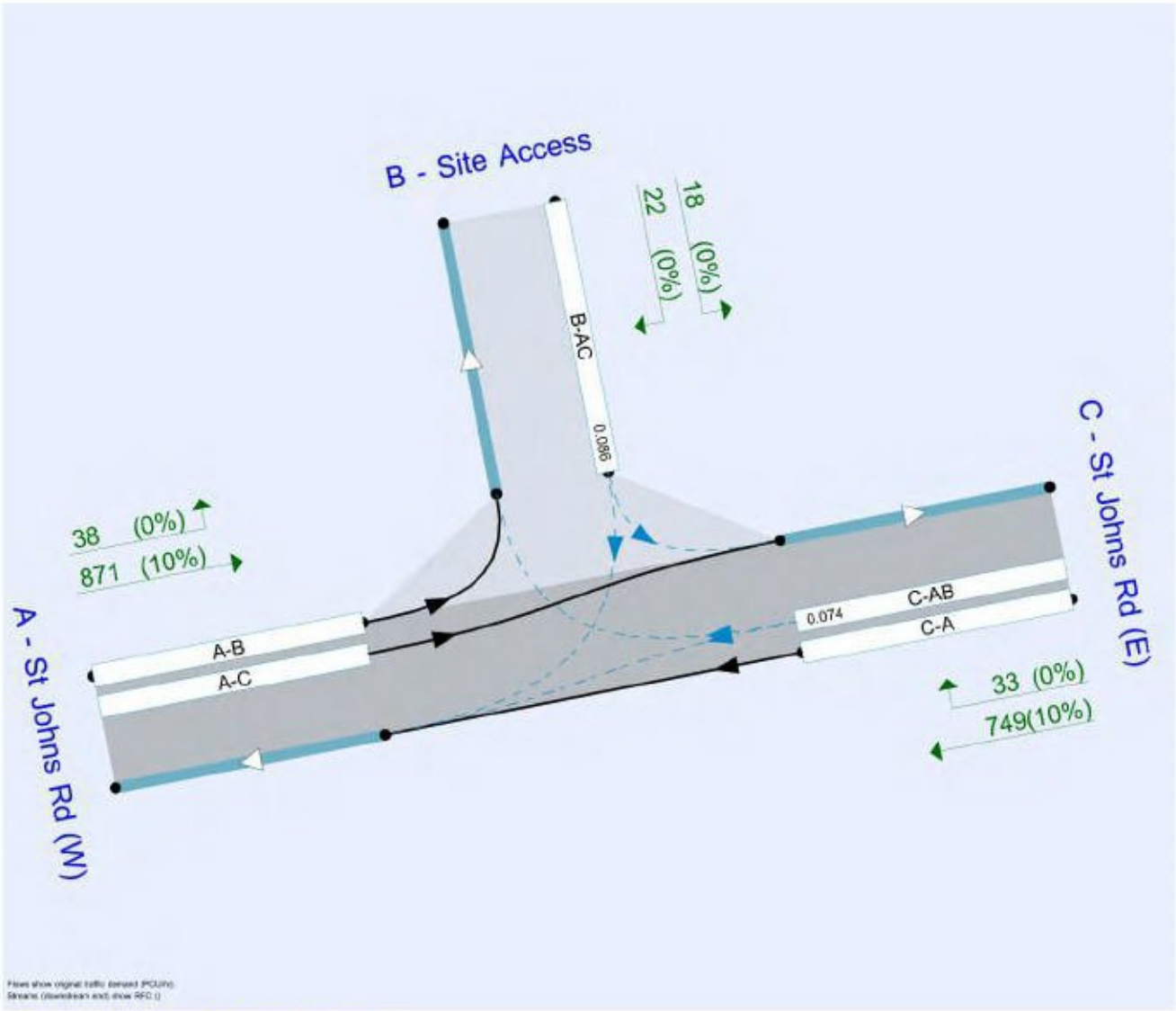
File summary

File Description

Title	St Johns Rd / Site Access
Location	Clacton
Site number	
Date	16/10/2018
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	al
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Hour	perHour



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75	✓			0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Base + Development	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023 Base + Development	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15	✓
D4	2023 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2023 Base + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	St Johns Rd / Site Access	T-Junction	Two-way		1.07	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	St Johns Rd (W)		Major
B	Site Access		Minor
C	St Johns Rd (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - St Johns Rd (E)	7.30			140.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane	3.55	20	19

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	521	0.089	0.226	0.142	0.323
B-C	671	0.097	0.245	-	-
C-B	655	0.239	0.239	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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)	Run automatically
D1	2023 Base + Development	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - St Johns Rd (W)		ONE HOUR	✓	784	100.000
B - Site Access		ONE HOUR	✓	82	100.000
C - St Johns Rd (E)		ONE HOUR	✓	717	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	14	770
	B - Site Access	42	0	40
	C - St Johns Rd (E)	703	14	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	0	10
	B - Site Access	0	0	0
	C - St Johns Rd (E)	10	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.31	18.17	0.4	1.8	C	75	113
C-AB	0.06	4.42	0.1	0.5	A	42	63
C-A						616	924
A-B						13	19
A-C						707	1060

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	15	388	0.159	61	0.0	0.2	10.985	B
C-AB	26	6	892	0.029	26	0.0	0.0	4.393	A
C-A	514	128			514				
A-B	11	3			11				
A-C	580	145			580				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	18	347	0.212	73	0.2	0.3	13.137	B
C-AB	38	9	948	0.040	38	0.0	0.1	4.200	A
C-A	607	152			607				
A-B	13	3			13				
A-C	692	173			692				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	90	23	288	0.313	90	0.3	0.4	18.047	C
C-AB	62	16	1030	0.061	62	0.1	0.1	3.981	A
C-A	727	182			727				
A-B	15	4			15				
A-C	848	212			848				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	90	23	288	0.313	90	0.4	0.4	18.174	C
C-AB	62	16	1030	0.061	62	0.1	0.1	3.997	A
C-A	727	182			727				
A-B	15	4			15				
A-C	848	212			848				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	18	347	0.212	74	0.4	0.3	13.233	B
C-AB	38	10	948	0.040	38	0.1	0.1	4.237	A
C-A	607	152			607				
A-B	13	3			13				
A-C	692	173			692				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	15	388	0.159	62	0.3	0.2	11.056	B
C-AB	26	7	892	0.029	26	0.1	0.0	4.416	A
C-A	514	128			514				
A-B	11	3			11				
A-C	580	145			580				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.26	0.00	0.00	0.26	0.26			N/A	N/A
C-AB	0.06	0.03	0.27	0.48	0.51			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.44	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.11	0.03	0.28	0.51	0.54			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.45	0.03	0.32	1.39	1.83			N/A	N/A
C-AB	0.11	0.00	0.00	0.11	0.11			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.27	0.00	0.00	0.27	0.27			N/A	N/A
C-AB	0.06	0.00	0.00	0.06	0.06			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.19	0.00	0.00	0.19	0.19			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

2023 Base + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	St Johns Rd / Site Access	T-Junction	Two-way		0.71	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)	Run automatically
D2	2023 Base + Development	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - St Johns Rd (W)		ONE HOUR	✓	813	100.000
B - Site Access		ONE HOUR	✓	40	100.000
C - St Johns Rd (E)		ONE HOUR	✓	666	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	38	775
	B - Site Access	22	0	18
	C - St Johns Rd (E)	633	33	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	0	10
	B - Site Access	0	0	0
	C - St Johns Rd (E)	10	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.16	15.24	0.2	0.5	C	37	55
C-AB	0.14	4.81	0.4	1.3	A	90	135
C-A						521	782
A-B						35	52
A-C						711	1067

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	8	380	0.079	30	0.0	0.1	10.261	B
C-AB	57	14	850	0.066	56	0.0	0.1	4.775	A
C-A	445	111			445				
A-B	29	7			29				
A-C	583	146			583				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	339	0.106	36	0.1	0.1	11.859	B
C-AB	81	20	898	0.091	81	0.1	0.2	4.668	A
C-A	517	129			517				
A-B	34	9			34				
A-C	697	174			697				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	280	0.157	44	0.1	0.2	15.200	C
C-AB	131	33	967	0.135	130	0.2	0.4	4.589	A
C-A	602	151			602				
A-B	42	10			42				
A-C	853	213			853				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	280	0.157	44	0.2	0.2	15.240	C
C-AB	131	33	968	0.136	131	0.4	0.4	4.615	A
C-A	602	151			602				
A-B	42	10			42				
A-C	853	213			853				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	339	0.106	36	0.2	0.1	11.897	B
C-AB	82	20	898	0.091	83	0.4	0.2	4.719	A
C-A	517	129			517				
A-B	34	9			34				
A-C	697	174			697				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	8	380	0.079	30	0.1	0.1	10.293	B
C-AB	57	14	851	0.067	57	0.2	0.1	4.806	A
C-A	445	111			445				
A-B	29	7			29				
A-C	583	146			583				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.08	0.00	0.00	0.08	0.08			N/A	N/A
C-AB	0.12	0.00	0.00	0.12	0.12			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.12	0.00	0.00	0.12	0.12			N/A	N/A
C-AB	0.19	0.00	0.00	0.19	0.19			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.03	0.26	0.47	0.49			N/A	N/A
C-AB	0.36	0.03	0.30	0.53	1.33			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.18	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.37	0.00	0.00	0.37	0.37			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.12	0.00	0.00	0.12	0.12			N/A	N/A
C-AB	0.20	0.00	0.00	0.20	0.20			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.12	0.00	0.00	0.12	0.12			N/A	N/A

2023 Base + Committed + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	St Johns Rd / Site Access	T-Junction	Two-way		1.23	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)	Run automatically
D3	2023 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - St Johns Rd (W)		ONE HOUR	✓	900	100.000
B - Site Access		ONE HOUR	✓	82	100.000
C - St Johns Rd (E)		ONE HOUR	✓	800	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	14	886
	B - Site Access	42	0	40
	C - St Johns Rd (E)	786	14	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	0	10
	B - Site Access	0	0	0
	C - St Johns Rd (E)	10	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.37	23.76	0.6	2.7	C	75	113
C-AB	0.07	4.30	0.1	0.9	A	50	76
C-A						684	1025
A-B						13	19
A-C						813	1220

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	15	359	0.172	61	0.0	0.2	12.040	B
C-AB	29	7	923	0.032	29	0.0	0.0	4.279	A
C-A	573	143			573				
A-B	11	3			11				
A-C	667	167			667				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	18	312	0.237	73	0.2	0.3	15.087	C
C-AB	44	11	987	0.045	44	0.0	0.1	4.073	A
C-A	675	169			675				
A-B	13	3			13				
A-C	796	199			796				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	90	23	242	0.374	89	0.3	0.6	23.445	C
C-AB	77	19	1082	0.071	77	0.1	0.1	3.849	A
C-A	804	201			804				
A-B	15	4			15				
A-C	976	244			976				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	90	23	242	0.374	90	0.6	0.6	23.760	C
C-AB	77	19	1083	0.071	77	0.1	0.1	3.864	A
C-A	803	201			803				
A-B	15	4			15				
A-C	976	244			976				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	18	311	0.237	75	0.6	0.3	15.279	C
C-AB	45	11	987	0.045	45	0.1	0.1	4.110	A
C-A	675	169			675				
A-B	13	3			13				
A-C	796	199			796				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	62	15	359	0.172	62	0.3	0.2	12.143	B
C-AB	30	7	923	0.032	30	0.1	0.0	4.301	A
C-A	573	143			573				
A-B	11	3			11				
A-C	667	167			667				

Queue Variation Results for each time segment

07:45 - 08:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.20	0.00	0.00	0.20	0.20			N/A	N/A
C-AB	0.04	0.00	0.00	0.04	0.04			N/A	N/A

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.30	0.00	0.00	0.30	0.30			N/A	N/A
C-AB	0.07	0.03	0.27	0.48	0.51			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.57	0.03	0.26	0.57	0.62			N/A	N/A
C-AB	0.13	0.03	0.29	0.52	0.89			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.58	0.03	0.32	1.17	2.68			N/A	N/A
C-AB	0.14	0.00	0.00	0.14	0.14			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.32	0.03	0.26	0.46	0.49			N/A	N/A
C-AB	0.07	0.00	0.00	0.07	0.07			N/A	N/A

09:00 - 09:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.21	0.03	0.25	0.45	0.48			N/A	N/A
C-AB	0.05	0.00	0.00	0.05	0.05			N/A	N/A

2023 Base + Committed + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	St Johns Rd / Site Access	T-Junction	Two-way		0.76	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)	Run automatically
D4	2023 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - St Johns Rd (W)		ONE HOUR	✓	909	100.000
B - Site Access		ONE HOUR	✓	40	100.000
C - St Johns Rd (E)		ONE HOUR	✓	782	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	38	871
	B - Site Access	22	0	18
	C - St Johns Rd (E)	749	33	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - St Johns Rd (W)	B - Site Access	C - St Johns Rd (E)
From	A - St Johns Rd (W)	0	0	10
	B - Site Access	0	0	0
	C - St Johns Rd (E)	10	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.19	18.91	0.2	1.0	C	37	55
C-AB	0.16	4.60	0.5	1.9	A	112	169
C-A						605	908
A-B						35	52
A-C						799	1199

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	8	352	0.086	30	0.0	0.1	11.158	B
C-AB	66	17	901	0.074	66	0.0	0.1	4.567	A
C-A	522	131			522				
A-B	29	7			29				
A-C	656	164			656				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	304	0.118	36	0.1	0.1	13.400	B
C-AB	100	25	961	0.104	99	0.1	0.2	4.449	A
C-A	603	151			603				
A-B	34	9			34				
A-C	783	196			783				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	235	0.188	44	0.1	0.2	18.819	C
C-AB	171	43	1050	0.162	169	0.2	0.5	4.394	A
C-A	690	173			690				
A-B	42	10			42				
A-C	959	240			959				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	44	11	234	0.188	44	0.2	0.2	18.907	C
C-AB	171	43	1051	0.163	171	0.5	0.5	4.420	A
C-A	690	172			690				
A-B	42	10			42				
A-C	959	240			959				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	36	9	304	0.118	36	0.2	0.1	13.467	B
C-AB	100	25	962	0.104	101	0.5	0.2	4.504	A
C-A	603	151			603				
A-B	34	9			34				
A-C	783	196			783				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	8	352	0.086	30	0.1	0.1	11.201	B
C-AB	67	17	902	0.074	67	0.2	0.1	4.603	A
C-A	522	130			522				
A-B	29	7			29				
A-C	656	164			656				

Queue Variation Results for each time segment

16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.14	0.00	0.00	0.14	0.14			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.13	0.00	0.00	0.13	0.13			N/A	N/A
C-AB	0.23	0.00	0.00	0.23	0.23			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.26	0.47	0.50			N/A	N/A
C-AB	0.50	0.03	0.30	0.69	1.92			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.23	0.03	0.28	0.58	1.05			N/A	N/A
C-AB	0.51	0.00	0.00	0.51	0.51			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.14	0.00	0.00	0.14	0.14			N/A	N/A
C-AB	0.25	0.00	0.00	0.25	0.25			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-AC	0.09	0.00	0.00	0.09	0.09			N/A	N/A
C-AB	0.14	0.00	0.00	0.14	0.14			N/A	N/A

Appendix J

Letter L5 (23/9/20)

Our Ref: TP53xx_L5_RF

Your Ref: 18/01779/FUL

Date: 23 September 2020

Entran Ltd
78 York Street
London
W1H 1DP

[redacted]

Michael Robinson
E3 Design
Durrants House
Durrants Road
Berkhamstead
HP4 3PG

Dear Michael,

LAND AT 700 ST JOHNS ROAD, CLACTON – 18/01779/FUL - APP/P1560/W/20/3256190

Thank you for passing us a copy of the email from Martin Carpenter of Enplan (on behalf of Tendring District Council) dated 4th September 2020. In that email, Mr Carpenter requested two pieces of further information in relation to reason for refusal No. 2 of the decision notice, namely:

1. A new LinSig model of the proposed Rouses Farm signal-controlled junction taking into account the Sensitivity Test traffic flows set out in our Technical Note 1 (TN1, June 2020), and

2. The raw ATC survey data that was used to inform our Transport Assessment (October 2018), to corroborate the visibility splays shown on Entran drawing SK-001 Rev A.

We responded to Mr Carpenter on this second point by email dated 7th September 2020, but I have replicated that response in this letter for completeness.

As stated in our TA, no new traffic surveys were carried out on St John's Road as part of the planning application which is the subject of this appeal. This is because a set of surveys had recently been conducted as part of an Outline application by Leisure Fame Ltd on land immediately to the west of the appeal site (18/00379). All baseline flows in our TA were based on that empirical survey data as agreed in advance with ECC. We have a copy of the TA submitted in support of the Leisure Fame application as it is readily available on the TDC Planning Portal; however, the appendices to that TA are not available on the planning portal so we are not able to provide the raw survey data as requested. It may be that Mr Carpenter is able to source that information from his client (i.e. direct from the TDC planning case officer for that scheme).

For clarity, the visibility splays shown on SK001-Rev A (2.4m x 120m) are based on the requirements set out in the Design Manual for Roads and Bridges, for roads subject to a 40mph speed limit. These visibility splays were approved by ECC as local highway authority, and are identical to those also agreed for the adjacent Leisure Fame development for which planning permission was granted by TDC.

Section 2 of our TN1 explains that the difference between our Sensitivity Test traffic flows and those already used in the Conisbee TA for Rouses Farm is negligible. The LinSig assessment that supported the Rouses Farm application showed ample reserve capacity on the most affected arm so the negligible difference in assessment flows would not be expected to make any material difference to operational capacity. Notwithstanding the above, Mr Carpenter has asked for a new LinSig assessment to demonstrate this. We have therefore re-run the Conisbee LinSig model, using the slightly different traffic flow numbers. Again, for clarity and complete transparency, we have used the same junction geometry as used by

Conisbee in their assessment of the traffic signals. We have used the Conibee traffic flows into and out of the Rouses Farm development, but have used our TN1 Sensitivity Test traffic flows for St Johns Road, thereby assessing the signals for a future-year worst-case including the direct cumulative effect of all committed development set out in TN1, including Rouses Farm and the development which is the subject of this appeal.

The traffic flows for Rouses Farm were agreed by ECC as part of Persimmon's planning application, and approved by TDC as local planning authority. Their LinSig model was reviewed and agreed by ECC as part of that determination process and approved by TDC. The cumulative Sensitivity Test traffic flows in out TN1 have been reviewed and agreed by ECC as set out in our letter dated 27th June 2020.

Please find attached here as Appendix A, the LinSig output files for the requested Sensitivity Test junction capacity assessment. This additional work demonstrates (as stated in our TA and TN1) that the Proposed Development would have no adverse effect on the operational capacity of the proposed signal junction. This assessment shows that using the worst-case traffic flows for the future year assessment, the most affected arm, during the busiest modelling period would still have 18.8% reserve capacity. For your information, this is described in the output file as 81.2% degree of saturation (Deg Sat %). The LinSig manual explains that any junction operating below 90% degree of saturation is said to be operating within capacity.

Our TN1 (June 2020) already demonstrates that the access into the Proposed Development will operate with ample spare capacity and that the design of the junction and its proximity to the Rouses Farm signals fully complies with the Design Manual for Roads and Bridges. The additional information contained in this letter provides empirical data to support our previous statements that the Proposed Development will have no adverse effect on the operational capacity of the proposed traffic signals. The access to the appeal site, including its relationship to the proposed traffic signals has been subject to an independent Stage 1 Road Safety Audit and the matters of safety and capacity have been reviewed and agreed by ECC as local highway authority.

The evidence demonstrates very clearly, and without question, that the conclusions of the TA remain correct, and that reason for refusal 2 is unfounded and indefensible.

Needless to say, I am happy to discuss or clarify these findings with TDC or their consultants with a view to reaching agreement on as many (or all) of the highways and transportation matters as possible.

I would be grateful if you would pass this letter to Mr Carpenter for his consideration.

Yours sincerely

[redacted]

Richard Fitter
Director FCILT, FICE, FIHE
[redacted]

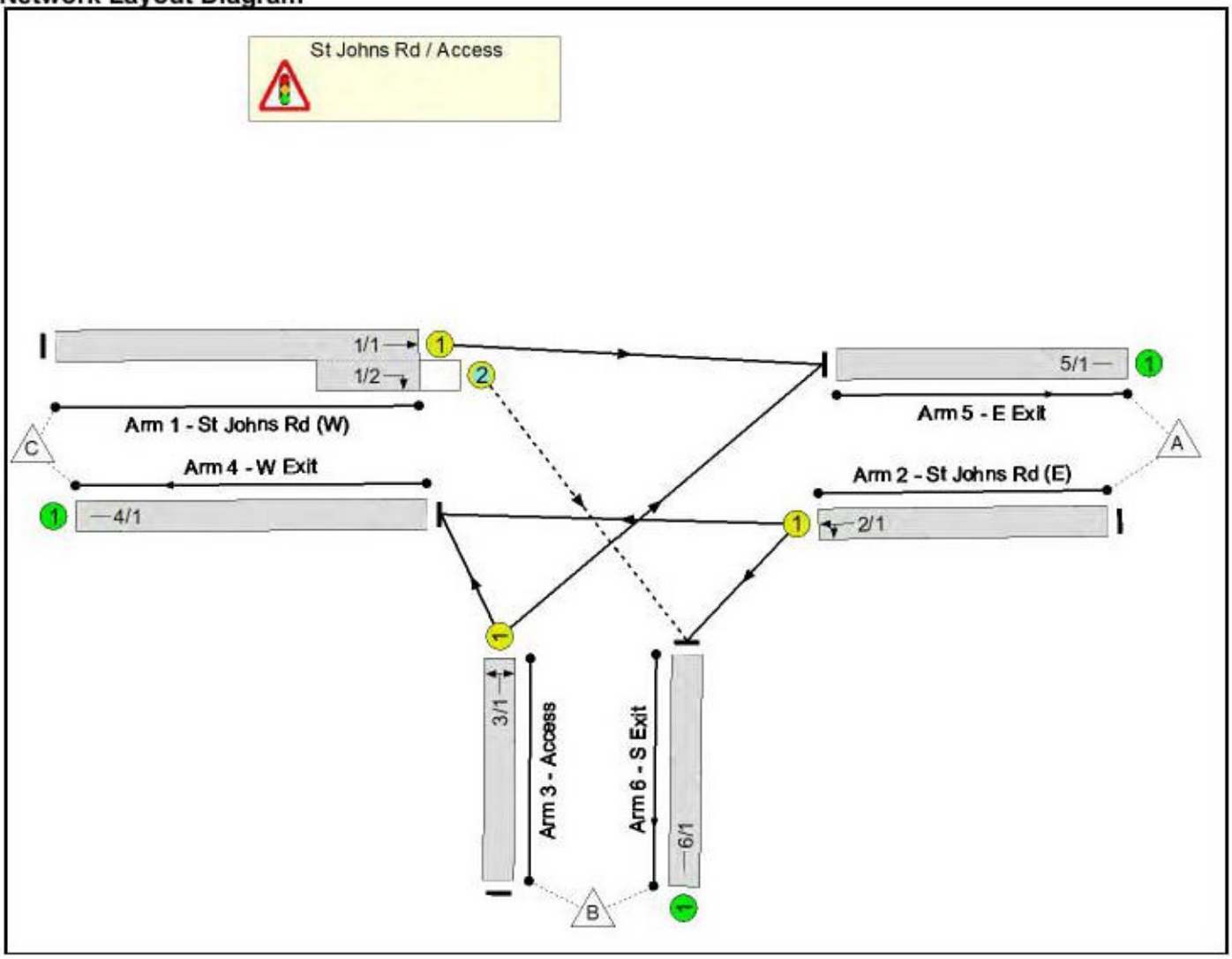
Appendix L5_A
LinSig output files

Full Input Data And Results

User and Project Details

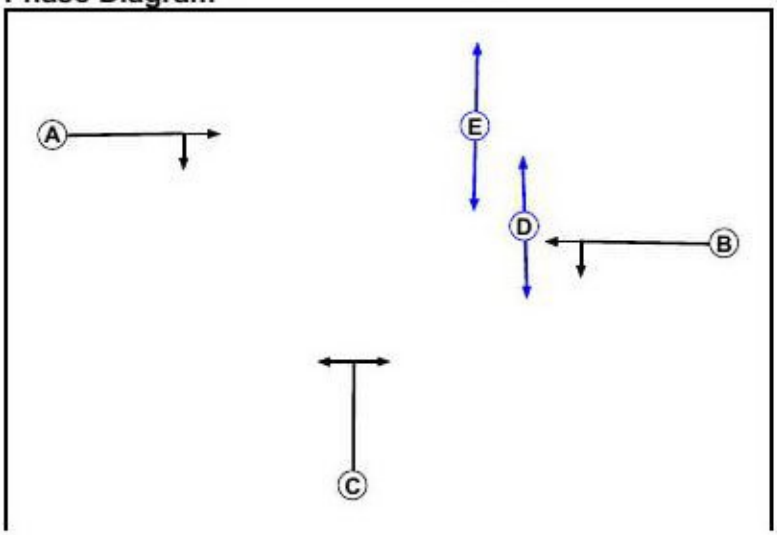
Project:	**St Johns Rd, Clacton**
Title:	**2023 Cumulative impacts – Rouses Farm signal junction**
Location:	St Johns Road, Clacton
Additional detail:	Rouses Farm LinSig from Conisbee TA plus Entran TN1 traffic flows
File name:	St Johns Rd_Access v2.lsg3x
Author:	al
Company:	
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Pedestrian		6	6
E	Pedestrian		6	6

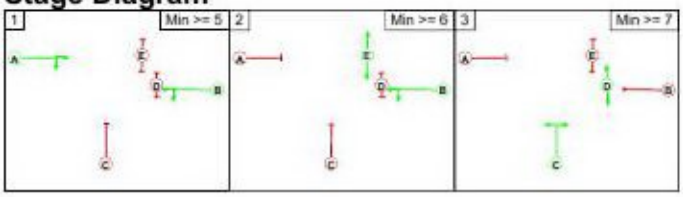
Phase Intergreens Matrix

		Starting Phase				
		A	B	C	D	E
Terminating Phase	A		-	5	-	9
	B	-		6	5	-
	C	5	5		-	9
	D	-	7	-		-
	E	7	-	7	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B E
3	C D

Stage Diagram



Full Input Data And Results

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

	To Stage			
		1	2	3
From Stage	1		9	6
	2	7		7
	3	7	9	

Full Input Data And Results

Give-Way Lane Input Data

Junction: St Johns Rd / Access											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/2 (St Johns Rd (W))	6/1 (Right)	1439	0	2/1	1.09	All	2.00	-	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: St Johns Rd / Access												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (St Johns Rd (W))	U	A	2	3	60.0	Geom	-	3.46	0.00	Y	Arm 5 Ahead	Inf
1/2 (St Johns Rd (W))	O	A	2	3	5.0	Geom	-	3.40	0.00	N	Arm 6 Right	15.00
2/1 (St Johns Rd (E))	U	B	2	3	60.0	Geom	-	3.72	0.00	Y	Arm 4 Ahead	Inf
											Arm 6 Left	14.00
3/1 (Access)	U	C	2	3	60.0	Geom	-	3.56	0.00	Y	Arm 4 Left	12.00
											Arm 5 Right	15.00
4/1 (W Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (E Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (S Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2023 AM Base + Dev'	08:00	09:00	01:00	
2: '2023 PM Base + Dev'	17:00	18:00	01:00	

Scenario 1: '1' (FG1: '2023 AM Base + Dev', Plan 2: 'exit peds alt')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	110	759	869
	B	297	0	41	338
	C	911	15	0	926
	Tot.	1208	125	800	2133

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 1
Junction: St Johns Rd / Access	
1/1 (with short)	926(In) 911(Out)
1/2 (short)	15
2/1	869
3/1	338
4/1	800
5/1	1208
6/1	125

Lane Saturation Flows

Junction: St Johns Rd / Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (St Johns Rd (W))	3.46	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1961	1961
1/2 (St Johns Rd (W))	3.40	0.00	N	Arm 6 Right	15.00	100.0 %	1905	1905
2/1 (St Johns Rd (E))	3.72	0.00	Y	Arm 4 Ahead	Inf	87.3 %	1960	1960
				Arm 6 Left	14.00	12.7 %		
3/1 (Access)	3.56	0.00	Y	Arm 4 Left	12.00	12.1 %	1787	1787
				Arm 5 Right	15.00	87.9 %		
4/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2' (FG2: '2023 PM Base + Dev', Plan 2: 'exit peds alt')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	242	758	1000
	B	176	0	24	200
	C	856	33	0	889
	Tot.	1032	275	782	2089

Full Input Data And Results

Traffic Lane Flows

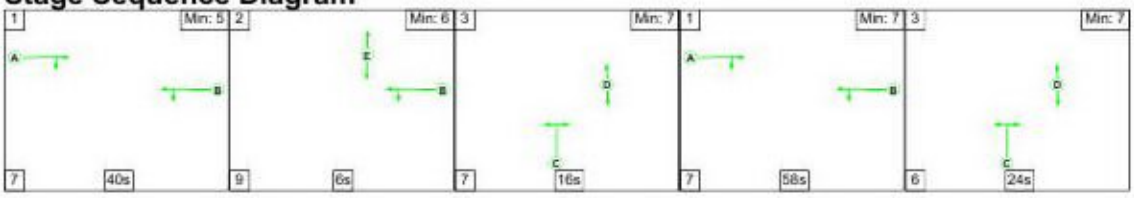
Lane	Scenario 2: 2
Junction: St Johns Rd / Access	
1/1 (with short)	889(In) 856(Out)
1/2 (short)	33
2/1	1000
3/1	200
4/1	782
5/1	1032
6/1	275

Lane Saturation Flows

Junction: St Johns Rd / Access								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (St Johns Rd (W))	3.46	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1961	1961
1/2 (St Johns Rd (W))	3.40	0.00	N	Arm 6 Right	15.00	100.0 %	1905	1905
2/1 (St Johns Rd (E))	3.72	0.00	Y	Arm 4 Ahead	Inf	75.8 %	1937	1937
				Arm 6 Left	14.00	24.2 %		
3/1 (Access)	3.56	0.00	Y	Arm 4 Left	12.00	12.0 %	1787	1787
				Arm 5 Right	15.00	88.0 %		
4/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '1' (FG1: '2023 AM Base + Dev', Plan 2: 'exit peds alt')

Stage Sequence Diagram

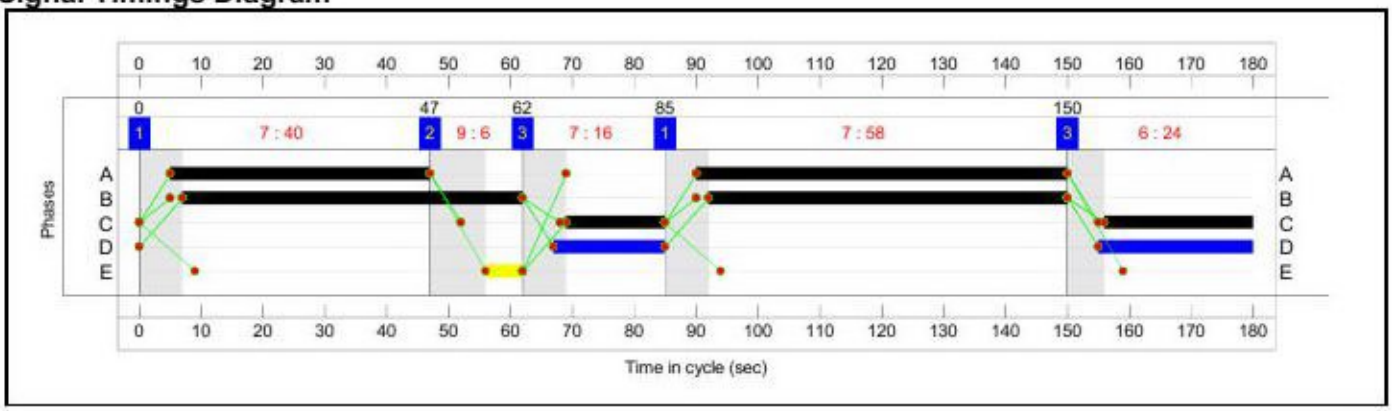


Stage Timings

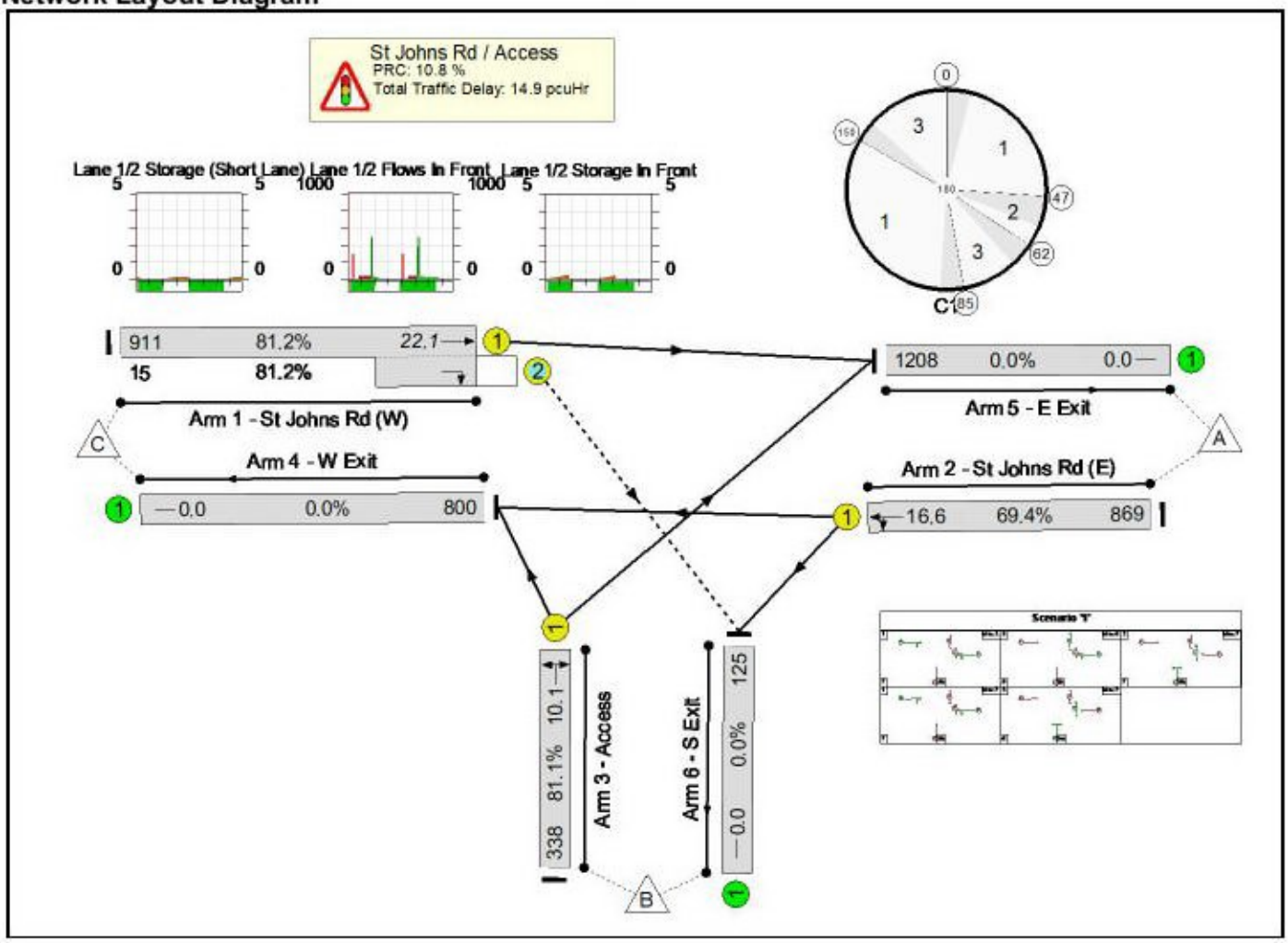
Stage	1	2	3	1	3
Duration	40	6	16	58	24
Change Point	0	47	62	85	150

Full Input Data And Results

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.2%**
St Johns Rd / Access	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.2%**
1/1+1/2	St Johns Rd (W) Ahead Right	U+O	N/A	N/A	A		2	102	-	926	1961:1905	1121+18	81.2 : 81.2%
2/1	St Johns Rd (E) Ahead Left	U	N/A	N/A	B		2	113	-	869	1960	1252	69.4%
3/1	Access Left Right	U	N/A	N/A	C		2	40	-	338	1787	417	81.1%
4/1	W Exit	U	N/A	N/A	-		-	-	-	800	Inf	Inf	0.0%
5/1	E Exit	U	N/A	N/A	-		-	-	-	1208	Inf	Inf	0.0%
6/1	S Exit	U	N/A	N/A	-		-	-	-	125	Inf	Inf	0.0%

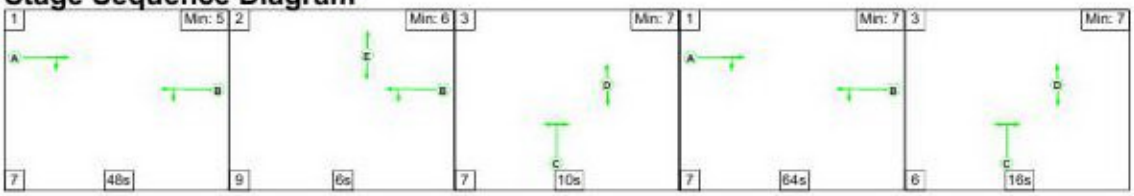
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	**15**	**0**	**0**	**9.5**	**5.3**	**0.0**	**14.9**	-	-	-	-
St Johns Rd / Access	-	-	**15**	**0**	**0**	**9.5**	**5.3**	**0.0**	**14.9**	-	-	-	-
1/1+1/2	926	926	15	0	0	3.9	2.1	0.0	6.1 (5.9+0.1)	23.6 (23.4:33.6)	20.0	2.1	22.1
2/1	869	869	-	-	-	2.6	1.1	-	3.7	15.3	15.4	1.1	16.6
3/1	338	338	-	-	-	3.1	2.0	-	5.1	54.3	8.1	2.0	10.1
4/1	800	800	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1208	1208	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	125	125	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 10.8 Total Delay for Signalled Lanes (pcuHr): 14.87 Cycle Time (s): 180
PRC Over All Lanes (%): 10.8 Total Delay Over All Lanes(pcuHr): 14.87

Full Input Data And Results

Scenario 2: '2' (FG2: '2023 PM Base + Dev', Plan 2: 'exit peds alt')

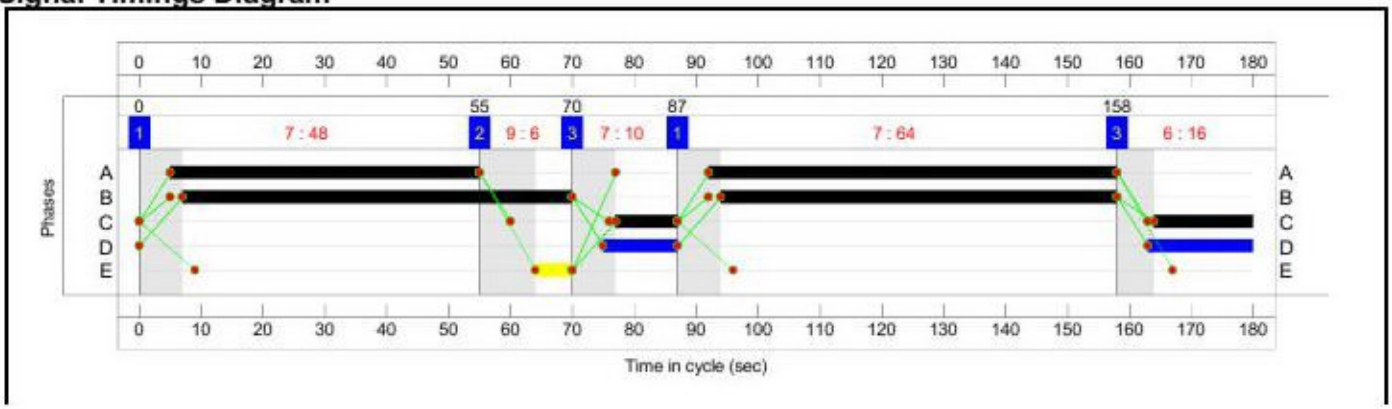
Stage Sequence Diagram



Stage Timings

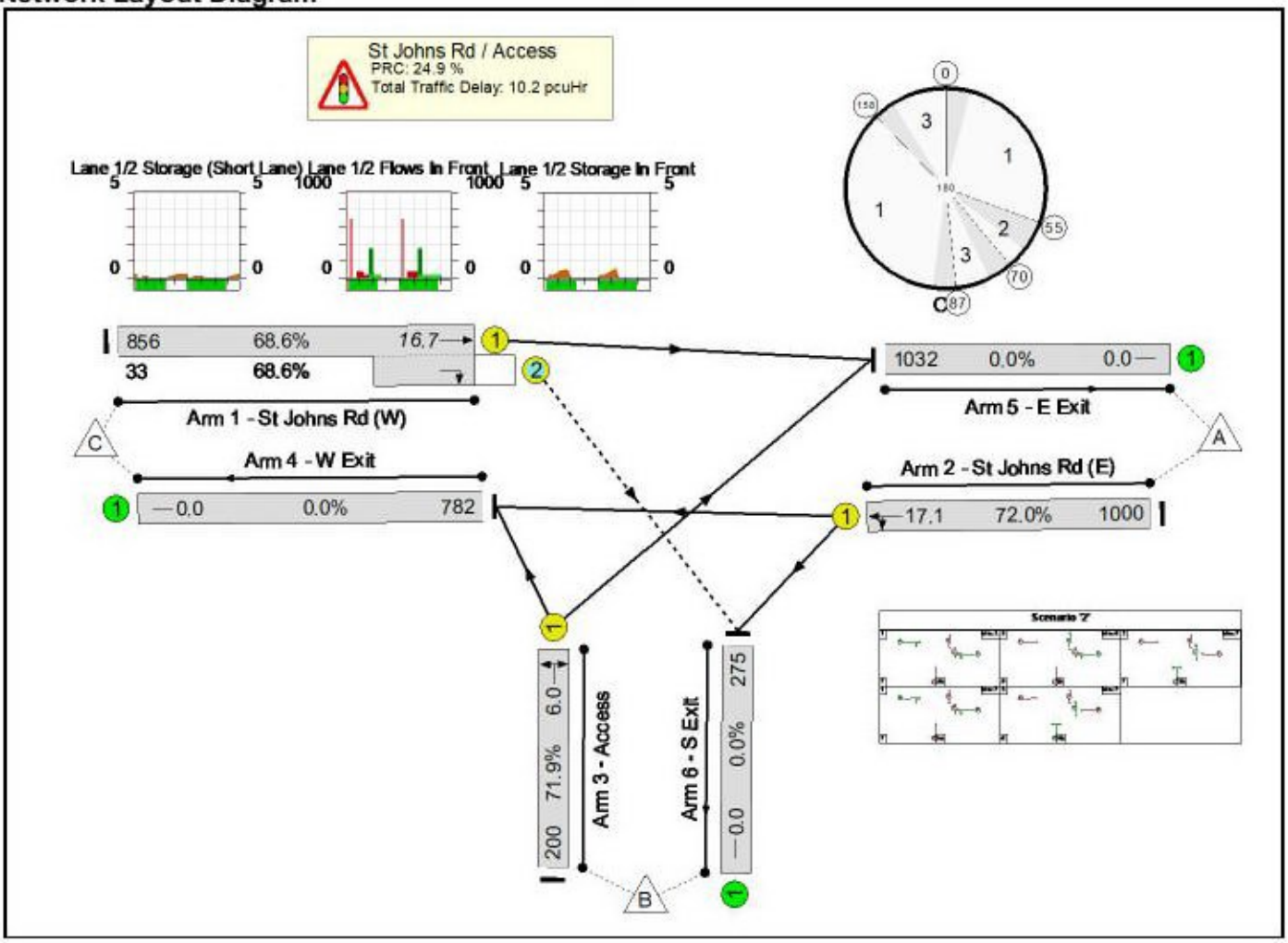
Stage	1	2	3	1	3
Duration	48	6	10	64	16
Change Point	0	55	70	87	158

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

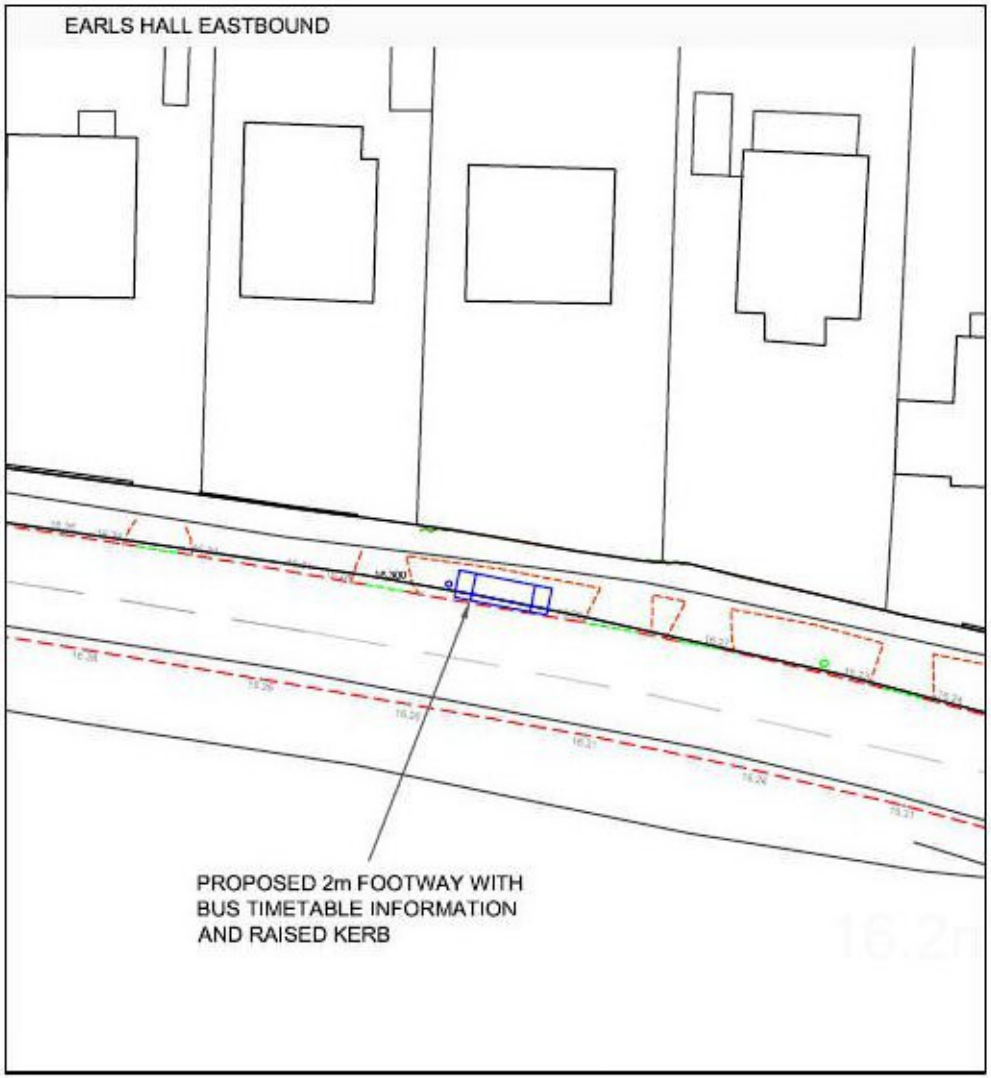
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**72.0%**
St Johns Rd / Access	-	-	**N/A**	-	-		-	-	-	-	-	-	**72.0%**
1/1+1/2	St Johns Rd (W) Ahead Right	U+O	N/A	N/A	A		2	116	-	889	1961:1905	1248+48	68.6 : 68.6%
2/1	St Johns Rd (E) Ahead Left	U	N/A	N/A	B		2	127	-	1000	1937	1388	72.0%
3/1	Access Left Right	U	N/A	N/A	C		2	26	-	200	1787	278	71.9%
4/1	W Exit	U	N/A	N/A	-		-	-	-	782	Inf	Inf	0.0%
5/1	E Exit	U	N/A	N/A	-		-	-	-	1032	Inf	Inf	0.0%
6/1	S Exit	U	N/A	N/A	-		-	-	-	275	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	**33**	**0**	**0**	**6.5**	**3.6**	**0.1**	**10.2**	-	-	-	-
St Johns Rd / Access	-	-	**33**	**0**	**0**	**6.5**	**3.6**	**0.1**	**10.2**	-	-	-	-
1/1+1/2	889	889	33	0	0	2.4	1.1	0.1	3.6 (3.4+0.2)	14.7 (14.2:26.9)	15.6	1.1	16.7
2/1	1000	1000	-	-	-	2.1	1.3	-	3.4	12.1	15.8	1.3	17.1
3/1	200	200	-	-	-	2.0	1.2	-	3.3	58.5	4.7	1.2	6.0
4/1	782	782	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1032	1032	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	275	275	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 24.9 Total Delay for Signalled Lanes (pcuHr): 10.24 Cycle Time (s): 180
PRC Over All Lanes (%): 24.9 Total Delay Over All Lanes(pcuHr): 10.24

Appendix K

Proposed bus stop improvements

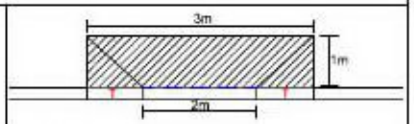


entran
environmental & transportation
7 Greenway Farm | Bath Road | Wick | Bristol | BS30 5RL
[redacted]

PROJECT TITLE ST JOHN'S ROAD, CLACTON-ON-SEA

DRAWING TITLE BUS STOP IMPROVEMENT WORKS

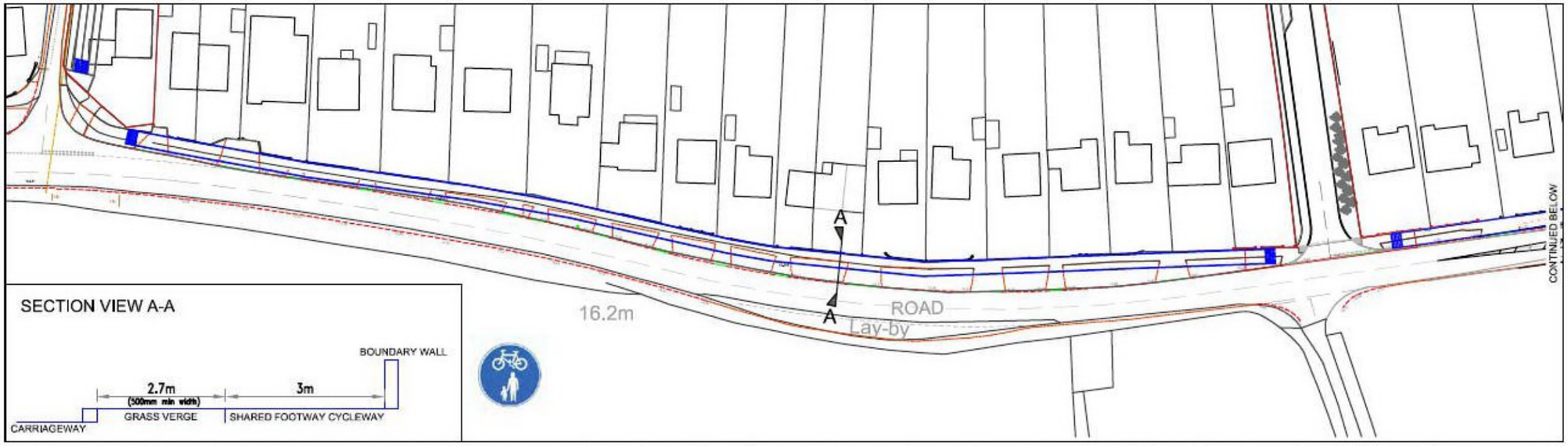
DATE JUN 19	SCALE 1:200 AT A4	STATUS	
DRAWN SOA	CHECKED RF	APPROVED RF	
DRG SIZE A4	DRAWING NUMBER SK011	REV -	

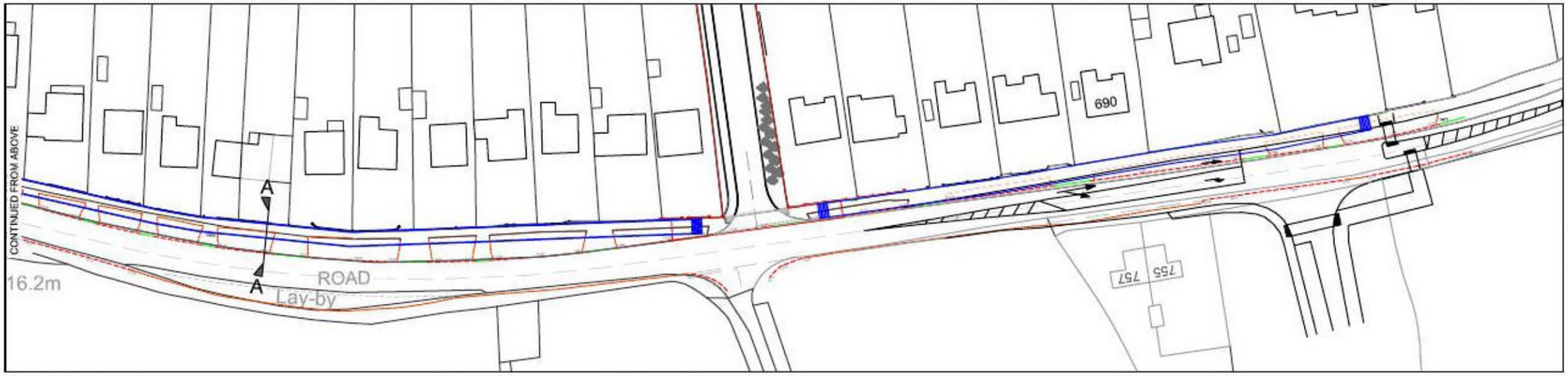


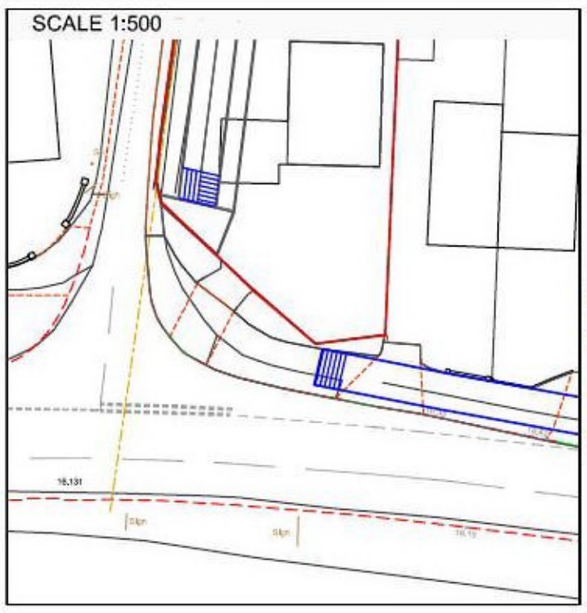
T TRANSITION KERB
AREA OF REGRADING
RAISED KERBS (140MM HEIGHT)

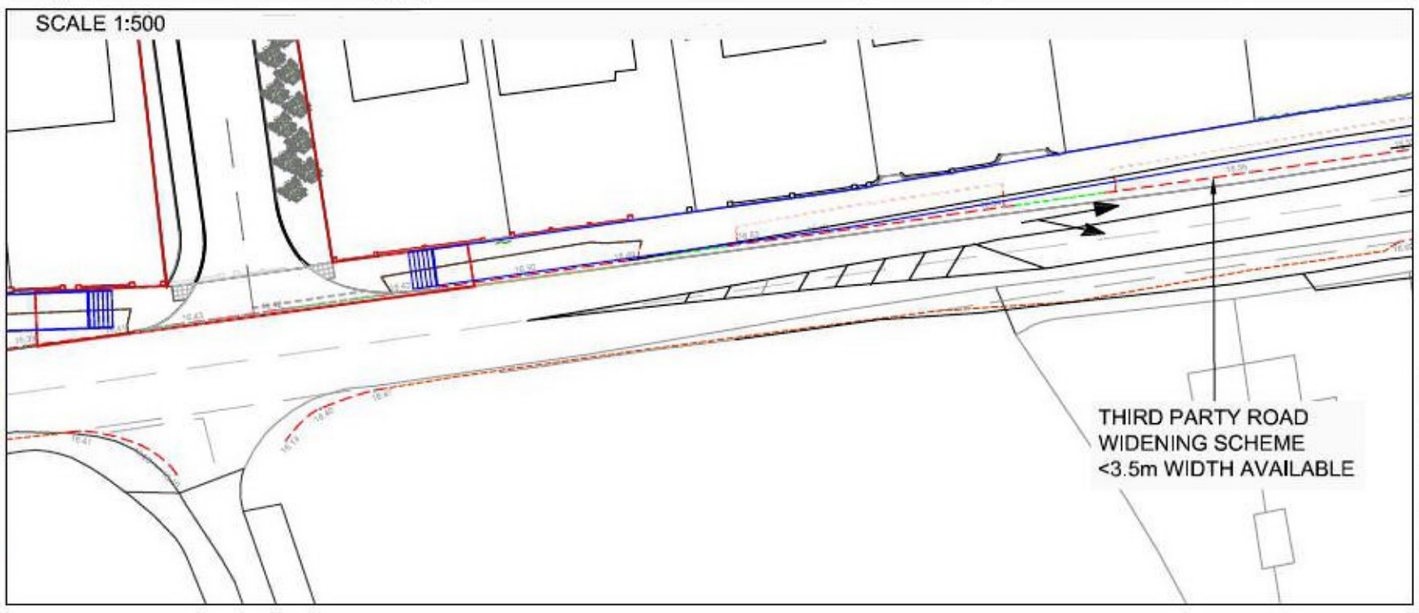
Appendix L

Proposed cycleway/footway









REV	DATE	REVISION DETAILS	BY

entran
environmental & transportation
7 Greenway Farm | Bath Road | Wick | Bristol | BS30 5RL
[redacted]

PROJECT TITLE
ST JOHN'S ROAD, CLACTON-ON-SEA

DRAWING TITLE
CYCLEWAY WIDENING BETWEEN EARLS HALL DRIVE AND ROUSES FARM SIGNALS

CLIENT / ARCHITECT

STATUS

SCALE		DRAWN
1:1000	AT A3	SOA
CHECKED		APPROVED
RF		RF

DRG SIZE	DATE	DRAWING NUMBER	REV
A3	JUN 19	SK009	-