




NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 4
Base Year 2014 Junction Assessments

August 2014

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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Run Analysis

Parameter	Values
File Run	K:\.\Junction 1 - Girton Rd_Huntingdon Rd junction\J1 - Girton Rd_Huntingdon Rd Junction.vpi
Date Run	10 April 2014
Time Run	14:54:48
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Huntingdon Road (w)	100
Arm B	Girton Road (n)	100
Arm C	Huntingdon Road (e)	100

Stream Labelling Convention

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

Run Information

Parameter	Values
Run Title	J1 - Girton Rd / Huntingdon Rd
Location	Girton (Northstowe)
Date	10 April 2014
Enumerator	dchapman
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	3.00
Major Road Right Turning Lane Width (m)	3.00
Minor Road First Lane Width (m)	3.65
Minor Road Visibility To Right (m)	56
Minor Road Visibility To Left (m)	40
Major Road Right Turn Visibility (m)	130
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	588.855	0.096	0.243	0.153	0.347
B-C	702.088	0.103	0.260	-	-
C-B	705.776	0.262	0.262	-	-

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

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	40.0	532.0
Arm B	49.0	0.0	390.0
Arm C	284.0	147.0	0.0

Demand Set: 2014 PM peak
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	55.0	361.0
Arm B	51.0	0.0	155.0
Arm C	732.0	392.0	0.0

ODTAB Synthesised Flows

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	7.150	08:30	10.725	09:00	7.150
Arm B	08:00	5.488	08:30	8.231	09:00	5.488
Arm C	08:00	5.387	08:30	8.081	09:00	5.387

Heavy Vehicles Percentages

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	5.0	1.3
Arm B	0.0	-	0.5
Arm C	0.7	0.0	-

Demand Set: 2014 PM peak
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.8
Arm B	0.0	-	0.0
Arm C	0.4	0.0	-

Queues & Delays

Demand Set: 2014 AM Peak

Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	5.51	9.40	0.586	-	0.00	1.36	-	18.6	0.25
	C-A	3.56	-	-	-	-	-	-	-	-
	C-B	1.84	9.86	0.187	-	0.00	0.23	-	3.3	0.12
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	6.68	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	6.58	9.00	0.731	-	1.36	2.49	-	33.7	0.39
	C-A	4.26	-	-	-	-	-	-	-	-
	C-B	2.20	9.49	0.232	-	0.23	0.30	-	4.4	0.14
	A-B	0.60	-	-	-	-	-	-	-	-
	A-C	7.97	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	8.06	8.43	0.956	-	2.49	8.43	-	93.3	0.99
	C-A	5.21	-	-	-	-	-	-	-	-
	C-B	2.70	8.97	0.301	-	0.30	0.42	-	6.1	0.16
	A-B	0.73	-	-	-	-	-	-	-	-
	A-C	9.76	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	8.06	8.43	0.956	-	8.43	10.75	-	145.4	1.41
	C-A	5.21	-	-	-	-	-	-	-	-
	C-B	2.70	8.97	0.301	-	0.42	0.43	-	6.4	0.16
	A-B	0.73	-	-	-	-	-	-	-	-
	A-C	9.76	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	6.58	8.99	0.731	-	10.75	3.01	-	65.9	0.62
	C-A	4.26	-	-	-	-	-	-	-	-
	C-B	2.20	9.49	0.232	-	0.43	0.31	-	4.7	0.14
	A-B	0.60	-	-	-	-	-	-	-	-
	A-C	7.97	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	5.51	9.40	0.586	-	3.01	1.47	-	24.0	0.27
	C-A	3.56	-	-	-	-	-	-	-	-
	C-B	1.84	9.86	0.187	-	0.31	0.23	-	3.6	0.12
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	6.68	-	-	-	-	-	-	-	-

Demand Set: 2014 PM peak
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	2.58	8.55	0.302	-	0.00	0.43	-	6.1	0.17
	C-A	9.18	-	-	-	-	-	-	-	-
	C-B	4.92	10.39	0.473	-	0.00	0.88	-	12.4	0.18
	A-B	0.69	-	-	-	-	-	-	-	-
	A-C	4.53	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	3.09	7.88	0.391	-	0.43	0.63	-	9.0	0.21
	C-A	10.97	-	-	-	-	-	-	-	-
	C-B	5.87	10.12	0.580	-	0.88	1.34	-	18.9	0.23
	A-B	0.82	-	-	-	-	-	-	-	-
	A-C	5.41	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	3.78	6.80	0.556	-	0.63	1.19	-	16.6	0.32
	C-A	13.43	-	-	-	-	-	-	-	-
	C-B	7.19	9.75	0.738	-	1.34	2.58	-	34.8	0.37
	A-B	1.01	-	-	-	-	-	-	-	-
	A-C	6.62	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	3.78	6.78	0.558	-	1.19	1.23	-	18.2	0.33
	C-A	13.43	-	-	-	-	-	-	-	-
	C-B	7.19	9.75	0.738	-	2.58	2.69	-	39.7	0.39
	A-B	1.01	-	-	-	-	-	-	-	-

	A-C	6.62	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	3.09	7.86	0.393	-	1.23	0.66	-	10.5	0.21
	C-A	10.97	-	-	-	-	-	-	-	-
	C-B	5.87	10.12	0.580	-	2.69	1.43	-	23.1	0.24
	A-B	0.82	-	-	-	-	-	-	-	-
	A-C	5.41	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	2.58	8.53	0.303	-	0.66	0.44	-	6.9	0.17
	C-A	9.18	-	-	-	-	-	-	-	-
	C-B	4.92	10.39	0.473	-	1.43	0.92	-	14.5	0.18
	A-B	0.69	-	-	-	-	-	-	-	-
	A-C	4.53	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

PICADY 5 Run Successful

PICADY		
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Run Analysis

Parameter	Values
File Run	K:\..\Junction 2 - New Road_Cambridge Road\J2 - New Road_Cambridge Road (synthesised peak).vpi
Date Run	07 April 2014
Time Run	11:00:08
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Cambridge Road (NW)	100
Arm B	New Road (NE)	100
Arm C	Oakington Rd (SE)	100

Stream Labelling Convention

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

Run Information

Parameter	Values
Run Title	Junction 2 - Cambridge Road - New Road Priority
Location	Northstowe (Oakington)
Date	07 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	30
Minor Road Visibility To Left (m)	35
Major Road Right Turn Visibility (m)	150
Major Road Right Turn Blocks Traffic	Yes (if over 1 veh)

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	503.677	0.092	0.232	0.146	0.331
B-C	642.823	0.099	0.249	-	-
C-B	660.830	0.256	0.256	-	-

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

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2014 AM Peak Base Flows
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	270.0	397.0
Arm B	137.0	0.0	165.0
Arm C	121.0	99.0	0.0

Demand Set: 2014 PM Peak Base Flows
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	140.0	89.0
Arm B	199.0	0.0	86.0
Arm C	180.0	85.0	0.0

ODTAB Synthesised Flows

Demand Set: 2014 AM Peak Base Flows
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	8.337	08:30	12.506	09:00	8.337
Arm B	08:00	3.775	08:30	5.663	09:00	3.775
Arm C	08:00	2.750	08:30	4.125	09:00	2.750

Heavy Vehicles Percentages

Demand Set: 2014 AM Peak Base Flows
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.7	0.0
Arm B	0.7	-	0.6
Arm C	0.8	3.0	-

Demand Set: 2014 PM Peak Base Flows
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.5	-	0.0
Arm C	0.6	0.0	-

Queues & Delays

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

Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	3.79	7.52	0.504	-	0.00	0.98	-	13.5	0.26
	C-AB	1.24	8.61	0.144	-	0.00	0.17	-	2.5	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.39	-	-	-	-	-	-	-	-
	A-C	4.98	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	4.52	7.14	0.634	-	0.98	1.63	-	22.5	0.37
	C-AB	1.48	8.20	0.181	-	0.17	0.23	-	3.4	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	4.05	-	-	-	-	-	-	-	-
	A-C	5.95	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	5.54	6.60	0.840	-	1.63	4.05	-	50.0	0.74
	C-AB	1.82	7.64	0.238	-	0.23	0.33	-	4.9	0.17
	C-A	-	-	-	-	-	-	-	-	-
	A-B	4.95	-	-	-	-	-	-	-	-
	A-C	7.29	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	5.54	6.59	0.840	-	4.05	4.51	-	64.8	0.87
	C-AB	1.82	7.64	0.238	-	0.33	0.33	-	5.0	0.17
	C-A	-	-	-	-	-	-	-	-	-
	A-B	4.95	-	-	-	-	-	-	-	-
	A-C	7.29	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	4.52	7.13	0.634	-	4.51	1.85	-	32.2	0.44
	C-AB	1.48	8.20	0.181	-	0.33	0.23	-	3.5	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	4.05	-	-	-	-	-	-	-	-
	A-C	5.95	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	3.79	7.52	0.504	-	1.85	1.05	-	16.9	0.28
	C-AB	1.24	8.61	0.144	-	0.23	0.17	-	2.6	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.39	-	-	-	-	-	-	-	-
	A-C	4.98	-	-	-	-	-	-	-	-

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

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	3.58	7.96	0.449	-	0.00	0.79	-	11.1	0.22
	C-AB	1.07	10.28	0.104	-	0.00	0.12	-	1.7	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.76	-	-	-	-	-	-	-	-
	A-C	1.12	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	4.27	7.76	0.550	-	0.79	1.18	-	16.6	0.28
	C-AB	1.27	10.14	0.126	-	0.12	0.15	-	2.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.10	-	-	-	-	-	-	-	-
	A-C	1.33	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	5.23	7.49	0.699	-	1.18	2.13	-	28.9	0.42
	C-AB	1.56	9.94	0.157	-	0.15	0.19	-	2.9	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.57	-	-	-	-	-	-	-	-
	A-C	1.63	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	5.23	7.49	0.699	-	2.13	2.22	-	32.7	0.44
	C-AB	1.56	9.94	0.157	-	0.19	0.19	-	2.9	0.12
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.57	-	-	-	-	-	-	-	-

	A-C	1.63	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	4.27	7.76	0.550	-	2.22	1.27	-	20.6	0.30
	C-AB	1.27	10.14	0.126	-	0.19	0.15	-	2.2	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.10	-	-	-	-	-	-	-	-
	A-C	1.33	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	3.58	7.95	0.450	-	1.27	0.84	-	13.3	0.23
	C-AB	1.07	10.28	0.104	-	0.15	0.12	-	1.8	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	1.76	-	-	-	-	-	-	-	-
	A-C	1.12	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

Queue Length Variations

Queue Length Marker Data

Arm	Distance (m)
Arm B	30

Queue Length Probability Distributions

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

Stream	Segment	Mean Queue Length (veh)	5th Percentile (veh)	90th Percentile (veh)	95th Percentile (veh)	99th Percentile (veh)	Prob. Reaching Q-Marker
B-AC	07:45-08:00	1.000	1.000	1.000	1.000	1.000	2.000
	08:00-08:15	2.000	0.000	3.000	4.000	6.000	0.059
	08:15-08:30	4.000	0.000	10.000	16.000	27.000	0.210
	08:30-08:45	5.000	0.000	9.000	18.000	36.000	0.161
	08:45-09:00	2.000	0.000	4.000	6.000	10.000	0.112
	09:00-09:15	1.000	0.000	1.000	3.000	7.000	0.001

Stream	Segment	Mean Queue Length (veh)	5th Percentile (veh)	90th Percentile (veh)	95th Percentile (veh)	99th Percentile (veh)	Prob. Reaching Q-Marker
C-AB	07:45-08:00	0.000	0.000	0.000	0.000	0.000	0.000
	08:00-08:15	0.000	0.000	0.000	0.000	0.000	0.000
	08:15-08:30	0.000	0.000	0.000	0.000	3.000	0.000
	08:30-08:45	0.000	0.000	0.000	0.000	1.000	0.000
	08:45-09:00	0.000	0.000	0.000	0.000	0.000	0.000
	09:00-09:15	0.000	0.000	0.000	0.000	0.000	0.000

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

Stream	Segment	Mean Queue Length (veh)	5th Percentile (veh)	90th Percentile (veh)	95th Percentile (veh)	99th Percentile (veh)	Prob. Reaching Q-Marker
B-AC	16:45-17:00	1.000	1.000	1.000	1.000	1.000	2.000
	17:00-17:15	1.000	0.000	1.000	2.000	3.000	0.001
	17:15-17:30	2.000	0.000	2.000	7.000	19.000	0.080
	17:30-17:45	2.000	0.000	1.000	6.000	24.000	0.065
	17:45-18:00	1.000	0.000	2.000	3.000	5.000	0.001
	18:00-18:15	1.000	0.000	1.000	2.000	4.000	0.001

Stream	Segment	Mean Queue Length (veh)	5th Percentile (veh)	90th Percentile (veh)	95th Percentile (veh)	99th Percentile (veh)	Prob. Reaching Q-Marker
C-AB	16:45-17:00	0.000	0.000	0.000	0.000	0.000	0.000
	17:00-17:15	0.000	0.000	0.000	0.000	0.000	0.000
	17:15-17:30	0.000	0.000	0.000	0.000	2.000	0.000
	17:30-17:45	0.000	0.000	0.000	0.000	0.000	0.000
	17:45-18:00	0.000	0.000	0.000	0.000	0.000	0.000
	18:00-18:15	0.000	0.000	0.000	0.000	0.000	0.000

Notes:

- 1) Maximum value of queue distribution point is 199 (equivalent to being greater than or equal to 199).
- 2) The probability of reaching queue marker takes account of multi-stream queuing automatically.
- 3) Probability less than 0.05 is undeterminable.
- 4) '###' indicates the queue is too small or too big to calculate.
- 5) '\$\$\$' indicates the variance is very small in relation to the mean queue:
 - (a) For small queues (less than 20) this means that all points on the distribution will be approximately equal to the mean.
 - (b) For large queues (greater than 100) this means that the variance has exceeded its maximum, and has been truncated;
 - in this case the distribution point cannot be calculated reliably.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

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

Modelling Period: 07:45-09:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	415.7	277.1	199.8	0.5	199.9	0.5
C-AB	136.3	90.8	22.0	0.2	22.0	0.2
C-A	-	-	-	-	-	-
A-B	371.6	247.8	-	-	-	-
A-C	546.4	364.3	-	-	-	-
All	1636.6	1091.0	221.8	0.1	221.9	0.1

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

Modelling Period: 16:45-18:15

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	392.3	261.5	123.2	0.3	123.2	0.3
C-AB	117.0	78.0	13.8	0.1	13.8	0.1
C-A	-	-	-	-	-	-
A-B	192.7	128.5	-	-	-	-
A-C	122.5	81.7	-	-	-	-
All	1072.2	714.8	137.0	0.1	137.1	0.1

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 3 - Hattons Road_B1050 roundabout\J3 - Hattons Rd - B1050 2014 AM Peak ODTAB.vai
 At: 10:51:00 on Tuesday, April 15, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	B1050 North
Arm B	Hattons Road
Arm C	B1050 Hattons Road South

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 3 - Hattons Road / B1050 roundabout
Location	Longstanton (Northstowe)
Date	07/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.25	3.00	3.65
Entry Width (m)	3.25	3.00	7.30
Flare Length (m)	0.00	0.00	19.00
Entry Radius (m)	30.00	36.00	46.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00
Entry Angle (degrees)	32.00	23.00	29.00
Slope	0.493	0.495	0.666
Intercept (PCU/Min)	16.566	15.847	30.776

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	19.0	666.0
Arm B	8.0	0.0	232.0
Arm C	205.0	93.0	0.0

Entry Flow Data for Demand Set: 2014 AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	8.56	12.84	8.56
Arm B	15.00	45.00	75.00	3.00	4.50	3.00
Arm C	15.00	45.00	75.00	3.72	5.59	3.72

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 AM Peak


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	5.3	2.3
	Arm B	0.0	0.0	0.4
	Arm C	6.3	3.2	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:45 to 08:00	A	8.60	15.60	0.551	-	0.0	1.2	17.0	-	0.140
	B	3.01	11.61	0.259	-	0.0	0.3	5.0	-	0.116
	C	3.74	29.16	0.128	-	0.0	0.1	2.2	-	0.039
Segment : 2 - 08:00 to 08:15	A	10.26	15.49	0.663	-	1.2	1.9	26.8	-	0.188
	B	3.60	10.77	0.334	-	0.3	0.5	7.2	-	0.139
	C	4.46	29.14	0.153	-	0.1	0.2	2.7	-	0.040
Segment : 3 - 08:15 to 08:30	A	12.57	15.33	0.820	-	1.9	4.1	53.8	-	0.328
	B	4.40	9.69	0.454	-	0.5	0.8	11.7	-	0.188
	C	5.47	29.13	0.188	-	0.2	0.2	3.4	-	0.042
Segment : 4 - 08:30 to 08:45	A	12.57	15.33	0.820	-	4.1	4.3	63.0	-	0.356
	B	4.40	9.63	0.457	-	0.8	0.8	12.4	-	0.191
	C	5.47	29.13	0.188	-	0.2	0.2	3.5	-	0.042
Segment : 5 - 08:45 to 09:00	A	10.26	15.49	0.663	-	4.3	2.0	33.1	-	0.203
	B	3.60	10.68	0.337	-	0.8	0.5	8.0	-	0.142
	C	4.46	29.14	0.153	-	0.2	0.2	2.8	-	0.041
Segment : 6 - 09:00 to 09:15	A	8.60	15.60	0.551	-	2.0	1.3	19.7	-	0.145
	B	3.01	11.54	0.261	-	0.5	0.4	5.5	-	0.118
	C	3.74	29.15	0.128	-	0.2	0.1	2.2	-	0.039

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\2014 Base (Benchmarking)\Junction 3 - Hattons Road_B1050 roundabout\J3 - Hattons Rd - B1050 2014 PM Peak sensitivity ODTAB.vai

At: 15:29:00 on Friday, August 15, 2014

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	B1050 North
Arm B	Hattons Road
Arm C	B1050 Hattons Road South

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 3 - Hattons Road / B1050 roundabout
Location	Longstanton (Northstowe)
Date	07/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.25	3.00	3.65
Entry Width (m)	3.25	3.00	7.30
Flare Length (m)	0.00	0.00	19.00
Entry Radius (m)	30.00	36.00	46.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00
Entry Angle (degrees)	32.00	23.00	29.00
Slope	0.493	0.495	0.666
Intercept (PCU/Min)	16.566	15.847	30.776

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**
 Length of Time Period: **90 min**
 Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	10.0	294.0
Arm B	15.0	0.0	131.0
Arm C	783.0	238.0	2.0

Entry Flow Data for Demand Set: 2014 PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	3.80	5.70	3.80
Arm B	15.00	45.00	75.00	1.83	2.74	1.83
Arm C	15.00	45.00	75.00	12.79	19.18	12.79

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 PM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	10.0	2.0
	Arm B	0.0	0.0	1.5
	Arm C	1.1	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	3.81	14.75	0.259	-	0.0	0.3	5.0	-	0.091
	B	1.83	13.80	0.133	-	0.0	0.2	2.2	-	0.083
	C	12.84	30.40	0.422	-	0.0	0.7	10.6	-	0.057
Segment : 2 - 17:00 to 17:15	A	4.55	14.47	0.315	-	0.3	0.5	6.7	-	0.101
	B	2.19	13.43	0.163	-	0.2	0.2	2.8	-	0.089
	C	15.33	30.37	0.505	-	0.7	1.0	14.8	-	0.066
Segment : 3 - 17:15 to 17:30	A	5.58	14.08	0.396	-	0.5	0.6	9.4	-	0.117
	B	2.68	12.94	0.207	-	0.2	0.3	3.8	-	0.097
	C	18.77	30.34	0.619	-	1.0	1.6	23.2	-	0.086
Segment : 4 - 17:30 to 17:45	A	5.58	14.08	0.396	-	0.6	0.7	9.8	-	0.117
	B	2.68	12.93	0.207	-	0.3	0.3	3.9	-	0.098
	C	18.77	30.34	0.619	-	1.6	1.6	24.1	-	0.086
Segment : 5 - 17:45 to 18:00	A	4.55	14.46	0.315	-	0.7	0.5	7.1	-	0.101
	B	2.19	13.42	0.163	-	0.3	0.2	3.0	-	0.089
	C	15.33	30.37	0.505	-	1.6	1.0	15.8	-	0.067
Segment : 6 - 18:00 to 18:15	A	3.81	14.75	0.259	-	0.5	0.4	5.4	-	0.092
	B	1.83	13.78	0.133	-	0.2	0.2	2.4	-	0.084
	C	12.84	30.39	0.422	-	1.0	0.7	11.3	-	0.057

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 3 - Hattons Road_B1050 roundabout\J3 - Hattons Rd - B1050 2014 AM Peak (0715-0815) sensitivity ODTAB.vai
 At: 16:02:35 on Monday, April 07, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	B1050 North
Arm B	Hattons Road
Arm C	B1050 Hattons Road South

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 3 - Hattons Road / B1050 roundabout
Location	Longstanton (Northstowe)
Date	07/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.25	3.00	3.65
Entry Width (m)	3.25	3.00	7.30
Flare Length (m)	0.00	0.00	19.00
Entry Radius (m)	30.00	36.00	46.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00
Entry Angle (degrees)	32.00	23.00	29.00
Slope	0.493	0.495	0.666
Intercept (PCU/Min)	16.566	15.847	30.776

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:00 to 08:30**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	1.0	10.0	795.0
Arm B	7.0	1.0	336.0
Arm C	153.0	73.0	0.0

Entry Flow Data for Demand Set: 2014 AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	10.07	15.11	10.07
Arm B	15.00	45.00	75.00	4.30	6.45	4.30
Arm C	15.00	45.00	75.00	2.83	4.24	2.83

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 AM Peak


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:00 to 08:30	Arm A	0.0	0.0	1.6
	Arm B	0.0	0.0	1.8
	Arm C	7.2	6.8	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:00 to 07:15	A	10.11	15.83	0.639	-	0.0	1.7	23.8	-	0.168
	B	4.32	10.69	0.404	-	0.0	0.7	9.5	-	0.155
	C	2.84	28.67	0.099	-	0.0	0.1	1.6	-	0.039
Segment : 2 - 07:15 to 07:30	A	12.08	15.74	0.767	-	1.7	3.1	42.1	-	0.260
	B	5.15	9.72	0.530	-	0.7	1.1	15.6	-	0.216
	C	3.39	28.66	0.118	-	0.1	0.1	2.0	-	0.040
Segment : 3 - 07:30 to 07:45	A	14.79	15.61	0.948	-	3.1	9.9	113.1	-	0.632
	B	6.31	8.57	0.736	-	1.1	2.5	33.6	-	0.408
	C	4.15	28.64	0.145	-	0.1	0.2	2.5	-	0.041
Segment : 4 - 07:45 to 08:00	A	14.79	15.61	0.948	-	9.9	12.0	165.8	-	0.864
	B	6.31	8.42	0.750	-	2.5	2.8	40.4	-	0.463
	C	4.15	28.64	0.145	-	0.2	0.2	2.5	-	0.041
Segment : 5 - 08:00 to 08:15	A	12.08	15.73	0.768	-	12.0	3.6	71.1	-	0.371
	B	5.15	9.40	0.548	-	2.8	1.3	20.5	-	0.247
	C	3.39	28.66	0.118	-	0.2	0.1	2.0	-	0.040
Segment : 6 - 08:15 to 08:30	A	10.11	15.83	0.639	-	3.6	1.8	29.3	-	0.182
	B	4.32	10.58	0.408	-	1.3	0.7	11.0	-	0.162
	C	2.84	28.67	0.099	-	0.1	0.1	1.7	-	0.039

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\2014 Base (Benchmarking)\Junction 4 - Over Road_Hattons Road roundabout\J4 - Over Road_Hattons Road 2014 AM Peak ODTAB.vai

At: 15:31:58 on Friday, August 15, 2014

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Over Road (e)
Arm B	Hattons Road
Arm C	Over Road (nw)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 4 - Over Road - Hattons Road
Location	Longstanton (Northstowe)
Date	07/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.65	2.50
Entry Width (m)	3.00	3.65	3.00
Flare Length (m)	0.00	0.00	1.00
Entry Radius (m)	34.00	17.00	34.00
Inscribed Circle Diameter (m)	30.00	40.00	24.00
Entry Angle (degrees)	40.00	40.00	40.00
Slope	0.489	0.501	0.473
Intercept (PCU/Min)	14.929	17.634	13.398

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	3.0	56.0	16.0
Arm B	10.0	0.0	17.0
Arm C	54.0	73.0	0.0

Entry Flow Data for Demand Set: 2014 AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.94	1.41	0.94
Arm B	15.00	45.00	75.00	0.34	0.51	0.34
Arm C	15.00	45.00	75.00	1.59	2.38	1.59

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.


Heavy Vehicle Percentages for Demand Set: 2014 AM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	33.3	1.8	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 07:45 to 08:00	A	0.94	14.10	0.067	-	0.0	0.1	1.0	-	0.076
	B	0.34	17.51	0.019	-	0.0	0.0	0.3	-	0.058
	C	1.59	13.31	0.120	-	0.0	0.1	2.0	-	0.085
Segment : 2 - 08:00 to 08:15	A	1.12	14.02	0.080	-	0.1	0.1	1.3	-	0.078
	B	0.40	17.48	0.023	-	0.0	0.0	0.3	-	0.059
	C	1.90	13.30	0.143	-	0.1	0.2	2.4	-	0.088
Segment : 3 - 08:15 to 08:30	A	1.38	13.90	0.099	-	0.1	0.1	1.6	-	0.080
	B	0.50	17.45	0.028	-	0.0	0.0	0.4	-	0.059
	C	2.33	13.28	0.176	-	0.2	0.2	3.1	-	0.091
Segment : 4 - 08:30 to 08:45	A	1.38	13.90	0.099	-	0.1	0.1	1.6	-	0.080
	B	0.50	17.45	0.028	-	0.0	0.0	0.4	-	0.059
	C	2.33	13.28	0.176	-	0.2	0.2	3.2	-	0.091
Segment : 5 - 08:45 to 09:00	A	1.12	14.02	0.080	-	0.1	0.1	1.3	-	0.078
	B	0.40	17.48	0.023	-	0.0	0.0	0.4	-	0.059
	C	1.90	13.30	0.143	-	0.2	0.2	2.6	-	0.088
Segment : 6 - 09:00 to 09:15	A	0.94	14.10	0.067	-	0.1	0.1	1.1	-	0.076
	B	0.34	17.51	0.019	-	0.0	0.0	0.3	-	0.058
	C	1.59	13.31	0.120	-	0.2	0.1	2.1	-	0.085

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\2014 Base (Benchmarking)\Junction 4 - Over Road_Hattons Road roundabout\J4 - Over Road_Hattons Road 2014 PM Peak ODTAB.vai

At: 15:32:44 on Friday, August 15, 2014

Mode: Drive On The Left

Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Over Road (e)
Arm B	Hattons Road
Arm C	Over Road (nw)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 4 - Over Road - Hattons Road
Location	Longstanton (Northstowe)
Date	07/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.65	2.50
Entry Width (m)	3.00	3.65	3.00
Flare Length (m)	0.00	0.00	1.00
Entry Radius (m)	34.00	17.00	34.00
Inscribed Circle Diameter (m)	30.00	40.00	24.00
Entry Angle (degrees)	40.00	40.00	40.00
Slope	0.489	0.501	0.473
Intercept (PCU/Min)	14.929	17.634	13.398

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	1.0	21.0	27.0
Arm B	50.0	1.0	69.0
Arm C	17.0	20.0	0.0

Entry Flow Data for Demand Set: 2014 PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.61	0.92	0.61
Arm B	15.00	45.00	75.00	1.50	2.25	1.50
Arm C	15.00	45.00	75.00	0.46	0.69	0.46

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 PM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	100.0	0.0
	Arm C	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	0.61	14.79	0.042	-	0.0	0.0	0.6	-	0.071
	B	1.51	17.31	0.087	-	0.0	0.1	1.4	-	0.063
	C	0.46	13.08	0.035	-	0.0	0.0	0.5	-	0.079
Segment : 2 - 17:00 to 17:15	A	0.73	14.77	0.050	-	0.0	0.1	0.8	-	0.071
	B	1.80	17.28	0.104	-	0.1	0.1	1.7	-	0.065
	C	0.55	13.02	0.043	-	0.0	0.0	0.7	-	0.080
Segment : 3 - 17:15 to 17:30	A	0.90	14.73	0.061	-	0.1	0.1	1.0	-	0.072
	B	2.20	17.23	0.128	-	0.1	0.1	2.2	-	0.067
	C	0.68	12.94	0.052	-	0.0	0.1	0.8	-	0.081
Segment : 4 - 17:30 to 17:45	A	0.90	14.73	0.061	-	0.1	0.1	1.0	-	0.072
	B	2.20	17.23	0.128	-	0.1	0.1	2.2	-	0.067
	C	0.68	12.94	0.052	-	0.1	0.1	0.8	-	0.082
Segment : 5 - 17:45 to 18:00	A	0.73	14.77	0.050	-	0.1	0.1	0.8	-	0.071
	B	1.80	17.28	0.104	-	0.1	0.1	1.8	-	0.065
	C	0.55	13.02	0.043	-	0.1	0.0	0.7	-	0.080
Segment : 6 - 18:00 to 18:15	A	0.61	14.79	0.042	-	0.1	0.0	0.7	-	0.071
	B	1.51	17.31	0.087	-	0.1	0.1	1.5	-	0.063
	C	0.46	13.08	0.035	-	0.0	0.0	0.6	-	0.079

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 5 - High Street_Over Road mini roundabout\J5 - High St_Over Rd_2014 AM Peak.vai
At: 12:03:58 on Tuesday, April 08, 2014
Mode: Drive On The Left
Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	High Street (N)
Arm B	High Street (S)
Arm C	Over Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 5 - High Street & Over Road mini roundabout
Location	Longstanton (Northstowe)
Date	08/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Mini-Roundabout Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.00	3.00	3.00
Flare Length (m)	0.00	0.00	0.00
Minimum Approach Half-Width (m)	3.00	3.00	3.00
Distance Between Arm and Next Arm (m)	16.00	15.00	14.00
Kerb Line Distance (m)	17.00	13.00	13.00
Gradient (%)	0.00	0.00	0.00
Kerbed Central Island	No	No	No
Slope	0.633	0.521	0.521
Intercept (PCU/Min)	12.999	11.376	10.666

Lighting Conditions: **Normal**
Road Surface Conditions: **Normal**

Demand Data

Demand Profiles are Synthesised using **DIRECT** Data
Period of interest (for Queue and Delay calculations): **08:00 to 09:00**
Length of Time Period: **60 min**
Length of Time Segment: **15 min**

Direct Data for Demand Set: 2014 AM Peak (0800-0900)

Time Period	Arm	Demand Data (Veh/Min)
Segment : 1 - 08:00 to 08:15	A	3.32
	B	1.87
	C	1.45
Segment : 2 - 08:15 to 08:30	A	3.32
	B	1.87
	C	1.45
Segment : 3 - 08:30 to 08:45	A	3.32
	B	1.87
	C	1.45
Segment : 4 - 08:45 to 09:00	A	3.32
	B	1.87
	C	1.45

Turning Proportions for Demand Set: 2014 AM Peak (0800-0900)

Turning proportions vary over entry and calculated from turning count data (shaded)

Time Period	From/To	Arm A	Arm B	Arm C
08:00 to 09:00	Arm A	0.000	0.794	0.206
		0.0	158.0	41.0
	Arm B	0.848	0.000	0.152
		95.0	0.0	17.0
	Arm C	0.466	0.534	0.000
		41.0	47.0	0.0

Heavy Vehicle Percentages for Demand Set: 2014 AM Peak (0800-0900)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
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08:00 to 09:00	Arm A	0.0	0.6	2.4
	Arm B	0.0	0.0	5.9
	Arm C	2.4	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 08:00 to 08:15	A	3.32	12.39	0.268	-	0.0	0.4	5.2	-	0.110
	B	1.87	10.92	0.171	-	0.0	0.2	3.0	-	0.110
	C	1.45	9.74	0.149	-	0.0	0.2	2.5	-	0.120
Segment : 2 - 08:15 to 08:30	A	3.32	12.39	0.268	-	0.4	0.4	5.5	-	0.110
	B	1.87	10.91	0.171	-	0.2	0.2	3.1	-	0.111
	C	1.45	9.73	0.149	-	0.2	0.2	2.6	-	0.121
Segment : 3 - 08:30 to 08:45	A	3.32	12.39	0.268	-	0.4	0.4	5.5	-	0.110
	B	1.87	10.91	0.171	-	0.2	0.2	3.1	-	0.111
	C	1.45	9.73	0.149	-	0.2	0.2	2.6	-	0.121
Segment : 4 - 08:45 to 09:00	A	3.32	12.39	0.268	-	0.4	0.4	5.5	-	0.110
	B	1.87	10.91	0.171	-	0.2	0.2	3.1	-	0.111
	C	1.45	9.73	0.149	-	0.2	0.2	2.6	-	0.121

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 5 - High Street_Over Road mini roundabout\J5 - High St_Over Rd_2014 PM Peak.vai
 At: 12:05:24 on Tuesday, April 08, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	High Street (N)
Arm B	High Street (S)
Arm C	Over Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 5 - High Street & Over Road mini roundabout
Location	Longstanton (Northstowe)
Date	08/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Mini-Roundabout Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.00	3.00	3.00
Flare Length (m)	0.00	0.00	0.00
Minimum Approach Half-Width (m)	3.00	3.00	3.00
Distance Between Arm and Next Arm (m)	16.00	15.00	14.00
Kerb Line Distance (m)	17.00	13.00	13.00
Gradient (%)	0.00	0.00	0.00
Kerbed Central Island	No	No	No
Slope	0.633	0.521	0.521
Intercept (PCU/Min)	12.999	11.376	10.666

Lighting Conditions: **Normal**
Road Surface Conditions: **Normal**

Demand Data

Demand Profiles are Synthesised using **DIRECT** Data
Period of interest (for Queue and Delay calculations): **17:00 to 18:00**
Length of Time Period: **60 min**
Length of Time Segment: **15 min**

Direct Data for Demand Set: 2014 PM Peak (1700-1800)

Time Period	Arm	Demand Data (Veh/Min)
Segment : 1 - 17:00 to 17:15	A	1.72
	B	2.03
	C	1.05
Segment : 2 - 17:15 to 17:30	A	1.72
	B	2.03
	C	1.05
Segment : 3 - 17:30 to 17:45	A	1.72
	B	2.03
	C	1.05
Segment : 4 - 17:45 to 18:00	A	1.72
	B	2.03
	C	1.05

Turning Proportions for Demand Set: 2014 PM Peak (1700-1800)

Turning proportions vary over entry and calculated from turning count data (shaded)

Time Period	From/To	Arm A	Arm B	Arm C
17:00 to 18:00	Arm A	0.000	0.660	0.340
		0.0	68.0	35.0
	Arm B	0.787	0.008	0.205
		96.0	1.0	25.0
	Arm C	0.825	0.175	0.000
		52.0	11.0	0.0

Heavy Vehicle Percentages for Demand Set: 2014 PM Peak (1700-1800)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
-------------	---------	-------	-------	-------

17:00 to 18:00	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 17:00 to 17:15	A	1.72	12.87	0.134	-	0.0	0.2	2.2	-	0.090
	B	2.03	11.07	0.183	-	0.0	0.2	3.2	-	0.110
	C	1.05	9.82	0.107	-	0.0	0.1	1.7	-	0.114
Segment : 2 - 17:15 to 17:30	A	1.72	12.87	0.134	-	0.2	0.2	2.3	-	0.090
	B	2.03	11.07	0.183	-	0.2	0.2	3.3	-	0.111
	C	1.05	9.82	0.107	-	0.1	0.1	1.8	-	0.114
Segment : 3 - 17:30 to 17:45	A	1.72	12.87	0.134	-	0.2	0.2	2.3	-	0.090
	B	2.03	11.07	0.183	-	0.2	0.2	3.4	-	0.111
	C	1.05	9.82	0.107	-	0.1	0.1	1.8	-	0.114
Segment : 4 - 17:45 to 18:00	A	1.72	12.87	0.134	-	0.2	0.2	2.3	-	0.090
	B	2.03	11.07	0.183	-	0.2	0.2	3.4	-	0.111
	C	1.05	9.82	0.107	-	0.1	0.1	1.8	-	0.114

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 6 - Station Rd_B1050 roundabout\J6 - Station Rd_B1050 2014 AM Peak ODTAB.vai
 At: 16:31:47 on Tuesday, April 08, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Farm Access
Arm B	Station Road (e)
Arm C	Station Road (s)
Arm D	B1050 (w)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Junction 6 - Station Road / B1050 roundabout
Location	Longstanton (Northstowe)
Date	08/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	2.50	3.65	3.00	3.65
Entry Width (m)	3.00	3.65	6.50	3.65
Flare Length (m)	1.00	0.00	6.00	0.00
Entry Radius (m)	10.00	45.00	25.00	45.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00	45.00
Entry Angle (degrees)	30.00	30.00	44.00	30.00
Slope	0.433	0.526	0.524	0.526
Intercept (PCU/Min)	12.931	18.933	20.489	18.933

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 AM Peak (0800-0900)

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	0.0	0.0
Arm B	0.0	1.0	84.0	585.0
Arm C	0.0	71.0	0.0	83.0
Arm D	0.0	201.0	45.0	0.0

Entry Flow Data for Demand Set: 2014 AM Peak (0800-0900)

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.00	0.00	0.00
Arm B	15.00	45.00	75.00	8.38	12.56	8.38
Arm C	15.00	45.00	75.00	1.92	2.89	1.92
Arm D	15.00	45.00	75.00	3.08	4.61	3.08

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 AM Peak (0800-0900)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	2.4
	Arm C	0.0	0.0	0.0	1.2
	Arm D	0.0	7.0	2.2	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 07:45 to 08:00	A	0.00	11.13	0.000	-	0.0	0.0	0.0	-	0.000
	B	8.41	18.25	0.461	-	0.0	0.8	12.1	-	0.101
	C	1.93	16.46	0.117	-	0.0	0.1	1.9	-	0.069
	D	3.09	17.40	0.177	-	0.0	0.2	3.1	-	0.070
Segment : 2 - 08:00 to 08:15	A	0.00	10.77	0.000	-	0.0	0.0	0.0	-	0.000
	B	10.04	18.19	0.552	-	0.8	1.2	17.5	-	0.122
	C	2.31	15.68	0.147	-	0.1	0.2	2.5	-	0.075
	D	3.69	17.31	0.213	-	0.2	0.3	4.0	-	0.073
Segment : 3 - 08:15 to 08:30	A	0.00	10.29	0.000	-	0.0	0.0	0.0	-	0.000
	B	12.29	18.11	0.679	-	1.2	2.0	28.9	-	0.169
	C	2.83	14.65	0.193	-	0.2	0.2	3.5	-	0.085
	D	4.51	17.19	0.263	-	0.3	0.4	5.2	-	0.079
Segment : 4 - 08:30 to 08:45	A	0.00	10.29	0.000	-	0.0	0.0	0.0	-	0.000
	B	12.29	18.11	0.679	-	2.0	2.1	31.0	-	0.172
	C	2.83	14.62	0.193	-	0.2	0.2	3.6	-	0.085
	D	4.51	17.19	0.263	-	0.4	0.4	5.3	-	0.079
Segment : 5 - 08:45 to 09:00	A	0.00	10.77	0.000	-	0.0	0.0	0.0	-	0.000
	B	10.04	18.19	0.552	-	2.1	1.3	19.7	-	0.124
	C	2.31	15.65	0.147	-	0.2	0.2	2.7	-	0.075
	D	3.69	17.31	0.213	-	0.4	0.3	4.2	-	0.073
Segment : 6 - 09:00 to 09:15	A	0.00	11.12	0.000	-	0.0	0.0	0.0	-	0.000
	B	8.41	18.25	0.461	-	1.3	0.9	13.4	-	0.102
	C	1.93	16.42	0.118	-	0.2	0.1	2.0	-	0.069
	D	3.09	17.39	0.177	-	0.3	0.2	3.3	-	0.070

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 6 - Station Rd_B1050 roundabout\J6 - Station Rd_B1050 2014 PM Peak ODTAB.vai
 At: 16:33:18 on Tuesday, April 08, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Farm Access
Arm B	Station Road (e)
Arm C	Station Road (s)
Arm D	B1050 (w)

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Junction 6 - Station Road / B1050 roundabout
Location	Longstanton (Northstowe)
Date	08/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	2.50	3.65	3.00	3.65
Entry Width (m)	3.00	3.65	6.50	3.65
Flare Length (m)	1.00	0.00	6.00	0.00
Entry Radius (m)	10.00	45.00	25.00	45.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00	45.00
Entry Angle (degrees)	30.00	30.00	44.00	30.00
Slope	0.433	0.526	0.524	0.526
Intercept (PCU/Min)	12.931	18.933	20.489	18.933

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 PM Peak (1700-1800)

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	0.0	0.0
Arm B	0.0	0.0	76.0	253.0
Arm C	2.0	65.0	0.0	43.0
Arm D	0.0	646.0	41.0	0.0

Entry Flow Data for Demand Set: 2014 PM Peak (1700-1800)

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.00	0.00	0.00
Arm B	15.00	45.00	75.00	4.11	6.17	4.11
Arm C	15.00	45.00	75.00	1.38	2.06	1.38
Arm D	15.00	45.00	75.00	8.59	12.88	8.59

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 PM Peak (1700-1800)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
16:45 to 18:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	2.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	1.5	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	0.00	8.82	0.000	-	0.0	0.0	0.0	-	0.000
	B	4.13	18.38	0.225	-	0.0	0.3	4.2	-	0.070
	C	1.38	18.80	0.073	-	0.0	0.1	1.2	-	0.057
	D	8.62	18.24	0.473	-	0.0	0.9	12.7	-	0.103
Segment : 2 - 17:00 to 17:15	A	0.00	8.00	0.000	-	0.0	0.0	0.0	-	0.000
	B	4.93	18.33	0.269	-	0.3	0.4	5.4	-	0.075
	C	1.65	18.46	0.089	-	0.1	0.1	1.4	-	0.059
	D	10.29	18.15	0.567	-	0.9	1.3	18.6	-	0.126
Segment : 3 - 17:15 to 17:30	A	0.00	6.91	0.000	-	0.0	0.0	0.0	-	0.000
	B	6.04	18.26	0.331	-	0.4	0.5	7.2	-	0.082
	C	2.02	18.01	0.112	-	0.1	0.1	1.9	-	0.063
	D	12.61	18.03	0.699	-	1.3	2.2	31.4	-	0.180
Segment : 4 - 17:30 to 17:45	A	0.00	6.88	0.000	-	0.0	0.0	0.0	-	0.000
	B	6.04	18.26	0.331	-	0.5	0.5	7.4	-	0.082
	C	2.02	18.01	0.112	-	0.1	0.1	1.9	-	0.063
	D	12.61	18.03	0.699	-	2.2	2.3	33.9	-	0.184
Segment : 5 - 17:45 to 18:00	A	0.00	7.96	0.000	-	0.0	0.0	0.0	-	0.000
	B	4.93	18.33	0.269	-	0.5	0.4	5.7	-	0.075
	C	1.65	18.46	0.089	-	0.1	0.1	1.5	-	0.059
	D	10.29	18.15	0.567	-	2.3	1.3	21.0	-	0.129
Segment : 6 - 18:00 to 18:15	A	0.00	8.78	0.000	-	0.0	0.0	0.0	-	0.000
	B	4.13	18.38	0.225	-	0.4	0.3	4.4	-	0.070
	C	1.38	18.79	0.073	-	0.1	0.1	1.2	-	0.057
	D	8.62	18.23	0.473	-	1.3	0.9	14.1	-	0.105

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 7 - B1050_Ramper Road roundabout\J7 - B1050_Ramper Rd 2014 AM Peak (0800-0900) ODTAB.vai
 At: 17:04:14 on Tuesday, April 08, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	B1050 (e)
Arm B	B1050 (s)
Arm C	Ramper Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 7 - B1050- Ramper Road
Location	Longstanton (Northstowe)
Date	08/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.65	3.65	3.65
Entry Width (m)	3.65	3.65	3.65
Flare Length (m)	0.00	0.00	0.00
Entry Radius (m)	27.90	21.00	46.00
Inscribed Circle Diameter (m)	52.00	52.00	52.00
Entry Angle (degrees)	29.00	35.00	20.00
Slope	0.497	0.481	0.519
Intercept (PCU/Min)	18.752	18.156	19.582

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	514.0	142.0
Arm B	155.0	1.0	56.0
Arm C	89.0	155.0	2.0

Entry Flow Data for Demand Set: 2014 AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	8.20	12.30	8.20
Arm B	15.00	45.00	75.00	2.65	3.98	2.65
Arm C	15.00	45.00	75.00	3.08	4.61	3.08

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 AM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	2.7	0.7
	Arm B	7.7	0.0	1.8
	Arm C	0.0	1.3	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:45 to 08:00	A	8.23	17.36	0.474	-	0.0	0.9	12.8	-	0.108
	B	2.66	16.29	0.163	-	0.0	0.2	2.8	-	0.073
	C	3.09	18.34	0.168	-	0.0	0.2	3.0	-	0.065
Segment : 2 - 08:00 to 08:15	A	9.83	17.17	0.572	-	0.9	1.3	18.9	-	0.135
	B	3.18	16.13	0.197	-	0.2	0.2	3.6	-	0.077
	C	3.69	18.13	0.203	-	0.2	0.3	3.7	-	0.069
Segment : 3 - 08:15 to 08:30	A	12.04	16.91	0.712	-	1.3	2.4	33.0	-	0.199
	B	3.89	15.91	0.245	-	0.2	0.3	4.7	-	0.083
	C	4.51	17.84	0.253	-	0.3	0.3	5.0	-	0.075
Segment : 4 - 08:30 to 08:45	A	12.04	16.91	0.712	-	2.4	2.4	35.9	-	0.205
	B	3.89	15.90	0.245	-	0.3	0.3	4.8	-	0.083
	C	4.51	17.84	0.253	-	0.3	0.3	5.1	-	0.075
Segment : 5 - 08:45 to 09:00	A	9.83	17.17	0.572	-	2.4	1.4	21.6	-	0.139
	B	3.18	16.12	0.197	-	0.3	0.2	3.8	-	0.077
	C	3.69	18.12	0.203	-	0.3	0.3	3.9	-	0.069
Segment : 6 - 09:00 to 09:15	A	8.23	17.36	0.474	-	1.4	0.9	14.2	-	0.110
	B	2.66	16.28	0.163	-	0.2	0.2	3.0	-	0.073
	C	3.09	18.34	0.168	-	0.3	0.2	3.1	-	0.066

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 7 - B1050_Ramper Road roundabout\J7 - B1050_Ramper Rd 2014 PM Peak (0800-0900) ODTAB.vai
 At: 17:05:14 on Tuesday, April 08, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	B1050 (e)
Arm B	B1050 (s)
Arm C	Ramper Road

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	Junction 7 - B1050- Ramper Road
Location	Longstanton (Northstowe)
Date	08/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.65	3.65	3.65
Entry Width (m)	3.65	3.65	3.65
Flare Length (m)	0.00	0.00	0.00
Entry Radius (m)	27.90	21.00	46.00
Inscribed Circle Diameter (m)	52.00	52.00	52.00
Entry Angle (degrees)	29.00	35.00	20.00
Slope	0.497	0.481	0.519
Intercept (PCU/Min)	18.752	18.156	19.582

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	212.0	89.0
Arm B	608.0	0.0	195.0
Arm C	83.0	94.0	0.0

Entry Flow Data for Demand Set: 2014 PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	3.76	5.64	3.76
Arm B	15.00	45.00	75.00	10.04	15.06	10.04
Arm C	15.00	45.00	75.00	2.21	3.32	2.21

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 PM Peak


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	2.4	0.0
	Arm B	1.3	0.0	0.5
	Arm C	0.0	0.0	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 16:45 to 17:00	A	3.78	17.87	0.211	-	0.0	0.3	3.9	-	0.071
	B	10.08	17.43	0.578	-	0.0	1.3	19.0	-	0.133
	C	2.22	15.61	0.142	-	0.0	0.2	2.4	-	0.075
Segment : 2 - 17:00 to 17:15	A	4.51	17.75	0.254	-	0.3	0.3	5.0	-	0.075
	B	12.03	17.32	0.695	-	1.3	2.2	30.8	-	0.185
	C	2.65	14.81	0.179	-	0.2	0.2	3.2	-	0.082
Segment : 3 - 17:15 to 17:30	A	5.52	17.60	0.314	-	0.3	0.5	6.7	-	0.083
	B	14.74	17.18	0.858	-	2.2	5.2	66.8	-	0.354
	C	3.25	13.79	0.235	-	0.2	0.3	4.5	-	0.095
Segment : 4 - 17:30 to 17:45	A	5.52	17.60	0.314	-	0.5	0.5	6.8	-	0.083
	B	14.74	17.18	0.858	-	5.2	5.5	81.0	-	0.397
	C	3.25	13.72	0.237	-	0.3	0.3	4.6	-	0.096
Segment : 5 - 17:45 to 18:00	A	4.51	17.75	0.254	-	0.5	0.3	5.2	-	0.076
	B	12.03	17.32	0.695	-	5.5	2.4	39.2	-	0.205
	C	2.65	14.71	0.180	-	0.3	0.2	3.4	-	0.083
Segment : 6 - 18:00 to 18:15	A	3.78	17.86	0.211	-	0.3	0.3	4.1	-	0.071
	B	10.08	17.42	0.578	-	2.4	1.4	22.1	-	0.139
	C	2.22	15.54	0.143	-	0.2	0.2	2.6	-	0.075

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Run Analysis

Parameter	Values
File Run	K:\.\Junction 8 - Over Rd_Ramper Rd junction\J8 - Over Rd_Ramper Rd Jct.vpi
Date Run	09 April 2014
Time Run	10:29:44
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Ramper Road (w)	100
Arm B	Over Road	100
Arm C	Ramper Road (e)	100

Stream Labelling Convention

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

Run Information

Parameter	Values
Run Title	Junction 8 - Over Road / Ramper Road junction
Location	Longstanton (Northstowe)
Date	09 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	3.00
Minor Road First Lane Width (m)	2.65
Minor Road Visibility To Right (m)	37
Minor Road Visibility To Left (m)	33
Major Road Right Turn Visibility (m)	100
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	488.729	0.089	0.225	0.142	0.321
B-C	624.550	0.096	0.242	-	-
C-B	686.890	0.266	0.266	-	-

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

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	08:00-09:00	60	15
Second Modelling Period	17:00-18:00	60	15

Direct Entry Flows

Demand Set: 2014 AM Peak
Modelling Period: 08:00-09:00

Segment: 08:00-08:15

Arm	Flow (veh/min)
Arm A	6.33
Arm B	2.32
Arm C	3.23

Segment: 08:15-08:30

Arm	Flow (veh/min)
Arm A	6.33
Arm B	2.32
Arm C	3.23

Segment: 08:30-08:45

Arm	Flow (veh/min)
Arm A	6.33
Arm B	2.32
Arm C	3.23

Segment: 08:45-09:00

Arm	Flow (veh/min)
Arm A	6.33
Arm B	2.32
Arm C	3.23

Demand Set: 2014 PM Peak
Modelling Period: 17:00-18:00

Segment: 17:00-17:15

Arm	Flow (veh/min)
Arm A	1.28
Arm B	1.80
Arm C	4.73

Segment: 17:15-17:30

Arm	Flow (veh/min)
Arm A	1.28
Arm B	1.80
Arm C	4.73

Segment: 17:30-17:45

Arm	Flow (veh/min)
Arm A	1.28
Arm B	1.80
Arm C	4.73

Segment: 17:45-18:00

Arm	Flow (veh/min)
Arm A	1.28
Arm B	1.80
Arm C	4.73

Turning Counts

Demand Set: 2014 AM Peak
Modelling Period: 08:00-09:00

From/To	Arm A	Arm B	Arm C
Arm A	-	49	325
Arm B	56	-	83
Arm C	146	48	-

Demand Set: 2014 PM Peak
Modelling Period: 17:00-18:00

From/To	Arm A	Arm B	Arm C
Arm A	-	4	73
Arm B	7	-	101
Arm C	91	193	-

Turning proportions are calculated from turning count data

Turning Proportions

Demand Set: 2014 AM Peak
Modelling Period: 08:00-09:00

From/To	Arm A	Arm B	Arm C
Arm A	0.000	0.131	0.869
Arm B	0.403	0.000	0.597
Arm C	0.753	0.247	0.000

Demand Set: 2014 PM Peak
Modelling Period: 17:00-18:00

From/To	Arm A	Arm B	Arm C
Arm A	0.000	0.052	0.948
Arm B	0.065	0.000	0.935
Arm C	0.320	0.680	0.000

Heavy Vehicles Percentages

Demand Set: 2014 AM Peak
Modelling Period: 08:00-09:00

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.9
Arm B	0.0	-	2.4
Arm C	0.0	2.1	-

Demand Set: 2014 PM Peak
Modelling Period: 17:00-18:00

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	1.4
Arm B	0.0	-	0.0
Arm C	0.0	0.5	-

Queues & Delays

Demand Set: 2014 AM Peak
Modelling Period: 08:00-09:00

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	2.32	7.53	0.308	-	0.00	0.44	-	6.2	0.19
	C-A	2.43	-	-	-	-	-	-	-	-
	C-B	0.80	9.55	0.084	-	0.00	0.09	-	1.3	0.11
	A-B	0.83	-	-	-	-	-	-	-	-
	A-C	5.50	-	-	-	-	-	-	-	-
08:15-08:30	B-AC	2.32	7.53	0.308	-	0.44	0.44	-	6.6	0.19
	C-A	2.43	-	-	-	-	-	-	-	-
	C-B	0.80	9.55	0.084	-	0.09	0.09	-	1.4	0.11
	A-B	0.83	-	-	-	-	-	-	-	-
	A-C	5.50	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	2.32	7.53	0.308	-	0.44	0.44	-	6.6	0.19
	C-A	2.43	-	-	-	-	-	-	-	-
	C-B	0.80	9.55	0.084	-	0.09	0.09	-	1.4	0.11
	A-B	0.83	-	-	-	-	-	-	-	-
	A-C	5.50	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	2.32	7.53	0.308	-	0.44	0.44	-	6.6	0.19
	C-A	2.43	-	-	-	-	-	-	-	-
	C-B	0.80	9.55	0.084	-	0.09	0.09	-	1.4	0.11
	A-B	0.83	-	-	-	-	-	-	-	-
	A-C	5.50	-	-	-	-	-	-	-	-

Demand Set: 2014 PM Peak
Modelling Period: 17:00-18:00

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	1.80	9.77	0.184	-	0.00	0.22	-	3.2	0.12
	C-A	1.52	-	-	-	-	-	-	-	-
	C-B	3.21	11.05	0.291	-	0.00	0.41	-	5.8	0.13
	A-B	0.07	-	-	-	-	-	-	-	-
	A-C	1.21	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	1.80	9.77	0.184	-	0.22	0.22	-	3.4	0.13
	C-A	1.52	-	-	-	-	-	-	-	-
	C-B	3.21	11.05	0.291	-	0.41	0.41	-	6.1	0.13
	A-B	0.07	-	-	-	-	-	-	-	-
	A-C	1.21	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	1.80	9.77	0.184	-	0.22	0.23	-	3.4	0.13
	C-A	1.52	-	-	-	-	-	-	-	-
	C-B	3.21	11.05	0.291	-	0.41	0.41	-	6.1	0.13
	A-B	0.07	-	-	-	-	-	-	-	-
	A-C	1.21	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	1.80	9.77	0.184	-	0.23	0.23	-	3.4	0.13
	C-A	1.52	-	-	-	-	-	-	-	-
	C-B	3.21	11.05	0.291	-	0.41	0.41	-	6.1	0.13
	A-B	0.07	-	-	-	-	-	-	-	-

	A-C	1.21	-	-	-	-	-	-	-	-
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Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

PICADY 5 Run Successful

PICADY		
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Run Analysis

Parameter	Values
File Run	K:\..\Junction 9 - Boxworth End_Ramper Rd_Middlewatch\J9 - Boxworth End_Ramper_Middlewatch Jct.vpi
Date Run	10 April 2014
Time Run	15:07:24
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Middlewatch	100
Arm B	Ramper Rd	100
Arm C	Boxworth End	100

Stream Labelling Convention

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

Run Information

Parameter	Values
Run Title	J9 - Boxworth End / Ramper Rd / Middlewatch
Location	Swavesey (Northstowe)
Date	10 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	16
Minor Road Visibility To Left (m)	13
Major Road Right Turn Visibility (m)	120
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	489.728	0.085	0.216	0.136	0.308
B-C	634.009	0.093	0.235	-	-
C-B	643.456	0.238	0.238	-	-

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

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	49.0	325.0
Arm B	56.0	0.0	83.0
Arm C	146.0	48.0	0.0

Demand Set: 2014 PM Peak
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	27.0	198.0
Arm B	52.0	0.0	46.0
Arm C	290.0	53.0	0.0

ODTAB Synthesised Flows

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	4.675	08:30	7.013	09:00	4.675
Arm B	08:00	1.737	08:30	2.606	09:00	1.737
Arm C	08:00	2.425	08:30	3.637	09:00	2.425

Heavy Vehicles Percentages

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.9
Arm B	0.0	-	2.4
Arm C	0.0	2.1	-

Demand Set: 2014 PM Peak
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.3	1.9	-

Queues & Delays

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	1.74	8.10	0.215	-	0.00	0.27	-	3.9	0.16
	C-A	1.83	-	-	-	-	-	-	-	-
	C-B	0.60	9.40	0.064	-	0.00	0.07	-	1.0	0.11
	A-B	0.61	-	-	-	-	-	-	-	-
	A-C	4.08	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	2.08	7.86	0.265	-	0.27	0.36	-	5.2	0.17
	C-A	2.19	-	-	-	-	-	-	-	-
	C-B	0.72	9.18	0.078	-	0.07	0.08	-	1.2	0.12
	A-B	0.73	-	-	-	-	-	-	-	-
	A-C	4.87	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	2.55	7.52	0.339	-	0.36	0.50	-	7.3	0.20
	C-A	2.68	-	-	-	-	-	-	-	-
	C-B	0.88	8.89	0.099	-	0.08	0.11	-	1.6	0.12
	A-B	0.90	-	-	-	-	-	-	-	-
	A-C	5.96	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	2.55	7.52	0.339	-	0.50	0.51	-	7.6	0.20
	C-A	2.68	-	-	-	-	-	-	-	-
	C-B	0.88	8.89	0.099	-	0.11	0.11	-	1.6	0.12
	A-B	0.90	-	-	-	-	-	-	-	-
	A-C	5.96	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	2.08	7.86	0.265	-	0.51	0.37	-	5.7	0.17
	C-A	2.19	-	-	-	-	-	-	-	-
	C-B	0.72	9.18	0.078	-	0.11	0.09	-	1.3	0.12
	A-B	0.73	-	-	-	-	-	-	-	-
	A-C	4.87	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	1.74	8.10	0.215	-	0.37	0.28	-	4.3	0.16
	C-A	1.83	-	-	-	-	-	-	-	-
	C-B	0.60	9.40	0.064	-	0.09	0.07	-	1.1	0.11
	A-B	0.61	-	-	-	-	-	-	-	-
	A-C	4.08	-	-	-	-	-	-	-	-

Demand Set: 2014 PM Peak
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	1.23	8.06	0.153	-	0.00	0.18	-	2.6	0.15
	C-A	3.64	-	-	-	-	-	-	-	-
	C-B	0.67	9.86	0.067	-	0.00	0.07	-	1.0	0.11
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	2.48	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	1.47	7.84	0.187	-	0.18	0.23	-	3.3	0.16
	C-A	4.35	-	-	-	-	-	-	-	-
	C-B	0.79	9.74	0.082	-	0.07	0.09	-	1.3	0.11
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	2.97	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	1.80	7.54	0.239	-	0.23	0.31	-	4.5	0.17
	C-A	5.32	-	-	-	-	-	-	-	-
	C-B	0.97	9.56	0.102	-	0.09	0.11	-	1.7	0.12
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	3.63	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	1.80	7.53	0.239	-	0.31	0.31	-	4.7	0.17
	C-A	5.32	-	-	-	-	-	-	-	-
	C-B	0.97	9.56	0.102	-	0.11	0.11	-	1.7	0.12
	A-B	0.50	-	-	-	-	-	-	-	-


	A-C	3.63	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	1.47	7.84	0.187	-	0.31	0.23	-	3.6	0.16
	C-A	4.35	-	-	-	-	-	-	-	-
	C-B	0.79	9.74	0.082	-	0.11	0.09	-	1.4	0.11
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	2.97	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	1.23	8.05	0.153	-	0.23	0.18	-	2.8	0.15
	C-A	3.64	-	-	-	-	-	-	-	-
	C-B	0.67	9.86	0.067	-	0.09	0.07	-	1.1	0.11
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	2.48	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

PICADY 5 Run Successful

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Run Analysis

Parameter	Values
File Run	\\H..\Junction 10 - Boxworth End Rd_Rose and Crown junction\J10 - Boxworth End_Rose and Crown Jct.vpi
Date Run	15 August 2014
Time Run	15:37:10
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Boxworth End (S)	100
Arm B	Rose and Crown	100
Arm C	Boxworth End (N)	100

Stream Labelling Convention

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

Run Information

Parameter	Values
Run Title	J10 - Boxworth End Rd / Rose and Crown Rd Jct
Location	Swavesey (Northstowe)
Date	10 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

Geometric Data

Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	2.50
Minor Road Visibility To Right (m)	20
Minor Road Visibility To Left (m)	14
Major Road Right Turn Visibility (m)	150
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	467.366	0.085	0.215	0.135	0.307
B-C	604.664	0.093	0.234	-	-
C-B	660.830	0.256	0.256	-	-

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

Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

ODTAB Turning Counts

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	27.0	140.0
Arm B	64.0	0.0	41.0
Arm C	375.0	32.0	0.0

Demand Set: 2014 PM Peak
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	40.0	308.0
Arm B	31.0	0.0	40.0
Arm C	211.0	32.0	0.0

ODTAB Synthesised Flows

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	2.088	08:30	3.131	09:00	2.088
Arm B	08:00	1.313	08:30	1.969	09:00	1.313
Arm C	08:00	5.088	08:30	7.631	09:00	5.088

Heavy Vehicles Percentages

Demand Set: 2014 AM Peak
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	3.1	-	2.4
Arm C	1.1	3.1	-

Demand Set: 2014 PM Peak
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.3
Arm B	3.2	-	2.5
Arm C	0.0	0.0	-

Queues & Delays

Demand Set: 2014 AM Peak

Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	1.32	7.32	0.180	-	0.00	0.22	-	3.1	0.17
	C-A	4.71	-	-	-	-	-	-	-	-
	C-B	0.40	10.16	0.040	-	0.00	0.04	-	0.6	0.10
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	1.76	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	1.57	7.13	0.221	-	0.22	0.28	-	4.1	0.18
	C-A	5.62	-	-	-	-	-	-	-	-
	C-B	0.48	10.06	0.048	-	0.04	0.05	-	0.7	0.10
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	2.10	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	1.93	6.85	0.281	-	0.28	0.38	-	5.6	0.20
	C-A	6.88	-	-	-	-	-	-	-	-
	C-B	0.59	9.92	0.059	-	0.05	0.06	-	0.9	0.11
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	2.57	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	1.93	6.85	0.281	-	0.38	0.39	-	5.8	0.20
	C-A	6.88	-	-	-	-	-	-	-	-
	C-B	0.59	9.92	0.059	-	0.06	0.06	-	0.9	0.11
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	2.57	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	1.57	7.13	0.221	-	0.39	0.29	-	4.5	0.18
	C-A	5.62	-	-	-	-	-	-	-	-
	C-B	0.48	10.06	0.048	-	0.06	0.05	-	0.8	0.10
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	2.10	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	1.32	7.32	0.180	-	0.29	0.22	-	3.4	0.17
	C-A	4.71	-	-	-	-	-	-	-	-
	C-B	0.40	10.16	0.040	-	0.05	0.04	-	0.6	0.10
	A-B	0.34	-	-	-	-	-	-	-	-
	A-C	1.76	-	-	-	-	-	-	-	-

Demand Set: 2014 PM Peak
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	0.89	7.50	0.119	-	0.00	0.13	-	1.9	0.15
	C-A	2.65	-	-	-	-	-	-	-	-
	C-B	0.40	9.89	0.041	-	0.00	0.04	-	0.6	0.11
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	3.86	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	1.06	7.26	0.146	-	0.13	0.17	-	2.5	0.16
	C-A	3.16	-	-	-	-	-	-	-	-
	C-B	0.48	9.68	0.050	-	0.04	0.05	-	0.8	0.11
	A-B	0.60	-	-	-	-	-	-	-	-
	A-C	4.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	1.30	6.94	0.188	-	0.17	0.23	-	3.3	0.18
	C-A	3.87	-	-	-	-	-	-	-	-
	C-B	0.59	9.37	0.063	-	0.05	0.07	-	1.0	0.11
	A-B	0.73	-	-	-	-	-	-	-	-
	A-C	5.65	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	1.30	6.94	0.188	-	0.23	0.23	-	3.4	0.18
	C-A	3.87	-	-	-	-	-	-	-	-
	C-B	0.59	9.37	0.063	-	0.07	0.07	-	1.0	0.11
	A-B	0.73	-	-	-	-	-	-	-	-

	A-C	5.65	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	1.06	7.26	0.146	-	0.23	0.17	-	2.7	0.16
	C-A	3.16	-	-	-	-	-	-	-	-
	C-B	0.48	9.68	0.050	-	0.07	0.05	-	0.8	0.11
	A-B	0.60	-	-	-	-	-	-	-	-
	A-C	4.61	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	0.89	7.50	0.119	-	0.17	0.14	-	2.1	0.15
	C-A	2.65	-	-	-	-	-	-	-	-
	C-B	0.40	9.89	0.041	-	0.05	0.04	-	0.7	0.11
	A-B	0.50	-	-	-	-	-	-	-	-
	A-C	3.86	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

PICADY 5 Run Successful

ARCADY 6		
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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 11 - Oakington Rd_Rampton Rd_mini Rbt\J11 - Oakington Rd_Rampton Rd 2014 AM Peak Full roundabout ODTAB.vai
 At: 16:14:09 on Thursday, April 10, 2014
 Mode: Drive On The Left
 Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Rampton Rd (NW)
Arm B	Rampton Rd (SE)
Arm C	Oakington Rd

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	J11 - Oakington Rd / Rampton Rd Mini
Location	Cottenham
Date	10/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.25	3.00	3.00
Flare Length (m)	1.00	0.00	0.00
Entry Radius (m)	85.00	15.00	20.00
Inscribed Circle Diameter (m)	15.00	15.00	15.00
Entry Angle (degrees)	38.00	40.00	44.00
Slope	0.516	0.477	0.478
Intercept (PCU/Min)	16.004	14.377	14.414

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	1.0	495.0	248.0
Arm B	135.0	1.0	214.0
Arm C	58.0	184.0	0.0

Entry Flow Data for Demand Set: 2014 AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	9.30	13.95	9.30
Arm B	15.00	45.00	75.00	4.38	6.56	4.38
Arm C	15.00	45.00	75.00	3.03	4.54	3.03

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 AM Peak


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.8	0.4
	Arm B	1.5	0.0	1.4
	Arm C	3.4	4.3	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:45 to 08:00	A	9.34	14.67	0.637	-	0.0	1.7	23.5	-	0.180
	B	4.39	12.72	0.345	-	0.0	0.5	7.5	-	0.119
	C	3.04	13.05	0.233	-	0.0	0.3	4.4	-	0.100
Segment : 2 - 08:00 to 08:15	A	11.15	14.42	0.773	-	1.7	3.2	42.8	-	0.288
	B	5.24	12.43	0.422	-	0.5	0.7	10.4	-	0.139
	C	3.63	12.89	0.281	-	0.3	0.4	5.7	-	0.108
Segment : 3 - 08:15 to 08:30	A	13.65	14.09	0.969	-	3.2	11.3	124.5	-	0.763
	B	6.42	12.11	0.531	-	0.7	1.1	15.8	-	0.174
	C	4.44	12.68	0.350	-	0.4	0.5	7.8	-	0.121
Segment : 4 - 08:30 to 08:45	A	13.65	14.08	0.969	-	11.3	14.6	196.7	-	1.117
	B	6.42	12.05	0.533	-	1.1	1.1	16.8	-	0.178
	C	4.44	12.68	0.350	-	0.5	0.5	8.0	-	0.121
Segment : 5 - 08:45 to 09:00	A	11.15	14.41	0.773	-	14.6	3.7	84.4	-	0.475
	B	5.24	12.30	0.426	-	1.1	0.8	11.8	-	0.143
	C	3.63	12.89	0.281	-	0.5	0.4	6.1	-	0.108
Segment : 6 - 09:00 to 09:15	A	9.34	14.66	0.637	-	3.7	1.8	29.3	-	0.197
	B	4.39	12.68	0.346	-	0.8	0.5	8.3	-	0.121
	C	3.04	13.04	0.233	-	0.4	0.3	4.7	-	0.100

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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Junction 11 - Oakington Rd_Rampton Rd_mini Rbt\J11 - Oakington Rd_Rampton Rd 2014 PM Peak Full roundabout ODTAB.vai
At: 16:15:45 on Thursday, April 10, 2014
Mode: Drive On The Left
Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	Rampton Rd (NW)
Arm B	Rampton Rd (SE)
Arm C	Oakington Rd

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

File Properties

Run Title	J11 - Oakington Rd / Rampton Rd Mini
Location	Cottenham
Date	10/04/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.25	3.00	3.00
Flare Length (m)	1.00	0.00	0.00
Entry Radius (m)	85.00	15.00	20.00
Inscribed Circle Diameter (m)	15.00	15.00	15.00
Entry Angle (degrees)	38.00	40.00	44.00
Slope	0.516	0.477	0.478
Intercept (PCU/Min)	16.004	14.377	14.414

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: 2014 PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	119.0	82.0
Arm B	456.0	0.0	136.0
Arm C	196.0	136.0	0.0

Entry Flow Data for Demand Set: 2014 PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	2.51	3.77	2.51
Arm B	15.00	45.00	75.00	7.40	11.10	7.40
Arm C	15.00	45.00	75.00	4.15	6.23	4.15

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: 2014 PM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.8	0.0
	Arm B	0.2	0.0	0.0
	Arm C	0.5	0.0	0.0

Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

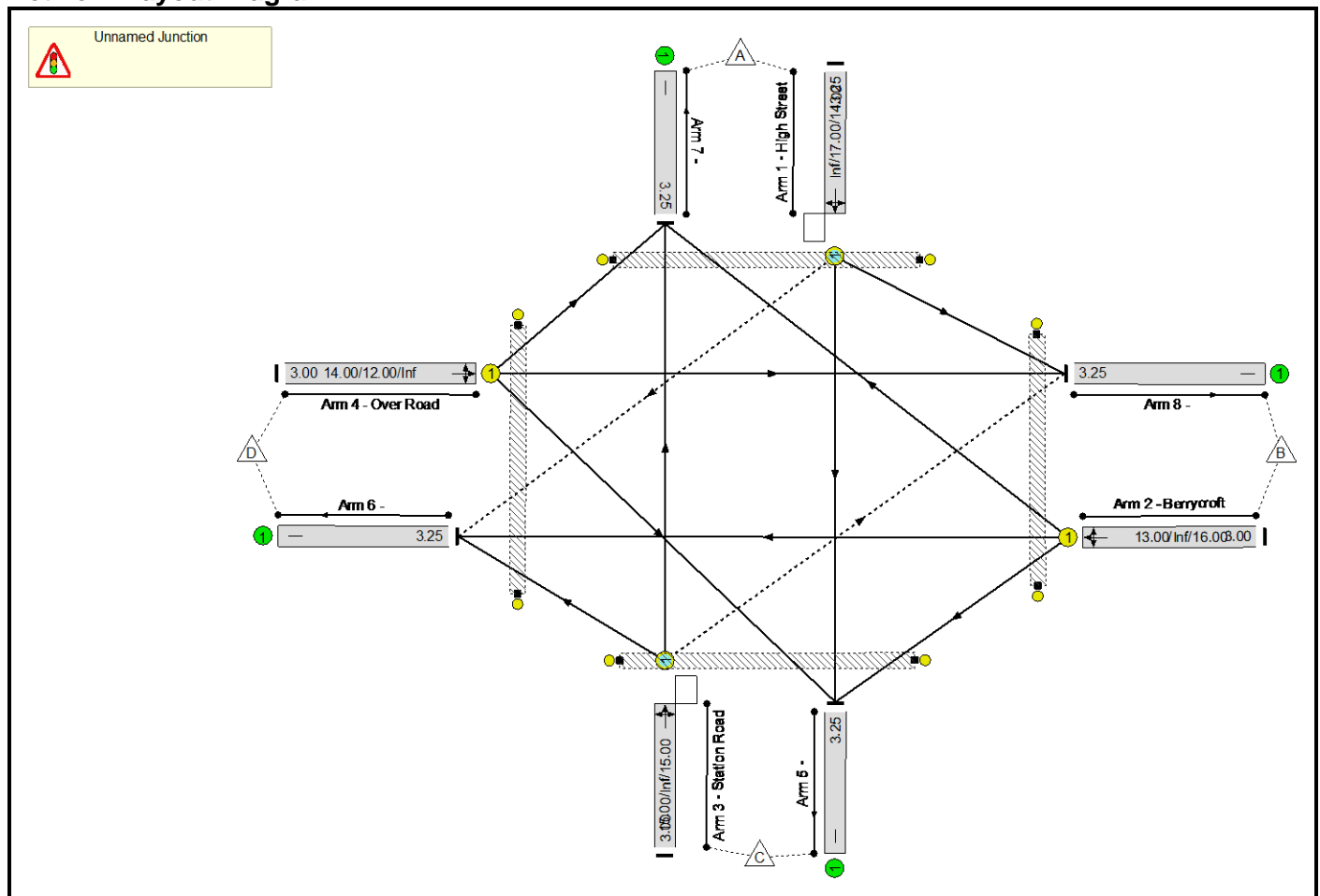
Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 16:45 to 17:00	A	2.52	15.06	0.167	-	0.0	0.2	2.9	-	0.080
	B	7.43	13.87	0.536	-	0.0	1.1	15.9	-	0.152
	C	4.17	11.67	0.357	-	0.0	0.5	7.9	-	0.132
Segment : 2 - 17:00 to 17:15	A	3.01	14.89	0.202	-	0.2	0.3	3.7	-	0.084
	B	8.87	13.77	0.644	-	1.1	1.7	24.7	-	0.200
	C	4.97	11.13	0.447	-	0.5	0.8	11.5	-	0.161
Segment : 3 - 17:15 to 17:30	A	3.69	14.66	0.252	-	0.3	0.3	4.9	-	0.091
	B	10.86	13.64	0.796	-	1.7	3.5	47.2	-	0.331
	C	6.09	10.42	0.585	-	0.8	1.4	19.2	-	0.227
Segment : 4 - 17:30 to 17:45	A	3.69	14.65	0.252	-	0.3	0.3	5.0	-	0.091
	B	10.86	13.64	0.796	-	3.5	3.7	54.6	-	0.354
	C	6.09	10.38	0.587	-	1.4	1.4	20.7	-	0.233
Segment : 5 - 17:45 to 18:00	A	3.01	14.87	0.202	-	0.3	0.3	3.9	-	0.084
	B	8.87	13.77	0.644	-	3.7	1.9	30.4	-	0.214
	C	4.97	11.07	0.450	-	1.4	0.8	13.1	-	0.166
Segment : 6 - 18:00 to 18:15	A	2.52	15.05	0.168	-	0.3	0.2	3.1	-	0.080
	B	7.43	13.86	0.536	-	1.9	1.2	18.6	-	0.158
	C	4.17	11.62	0.358	-	0.8	0.6	8.8	-	0.135

Basic Results Summary
Basic Results Summary

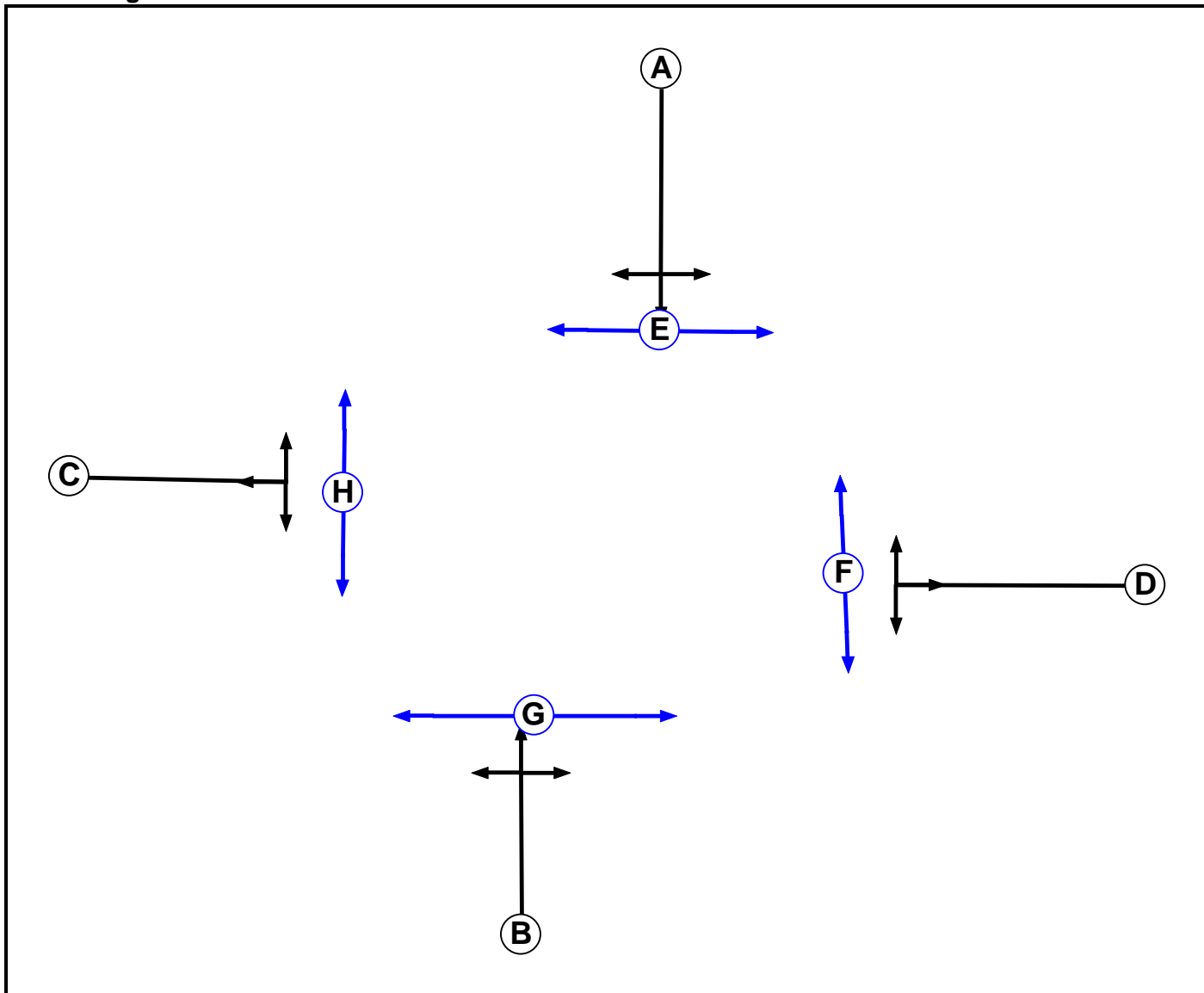
User and Project Details

Project:	Northstowe
Title:	High St / Station Road / Over Road / Berrycroft
Location:	Willingham
File name:	J12 - High St_Station Rd_Over Rd_Berrycroft.lsg3x
Author:	DRC
Company:	Hyder
Address:	Cardiff
Notes:	

Scenario 1: '2014 AM Peak' (FG1: '2014 AM Peak', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Phase Diagram

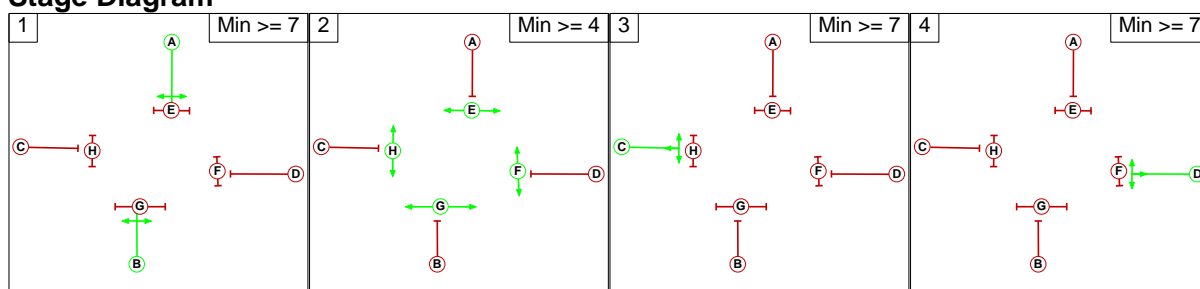


Basic Results Summary

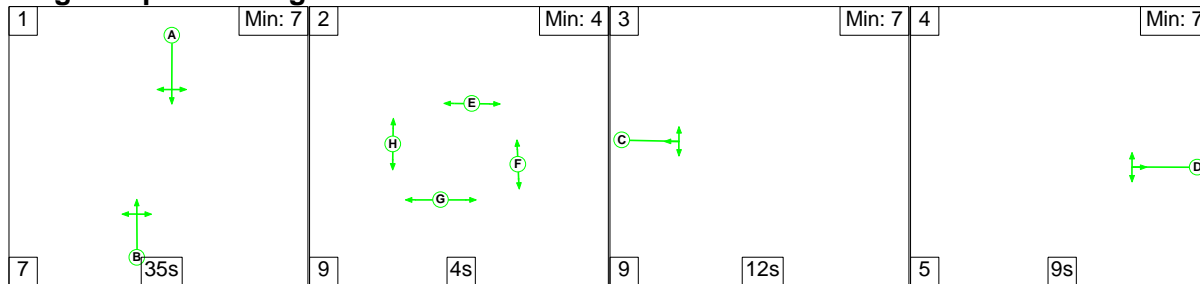
Phase Intergreens Matrix

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	9	9	9	9	9	9	9
B	9	-	9	9	9	9	9	9
C	7	7	-	5	9	9	9	9
D	7	7	5	-	9	9	9	9
E	9	9	9	9	-	-	-	-
F	9	9	9	9	-	-	-	-
G	9	9	9	9	-	-	-	-
H	9	9	9	9	-	-	-	-

Stage Diagram



Stage Sequence Diagram



Scenario 1: '2014 AM Peak' (FG1: '2014 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

Origin	Destination					Tot.
	A	B	C	D		
A	0	38	516	107	661	
B	28	0	116	71	215	
C	159	73	0	19	251	
D	64	91	24	0	179	
Tot.	251	202	656	197	1306	

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: High St / Station Road / Over Road / Berrycroft	-	-	-		-	-	-	-	-	-	89.1%	180	0	0	19.2	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	89.1%	180	0	0	19.2	-	-
1/1	High Street Ahead Right Left	O	A		1	35	-	661	1901	760	86.9%	107	0	0	7.7	41.9	18.2
2/1	Berrycroft Left Ahead Right	U	C		1	12	-	215	1782	257	83.5%	-	-	-	4.5	75.8	7.5
3/1	Station Road Left Ahead Right	O	B		1	35	-	251	1847	592	42.4%	73	0	0	1.8	25.9	4.7
4/1	Over Road Right Left Ahead	U	D		1	9	-	179	1808	201	89.1%	-	-	-	5.1	103.2	7.5
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
C1				PRC for Signalled Lanes (%):	1.0		Total Delay for Signalled Lanes (pcuHr):	19.16		Cycle Time (s):		90					
				PRC Over All Lanes (%):	1.0		Total Delay Over All Lanes(pcuHr):	19.16									

Basic Results Summary

Scenario 2: '2014 PM Peak' (FG2: '2014 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	37	188	104	329
	B	83	0	72	92	247
	C	579	68	0	33	680
	D	157	60	18	0	235
	Tot.	819	165	278	229	1491

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	
Network: High St / Station Road / Over Road / Berrycroft	-	-	-		-	-	-	-	-	-	100.5%	106	0	65	42.5	-	-	
Unnamed Junction	-	-	-		-	-	-	-	-	-	100.5%	106	0	65	42.5	-	-	
1/1	High Street Ahead Right Left	O	A		1	33	-	329	1865	329	100.1%	38	0	65	11.7	128.0	15.4	
2/1	Berrycroft Left Ahead Right	U	C		1	12	-	247	1798	260	95.1%	-	-	-	7.9	115.4	11.4	
3/1	Station Road Left Ahead Right	O	B		1	33	-	680	1887	713	95.4%	68	0	0	12.3	65.3	23.6	
4/1	Over Road Right Left Ahead	U	D		1	11	-	235	1754	234	100.5%	-	-	-	10.6	161.7	13.9	
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
C1				PRC for Signalled Lanes (%):		-11.6		Total Delay for Signalled Lanes (pcuHr):				42.51		Cycle Time (s): 90				
				PRC Over All Lanes (%):		-11.6		Total Delay Over All Lanes(pcuHr):				42.51						

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 5.0 (JUNE 2010)

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Run with file:-

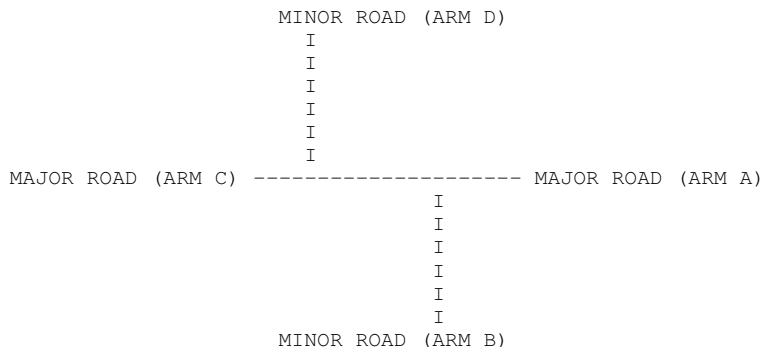
"\\HC-UKR-CA-FS-10\CA_Proj\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\
2014 Base (Benchmarking)\Junction 13 - High St_Rampton Rd_Woodside_School Ln junction\J13 - High St_Rampton Rd_Woodside_Sc
(drive-on-the-left) at 09:50:30 on Thursday, 24 July 2014

RUN INFORMATION

RUN TITLE : J13 - High St_Rampton Rd_Woodside_School Ln
LOCATION : Longstanton (Northstowe)
DATE : 11/04/14
CLIENT : HCA
ENUMERATOR : dca76340 [HCL57004]
JOB NUMBER : UA006156
STATUS : Preliminary
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Rampton Rd
ARM B IS Woodside
ARM C IS School Lane
ARM D IS High Street

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

 GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 6.00 M.	I	(W) 6.00 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I	(WCR) 0.00 M.	I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I	(WA-D) 2.20 M.	I
I	- VISIBILITY	I	(VC-B)130.00 M.	I	(VA-D)150.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES (1)	I	YES (1)	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 20.0 M.	I	(VD-A) 17.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 25.0 M.	I	(VD-C) 29.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 2.50 M.	I	(WD-A) 3.00 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

 .SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

STREAM B-A

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-D	STREAM A-B	STREAM C-A	I
I	471.52	0.22	0.22	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-A	STREAM C-B	STREAM D-B	STREAM D-B	I
I	0.14	0.31	0.31	0.31	I

STREAM D-C

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-C	STREAM C-A	STREAM C-B	STREAM C-D	STREAM A-C	I
I	497.35	0.23	0.23	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-D	STREAM B-D	STREAM B-D	I
I	0.14	0.33	0.33	0.33	I

STREAM CD-B

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-C	I
I	660.83	0.25	0.25	0.22	0.22	I

STREAM AB-D

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	STREAM C-B	I
I	660.83	0.26	0.26	0.23	0.23	I

STREAM B-CD

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-CD	STREAM A-C	STREAM A-D	STREAM A-B	STREAM A-B	I
I	607.65	0.24	0.24	0.09	0.09	I

STREAM D-AB

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-AB	STREAM C-A	STREAM C-B	STREAM C-D	STREAM C-D	I
I	642.19	0.25	0.25	0.10	0.10	I

TRAFFIC DEMAND DATA

ARM	FLOW SCALE (%)
A	100
B	100
C	100
D	100

Demand set: 2014 PM peak

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
A	15.00	45.00	75.00	0.54	0.81	0.54
B	15.00	45.00	75.00	1.58	2.36	1.58
C	15.00	45.00	75.00	1.52	2.29	1.52
D	15.00	45.00	75.00	1.01	1.52	1.01

Demand set: 2014 PM peak

TIME	TURNING PROPORTIONS							
	(PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
16.45 - 18.15	A	0.000	0.233	0.279	0.488			
		0.0	10.0	12.0	21.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	B	0.135	0.000	0.151	0.714			
		17.0	0.0	19.0	90.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	C	0.361	0.221	0.000	0.418			
		44.0	27.0	0.0	51.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	D	0.210	0.481	0.309	0.000			
		17.0	39.0	25.0	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2014 PM peak
 AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-ACD	1.89	9.52	0.198		0.32	0.25	3.8		0.13
A-B	0.15								
A-C	0.18								
A-D	0.31								
AB-CD (	1.67)	10.55	0.158		0.19	0.16	2.4		0.11
AB-C (	0.47)								
D-ABC	1.21	9.20	0.132		0.20	0.15	2.4		0.13
C-D	0.76								
C-A	0.66								
C-B	0.40								
CD-AB (	0.99)	10.66	0.093		0.11	0.09	1.4		0.10
CD-A (	0.91)								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-ACD	1.58	9.56	0.165		0.25	0.20	3.1		0.13
A-B	0.13								
A-C	0.15								
A-D	0.26								
AB-CD (	1.40)	10.62	0.131		0.16	0.13	2.0		0.11
AB-C (	0.39)								
D-ABC	1.02	9.31	0.109		0.15	0.12	1.9		0.12
C-D	0.64								
C-A	0.55								
C-B	0.34								
CD-AB (	0.83)	10.69	0.078		0.09	0.08	1.2		0.10
CD-A (	0.77)								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.2

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	* DELAY *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I	I	I
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	I	I
I	B-ACD	I	173.4	I	115.6	I	22.8	I	0.13	I
I	A-B	I	13.8	I	9.2	I		I		I
I	A-C	I	16.5	I	11.0	I		I		I
I	A-D	I	28.9	I	19.3	I		I		I
I	AB-CD	I	152.6	I	101.8	I	14.5	I	0.09	I
I	AB-C	I	42.6	I	28.4	I		I		I
I	D-ABC	I	111.5	I	74.3	I	14.0	I	0.13	I
I	C-D	I	70.2	I	46.8	I		I		I
I	C-A	I	60.6	I	40.4	I		I		I
I	C-B	I	37.2	I	24.8	I		I		I
I	CD-AB	I	90.8	I	60.5	I	8.5	I	0.09	I
I	CD-A	I	83.9	I	56.0	I		I		I
I	ALL	I	512.0	I	341.4	I	59.8	I	0.12	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

STREAM B-A

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-D	STREAM A-B	STREAM C-A	I
I	471.52	0.22	0.22	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-A	STREAM C-B	STREAM D-B	STREAM D-B	I
I	0.14	0.31	0.31		I

STREAM D-C

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-C	STREAM C-A	STREAM C-B	STREAM C-D	STREAM A-C	I
I	497.35	0.23	0.23	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-D	STREAM B-D	STREAM B-D	I
I	0.14	0.33	0.33		I

STREAM CD-B

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-D	I
I	660.83	0.25	0.25	0.22		I

STREAM AB-D

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	STREAM C-B	I
I	660.83	0.26	0.26	0.23		I

STREAM B-CD

I Intercept For I STREAM B-CD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing I
I 607.65	0.24	0.24	0.09	I

STREAM D-AB

I Intercept For I STREAM D-AB	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing I
I 642.19	0.25	0.25	0.10	I

TRAFFIC DEMAND DATA

I ARM I FLOW SCALE (%) I

I A	I	100	I
I B	I	100	I
I C	I	100	I
I D	I	100	I

Demand set: 2014 AM peak

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)			I
		I FLOW STARTS I TO RISE	I TOP OF PEAK I IS REACHED	I FLOW STOPS I FALLING	I BEFORE I PEAK	I AT TOP I OF PEAK	I AFTER I PEAK	
I ARM A	I	15.00	45.00	75.00	0.89	1.33	0.89	I
I ARM B	I	15.00	45.00	75.00	0.89	1.33	0.89	I
I ARM C	I	15.00	45.00	75.00	1.06	1.59	1.06	I
I ARM D	I	15.00	45.00	75.00	2.13	3.19	2.13	I

Demand set: 2014 AM peak

I	I	TURNING PROPORTIONS				I
		TURNING COUNTS (PERCENTAGE OF H.V.S)				
I	TIME	I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D
I	07.45 - 09.15	I	I	I	I	I
I		I ARM A	0.000	0.394	0.408	0.197
I		I	0.0	28.0	29.0	14.0
I		I	(0.0)	(0.0)	(0.0)	(0.0)
I		I	I	I	I	I
I		I ARM B	0.634	0.000	0.225	0.141
I		I	45.0	0.0	16.0	10.0
I		I	(0.0)	(0.0)	(0.0)	(0.0)
I		I	I	I	I	I
I		I ARM C	0.129	0.365	0.000	0.506
I		I	11.0	31.0	0.0	43.0
I		I	(0.0)	(3.2)	(0.0)	(0.0)
I		I	I	I	I	I
I		I ARM D	0.171	0.747	0.082	0.000
I		I	29.0	127.0	14.0	0.0
I		I	(0.0)	(0.8)	(0.0)	(0.0)
I		I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2014 AM peak
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-ACD	1.06	7.73	0.138		0.21	0.16	2.5		0.15
A-B	0.42								
A-C	0.43								
A-D	0.21								
AB-CD (	0.36)	10.68	0.034		0.04	0.03	0.5		0.10
AB-C (	0.67)								
D-ABC	2.55	10.14	0.251		0.44	0.34	5.2		0.13
C-D	0.64								
C-A	0.16								
C-B	0.46								
CD-AB (	2.37)	10.42	0.228		0.28	0.23	3.4		0.12
CD-A (	0.60)								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-ACD	0.89	7.87	0.113		0.16	0.13	2.0		0.14
A-B	0.35								
A-C	0.36								
A-D	0.18								
AB-CD (	0.30)	10.74	0.028		0.03	0.03	0.4		0.10
AB-C (	0.57)								
D-ABC	2.13	10.18	0.209		0.34	0.27	4.1		0.12
C-D	0.54								
C-A	0.14								
C-B	0.39								
CD-AB (	1.99)	10.46	0.190		0.23	0.19	2.9		0.12
CD-A (	0.50)								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.3
08.15	0.3
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.3

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	I	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I	I	I
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	I	I
I	B-ACD	I	97.7	I 65.2	I 14.7	I 0.15	I 14.7	I 0.15	I	I
I	A-B	I	38.5	I 25.7	I	I	I	I	I	I
I	A-C	I	39.9	I 26.6	I	I	I	I	I	I
I	A-D	I	19.3	I 12.8	I	I	I	I	I	I
I	AB-CD	I	(33.0)	I(22.0)	I 3.1	I 0.09	I 3.1	I 0.09	I	I
I	AB-C	I	(61.9)	I(41.3)	I	I	I	I	I	I
I	D-ABC	I	234.0	I 156.0	I 31.1	I 0.13	I 31.1	I 0.13	I	I
I	C-D	I	59.2	I 39.5	I	I	I	I	I	I
I	C-A	I	15.1	I 10.1	I	I	I	I	I	I
I	C-B	I	42.7	I 28.4	I	I	I	I	I	I
I	CD-AB	I	(217.3)	I(144.9)	I 20.8	I 0.10	I 20.8	I 0.10	I	I
I	CD-A	I	(55.0)	I(36.7)	I	I	I	I	I	I
I	ALL	I	546.4	I 364.3	I 69.7	I 0.13	I 69.7	I 0.13	I	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

===== end of file =====

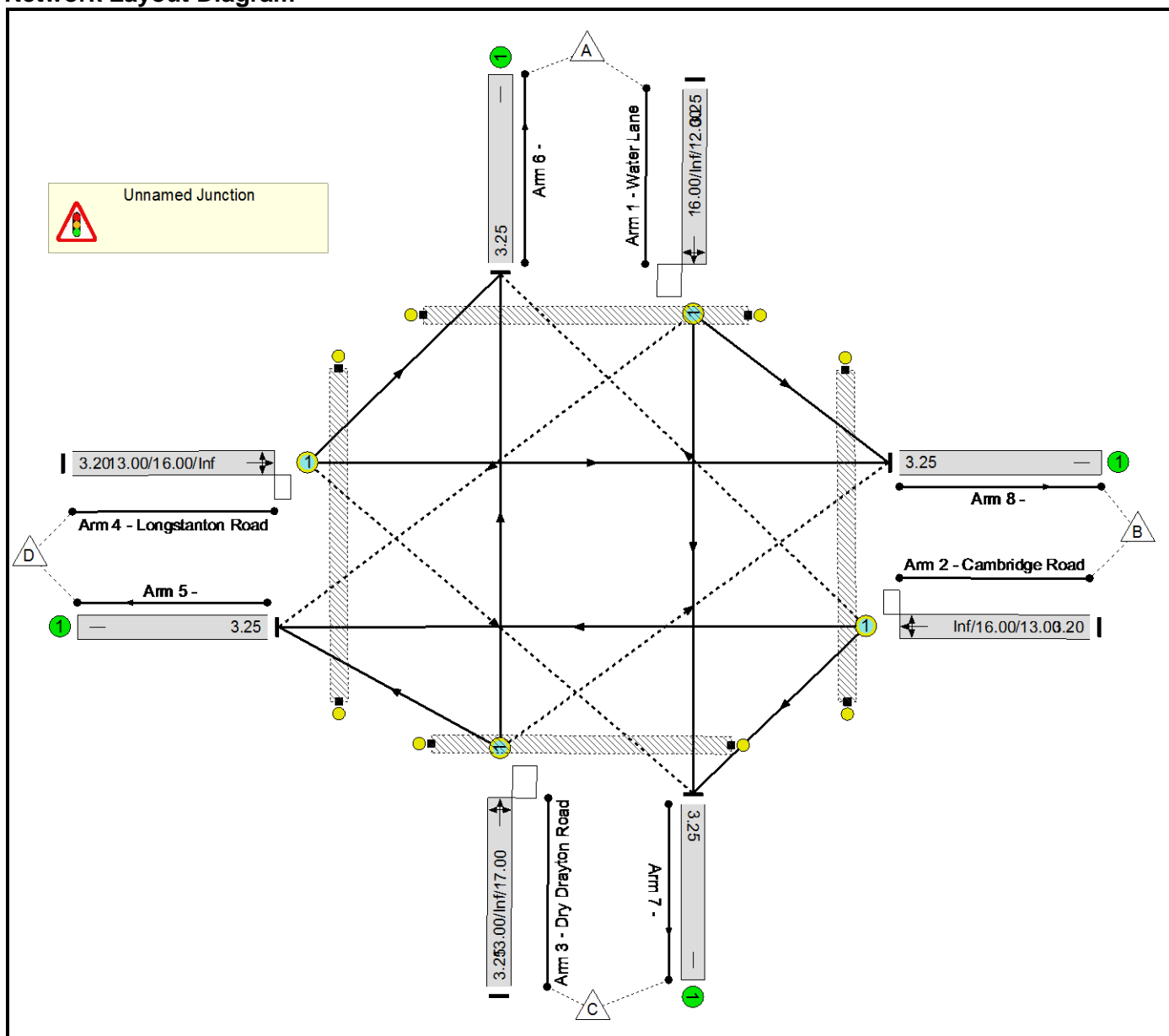
Basic Results Summary
Basic Results Summary

User and Project Details

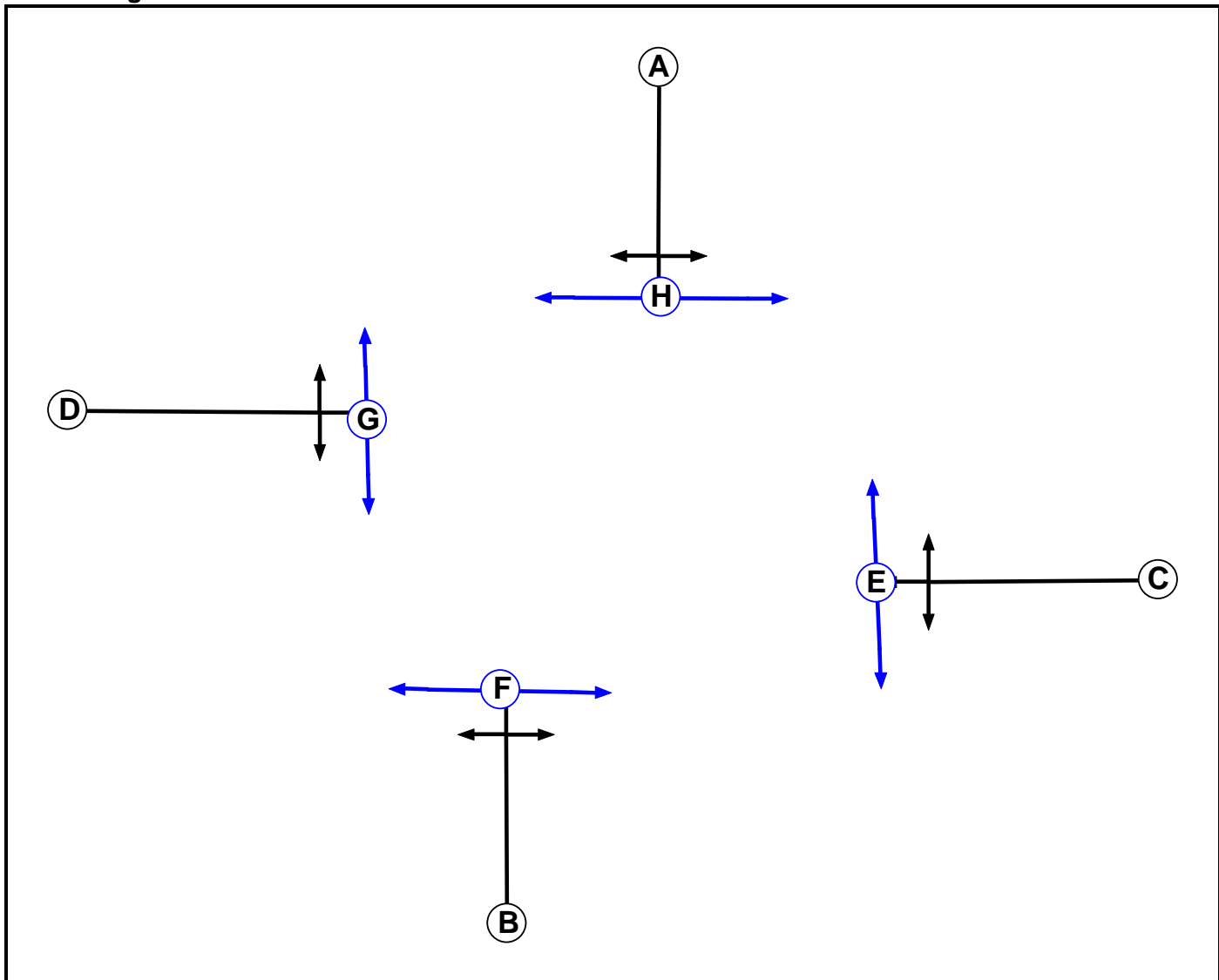
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Location:	Oakington
File name:	J14 - Longstanton Rd_Dry Drayton Road Crossroads.lsg3x
Author:	DRC
Company:	Hyder
Address:	Cardiff
Notes:	

Scenario 1: '2014 AM Peak' (FG1: '2014 AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Phase Diagram

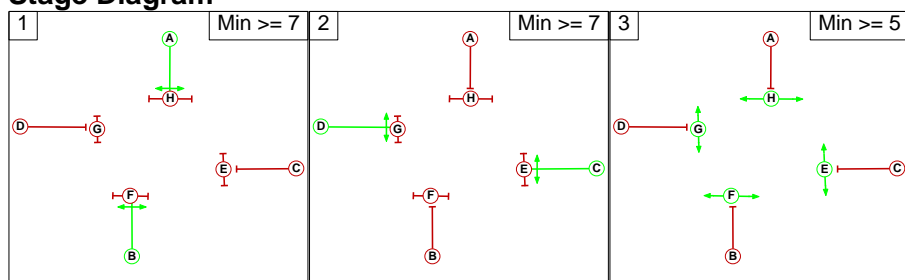


Basic Results Summary

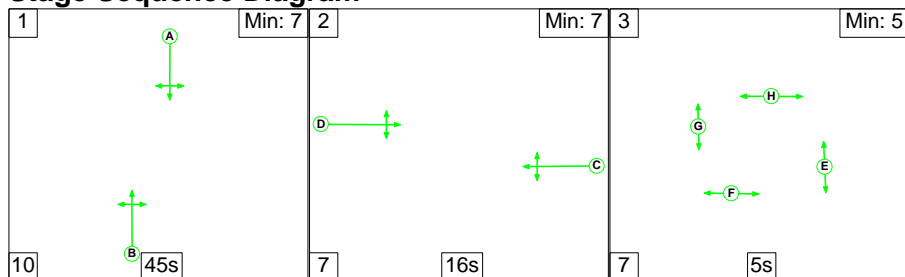
Phase Intergreens Matrix

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	7	7	7	7	7	7	7
B	7	-	7	7	7	7	7	7
C	6	6	-	7	7	7	7	7
D	6	6	-	-	7	7	7	7
E	10	10	10	10	-	-	-	-
F	10	10	10	10	-	-	-	-
G	10	10	10	10	-	-	-	-
H	10	10	10	10	-	-	-	-

Stage Diagram



Stage Sequence Diagram



Scenario 1: '2014 AM Peak' (FG1: '2014 AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

Origin	Destination					
	A	B	C	D	Tot.	
A	0	226	404	9	639	
B	61	0	187	40	288	
C	184	234	0	22	440	
D	17	172	43	0	232	
Tot.	262	632	634	71	1599	

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Longstanton Road / Dry Drayton Road Crossroads	-	-	-		-	-	-	-	-	-	91.0%	309	0	38	20.4	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	91.0%	309	0	38	20.4	-	-
1/1	Water Lane Right Ahead Left	O	A		1	45	-	639	1856	949	67.4%	9	0	0	3.9	22.2	12.9
2/1	Cambridge Road Ahead Right Left	O	C		1	16	-	288	1767	334	86.3%	61	0	0	5.7	71.0	9.8
3/1	Dry Drayton Road Left Ahead Right	O	B		1	45	-	440	1843	483	91.0%	196	0	38	7.6	62.4	14.6
4/1	Longstanton Road Left Right Ahead	O	D		1	16	-	232	1886	356	65.1%	43	0	0	3.1	48.4	6.3
Ped Link: P1	Unnamed Ped Link	-	E		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	H		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		-1.1		Total Delay for Signalled Lanes (pcuHr):		20.36		Cycle Time (s):		90					
		PRC Over All Lanes (%):		-1.1		Total Delay Over All Lanes (pcuHr):		20.36									

Basic Results Summary

Scenario 2: '2014 PM Peak' (FG2: '2014 PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	47	171	21	239
	B	116	0	142	124	382
	C	267	123	0	37	427
	D	11	46	29	0	86
	Tot.	394	216	342	182	1134

Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Longstanton Road / Dry Drayton Road Crossroads	-	-	-		-	-	-	-	-	-	63.5%	289	0	0	9.5	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	63.5%	289	0	0	9.5	-	-
1/1	Water Lane Right Ahead Left	O	A		1	32	-	239	1878	689	34.7%	21	0	0	1.6	24.7	4.6
2/1	Cambridge Road Ahead Right Left	O	C		1	29	-	382	1806	602	63.5%	116	0	0	3.6	33.6	8.9
3/1	Dry Drayton Road Left Ahead Right	O	B		1	32	-	427	1874	687	62.1%	123	0	0	3.7	31.0	9.5
4/1	Longstanton Road Left Right Ahead	O	D		1	29	-	86	1849	546	15.7%	29	0	0	0.6	25.4	1.6
Ped Link: P1	Unnamed Ped Link	-	E		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	H		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		41.8		Total Delay for Signalled Lanes (pcuHr):		9.49		Cycle Time (s):		90					
		PRC Over All Lanes (%):		41.8		Total Delay Over All Lanes(pcuHr):		9.49									



NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 5
Accident Details

August 2014

No	Reference	Date	Severity	Road(s)	Location	X	Y	Cars Only	Involving 1	Involving 2
1	817308	01-Dec-08	Serious	U0	RAMPER RD HALF MILE E OF HIGH ST CAMBRIDGE	537049	267507	N	Cyclist	Agricultural
2	847008	09-Dec-08	Slight	B1050	B1050 LONGSTANTON SIDE SLIP RD AT RDA8T	538308	264140	Y		
3	848308	19-Dec-08	Slight	B1050	B1050 A14 FLYOVER BAR HILL	538182	264092	Y		
4	18509	15-Jan-09	Slight	C186	RAMPTON RD COTTENHAM ON BEND	543848	267774	Y		
5	26709	21-Jan-09	Serious	C186	C186 RAMPTON RD 680M SE OF BLACKPIT DROVE WILLINGHAM	541528	268823	N	Cyclist	
6	39409	01-Feb-09	Slight	C197	C198 DRY DRAYTON RD JUNCTION CAMBRIDGE RD OAKINGTON	541037	264234	Y		
7	61709	11-Feb-09	Slight	C198	U0 WEAVERS FIELD GIRTON RD	542538	261479	N	Cyclist	
8	95209	23-Mar-09	Slight	C186	U0 NEWINGTON JUNCTION LONG LANE WILLINGHAM	540531	270017	Y		
9	103109	27-Mar-09	Slight	B1050	C186 HIGH ST WILLINGHAM NOT ALL DETAILS KNOWN	540175	270017	N	Motorcycle	
10	100409	28-Mar-09	Slight	B1050	B1050 LONGSTANTON ROAD 1 MILE NORTH OF BAR HILL A14 JCT	538946	265530	N	Pedestrian	
11	114609	09-Apr-09	Slight	B1050	B1050 STATION RD 100M NORTH OF CAMBRIDGE GOLF CLUB LONGSTANT	539840	267495	N	Motorcycle	
12	156209	17-May-09	Slight	B1050	B1050 STATION RD OUTSIDE NO 91 WILLINGHAM	540039	269429	Y		
13	169309	27-May-09	Slight	U0	U0 THORNHILL PLACE OUTSIDE NO 68 LONGSTANTON	539913	266643	N	Cyclist	
14	174009	01-Jun-09	Slight	B1050	B1050 C192 SCHOOL LANE LONGSTANTON	539139	265890	Y		
15	186409	10-Jun-09	Slight	C186	C186 RAMPTON RD WILLINGHAM	541522	268569	Y		
16	192409	12-Jun-09	Slight	B1050	B1050 STATION RD LONGSTANTON	539858	268066	N	Pedestrian	
17	216409	03-Jul-09	Slight	U0	ST MICHAELS LONGSTANTON	540314	265773	N	Motorcycle	
18	258109	10-Aug-09	Slight	C193	C197 DRY DRAYTON NR JCT OAKINGTON RD C193	539565	262892	Y		
19	261009	13-Aug-09	Slight	B1050	B1050 HATTONS RD LONGSTANTON EXACT LOCATION UNKNOWN	539283	266423	Y		
20	303809	16-Sep-09	Slight	C197	U0 C197 OAKINGTON RD 20M NE OF ORCHARD CLOSE COTTENHAM	544489	267093	N	Pedestrian	
21	322109	01-Oct-09	Serious	B1050	U0 B1050 STATION RD OS 141 200M NORTH OF WESTFIELD WILLINGHAM	540026	269214	N	Motorcycle	
22	342909	16-Oct-09	Slight	C186	U0 BUCKING WAY RD JUNCTION ANDERSON RD SWAVESEY	535743	266113	N	HGV	
23	353809	24-Oct-09	Slight	B1050	B1050 HATTONS RD LONGSTANTON	539109	265879	Y		
24	425509	01-Dec-09	Slight	A1307	C198 GIRTON RD JUNCTION HUNTINGDON RD CAMBRIDGE	542656	260685	Y		
25	415609	03-Dec-09	Slight	U0	RAMPTON DRIFT OUTSIDE NO 34 LONGSTANTON	540619	266714	N	Motorcycle	
26	2664809	19-Dec-09	Slight	C186	RAMPTON RD 600M WEST OF LAMBS LANE COTTENHAM	543850	267764	Y		
27	2760009	30-Dec-09	Slight	C197	U0 OAKINGTON RD 600M SW RAMPTON ROAD COTTENHAM	544202	266843	N	Agricultural	
28	60910	03-Jan-10	Slight	U0	LONGSTANTON RD ON AIRFIELD 100M W OAKINGTON VILLAGE	540611	264869	N	Cyclist	
29	47710	07-Jan-10	Slight	A1307	HUNTINGDON RD WB JUST AFTER NAT SPEED LIMIT TRAV WEST	542082	261106	Y		
30	46210	07-Jan-10	Slight	A1307	A1307 HUNTINGDON RD 219B OS UNIVERSITY FARM	542033	261146	Y		
31	100710	14-Jan-10	Slight	C197	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544291	266926	Y		
32	117810	16-Jan-10	Slight	C197	DRY DRAYTON RD LOLWORTH	540297	263602	Y		
33	128110	18-Jan-10	Slight	C186	RAMPTON RD COTTENHAM ON BEND	543801	267786	Y		
34	426610	22-Jan-10	Slight	B1050	B1050 HATTONS RD BAR HILL	538308	264195	Y		
35	261710	03-Feb-10	Slight	C198	C204 OAKINGTON RD JUNCTION PARK LANE HISTON	542049	263458	Y		
36	355910	14-Feb-10	Slight	B1050	B1050 STATION RD 200M NORTH OF RDA8T RAMPER RD CAMBRIDGE	539894	267533	Y		
37	445610	26-Feb-10	Slight	U0	RAMPER RD SWAVESEY	536866	267565	Y		
38	1114510	30-Mar-10	Slight	C186	C186 BOXWORTH RD 300M SE OF SWAVESEY VILLAGE	536050	266766	Y		
39	897210	18-Apr-10	Slight	C197	C198 C197 WATER LANE 20M NORTH OF DRY DRAYTON RD OAKINGTON	541053	264256	N	Cyclist	
40	984110	27-Apr-10	Serious	C193	C197 OAKINGTON ROAD 100M S OF A14 HUNTINGDON RD	539475	262941	Y		
41	1113210	12-May-10	Slight	C198	U0 CAMBRIDGE RD 10M SOUTH OF GIRTON WEAVERS FIELD CAMBRIDGE	542544	261465	N	Cyclist	
42	1165910	19-May-10	Slight	C193	C197 OAKINGTON RD 125M SOUTH OF A14	539465	262942	N	Cyclist	
43	1277310	03-Jun-10	Slight	B1050	B1050 STATION RD OS NO 74 WILLINGHAM	540044	269553	Y		
44	1729910	20-Jul-10	Slight	C197	C197 WATER LANE APPROX 60M NE OF CHERRY ORCHARD JNCT	541235	264446	N	Pedestrian	
45	1795210	27-Jul-10	Serious	B1050	B1050 STATION RD LONGSTANTON NEAR LAYBY	539889	267527	Y		
46	1804610	28-Jul-10	Slight	A1307	U0 A1307 HUNTINGDON RD 124M W OF GRANDE DRIVE OS NO 307	542061	261132	Y		
47	1855310	02-Aug-10	Slight	C197	U0 HIGH ST JUNCTION WATER LANE OAKINGTON	541268	264471	Y		
48	1982910	13-Aug-10	Slight	B1050	B1050 BAR HILL ROUNDABOUT	538273	263847	Y		
49	1957710	14-Aug-10	Slight	B1050	B1050 LONGSTANTON	539863	267506	Y		
50	2087210	29-Aug-10	Serious	C198	U0 C198 OAKINGTON RD BY JNCT TO CYCLEWAY NEAR MANOR FARM RD	542297	262774	N	Cyclist	
51	2240110	16-Sep-10	Slight	C197	OAKINGTON RD 1000M SOUTH OF COTTENHAM VILLAGE COTTENHAM	543801	266552	N	Motorcycle	
52	2466710	15-Oct-10	Slight	B1050	B1050 HATTONS RD 950M NE OF EASTBOUNT ON SLIP CAMBRIDGE	538667	264868	Y		
53	2524010	23-Oct-10	Serious	C186	RAMPTON RD WILLINGHAM ON RIGHT HAND BEND	541533	268566	Y		
54	2680510	10-Nov-10	Slight	C197	C198 OAKINGTON CROSSROADS DIRECTIONS OF TRAVEL UNCLEAR	541045	264246	N	Motorcycle	
55	2718110	15-Nov-10	Slight	U0	U0 LONGSTANTON 20M SOUTH OF MEAD VIEW OAKINGTON	540975	264349	N	Motorcycle	
56	2793710	25-Nov-10	Slight	C198	GIRTON RD GIRTON OS THE COOP	542547	261503	N	Motorcycle	
57	2973010	21-Dec-10	Slight	C198	U0 C198 CAMBRIDGE RD 10M FROM WHITEGATE CLOSE GIRTON	542467	261955	Y		
58	169911	09-Jan-11	Slight	A1307	A1307 HUNTINGDON RD GIRTON 200M SE OF A14	541791	261345	Y		
59	25911	31-Jan-11	Slight	A1307	C198 HUNTINGDON ROAD JUNCTION GIRTON RD CAMBRIDGE	542627	260693	N	Bus/Coach	Cyclist
60	225611	03-Feb-11	Slight	B1050	HATTONS RD 500M N OF A14 BAR HILL	538474	264487	N	Cyclist	
61	255211	07-Feb-11	Serious	B1050	B1050 STATION RD WILLINGHAM OS NO 160	540002	269104	N	Cyclist	
62	299511	09-Feb-11	Slight	U0	ROBINS LANE 50M SOUTH OF A14 HUNTINGDON RD LOLWORTH	537085	264750	Y		
63	267611	09-Feb-11	Slight	B1050	B1050 STATION RD OUTSIDE NO 91 WILLINGHAM	540028	269454	Y		
64	386211	25-Feb-11	Slight	A1307	A1307 HUNTINGDON RD JUNCTION GIRTON COLLEGE CAMBRIDGE	542368	260873	Y		
65	410111	01-Mar-11	Slight	B1050	C186 OS 74 HIGH ST WILLINGHAM	540190	270046	Y		

No	Reference	Date	Severity	Road(s)	Location	X	Y	Cars Only	Involving 1	Involving 2
66	424311	09-Mar-11	Slight	C186	BUCKLING WAY RD 100M A14 SWAVESEY	535693	265842	Y		
67	425111	09-Mar-11	Slight	C198	CAMBRIDGE RD OS FORGE END OAKINGTON	541082	264204	Y		
68	461211	29-Mar-11	Slight	A1307	A1307 HUNTINGDON RD 50M NORTH OF GIRTON RD CAMBRIDGE	542611	260681	N	Motorcycle	Pedestrian
69	477511	04-Apr-11	Serious	C197	DRY DRAYTON RD 2000M WEST OF OAKINGTON	539607	262910	Y		
70	529611	23-Apr-11	Serious	C197	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544186	266830	Y		
71	595811	10-May-11	Slight	C186	U0 BOXWORTH END SWAVESEY JUNCTION SURGERY CAR PARK	536299	267517	Y		
72	611311	24-May-11	Slight	B1050	B1050 STATION RD LONGSTANTON OPP 4TH HOLE OF GOLF COURSE	539870	267503	Y		
73	629111	30-May-11	Slight	B1050	B1050 STATION RD OUTSIDE NO 74 WILLINGHAM	540041	269543	Y		
74	679111	16-Jun-11	Serious	B1050	B1050 HATTONS RD B1050 BYPASS LONGSTANTON	539102	265884	Y		
75	684111	18-Jun-11	Slight	U0	U0 LONGSTANTON RD JUNCTION LOWBURY RD OAKINGTON	540906	264588	N	Motorcycle	
76	701911	24-Jun-11	Slight	A1307	C198 A1307 HUNTINGDON RD GIRTON ROAD AT BUS STOP	542679	260652	N	Bus/Coach	Cyclist
77	705911	26-Jun-11	Slight	U0	RAMPER RD SWAVESEY	536772	267723	Y		
78	721711	02-Jul-11	Slight	U0	U0 CHURCH LANE OUTSIDE NO 62 GIRTON	542181	261988	N	Pedestrian	Cyclist
79	746611	15-Jul-11	Slight	A1307	A1307 HUNTINGDON RD OPP GIRTON COLLEGE DIR OF TRAVEL UK	542303	260928	N	Cyclist	
80	750811	17-Jul-11	Slight	B1050	B1050 300M NORTH OF HIGH ST LONGSTANTON	539906	267552	Y		
81	764411	26-Jul-11	Slight	C197	C197 OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	542388	265477	N	Cyclist	
82	781311	03-Aug-11	Slight	C193	C193 OAKINGTON RD 80M SW OF A14	539526	262989	Y		
83	794811	12-Aug-11	Slight	C197	C198 WATER LANE JW CAMBRIDGE RD OAKINGTON	541031	264238	N	Cyclist	
84	836411	08-Sep-11	Slight	C186	C184 BUCKINGWAY RD JUNCTION SWAVESEY RD BOXWORTH	535710	265899	N	Bus/Coach	
85	877411	03-Oct-11	Serious	C186	U0 RAMPTON RD WILLINGHAM AT NEWINGTON	540839	269889	N	Motorcycle	
86	954711	08-Nov-11	Slight	C198	C204 OAKINGTON RD JUNCTION PARK LANE OAKINGTON	542059	263447	N	Cyclist	
87	940811	09-Nov-11	Slight	C197	OAKINGTON RD A14 OAKINGTON FLYOVER	539693	263016	Y		
88	944611	11-Nov-11	Slight	C193	C197 OAKINGTON RD AT JUNCT DRY DRAYTON RD	539476	262952	Y		
89	964611	23-Nov-11	Slight	C193	C197 OAKINGTON RD JUNCTION OAKINGTON JUNCT DRY DRAYTON	539481	262946	Y		
90	1002811	14-Dec-11	Slight	B1050	B1050 HATTONS RD LONGSTANTON	539131	265906	Y		
91	11312	10-Jan-12	Slight	C186	RAMPTON RD 800M NORTH OF LAMBS LANE COTTENHAM	543854	267770	Y		
92	42812	28-Jan-12	Slight	A1307	C198 A1307 HUNTINGDON RD JUNCTION GIRTON RD GIRTON	542655	260678	N	Cyclist	
93	204612	08-May-12	Slight	C197	OAKINGTON RD DRY DRAYTON	539557	262891	Y		
94	206312	08-May-12	Slight	B1050	B1050 LONGSTANTON 50M NORTH OF HATTONS ROAD	539127	265945	Y		
95	211712	12-May-12	Slight	C186	RAMPTON RD WILLINGHAM PLOTTED FROM DIAGRAM	541526	268609	Y		
96	218212	16-May-12	Slight	C186	U0 C186 BERRYCROFT JW BALLAND FIELD WILLINGHAM	540344	269981	N	Other Motor	
97	241012	30-May-12	Slight	U0	U0 B1050 STATION RD ENTRANCE TO LONGSTANTON GOLF	539648	267417	N	Cyclist	
98	252112	06-Jun-12	Slight	C186	C186 RAMPTON RD 300M WEST OF COTTENHAM VILLAGE	543844	267768	N	Motorcycle	
99	278212	23-Jun-12	Slight	B1050	B1050 STATION RD LONGSTANTON 100M FROM TRAFFIC LIGHTS	539860	268199	Y		
100	323012	08-Jul-12	Slight	A1307	C198 A1307 HUNTINGDON RD JUNCTION GIRTON RD CAMBRIDGE	542645	260677	N	Motorcycle	Cyclist
101	375512	18-Aug-12	Slight	B1050	B1050 HATTONS RD 750M SOUTH OF HATTONS RD DA8T CAMBRIDGE	538801	265218	N	Cyclist	
102	387012	27-Aug-12	Slight	A1307	C198 HUNTINGDON RD JUNCTION GIRTON RD CAMBRIDGE	542636	260670	Y		
103	404112	06-Sep-12	Slight	C193	C197 OAKINGTON RD JUNCTION DRY DRAYTON RD DRY DRAYTON	539479	262936	Y		
104	474712	15-Oct-12	Slight	C197	C197 A14 DRY DRAYTON RD JUNCTION A14 OFF SLIP CAMBRIDGE	539716	263154	Y		
105	483812	18-Oct-12	Slight	C197	C197 WATER LANE DRY DRAYTON	541087	264279	N	Cyclist	
106	525512	10-Nov-12	Slight	A1307	HUNTINGDON RD 100M SE OF GIRTON RD CAMBRIDGE	542730	260603	Y		
107	526512	13-Nov-12	Serious	B1040	U0 SLIP RD FROM A14 WESTBOUND CWAY JUNCT VIKING WAY BAR HILL	538260	263839	N	Cyclist	
108	599512	26-Dec-12	Slight	B1050	B1050 STATION RD OUTSIDE NO 194 WILLINGHAM	539973	268872	Y		
109	50413	05-Feb-13	Slight	C198	U0 C198 OAKINGTON RD JUNCTION THE BARN GYM CAR PARK	542199	263232	N	Motorcycle	
110	66113	15-Feb-13	Serious	C192	C192 SCHOOL LANE RD OS 2 STOKES CLOSE NO FORM RECEIVED	539786	266320	Y		
111	64613	15-Feb-13	Slight	C198	C204 C198 NEW RD JUNCTION C204 OAKINGTON RD GRTON	542055	263453	Y		
112	124213	01-Apr-13	Slight	C197	C197 OAKINGTON RD WESTWICK 1400M EAST OF THE BUSWAY	542917	265938	Y		
113	3009313	28-Jun-13	Serious	C186	C186 RAMPTON RD SHARP BEND BET COTTENHAM AND RAMPTON	543838	267771	Y		
114	3017213	10-Jul-13	Slight	C197	U0 C197 DRY DRAYTON OUTSIDE OAKINGTON TOMATO FARM	540830	263999	Y		
115	3015213	18-Jul-13	Slight	C186	U0 C186 THE TRINITY FOOT PATH HUNTINGDON RD SWAVESEY	535679	265832	Y		
116	3023713	27-Jul-13	Slight	A1307	A1307 HUNTINGDON RD 900M SOUTH OF A14	541910	261256	Y		
117	3039713	13-Aug-13	Serious	B1050	B1050 HATTONS RD 1450M NORTH OF A14 HUNTINGDON RD CAMBRIDGE	538863	265354	N	Agricultural	
118	3042313	22-Aug-13	Slight	C186	C186 RAMPTON ROAD WILLINGHAM AT SHARP BEND	540778	269477	N	HGV	
119	3067613	28-Sep-13	Slight	C193	C197 C193 OAKINGTON RD DRY DRAYTON	539470	262937	Y		
120	3068013	29-Sep-13	Slight	C197	C197 DRY DRAYTON RD JUNCTION 100M NW OF A14	539690	263156	N	Motorcycle	
121	3075313	04-Oct-13	Slight	C198	C204 OAKINGTON RD JUNCTION NEW RD GIRTON	542048	263450	N	Motorcycle	
122	3106513	08-Nov-13	Slight	U0	RAMPER RD 1000M W OF OVER RD SWAVESEY	537796	267324	Y		
123	3118713	25-Nov-13	Serious	B1050	B1050 50M WEST OF SCHOOL LANE LONGSTANTON	539200	265938	Y		
124	3119413	27-Nov-13	Slight	C186	U0 BERRY CROFT JUNCTION LONG LANE WILLINGHAM	540539	270018	Y		
125	3119713	27-Nov-13	Slight	U0	RAMPER ROAD LONGSTANTON	537710	267361	Y		
126	3120413	28-Nov-13	Slight	C193	C197 OAKINGTON ROAD JUNCTION DRY DRAYTON ROAD DRY DRAYTON	539486	262950	Y		

Cambridgeshire County Council

Traffic Accident Reporting System v5

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<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
0005808	01 Jan 08	Slight	B1050 /	B1050 HATTONS RD 1350M NE OF A14 LONGSTANTON	538833-265286
0005408	07 Jan 08	Slight	B1050 /	B1050 HATTONS RD 1350M NE OF A14 LONGSTANTON	538815-265246
0006408	07 Jan 08	Slight	B1050 /	B1050 HALF MILE A14 BAR HILL CAMBRIDGE	538679-264896
0011408	12 Jan 08	Slight	C198 /	C198 GIRTON RD 50M SOUTH OF WEAVERS FIELD CAMBRIDGE	542540-261436
0032208	25 Jan 08	Slight	A14 /	A14 WBC BAR HILL HALF MILE EAST OF B1050 HATTONS RD CAMBRIDGE	538889-263555
0044108	04 Feb 08	Slight	A14 / A14	A14 EBC AT M11 SPLIT	540695-262202
0048108	06 Feb 08	Slight	A14 /	A14 HUNTINGDON RD 1000M EAST OF HIGH ST BOXWORTH	536710-265059
0062208	18 Feb 08	Slight	A14 /	A14 SWAVESEY EXACT LOCATION UNKNOWN	535775-265698
0068408	21 Feb 08	Slight	C197 /	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544108-266767
0069208	22 Feb 08	Slight	C186 /	BUCKINGWAY RD BOXSWORTH END SWAVESEY	541554-266905
0069108	22 Feb 08	Slight	C197 /	OAKINGTON RD NEAR LAMBS CROSS FARM	542532-265677
0072108	25 Feb 08	Slight	U0 / U0	EXTRA SERVICES SLIP RD SWAVESEY	535834-265490
0076608	28 Feb 08	Slight	C198 / U0	CAMBRIDGE RD OUTSIDE NO 59 CAMBRIDGE	541545-263785
0086908	07 Mar 08	Slight	C198 / U0	CAMBRIDGE RD OUTSIDE NO 61 OAKINGTON	541554-263781
0097308	16 Mar 08	Slight	A14 /	A14 HUNTINGDON RD JUNCTION 31 JUST PRIOR TO A1307	541526-261548
0097508	16 Mar 08	Serious	A14 /	A14 WESTBOUND CWAY 300M EAST OF JUNCTION 31 CAMBRIDGE	542230-261365
0133508	17 Mar 08	Slight	C198 / U0	CAMBRIDGE RD JUNCTION ORCHARD CLOSE GIRTON	542419-262090
0109308	22 Mar 08	Slight	A14 /	A14 EBC HUNTINGDON RD 90.0 LOLWORTH	537185-264760
0121708	07 Apr 08	Slight	A14 /	A14 GIRTON EASTBOUND CAMBRIDGE	541098-261880
0125608	11 Apr 08	Slight	A14 /	A14 WBC OS CREMATORIUM CAMBRIDGE	540006-262713
0135108	17 Apr 08	Slight	A14 /	A14 EASTBOUND DRY DRAYTON	540103-262660
0137308	18 Apr 08	Slight	A14 /	A14 WBC DRY DRAYTON JUST PRIOR TO BAR HILL	538728-263679
0146708	27 Apr 08	Slight	A14 /	A14 GIRTON 300M NORTH OF A1307 HUNTINGDON RD CAMBRIDGE	540505-262343
0149208	29 Apr 08	Slight	C186 /	RAMPTON RD COTTENHAM LOC AND DIR OF TRAVEL UNKNOWN	544295-267407
0171108	14 May 08	Slight	C193 / C197	OAKINGTON RD JUNCTION OAKING TON RD A14 FLYOVER DRY	539471-262947
0179808	21 May 08	Slight	C198 /	C198 GIRTON RD OUTSIDE 121B GIRTON	542547-261496
0181008	23 May 08	Slight	A14 /	A14 SWAVESEY 400M EAST OF A14 JUNCTION 28 SWAVESEY	536119-265450
0184208	27 May 08	Slight	A14 /	A14 WESTBOUND 500M EAST OF JUNCTION 31 GIRTON	542237-261367
0191408	02 Jun 08	Slight	A14 /	A14 EXIT SLIP WESTBOUND 50M SOUTH OF CRAFT WAY BAR HILL	538318-263866
0206808	14 Jun 08	Slight	C197 / U0	DRY DRAYTON RD 1100M N OF A14 OAKINGTON	540479-263730
0218108	21 Jun 08	Slight	C197 / U0	OAKINGTON RD HACKERS FRUIT FARM ENTRANCE CAMBRIDGE	539626-262933
0218008	22 Jun 08	Slight	A14 / U0	A14 WESTBOUND OFF SLIP LOLWORTH	537112-264766
0246208	13 Jul 08	Slight	A14 /	A14 WEST M11 CLOVER LEAF CAMBRIDGE	542033-261325
0254108	19 Jul 08	Slight	A14 /	A14 WESTBOUND JUNCTION HUNTINGDON ROAD CAMBRIDGE	541374-261647
0267108	24 Jul 08	Slight	C198 / U0	GIRTON RD JUNCTION WEAVERS FIELD	542545-261474
0259808	24 Jul 08	Slight	C197 /	OAKINGTON RD OS 36 COTTENHAM	544377-267006
0265008	28 Jul 08	Slight	A14 /	A14 WBC AT CAMBRIDGE SERVICES CAMBRIDGE	535886-265608
0283808	29 Jul 08	Serious	C198 /	CAMBRIDGE RD OUTSIDE NO 30 CAMBRIDGE	542382-262216
0275108	05 Aug 08	Slight	C186 / C185	C186 BOXWORTH END SWAVESEY JUNCTION ROSE AND CROWN RD	536275-267454
0285008	14 Aug 08	Slight	A14 / A14	A14 EASTBOUND DUAL CWAY A14 SLIP RD FROM HUNTINGDON	541985-261326
0309508	02 Sep 08	Slight	B1050 /	B1050 STATION RD OUTSIDE STANTON FARM LONGSTANTON	539873-267866
0314608	05 Sep 08	Slight	C186 /	RAMPTON RD WILLINGHAM 75 YDS FROM NEWINGTON ROAD	540830-269822
0335408	20 Sep 08	Slight	C186 / U0	LONG LANE JUNCTION NEWINGTON WILLINGHAM	540526-270022
0340008	25 Sep 08	Slight	C186 /	ROAD BETWEEN RAMPTON TO COTTENHAM AT BRIDGE	543199-267937
0349108	30 Sep 08	Slight	C197 / C198	WATER LANE OAKINGTON JUNCTION CAMBRIDGE RD	541045-264238
0347808	01 Oct 08	Slight	A14 /	A14 SWAVESEY PLOTTED AT GRID REF	535564-265844
0350108	02 Oct 08	Slight	C197 / C197	DRY DRAYTON RD JUNCTION OFF A14 EBC	539724-263187
0388708	04 Oct 08	Serious	A14 / A14	A14 HUNTINGDON RD JUNCTION BUCKING WAY CAMBRIDGE	535690-265774
0353708	05 Oct 08	Slight	A14 / M11	A14 HUNTINGDON RD JUNCTION M11 GIRTON	540659-262202
0369708	16 Oct 08	Slight	A1307 / C198	A1307 HUNTINGDON RD 20M NORTH OF GIRTON RD CAMBRIDGE	542630-260674
0372108	18 Oct 08	Slight	A14 / A14	A14 HUNTINGDON RD 88 2 SWAVESEY	535740-265704
0374708	20 Oct 08	Slight	A14 /	A14 EBC HUNTINGDON RD 150M EAST OF SWAVESEY SERVICES	535862-265638

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Ref.	Date	Severity	Road	Location	Grid Reference
0389008	26-Oct-08	Slight	A14 / A14	A14 EBC BAR HILL ON SLIP	538296-264010
0389808	01-Nov-08	Slight	C186 / C197	C186 RAMPTON RD JCT C197 OAKINGTON RD COTTENHAM	544555-267174
0411108	13-Nov-08	Slight	A14 /	A14 WESTBOUND CWAY 500M SE OF OAKINGTON RD CAMBRIDGE	540028-262696
0415708	16-Nov-08	Slight	U0 /	U0 LONGSTANTON ROUNDABOUT OAKINGTON	540162-265366
0812708	27-Nov-08	Slight	A14 /	A14 EASTBOUND SWAVESEY	536305-265352
0813908	28-Nov-08	Slight	C186 /	C186 HIGH ST RAMPTON OUTSIDE NO 32	542424-268086
0818508	29-Nov-08	Slight	A14 /	A14 WBC FOUR WENTWAYS BP GARAGE CAMBRIDGE LOC UNCLEAR	537859-264292
0817308	01-Dec-08	Serious	U0 /	U0 RAMPER RD HALF MILE E OF HIGH ST CAMBRIDGE	537049-267507
0847008	09-Dec-08	Slight	B1050 / U0	B1050 LONGSTANTON SIDE SLIP RD AT RDABT	538308-264140
0848308	19-Dec-08	Slight	B1050 /	B1050 A14 FLYOVER BAR HILL	538182-264092
0006309	05-Jan-09	Slight	A14 /	A14 ON SLIP GIRTON EASTBOUND	541930-261335
0033309	08-Jan-09	Slight	A14 /	A14 SBC JUNCTION 28 TRINITY FOOT SCANT DETAILS	535665-265776
0018509	15-Jan-09	Slight	C186 /	C186 RAMPTON RD COTTENHAM ON BEND	543848-267774
0026709	21-Jan-09	Serious	C186 /	C186 RAMPTON RD 680M SE OF BLACKPIT DROVE WILLINGHAM	541528-268823
0036109	28-Jan-09	Slight	A14 / M11	A14 EASTBOUND AT M11 GIRTON	540688-262208
0039409	01-Feb-09	Slight	C197 / C198	C197 DRY DRAYTON RD JUNCTION CAMBRIDGE RD OAKINGTON	541037-264234
0041409	02-Feb-09	Serious	A14 /	A14 WBC BTWEEN BAR HILL AND LOLWORTH JCT 29	537983-264204
0061709	11-Feb-09	Slight	C198 / U0	C198 WEAVERS FIELD GIRTON RD	542538-261479
0058909	17-Feb-09	Slight	A14 /	A14 BARHILL EXACT LOCATION UNKNOWN	539367-263208
0069409	27-Feb-09	Serious	A14 / A14	A14 428 JUNCTION A14 ON SLIP CAMBRIDGE	542078-261334
0095209	23-Mar-09	Slight	C186 / U0	C186 NEWINGTON JUNCTION LONG LANE WILLINGHAM	540531-270017
0096909	23-Mar-09	Slight	A14 /	A14 HUNTINGDON RD CAMBRIDGE NEAR JCT FOR MADINGLEY	540916-261937
0103109	27-Mar-09	Slight	B1050 / C186	B1050 HIGH ST WILLINGHAM NOT ALL DETAILS KNOWN	540175-270017
0100409	28-Mar-09	Slight	B1050 /	B1050 LONGSTANTON ROAD 1 MILE NORTH OF BAR HILL A14 JCT	538946-265530
0114009	03-Apr-09	Slight	A14 /	A14 WESTBOUND LOLWORTH	536918-264921
0110509	06-Apr-09	Slight	A14 /	A14 600M EAST OF M11 CLOVER LEAF GIRTON	540041-261326
0114609	09-Apr-09	Slight	B1050 /	B1050 STATION RD 100M NORTH OF CAMBRIDGE GOLF CLUB LONGSTANT	539840-267495
0135309	30-Apr-09	Slight	A14 / A14	A14 100M SE OF DRY DRAYTON FLYOVER	539729-262956
0137509	01-May-09	Slight	A14 / M11	A14 JUNCTION M11 SOME DETAILS ARE UNKNOWN	540707-262161
0156209	17-May-09	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 91 WILLINGHAM	540039-269429
0169309	27-May-09	Slight	U0 / U0	U0 THORNHILL PLACE OUTSIDE NO 68 LONGSTANTON	539913-266643
0168609	27-May-09	Slight	A14 /	A14 WESTBOUND CWAY BETWEEN DRY DRAYTON AND BAR HILL	538997-263476
0174009	01-Jun-09	Slight	B1050 / B1050	B1050 C192 SCHOOL LANE LONGSTANTON EXACT LOCATION UNKNOWN	539139-265890
0178209	03-Jun-09	Slight	A14 /	A14 DRY DRAYTON 300M SE OF A14 CAMBRIDGE CREMATORIUM	540287-262487
0186409	10-Jun-09	Slight	C186 /	C186 RAMPTON RD WILLINGHAM	541522-268569
0192409	12-Jun-09	Slight	B1050 /	B1050 STATION RD LONGSTANTON	539858-268066
0193009	15-Jun-09	Slight	A14 /	A14 JUNCTION UTTONS DROVE SWAVESEY	536630-265132
0219909	29-Jun-09	Slight	A14 /	A14 EASTBOUND AT SWAVESEY CAMBRIDGE	536127-265467
0216409	03-Jul-09	Slight	U0 /	U0 ST MICHAELS LONGSTANTON	540314-265773
0226309	13-Jul-09	Slight	A14 / A14	A14 OAKINGTON RD JUNCTION HUNTINGDON RD DRY DRAYTON	539558-263043
0231009	17-Jul-09	Slight	A14 /	A14 SWAVESEY NR SWAVESEY OFF SLIP	535964-265554
0260709	27-Jul-09	Slight	A14 /	A14 SWAVESEY ON EASTBOUND RD NEAR TO SWAVESEY	535751-265717
0258109	10-Aug-09	Slight	C193 /	C193 DRY DRAYTON NR JCT OAKINGTON RD C193	539565-262892
0261409	13-Aug-09	Serious	A14 / A1307	A14 HUNTINGDON ROAD JCT A1307	542013-261336
0261009	13-Aug-09	Slight	B1050 /	B1050 HATTONS RD LONGSTANTON EXACT LOCATION UNKNOWN	539283-266423
0303809	16-Sep-09	Slight	C197 / U0	C197 OAKINGTON RD 20M NE OF ORCHARD CLOSE COTTENHAM	544489-267093
0322109	01-Oct-09	Serious	B1050 / U0	B1050 STATION RD OS 141 200M NORTH OF WESTFIELD WILLINGHAM	540026-269214
0330109	06-Oct-09	Slight	A14 /	A14 HUNTINGDON RD EASTBOUND JUNCTION 28 SWAVESEY	535670-265782
0356109	16-Oct-09	Slight	A14 /	A14 WBC A14 BAR HILL	538506-263841
0342909	16-Oct-09	Slight	C186 / U0	C186 BUCKING WAY RD JUNCTION ANDERSON RD SWAVESEY	535743-266113
0353809	24-Oct-09	Slight	B1050 / B1050	B1050 HATTONS RD LONGSTANTON	539109-265879
0365409	03-Nov-09	Slight	A14 / A14	A14 WESTBOUND CWAY JUNCTION BAR HILL ON SLIP CAMBRIDGE	538301-263989
0369009	05-Nov-09	Slight	A14 /	A14 HUNTINGDON RD 1000M WEST OF BAR HILL LOLWORTH	537386-264626
0382209	13-Nov-09	Slight	A14 / A14	A14 JUNCTION A428 CAMBRIDGE	542023-261322
0425509	01-Dec-09	Slight	A1307 / C198	A1307 GIRTON RD JUNCTION HUNTINGDON RD CAMBRIDGE	542656-260685
0415609	03-Dec-09	Slight	U0 /	U0 RAMPTON DRIFT OUTSIDE NO 34 LONGSTANTON	540619-266714
2605409	14-Dec-09	Slight	A14 /	A14 SWAVESEY EBC NR FLYOVER JUST PRIOR TO TRINITY FOOT	535677-265767

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<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
2664809	19-Dec-09	Slight	C186 /	RAMPTON RD 600M WEST OF LAMBS LANE COTTENHAM	543850 267764
2691609	21-Dec-09	Slight	A14 /	A14 WBC JUNCTION 29 BAR HILL CAMBRIDGE	538275-264009
2712909	23-Dec-09	Slight	A14 /	A14 EASTBOUND 50 YARDS NORTH OF SWAVESEY OFF SLIP CAMBRIDGE	535609-265810
2744009	28-Dec-09	Slight	A14 /	A14 BAR HILL WESTBOUND HALF MILE PRIOR TO JNCT 29	538825-263598
2760009	30-Dec-09	Slight	C197 / U0	OAKINGTON RD 600M SW RAMPTON ROAD COTTENHAM	544202 266843
0060910	03-Jan-10	Slight	U0 /	LONGSTANTON RD ON AIRFIELD 100M W OAKINGTON VILLAGE	540611 264869
0028910	04-Jan-10	Slight	A14 /	A14 EASTBOUND CWAY 200M EAST OF JUNCTION 28 SWAVESEY	535904-265618
0047710	07-Jan-10	Slight	A1307 /	HUNTINGDON RD WB JUST AFTER NAT SPEED LIMIT TRAV WEST	542082 261106
0046210	07-Jan-10	Slight	A1307 /	A1307 HUNTINGDON RD 219B OS UNIVERSITY FARM	542033 261146
0100710	14-Jan-10	Slight	C197 /	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544291 266926
0117810	16-Jan-10	Slight	C197 /	DRY DRAYTON RD LOLWORTH	540297 263602
0128110	18-Jan-10	Slight	C186 /	RAMPTON RD COTTENHAM ON BEND	543801 267786
0426610	22-Jan-10	Slight	B1050 / B1050	B1050 HATTONS RD BAR HILL	538308 264195
0168010	23-Jan-10	Slight	A14 /	A14 HUNTINGDON RD 400M SE OF BUCKING WAY RD SWAVESEY	536017-265540
0201910	28-Jan-10	Slight	A14 / A14	A1307 HUNTINGDON RD WEST OF A14 GIRTON	541355-261670
0261710	03-Feb-10	Slight	C198 / C204	OAKINGTON RD JUNCTION PARK LANE HISTON	542049 263458
0355910	14-Feb-10	Slight	B1050 /	B1050 STATION RD 200M NORTH OF RDABT RAMPER RD CAMBRIDGE	539894 267533
0445610	26-Feb-10	Slight	U0 /	RAMPER RD SWAVESEY	536866 267565
0642510	21-Mar-10	Slight	A14 / A14	A14 EBC JCT 30 OAKINGTON ROAD	538285-264018
1114510	30-Mar-10	Slight	C186 /	C186 BOXWORTH RD 300M SE OF SWAVESEY VILLAGE	536050 266766
0897210	18-Apr-10	Slight	C197 / C198	C197 WATER LANE 20M NORTH OF DRY DRAYTON RD OAKINGTON	541053 264256
0984110	27-Apr-10	Serious	C193 / C197	OAKINGTON ROAD 100M S OF A14 HUNTINGDON RD	539475 262941
1113210	12-May-10	Slight	C198 / U0	CAMBRIDGE RD 10M SOUTH OF GIRTON WEAVERS FIELD CAMBRIDGE	542544 261465
1165910	19-May-10	Slight	C193 / C197	OAKINGTON RD 125M SOUTH OF A14	539465 262942
1277310	03-Jun-10	Slight	B1050 /	B1050 STATION RD OS NO 74 WILLINGHAM	540044 269553
1276710	03-Jun-10	Slight	A14 /	A14 BOXWORTH MP990	536098-265465
1501610	27-Jun-10	Slight	A14 /	A14 WESTBOUND 45M SOUTH OF CAMBRIDGE SERVICES SLIP RD BOXWOR	535976-265546
1729910	20-Jul-10	Slight	C197 /	C197 WATER LANE APPROX 60M NE OF CHERRY ORCHARD JNCT	541235 264446
1743610	21-Jul-10	Slight	A14 /	A14 500M WEST OF B1050 LOLWORTH	537757-264351
1795210	27-Jul-10	Serious	B1050 /	B1050 STATION RD LONGSTANTON NEAR LAYBY	539889 267527
1804610	28-Jul-10	Slight	A1307 / U0	A1307 HUNTINGDON RD 124M W OF GRANDE DRIVE OS NO 307	542061 261132
1855310	02-Aug-10	Slight	C197 / U0	HIGH ST JUNCTION WATER LANE OAKINGTON	541268 264471
1982910	13-Aug-10	Slight	B1050 / B1050	B1050 BAR HILL ROUNDABOUT	538273 263847
1957710	14-Aug-10	Slight	B1050 /	B1050 LONGSTANTON	539863 267506
1996410	18-Aug-10	Slight	A14 /	A14 700M WEST OF B1050 LOLWORTH	537461-264578
2040010	23-Aug-10	Slight	A14 /	A14 EBC BAR HILL LANE 1 CAMBRIDGE	538424-263922
2057410	26-Aug-10	Slight	A14 /	A14 CONINGTON AT MARKER POST 88 1 JUST PRIOR TO JCT 28 EBC	535507-265883
2087210	29-Aug-10	Serious	C198 / U0	C198 OAKINGTON RD BY JNCT TO CYCLEWAY NEAR MANOR FARM RD	542297 262774
2153310	06-Sep-10	Serious	A14 /	A14 CAMBRIDGE WB NEW CAMBRIDGE SERVICE BOXWORTH	535842-265636
2230410	15-Sep-10	Slight	A14 /	A14 EASTBOUND NEAR JCT 29 CAMBRIDGE	538194-264079
2240110	16-Sep-10	Slight	C197 /	OAKINGTON RD 1000M SOUTH OF COTTENHAM VILLAGE COTTENHAM	543801 266552
2256510	18-Sep-10	Slight	A14 /	A14 HUNTINGDON RD CONINGTON NEAR LAYBY	536460-265228
2256810	18-Sep-10	Slight	A14 /	A14 WBC NR LOLWORTH JCT	537188-264743
2309710	25-Sep-10	Slight	A14 /	A14 WBC JUNCTION GIRTON FLY OVER CAMBRIDGE	542529-261420
2362610	02-Oct-10	Serious	A14 /	A14 150M WEST OF JUNCTION 28 BUCKING WAY RD CAMBRIDGE	535551-265862
2372910	04-Oct-10	Slight	A14 /	A14 WESTBOUND CWAY 750M E OF M11 CAMBRIDGE	542486-261411
2466710	15-Oct-10	Slight	B1050 /	B1050 HATTONS RD 950M NE OF EASTBOUND ON SLIP CAMBRIDGE	538667 264868
2514410	22-Oct-10	Slight	A14 /	A14 WESTBOUND 100M WEST OF OAKINGTON RD DRY DRAYTON	539456-263148
2524010	23-Oct-10	Serious	C186 /	RAMPTON RD WILLINGHAM ON RIGHT HAND BEND	541533 268566
2552410	27-Oct-10	Serious	A14 / A14	A14 EBC JUNCTION 29 BAR HILL	538255-264043
2567810	28-Oct-10	Serious	A14 /	A14 EASTBOUND CWAY 250M EAST OF JNCT 28 SWAVESEY	535869-265633
2573710	29-Oct-10	Slight	A14 /	A14 WB 300M E OF OAKINGTON RD	539938-262771
2616010	02-Nov-10	Serious	A14 /	A14 SWAVESEY WBC 500M NW OF JCT 28	535381-265957
2680510	10-Nov-10	Slight	C197 / C198	OAKINGTON CROSSROADS DIRECTIONS OF TRAVEL UNCLEAR	541045 264246
2719410	15-Nov-10	Slight	A14 /	A14 WESTBOUND APPROX HALF MILE PRIOR TO DRY DRAYTON	540224-262543
2718110	15-Nov-10	Slight	U0 / U0	LONGSTANTON 20M SOUTH OF MEAD VIEW OAKINGTON	540975 264349
2793710	25-Nov-10	Slight	C198 /	GIRTON RD GIRTON OS THE COOP	542547 261503

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<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
2943610	17-Dec-10	Slight	A14 /	A14 HUNTINGDON ROAD 300M WEST OAKINGTON ROAD	539394-263185
2973010	21-Dec-10	Slight	C198 / UO	C198 CAMBRIDGE RD 10M FROM WHITEGATE CLOSE GIRTON	542467 261955
0169911	09-Jan-11	Slight	A1307 /	A1307 HUNTINGDON RD GIRTON 200M SE OF A14	541791 261345
0482211	20-Jan-11	Slight	A14 / A14	A14 GIRTON INTERCHANGE AT SLIP ROAD FROM A14 NORTH	542004-261334
0025911	31-Jan-11	Slight	A1307 / C198	HUNTINGDON ROAD JUNCTION GIRTON RD CAMBRIDGE	542627 260693
0214711	01-Feb-11	Slight	A14 /	A14 SWAVESEY 250 YARDS PRIOR TO JUNCTION 28	535477-265904
0225611	03-Feb-11	Slight	B1050 /	HATTONS RD 500M N OF A14 BAR HILL	538474 264487
0255211	07-Feb-11	Serious	B1050 /	B1050 STATION RD WILLINGHAM OS NO 160	540002 269104
0299511	09-Feb-11	Slight	UO /	ROBINS LANE 50M SOUTH OF A14 HUNTINGDON RD LOLWORTH	537085 264750
0267611	09-Feb-11	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 91 WILLINGHAM	540028 269454
0334111	18-Feb-11	Serious	A14 /	A14 HUNTINGDON ROAD 600M SE OF HATTONS ROAD	538797-263651
0386211	25-Feb-11	Slight	A1307 /	A1307 HUNTINGDON RD JUNCTION GIRTON COLLEGE CAMBRIDGE	542368 260873
0410111	01-Mar-11	Slight	B1050 / C186	OS 74 HIGH ST WILLINGHAM	540190 270046
0424311	09-Mar-11	Slight	C186 /	BUCKLING WAY RD 100M A14 SWAVESEY	535693 265842
0425111	09-Mar-11	Slight	C198 /	CAMBRIDGE RD OS FORGE END OAKINGTON	541082 264204
0428911	11-Mar-11	Slight	A14 /	A14 HUNTINGDON RD 993M EAST OF JUNCTION 29 A14 BAR HILL	539179-263355
0442211	18-Mar-11	Slight	A14 /	A14 WESTBOUND 300M EAST OF M11 ON SLIP GIRTON	542058-261330
0448411	22-Mar-11	Slight	A14 /	A14 350M WEST OF CAMBRIDGE RD GIRTON	541815-261368
0454211	25-Mar-11	Serious	A14 /	A14 HUNTINGDON RD 50M EAST OF JUNCTION 28A LOLWORTH	537171-264755
0461211	29-Mar-11	Slight	A1307 /	A1307 HUNTINGDON RD 50M NORTH OF GIRTON RD CAMBRIDGE	542611 260681
0477511	04-Apr-11	Serious	C197 /	DRY DRAYTON RD 2000M WEST OF OAKINGTON	539607 262910
0492811	04-Apr-11	Slight	A14 /	A14 JUNCTION 31 CAMBRIDGE	542068-261333
0525311	22-Apr-11	Slight	A14 /	A14 DRY DRAYTON WBC OS THE CREMETORIUM	539970-262744
0529611	23-Apr-11	Serious	C197 /	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544186 266830
0542311	28-Apr-11	Slight	A14 /	A14 EBC BETWEEN JUNCTIONS 30 AND 31 GIRTON	539979-262755
0558011	03-May-11	Serious	A14 /	A14 92.1 CAMBRIDGE BESIDE LAYBY	539004-262504
0563511	05-May-11	Slight	A14 /	A14 JUNCTION CAMBRIDGE CREMATORIUM	540082-262657
0595811	10-May-11	Slight	C186 / UO	BOXWORTH END SWAVESEY JUNCTION SURGERY CAR PARK	536299 267517
0611311	24-May-11	Slight	B1050 /	B1050 STATION RD LONGSTANTON OPP 4TH HOLE OF GOLF COURSE	539870 267503
0629111	30-May-11	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 74 WILLINGHAM	540041 269543
0640811	03-Jun-11	Slight	A14 /	A14 CAMBRIDGE RD JUNCTION 31 GIRTON WESTBOUND	542147-261352
0679111	16-Jun-11	Serious	B1050 / B1050	B1050 HATTONS RD B1050 BYPASS LONGSTANTON	539102 265884
0682611	16-Jun-11	Slight	A14 /	A14 BARHILL 3 LANE SECTION NO OTHER INFORMATION	538611-263789
0684111	18-Jun-11	Slight	UO / UO	LONGSTANTON RD JUNCTION LOWBURY RD OAKINGTON	540906 264588
0701911	24-Jun-11	Slight	A1307 / C198	A1307 HUNTINGDON RD GIRTON ROAD AT BUS STOP	542679 260652
0705911	26-Jun-11	Slight	UO /	RAMPER RD SWAVESEY	536772 267723
0721711	02-Jul-11	Slight	UO / UO	CHURCH LANE OUTSIDE NO 62 GIRTON	542181 261988
0728711	06-Jul-11	Slight	A14 /	A14 WBC SWAVESEY JUNCTION 28	535868-265620
0746611	15-Jul-11	Slight	A1307 /	A1307 HUNTINGDON RD OPP GIRTON COLLEGE DIR OF TRAVEL UK	542303 260928
0750811	17-Jul-11	Slight	B1050 /	B1050 300M NORTH OF HIGH ST LONGSTANTON	539906 267552
0764411	26-Jul-11	Slight	C197 /	C197 OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	542388 265477
0768911	29-Jul-11	Slight	A14 /	A14 WESTBOUND CWAY 600M WEST OF JNCT 29 BAR HILL	537676-264410
0770711	30-Jul-11	Slight	A14 / A14	A14 SWAVESEY EBC AT JCT 28	535712-265744
0781311	03-Aug-11	Slight	C193 /	C193 OAKINGTON RD 80M SW OF A14	539526 262989
0782311	04-Aug-11	Slight	A14 /	A14 100M PRIOR TO JNCT 29 EBC EXIT SLIP BAR HILL	538150-264110
0785411	06-Aug-11	Slight	A14 /	A14 WBC 500M E OF CAMBRIDGE SERVICES ON SLIP	536355-265294
0789011	09-Aug-11	Slight	A14 /	A14 EBC BOXWORTH JUNCTION	535618-265809
0794811	12-Aug-11	Slight	C197 / C198	WATER LANE JW CAMBRIDGE RD OAKINGTON	541031 264238
0796811	13-Aug-11	Slight	A14 /	A14 WBC SWAVESEY NEAR CAMBRIDGE SERVICES	535682-265743
0836411	08-Sep-11	Slight	C186 / C184	BUCKINGWAY RD JUNCTION SWAVESEY RD BOXWORTH	535710 265899
0845311	14-Sep-11	Slight	A14 /	A14 EBC 200M WEST OF JNCT WITH BAR HILL SLIP	538068-264164
0849111	17-Sep-11	Slight	A14 /	A14 510 METRES SE OF B1050 HATTONS RD BAR HILL	538601-263777
0868711	28-Sep-11	Slight	A14 /	A14 EBC 400M PRIOR TO JNCT 30 LONGSTANTON AT LAYBY	537495-264556
0871611	29-Sep-11	Slight	A14 /	A14 WBC GIRTON 150M EAST OF JW M11 A428	542173-261353
0877411	03-Oct-11	Serious	C186 / UO	RAMPTON RD WILLINGHAM AT NEWINGTON	540839 269889
0954711	08-Nov-11	Slight	C198 / C204	OAKINGTON RD JUNCTION PARK LANE OAKINGTON	542059 263447
0940811	09-Nov-11	Slight	C197 /	OAKINGTON RD A14 OAKINGTON FLYOVER	539693 263016

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<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
0944611	11-Nov-11	Slight	C193 / C197	OAKINGTON RD AT JNCT DRY DRAYTON RD	539476 262952
0960511	21-Nov-11	Serious	A14 /	A14 EBC 100M PRIOR TO JNCT 30 OFF SLIP DRY DRAYTON	539474-263148
0964611	23-Nov-11	Slight	C193 / C197	OAKINGTON RD JUNCTION OAKINGTON JNCT DRY DRAYTON	539481 262946
1002811	14-Dec-11	Slight	B1050 / B1050	HATTONS RD LONGSTANTON	539131 265906
1005211	16-Dec-11	Slight	A14 /	A14 50M NORTH OF JUNCTION 29 BAR HILL	538421-263905
1006011	16-Dec-11	Slight	A14 /	A14 LOLWORTH JUST PAST HILL FARM COTTAGES	536958-264913
1006311	17-Dec-11	Slight	A14 /	A14 EASTBOUND CWAY BAR HILL	539034-263473
1014011	20-Dec-11	Slight	A14 /	A14 WBC 300 YARDS SE OF A14 WBC JNCT OFF SLIP BOXWORTH	536167-265420
1023811	28-Dec-11	Slight	A14 /	A14 EASTBOUND BEFORE JUNCTION 29 BAR HILL CAMBRIDGE	538028-264188
1024211	28-Dec-11	Slight	A14 / A14	A14 JUNCTION 28 SWAVESEY	535783-265664
0011312	10-Jan-12	Slight	C186 /	RAMPTON RD 800M NORTH OF LAMBS LANE COTTENHAM	543854 267770
0035812	25-Jan-12	Slight	A14 /	A14 500M EAST OF SWAVESEY SERVICES 89 6	536362-265289
0042812	28-Jan-12	Slight	A1307 / C198	A1307 HUNTINGDON RD JUNCTION GIRTON RD GIRTON	542655 260678
0078312	17-Feb-12	Slight	A14 /	A14 HUNTINGDON RD DRY DRAYTON EXACT LOCATION NOT KNOWN	539762-262931
0109312	08-Mar-12	Slight	A14 /	A14 DRY DRAYTON 300M NW OF DRY DRAYTON JUNCTION	539338-263251
0126712	19-Mar-12	Serious	A14 / A14	A14 HUNTINGDON RD JUNCTION 28 SWAVESEY	535678-265777
0155012	05-Apr-12	Slight	A14 /	A14 WESTBOUND 400M EAST OF M11 GIRTON INTERCHANGE CAMBRIDGE	542127-261344
0167912	16-Apr-12	Serious	A14 /	A14 WBC PRIOR TO BAR HILL JUNCTION GIRTON	538806-263624
0183012	24-Apr-12	Fatal	A14 / M11	A14 JUNCTION 31 WESTBOUND CWAY JUNCTION M11 GIRTON	540702-262166
0204612	08-May-12	Slight	C197 /	OAKINGTON RD DRY DRAYTON	539557 262891
0206312	08-May-12	Slight	B1050 /	B1050 LONGSTANTON 50M NORTH OF HATTONS ROAD	539127 265945
0209612	10-May-12	Slight	A14 /	A14 WBC 100M EAST OF JCT 31 MARKER POST NO 97/9	542165-261351
0211712	12-May-12	Slight	C186 /	RAMPTON RD WILLINGHAM PLOTTED FROM DIAGRAM	541526 268609
0218212	16-May-12	Slight	C186 / UO	C186 BERRYCROFT JW BALLAND FIELD WILLINGHAM	540344 269981
0238712	28-May-12	Fatal	A14 / A14	A14 JUNCTION 28 WITH BUCKING WAY RD SWAVESEY	535653-265784
0241812	30-May-12	Slight	A14 /	A14 WBC GIRTON 100M EAST OF THE M11 OFF SLIP	542119-261343
0241012	30-May-12	Slight	UO / UO	B1050 STATION RD ENTRANCE TO LONGSTANTON GOLF	539648 267417
0262612	01-Jun-12	Slight	A14 /	A14 EASTBOUND CWAY BARHILL	539022-263486
0252112	06-Jun-12	Slight	C186 /	C186 RAMPTON RD 300M WEST OF COTTENHAM VILLAGE	543844 267768
0261612	12-Jun-12	Slight	A14 /	A14 EASTBOUND NEAR JCT M11 BAR HILL	540609-262264
0278212	23-Jun-12	Slight	B1050 /	B1050 STATION RD LONGSTANTON 100M FROM TRAFFIC LIGHTS	539860 268199
0288812	29-Jun-12	Slight	A14 / A14	A14 10M EAST OF DRY DRAYTON	539563-263083
0323012	08-Jul-12	Slight	A1307 / C198	A1307 HUNTINGDON RD JUNCTION GIRTON RD CAMBRIDGE	542645 260677
0329412	20-Jul-12	Slight	A14 /	A14 GIRTON LOCATION AND DIRECTION OF TRAVEL UNKNOWN	542094-261337
0341412	28-Jul-12	Slight	A14 /	A14 EASTBOUND CWAY NEAR JUNCTION 29 BAR HILL	538407-263931
0375512	18-Aug-12	Slight	B1050 /	B1050 HATTONS RD 750M SOUTH OF HATTONS RD RDABT CAMBRIDGE	538801 265218
0401312	20-Aug-12	Slight	A14 / UO	A14 WESTBOUND LOLWORTH BP GARAGE CAMBRIDGE	537893-264262
0384312	25-Aug-12	Slight	A14 /	A14 1400M E OF JNCT 29 WBC A14 BAR HILL	539448-263154
0387012	27-Aug-12	Slight	A1307 / C198	HUNTINGDON RD JUNCTION GIRTON RD CAMBRIDGE	542636 260670
0404112	06-Sep-12	Slight	C193 / C197	OAKINGTON RD JUNCTION DRY DRAYTON RD DRY DRAYTON	539479 262936
0421012	14-Sep-12	Slight	A14 / A14	A14 SWAVESEY JCT 28 EB	535659-265780
0438112	21-Sep-12	Fatal	A14 / UO	A14 WESTBOUND CWAY JUNCTION ROBINS LANE LOLWORTH	537105-264774
0441612	26-Sep-12	Slight	A14 /	A14 EBC SWAVESEY NO GRID REF GIVEN EXACT LOC UNKNOWN	535403-265957
0442412	27-Sep-12	Slight	A14 / A14	A14 EBC JNCT 30 DRY DRAYTON	539553-263098
0474712	15-Oct-12	Slight	C197 / C197	A14 DRY DRAYTON RD JUNCTION A14 OFF SLIP CAMBRIDGE	539716 263154
0476812	16-Oct-12	Serious	A14 /	A14 NBC LOLWORTH 150M NW ROBINS LANE	536986-264872
0483812	18-Oct-12	Slight	C197 /	C197 WATER LANE DRY DRAYTON	541087 264279
0508612	02-Nov-12	Slight	A14 /	A14 WESTBOUND DRY DRAYTON 200M NORTH JUNCTION 30	539387-263188
0512112	02-Nov-12	Slight	A14 /	A14 DRY DRAYTON WESTBOUND 300M SOUTH JNCT 30	539856-262834
0525512	10-Nov-12	Slight	A1307 /	HUNTINGDON RD 100M SE OF GIRTON RD CAMBRIDGE	542730 260603
0526512	13-Nov-12	Serious	B1040 / UO	SLIP RD FROM A14 WESTBOUND CWAY JNCT VIKING WAY BAR HILL	538260 263839
0531912	17-Nov-12	Slight	A14 /	A14 CAMBRIDGE RD OS LAMP POST GT294 100M SE OF THE AVENUE	540962-261874
0556912	30-Nov-12	Slight	A14 /	A14 EASTBOUND CWAY 87 7 CAMBRIDGE	535758-265711
0570912	08-Dec-12	Slight	A14 /	A14 BETWEEN CAMBRIDGE SERVICES AND FEN DRYTON SWAVESEY	535323-265999
0571512	08-Dec-12	Slight	A14 /	A14 WBC 300M WEST OF CAMBRIDGE SERVICES	535544-265842
0585712	17-Dec-12	Slight	A14 /	A14 CAMBRIDGE RD 250M EAST OF B1050 HATTONS RD BAR HILL	538490-263873
0599512	26-Dec-12	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 194 WILLINGHAM	539973 268872

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<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
0050413	05-Feb-13	Slight	C198 / U0	C198 OAKINGTON RD JUNCTION THE BARN GYM CAR PARK	542199 263232
0065713	15-Feb-13	Slight	A14 /	A14 LOLWORTH 100M WEST OF JUNCTION 29 BAR HILL	538233-264028
0066113	15-Feb-13	Serious	C192 /	C192 SCHOOL LANE RD OS 2 STOKES CLOSE NO FORM RECEIVED	539786 266320
0064613	15-Feb-13	Slight	C198 / C204	C198 NEW RD JUNCTION C204 OAKINGTON RD GRTON	542055 263453
0084013	02-Mar-13	Slight	A14 /	A14 HUNTINGDON 100M SE OF B1050 HATTONS RD CAMBRIDGE	538368-263955
0124213	01-Apr-13	Slight	C197 /	C197 OAKINGTON RD WESTWICK 1400M EAST OF THE BUSWAY	542917 265938
0300613	02-May-13	Slight	A14 /	A14 JUNCTION 32 TO 31 200M EAST OF JUNCTION 31 GIRTON	542157-261356
0316013	23-May-13	Slight	A14 /	A14 1000M EAST OF BUCKINGHAM WAY LOLWORTH	536573-265150
0317313	26-May-13	Serious	A14 /	A14 EBC ON SLIP CAMBRIDGE	541948-261336
0323113	14-Jun-13	Slight	A14 / U0	A14 EBC HUNTINGDON RD JUNCTION BUCKING WAY RD SWAVESEY	535671-265771
3008513	25-Jun-13	Slight	A14 /	A14 200M EAST OF SWAVESEY OFF SLIP SWAVESEY	536113-265458
3009313	28-Jun-13	Serious	C186 /	C186 RAMPTON RD SHARP BEND BET COTTENHAM AND RAMPTON	543838 267771
3020613	05-Jul-13	Slight	A14 /	A14 MP 93.9 GIRTON	540472-262369
3017213	10-Jul-13	Slight	C197 / U0	C197 DRY DRAYTON OUTSIDE OAKINGTON TOMATO FARM	540830 263999
3015213	18-Jul-13	Slight	C186 / U0	C186 THE TRINITY FOOT PATH HUNTINGDON RD SWAVESEY	535679 265832
3019213	25-Jul-13	Slight	A14 / A14	A14 LOLWORTH SERVICE WBC LOLWORTH	535941-265569
3023713	27-Jul-13	Slight	A1307 /	A1307 HUNTINGDON RD 900M SOUTH OF A14	541910 261256
3030513	02-Aug-13	Slight	A14 /	A14 EASTBOUND HUNTINGDON RD 150M BUCKING WAY RD BOXWORTH	535552-265850
3039713	13-Aug-13	Serious	B1050 /	B1050 HATTONS RD 1450M NORTH OF A14 HUNTINGDON RD CAMBRIDGE	538863 265354
3041113	16-Aug-13	Serious	A14 / U0	A14 WESTBOUND CWAY JUNCTION LOLWORTH SERVICES BAR HILL	537916-264255
3036613	17-Aug-13	Slight	A14 /	A14 400M EAST OF M11 JUNCTION 31 CAMBRIDGE	542183-261356
3042313	22-Aug-13	Slight	C186 /	C186 RAMPTON ROAD WILLINGHAM AT SHARP BEND	540778 269477
3067613	28-Sep-13	Slight	C193 / C197	C193 OAKINGTON RD DRY DRAYTON	539470 262937
3068013	29-Sep-13	Slight	C197 / C197	C197 DRY DRAYTON RD JUNCTION 100M NW OF A14	539690 263156
3075313	04-Oct-13	Slight	C198 / C204	OAKINGTON RD JUNCTION NEW RD GIRTON	542048 263450
3084013	15-Oct-13	Slight	A14 /	A14 100M EAST OF GIRTON JUNCTION	542140-261346
3082213	24-Oct-13	Serious	A14 / A14	A14 WESTBOUND JUNCTION 30 OAKINGTON RD DRY DRAYTON	539548-263074
3108013	05-Nov-13	Slight	A14 /	A14 MP 90.5 LOLWORTH	537316-264654
3106513	08-Nov-13	Slight	U0 /	RAMPER RD 1000M W OF OVER RD SWAVESEY	537796 267324
3093013	23-Nov-13	Slight	A14 /	A14 BAR HILL EXACT LOCATION UNKNOWN	538434-263913
3118713	25-Nov-13	Serious	B1050 /	B1050 50M WEST OF SCHOOL LANE LONGSTANTON	539200 265938
3133413	25-Nov-13	Slight	A14 /	A14 EBC 1180M WEST OF M11 NR BUS STOP LAYBY	539739-262954
3119413	27-Nov-13	Slight	C186 / U0	BERRY CROFT JUNCTION LONG LANE WILLINGHAM	540539 270018
3119713	27-Nov-13	Slight	U0 /	RAMPER ROAD LONGSTANTON	537710 267361
3120513	28-Nov-13	Serious	M11 /	M11 400M SOUTH OF JUNCTION 14 M11 A14 GIRTON	541011-261884
3120413	28-Nov-13	Slight	C193 / C197	OAKINGTON ROAD JUNCTION DRY DRAYTON ROAD DRY DRAYTON	539486 262950

End of Report Total Number of Accidents 316

Cambridgeshire County Council

Traffic Accident Reporting System v5

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Longstanton PIA data 2008 - provisionally November 2013

<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
0005808	01 Jan 08	Slight	B1050 /	B1050 HATTONS RD 1350M NE OF A14 LONGSTANTON	538833-265286
0005408	07 Jan 08	Slight	B1050 /	B1050 HATTONS RD 1350M NE OF A14 LONGSTANTON	538815-265246
0006408	07 Jan 08	Slight	B1050 /	B1050 HALF MILE A14 BAR HILL CAMBRIDGE	538679-264896
0011408	12 Jan 08	Slight	C198 /	C198 GIRTON RD 50M SOUTH OF WEAVERS FIELD CAMBRIDGE	542540-261436
0032208	25 Jan 08	Slight	A14 /	A14 WBC BAR HILL HALF MILE EAST OF B1050 HATTONS RD CAMBRIDGE	538889-263555
0044108	04 Feb 08	Slight	A14 / A14	A14 EBC AT M11 SPLIT	540695-262202
0048108	06 Feb 08	Slight	A14 /	A14 HUNTINGDON RD 1000M EAST OF HIGH ST BOXWORTH	536710-265059
0062208	18 Feb 08	Slight	A14 /	A14 SWAVESEY EXACT LOCATION UNKNOWN	535775-265698
0068408	21 Feb 08	Slight	C197 /	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544108-266767
0069208	22 Feb 08	Slight	C186 /	BUCKINGWAY RD BOXSWORTH END SWAVESEY	546158-266905
0069108	22 Feb 08	Slight	C197 /	OAKINGTON RD NEAR LAMBS CROSS FARM	542532-265677
0072108	25 Feb 08	Slight	U0 / U0	EXTRA SERVICES SLIP RD SWAVESEY	535834-265490
0076608	28 Feb 08	Slight	C198 / U0	CAMBRIDGE RD OUTSIDE NO 59 CAMBRIDGE	541545-263785
0086908	07 Mar 08	Slight	C198 / U0	CAMBRIDGE RD OUTSIDE NO 61 OAKINGTON	541554-263781
0097308	16 Mar 08	Slight	A14 /	A14 HUNTINGDON RD JUNCTION 31 JUST PRIOR TO A1307	541526-261548
0097508	16 Mar 08	Serious	A14 /	A14 WESTBOUND CWAY 300M EAST OF JUNCTION 31 CAMBRIDGE	542230-261365
0133508	17 Mar 08	Slight	C198 / U0	CAMBRIDGE RD JUNCTION ORCHARD CLOSE GIRTON	542419-262090
0109308	22 Mar 08	Slight	A14 /	A14 EBC HUNTINGDON RD 90.0 LOLWORTH	537185-264760
0121708	07 Apr 08	Slight	A14 /	A14 GIRTON EASTBOUND CAMBRIDGE	541098-261880
0125608	11 Apr 08	Slight	A14 /	A14 WBC OS CREMATORIUM CAMBRIDGE	540006-262713
0135108	17 Apr 08	Slight	A14 /	A14 EASTBOUND DRY DRAYTON	540103-262660
0137308	18 Apr 08	Slight	A14 /	A14 WBC DRY DRAYTON JUST PRIOR TO BAR HILL	538728-263679
0146708	27 Apr 08	Slight	A14 /	A14 GIRTON 300M NORTH OF A1307 HUNTINGDON RD CAMBRIDGE	540505-262343
0149208	29 Apr 08	Slight	C186 /	RAMPTON RD COTTENHAM LOC AND DIR OF TRAVEL UNKNOWN	544295-267407
0171108	14 May 08	Slight	C193 / C197	OAKINGTON RD JUNCTION OAKING TON RD A14 FLYOVER DRY	539471-262947
0179808	21 May 08	Slight	C198 /	C198 GIRTON RD OUTSIDE 121B GIRTON	542547-261496
0181008	23 May 08	Slight	A14 /	A14 SWAVESEY 400M EAST OF A14 JUNCTION 28 SWAVESEY	536119-265450
0184208	27 May 08	Slight	A14 /	A14 WESTBOUND 500M EAST OF JUNCTION 31 GIRTON	542237-261367
0191408	02 Jun 08	Slight	A14 /	A14 EXIT SLIP WESTBOUND 50M SOUTH OF CRAFT WAY BAR HILL	538318-263866
0206808	14 Jun 08	Slight	C197 / U0	DRY DRAYTON RD 1100M N OF A14 OAKINGTON	540479-263730
0218108	21 Jun 08	Slight	C197 / U0	OAKINGTON RD HACKERS FRUIT FARM ENTRANCE CAMBRIDGE	539626-262933
0218008	22 Jun 08	Slight	A14 / U0	A14 WESTBOUND OFF SLIP LOLWORTH	537112-264766
0246208	13 Jul 08	Slight	A14 /	A14 WEST M11 CLOVER LEAF CAMBRIDGE	542033-261325
0254108	19 Jul 08	Slight	A14 /	A14 WESTBOUND JUNCTION HUNTINGDON ROAD CAMBRIDGE	541374-261647
0267108	24 Jul 08	Slight	C198 / U0	GIRTON RD JUNCTION WEAVERS FIELD	542545-261474
0259808	24 Jul 08	Slight	C197 /	OAKINGTON RD OS 36 COTTENHAM	544377-267006
0265008	28 Jul 08	Slight	A14 /	A14 WBC AT CAMBRIDGE SERVICES CAMBRIDGE	535886-265608
0283808	29 Jul 08	Serious	C198 /	CAMBRIDGE RD OUTSIDE NO 30 CAMBRIDGE	542382-262216
0275108	05 Aug 08	Slight	C186 / C185	C186 BOXWORTH END SWAVESEY JUNCTION ROSE AND CROWN RD	536275-267454
0285008	14 Aug 08	Slight	A14 / A14	A14 EASTBOUND DUAL CWAY A14 SLIP RD FROM HUNTINGDON	541985-261326
0309508	02 Sep 08	Slight	B1050 /	B1050 STATION RD OUTSIDE STANTON FARM LONGSTANTON	539873-267866
0314608	05 Sep 08	Slight	C186 /	RAMPTON RD WILLINGHAM 75 YDS FROM NEWINGTON ROAD	540830-269822
0335408	20 Sep 08	Slight	C186 / U0	LONG LANE JUNCTION NEWINGTON WILLINGHAM	540526-270022
0340008	25 Sep 08	Slight	C186 /	ROAD BETWEEN RAMPTON TO COTTENHAM AT BRIDGE	543199-267937
0349108	30 Sep 08	Slight	C197 / C198	WATER LANE OAKINGTON JUNCTION CAMBRIDGE RD	541045-264238
0347808	01 Oct 08	Slight	A14 /	A14 SWAVESEY PLOTTED AT GRID REF	535564-265844
0350108	02 Oct 08	Slight	C197 / C197	DRY DRAYTON RD JUNCTION OFF A14 EBC	539724-263187
0388708	04 Oct 08	Serious	A14 / A14	A14 HUNTINGDON RD JUNCTION BUCKING WAY CAMBRIDGE	535690-265774
0353708	05 Oct 08	Slight	A14 / M11	A14 HUNTINGDON RD JUNCTION M11 GIRTON	540659-262202
0369708	16 Oct 08	Slight	A1307 / C198	A1307 HUNTINGDON RD 20M NORTH OF GIRTON RD CAMBRIDGE	542630-260674
0372108	18 Oct 08	Slight	A14 / A14	A14 HUNTINGDON RD 88 2 SWAVESEY	535740-265704
0374708	20 Oct 08	Slight	A14 /	A14 EBC HUNTINGDON RD 150M EAST OF SWAVESEY SERVICES	535862-265638

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Ref.	Date	Severity	Road	Location	Grid Reference
0389008	26-Oct-08	Slight	A14 / A14	A14 EBC BAR HILL ON SLIP	538296-264010
0389808	01-Nov-08	Slight	C186 / C197	C186 RAMPTON RD JCT C197 OAKINGTON RD COTTENHAM	544555-267174
0411108	13-Nov-08	Slight	A14 /	A14 WESTBOUND CWAY 500M SE OF OAKINGTON RD CAMBRIDGE	540028-262696
0415708	16-Nov-08	Slight	U0 /	U0 LONGSTANTON ROUNDABOUT OAKINGTON	540162-265366
0812708	27-Nov-08	Slight	A14 /	A14 EASTBOUND SWAVESEY	536305-265352
0813908	28-Nov-08	Slight	C186 /	C186 HIGH ST RAMPTON OUTSIDE NO 32	542424-268086
0818508	29-Nov-08	Slight	A14 /	A14 WBC FOUR WENTWAYS BP GARAGE CAMBRIDGE LOC UNCLEAR	537859-264292
0817308	01-Dec-08	Serious	U0 /	U0 RAMPER RD HALF MILE E OF HIGH ST CAMBRIDGE	537049-267507
0847008	09-Dec-08	Slight	B1050 / U0	B1050 LONGSTANTON SIDE SLIP RD AT RDABT	538308-264140
0848308	19-Dec-08	Slight	B1050 /	B1050 A14 FLYOVER BAR HILL	538182-264092
0006309	05-Jan-09	Slight	A14 /	A14 ON SLIP GIRTON EASTBOUND	541930-261335
0033309	08-Jan-09	Slight	A14 /	A14 SBC JUNCTION 28 TRINITY FOOT SCANT DETAILS	535665-265776
0018509	15-Jan-09	Slight	C186 /	C186 RAMPTON RD COTTENHAM ON BEND	543848-267774
0026709	21-Jan-09	Serious	C186 /	C186 RAMPTON RD 680M SE OF BLACKPIT DROVE WILLINGHAM	541528-268823
0036109	28-Jan-09	Slight	A14 / M11	A14 EASTBOUND AT M11 GIRTON	540688-262208
0039409	01-Feb-09	Slight	C197 / C198	C197 DRY DRAYTON RD JUNCTION CAMBRIDGE RD OAKINGTON	541037-264234
0041409	02-Feb-09	Serious	A14 /	A14 WBC BTWEEN BAR HILL AND LOLWORTH JCT 29	537983-264204
0061709	11-Feb-09	Slight	C198 / U0	C198 WEAVERS FIELD GIRTON RD	542538-261479
0058909	17-Feb-09	Slight	A14 /	A14 BARHILL EXACT LOCATION UNKNOWN	539367-263208
0069409	27-Feb-09	Serious	A14 / A14	A14 428 JUNCTION A14 ON SLIP CAMBRIDGE	542078-261334
0095209	23-Mar-09	Slight	C186 / U0	C186 NEWINGTON JUNCTION LONG LANE WILLINGHAM	540531-270017
0096909	23-Mar-09	Slight	A14 /	A14 HUNTINGDON RD CAMBRIDGE NEAR JCT FOR MADINGLEY	540916-261937
0103109	27-Mar-09	Slight	B1050 / C186	B1050 HIGH ST WILLINGHAM NOT ALL DETAILS KNOWN	540175-270017
0100409	28-Mar-09	Slight	B1050 /	B1050 LONGSTANTON ROAD 1 MILE NORTH OF BAR HILL A14 JCT	538946-265530
0114009	03-Apr-09	Slight	A14 /	A14 WESTBOUND LOLWORTH	536918-264921
0110509	06-Apr-09	Slight	A14 /	A14 600M EAST OF M11 CLOVER LEAF GIRTON	540041-261326
0114609	09-Apr-09	Slight	B1050 /	B1050 STATION RD 100M NORTH OF CAMBRIDGE GOLF CLUB LONGSTANT	539840-267495
0135309	30-Apr-09	Slight	A14 / A14	A14 100M SE OF DRY DRAYTON FLYOVER	539729-262956
0137509	01-May-09	Slight	A14 / M11	A14 JUNCTION M11 SOME DETAILS ARE UNKNOWN	540707-262161
0156209	17-May-09	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 91 WILLINGHAM	540039-269429
0169309	27-May-09	Slight	U0 / U0	U0 THORNHILL PLACE OUTSIDE NO 68 LONGSTANTON	539913-266643
0168609	27-May-09	Slight	A14 /	A14 WESTBOUND CWAY BETWEEN DRY DRAYTON AND BAR HILL	538997-263476
0174009	01-Jun-09	Slight	B1050 / B1050	B1050 C192 SCHOOL LANE LONGSTANTON EXACT LOCATION UNKNOWN	539139-265890
0178209	03-Jun-09	Slight	A14 /	A14 DRY DRAYTON 300M SE OF A14 CAMBRIDGE CREMATORIUM	540287-262487
0186409	10-Jun-09	Slight	C186 /	C186 RAMPTON RD WILLINGHAM	541522-268569
0192409	12-Jun-09	Slight	B1050 /	B1050 STATION RD LONGSTANTON	539858-268066
0193009	15-Jun-09	Slight	A14 /	A14 JUNCTION UTTONS DROVE SWAVESEY	536630-265132
0219909	29-Jun-09	Slight	A14 /	A14 EASTBOUND AT SWAVESEY CAMBRIDGE	536127-265467
0216409	03-Jul-09	Slight	U0 /	U0 ST MICHAELS LONGSTANTON	540314-265773
0226309	13-Jul-09	Slight	A14 / A14	A14 OAKINGTON RD JUNCTION HUNTINGDON RD DRY DRAYTON	539558-263043
0231009	17-Jul-09	Slight	A14 /	A14 SWAVESEY NR SWAVESEY OFF SLIP	535964-265554
0260709	27-Jul-09	Slight	A14 /	A14 SWAVESEY ON EASTBOUND RD NEAR TO SWAVESEY	535751-265717
0258109	10-Aug-09	Slight	C193 /	C193 DRY DRAYTON NR JCT OAKINGTON RD C193	539565-262892
0261409	13-Aug-09	Serious	A14 / A1307	A14 HUNTINGDON ROAD JCT A1307	542013-261336
0261009	13-Aug-09	Slight	B1050 /	B1050 HATTONS RD LONGSTANTON EXACT LOCATION UNKNOWN	539283-266423
0303809	16-Sep-09	Slight	C197 / U0	C197 OAKINGTON RD 20M NE OF ORCHARD CLOSE COTTENHAM	544489-267093
0322109	01-Oct-09	Serious	B1050 / U0	B1050 STATION RD OS 141 200M NORTH OF WESTFIELD WILLINGHAM	540026-269214
0330109	06-Oct-09	Slight	A14 /	A14 HUNTINGDON RD EASTBOUND JUNCTION 28 SWAVESEY	535670-265782
0356109	16-Oct-09	Slight	A14 /	A14 WBC A14 BAR HILL	538506-263841
0342909	16-Oct-09	Slight	C186 / U0	C186 BUCKING WAY RD JUNCTION ANDERSON RD SWAVESEY	535743-266113
0353809	24-Oct-09	Slight	B1050 / B1050	B1050 HATTONS RD LONGSTANTON	539109-265879
0365409	03-Nov-09	Slight	A14 / A14	A14 WESTBOUND CWAY JUNCTION BAR HILL ON SLIP CAMBRIDGE	538301-263989
0369009	05-Nov-09	Slight	A14 /	A14 HUNTINGDON RD 1000M WEST OF BAR HILL LOLWORTH	537386-264626
0382209	13-Nov-09	Slight	A14 / A14	A14 JUNCTION A428 CAMBRIDGE	542023-261322
0425509	01-Dec-09	Slight	A1307 / C198	A1307 GIRTON RD JUNCTION HUNTINGDON RD CAMBRIDGE	542656-260685
0415609	03-Dec-09	Slight	U0 /	U0 RAMPTON DRIFT OUTSIDE NO 34 LONGSTANTON	540619-266714
2605409	14-Dec-09	Slight	A14 /	A14 SWAVESEY EBC NR FLYOVER JUST PRIOR TO TRINITY FOOT	535677-265767

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Ref.	Date	Severity	Road	Location	Grid Reference
2664809	19-Dec-09	Slight	C186 /	RAMPTON RD 600M WEST OF LAMBS LANE COTTENHAM	543850 267764
2691609	21-Dec-09	Slight	A14 /	A14 WBC JUNCTION 29 BAR HILL CAMBRIDGE	538275-264009
2712909	23-Dec-09	Slight	A14 /	A14 EASTBOUND 50 YARDS NORTH OF SWAVESEY OFF SLIP CAMBRIDGE	535609-265810
2744009	28-Dec-09	Slight	A14 /	A14 BAR HILL WESTBOUND HALF MILE PRIOR TO JNCT 29	538825-263598
2760009	30-Dec-09	Slight	C197 / U0	OAKINGTON RD 600M SW RAMPTON ROAD COTTENHAM	544202 266843
0060910	03-Jan-10	Slight	U0 /	LONGSTANTON RD ON AIRFIELD 100M W OAKINGTON VILLAGE	540611 264869
0028910	04-Jan-10	Slight	A14 /	A14 EASTBOUND CWAY 200M EAST OF JUNCTION 28 SWAVESEY	535904-265618
0047710	07-Jan-10	Slight	A1307 /	HUNTINGDON RD WB JUST AFTER NAT SPEED LIMIT TRAV WEST	542082 261106
0046210	07-Jan-10	Slight	A1307 /	A1307 HUNTINGDON RD 219B OS UNIVERSITY FARM	542033 261146
0100710	14-Jan-10	Slight	C197 /	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544291 266926
0117810	16-Jan-10	Slight	C197 /	DRY DRAYTON RD LOLWORTH	540297 263602
0128110	18-Jan-10	Slight	C186 /	RAMPTON RD COTTENHAM ON BEND	543801 267786
0426610	22-Jan-10	Slight	B1050 / B1050	B1050 HATTONS RD BAR HILL	538308 264195
0168010	23-Jan-10	Slight	A14 /	A14 HUNTINGDON RD 400M SE OF BUCKING WAY RD SWAVESEY	536017-265540
0201910	28-Jan-10	Slight	A14 / A14	A1307 HUNTINGDON RD WEST OF A14 GIRTON	541355-261670
0261710	03-Feb-10	Slight	C198 / C204	OAKINGTON RD JUNCTION PARK LANE HISTON	542049 263458
0355910	14-Feb-10	Slight	B1050 /	B1050 STATION RD 200M NORTH OF RDABT RAMPER RD CAMBRIDGE	539894 267533
0445610	26-Feb-10	Slight	U0 /	RAMPER RD SWAVESEY	536866 267565
0642510	21-Mar-10	Slight	A14 / A14	A14 EBC JCT 30 OAKINGTON ROAD	538285-264018
1114510	30-Mar-10	Slight	C186 /	C186 BOXWORTH RD 300M SE OF SWAVESEY VILLAGE	536050 266766
0897210	18-Apr-10	Slight	C197 / C198	C197 WATER LANE 20M NORTH OF DRY DRAYTON RD OAKINGTON	541053 264256
0984110	27-Apr-10	Serious	C193 / C197	OAKINGTON ROAD 100M S OF A14 HUNTINGDON RD	539475 262941
1113210	12-May-10	Slight	C198 / U0	CAMBRIDGE RD 10M SOUTH OF GIRTON WEAVERS FIELD CAMBRIDGE	542544 261465
1165910	19-May-10	Slight	C193 / C197	OAKINGTON RD 125M SOUTH OF A14	539465 262942
1277310	03-Jun-10	Slight	B1050 /	B1050 STATION RD OS NO 74 WILLINGHAM	540044 269553
1276710	03-Jun-10	Slight	A14 /	A14 BOXWORTH MP990	536098-265465
1501610	27-Jun-10	Slight	A14 /	A14 WESTBOUND 45M SOUTH OF CAMBRIDGE SERVICES SLIP RD BOXWOR	535976-265546
1729910	20-Jul-10	Slight	C197 /	C197 WATER LANE APPROX 60M NE OF CHERRY ORCHARD JNCT	541235 264446
1743610	21-Jul-10	Slight	A14 /	A14 500M WEST OF B1050 LOLWORTH	537757-264351
1795210	27-Jul-10	Serious	B1050 /	B1050 STATION RD LONGSTANTON NEAR LAYBY	539889 267527
1804610	28-Jul-10	Slight	A1307 / U0	A1307 HUNTINGDON RD 124M W OF GRANDE DRIVE OS NO 307	542061 261132
1855310	02-Aug-10	Slight	C197 / U0	HIGH ST JUNCTION WATER LANE OAKINGTON	541268 264471
1982910	13-Aug-10	Slight	B1050 / B1050	B1050 BAR HILL ROUNDABOUT	538273 263847
1957710	14-Aug-10	Slight	B1050 /	B1050 LONGSTANTON	539863 267506
1996410	18-Aug-10	Slight	A14 /	A14 700M WEST OF B1050 LOLWORTH	537461-264578
2040010	23-Aug-10	Slight	A14 /	A14 EBC BAR HILL LANE 1 CAMBRIDGE	538424-263922
2057410	26-Aug-10	Slight	A14 /	A14 CONINGTON AT MARKER POST 88 1 JUST PRIOR TO JCT 28 EBC	535507-265883
2087210	29-Aug-10	Serious	C198 / U0	C198 OAKINGTON RD BY JNCT TO CYCLEWAY NEAR MANOR FARM RD	542297 262774
2153310	06-Sep-10	Serious	A14 /	A14 CAMBRIDGE WB NEW CAMBRIDGE SERVICE BOXWORTH	535842-265636
2230410	15-Sep-10	Slight	A14 /	A14 EASTBOUND NEAR JCT 29 CAMBRIDGE	538194-264079
2240110	16-Sep-10	Slight	C197 /	OAKINGTON RD 1000M SOUTH OF COTTENHAM VILLAGE COTTENHAM	543801 266552
2256510	18-Sep-10	Slight	A14 /	A14 HUNTINGDON RD CONINGTON NEAR LAYBY	536460-265228
2256810	18-Sep-10	Slight	A14 /	A14 WBC NR LOLWORTH JCT	537188-264743
2309710	25-Sep-10	Slight	A14 /	A14 WBC JUNCTION GIRTON FLY OVER CAMBRIDGE	542529-261420
2362610	02-Oct-10	Serious	A14 /	A14 150M WEST OF JUNCTION 28 BUCKING WAY RD CAMBRIDGE	535551-265862
2372910	04-Oct-10	Slight	A14 /	A14 WESTBOUND CWAY 750M E OF M11 CAMBRIDGE	542486-261411
2466710	15-Oct-10	Slight	B1050 /	B1050 HATTONS RD 950M NE OF EASTBOUND ON SLIP CAMBRIDGE	538667 264868
2514410	22-Oct-10	Slight	A14 /	A14 WESTBOUND 100M WEST OF OAKINGTON RD DRY DRAYTON	539456-263148
2524010	23-Oct-10	Serious	C186 /	RAMPTON RD WILLINGHAM ON RIGHT HAND BEND	541533 268566
2552410	27-Oct-10	Serious	A14 / A14	A14 EBC JUNCTION 29 BAR HILL	538255-264043
2567810	28-Oct-10	Serious	A14 /	A14 EASTBOUND CWAY 250M EAST OF JNCT 28 SWAVESEY	535869-265633
2573710	29-Oct-10	Slight	A14 /	A14 WB 300M E OF OAKINGTON RD	539938-262771
2616010	02-Nov-10	Serious	A14 /	A14 SWAVESEY WBC 500M NW OF JCT 28	535381-265957
2680510	10-Nov-10	Slight	C197 / C198	OAKINGTON CROSSROADS DIRECTIONS OF TRAVEL UNCLEAR	541045 264246
2719410	15-Nov-10	Slight	A14 /	A14 WESTBOUND APPROX HALF MILE PRIOR TO DRY DRAYTON	540224-262543
2718110	15-Nov-10	Slight	U0 / U0	LONGSTANTON 20M SOUTH OF MEAD VIEW OAKINGTON	540975 264349
2793710	25-Nov-10	Slight	C198 /	GIRTON RD GIRTON OS THE COOP	542547 261503

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<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
2943610	17-Dec-10	Slight	A14 /	A14 HUNTINGDON ROAD 300M WEST OAKINGTON ROAD	539394-263185
2973010	21-Dec-10	Slight	C198 / UO	C198 CAMBRIDGE RD 10M FROM WHITEGATE CLOSE GIRTON	542467 261955
0169911	09-Jan-11	Slight	A1307 /	A1307 HUNTINGDON RD GIRTON 200M SE OF A14	541791 261345
0482211	20-Jan-11	Slight	A14 / A14	A14 GIRTON INTERCHANGE AT SLIP ROAD FROM A14 NORTH	542004-261334
0025911	31-Jan-11	Slight	A1307 / C198	HUNTINGDON ROAD JUNCTION GIRTON RD CAMBRIDGE	542627 260693
0214711	01-Feb-11	Slight	A14 /	A14 SWAVESEY 250 YARDS PRIOR TO JUNCTION 28	535477-265904
0225611	03-Feb-11	Slight	B1050 /	HATTONS RD 500M N OF A14 BAR HILL	538474 264487
0255211	07-Feb-11	Serious	B1050 /	B1050 STATION RD WILLINGHAM OS NO 160	540002 269104
0299511	09-Feb-11	Slight	UO /	ROBINS LANE 50M SOUTH OF A14 HUNTINGDON RD LOLWORTH	537085 264750
0267611	09-Feb-11	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 91 WILLINGHAM	540028 269454
0334111	18-Feb-11	Serious	A14 /	A14 HUNTINGDON ROAD 600M SE OF HATTONS ROAD	538797-263651
0386211	25-Feb-11	Slight	A1307 /	A1307 HUNTINGDON RD JUNCTION GIRTON COLLEGE CAMBRIDGE	542368 260873
0410111	01-Mar-11	Slight	B1050 / C186	OS 74 HIGH ST WILLINGHAM	540190 270046
0424311	09-Mar-11	Slight	C186 /	BUCKLING WAY RD 100M A14 SWAVESEY	535693 265842
0425111	09-Mar-11	Slight	C198 /	CAMBRIDGE RD OS FORGE END OAKINGTON	541082 264204
0428911	11-Mar-11	Slight	A14 /	A14 HUNTINGDON RD 993M EAST OF JUNCTION 29 A14 BAR HILL	539179-263355
0442211	18-Mar-11	Slight	A14 /	A14 WESTBOUND 300M EAST OF M11 ON SLIP GIRTON	542058-261330
0448411	22-Mar-11	Slight	A14 /	A14 350M WEST OF CAMBRIDGE RD GIRTON	541815-261368
0454211	25-Mar-11	Serious	A14 /	A14 HUNTINGDON RD 50M EAST OF JUNCTION 28A LOLWORTH	537171-264755
0461211	29-Mar-11	Slight	A1307 /	A1307 HUNTINGDON RD 50M NORTH OF GIRTON RD CAMBRIDGE	542611 260681
0477511	04-Apr-11	Serious	C197 /	DRY DRAYTON RD 2000M WEST OF OAKINGTON	539607 262910
0492811	04-Apr-11	Slight	A14 /	A14 JUNCTION 31 CAMBRIDGE	542068-261333
0525311	22-Apr-11	Slight	A14 /	A14 DRY DRAYTON WBC OS THE CREMETORIUM	539970-262744
0529611	23-Apr-11	Serious	C197 /	OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	544186 266830
0542311	28-Apr-11	Slight	A14 /	A14 EBC BETWEEN JUNCTIONS 30 AND 31 GIRTON	539979-262755
0558011	03-May-11	Serious	A14 /	A14 92.1 CAMBRIDGE BESIDE LAYBY	539004-262504
0563511	05-May-11	Slight	A14 /	A14 JUNCTION CAMBRIDGE CREMATORIUM	540082-262657
0595811	10-May-11	Slight	C186 / UO	BOXWORTH END SWAVESEY JUNCTION SURGERY CAR PARK	536299 267517
0611311	24-May-11	Slight	B1050 /	B1050 STATION RD LONGSTANTON OPP 4TH HOLE OF GOLF COURSE	539870 267503
0629111	30-May-11	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 74 WILLINGHAM	540041 269543
0640811	03-Jun-11	Slight	A14 /	A14 CAMBRIDGE RD JUNCTION 31 GIRTON WESTBOUND	542147-261352
0679111	16-Jun-11	Serious	B1050 / B1050	B1050 HATTONS RD B1050 BYPASS LONGSTANTON	539102 265884
0682611	16-Jun-11	Slight	A14 /	A14 BARHILL 3 LANE SECTION NO OTHER INFORMATION	538611-263789
0684111	18-Jun-11	Slight	UO / UO	LONGSTANTON RD JUNCTION LOWBURY RD OAKINGTON	540906 264588
0701911	24-Jun-11	Slight	A1307 / C198	A1307 HUNTINGDON RD GIRTON ROAD AT BUS STOP	542679 260652
0705911	26-Jun-11	Slight	UO /	RAMPER RD SWAVESEY	536772 267723
0721711	02-Jul-11	Slight	UO / UO	CHURCH LANE OUTSIDE NO 62 GIRTON	542181 261988
0728711	06-Jul-11	Slight	A14 /	A14 WBC SWAVESEY JUNCTION 28	535868-265620
0746611	15-Jul-11	Slight	A1307 /	A1307 HUNTINGDON RD OPP GIRTON COLLEGE DIR OF TRAVEL UK	542303 260928
0750811	17-Jul-11	Slight	B1050 /	B1050 300M NORTH OF HIGH ST LONGSTANTON	539906 267552
0764411	26-Jul-11	Slight	C197 /	C197 OAKINGTON RD COTTENHAM EXACT LOCATION UNKNOWN	542388 265477
0768911	29-Jul-11	Slight	A14 /	A14 WESTBOUND CWAY 600M WEST OF JNCT 29 BAR HILL	537676-264410
0770711	30-Jul-11	Slight	A14 / A14	A14 SWAVESEY EBC AT JCT 28	535712-265744
0781311	03-Aug-11	Slight	C193 /	C193 OAKINGTON RD 80M SW OF A14	539526 262989
0782311	04-Aug-11	Slight	A14 /	A14 100M PRIOR TO JNCT 29 EBC EXIT SLIP BAR HILL	538150-264110
0785411	06-Aug-11	Slight	A14 /	A14 WBC 500M E OF CAMBRIDGE SERVICES ON SLIP	536355-265294
0789011	09-Aug-11	Slight	A14 /	A14 EBC BOXWORTH JUNCTION	535618-265809
0794811	12-Aug-11	Slight	C197 / C198	WATER LANE JW CAMBRIDGE RD OAKINGTON	541031 264238
0796811	13-Aug-11	Slight	A14 /	A14 WBC SWAVESEY NEAR CAMBRIDGE SERVICES	535682-265743
0836411	08-Sep-11	Slight	C186 / C184	BUCKINGWAY RD JUNCTION SWAVESEY RD BOXWORTH	535710 265899
0845311	14-Sep-11	Slight	A14 /	A14 EBC 200M WEST OF JNCT WITH BAR HILL SLIP	538068-264164
0849111	17-Sep-11	Slight	A14 /	A14 510 METRES SE OF B1050 HATTONS RD BAR HILL	538601-263777
0868711	28-Sep-11	Slight	A14 /	A14 EBC 400M PRIOR TO JNCT 30 LONGSTANTON AT LAYBY	537495-264556
0871611	29-Sep-11	Slight	A14 /	A14 WBC GIRTON 150M EAST OF JW M11 A428	542173-261353
0877411	03-Oct-11	Serious	C186 / UO	RAMPTON RD WILLINGHAM AT NEWINGTON	540839 269889
0954711	08-Nov-11	Slight	C198 / C204	OAKINGTON RD JUNCTION PARK LANE OAKINGTON	542059 263447
0940811	09-Nov-11	Slight	C197 /	OAKINGTON RD A14 OAKINGTON FLYOVER	539693 263016

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Longstanton PIA data 2008 - provisionally November 2013

<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
0944611	11-Nov-11	Slight	C193 / C197	OAKINGTON RD AT JNCT DRY DRAYTON RD	539476 262952
0960511	21-Nov-11	Serious	A14 /	A14 EBC 100M PRIOR TO JNCT 30 OFF SLIP DRY DRAYTON	539474-263148
0964611	23-Nov-11	Slight	C193 / C197	OAKINGTON RD JUNCTION OAKINGTON JNCT DRY DRAYTON	539481 262946
1002811	14-Dec-11	Slight	B1050 / B1050	HATTONS RD LONGSTANTON	539131 265906
1005211	16-Dec-11	Slight	A14 /	A14 50M NORTH OF JUNCTION 29 BAR HILL	538421-263905
1006011	16-Dec-11	Slight	A14 /	A14 LOLWORTH JUST PAST HILL FARM COTTAGES	536958-264913
1006311	17-Dec-11	Slight	A14 /	A14 EASTBOUND CWAY BAR HILL	539034-263473
1014011	20-Dec-11	Slight	A14 /	A14 WBC 300 YARDS SE OF A14 WBC JNCT OFF SLIP BOXWORTH	536167-265420
1023811	28-Dec-11	Slight	A14 /	A14 EASTBOUND BEFORE JUNCTION 29 BAR HILL CAMBRIDGE	538028-264188
1024211	28-Dec-11	Slight	A14 / A14	A14 JUNCTION 28 SWAVESEY	535783-265664
0011312	10-Jan-12	Slight	C186 /	RAMPTON RD 800M NORTH OF LAMBS LANE COTTENHAM	543854 267770
0035812	25-Jan-12	Slight	A14 /	A14 500M EAST OF SWAVESEY SERVICES 89 6	536362-265289
0042812	28-Jan-12	Slight	A1307 / C198	A1307 HUNTINGDON RD JUNCTION GIRTON RD GIRTON	542655 260678
0078312	17-Feb-12	Slight	A14 /	A14 HUNTINGDON RD DRY DRAYTON EXACT LOCATION NOT KNOWN	539762-262931
0109312	08-Mar-12	Slight	A14 /	A14 DRY DRAYTON 300M NW OF DRY DRAYTON JUNCTION	539338-263251
0126712	19-Mar-12	Serious	A14 / A14	A14 HUNTINGDON RD JUNCTION 28 SWAVESEY	535678-265777
0155012	05-Apr-12	Slight	A14 /	A14 WESTBOUND 400M EAST OF M11 GIRTON INTERCHANGE CAMBRIDGE	542127-261344
0167912	16-Apr-12	Serious	A14 /	A14 WBC PRIOR TO BAR HILL JUNCTION GIRTON	538806-263624
0183012	24-Apr-12	Fatal	A14 / M11	A14 JUNCTION 31 WESTBOUND CWAY JUNCTION M11 GIRTON	540702-262166
0204612	08-May-12	Slight	C197 /	OAKINGTON RD DRY DRAYTON	539557 262891
0206312	08-May-12	Slight	B1050 /	B1050 LONGSTANTON 50M NORTH OF HATTONS ROAD	539127 265945
0209612	10-May-12	Slight	A14 /	A14 WBC 100M EAST OF JCT 31 MARKER POST NO 97/9	542165-261351
0211712	12-May-12	Slight	C186 /	RAMPTON RD WILLINGHAM PLOTTED FROM DIAGRAM	541526 268609
0218212	16-May-12	Slight	C186 / UO	C186 BERRYCROFT JW BALLAND FIELD WILLINGHAM	540344 269981
0238712	28-May-12	Fatal	A14 / A14	A14 JUNCTION 28 WITH BUCKING WAY RD SWAVESEY	535653-265784
0241812	30-May-12	Slight	A14 /	A14 WBC GIRTON 100M EAST OF THE M11 OFF SLIP	542119-261343
0241012	30-May-12	Slight	UO / UO	B1050 STATION RD ENTRANCE TO LONGSTANTON GOLF	539648 267417
0262612	01-Jun-12	Slight	A14 /	A14 EASTBOUND CWAY BARHILL	539022-263486
0252112	06-Jun-12	Slight	C186 /	C186 RAMPTON RD 300M WEST OF COTTENHAM VILLAGE	543844 267768
0261612	12-Jun-12	Slight	A14 /	A14 EASTBOUND NEAR JCT M11 BAR HILL	540609-262264
0278212	23-Jun-12	Slight	B1050 /	B1050 STATION RD LONGSTANTON 100M FROM TRAFFIC LIGHTS	539860 268199
0288812	29-Jun-12	Slight	A14 / A14	A14 10M EAST OF DRY DRAYTON	539563-263083
0323012	08-Jul-12	Slight	A1307 / C198	A1307 HUNTINGDON RD JUNCTION GIRTON RD CAMBRIDGE	542645 260677
0329412	20-Jul-12	Slight	A14 /	A14 GIRTON LOCATION AND DIRECTION OF TRAVEL UNKNOWN	542094-261337
0341412	28-Jul-12	Slight	A14 /	A14 EASTBOUND CWAY NEAR JUNCTION 29 BAR HILL	538407-263931
0375512	18-Aug-12	Slight	B1050 /	B1050 HATTONS RD 750M SOUTH OF HATTONS RD RDABT CAMBRIDGE	538801 265218
0401312	20-Aug-12	Slight	A14 / UO	A14 WESTBOUND LOLWORTH BP GARAGE CAMBRIDGE	537893-264262
0384312	25-Aug-12	Slight	A14 /	A14 1400M E OF JNCT 29 WBC A14 BAR HILL	539448-263154
0387012	27-Aug-12	Slight	A1307 / C198	HUNTINGDON RD JUNCTION GIRTON RD CAMBRIDGE	542636 260670
0404112	06-Sep-12	Slight	C193 / C197	OAKINGTON RD JUNCTION DRY DRAYTON RD DRY DRAYTON	539479 262936
0421012	14-Sep-12	Slight	A14 / A14	A14 SWAVESEY JCT 28 EB	535659-265780
0438112	21-Sep-12	Fatal	A14 / UO	A14 WESTBOUND CWAY JUNCTION ROBINS LANE LOLWORTH	537105-264774
0441612	26-Sep-12	Slight	A14 /	A14 EBC SWAVESEY NO GRID REF GIVEN EXACT LOC UNKNOWN	535403-265957
0442412	27-Sep-12	Slight	A14 / A14	A14 EBC JNCT 30 DRY DRAYTON	539553-263098
0474712	15-Oct-12	Slight	C197 / C197	A14 DRY DRAYTON RD JUNCTION A14 OFF SLIP CAMBRIDGE	539716 263154
0476812	16-Oct-12	Serious	A14 /	A14 NBC LOLWORTH 150M NW ROBINS LANE	536986-264872
0483812	18-Oct-12	Slight	C197 /	C197 WATER LANE DRY DRAYTON	541087 264279
0508612	02-Nov-12	Slight	A14 /	A14 WESTBOUND DRY DRAYTON 200M NORTH JUNCTION 30	539387-263188
0512112	02-Nov-12	Slight	A14 /	A14 DRY DRAYTON WESTBOUND 300M SOUTH JNCT 30	539856-262834
0525512	10-Nov-12	Slight	A1307 /	HUNTINGDON RD 100M SE OF GIRTON RD CAMBRIDGE	542730 260603
0526512	13-Nov-12	Serious	B1040 / UO	SLIP RD FROM A14 WESTBOUND CWAY JNCT VIKING WAY BAR HILL	538260 263839
0531912	17-Nov-12	Slight	A14 /	A14 CAMBRIDGE RD OS LAMP POST GT294 100M SE OF THE AVENUE	540962-261874
0556912	30-Nov-12	Slight	A14 /	A14 EASTBOUND CWAY 87 7 CAMBRIDGE	535758-265711
0570912	08-Dec-12	Slight	A14 /	A14 BETWEEN CAMBRIDGE SERVICES AND FEN DRYTON SWAVESEY	535323-265999
0571512	08-Dec-12	Slight	A14 /	A14 WBC 300M WEST OF CAMBRIDGE SERVICES	535544-265842
0585712	17-Dec-12	Slight	A14 /	A14 CAMBRIDGE RD 250M EAST OF B1050 HATTONS RD BAR HILL	538490-263873
0599512	26-Dec-12	Slight	B1050 /	B1050 STATION RD OUTSIDE NO 194 WILLINGHAM	539973 268872

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Longstanton PIA data 2008 - provisionally November 2013

<i>Ref.</i>	<i>Date</i>	<i>Severity</i>	<i>Road</i>	<i>Location</i>	<i>Grid Reference</i>
0050413	05-Feb-13	Slight	C198 / U0	C198 OAKINGTON RD JUNCTION THE BARN GYM CAR PARK	542199 263232
0065713	15-Feb-13	Slight	A14 /	A14 LOLWORTH 100M WEST OF JUNCTION 29 BAR HILL	538233-264028
0066113	15-Feb-13	Serious	C192 /	C192 SCHOOL LANE RD OS 2 STOKES CLOSE NO FORM RECEIVED	539786 266320
0064613	15-Feb-13	Slight	C198 / C204	C198 NEW RD JUNCTION C204 OAKINGTON RD GRTON	542055 263453
0084013	02-Mar-13	Slight	A14 /	A14 HUNTINGDON 100M SE OF B1050 HATTONS RD CAMBRIDGE	538368-263955
0124213	01-Apr-13	Slight	C197 /	C197 OAKINGTON RD WESTWICK 1400M EAST OF THE BUSWAY	542917 265938
0300613	02-May-13	Slight	A14 /	A14 JUNCTION 32 TO 31 200M EAST OF JUNCTION 31 GIRTON	542157-261356
0316013	23-May-13	Slight	A14 /	A14 1000M EAST OF BUCKINGHAM WAY LOLWORTH	536573-265150
0317313	26-May-13	Serious	A14 /	A14 EBC ON SLIP CAMBRIDGE	541948-261336
0323113	14-Jun-13	Slight	A14 / U0	A14 EBC HUNTINGDON RD JUNCTION BUCKING WAY RD SWAVESEY	535671-265771
3008513	25-Jun-13	Slight	A14 /	A14 200M EAST OF SWAVESEY OFF SLIP SWAVESEY	536113-265458
3009313	28-Jun-13	Serious	C186 /	C186 RAMPTON RD SHARP BEND BET COTTENHAM AND RAMPTON	543838 267771
3020613	05-Jul-13	Slight	A14 /	A14 MP 93.9 GIRTON	540472-262369
3017213	10-Jul-13	Slight	C197 / U0	C197 DRY DRAYTON OUTSIDE OAKINGTON TOMATO FARM	540830 263999
3015213	18-Jul-13	Slight	C186 / U0	C186 THE TRINITY FOOT PATH HUNTINGDON RD SWAVESEY	535679 265832
3019213	25-Jul-13	Slight	A14 / A14	A14 LOLWORTH SERVICE WBC LOLWORTH	535941-265569
3023713	27-Jul-13	Slight	A1307 /	A1307 HUNTINGDON RD 900M SOUTH OF A14	541910 261256
3030513	02-Aug-13	Slight	A14 /	A14 EASTBOUND HUNTINGDON RD 150M BUCKING WAY RD BOXWORTH	535552-265850
3039713	13-Aug-13	Serious	B1050 /	B1050 HATTONS RD 1450M NORTH OF A14 HUNTINGDON RD CAMBRIDGE	538863 265354
3041113	16-Aug-13	Serious	A14 / U0	A14 WESTBOUND CWAY JUNCTION LOLWORTH SERVICES BAR HILL	537916-264255
3036613	17-Aug-13	Slight	A14 /	A14 400M EAST OF M11 JUNCTION 31 CAMBRIDGE	542183-261356
3042313	22-Aug-13	Slight	C186 /	C186 RAMPTON ROAD WILLINGHAM AT SHARP BEND	540778 269477
3067613	28-Sep-13	Slight	C193 / C197	C193 OAKINGTON RD DRY DRAYTON	539470 262937
3068013	29-Sep-13	Slight	C197 / C197	C197 DRY DRAYTON RD JUNCTION 100M NW OF A14	539690 263156
3075313	04-Oct-13	Slight	C198 / C204	OAKINGTON RD JUNCTION NEW RD GIRTON	542048 263450
3084013	15-Oct-13	Slight	A14 /	A14 100M EAST OF GIRTON JUNCTION	542140-261346
3082213	24-Oct-13	Serious	A14 / A14	A14 WESTBOUND JUNCTION 30 OAKINGTON RD DRY DRAYTON	539548-263074
3108013	05-Nov-13	Slight	A14 /	A14 MP 90.5 LOLWORTH	537316-264654
3106513	08-Nov-13	Slight	U0 /	RAMPER RD 1000M W OF OVER RD SWAVESEY	537796 267324
3093013	23-Nov-13	Slight	A14 /	A14 BAR HILL EXACT LOCATION UNKNOWN	538434-263913
3118713	25-Nov-13	Serious	B1050 /	B1050 50M WEST OF SCHOOL LANE LONGSTANTON	539200 265938
3133413	25-Nov-13	Slight	A14 /	A14 EBC 1180M WEST OF M11 NR BUS STOP LAYBY	539739-262954
3119413	27-Nov-13	Slight	C186 / U0	BERRY CROFT JUNCTION LONG LANE WILLINGHAM	540539 270018
3119713	27-Nov-13	Slight	U0 /	RAMPER ROAD LONGSTANTON	537710 267361
3120513	28-Nov-13	Serious	M11 /	M11 400M SOUTH OF JUNCTION 14 M11 A14 GIRTON	541011-261884
3120413	28-Nov-13	Slight	C193 / C197	OAKINGTON ROAD JUNCTION DRY DRAYTON ROAD DRY DRAYTON	539486 262950

End of Report Total Number of Accidents 316



NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 6
Memorandum on Town Centre Parking

August 2014

MEMORANDUM

Date 24 June 2014
Reference UA006156
From Janice Hughes
To Mike Salter - CCC, Tam Parry - CCC, Lois Bowser - SCDC
Copies Paul Kitson – HCA
Damon Smith – HCA
Philip Harker - Hyder
David Chapman - Hyder
Nicola White – Arup
Subject Northstowe Phase 2 Town Centre Parking

Overview

This memo discusses the parking strategy for the town centre (i.e. non-residential) uses. Analysis is provided to demonstrate a likely range of provision required depending on the mode share of journeys by car. The SCDC parking standards are discussed and the suggested provision is set out. The provision is also compared to other town centres in the County.

Introduction

Northstowe Phase 2 comprises a mix of uses including a substantial town centre with retailing, leisure, community, health and employment uses. It is recognised that estimating the numbers of parking spaces required is complex given the interaction between land uses within a town centre. This note sets out the assumptions used in order to seek agreement of CCC and SCDC of the overall parking space provision.

Methodology for Assessing Parking Demand

The CSRSM land use model provides an estimate of total trips across a 12 hour period by mode and by three main journey purposes (employment/ business, education and other). To provide a comparison check on the CSRSM trip generations for Northstowe Phase 2, Hyder has used TRICS outputs of total person trips for each land use, the journey purpose for residents from the National Travel Survey and Hyder assumptions regarding internal/ external trips. The full analysis of this aspect is set out in a separate Memo (to be provided) on Trip Generations.

Trips have been estimated for each individual land use and combined into the following main categories:

- Residents – for all resident trip purposes (education, employment/ business, shopping etc.)
- Education – primary and secondary
- Retail and Leisure – convenience, comparison and mixed leisure uses
- Employment - B1 and B2
- Community and Health – community centre, health centre, place of worship and youth centre

It is recognised that there is a degree of double counting between non-residential land use trips and those calculated separately as made by residents. There will also be a degree of linkage of trips, meaning that the total number of journeys will be less. Assumptions have therefore been made to account for double counting and linked trips.

The key assumptions used by Hyder are set out below:

- Resident trips are split by different purposes in line with the National Travel Survey (July 2013)¹;
- Of resident trips, the following proportions of trips internal and external to the development have been estimated:

Table 1: Resident Internal and External Trip Proportions by Journey Purpose

Journey Purpose	Internal Trips in NS (%)	External Trips to NS (%)
commuting	10	90
business	10	90
education	75	25
shopping	40	60
other services	40	60
Visiting friends and relatives	10	90

- It is assumed that 85% of primary school trips and 75% of secondary school trips will come from within the development and these are double counted with resident trips;
- 10% of employment trips will be from residents of the development and are double counted with resident trips;
- 25% of trips to retail and leisure facilities are assumed to be from site residents and 50% of trips are linked (i.e. a shopper going to two shops or a leisure use and shop). This is in line with typical linked trips in consented developments (such as Bicester Town Centre redevelopment);
- 50% of trips to community and health facilities are assumed to be from site residents and 25% are linked to other site destinations (i.e. a user of a community facility also visiting a shop);

The use of this methodology gives a total trip generation from the development of 72,133 trips across a 12 hour period for the same development quantum tested using the CSRМ. This compares to the CSRМ results of 70,852 trips, representing a variation of just 1.81% from the CSRМ results. Thus, via two methods, a similar total trip generation has been arrived at. Using the proposed development quantum as of June 2014 (which is lower than tested in CSRМ) gives a total of 68,716 trips.

The vehicle traffic generations have then been estimated using the mode share from the CSRМ land use modelling (approximately 69% car use of which it is assumed that 4% are car passengers in line with the 2011 Census Journeys to Work and 65% are car drivers). For comparison, the vehicle traffic generations have also been estimated using a Target Mode Share for Northstowe Phase 2, whereby car use is 60%, comprising 54% car driver and 6% car passenger.

The vehicle generations by each land use using the CSRМ mode share are set out in Table 2, and those for the target mode share are included in Table 3.

¹ [National Travel Survey](#)

Table 2: Car Trips – Total Internal and External – CSR Mode Share

Car Trips - Total Internal and External										
Land Use	Mode Share	AM peak (08:00 to 09:00)			PM Peak (17:00 to 18:00)			12 Hour (07:00 to 19:00)		
		IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Residential	65.19%	841	2317	3159	1704	1132	2837	10608	13009	23617
Education	65.19%	304	37	341	8	18	26	532	525	1057
Employment	65.19%	403	35	438	34	319	353	1851	1790	3641
Retail and Leisure	65.19%	252	149	401	771	869	1640	8144	7806	15949
Community and health	65.19%	16	8	23	26	14	40	292	239	532
Total		1816	2546	4362	2543	2353	4896	21427	23369	44796

Table 3: Car Trips – Total Internal and External – Target Mode Share

Land Use	Mode Share	AM peak (08:00 to 09:00)			PM Peak (17:00 to 18:00)			12 Hour (07:00 to 19:00)		
		IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Residential	53.90%	695	1916	2612	1409	936	2345	8771	10756	19527
Education	53.90%	252	31	282	6	15	21	440	434	874
Employment	53.90%	333	29	362	28	264	292	1530	1480	3010
Retail and Leisure	53.90%	208	123	331	637	719	1356	6733	6454	13187
Community and health	53.90%	13	6	19	22	12	33	242	198	440
Total		1501	2105	3607	2103	1946	4048	17716	19322	37038

A profile of in and out bound trips across the 12 hours has been derived for each land use. This uses TRICS profiles by hour applied to the Hyder traffic generations, enabling an estimate of parking accumulation to be calculated across the 12 hour period. Parking demand has then been estimated for the main groups of land uses.

Parking Demand

The parking accumulation for the education, retail and leisure and employment uses is discussed below. This is based on trips in and out of the development in each time period using the higher car based mode share from CSR Mode Share and then compared to the demand based on target mode share. It should be noted that there are no vehicles on site in the calculations at the start and end of the day, thus an allowance needs to be made for this in addition to demand within the 12 hours.

Education

In summary, the peak demand for education (the two primary schools and secondary school together) is estimated as 151 vehicles in the 0900 to 1000 hour. This demand will include long stay staff parking and short duration drop off/pick up parking. Note that there is an anomaly in the data with a negative accumulation within one hourly period.

For comparison, using the target mode share to estimate vehicle trips gives a maximum parking demand of 125 spaces for education uses.

Table 4: Education Parking Demand

EDUCATION	Average of Primary and Secondary						Parking Accumulation
	Proportion of 12 hour			Trips			
	Arrivals	Departures	Total	Arrivals	Departures	Total	
Time Range							
07:00-08:00	0.043	0.014	0.029	23	7	31	15
08:00-09:00	0.426	0.301	0.364	226	158	385	76
09:00-10:00	0.048	0.063	0.056	26	33	59	151
10:00-11:00	0.017	0.021	0.019	9	11	20	31
11:00-12:00	0.041	0.028	0.035	22	15	37	18
12:00-13:00	0.024	0.044	0.034	13	23	36	5
13:00-14:00	0.039	0.038	0.039	21	20	41	24
14:00-15:00	0.077	0.032	0.055	41	17	58	44
15:00-16:00	0.182	0.277	0.229	97	146	242	-32
16:00-17:00	0.050	0.107	0.078	27	56	82	116
17:00-18:00	0.034	0.059	0.046	18	31	49	43
18:00-19:00	0.017	0.016	0.016	9	8	17	32

Retail and Leisure

With respect to retail and leisure uses, the peak demand for parking is estimated as 1400 to 1500 hours, with demand by 1,081 vehicles in total for these land uses.

For comparison, using the target mode share to estimate vehicle trips gives a maximum parking demand of 894 spaces.

Table 5: Retail and Leisure Parking Demand

RETAIL AND LEISURE	Average of Convenience, comparison and cinema uses						Parking Accumulation
	Proportion of 12 hour			Trips			
	Arrivals	Departures	Total	Arrivals	Departures	Total	
07:00-08:00	0.008	0.005	0.007	68	38	106	30
08:00-09:00	0.023	0.014	0.018	185	106	290	118
09:00-10:00	0.042	0.030	0.036	343	232	574	217
10:00-11:00	0.070	0.055	0.063	571	432	1002	371
11:00-12:00	0.088	0.078	0.083	716	606	1323	542
12:00-13:00	0.107	0.104	0.106	875	811	1690	670
13:00-14:00	0.125	0.122	0.123	1014	950	1966	875
14:00-15:00	0.123	0.111	0.117	1000	868	1874	1081
15:00-16:00	0.107	0.121	0.114	875	943	1813	800
16:00-17:00	0.112	0.137	0.124	914	1066	1976	791
17:00-18:00	0.112	0.126	0.119	913	980	1895	1000
18:00-19:00	0.082	0.099	0.090	669	772	1441	877

Employment

With respect to employment uses (B1 and B2), the peak demand for parking is estimated as 919 spaces during the 1130 to 1200 period.

For comparison, using the target mode share to estimate vehicle trips gives a maximum parking demand of 760 spaces for employment uses. It should be noted that TRICS provides half hourly outputs for this use only (within this assessment) and as such the accumulation has been based on half hourly arrivals and departures as this provides a more robust estimate of the likely accumulation.

Table 6: Employment Parking Demand

EMPLOYMENT	Average of B1 and B2 uses						Parking Accumulation
	Proportion of 12 hour			Trips			
	Arrivals	Departures	Total	Arrivals	Departures	Total	
07:00-07:30	0.029	0.005	0.017	54	9	63	45
07:30-08:00	0.078	0.009	0.044	144	16	161	174
08:00-08:30	0.192	0.023	0.109	355	41	397	487
08:30-09:00	0.145	0.022	0.085	268	39	308	716
09:00-09:30	0.093	0.026	0.060	172	47	219	841
09:30-10:00	0.043	0.025	0.034	79	45	124	875
10:00-10:30	0.024	0.021	0.022	44	37	81	882
10:30-11:00	0.037	0.023	0.030	68	40	109	910
11:00-11:30	0.025	0.024	0.025	47	43	90	913
11:30-12:00	0.029	0.027	0.028	54	48	102	919
12:00-12:30	0.026	0.037	0.031	48	65	113	902
12:30-13:00	0.027	0.039	0.033	51	69	120	883
13:00-13:30	0.033	0.041	0.037	61	73	134	871
13:30-14:00	0.045	0.036	0.040	83	64	146	890
14:00-14:30	0.036	0.032	0.034	67	58	125	900
14:30-15:00	0.021	0.032	0.026	38	58	96	881
15:00-15:30	0.013	0.032	0.023	24	58	82	847
15:30-16:00	0.022	0.033	0.027	41	59	99	830
16:00-16:30	0.019	0.063	0.040	35	113	147	752
16:30-17:00	0.020	0.093	0.055	37	166	202	623
17:00-17:30	0.021	0.113	0.066	39	203	240	459
17:30-18:00	0.010	0.150	0.079	18	268	286	210
18:00-18:30	0.008	0.059	0.033	15	106	122	119
18:30-19:00	0.004	0.037	0.020	8	66	74	61

Community and Health Uses

A separate parking demand analysis has not been undertaken for the community and health uses. It is assumed that the parking made available for the retail and leisure uses would in general be shared with community and health (although at the detailed planning stage the provision of limited parking such as operational parking for doctors and blue badge holder provision, would need to be incorporated).

Parking Standards

The South Cambridgeshire District Council parking standards² set out maximum levels of provision by land use. The maximum provision based on the standards is set out below.

Land Use	Floorspace/ Unit	SCDC Maximum Standard
Primary Schools	1.5 spaces per classroom (assume 30 pupils per classroom)	42
Secondary School	1.5 spaces per classroom (assume 30 pupils per classroom)	63
B1 office	16,200 m ²	648
B2 industrial	5,000 m ²	100
Convenience Retail	10,000 m ²	714
Comparison Retail	25,000 m ²	1250
Leisure	10,000 m ²	1250

Note: No allowance included for the community and health uses but standards allow for some provision based on clinic rooms, floorspace of place of worship etc.

Parking Provision

The provision of parking for the town centre uses takes account of the following principles:

- Provision could not be more than the maximum SCDC standard;
- There needs to be an allowance over and above maximum accumulation to enable the town centre to function at busier times. Guidelines for town centre parking recommend that demand should represent no more than 85% of supply³;
- Parking for education uses and employment would be provided as part of the school and employment developments, and managed by those occupants;
- Parking for town centre uses would be provided in public car parks and thus shared across the different uses. It is possible that they would be managed by foodstores and made available for other uses, as happens in many retail centres.
- The town centre uses will be introduced over the build out of the development to 2031. There is a need for an evolving and flexible approach to parking space provision, beginning with surface car parks with the opportunity to deck them to increase provision in the medium and longer term. This also enables parking demand to be monitored so that less provision overall is made in the later sub-phases of the town centre if it is not required.
- It is assumed that the overall provision will include at least 5% of spaces designated for disabled users in line with parking standards. Provision of parent and child spaces and motorcycle parking would also be required.

² <https://www.scambs.gov.uk/sites/www.scambs.gov.uk/files/documents/FINAL%20-%20Development%20Control%20Policies%20DPD%20for%20Adopt.pdf>

³ CIHT Parking Strategies and Management 2005

Table 7: Parking Provision

Land Use	Suggested Provision	Commentary
Education	105 spaces plus drop off/ pick up zones	The demand for education parking is estimated as in the range of 125 to 151 spaces, including drop off and pick up. Provision of 105 spaces would need to be in line with the standards. School travel plan measures will be necessary to achieve the target mode share and minimise the demand for parking over and above the provision.
Retail and Leisure Uses (including community and health)	1050-1270 spaces	The demand for retail and leisure uses is estimated as in the range of 894 to 1081. Standards allow for substantially more parking as they are established to address parking needs for individual developments rather than town centres. The demand has been factored so that demand is no more than 85% of supply.
Employment Uses	748 spaces	Standards allow for a maximum of 748 spaces. Demand is estimated as in the range of 760 to 919 spaces depending on mode share. Provision of the standards means that travel plan measures for workplaces will be required to achieve the target mode share or below.

Comparison to Other Retail Centres

To provide a 'sense check' to the parking provision, Hyder has sought data on floorspace and parking provision for comparable towns in Cambridgeshire. This has proved problematic as such data is not readily available. However, the City of Ely is a good example of a market town with a population of 18,000 and 8,045 households, whilst recognising that it has a substantial tourist/ visitor draw. WSP consultants (who undertake the CSRM land use modelling aspects) have stated there is 47,000 m² of retail floorspace in Ely city centre (plus range of services, jobs etc.).

Information from the Ely Vision document⁴ indicates that there are 1200 public car parking spaces close to the city centre for short stay shopping and town centre uses, although this does not include foodstore provision. Northstowe town centre retail uses total 35,000 m² which is approximately 75% of the Ely total. This suggests that Northstowe might require 900 spaces plus foodstore provision (albeit that it is shared with other town centre uses) if subject to similar use patterns. The provision of 1270 spaces would therefore appear to be realistic in this context.

⁴ . http://www.eastcambs.gov.uk/sites/default/files/agendas/061112%20Ely%20Vision_0.pdf



NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 7
CSRM Benchmarking Modifications and Results, Atkins
2014

August 2014

Technical Note 1

Project:	5129472 - Northstowe Phase 2	To:	Janice Hughes (Hyder)
Subject:	Benchmarking Modifications and Results	From:	Nicola Price (Atkins)
Version:	2.0 18 Mar 2014	cc:	James Lindsay (Atkins) Tam Parry (CCC) Ian Burrows (AECOM)

1. Introduction

1.1. Background to the Model

The Cambridge Sub-Regional Model (CSRM) is a multi-modal land use and transport interaction model that was developed and validated with a base year of 2006 and forecast years at five-year intervals to 2031. The first forecast year was therefore 2011.

The A14 Cambridge to Huntingdon study, originally commissioned by the Department for Transport (DfT), made use of the CSRM for its initial forecasting of the Do Minimum case. These outputs from CSRM were then taken forward for further testing of A14 options without re-running the full model.

In 2013, the Highways Agency (HA) undertook to review the 2011 CSRM forecast and perform a Present Year Validation (PYV). This included a large data collection programme of traffic counts and roadside interview surveys in June 2013.

The PYV has been taken forward subsequently by J2A (the HA consultants for the A14 Development Consent Order stage of the project), with small scale strategic matrix factoring applied to several sectors of movements, varying by time of day and vehicle class. The updated Highways Agency model is now referred to as the Cambridge Huntingdon A14 Road Model (CHARM).

1.2. This Note

This technical note sets out the performance of the CHARM assignments provided by J2A, both against the Northstowe-specific traffic counts provided by Cambridgeshire County Council (CCC) and against the more general set of data being used to monitor the model for A14 purposes.

The local Northstowe related changes made by Atkins to improve the model's local performance are then discussed, and finally the new results are presented.

The purpose of this note is to demonstrate that if these proposed changes are made to the model, then the results can be brought in line with the local requirements for ongoing Northstowe work. Sign-off is required from the HA and their consultants, CCC and Hyder before the model is taken forward for further analysis.

2. Benchmarking Criteria

The main criterion for the Northstowe model was that it should achieve an 80% pass rate against the Northstowe traffic counts in the AM and PM peak periods, in line with other similar "benchmarking" studies carried out for CCC (for example, the Darwin Green and Marshall's Wing developments). It was also considered desirable that the overall flow based network statistics being monitored for the wider A14 project should not deteriorate in comparison with those already provided by J2A.

It is noted that the Northstowe traffic counts consist of a set of ten permanent ATC sites. For more detailed analysis of the highway model performance, further data would be useful in the immediate locality of Northstowe: specifically, turning counts at the roundabouts at both end of the B1050 Longstanton bypass (junctions with Hattons Road and Station Road), and at the Longstanton P&R signalised access junction.

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The modelled flows are monitored against the criteria set out in WebTAG unit M3.1 and described below. A “pass” result for an individual count is defined as having a GEH (Geoffrey E Havers) value of less than 5 or meeting the Flow criteria, or both.

The GEH Statistic is generally used in the comparison of modelled flows against those observed for traffic models and is an indicator of ‘goodness of fit’. It is a form of chi-squared statistic. It is described in WebTAG unit M3.1 (paragraph 3.2.7) and is defined as:

$$GEH = \sqrt{\frac{(M - C)^2}{\frac{1}{2}(M + C)}}$$

Where:
M = modelled flow; and
C = observed flow (or count).

The Flow criteria, also set out in WebTAG unit M3.1 (Table 2), are defined as follows:

- Individual flows within 100 vehicles per hour (vph) for flows < 700 vph; or
- Individual flows within 15% for flows between 700 and 2700 vph; or
- Individual flows within 400 vph for flows > 2,700 vph.

For a new base year model validation, WebTAG requires that the above GEH and Flow criteria are met in at least 85% of cases. However, in the case of local benchmarking validation of a forecast model, it has been generally accepted to set a target of 80%. In practice, the work described in this technical note exceeds 85% as well, so the lower target is immaterial.

3. Initial Results

The initial results of CHARM against the benchmarking criteria for the Northstowe counts are set out in Table 1 below.

Table 1. Initial Benchmarking Results – Northstowe Count Data

Time Period	Light Vehicle Pass Rate	Total Vehicle Pass Rate
AM Peak	Not provided	55%
PM peak	Not provided	40%

from "Count_Validation_2.2_Issue_AECOM_Adj_Run006_with_NS_&_AllCounts.xlsx" provided by AECOM on 18/02/2014.

4. Model Validation Modifications

A number of potential modifications to the model have been identified, to improve the overall pass rates against the benchmarking criteria. These are detailed below, for review by the HA and their consultants, CCC and Hyder. If all parties are in agreement and sign off these changes, then they will be incorporated in the forecasting work.

4.1. Data Refinement

As indicated in the tables above, the Northstowe data was previously only monitored at a “total vehicles” level, with no separate monitoring of light or heavy vehicles. For the purpose of this benchmarking, CCC has provided the fully classified Northstowe count data for the months of June, July, August and September 2013. A Tuesday-Thursday average of the June data was used for this study to maintain consistency with the other data that was collected for the Highways Agency A14 study in June 2013. (This June Northstowe data has also been compared to the September equivalent for each site and shows no untoward trends to suggest the June data suffers any unexpected bias.)

Technical Note 1

Following the same methodology as the A14-related June 2013 counts, these localised Northstowe counts have been factored to 2011 levels using observed trend data.

The locations of the Northstowe count comparison points in the model as specified by AECOM were reviewed (and corrections made where required), based on local knowledge of the actual positions of the permanent counters.

The original and revised traffic data, including SATURN link locations, are presented in Table 2 below.

Table 2. Revisions to the Benchmarking Data

	J2A spreadsheet			Atkins Northstowe spreadsheet				
		AM	PM		AM		PM	
	SATURN Link ID	Total veh	Total veh	SATURN Link ID	Ligh t veh	Tota l veh	Ligh t veh	Tota l veh
Site 1 - B1050 Hatton's Road (NB)	9748-5203	253	979	5198-9748	258	282	974	994
Site 1 - B1050 Hatton's Road (SB)	5203-9748	1029	380	9748-5198	946	975	358	369
Site 2 - Dry Drayton Road (NB)	6798-5213	371	443	6798-5213	390	402	482	486
Site 2 - Dry Drayton Road (SB)	5213-6798	590	348	5213-6798	576	588	367	371
Site 3 - Ramper Road (EB)	5082-5089	232	159	5082-5089	229	238	168	170
Site 3 - Ramper Road (WB)	5089-5082	206	278	5089-5082	198	203	284	287
Site 4 - B1050 Station Road (NB)	5088-30009	157	700	30009-6796	190	208	712	725
Site 4 - B1050 Station Road (SB)	30009-5088	788	255	6796-30009	646	672	259	267
Site 5 - Cambridge Road (NB)	5220-5212	222	379	5220-5212	230	233	386	389
Site 5 - Cambridge Road (SB)	5212-5220	514	210	5212-5220	561	566	229	231
Site 6 - Rampton Road (EB)	5077-5076	473	127	5077-5076	440	445	127	128
Site 6 - Rampton Road (WB)	5076-5077	102	443	5076-5077	113	117	463	466
Site 7 - B1050 Earith Road (SB)	1179-5010	858	254	7048-5000	693	719	250	256
Site 7 - B1050 Earith Road (NB)	5010-1179	194	804	5000-7048	196	215	814	826
Site 8 - A1096 Harrison Way (NB)	7050-30007	1035	1082	7050-30007	1012	1118	1058	1114
Site 8 - A1096 Harrison Way (SB)	30007-7050	1078	1037	30007-7050	974	1091	1043	1082
Site 9 - Willingham Road (EB)	8909-5010	138	187	8909-5010	138	143	189	190
Site 9 - Willingham Road (WB)	5010-8909	173	154	5010-8909	175	180	162	164
Site 10 - Longstanton Road (SB)	5215-5210	209	56	5218-5215	211	215	53	54
Site 10 - Longstanton Road (NB)	5210-5215	35	149	5215-5218	38	39	142	143

Notes on Atkins data: Tuesday-Thursday average of June 2013 data provided by CCC. All flows are in vehicles. 2013 values have been factored to 2011 in line with other 2013 count sites, using the "non-Cambridge A14" growth factors. For consistency with the model, AM peak is 08:00-09:00 and PM peak is 17:00-18:00.

Technical Note 1

Details of the changes that have been made are as follows:

- Site 1 has been moved onto a link that is not bridged by a zone centroid connector;
- Site 4 has been corrected to be located to the north of the P&R site entrance, as located in practice;
- Site 7 has been moved to the north of Willingham village to match the actual position of the count site;
- Site 10 has been moved onto the new link that has been added to the model, since Longstanton Road was not previously included.

The values of the counts (total vehicles) match reasonably well, although it has not been documented exactly what data was used by J2A (in terms of dates of collection, factoring to 2013 or peak times used).

4.2. Network

CHARM does not include Longstanton Road (also known as the airfield road), since its use is restricted by a Traffic Regulation Order (TRO) to buses, taxis, emergency vehicles and mopeds. However, there are no physical barriers to its use, and the traffic count evidence shows that it is used by a significant amount of traffic. For this reason, it was requested that the road should be included in the model for Northstowe assessment purposes.

The traffic count data on Longstanton Road shows that the flows are asymmetric: over the course of the day, more traffic travels southbound than northbound. This probably reflects the relative unreliability of the A14 mainline south-eastbound towards Girton Interchange in comparison with the opposite direction towards Bar Hill. Whilst the lowest ranking speed flow curve was applied, a deterrence factor (coded as a time penalty of 150 seconds) has been added to the northbound link to reflect this behaviour and allow the model to better replicate the asymmetric traffic flows. There is no guidance available within WebTAG on modelling traffic flows on roads that are restricted by TRO, so this approach has been adopted to give the best representation of the observed data. . In applying a directional calibration penalty a close match to observed flow can be achieved. Agreement needs to be sought as to whether a balanced penalty may actually be a more defensible position, recognising however that the accuracy of the match to observed flows will weaken.

Further minor alterations have been made to the network infrastructure, as described in Table 3 below, along with justification for these changes. The locations of the changes are also shown in Figure 1. It should be noted that the 2006 base model did not have much observed data in the Northstowe area: had it been available then these coding decisions might have been made during the original calibration/validation of the model. The purpose of this exercise is to ensure that the model's performance in the vicinity of the Northstowe development is as robust as possible, to provide a suitable basis for the forecasting work.

Table 3. Proposed Network Modifications

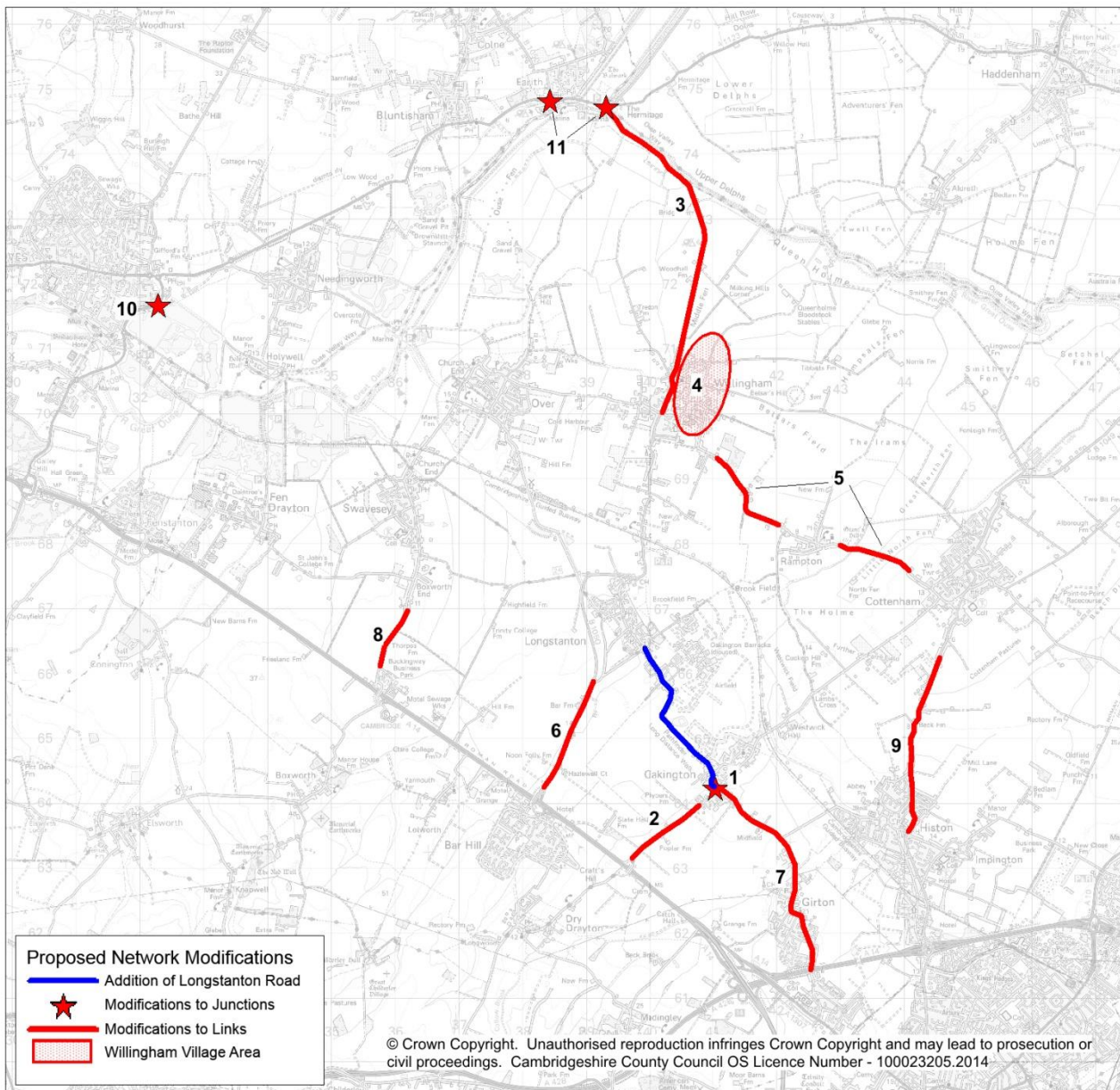
ID	Description	Justification
1	The crossroads in Oakington, which previously were not fully represented as the fourth arm (Longstanton Road) was not in the model, have been coded as traffic signals. The signal timings include an estimate for pedestrian movements and have been optimised by SATURN (along with all the other signalised junctions in the model).	With the fourth arm of the crossroads now included, it is important to capture the nature and operation of the signalised junction. The optimisation of signal timings within SATURN is a standard feature of CSRМ forecast models, to improve the convergence of the demand and transport models.
2	Dry Drayton Road between Oakington and the A14 (both directions) has been changed from Speed Flow Curve (SFC) type 8 ("typical" rural road with national speed limit) to type 9 ("poor" rural road with national speed limit).	According to the count data, Dry Drayton Road was carrying too much traffic in the model. A review of the SFC suggested that type 9 may give a better representation.
3	The B1050 between Willingham and Earith (both directions) has been changed from SFC type 8 to type 9.	The B1050 between Willingham and Earith has suffered from a lot of subsidence in recent years, resulting in a reduced speed limit on some stretches. A review of the SFC suggested that type 9 may be more appropriate.

Technical Note 1

ID	Description	Justification
4	The zone connector for Willingham village has been moved further south on the B1050 so that it is nearer to the centre of the village (but still north of the crossroads), and a second connector to the same zone has been added on Berrycroft (the eastern arm of the crossroads). Both zone connectors have been coded at the same distance from the crossroads.	The previous location of the zone connector for Willingham was such that all traffic entered the network at the northern edge of the village. This biased some traffic towards using the B1050 north and A1123 rather than the B1050 south and A14, as well as producing an unrealistic loading at the B1050 signalised crossroads and reducing the propensity for traffic from the village to use Rampton Road. In reality, the centre of Willingham village is east of the B1050 and much of the traffic uses Berrycroft or Rampton Road.
5	Rampton Road, between Willingham and Rampton (both directions) and between Rampton and Cottenham (both directions), has been changed from SFC type 16 (urban non-central road) to type 9. (NB This road had been specifically coded as type 16 in CHARM for the A14 – it was previously type 9.)	It is unclear why J2A had modified this link to have an urban speed flow curve when it is actually in a rural setting. SFC type 9 is consistent with other similar roads in the area.
6	The B1050, between Longstanton and Bar Hill (both directions), has had SFC type 8 added. (It previously had no speed flow curve.)	The majority of rural links of length greater than 200 metres are coded with a speed flow curve: it was anomalous that this link had none. Given the critical role of this road in provision for Northstowe, it is important for the model to capture any potential breakdown in speeds that might occur due to increased flows, which is the purpose of a speed flow curve.
7	The speed flow curves between Oakington and Girton have been modified, now using type 22 (rural village – 40 mph) and 24 (rural village – 30 mph) as appropriate.	The speed limit between Oakington and Girton was reduced from 60 mph to 40 mph in approximately 2007. This has been reflected in the updated SFC types.
8	Boxworth End between Swavesey village and the A14 (both directions) has been changed from SFC type 9 to 8.	The count data on nearby roads suggested that Boxworth End may have been carrying too little traffic in the model. A review of the SFC suggested that type 8 may give a better representation.
9	The B1049 between Cottenham and Histon has been changed from SFC type 24 to type 8 for the northern length and type 22 for the southern part nearest to Histon.	SFC type 24 represents a village setting with a 30 mph speed limit and a relatively low capacity. The B1049 between Cottenham and Histon carries the national speed limit of 60 mph and is a typical standard of B road. A review of the SFC suggested that type 8 may give a better representation for this stretch of road. In the northern part of Histon, the B1049 carries a 40 mph speed limit which would be better represented by SFC type 22.
10	The saturation flows at the St Ives Business Park roundabout (A1096) have been reduced to represent the fact that the third arm of the roundabout is not modelled.	Since only two arms of the roundabout are modelled, the traffic included within the model effectively only uses one of the approach lanes. Therefore, the modelling of the flared approach has been removed.
11	The saturation flows at the B1050/A1123 junctions in Earith (both the mini roundabout and the priority junction) have been increased to release some of the queuing traffic at these junctions.	Traffic in the peak directions along the B1050 (southbound in the morning and northbound in the evening) was lower in the model than the observed data, but not in the off-peak directions. This suggested that a capacity constraint elsewhere in the model was preventing traffic from using the B1050. Although no count data is available at this location, it was identified that the modelled congestion at Earith was higher than local knowledge and anecdotal evidence suggests. Having tested this proposed change, the validation of counts elsewhere in the model improved, providing further evidence in its favour.

Technical Note 1

Figure 1. Map of Proposed Network Changes



4.3. Demand

Analysis of the traffic flows on the B1050 and Dry Drayton Road suggested that some of the benchmarking issues were due to the model's highway demand matrices. The following changes were made to correct these issues:

- Trips to and from Cottenham village were factored by 0.8 as there appeared to be too many trips to/from this zone and analysis of the 2011 census (comparing Cottenham with Longstanton) supported this theory. This was applied to both peak time periods. WSP have been asked to check the scale of the synthetic matrices and comparisons to the 2006 base to ensure the anomaly is not a single year forecast issue.
- Close inspection of the movements between two particular external zones (representing March/Wisbech and Harwich) revealed a disproportionately high number of car trips southbound in the PM peak. This has been reduced from 64 to 7 trips for this individual movement (which compares with 3 trips southbound in the AM peak, 1 northbound in the AM peak and 6 northbound in the PM peak).

Technical Note 1

5. Final Results

5.1. Northstowe Count Data

The final benchmarking results for the updated model are presented in Table 4 below. These compare favourably with the initial results presented in section 3 above, exceeding the desired 80% pass rate by achieving 90% in the AM peak and 85%-90% in the PM peak.

Table 4. Final Benchmarking Results – Northstowe Count Data

Time Period	Light Vehicle Pass Rate	Total Vehicle Pass Rate
AM Peak	90%	90%
PM Peak	90%	85%

Table 5 shows the final validation results for the full set of Northstowe count data. Particular attention has been paid to ensure that the full length of the B1050 passes the validation in the ‘peak directions’ – i.e. southbound in the AM peak and northbound in the PM peak. Table 6 provides full details on the observed and modelled flows in the AM peak, as well as the calculated GEH values, and Table 7 shows the equivalent for the PM peak.

Table 5. Northstowe Count Validation

Count Location	Light Vehicle Pass Rate		Total Vehicle Pass Rate	
	AM Peak	PM Peak	AM Peak	PM Peak
Site 1 - B1050 Hatton's Road (NB)	✓	✓	✓	✓
Site 1 - B1050 Hatton's Road (SB)	✓	✓	✓	✗
Site 2 - Dry Drayton Road (NB)	✓	✓	✓	✓
Site 2 - Dry Drayton Road (SB)	✓	✗	✓	✗
Site 3 - Ramper Road (EB)	✓	✓	✓	✓
Site 3 - Ramper Road (WB)	✓	✓	✓	✓
Site 4 - B1050 Station Road (NB)	✓	✓	✓	✓
Site 4 - B1050 Station Road (SB)	✓	✓	✓	✓
Site 5 - Cambridge Road (NB)	✓	✓	✓	✓
Site 5 - Cambridge Road (SB)	✗	✓	✗	✓
Site 6 - Rampton Road (EB)	✓	✓	✓	✓
Site 6 - Rampton Road (WB)	✓	✓	✓	✓
Site 7 - B1050 Earith Road (SB)	✓	✗	✓	✗
Site 7 - B1050 Earith Road (NB)	✗	✓	✗	✓
Site 8 - A1096 Harrison Way (NB)	✓	✓	✓	✓
Site 8 - A1096 Harrison Way (SB)	✓	✓	✓	✓
Site 9 - Willingham Road (EB)	✓	✓	✓	✓
Site 9 - Willingham Road (WB)	✓	✓	✓	✓
Site 10 - Longstanton Road (SB)	✓	✓	✓	✓
Site 10 - Longstanton Road (NB)	✓	✓	✓	✓

Technical Note 1

Table 6. Northstowe Validation Details – AM Peak

Count Location	Observed Flows		Modelled Flows		GEH Value	
	Light Veh	Total Veh	Light Veh	Total Veh	Light Veh	Total Veh
Site 1 - B1050 Hatton's Road (NB)	258	282	265	285	0.4	0.2
Site 1 - B1050 Hatton's Road (SB)	946	975	874	900	2.4	2.4
Site 2 - Dry Drayton Road (NB)	390	402	364	382	1.4	1.0
Site 2 - Dry Drayton Road (SB)	576	588	662	686	3.5	3.9
Site 3 - Ramper Road (EB)	229	238	306	311	4.7	4.4
Site 3 - Ramper Road (WB)	198	203	132	136	5.1	5.2
Site 4 - B1050 Station Road (NB)	190	208	240	259	3.4	3.3
Site 4 - B1050 Station Road (SB)	646	672	564	595	3.3	3.0
Site 5 - Cambridge Road (NB)	230	233	306	315	4.6	4.9
Site 5 - Cambridge Road (SB)	561	566	364	371	9.2	9.0
Site 6 - Rampton Road (EB)	440	445	348	350	4.6	4.8
Site 6 - Rampton Road (WB)	113	117	114	123	0.1	0.5
Site 7 - B1050 Earith Road (SB)	693	719	594	624	3.9	3.7
Site 7 - B1050 Earith Road (NB)	196	215	380	399	10.9	10.5
Site 8 - A1096 Harrison Way (NB)	1012	1118	1096	1178	2.6	1.8
Site 8 - A1096 Harrison Way (SB)	974	1091	1001	1065	0.8	0.8
Site 9 - Willingham Road (EB)	138	143	83	86	5.2	5.3
Site 9 - Willingham Road (WB)	175	180	146	148	2.3	2.5
Site 10 - Longstanton Road (SB)	211	215	169	172	3.1	3.0
Site 10 - Longstanton Road (NB)	38	39	43	46	0.8	1.1

Table 7. Northstowe Validation Details – PM Peak

Count Location	Observed Flows		Modelled Flows		GEH Value	
	Light Veh	Total Veh	Light Veh	Total Veh	Light Veh	Total Veh
Site 1 - B1050 Hatton's Road (NB)	974	994	877	892	3.2	3.3
Site 1 - B1050 Hatton's Road (SB)	358	369	451	472	4.6	5.0
Site 2 - Dry Drayton Road (NB)	482	486	582	595	4.4	4.7
Site 2 - Dry Drayton Road (SB)	367	371	558	574	8.9	9.3
Site 3 - Ramper Road (EB)	168	170	191	194	1.7	1.8
Site 3 - Ramper Road (WB)	284	287	233	235	3.2	3.2
Site 4 - B1050 Station Road (NB)	712	725	612	631	3.9	3.6
Site 4 - B1050 Station Road (SB)	259	267	337	356	4.5	5.1
Site 5 - Cambridge Road (NB)	386	389	445	454	2.9	3.2
Site 5 - Cambridge Road (SB)	229	231	292	296	3.9	4.0
Site 6 - Rampton Road (EB)	127	128	97	98	2.9	2.8
Site 6 - Rampton Road (WB)	463	466	381	388	4.0	3.8
Site 7 - B1050 Earith Road (SB)	250	256	426	444	9.6	10.1
Site 7 - B1050 Earith Road (NB)	814	826	784	803	1.0	0.8
Site 8 - A1096 Harrison Way (NB)	1058	1114	1163	1198	3.1	2.5

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Count Location	Observed Flows		Modelled Flows		GEH Value	
	Light Veh	Total Veh	Light Veh	Total Veh	Light Veh	Total Veh
Site 8 - A1096 Harrison Way (SB)	1043	1082	1114	1180	2.2	2.9
Site 9 - Willingham Road (EB)	189	190	173	174	1.2	1.2
Site 9 - Willingham Road (WB)	162	164	149	151	1.0	1.0
Site 10 - Longstanton Road (SB)	53	54	92	95	4.6	4.8
Site 10 - Longstanton Road (NB)	142	143	115	117	2.4	2.3

5.2. Other Data

In addition to the Northstowe count data presented above, the performance of the model against other count data has been monitored for the HA A14 study. The tables presented below are comparable to those included in the PowerPoint presentation given by J2A on 17th January 2014.

Table 8. Comparison of Model Validation – A14 Mainline Flows

Time Period	Direction	Model Run	Flow Criteria	GEH<5.0	WebTAG Criteria Achieved?
AM Peak	EB	CHARM	87%	80%	Yes
		Northstowe	87%	80%	Yes
		<i>Difference</i>	-	-	
	WB	CHARM	82%	82%	No
		Northstowe	82%	76%	No
		<i>Difference</i>	-	-6%	
Inter Peak	EB	CHARM	93%	86%	Yes
		Northstowe	93%	93%	Yes
		<i>Difference</i>	-	7%	
	WB	CHARM	100%	94%	Yes
		Northstowe	100%	94%	Yes
		<i>Difference</i>	-	-	
PM Peak	EB	CHARM	93%	87%	Yes
		Northstowe	93%	93%	Yes
		<i>Difference</i>	-	7%	
	WB	CHARM	76%	65% ¹	No
		Northstowe	76%	65%	No
		<i>Difference</i>	-	-	

¹ J2A reported their values in the PowerPoint presentation as 71% and 59% but the spreadsheet they later supplied suggests 76% and 65% so those values have been used for comparison here.

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Table 9. Comparison of Model Validation – Cambridge City Cordon

Time Period	Direction	Model Run	Flow % Difference (vs. Observed)	WebTAG Criteria Achieved?
AM Peak	in	CHARM	2%	Yes
		Northstowe	1%	Yes
		<i>Difference</i>	<i>Improved 1%</i>	
	out	CHARM	13%	No
		Northstowe	12%	No
		<i>Difference</i>	<i>Improved 1%</i>	
Inter Peak	in	CHARM	4%	Yes
		Northstowe	3%	Yes
		<i>Difference</i>	<i>Improved 1%</i>	
	out	CHARM	3%	Yes
		Northstowe	1%	Yes
		<i>Difference</i>	<i>Improved 2%</i>	
PM Peak	in	CHARM	9%	No
		Northstowe	8%	No
		<i>Difference</i>	<i>Improved 1%</i>	
	out	CHARM	-4%	Yes
		Northstowe	-5%	Yes
		<i>Difference</i>	<i>Worsened 1%</i>	

Table 10. Comparison of Model Validation – Other Calibration / Validation Count Data

Time Period	Model Run	Flow Criteria	GEH<5.0	WebTAG Criteria Achieved?
AM Peak	CHARM	62%	56%	No
	Northstowe	62%	56%	No
	<i>Difference</i>	-	-	
Inter Peak	CHARM	72%	65%	No
	Northstowe	73%	65%	No
	<i>Difference</i>	1%	-	
PM Peak	CHARM	61%	58%	No
	Northstowe	61%	58%	No
	<i>Difference</i>	-	-	

Technical Note 1

Table 11. A14 Journey Times (Ellington to Fen Ditton)

Time Period	Dir	Journey Time (minutes)			Difference from Observed		Percentage Difference		WebTAG Criteria Achieved?
		Observed	J2A Modelled	N'stowe Modelled	J2A Modelled	N'stowe Modelled	J2A Modelled	N'stowe Modelled	
AM	EB	37.50	28.62	28.47	-8.88	-9.03	-24%	-24%	No
	WB	28.08	28.68	28.72	0.60	0.63	2%	2%	Yes
IP	EB	25.42	26.23	26.22	0.82	0.80	3%	3%	Yes
	WB	27.08	27.43	27.33	0.35	0.25	1%	1%	Yes
PM	EB	25.25	29.22	29.13	3.97	3.88	16%	15%	No
	WB	29.10	32.13	31.78	3.03	2.68	10%	9%	Yes

The tables above show that the modifications made to the model to improve the validation against the Northstowe count data have not had any overall negative impact on the validation of the count sets and journey time routes being monitored by J2A for the HA A14 study.



NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 8
CSRM Northstowe Modelling Summary Report, WSP 2014

August 2014

Technical Note: CSRM Northstowe Modelling Summary Report

To: Janice Hughes, Hyder
Tam Parry, CCC

From: Gui Gui, Tim Gent, WSP

Date: 15 July 2014

cc: Elsa Evans, CCC
James Lindsay, Atkins
Nicola Price, Atkins

Project Code: 70002457

Ref: 70003457-TN01

Version Control

Version	Date	By	Reviewed by	Authorised (TN only)	Notes
1.0	09/07/14	GG			Initial Draft note, based on previous draft for A14 project.
1.1	14/07/14		TJG		Review on comment on re-draft for Northstowe
1.2	15/07/14	GG	TJG		Reviewed in response to TJG comments.
2.0	15/07/14	GG		TJG	Approved for issue to CCC and Hyder
2.1	17/07/14	GG		TJG	In response to Janice Hughes comments

1 Introduction

1.1 Purpose of note

- 1.1.1 This technical note outlines the work undertaken by WSP Group to investigate the Northstowe development site. Three tests have been undertaken and reported in the technical note: Northstowe phase 1 (DM), Northstowe phase 2 with Hatton's Road link only (DS1) and Northstowe phase 2 with links to Hatton's Road and Dry Drayton Road (DS2). All of these scenarios include updates to Land Use to fit with NTEM 6.2 growth from 2011 and review of Local Plan housing and transport delivery. These Transport Strategy measures and proposed development have been tested in the Cambridge Sub Regional Model (CSRM) from 2016 through to 2031 at 5 years intervals.
- 1.1.2 This note summarises the land use and transport assumptions used in the Cambridge Sub Regional Model, the analysis of model results.

1.2 Background – Northstowe and A14 runs

- 1.2.1 The work described in this note was contracted by Cambridgeshire County Council on behalf of the Homes and Communities Agency (HCA) who are the ultimate clients and funders of the modelling work. Technical specifications and oversight of the work was carried out by Hyder, who supplied all of the requirements for the run and reviewed assumptions and initial outputs.
- 1.2.2 The runs described in this report are strongly related to the A14 DF2 tests undertaken on behalf of the Highways Agency. Those runs were specified by AECOM though the input assumptions have been discussed and reviewed with Hyder on behalf of HCA.
- 1.2.3 Two key sets of inputs have been taken from the A14 work:
- The SATURN network coding is based on the Design Freeze 2 (DF2) A14 scheme, provided by AECOM to Atkins, who re-coded this within the Northstowe networks provided for these runs (refer to Atkins for further details of coding).
 - The Land Use assumptions were prepared initially as part of the A14 work, which required the

total employment and housing growth to match NTEM 6.2.

1.2.4 It should be noted that following the test described here, a further Design Freeze 3 A14 test was undertaken, with revisions to the A14 scheme. This test was requested by the Highways Agency specifically for the A14 scheme design, and does not form part of the Northstowe testing work.

1.3 CSRM Run Details

1.3.1 The study includes two scenario tests listed in Table 1.1 below:

Table 1.1 –Scenario Tests Outline

Scenario	Year	Transport Schemes	Saturn Network	Northstowe Development	Local Plan	Land Use Run Reference	TDM Run Reference
Northstowe Phase 1 (DM)	2021, 2026, 2031	DM scheme	v160_0_0	Northstowe Phase 1 developments	Updated Local Plan 2014	2021-2031 M286a	2021-2031T560a
Northstowe phase 2 (DS1)	2021, 2026, 2031	with Hatton's Road link only	v161_0_0	Northstowe Phase 1 and 2 developments	Updated Local Plan 2014	2021-2031 M287a	2021-2031T561a
Northstowe phase 2 (DS2)	2021, 2026, 2031	with links to Hatton's Road and Dry Drayton Road	v162_0_0	Northstowe Phase 1 and 2 developments	Updated Local Plan 2014	2021-2031 M288a	2021-2031T562a

1.3.2 The SATURN networks were provided by Atkins on 1 April 2014. All runs start from 2021 and use the 2016 A14 run T556b transport costs as input.

1.3.3 The local plan inputs for Huntingtongshire, South Cambridgeshire and Cambridge City were reviewed and updated in the model as part of this work, to develop land use assumptions which are used in all scenarios. Using information from the Districts, the spatial distribution of dwellings and employment has been input to the model. However, this work required that the growth in households and employment be matched against NTEM 6.2. Therefore a scale factor has been applied on the CSRM input data in order to ensure the household and employment growth in CSRM matches the growth in NTEM 6.2. It is important to note that this scaling has not been used in Local Plan and Transport Strategy tests, which solely used County and District estimates of household and employment growth without reference to NTEM.

1.3.4 The Northstowe phase 1 and phase 2 developments were discussed with Hyder on 21 February 2014, further details and refinements to the Phase 1 and 2 assumptions for Northstowe were made and finalised in March 2014. These changes involved some minor adjustments to floorspace and dwellings for Northstowe phase 1. These changes were not included in the original A14 DF2 tests but included in Northstowe tests reported here. The changes are listed below:

- The 1500 dwellings in Northstowe phase 1 development were proposed to be assigned to the model evenly through year 2015 to 2023 rather than assigned to the model in 2016- 2021 period as a whole. The change is minor and will not significantly affect the results. After discussion with Hyder, it was agreed that the 1500 dwellings in Northstowe Phase 1 development will be assigned to the model in 2016-2021 period as a whole in order to keep consistency between A14 DF2 runs and Northstowe tests.
- A 630 pupils Primary school was proposed in March 2014 while no primary was modelled in the previous tests as it was treated as part of internal land uses. The school inputs are discussed in

section 2.2 in more detail.

- The Northstowe phase 1 land use figures were updated to the current figures supplied by HCA in March 2014. These updates were included in the input for Northstowe as detailed in section 2.1.

1.4 Structure of Note

1.4.1 This note contains the following sections:

- **Section 2: Summary of Land Use Assumptions.** An overview of the dwelling and employment assumptions used for these model tests and the source of the assumptions.
- **Section 3: Run Results.** An overview of the main run results, showing the land use and transport demand responses to the A14 upgrade.
- **Appendix 1: Residential Development Sites.** A list of the residential development sites in each district included in the model.
- **Appendix 2: Employment Development Sites.** A list of the employment development sites in each district included in the model.

2 Land Use Assumptions

2.1 Northstowe Development Assumptions

- 2.1.1 The DM scenario includes Northstowe Phase 1 development and associated transport improvements. The DS scenarios include both Northstowe phase 1 and phase 2 developments, together with related transport improvements.
- 2.1.2 The Northstowe development land use assumptions are based on the following documents received from Hyder in February 2014:
- NS Land Use quantum of development- 140207 - NS land use schedule quantum development - rev 03 with Hyder amendments.xlsx (17 Feb 2014),
 - Evolved master plan Busway- Northstowe Development Details 16 February 14.docx (17 Feb 2014),
 - Arup Drawing No 001 Land Use - Northstowe Development Details 16 February 14.docx (17 Feb 2014).
 - Northstowe Phase 1 Land Use.docx - Northstowe Phase 1 Development – Land Use (14 March 2014)
- 2.1.3 The planning application outline and the location of the Northstowe Phase 2 development are specified in the documents provided. This assumption was sent to Hyder and CCC in February 2014 for agreement. Some subsequent refinements to the assumptions were made later in March 2014.
- 2.1.4 CSRM includes two separate zoning systems: the Land Use Zones into which dwellings and employment are initially allocated, and the smaller Transport Zones for which the trip-making and connectivity is considered. To achieve this, proportions of the population and jobs in each Land Use zone are allocated to each constituent Transport Zone. Therefore as a short-hand, this note will occasionally refer directly to the Transport Zones which are used to specify the locations of development.
- 2.1.5 The Northstowe Phase 1 and 2 developments will be split between Land Use Zones 19 and 20 as shown in Figure 2.1 below.

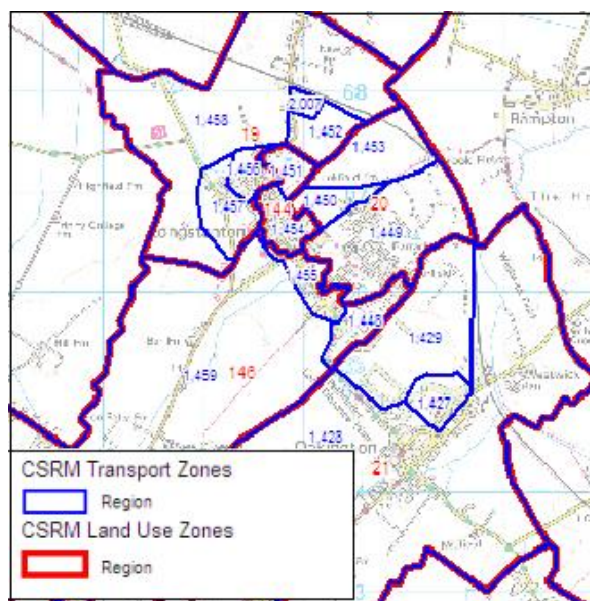


Figure 2.1 – Land Use Zones in Northstowe Models

- 2.1.6 Previous CSRM tests have included assumptions for Northstowe specified historically by the District

and County Council or by the Phase 1 developer as part of their own transport assessment. In order to avoid double-counting and assess the impact of the proposed developments, these growth figures for both floorspace and dwellings for the Northstowe development zones have been removed from models after year 2016, so that only the most recent site-specific growth is included. The assumptions made regarding Northstowe phase 1 development are listed as below:

- All of the Northstowe Phase 1 developments will be allocated in Transport Zone 1452.
- All of the Northstowe Phase 1 developments will be assigned in the model between year 2016 and 2021.

2.1.7 The inputs for Northstowe phase 1 development are listed in the two tables following.

Table 2.1 – Northstowe Phase 1 Assumption and Inputs

CSRM Factor	CSRM Transport zone	CSRM Factor Explanation	2021	2026	2031	Total
701	1452	Manufacturing	3657	0	0	3657
702	1452	Warehouse	4033	0	0	4033
703	1452	Retail	1950	0	0	1950
704	1452	Office	4559	0	0	4559
705	1452	Other: leisure&health	0	0	0	0
750	1452	Dwelling	1500	0	0	1500

2.1.8 The details of Northstowe phase 2 application outline provided is listed in Table 2.2. Note that the detailed distinction of development types are not used in the model. The model inputs are defined by the CSRM factor and do not distinguish the detailed types of development in each factor (i.e. the model inputs do not distinguish Apartments and Houses but treat them both as Dwellings).

Table 2.2 – Northstowe Phase 2 Application Outline

CSRM Factor	Factor Explanation	Developments	Quantity	Measurement
750	Dwelling	Houses	2,986	Houses
		Apartments	546	Apartments
703	Retail	Convenience Retail*	11,000	Sqms
		Comparison/ Service Retail*	27,500	Sqms
701	Industrial	Light Industrial*	5,500	Sqms
705	Other: leisure & health	Food and Drink*	3,850	Sqms
		Light Industrial*		
		Leisure*	11,000	Sqms
		Health, Community and Fitness Centre*	6,600	Sqms
		Youth Facility*	2,200	Sqms
704	Office	Place of Worship*	1,100	Sqms
		Office*	17,820	Sqms

2.1.9 Assumptions made regarding the Northstowe Phase 2 development are listed as below:

- All of the Northstowe Phase 2 developments will be allocated in Transport Zone 1449.
- All of the Northstowe Phase 2 developments will be assigned in the model from year 2021 to 2031.

2.1.10 The model allocates employment to the Phase 2 development based on the floorspace made available and also the requirements of the local population for services (for example, teaching staff at schools).

2.1.11 Table 2.3 lists the requested school places. The Phase 1 development was initially allocated 630 primary school places. However, it was agreed after discussion with Hyder on 4 April 2014 that the number of primary school pupils should be reduced to 350 to provide a more acceptable ratio of places/pupils living locally. The remaining 280 primary school pupils was moved from Northstowe Phase 1 to Northstowe phase 2 development in order to keep the number of pupils per household consistent between DM and DS1.

Table 2.3– Northstowe Phase 1 and 2 Education Application

		Factor	Zone	2016	2021	2026	2031
Phase 1	Primary School	621	19	0	350	0	0
	Secondary School	622	19	0	0	0	0
	Sixth form	623	19	0	0	0	0
Phase 2	Primary School	621	20	0	0	700	420
	Secondary School	622	20	0	0	0	1050
	Sixth form	623	20	0	0	0	200

2.1.12 The resulting inputs for floor space and dwelling data for phase 2 are summarised in Table 2.5

Table 2.4 – Northstowe Phase 2 Assumptions and Inputs

CSRM Factor	CSRM Transport zone	CSRM Factor Explanation	2021	2026	2031	Total
701	1449	Manufacturing	1269	2115	2115	5500
702	1449	Warehouse	0	0	0	0
703	1449	Retail	8885	14808	14808	38500
704	1449	Office	4112	6854	6854	17820
705	1449	Other: leisure&health	5712	9519	9519	24750
750	1449	Dwelling	815	1358	1358	3531

2.1.13 It was as agreed with Hyder on 11 March 2014 that the proportion of retired households in Northstowe should be set to match that at present in the neighbouring village of Cottenham. This was observed based on the 2011 Census to be 23% of all households, and this figure was used to calculate the number of retired households in Northstowe Phase 1 and 2.

2.2 Public Transport Assumptions

- 2.2.1 In the Northstowe DM scenario, the public transport network is the same as the public transport network used in the previous local plan studies. The public transport network used in the Northstowe DS scenario includes the improvement of bus services in Northstowe.
- 2.2.2 For Huntingdonshire, the public transport strategies included in CSRМ are listed as below:
- Guided Bus services to Alconbury (as previously modelled for Urban & Civic as part of the Alconbury Enterprise Zone), were included in the public transport network.
 - New Alconbury Weald Railway station was included in CSRМ.
- 2.2.3 For Cambridge and South Cambridgeshire, the following public transport strategies are included in CSRМ. More details can be found in the modelling report published on http://www.cambridgeshire.gov.uk/info/20006/travel_roads_and_parking/66/transport_plans_and_policies/2
- Access control close to Cambridge Ring Road Access controls close to Cambridge Ring Road to enhance public transport operations and discourage cross city movements in the built up area;
 - A wide range of bus priority measures in Cambridge and on major routes to/from Cambridge, including segregated bus lanes for major routes into Cambridge (A1303 Madingley Road, B1049 Histon Road, Milton Road, Newmarket Road and Hills Road) were included in CSRМ by increasing bus speeds and removing congestion impacts for buses on these routes; High Quality Public Transport services on the St Neots (A428), Haverhill (A1307) and Royston (A10) corridors with high frequencies and guideway quality segregated routes; and an orbital bus service from Cambridge Science Park Station to Addenbrookes Hospital, via North West Cambridge.
 - A major increase in dedicated cycle provision in Cambridge and South Cambridgeshire;
 - Additional Park and Ride sites on the A428, the A1307 and at Hauxton on the A10, and the re-location of Newmarket Road P&R to Airport Way;
 - Improvements in rail services, speed and capacity, including the Thameslink upgrade and improved rolling stock;
 - A busway from Waterbeach to Cambridge, implemented ahead of development of Waterbeach New Town.
- 2.2.4 Bus services through Northstowe have been improved in Do Something scenario by reducing the bus access link and increasing the bus frequency. The details have been listed in Table 2.5.

Table 2.5 – Northstowe Phase 2 Assumptions and Inputs

Network	Scenario	Northstowe	Bus service	Bus service frequency
117	Do Minimum	Phase 1	The length of bus access link has been increase to actual distance	2 or 3/ hour
116	Do Something	Phase 1+2	the length of bus access link has been reduced 300 metres	7/hour
116	DS2	phase 1+2	the length of bus access link has been reduced 300 metres	7/hour

2.3 Local Plan Information Received from Districts

- 2.3.1 Before updating district level dwelling totals, the existing local plan development sites were reviewed. South Cambridgeshire, Huntingdonshire and Cambridge city reviewed the local plan and sent updated information as follows:

- Huntingdonshire: HDC Dwells and Employment Feb 2014.xlsx – Received on 20 February 2014
- South Cambridgeshire: Housing Trajectory (Feb 2014).xlsx – Received on 19 February 2014
Copy of South Cambridgeshire + City Local Plan Employment for Checks Feb 2014.xlsx - Received on 21 February 2014
- Cambridge City: Update to HT.xlsx - Received on 26 February 2014

2.3.2 Specifically, some changes were made for the dwelling sites according to the adjustment to the planning permission. The employment sites were not changed significantly. A detail list of dwelling sites and employment sites is given in the Appendices to this report.

2.4 Matching District Level Growth to NTEM

DWELLINGS

2.4.1 The dwellings increases were calculated from the district planning data at 5 year intervals. Some of the windfall dwelling sites included in the planning data could not be allocated to specific zones in CSRM as spatial information was not available. These windfall dwelling sites are evenly assigned to all of the other zones except Northstowe according to the ratio of the total district dwelling to the district dwelling growth without windfall sites (i.e. the total growth is uplifted to include the windfall element, with the assumption that the windfalls have the same distribution as named developments, but keeping the Northstowe development fixed). Table 2.6 lists the district dwelling growth excluding windfall sites and Northstowe developments from 2016 to 2031. Table 2.7 lists the factor used to scale the windfall dwellings.

2.4.2 Table 2.7 shows that windfall scale factors for South Cambridgeshire and Cambridge City are high, which indicates that a number of the development sites in these districts cannot be located properly in CSRM. Although it may not affect the CSRM results, it is suggested that we refine these windfall sites with help from CCC at a later stage.

Table 2.6 – District Dwelling Growth Excluding Windfall Sites and Northstowe Developments

District	2016	2021	2026	2031
Cambridge City	3,165	4,836	2,734	693
South Cambs	873	3,954	3,500	2,680
Hunts	2,866	5,681	4,286	2,445
East Cambs	2,201	2,723	1,715	1,390
Total CSR	9,105	17,194	12,235	7,208

Table 2.7 – Ratio Used to Scale for Windfall Sites

District	2016	2021	2026	2031
Cambridge City	1.00	1.13	1.22	1.89
South Cambridgeshire	2.37	1.27	1.29	1.37
Hunts	1.00	1.00	1.00	1.00
East Cambs	1.07	1.10	1.07	1.09

2.4.3 Table 2.8 lists the total district dwellings after windfall sites scale (excluding Northstowe). This step is identical for the Northstowe DM and DS runs.

Table 2.8 – Total District Dwellings For Northstowe DM

District	2011	2016	2021	2026	2031
Cambridge City	48,257	51,422	56,873	60,222	61,535
South Cambridgeshire	61,481	63,552	68,568	73,068	76,748
Hunts	71,874	74,740	80,421	84,707	87,152
East Cambs	36,625	38,976	41,972	43,811	45,324
Total CSR	218,236	228,689	247,834	261,807	270,759

- 2.4.4 The district dwellings growth was then scaled to match the NTEM growth from 2011 to 2031. This scaling process did not include Northstowe sites; Northstowe phase 1 and phase 2 developments were added after the scaling process (i.e. CSR growth WITHOUT Northstowe was scaled to match NTEM growth WITHOUT Northstowe, then the Northstowe growth was added back in. This avoids scaling the Northstowe development away from the prescribed values).
- 2.4.5 Table 2.9 lists the scaling factors used to adjust the CSR dwelling growth to match the 2011-2031 growth in NTEM6.2. The scaling is applied for the sub-region as a whole, and matches NTEM in 2021 and 2031, with scaling smoothed across the interim years. This pattern of scaling was agreed with AECOM in the A14 DF2 tests to avoid inconsistent scaling for 2016 and 2026 which were caused by a mis-match between the assumed development profile in NTEM and the current plans. The same methodology was adopted in the Northstowe test in order to keep consistency to A14 tests. It was agreed that though the NTEM totals should be adhered to, the timing was better informed by current local knowledge. Table 2.10 lists the total district dwelling used as input for DM scenario (including Northstowe Phase 1) and Table 2.11 lists the total district dwelling used as input for DS scenarios (including Northstowe Phase 1 and Phase 2).
- 2.4.6 The tables show that the dwellings for Cambridge, Huntingdonshire, and East Cambridgeshire are consistent in DM scenario and with DS Scenario. DS scenarios have more dwellings than DM scenario in 2021, 2026 and 2031 since Northstowe phase 2 is added in DS scenarios. Table 2.11 also compares the total dwellings in the CSR with the absolute NTEM 6.2 dwelling figures. This demonstrates the close match in all years: there is a small mis-match of 500 dwellings (0.2%) in 2011 which is maintained as the process scaled only the growth, not the absolute figures.

Table 2.9 – Scale Factor used to Match Ntem 6.2

Year	2016	2021	2026	2031
Scale factor	1.13	1.07	1.12	1.19

Table 2.10 – Dwelling Input for Northstowe DM (including Northstowe Phase 1 development)

DM					
District	2011	2016	2021	2026	2031
Cambridge City	48,363	51,925	57,749	61,512	63,078
South Cambridgeshire	61,375	63,705	70,565	75,621	80,011
Huntingdonshire	71,874	75,099	81,169	85,985	88,902
East Cambridgeshire	36,625	39,270	42,472	44,538	46,343
Total CSR	218,236	230,000	251,955	267,655	278,333

Table 2.11 – Dwelling Input for DS scenario (including Phase 1 and 2 Northstowe, and scaled to match NTEM 6.2 at Total CSR level in 2021 and 2031)

DS					
District	2011	2016	2021	2026	2031
Cambridge City	48,363	51,925	57,749	61,512	63,078
South Cambridgeshire	61,375	63,705	71,380	77,794	83,543
Huntingdonshire	71,874	75,099	81,169	85,985	88,902
East Cambridgeshire	36,625	39,270	42,472	44,538	46,343
Total CSR	218,236	230,000	252,770	269,829	281,865
NTEM 6.2 Dwellings	218,734	237,508	253,267	266,862	282,362

EMPLOYMENT AND FLOORSPACE

2.4.7 The approach to future growth of employment and floorspace is analogous to that described above for dwellings in that:

- The employment and commercial floorspace growth for the Cambridge Sub Region (CSR) as a whole has been based on NTEM growth;
- The spatial patterns of growth (including relative growth rates between the Districts) are based on information provided by the Districts during the Local Plan (with an update as outlined in Section 2.3 above).

2.4.8 Tables 2.12-2.14 illustrate how this adjustment was made.

2.4.9 Table 2.12 shows the percentage growth rates as agreed for the Local Plan with the districts, which were based on the East of England Forecasting Model (EEFM).

2.4.10 Table 2.13 shows the equivalent growth in NTEM for the entire sub-region. Note that this table shows jobs figures counted using the same methodology as in CSR, and aligned to the 2001 base figure in CSR. Note that the absolute figures are not easily compared with CSR. The CSR figures are lower than the published NTEM and EEFM figures as they count only the FIRST job occupied by each worker (double-jobbing is ignored) and do not include jobs taken by full-time students. For this reason, we focus on adjusting the employment growth rate from the 2011 base.

2.4.11 Table 2.14 then shows the adjustment factor which was required to be applied to CSR growth in each 5 year period to match NTEM growth. This factor was applied both to the employment growth in each period and any relevant additional floor space.

2.4.12 It should be noted that this method preserves all zonal and district spatial level assumptions inherited from the Local Plan work, and also all assumptions on the relative growth of industry sectors. Those assumptions were provided in various forms by the District Authorities during the Local Plan work in 2012 and 2013.

2.4.13 For Cambridge City and South Cambridgeshire, detailed information on employment development sites was provided along with specifications of their relative size and the industry sectors located. This pattern of development has been maintained throughout the work, with reference to the Districts to confirm any changes and updates. The East Cambridgeshire assumptions are similarly based on patterns of floor space development provided by the East Cambridgeshire District Authority and CCC in 2012.

2.4.14 For Huntingdonshire, employment sites were specified with development areas and broad industry categories, but no estimates of employment at each site were provided. For this reason, WSP and Atkins collaborated during the Local Plan work to produce a synthesised estimate of the required floor area and employment based on a combination of the development information provided and the

EEFM forecasts by Industry for the District.

Table 2.12 – Employment Growth Rates (Local Plan, cumulative %age growth from 2011)

	2016	2021	2026	2031
Cambridge	8%	13%	19%	24%
South Cambs	3%	9%	18%	29%
Hunts	4%	9%	13%	18%
East Cambs	6%	12%	18%	24%
Total CSR	5%	11%	17%	24%

Table 2.13 – Employment Growth Rates (NTEM, cumulative %age growth from 2011)

Total CSR	6%	10%	14%	16%
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Table 2.14 – Scale factor Used for Employment and Floorspace (by 5 year period)

2016	2021	2026	2031
1.19	0.72	0.55	0.35

BASE YEAR MODEL

2.4.15 In the Northstowe Phase 2 Scope issued on 5 February 2014 (CSRM Northstowe Ph 2 WSP Scope Draft for CCC v2.pdf), two 2011 base year model options were discussed, as listed below:

- Current CSRM 2011: The existing CSRM 2011 run, produced as a forecast year using the existing 2006 Base Year. The most recent 2011 run includes some updates to match the actual dwellings in 2011, but no other improvements to represent observed 2011 conditions. This base year was used for previous A14 and Local Plan work.
- 2011 Highway Validation: An improvement to validation in 2011 being undertaken by Atkins at that time.
- A14 2011 PYV: Further to the above, a separate 2011 running year has been prepared for the Highways Agency, during A14 work in 2013. This was termed the 'Present Year Validation' (PYV) SATURN model. That model incorporated adjustments to SATURN by Atkins to improve validation, improvements to the validation of the Cambridge Guided Busway usage, and updates to Dft WebTAG inputs. Since no CSRM runs for other years (i.e. 2016+) were conducted, the impact on future results is not known.

2.4.16 It was agreed in the Specification note issued by AECOM in 17 February 2014 (TN - CSRM Land Use Runs - DF2_v5.doc) that based on the timescales available, the improved 2011 validation and 2011 PYV run would not be used for the A14 test project, as neither was sufficiently progressed to allow this. Therefore we made use of the existing CSRM 2011 run (T440E) in A14 tests. In the Northstowe tests, the start year is 2021 and the 2016 A14DF runs (T556b TDM5) transport cost was used as an input. .

3 CSRМ Northstowe Run Results

3.1 Introduction

- 3.1.1 The 2021, 2026 and 2031 matrices were issued to Hyder on 8 April 2014. An initial summary of results was issued to Hyder in 9 April 2014 and the results were discussed with Hyder in the meeting held in 28 April 2014.. A summary of the results with commentary was also issued to Hyder on 19 May 2014. This included the comparison of generated trips in different scenarios for the AM period (7 AM – 10 AM) and PM period (4 PM -7PM). Table 3.1 and Table 3.2 show the details of scenarios and the results issued for Hyder.

Table 3.1 – Details of Scenario Results Provided for Hyder

Description	Scenario	
Growth in Trips by Origin and Destination Sector	2031 DM vs 2031 DS1	2031 DS1 vs 2031 DS2
Person Trips Volumes (Origin -Destination) by Car Mode/All Mode	2031 DM VS 2031 DS1	
NStowe Trips - Zn20	2031 DM VS 2031 DS1	
CSRМ Land Use Characteristics for Northstowe Phase 2	2031 DM VS 2031 DS1	
Land use results (Dwellings/Persons/Employed Residents/Total Jobs)	2031 DM vs 2031 DS1	2031 DS1 vs 2031 DS2

Table 3.2 – Scenario Results and Run ID Provided for Hyder

Scenario	Transport Run Number	Land Use Run Number	Run Date
2031 DM	T560a	M286a	04-April-14
2031 DS1	T561a	M287a	04-April-14
2031 DS2	T562a	M288a	04-April-14

- 3.1.2 The following section compares the differences in dwellings, population, employed residents and total jobs in different scenarios. Section 3.3 shows the comparison of generated trips for different scenarios. They are consistent with the results issued to Hyder.

3.2 Land Use Results

- 3.2.1 This section compares the difference in dwellings, population, employed residents and total jobs in DM, DS1 and DS2 models. Table 3.3 shows the changes in DM scenario runs from year 2016 to year 2031, changes between DS1 and DM models, and changes between DS2 and DS1 models for year 2021, 2026 and 2031. Table 3.4 shows the percentage changes for these comparisons.
- 3.2.2 The results demonstrate the dwelling increase for the Northstowe DM from year 2021 to 2031. In the DM scenarios, the rise of 1,500 dwellings in Northstowe by 2031 is consistent with the rise of dwelling in Northstowe phase 1 developments outlined in section 2. In the DS1 scenarios, the rise of 3,533 dwellings in Northstowe by 2031 is consistent with the dwelling input in Northstowe Phase 2. No significant change is observed in other districts in DS scenarios compared to DM scenario, which is consistent with the input. No change in Dwellings between DS1 and DS2 runs is observed because both scenarios adopt the same development assumptions.

Table 3.3 – Model Dwelling Comparison DM, DS1 and DS2 from 2021-2031

District	2016	2021			2026			2031		
	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	51,950	5,779	0	0	9,555	0	0	11,132	1	0
South Cambs	63,966	5,363	0	0	10,428	1	0	14,835	1	0
Northstowe	75,220	1,464	810	0	1,500	2,174	0	1,500	3,533	0
Hunts	39,408	6,077	0	0	10,895	1	0	13,819	1	0
East Cambs	230,544	3,202	0	0	5,269	0	0	7,077	0	0
Study Area Total	51,950	21,884	810	0	37,647	2,176	0	48,362	3,536	-1

Table 3.4 – Model Dwelling Comparison DM, DS1 and DS2 from 2021-2031 (Diff%)

District	2016	2021			2026			2031		
	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	51,950	11%	0%	0%	18%	0%	0%	21%	0%	0%
South Cambs	63,966	8%	0%	0%	16%	0%	0%	23%	0%	0%
Northstowe	75,220	2%	41%	0%	288%	108%	0%	288%	175%	0%
Hunts	39,408	15%	0%	0%	14%	0%	0%	18%	0%	0%
East Cambs	230,544	1%	0%	0%	13%	0%	0%	18%	0%	0%
Study Area Total	51,950	42%	0%	0%	16%	1%	0%	21%	1%	0%

3.2.3 Table 3.5 and Table 3.6 compare the population assigned in DM, DS1 and DS2 scenarios. As for dwellings, the major growth is in Northstowe, associated with the increased development at Northstowe. In addition, there are slight population rise in Huntingdonshire and East Cambridgeshire in DS1 model, and a slight decrease of population in Cambridge in year 2021, 2026 and 2031. This may be due to increased jobs in area, or Guided Bus improvements. The percentage of the difference is very small, less than 0.5%, as are differences between DS1 and DS2 scenarios.

Table 3.5 – Model Population Comparison DM, DS1 and DS2 from 2021-2031

District	2016	2021			2026			2031		
	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	133,277	9,443	-83	0	16,314	-301	-39	20,410	-444	-83
South Cambs	161,617	10,363	14	0	19,877	39	-10	28,449	-147	-27
Northstowe	1,084	3,542	1,415	0	3,516	3,894	-0	3,535	6,488	44
Hunts	173,890	10,595	233	0	16,603	576	21	20,036	763	33
East Cambs	90,274	2,728	102	0	5,126	253	23	6,342	511	15
Study Area Total	560,141	36,671	1,682	0	61,436	4,460	-5	78,773	7,171	-18

Table 3.6 – Model Population Comparison DM, DS1 and DS2 from 2021-2031 (Diff%)

District	2016	2021			2026			2031		
	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	133,277	7%	0%	0%	12%	0%	0%	15%	0%	0%
South Cambs	161,617	6%	0%	0%	12%	0%	0%	18%	0%	0%
Northstowe	1,084	327%	41%	0%	324%	108%	0%	326%	175%	0%
Hunts	173,890	6%	0%	0%	10%	0%	0%	12%	0%	0%
East Cambs	90,274	3%	0%	0%	6%	0%	0%	7%	0%	0%
Study Area Total	560,141	7%	0%	0%	11%	1%	0%	14%	1%	0%

3.2.4 There is also a rise in workers living in Hunts and East Cambridge, most likely due to the increased accessibility of jobs in Northstowe and demand for services. The difference between DS1 and DS2 scenarios is small. In DS2 model, a small number of employed residents moved from Northstowe areas to South Cambridgeshire in 2031. . This may be caused by the network change in Northstowe in DS2 scenario.

3.2.5 Table 3.7 and Table 3.8 compare the changes in Employed Residents in the DM, DS1 and DS2 scenarios. There is an overall rise in Employed Residents available due to the rise in housing in both scenarios in the sub-region from 2021 to 2031. As expected, this is concentrated at Northstowe, with some shift in residents from Cambridge and South Cambridgeshire. The employed residents rise in Northstowe in DS1 scenario, which has led to a rise of 3659 employed residents in 2031. There is also a rise in workers living in Hunts and East Cambridge, most likely due to the increased accessibility of jobs in Northstowe and demand for services. The difference between DS1 and DS2 scenarios is small. In DS2 model, a small number of employed residents moved from Northstowe areas to South Cambridgeshire in 2031. . This may be caused by the network change in Northstowe in DS2 scenario.

Table 3.7 – Model Employed Residents Comparison DM, DS1 and DS2 from 2021-2031

District	2016	2021			2026			2031		
	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	55,639	7,200	-49	0	12,557	-138	-25	15,507	-170	-53
South Cambs	80,605	5,105	-65	0	9,114	-99	-32	12,024	-281	319
Northstowe	619	1,664	880	0	1,665	2,239	23	1,671	3,659	-312
Hunts	86,263	5,992	107	0	8,416	292	12	8,988	398	17
East Cambs	43,738	1,750	45	0	2,850	125	16	2,705	275	8
Study Area Total	266,864	21,711	917	0	34,601	2,419	-6	40,895	3,881	-20

Table 3.8 – Model Employed Residents Comparison DM, DS1 and DS2 from 2021-2031 (Diff%)

District	2016	2021	2026	2031
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	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	55,639	13%	-0%	0%	23%	-0%	-0%	28%	-0%	-0%
South Cambs	80,605	6%	-0%	0%	11%	-0%	-0%	15%	-0%	0%
Northstowe	619	269%	39%	0%	269%	98%	1%	270%	160%	-5%
Hunts	86,263	7%	0%	0%	10%	0%	0%	10%	0%	0%
East Cambs	43,738	4%	0%	0%	7%	0%	0%	6%	1%	0%
Study Area Total	266,864	8%	0%	0%	13%	1%	-0%	15%	1%	-0%

3.2.6 Table 3.9 compares the employment changes for DM, DS1 and DS2 scenarios. The results demonstrate the job increase in DM scenario from year 2021 to 2031 in the whole sub region area. The comparison of DM and with DS1 scenarios in year 2021, 2026 and 2031 confirms that the overall job numbers were kept mainly fixe and there is a shift of jobs within South Cambridgeshire to Northstowe. The slight rise in jobs overall is due to services demanded by the increased population. The comparison of DS1 and DS2 scenarios also confirms the difference between DS1 and DS2 is small.

Table 3.9 – Model Total Jobs Comparison DM, DS1 and DS2 from 2021-2031

District	2016	2021			2026			2031		
	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	85,230	3,958	43	0	6,926	64	0	8,878	54	-1
South Cambs	69,255	2,746	-263	0	6,093	-908	0	8,966	-1,758	-6
Northstowe	440	635	290	0	645	970	-0	650	1,836	5
Hunts	76,073	3,102	30	0	5,122	65	0	6,434	73	-1
East Cambs	30,967	1,577	14	0	2,643	29	0	3,289	33	-0
Study Area Total	261,965	12,018	114	0	21,427	219	1	28,218	238	-3

Table 3.10 – Model Total Jobs Comparison DM, DS1 and DS2 from 2021-2031

District	2016	2021			2026			2031		
	A14DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM	Nst DM growth from 2016	Nst DS1-Nst DM	Nst DS2-Nst DM
Cambridge	85,230	5%	0%	0%	8%	0%	0%	10%	0%	-0%
South Cambs	69,255	4%	-0%	0%	9%	-1%	0%	13%	-2%	-0%
Northstowe	440	144%	27%	0%	146%	89%	-0%	148%	168%	0%
Hunts	76,073	4%	0%	0%	7%	0%	0%	8%	0%	-0%
East Cambs	30,967	5%	0%	0%	9%	0%	0%	11%	0%	-0%
Study Area Total	261,965	5%	0%	0%	8%	0%	0%	11%	0%	-0%

3.3 Transport results

- 3.3.1 This section compares the trips generated in 2031 DM, 2031 DS1 and 2031 DS2 models. Only the results in AM periods are compared here since PM periods show very similar patterns. PM results and more detailed transport results were issued to Hyder on 19 May 2014. The matrix was issued to Hyder on 8 April 2014.
- 3.3.2 Table 3.11 compares the trips generated in the 2031 DM and the trips generated in 2031 DS1 model. The growth in trips matches well against development assumptions used in models, notably growth in Northstowe Zone 20 Phase 2 and no significant growth in Northstowe Zone 19 (Phase 1). There is a large fall in 'external' trip origins due to the reduction in in-commuting (more employed residents within the region). Car mode share for trips is 68%, and PT mode share is 6% which are both equivalent to that on the Outer Fringe of Cambridge. The public trips are increased in DS1 due to the improvement of Bus service in Northstowe areas.
- 3.3.3 Table 3.12 compares the trips generated in 2031 DS2 model and 2031 DS1 model during the AM periods. The trips generated in the DS2 model are very similar to the trips generated in the DS1 model since both models adopt the same development assumptions. There is a rise in the number of car trips originating/terminating within Sector 5.9 (Northstowe Ph2), though this is not too large. The changes of trips are caused by the network change in the Northstowe area. In general, the network changes in DS2 do not have significant impact on the trips generated.
- 3.3.4 Table 3.13 compares the Origin-destination trips in 2031 DS1 model to the Origin-destination trips in 2031 DM model. These are CSRM flow volumes for origin-destination person trips by car mode. This shows the increase in trips in Northstowe and decrease in trips in many areas due to the shift of activity to Northstowe. Note the fall in origin trips is large ONLY for the external zones (reduced in-commuting), and both East Cambridgeshire and N/Stowe rise. Destination trips fall for all districts except Northstowe Phase 2 zone due to a migration of jobs to Northstowe. In DS1 model, with Northstowe Phase 2 developments, the total car trips in the study area increase by 1177.

Table 3.11 –AM (7AM-10AM)Trips (Difference between 2031 DS1 no 2031 DM)

Data	Scenario	Origin Sector	Main mode				Grand Total
			Car	PT	Walk	Cycle	
Growth from DS1-DM	2031 DS1 (T561a) - 2031 DM (T560a)	1.1 N Cambridge	-62	148	-145	-52	-112
		1.2 S Cambridge	22	15	-25	-9	2
		1.3 E Cambridge	-182	15	-138	-62	-367
		2 Science Park	-9	5	-1	-2	-8
		3.1 Inner Fringe	-59	42	-86	-41	-144
		3.2 Outer Fringe	-40	5	-48	-13	-96
		4 Waterbeach	-31	-4	-28	-13	-75
		5.1 W SR	-205	50	-68	-18	-242
		5.2 N SR	-84	35	-10	-7	-66
		5.3 SE SR	-33	-6	-20	-5	-64
		5.4 SW SR	-10	-10	-18	-6	-43
		5.8 Northstowe z19	-11	-44	156	12	112
		5.9 Northstowe z20	3679	431	2209	210	6529
		6 Rest of Northstowe	-104	-52	143	0	-13
		7 Bourne	6	3	-30	-2	-23
		8.1 Huntingdon	-214	220	-66	-6	-66
		8.2 Rest of Hunts	94	165	62	7	328
		9.1 Ely	31	24	24	5	83
9.2 Rest of E Cambs	101	37	31	3	172		
10.1 Greater London	-7	-12	0	0	-19		
10.2 Other External	-1705	-202	-3	-10	-1920		
	Total	1177	866	1939	-13	3969	
Growth from DS1-DM	2031 DS1 (T561a) - 2031 DM (T560a)	1.1 N Cambridge	-0.4%	3.7%	-0.6%	-0.4%	-0.2%
		1.2 S Cambridge	0.2%	0.7%	-0.2%	-0.2%	0.0%
		1.3 E Cambridge	-1.4%	0.5%	-0.6%	-0.6%	-0.8%
		2 Science Park	-1.7%	22.3%	-0.2%	-2.2%	-0.8%
		3.1 Inner Fringe	-0.4%	1.7%	-1.2%	-1.0%	-0.5%
		3.2 Outer Fringe	-0.4%	0.4%	-1.4%	-0.7%	-0.5%
		4 Waterbeach	-0.8%	-0.7%	-2.2%	-2.0%	-1.2%
		5.1 W SR	-1.7%	2.9%	-2.2%	-2.5%	-1.4%
		5.2 N SR	-1.4%	3.3%	-0.5%	-1.4%	-0.7%
		5.3 SE SR	-0.3%	-0.5%	-0.7%	-0.7%	-0.4%
		5.4 SW SR	-0.1%	-0.5%	-0.4%	-0.6%	-0.2%
		5.8 Northstowe z19	-0.6%	-12.5%	27.7%	12.1%	4.1%
		5.9 Northstowe z20	1806.7%	805.7%	3831.8%	1901.6%	2003.8%
		6 Rest of Northstowe	-9.1%	-27.8%	50.5%	-0.5%	-0.8%
		7 Bourne	0.1%	0.1%	-0.8%	-0.4%	-0.1%
		8.1 Huntingdon	-0.7%	5.3%	-0.5%	-0.2%	-0.1%
		8.2 Rest of Hunts	0.2%	2.4%	0.3%	0.2%	0.4%
		9.1 Ely	0.3%	2.0%	0.4%	0.4%	0.4%
9.2 Rest of E Cambs	0.3%	1.1%	0.3%	0.2%	0.4%		
10.1 Greater London	-0.3%	-4.6%	#NULL!	#NULL!	-0.6%		
10.2 Other External	-3.9%	-5.6%	-1.1%	-5.7%	-4.0%		
	Total	0.4%	2.1%	1.4%	0.0%	0.7%	

Table 3.12 –AM (7AM-10AM)Trips (Difference between 2031 DS2 and 2031 DS1)

Data	Scenario	Origin Sector	Main mode				Grand Total
			Car	PT	Walk	Cycle	
Growth from DS2-DS1	2031 DS2 (T562a) - 2031 DS1 (T561a)	1.1 N Cambridge	-10	-4	-3	-3	-20
		1.2 S Cambridge	-7	0	-2	-1	-11
		1.3 E Cambridge	-19	-7	-10	-7	-43
		2 Science Park	0	0	0	0	0
		3.1 Inner Fringe	-10	-1	-2	-1	-14
		3.2 Outer Fringe	-3	0	-5	-2	-9
		4 Waterbeach	1	-1	-2	-1	-3
		5.1 W SR	-5	-1	-2	-1	-8
		5.2 N SR	11	0	-3	0	8
		5.3 SE SR	-10	1	-4	-1	-14
		5.4 SW SR	-3	2	-2	-1	-4
		5.8 Northstowe z19	6	0	-3	0	2
		5.9 Northstowe z20	96	3	-10	-1	89
		6 Rest of Northstowe	3	0	-2	0	0
		7 Bourne	1	2	-4	-1	-1
		8.1 Huntingdon	3	-1	-3	-1	-2
		8.2 Rest of Hunts	14	1	5	1	20
		9.1 Ely	4	0	3	0	7
		9.2 Rest of E Cambs	0	1	1	0	1
		10.1 Greater London	-1	1	0	0	0
10.2 Other External	3	1	0	0	4		
	Total	76	-4	-49	-20	3	
Growth from DS2-DS1	2031 DS2 (T562a) - 2031 DS1 (T561a)	1.1 N Cambridge	-0.1%	-0.1%	0.0%	0.0%	0.0%
		1.2 S Cambridge	-0.1%	0.0%	0.0%	0.0%	0.0%
		1.3 E Cambridge	-0.2%	-0.2%	0.0%	-0.1%	-0.1%
		2 Science Park	0.0%	0.2%	-0.1%	-0.1%	0.0%
		3.1 Inner Fringe	-0.1%	0.0%	0.0%	0.0%	0.0%
		3.2 Outer Fringe	0.0%	0.0%	-0.1%	-0.1%	-0.1%
		4 Waterbeach	0.0%	-0.2%	-0.2%	-0.1%	-0.1%
		5.1 W SR	0.0%	0.0%	-0.1%	-0.1%	0.0%
		5.2 N SR	0.2%	0.0%	-0.1%	-0.1%	0.1%
		5.3 SE SR	-0.1%	0.1%	-0.1%	-0.1%	-0.1%
		5.4 SW SR	0.0%	0.1%	0.0%	-0.1%	0.0%
		5.8 Northstowe z19	0.3%	0.0%	-0.5%	-0.4%	0.1%
		5.9 Northstowe z20	2.5%	0.7%	-0.4%	-0.6%	1.3%
		6 Rest of Northstowe	0.3%	-0.2%	-0.5%	-0.4%	0.0%
7 Bourne	0.0%	0.1%	-0.1%	-0.1%	0.0%		
8.1 Huntingdon	0.0%	0.0%	0.0%	0.0%	0.0%		
8.2 Rest of Hunts	0.0%	0.0%	0.0%	0.0%	0.0%		
9.1 Ely	0.0%	0.0%	0.0%	0.0%	0.0%		
9.2 Rest of E Cambs	0.0%	0.0%	0.0%	0.0%	0.0%		
10.1 Greater London	0.0%	0.4%	#NULL!	#NULL!	0.0%		
10.2 Other External	0.0%	0.0%	0.0%	-0.1%	0.0%		
	Total	0.0%	0.0%	0.0%	0.0%	0.0%	

Table 3.13 –AM (7Am-10AM) Person Trips Volumes by Car Mode 2031 DS1 vs 2031 DM)

Scenario Type	OrigSect	Destination										Grand Total
		1 Cambridge	2+3 City Fringe	4+5 S Cambs (rest)	5 S Cambs	5+6 Northstow	7 Bourne	8 Hunts	9 E Cambs	10 Externa	Northstowe P	
2031DS1-DM	1 Cambridge	-359	-205	-15	-177	-34	-21	-67	-13	-68	736	-222
	2+3 City Fringe	-161	-247	-16	-210	-35	-26	-79	-21	-49	735	-109
	4+5 S Cambs (rest)	-9	-15	-29	-20	-4	-2	-7	-11	-6	72	-31
	5 S Cambs	-147	-240	-17	-536	-93	-56	-263	-60	-95	1,174	-332
	5+6 Northstowe	-58	-72	-5	-178	-44	-14	-88	-25	-26	396	-114
	Northstowe Phase 2 Z20	670	357	62	626	220	92	426	154	271	801	3,679
	7 Bourne	-21	-35	-2	-67	-10	-56	-53	-2	3	249	6
	8 Hunts	-102	-131	-9	-204	-47	-36	-402	-40	-94	945	-120
	9 E Cambs	-6	-43	-8	-60	-21	-3	-54	-52	-39	418	132
	10 External	-407	-247	-43	-483	-41	-30	-631	-271	0	440	-1,712
DS Total	-600	-878	-81	-1,309	-110	-152	-1,219	-342	-100	5,967	1,177	
2031DS1-DM%	1 Cambridge	-2.08%	-2.94%	-2.71%	-3.68%	-10.90%	-3.40%	-3.31%	-1.08%	-1.32%	6045.88%	-0.57%
	2+3 City Fringe	-1.87%	-3.70%	-3.26%	-4.80%	-12.04%	-4.56%	-4.96%	-2.02%	-1.18%	8580.43%	-0.39%
	4+5 S Cambs (rest)	-1.04%	-1.97%	-3.90%	-4.37%	-10.70%	-3.55%	-3.85%	-2.68%	-1.62%	7880.70%	-0.79%
	5 S Cambs	-2.10%	-4.83%	-4.57%	-4.20%	-17.43%	-4.52%	-5.46%	-4.62%	-0.86%	6638.64%	-0.75%
	5+6 Northstowe	-10.21%	-19.97%	-11.16%	-26.53%	-23.11%	-20.01%	-19.70%	-18.14%	-6.38%	4567.77%	-3.94%
	Northstowe Phase 2 Z20	1548.79%	1411.91%	1467.67%	1284.46%	1615.04%	1558.44%	1385.94%	1487.65%	1367.55%	46334.69%	1806.72%
	7 Bourne	-0.99%	-2.58%	-2.74%	-3.72%	-12.03%	-2.84%	-2.49%	-1.26%	0.17%	8471.10%	0.05%
	8 Hunts	-2.97%	-4.85%	-3.97%	-4.22%	-13.30%	-2.27%	-0.74%	-2.48%	-0.50%	7120.02%	-0.14%
	9 E Cambs	-0.15%	-1.46%	-1.11%	-2.83%	-11.72%	-2.01%	-3.09%	-0.25%	-0.50%	6778.34%	0.32%
	10 External	-5.79%	-5.20%	-8.47%	-4.70%	-12.59%	-2.79%	-3.84%	-4.43%	#NULL!	2342.19%	-3.68%
DS Total	-1.18%	-2.78%	-2.19%	-3.11%	-4.72%	-2.07%	-1.45%	-1.03%	-0.20%	6563.36%	0.39%	

Appendix 1 Residential Development Sites

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
CCiC	Station Area Blue Phase	169	0	0	0	169
CCiC	Station Area- Pink Phase	80	57	25	0	162
CCiC	190 - 192 Histon Road	14	0	0	0	14
CCiC	Sandy lane	0	0	23	0	23
CCiC	Cambridge City Football Ground, Milton Road (11/0008/FUL)	0	138	0	0	138
CCiC	379-381 Milton Road	0	0	40	55	95
CCiC	Willowcroft, Histon Road	0	67	11	0	78
CCiC	Henry Giles House, Chesterton Road	0	20	28	0	48
CCiC	295 Histon Road	0	32	0	0	32
CCiC	Milton Infant and Junior School, Milton Road	5	0	0	0	5
CCiC	169-173 High Street Chesterton	12	0	0	0	12
CCiC	Romans Court	16	0	0	0	16
CCiC	North Area SHLAA Windfall	0	153	154	155	462
CCiC	141 Ditton Walk, Cambridge	0	14	0	0	14
CCiC	Sorrento Hotel, 190 - 196 Cherry Hinton Road	0	0	0	0	0
CCiC	89a Cherry Hinton Road	14	0	0	0	14
CCiC	British Telecom, Cromwell Road (11/0902/REM)	136	0	0	0	136
CCiC	Cambridge Water Company, Rustat Road (07/1223/REM)	0	143	0	0	143
CCiC	Neath Farm business Park, Church End (09/0403/FUL)	27	0	0	0	27
CCiC	9-15 Harvest Way (11/0219/FUL)	75	0	0	0	75
CCiC	20 Occupation Road (09/0743)	0	0	0	0	0
CCiC	71 - 73 New Street (11/1097)	0	6	0	0	6
CCiC	30 - 31 Occupation Road (12/0628)	13	0	0	0	13
CCiC	23 - 29 Occupation Road (10/1067)	0	0	0	0	0
CCiC	64 - 66 Peverel Road	0	10	0	0	10
CCiC	Seymour Court, Seymour Street (11/0970)	34	0	0	0	34
CCiC	Ridgeons, Cavendish Road	0	0	28	0	28
CCiC	315-349 Mill Road & Brookfields	0	30	0	0	30
CCiC	315-349 Mill Road & Brookfields 2	0	0	98	0	98
CCiC	The Paddocks Trading Estate, Cherry Hinton Road	0	0	123	0	123
CCiC	Travis Perkins, Devonshire Road (11/1294/ful)	15	28	0	0	43
CCiC	Camfields Resource Centre and Oil Depot	0	15	20	0	35
CCiC	636 - 656 Newmarket Road	0	0	0	75	75
CCiC	149 Cherry Hinton Road	0	0	0	33	33
CCiC	Mill Road Depot	0	0	0	167	167
CCiC	Horzon Resource Centre	0	0	40	0	40
CCiC	Ridgeons, Cromwell Road	0	0	190	27	217
CCiC	Clifton Road Industrial Estate	0	0	250	300	550
CCiC	115-119 Perne Road	0	12	0	0	12

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
CCiC	East Area SHLAA Windfall	0	155	153	155	463
CCiC	Land to the Rear of 99-105 Shelford Road	13	0	0	0	13
CCiC	Junction of Cherry Hinton Road and Hills Road (08/0505/FUL)	133	0	0	0	133
CCiC	Betjemen House, Hills Road (06/0552)	0	156	0	0	156
CCiC	Homerton College, Hills Road (07/1093)	0	0	85	0	85
CCiC	Government Offices (06/0527, 06/0524)	0	0	0	0	0
CCiC	CUP Site, Clarendon Road (06/0584)	190	0	0	0	190
CCiC	British Telecom, Long Road	0	55	0	0	55
CCiC	British Telecom, Long Road - 2	0	0	21	0	21
CCiC	Land north of Worts Causeway	0	0	200	0	200
CCiC	Land south of Worts Causeway	0	0	230	0	230
CCiC	Glebe Farm2	0	35	0	0	35
CCiC	Cambridge Profesional Development Centre, Padget Road	0	15	52	0	67
CCiC	Michael Young Centre, Purbeck Road	10	40	0	0	50
CCiC	82 - 90 Hills Road and 57 - 63 Bateman Street	0	0	10	10	20
CCiC	South Area SHLAA Windfall	0	154	154	155	463
CCiC	Firestation, Parkside (10/0523)	0	0	0	0	0
CCiC	The Old Maltings, Prospect Row	0	0	0	0	0
CCiC	Brunswick Site (11/0327)	130	0	0	0	130
CCiC	16 Mill Lane	0	100	50	0	150
CCiC	Police Station, Parkside (remainder of site)	0	50	0	0	50
CCiC	Mount Pleasant House	0	25	25	0	50
CCiC	18-19 Regent Terrace	11	0	0	0	11
CCiC	West Area SHLAA Windfall	0	153	154	155	462
CCiC	Clay Farm & Showground	1149	997	0	0	2146
CCiC	Bell School	0	275	0	0	275
CCiC	Glebe Farm	231	0	0	0	231
CCiC	TM (Monsanto)	267	192	0	0	459
CCiC	Cambridge University	216	834	860	0	1910
CCiC	NIAB Main	150	1443	0	0	1593
CCiC	NIAB Frontage	45	0	0	0	45
CCiC	Land north of Teversham Drift	0	0	325	26	351
CCiC	Land north of Coldhams Lane	10	47	0	0	57
CCiC	Land north of Newmarket Road	0	0	0	0	0
ECDC	Land south of Tunbridge Hall, Bottisham	14	0	0	0	14
ECDC	Phase 3, land off Prickwillow Road, Ely	66	0	0	0	66
ECDC	Highfield Farm, Ely Road, Littleport	200	177	0	0	377
ECDC	West of 93-135 Lynn Road, Ely	0	81	0	0	81
ECDC	Residue at Highfield Farm, Littleport	0	130	0	0	130
ECDC	Land off Bell Road, Bottisham	38	0	0	0	38
ECDC	Land adjacent 105 North Street, Burwell	6	0	0	0	6

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
ECDC	Dullingham Motors, Brinkley Road, Dullingham	5	0	0	0	5
ECDC	Ely House, 1 Redman Close, Ely	5	0	0	0	5
ECDC	Land rear of 19 West Fen Road, Ely	7	0	0	0	7
ECDC	136 Lynn Road, Ely	7	0	0	0	7
ECDC	5-6 Soham Road, Fordham	32	0	0	0	32
ECDC	27 Market Street, Fordham	5	0	0	0	5
ECDC	5 The Green, Haddenham	6	0	0	0	6
ECDC	Land north of 21 Beck Road, Isleham	15	0	0	0	15
ECDC	55 Sun Street, Isleham	5	0	0	0	5
ECDC	Land rear of 88-96 Wisbech Road, Littleport	24	0	0	0	24
ECDC	Land east of 33 The Holmes, Littleport	8	0	0	0	8
ECDC	Old Station Goods Yard, Littleport	30	0	0	0	30
ECDC	1 Grange Lane, Littleport	16	0	0	0	16
ECDC	Land rear and south of 24 Barkhams, Littleport	6	0	0	0	6
ECDC	Land at 21-23 Lynn Road, Littleport	5	0	0	0	5
ECDC	Land between Beech Court & Village College, Parsons Lane , Littleport	51	0	0	0	51
ECDC	Land rear of 48 to 64 Station Road, Soham	13	0	0	0	13
ECDC	Lion Mills, Soham	71	0	0	0	71
ECDC	Church Hall, High Street, Soham	8	0	0	0	8
ECDC	8 Market Street, Soham	5	0	0	0	5
ECDC	Land rear of 140 Paddock Street, Soham	2	0	0	0	2
ECDC	Land rear of 7 and 7a Townsend, Soham	17	0	0	0	17
ECDC	Land rear of 50 and 52 Foxwood South, Soham	10	0	0	0	10
ECDC	Land rear and side of Windayle, 27 Hall Street, Soham	11	0	0	0	11
ECDC	AA Griggs, 46 Townsend, Soham	41	0	0	0	41
ECDC	Keith Leonard House, Soham	44	0	0	0	44
ECDC	44 The Butts, Soham	17	0	0	0	17
ECDC	Land rear of 31 High Street, Soham	6	0	0	0	6
ECDC	Land rear of 16 Townsend, Soham	13	0	0	0	13
ECDC	Land rear of 82-90 Paddock St., Soham	7	0	0	0	7
ECDC	Land north of Plantation Gate, Stretham	3	0	0	0	3
ECDC	73-79 High Street, Sutton	11	0	0	0	11
ECDC	West Lodge, 125 High Street, Sutton	5	0	0	0	5
ECDC	Land adjacent to Water Tower, Mill Hill, Swaffham Prior	2	0	0	0	2
ECDC	Land west of Rosendale, Whitecross Road, Wilburton	6	0	0	0	6
ECDC	Whitecross Farm, Whitecross Road, Wilburton	11	0	0	0	11
ECDC	Garages to north of 7 Manor Court Road, Witchford	5	0	0	0	5
ECDC	Barons Cove, Weirs Drove, Burwell	35	0	0	0	35
ECDC	Land North West of Regal Drive, Fordham Road, Soham	66	30	0	0	96
ECDC	Sennitt Way/ Newmarket Rd, , Stretham	14	0	0	0	14
ECDC	Aldreth	2	0	0	0	2

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
ECDC	Ashley	2	0	0	0	2
ECDC	Bottisham	4	0	0	0	4
ECDC	Burwell	17	0	0	0	17
ECDC	Cheveley	5	0	0	0	5
ECDC	Chippenham	2	0	0	0	2
ECDC	Coveney	3	0	0	0	3
ECDC	Dullingham	3	0	0	0	3
ECDC	Ely	19	0	0	0	19
ECDC	Fordham	5	0	0	0	5
ECDC	Haddenham	9	0	0	0	9
ECDC	Isleham	8	0	0	0	8
ECDC	Kirtling	2	0	0	0	2
ECDC	Little Downham	7	0	0	0	7
ECDC	Littleport	10	0	0	0	10
ECDC	Lode	5	0	0	0	5
ECDC	Mepal	1	0	0	0	1
ECDC	Newmarket Fringe	1	0	0	0	1
ECDC	Pymoor	3	0	0	0	3
ECDC	Prickwillow	3	0	0	0	3
ECDC	Queen Adelaide	3	0	0	0	3
ECDC	Reach	1	0	0	0	1
ECDC	Saxon Street	1	0	0	0	1
ECDC	Snailwell	-1	0	0	0	-1
ECDC	Soham	39	0	0	0	39
ECDC	Stetchworth	1	0	0	0	1
ECDC	Stretham	4	0	0	0	4
ECDC	Sutton	12	0	0	0	12
ECDC	Swaffham Prior	1	0	0	0	1
ECDC	Wardy Hill	3	0	0	0	3
ECDC	Wentworth	1	0	0	0	1
ECDC	Westley Waterless	5	0	0	0	5
ECDC	Wicken	6	0	0	0	6
ECDC	Wilburton	7	0	0	0	7
ECDC	Witcham	3	0	0	0	3
ECDC	Witchford	5	0	0	0	5
ECDC	Ashley	1.4	3.5	3.5	3.5	11.9
ECDC	Bottisham	3.7	9.25	9.25	9.25	31.45
ECDC	Brinkley	0.2	0.5	0.5	0.5	1.7
ECDC	Burrough Green	0.5	1.25	1.25	1.25	4.25
ECDC	Burwell	7.7	19.25	19.25	19.25	65.45
ECDC	Cheveley (excluding Newmarket Fringe)	3.7	9.25	9.25	9.25	31.45
ECDC	Chippenham	0.2	0.5	0.5	0.5	1.7

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
ECDC	Wardy Hill (Coveney)	1	2.5	2.5	2.5	8.5
ECDC	Dullingham	1.1	2.75	2.75	2.75	9.35
ECDC	Ely (excl. ChettishamQ.AdelaidePrickwillow & Stuntney)	12.6	31.5	31.5	31.5	107.1
ECDC	Chettisham (Ely)	0.3	0.75	0.75	0.75	2.55
ECDC	Prickwillow (Ely)	3	7.5	7.5	7.5	25.5
ECDC	Queen Adelaide (Ely)	0.2	0.5	0.5	0.5	1.7
ECDC	Stuntney (Ely)	0.8	2	2	2	6.8
ECDC	Fordham	4.3	10.75	10.75	10.75	36.55
ECDC	Haddenham (excluding Aldreth)	7.2	18	18	18	61.2
ECDC	Aldreth (Haddenham)	1.3	3.25	3.25	3.25	11.05
ECDC	Isleham	6.1	15.25	15.25	15.25	51.85
ECDC	Kennett	0.3	0.75	0.75	0.75	2.55
ECDC	Kirtling	0.2	0.5	0.5	0.5	1.7
ECDC	Little Downham (excluding Pymoor)	8.3	20.75	20.75	20.75	70.55
ECDC	Pymoor (Little Downham)	0.6	1.5	1.5	1.5	5.1
ECDC	Little Thetford	0.8	2	2	2	6.8
ECDC	Littleport (excluding Black Horse Drove)	13.9	34.75	34.75	34.75	118.15
ECDC	Black Horse Drove (Littleport)	0.8	2	2	2	6.8
ECDC	Lode (excluding Long Meadow)	0.8	2	2	2	6.8
ECDC	Long Meadow (Lode)	0.3	0.75	0.75	0.75	2.55
ECDC	Mepal	2	5	5	5	17
ECDC	Newmarket Fringe (CheveleyWoodditton)	3.7	9.25	9.25	9.25	31.45
ECDC	Reach	1.1	2.75	2.75	2.75	9.35
ECDC	Snailwell	1.3	3.25	3.25	3.25	11.05
ECDC	Soham (excluding Barway)	21.2	53	53	53	180.2
ECDC	Barway	0.2	0.5	0.5	0.5	1.7
ECDC	Stetchworth	1.4	3.5	3.5	3.5	11.9
ECDC	Stretham	4.5	11.25	11.25	11.25	38.25
ECDC	Sutton	10.1	25.25	25.25	25.25	85.85
ECDC	Swaffham Bulbeck	0	0	0	0	0
ECDC	Swaffham Prior	1	2.5	2.5	2.5	8.5
ECDC	Wentworth	1.3	3.25	3.25	3.25	11.05
ECDC	Wicken	1.8	4.5	4.5	4.5	15.3
ECDC	Wilburton	2.9	7.25	7.25	7.25	24.65
ECDC	Witcham	1.1	2.75	2.75	2.75	9.35
ECDC	Witchford	3.5	8.75	8.75	8.75	29.75
ECDC	Woodditton (excluding Saxon Street and Newmarket Fringe)	0.5	1.25	1.25	1.25	4.25
ECDC	Saxon Street (Woodditton)	0.3	0.75	0.75	0.75	2.55
ECDC	Land to the North-East of 20-42 Arber Close, Bottisham	5	0	0	0	5
ECDC	Land adjacent The Bungalow, Newmarket Rd, Burwell	0	0	15	0	15
ECDC	35 North Street, Burwell	10	0	0	0	10
ECDC	Home Office bungalows, Little Green, Cheveley	0	23	0	0	23

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
ECDC	Land east of St. John's Avenue, Newmarket, Cheveley	18	0	0	0	18
ECDC	Land off Carey Close, Ely	25	0	0	0	25
ECDC	Standens, Station Road, Ely	0	36	0	0	36
ECDC	32 Lisle Lane, Ely	0	0	13	0	13
ECDC	Old Dairy, Beald Way, Ely	10	0	0	0	10
ECDC	Old Woolworths, Fore Hill, Ely	0	10	0	0	10
ECDC	Paradise area, Ely	0	64	0	0	64
ECDC	The Grange, Nutholt Lane, Ely	0	50	0	0	50
ECDC	Bassingbourn Manor Farm, Fordham	0	36	0	0	36
ECDC	Fordham Garden Centre, Fordham	0	28	0	0	28
ECDC	Land rear of 85-87 Ely Road, Littleport	5	0	0	0	5
ECDC	Land at 89 Ely Road, Littleport	5	0	0	0	5
ECDC	Land north of Grange Lane, Littleport	35	36	0	0	71
ECDC	12 Woodfen Road, Littleport	10	3	0	0	13
ECDC	Land at Orchard Lodge, Ely Road, Littleport	0	21	0	0	21
ECDC	Land south of The Paddocks, Littleport	0	69	0	0	69
ECDC	21-27 Lynn Road, Littleport	4	0	0	0	4
ECDC	Old Station Goods Yard, Littleport	9	0	0	0	9
ECDC	Land adjacent Weatheralls School, Soham	0	9	0	0	9
ECDC	Land between 16 and 26 Mill Corner, Soham	0	12	0	0	12
ECDC	Land off Gimbert Road (rear of Croft House), Soham	34	0	0	0	34
ECDC	Land rear of 41 Fordham Road, Soham	86	0	0	0	86
ECDC	Pemberton, Fordham Road, Soham	0	5	0	0	5
ECDC	Land west of Red Lion Lane, Sutton	10	25	0	0	35
ECDC	Land adjacent 123 High Street, Sutton	23	0	0	0	23
ECDC	Land to the north of 76 High Street, Sutton	0	5	6	0	11
ECDC	Kings of Witcham, Witcham	11	0	0	0	11
ECDC	Land east of Barton Close, Witchford	14	0	0	0	14
ECDC	Barkways extension, Burwell	12	0	0	0	12
ECDC	Sheriffs Court, Burrough Green	6	0	0	0	6
ECDC	199-209 High Street, Cheveley	6	0	0	0	6
ECDC	West of Lynn Road, Ely	26	0	0	0	26
ECDC	Northumbria Close, Haddenham	24	0	0	0	24
ECDC	Corner of Fordham Road, Isleham	20	0	0	0	20
ECDC	Keys Croft, Soham	10	0	0	0	10
ECDC	Wilburton Road, Stretham	9	0	0	0	9
ECDC	Land off Station Road, Wilburton	8	0	0	0	8
ECDC	Field End, Witchford	16	0	0	0	16
ECDC	Lisle Lane, Ely	50	50	100	0	200
ECDC	North Ely, Ely	285	215	0	0	500
ECDC	Station Road, Soham	0	100	0	0	100
ECDC	Brook Street, Soham	0	250	50	0	300

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
ECDC	Eastern Gateway, Soham	0	250	250	50	550
ECDC	Newmarket Road – phase 1, Burwell	0	100	0	0	100
ECDC	Bell Road, Bottisham, Bottisham	0	50	0	0	50
ECDC	Lisle Lane, Ely	0	0	0	0	0
ECDC	North Ely, Ely	100	510	725	725	2060
ECDC	unknown, Soham	0	0	108	267	375
ECDC	Littleport west sites, Littleport	0	0	100	0	100
ECDC	Potential estimated extra allocations	100	150	0	0	250
ECDC	Rural exception windfall sites	49.4	123.5	123.5	123.5	419.9
SCDC	Cambridge East	0	555	700	155	1410
SCDC	Land between Huntingdon Road, Histon Road & A14 (NIAB 2 or Darwin Green 2)	0	450	450	0	900
SCDC	Orchard Park - parcel K1	36	0	0	0	36
SCDC	Orchard Park - additional land parcels (L2 & Com4)	30	0	0	0	30
SCDC	Northstowe Phase 2					0
SCDC	Fulbourn & Ida Darwin Hospitals	30	220	0	0	250
SCDC	Papworth Everard West Central	37	30	0	0	67
SCDC	Trumpington Meadows (Cambridge Southern Fringe)	83	454	0	0	537
SCDC	North-West Cambridge (University site)	20	645	490	0	1155
SCDC	Orchard Park - parcel G	16	0	0	0	16
SCDC	Orchard Park - additional land parcels (Q, former HRCC site & Com2) including local centre	140	0	0	0	140
SCDC	Cambourne	6	0	0	0	6
SCDC	Cambourne (additional 950 dwellings)	385	477	0	0	862
SCDC	Former Bayer Cropscience site	90	195	0	0	285
SCDC	Historic Rural Allocations with planning permission	217	53	0	0	270
SCDC	Windfall Sites: Estate sized (9 or more dwellings) Near Certain	545	36	0	0	581
SCDC	Windfall Sites: Small Sites (8 or less dwellings) already Under Construction Near Certain	98	0	0	0	98
SCDC	Windfall Sites: Small Sites (8 or less dwellings) Not Under Construction Near Certain	170	75	0	0	245
SCDC	Planning applications for 9 or more dwellings where decision to grant planning permission either awaiting the signing of a s106 agreement or resolution of outstanding issues (at 31 March 2013) NEAR CERTAIN	82	44	0	0	126
SCDC	Land between Huntingdon Road, Histon Road & A14 (NIAB 3 or Darwin Green 3)	0	0	100	0	100
SCDC	Northstowe Phase 1	0	1500	0	0	1500
SCDC	Waterbeach New Town	0	0	0	1400	1400
SCDC	Bourn Airfield New Village	0	0	600	1100	1700
SCDC	Cambourne West	0	500	700	0	1200
SCDC	Dales Manor Business Park, Sawston	0	0	200	0	200
SCDC	Land north of Babraham Road, Sawston	0	80	0	0	80

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
SCDC	Land south of Babraham Road, Sawston	0	35	200	25	260
SCDC	Land north of Impington Lane, Impington	0	25	0	0	25
SCDC	Land west of New Road, Melbourn	0	65	0	0	65
SCDC	Green End Industrial Estate, Gamlingay	0	30	60	0	90
SCDC	Land at Bennell Farm, West Street, Comberton	0	90	0	0	90
SCDC	East of Rockmill End, Willingham	0	50	0	0	50
SCDC	Land at Linton Road, Great Abington	0	35	0	0	35
SCDC	Land at junction of High Street & Pampisford Road, Great Abington	0	12	0	0	12
SCDC	Land at Bancroft Farm, Church Lane, Little Abington	0	6	0	0	6
SCDC	Land at Manor Farm, High Street / Papworth Road, Graveley	0	0	0	0	0
SCDC	Land at Toseland Road, Graveley	0	0	0	0	0
SCDC	Windfall Sites MORE THAN LIKELY	0	800	1000	1000	2800
SCDC	Windfall Sites: Estate sized (9 or more dwellings)	10	0	0	0	10
SCDC	Windfall Sites: Small Sites (8 or less dwellings)	28	54	0	0	82
SCDC	Planning applications for 9 or more dwellings where decision to grant planning permission either awaiting the signing of a s106 agreement or resolution of outstanding issues (between 1 April and 31 December 2013) NEAR CERTAIN	48	0	0	0	48
HDC	Alconbury Weald	120	1225	1225	1225	3795
HDC	Eastern Expansion, St neots	500	1859	1341	0	3700
HDC	Wyton Airfield & Wyton on the Hill	0	100	1220	1220	2540
HDC	North of Ermine St	0	0	0	0	0
HDC	South of Ermine St	0	0	0	0	0
HDC	California Road	115	95	0	0	210
HDC	Forensic Science Laboratory	10	45	0	0	55
HDC	South of Fern Court	14	0	0	0	14
HDC	Constabulary Land	13	32	0	0	45
HDC	West of Railway	0	0	0	0	0
HDC	George St/Ermine St	50	150	0	0	200
HDC	Chequers Court	0	0	0	0	0
HDC	Fire Station	0	0	0	0	0
HDC	St Mary's St	0	0	0	0	0
HDC	Red Cross & Spiritualist Church	0	0	0	0	0
HDC	Gas Depot, Mill Common	20	0	0	0	20
HDC	Tyrell's Marina	0	15	0	0	15
HDC	Main Street, Hartford	0	25	0	0	25
HDC	Hinchingbrooke Hospital, Huntingdon	0	50	0	0	50
HDC	Hinchingbrooke Country Park	0	0	0	0	0
HDC	RAF Brampton	80	320	0	0	400
HDC	Park View Garage	0	0	0	0	0
HDC	Bearscroft Farm	190	560	0	0	750
HDC	Wigmore Farm Buildings	15	0	0	0	15

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
HDC	North of Clyde Farm	0	35	0	0	35
HDC	RGE Engineering, Godmanchester	0	35	0	0	35
HDC	Loves Farm Reserved Site	41	0	0	0	41
HDC	Former Youth Centre, Priory Rd	14	0	0	0	14
HDC	Huntingdon St	7	8	0	0	15
HDC	Fire Station & vacant land	0	0	0	0	0
HDC	Regional College & adjoining land	0	0	0	0	0
HDC	St Mary's Urban Village	0	40	0	0	40
HDC	Cromwell Road Car Park	20	0	0	0	20
HDC	St Ives West	245	255	0	0	500
HDC	Former Car Showroom, London Rd	0	0	0	0	0
HDC	Giffords Farm, St Ives	0	0	0	0	0
HDC	Vindis Car Show Room, Low Road, St Ives	0	50	0	0	50
HDC	St Ives Football Club	0	0	35	0	35
HDC	South of the Foundry	0	0	0	0	0
HDC	Ramsey Gateway	0	90	0	0	90
HDC	Ramsey Gateway (High Lode)	110	0	0	0	110
HDC	Field Road, Ramsey	0	70	0	0	70
HDC	Whytefield Rd	0	0	35	0	35
HDC	RAF Upwood & Upwood Hill House	0	0	325	0	325
HDC	Cambridge Road, west of bridge over A14, Fenstanton	0	100	0	0	100
HDC	Ivy Nursery	15	10	0	0	25
HDC	Former Dairy Crest Factory, Fenstanton	10	80	0	0	90
HDC	West of Station Rd	0	20	0	0	20
HDC	Land adjacent Bicton Industrial Estate, Kimbolton	0	0	0	0	0
HDC	East of Brookside	0	0	0	0	0
HDC	East of Glebe Farm	0	60	0	0	60
HDC	West of St Andrews Way	0	30	0	0	30
HDC	South of St Andrews Way	0	0	0	0	0
HDC	North of Black Horse Industrial Estate, Sawtry	0	0	0	0	0
HDC	Bill Hall Way	0	0	0	0	0
HDC	Newlands	15	15	0	0	30
HDC	The Pasture, Somersham	20	0	0	0	20
HDC	Somersham Town Football Ground and Pond Closes, Somersham	0	40	0	0	40
HDC	Chatteris Rd, Somersham	0	0	0	0	0
HDC	North of the Bank	0	50	0	0	50
HDC	South of Farriers Way	0	10	85	0	95
HDC	West of Ramsey Road, Warboys	0	25	20	0	45
HDC	Rear of 64 High Street, Warboys	0	14	0	0	14
HDC	Askew's Lane	0	15	0	0	15
HDC	Land inc Snowcap Mushrooms	44	31	0	0	75

District	Site Name and Address	Changes				
		2012-2016	2017-2021	2022-2026	2027-2031	2011-2031
HDC	Yax Pak	0	0	0	0	0
HDC	Huntingdon Racecourse	0	0	0	0	0
HDC	Corpus Christi Lane, Godmanchester	0	4	0	0	4
HDC	Cromwell Road North	20	20	0	0	40
HDC	Eaton Court	30	20	0	0	50
HDC	East of Silver Street	0	8	0	0	8
HDC	West of Station Road, Warboys	60	60	0	0	120
HDC	Manor Farm Barns, Warboys	0	10	0	0	10
HDC	North of Broadway, Yaxley	7	0	0	0	7
HDC	North of Manor Farm, Yaxley	21	0	0	0	21
HDC	Church St, St Neots	43	0	0	0	43
HDC	Brookside, Huntingdon	43	0	0	0	43
HDC	Land Adjacent 25 St Giles Close, Holme	8	0	0	0	8
HDC	Hinchingbrooke Park, Huntingdon	16	0	0	0	16
HDC	London Road, Godmanchester	1	0	0	0	1
HDC	Knights Park Barford Road, Eynesbury	220	0	0	0	220
HDC	East of the Railway (Loves Farm), St Neots	494	0	0	0	494
HDC	Slepe Meadow, North of Houghton Rd, St Ives	86	0	0	0	86
HDC	Greenacres (former St Ives Golf Course), Houghton Rd, St Ives	128	0	0	0	128
HDC	Land west of Woodland Lodge, Christie Drive, Huntingdon (Hollyhocks)	13	0	0	0	13
HDC	Woodlands, Warboys	8	0	0	0	8

Appendix 2 Employment Development Sites

District	Strategic expansion locations
HDC	Alconbury Weald
HDC	Eastern Expansion, St neots
HDC	Wyton Airfield & Wyton on the Hill
HDC	West of Railway
HDC	George St/Ermine St
HDC	RAF Brampton
HDC	Park View Garage
HDC	Bearcroft Farm
HDC	Huntingdon St
HDC	Giffords Farm, St Ives
HDC	RAF Upwood & Upwood Hill House
HDC	Former Dairy Crest Factory, Fenstanton
HDC	Land adjacent Bicton Industrial Estate, Kimbolton
HDC	Yax Pak
City	Wider City Centre
City	Addenbrooke's
SCDC	Northstowe
SCDC	Cambourne
SCDC	Granta Park
SCDC	Hinxton
SCDC	Babraham
SCDC	Landbeach
City	West Cambridge & North West Cambridge (City)
SCDC	West Cambridge & North West Cambridge (SCDC)
City	Northern Fringe (City)
SCDC	Northern Fringe (SCDC)
City	ARM / Capita Park (City)
City	Elsewhere (City)
SCDC	Others (SCDC)
SCDC	Bourne Airfield
SCDC	Waterbeach
SCDC	Hauxton
SCDC	Sawston
SCDC	West Wrattling
SCDC	Duxford
SCDC	Papworth Everard
SCDC	NorthStowe

Appendix 3 Resources for the Tables Used in the Note

- Table 1.1 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xls
- Table 2.1 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab Northstowe Assumptions
- Table 2.2 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Northstowe Model\Land Use Assumptions\LandUseAssumptions_V1.5.xlsx
- Table 2.3 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab Northstowe Assumptions
- Table 2.4 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab Northstowe Assumptions
- Table 2.5 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab 2031 DS1 vs DS2 Main Mode Tab Bus Service and Saturn
- Table 2.6 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Northstowe Model\01 Review Phase 7 Scenario O\Scenario with updated land use assumptions_v4.2_DM.xlsx tab Scenario P
- Table 2.7 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Northstowe Model\01 Review Phase 7 Scenario O\Scenario with updated land use assumptions_v4.2_DM.xlsx tab Scenario P
- Table 2.8 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Northstowe Model\01 Review Phase 7 Scenario O\Scenario with updated land use assumptions_v4.2_DM.xlsx tab Scenario P
- Table 2.9 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Northstowe Model\01 Review Phase 7 Scenario O\Scenario with updated land use assumptions_v4.2_DM.xlsx tab Scenario P
- Table 2.10 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Northstowe Model\01 Review Phase 7 Scenario O\Scenario with updated land use assumptions_v4.2_DM.xlsx tab Scenario P
- Table 2.11 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Northstowe Model\01 Review Phase 7 Scenario O\Scenario with updated land use assumptions_v4.3_DS.xlsx tab Scenario P
- Table 2.12 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Employment\Employment - SCDC + CCiC_1.5.xlsx tab Empl by District
- Table 2.13 from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Employment\Employment - SCDC + CCiC_1.5.xlsx tab Empl by District
- Table 2.14: from W:\70002457 - CSRM NStowe Phase2\D Design and Analysis\Employment\Employment - SCDC + CCiC_1.5.xlsx tab Empl by District
- Table 3.1 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx
- Table 3.2 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx
- Table 3.3/ 3.4 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab Dwellings
- Table 3.5/ 3.6 from W:\70002457 - CSRM NStowe Phase2\F Record of Issue\14-05-13 Run Control V4

with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab Persons

- Table 3.7/ 3.8 from W:\70002457 - CSRМ NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab Employed Residents
- Table 3.9/ 3.10 from W:\70002457 - CSRМ NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab Total Jobs
- Table 3.11 from W:\70002457 - CSRМ NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab 2031 DM vs DS1 Main Mode
- Table 3.12 from W:\70002457 - CSRМ NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab 2031 DS1 vs DS2 Main Mode
- Table 3.13 from W:\70002457 - CSRМ NStowe Phase2\F Record of Issue\14-05-13 Run Control V4 with More commentary\Run_Control_CSRM_NStowe Phase2_V4.xlsx tab 2031 Org -Des DM vs DS1 Car



NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 9
Outputs from TRICS Database

August 2014

Parking Standards

SCDC Parking Standards

Use Class	Maximum Standard	Notes
A1 – Food Shop	1 space per 14 sqm GFA	The need of most single shops will be for short stay parking which is best provided in front of the shop. Rear of the shop parking is unlikely to be used in the absence of parking restrictions on adjacent roads, except in the
A1 – Non-Food Shop	1 space per 20 sqm GFA	
A1 – Retail Warehouses	1 space per 25 sqm GFA	
A2 – Financial and Professional Services	1 space per 25 sqm GFA	
A3 – Food and Drink	1 car space per 5 sqm GFA	
A4 – Pubs and Bars	1 space per 10 sqm	
B1 – Business	1 space per 25 sqm GFA (under 2,500 sqm)	
	1 space per 30 sqm GFA (over 2,500 sqm)	
B2 – General Industrial	1 space per 50 sqm GFA	
B8 – Storage Or Distribution	1 space per 100 sqm GFA	
C1 – Hotel	13 spaces for 10 guest bedrooms	1 <u>Resident staff</u> The standard relating provision to the number of guest bedrooms includes the demand generated by staff parking, whether they be resident or otherwise. In consequence, staff dwelling units within the building need not be subject to extra residential parking requirements.
		2 <u>Parking demand generated by use of bars, restaurants and function rooms by the general public.</u> The standard quoted differs from those laid down for ordinary bars, restaurants and public rooms. It is unlikely that the peak demand from guests and staff parking will coincide with peak demands from all three of these ancillary uses. Consequently, an allowance has been made for dual use of parking areas. Parking demand at hotel premises arises not only from the staff and resident guests but also from use of facilities such as bars, restaurants and function rooms which are open to the visiting public.
C3 – Dwellings	Average of 1.5 spaces per dwelling across the district (up to a maximum of 2 per 3 or more bedrooms in poorly accessible areas)	Garages are counted as parking spaces. In addition to the above, provision for short-term parking generated by service vehicles, salesmen and some visitors will need to be incorporated into residential developments. Visitor parking should be marked appropriately.
D1	Pre-school Establishments: 1.5 spaces per 2 staff Primary & Secondary Schools:	Schools and non-residential colleges should be encouraged to develop a Travel Plan.
	1 space per 2 staff plus waiting facilities / 1.5 spaces per classroom	
	Non Residential Colleges: 1 space per 2 staff plus 1 space per 15 students	
	Health Centres and Clinics: 1 space per 2 staff plus 2 per consulting room	
D2 (Including cinemas, music and concert halls, dance and sports halls, swimming baths, skating rinks, gymnasiums, other indoor and outdoor sports and leisure uses, bingo halls, casinos).	Churches: 1 space per 4 seats or 1 per 8 sqm	
	1 space per 4 seats or 1 per 8 sqm GFA	

Parking Accumulation

PARKING ACCUMULATION FOR NON RESIDENTIAL USES

Car Trips - Total Internal and External

Land Use	Mode Share AM peak (08:00 to 09:00)			PM Peak (17:00 to 18:00)			12 Hour (07:00 to 19:00)			
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	
Residential	65.19%	841	2317	3159	1704	1132	2837	10608	13009	23617
Education	65.19%	304	37	341	8	18	26	532	525	1057
Employment	65.19%	403	35	438	34	319	353	1851	1790	3641
Retail and Leisure	65.19%	252	149	401	771	869	1640	8144	7806	15949
Community and health	65.19%	16	8	23	26	14	40	292	239	532
Total		1816	2546	4362	2543	2353	4896	21427	23369	44796

Source: UA006156 Northstowe estimate of traffic generation with June 2014 schedule

EDUCATION

**Average of Primary and Secondary
Proportion of 12 hour Trips**

Time Range	Arrivals			Departures			Total	Accumulation
	Proportion	Total	Proportion	Total	Total			
07:00-08:00	0.043	0.014	0.029	23	7	31	15	
08:00-09:00	0.426	0.301	0.364	226	158	385	76	
09:00-10:00	0.048	0.063	0.056	26	33	59	151	
10:00-11:00	0.017	0.021	0.019	9	11	20	31	
11:00-12:00	0.041	0.028	0.035	22	15	37	18	
12:00-13:00	0.024	0.044	0.034	13	23	36	5	
13:00-14:00	0.039	0.038	0.039	21	20	41	24	
14:00-15:00	0.077	0.032	0.055	41	17	58	44	
15:00-16:00	0.182	0.277	0.229	97	146	242	-32	
16:00-17:00	0.050	0.107	0.078	27	56	82	116	
17:00-18:00	0.034	0.059	0.046	18	31	49	43	
18:00-19:00	0.017	0.016	0.016	9	8	17	32	
Daily Trip Rates:	1.000	1.000	1.000					

RETAIL AND LEISURE

**Average of Food, comparison and cinema uses
Proportion of 12 hour Trips**

Time Range	Arrivals			Departures			Total	Accumulation
	Proportion	Total	Proportion	Total	Total			
07:00-08:00	0.008	0.005	0.007	68	38	106	30	
08:00-09:00	0.023	0.014	0.018	185	106	290	118	
09:00-10:00	0.042	0.030	0.036	343	232	574	217	
10:00-11:00	0.070	0.055	0.063	571	432	1002	371	
11:00-12:00	0.088	0.078	0.083	716	606	1323	542	
12:00-13:00	0.107	0.104	0.106	875	811	1690	670	
13:00-14:00	0.125	0.122	0.123	1014	950	1966	875	
14:00-15:00	0.123	0.111	0.117	1000	868	1874	1081	
15:00-16:00	0.107	0.121	0.114	875	943	1813	800	
16:00-17:00	0.112	0.137	0.124	914	1066	1976	791	
17:00-18:00	0.112	0.126	0.119	913	980	1895	1000	
18:00-19:00	0.082	0.099	0.090	669	772	1441	877	

Parking Accumulation

EMPLOYMENT

Average of B1 and B2 uses
Proportion of 12 hour

Trips

	Average of B1 and B2 uses		Trips			Accumulation	
	Proportion of 12 hour	Trips	Arrivals	Departures	Total		
07:00-07:30	0.029	0.005	0.017	54	9	63	45
07:30-08:00	0.078	0.009	0.044	144	16	161	174
08:00-08:30	0.192	0.023	0.109	355	41	397	487
08:30-09:00	0.145	0.022	0.085	268	39	308	716
09:00-09:30	0.093	0.026	0.060	172	47	219	841
09:30-10:00	0.043	0.025	0.034	79	45	124	875
10:00-10:30	0.024	0.021	0.022	44	37	81	882
10:30-11:00	0.037	0.023	0.030	68	40	109	910
11:00-11:30	0.025	0.024	0.025	47	43	90	913
11:30-12:00	0.029	0.027	0.028	54	48	102	919
12:00-12:30	0.026	0.037	0.031	48	65	113	902
12:30-13:00	0.027	0.039	0.033	51	69	120	883
13:00-13:30	0.033	0.041	0.037	61	73	134	871
13:30-14:00	0.045	0.036	0.040	83	64	146	890
14:00-14:30	0.036	0.032	0.034	67	58	125	900
14:30-15:00	0.021	0.032	0.026	38	58	96	881
15:00-15:30	0.013	0.032	0.023	24	58	82	847
15:30-16:00	0.022	0.033	0.027	41	59	99	830
16:00-16:30	0.019	0.063	0.040	35	113	147	752
16:30-17:00	0.020	0.093	0.055	37	166	202	623
17:00-17:30	0.021	0.113	0.066	39	203	240	459
17:30-18:00	0.010	0.150	0.079	18	268	286	210
18:00-18:30	0.008	0.059	0.033	15	106	122	119
18:30-19:00	0.004	0.037	0.020	8	66	74	61
Daily Trip Rates:	1.000	1.000	1.000	1851	1790	3641	

821 105

Maximum Accumulation

Education	151
Employment	919
Town Centre Uses	1081

Land Use	Quantum	Maximum	Maximum	Maximum Ac	Suggested Provision
Residential – Privately Owned	2800 units	Average of	4200		4238.4
Residential – Affordable Hous	700 units	Average of	1050		1059.6
Convenience retail (foodstore)	10000 sqm	1 space pe	714	516.9	516.9
Comparison/ service retail	25000 sqm	1 space pe	1250	433.25	433.25
Primary School	840 pupils	1 space pe	42		42
Secondary School	1250 pupils	1 space pe	62.5		62.5
B1 Office	16200 sqm	1 space pe	648	1166.076	648
B2 Light Industrial	5000 sqm	1 space pe	100	249.65	100
Leisure	10000 sqm	1 space pe	1250	420	420
Health, Community and Fitness	6000 sqm				
Youth Facility	2000 sqm				
Place of worship	1000 sqm				
		Total Residential			5298
		Total B1/B2			748
Schedule based on Arup 4/6/14		Total Town Centre Uses			1370.15

Summary

AM Peak Hour Land Use	Total Persons			Vehicles			Total Mode Share
	In	Out	Total	In	Out	Total	
Food superstore	6.45	4.276	10.726	4.257	2.885	7.142	66.59%
Comparison retail	0.851	0.324	1.175	0.605	0.245	0.85	72.34%
Leisure Cinema	0	0	0	0	0	0	0.00%
Leisure Bowling	0	0	0	0	0	0	0.00%
Leisure average	0	0	0	0	0	0	
Food and drink	0	0	0	0	0	0	0.00%
B1 office	3.483	0.263	3.746	1.943	0.223	2.166	0
B2 light industry	2.454	0.34	2.794	1.998	0.274	2.272	81.32%

PM Peak Hour Land Use	Total Persons			Vehicles			Total Mode Share
	In	Out	Total	In	Out	Total	
Food superstore	12.377	13.742	26.119	6.655	7.61	14.265	54.62%
Comparison retail	2.926	4.029	6.955	1.605	2.166	3.771	54.22%
Leisure Cinema	10.937	9.938	20.875	3.979	3.408	7.387	35.39%
Leisure Bowling	2.241	1.69	3.931	0.771	0.882	1.653	42.05%
Leisure Total	13.178	11.628	24.806	4.75	4.29	9.04	36.44%
Leisure average	6.589	5.814	12.403	2.375	2.145	4.520	36.44%
Food and drink	4.928	4.177	9.105	1.743	1.773	3.516	38.62%
B1 office	0.315	2.745	3.06	0.27	1.401	1.671	54.61%
B2 light industry	0.137	1.991	2.128	0.124	1.534	1.658	77.91%

12 Hour Land Use	Total Persons			Vehicles			Total Mode Share
	In	Out	Total	In	Out	Total	
Food superstore	133.793	129.794	263.587	76.034	74.152	150.186	56.98%
Comparison retail	42.441	42.263	84.704	23.372	23.256	46.628	55.05%
Leisure Cinema	60.84	48.761	109.601	22.731	19.412	42.143	38.45%
Leisure Bowling	14.585	12.49	27.075	5.842	4.961	10.803	39.90%
Leisure Total	75.425	61.251	136.676	28.573	24.373	52.946	
Leisure average	37.713	30.626	68.338	14.287	12.187	26.473	38.74%
Food and drink	41.094	35.457	76.551	14.132	12.394	26.526	34.65%
B1 office	17.631	16.995	34.626	7.455	7.017	14.472	
B2 light industry	5.973	5.955	11.928	4.849	4.706	9.555	80.11%

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	Arrivals			Departure:Total			Proportion of 12 hour		
	Arrivals	Departure:Total	Total	Arrivals	Departure:Total	Total	Arrivals	Departure:Total	Total
07:00-08:00	1.932	1.182	3.114	0.025	0.016	0.021			
08:00-09:00	4.257	2.885	7.142	0.056	0.039	0.048			
09:00-10:00	5.94	4.888	10.828	0.078	0.066	0.072			
10:00-11:00	7.63	6.307	13.937	0.100	0.085	0.093			
11:00-12:00	8.293	7.621	15.914	0.109	0.103	0.106			
12:00-13:00	7.712	8.06	15.772	0.101	0.109	0.105			
13:00-14:00	7.005	7.115	14.12	0.092	0.096	0.094			
14:00-15:00	6.962	7.124	14.086	0.092	0.096	0.094			
15:00-16:00	7.366	7.388	14.754	0.097	0.100	0.098			
16:00-17:00	7.165	7.766	14.931	0.094	0.105	0.099			
17:00-18:00	6.655	7.61	14.265	0.088	0.103	0.095			
18:00-19:00	5.117	6.206	11.323	0.067	0.084	0.075			
Daily Trip Rates	76.034	74.152	150.186	1.000	1.000	1.000			

VEHICLES	Arrivals	Departures	Total
AM	4.257	2.885	7.142
PM	6.655	7.61	14.265
12 Hour	76.034	74.152	150.186

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	Arrivals			Departure:Total			Proportion of 12 hour		
	Arrivals	Departure:Total	Total	Arrivals	Departure:Total	Total	Arrivals	Departure:Total	Total
07:00-08:00	2.712	1.735	4.447	0.020	0.013	0.017			
08:00-09:00	6.45	4.276	10.726	0.048	0.033	0.041			
09:00-10:00	9.609	7.455	17.064	0.072	0.057	0.065			
10:00-11:00	13.306	10.536	23.842	0.099	0.081	0.090			
11:00-12:00	14.514	13.241	27.755	0.108	0.102	0.105			
12:00-13:00	13.842	14.373	28.215	0.103	0.111	0.107			
13:00-14:00	12.861	12.869	25.73	0.096	0.099	0.098			
14:00-15:00	12.463	12.792	25.255	0.093	0.099	0.096			
15:00-16:00	13.414	13.207	26.621	0.100	0.102	0.101			
16:00-17:00	12.906	14.235	27.141	0.096	0.110	0.103			
17:00-18:00	12.377	13.742	26.119	0.093	0.106	0.099			
18:00-19:00	9.339	11.333	20.672	0.070	0.087	0.078			
Daily Trip Rates	133.793	129.794	263.587	1.000	1.000	1.000			

PEOPLE	Arrivals	Departures	Total
AM	6.45	4.276	10.726
PM	12.377	13.742	26.119
12 Hour	133.793	129.794	263.587

Comparison

TRIP RATE for Land Use 01 - RETAIL/K - RETAIL PARK - EXCLUDING FOOD

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	Arrivals	Departure: Total		Proportion of 12 hour		
		Arrivals	Departure: Total	Arrivals	Departure: Total	
07:00-08:00	0.148	0.045	0.193	0.006	0.002	0.004
08:00-09:00	0.605	0.245	0.85	0.026	0.011	0.018
09:00-10:00	1.475	0.926	2.401	0.063	0.040	0.051
10:00-11:00	2.314	1.891	4.205	0.099	0.081	0.090
11:00-12:00	2.774	2.476	5.25	0.119	0.106	0.113
12:00-13:00	2.778	2.788	5.566	0.119	0.120	0.119
13:00-14:00	2.823	2.874	5.697	0.121	0.124	0.122
14:00-15:00	2.92	2.934	5.854	0.125	0.126	0.126
15:00-16:00	2.912	2.892	5.804	0.125	0.124	0.124
16:00-17:00	2.334	2.842	5.176	0.100	0.122	0.111
17:00-18:00	1.605	2.166	3.771	0.069	0.093	0.081
18:00-19:00	0.684	1.177	1.861	0.029	0.051	0.040
Daily Trip Rate	23.372	23.256	46.628	1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	0.605	0.245	0.85
PM	1.605	2.166	3.771
12 Hour	23.372	23.256	46.628

TRIP RATE for Land Use 01 - RETAIL/K - RETAIL PARK - EXCLUDING FOOD

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	Arrivals	Departure: Total		Proportion of 12 hour		
		Arrivals	Departure: Total	Arrivals	Departure: Total	
07:00-08:00	0.199	0.053	0.252	0.005	0.001	0.003
08:00-09:00	0.851	0.324	1.175	0.020	0.008	0.014
09:00-10:00	2.32	1.338	3.658	0.055	0.032	0.043
10:00-11:00	3.965	3.039	7.004	0.093	0.072	0.083
11:00-12:00	4.932	4.291	9.223	0.116	0.102	0.109
12:00-13:00	5.064	5.194	10.258	0.119	0.123	0.121
13:00-14:00	5.38	5.376	10.756	0.127	0.127	0.127
14:00-15:00	5.647	5.55	11.197	0.133	0.131	0.132
15:00-16:00	5.627	5.663	11.29	0.133	0.134	0.133
16:00-17:00	4.334	5.308	9.642	0.102	0.126	0.114
17:00-18:00	2.926	4.029	6.955	0.069	0.095	0.082
18:00-19:00	1.196	2.098	3.294	0.028	0.050	0.039
Daily Trip Rate	42.441	42.263	84.704	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	0.851	0.324	1.175
PM	2.926	4.029	6.955
12 Hour	42.441	42.263	84.704

TRIP RATE for Land Use 07 - LEISURE/A - MULTIPLEX CINEMAS

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	Arrivals	Departure:	Total	Proportion of 12 hour		
				Arrivals	Departure:	Total
07:00-08:00				0.000	0.000	0.000
08:00-09:00				0.000	0.000	0.000
09:00-10:00				0.000	0.000	0.000
10:00-11:00	0.393	0.25	0.643	0.017	0.013	0.015
11:00-12:00	0.892	0.571	1.463	0.039	0.029	0.035
12:00-13:00	2.266	1.517	3.783	0.100	0.078	0.090
13:00-14:00	3.426	2.694	6.12	0.151	0.139	0.145
14:00-15:00	3.229	2.016	5.245	0.142	0.104	0.124
15:00-16:00	2.034	2.462	4.496	0.089	0.127	0.107
16:00-17:00	3.14	3.39	6.53	0.138	0.175	0.155
17:00-18:00	3.979	3.408	7.387	0.175	0.176	0.175
18:00-19:00	3.372	3.104	6.476	0.148	0.160	0.154
Daily Trip Rates:	22.731	19.412	42.143	1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	0	0	0
PM	3.979	3.408	7.387
12 Hour	22.731	19.412	42.143

TRIP RATE for Land Use 07 - LEISURE/A - MULTIPLEX CINEMAS

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	Arrivals	Departure:	Total	Proportion of 12 hour		
				Arrivals	Departure:	Total
07:00-08:00				0.000	0.000	0.000
08:00-09:00				0.000	0.000	0.000
09:00-10:00				0.000	0.000	0.000
10:00-11:00	0.839	0.5	1.339	0.014	0.010	0.012
11:00-12:00	2.498	1.338	3.836	0.041	0.027	0.035
12:00-13:00	6.655	3.818	10.473	0.109	0.078	0.096
13:00-14:00	9.795	7.208	17.003	0.161	0.148	0.155
14:00-15:00	8.831	5.352	14.183	0.145	0.110	0.129
15:00-16:00	5.067	5.424	10.491	0.083	0.111	0.096
16:00-17:00	7.654	8.011	15.665	0.126	0.164	0.143
17:00-18:00	10.937	9.938	20.875	0.180	0.204	0.190
18:00-19:00	8.564	7.172	15.736	0.141	0.147	0.144
Daily Trip Rates:	60.84	48.761	109.601	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	0	0	0
PM	10.937	9.938	20.875
12 Hour	60.84	48.761	109.601

Leisure - Bowling

TRIP RATE for Land Use 07 - LEISURE/B - BOWLING ALLEYS

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Rang	Arrivals	Departure	Total	Proportion of 12 hour		
				Arrivals	Departure	Total
07:00-08:00				0.000	0.000	0.000
08:00-09:00				0.000	0.000	0.000
09:00-10:00	0.037	0	0.037	0.006	0.000	0.003
10:00-11:00	0.22	0.037	0.257	0.038	0.007	0.024
11:00-12:00	0.294	0.22	0.514	0.050	0.044	0.048
12:00-13:00	0.735	0.184	0.919	0.126	0.037	0.085
13:00-14:00	0.331	0.698	1.029	0.057	0.141	0.095
14:00-15:00	0.845	0.478	1.323	0.145	0.096	0.122
15:00-16:00	0.588	0.441	1.029	0.101	0.089	0.095
16:00-17:00	0.698	0.478	1.176	0.119	0.096	0.109
17:00-18:00	0.771	0.882	1.653	0.132	0.178	0.153
18:00-19:00	1.323	1.543	2.866	0.226	0.311	0.265
Daily Trip f	5.842	4.961	10.803	1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	0	0	0
PM	0.771	0.882	1.653
12 Hour	5.842	4.961	10.803

TRIP RATE for Land Use 07 - LEISURE/B - BOWLING ALLEYS

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Rang	Arrivals	Departure	Total	Proportion of 12 hour		
				Arrivals	Departure	Total
07:00-08:00				0.000	0.000	0.000
08:00-09:00				0.000	0.000	0.000
09:00-10:00	0.073	0	0.073	0.005	0.000	0.003
10:00-11:00	0.882	0.22	1.102	0.060	0.018	0.041
11:00-12:00	1.139	0.698	1.837	0.078	0.056	0.068
12:00-13:00	2.094	1.139	3.233	0.144	0.091	0.119
13:00-14:00	1.029	1.653	2.682	0.071	0.132	0.099
14:00-15:00	1.874	1.359	3.233	0.128	0.109	0.119
15:00-16:00	1.837	1.359	3.196	0.126	0.109	0.118
16:00-17:00	1.212	1.029	2.241	0.083	0.082	0.083
17:00-18:00	2.241	1.69	3.931	0.154	0.135	0.145
18:00-19:00	2.204	3.343	5.547	0.151	0.268	0.205
Daily Trip f	14.585	12.49	27.075	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	0	0	0
PM	2.241	1.69	3.931
12 Hour	14.585	12.49	27.075

TRIP RATE for Land Use 07 - LEISURE/H - BINGO HALLS

Calculation Factor: 1 SEATS

Count Type: VEHICLES

Time Rang	Arrivals	Departure	Total	Proportion of 12 hour		
				Arrivals	Departure	Total
07:00-08:00				0.000	0.000	0.000
08:00-09:00				0.000	0.000	0.000
09:00-10:00	0.001	0.001	0.002	0.007	0.011	0.009
10:00-11:00	0.012	0.006	0.018	0.086	0.069	0.080
11:00-12:00	0.008	0.006	0.014	0.058	0.069	0.062
12:00-13:00	0.01	0.006	0.016	0.072	0.069	0.071
13:00-14:00	0.01	0.004	0.014	0.072	0.046	0.062
14:00-15:00	0.004	0.006	0.01	0.029	0.069	0.044
15:00-16:00	0.013	0.031	0.044	0.094	0.356	0.195
16:00-17:00	0.003	0	0.003	0.022	0.000	0.013
17:00-18:00	0.02	0.008	0.028	0.144	0.092	0.124
18:00-19:00	0.058	0.019	0.077	0.417	0.218	0.341
Daily Trip f	0.139	0.087	0.226	1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	0	0	0
PM	0.02	0.008	0.028
12 Hour	0.139	0.087	0.226

TRIP RATE for Land Use 07 - LEISURE/H - BINGO HALLS

Calculation Factor: 1 SEATS

Count Type: TOTAL PEOPLE

Time Rang	Arrivals	Departure	Total	Proportion of 12 hour		
				Arrivals	Departure	Total
07:00-08:00				0.000	0.000	0.000
08:00-09:00				0.000	0.000	0.000
09:00-10:00	0.003	0.001	0.004	0.008	0.004	0.006
10:00-11:00	0.059	0.004	0.063	0.148	0.016	0.097
11:00-12:00	0.037	0.029	0.066	0.093	0.115	0.101
12:00-13:00	0.064	0.017	0.081	0.160	0.067	0.124
13:00-14:00	0.046	0.012	0.058	0.115	0.048	0.089
14:00-15:00	0.007	0.009	0.016	0.018	0.036	0.025
15:00-16:00	0.011	0.144	0.155	0.028	0.571	0.238
16:00-17:00	0.013	0.008	0.021	0.033	0.032	0.032
17:00-18:00	0.051	0.012	0.063	0.128	0.048	0.097
18:00-19:00	0.108	0.016	0.124	0.271	0.063	0.190
Daily Trip f	0.399	0.252	0.651	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	0	0	0
PM	0.051	0.012	0.063
12 Hour	0.399	0.252	0.651

Food and Drink Restaurant

TRIP RATE for Land Use 06 - HOTEL

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Rang	Arrivals			Departure: Total			Proportion of 12 hour		
	Arrivals	Departure: Total	Total	Arrivals	Departure: Total	Total	Arrivals	Departure: Total	Total
07:00-08:00				0.000	0.000	0.000			
08:00-09:00				0.000	0.000	0.000			
09:00-10:00	0	0	0	0.000	0.000	0.000			
10:00-11:00	0	0	0	0.000	0.000	0.000			
11:00-12:00	0.46	0.283	0.743	0.033	0.023	0.028			
12:00-13:00	1.593	0.391	1.984	0.113	0.032	0.075			
13:00-14:00	2.224	1.683	3.907	0.157	0.136	0.147			
14:00-15:00	2.103	2.584	4.687	0.149	0.208	0.177			
15:00-16:00	2.103	2.314	4.417	0.149	0.187	0.167			
16:00-17:00	1.833	1.653	3.486	0.130	0.133	0.131			
17:00-18:00	1.743	1.773	3.516	0.123	0.143	0.133			
18:00-19:00	2.073	1.713	3.786	0.147	0.138	0.143			
Daily Trip I	14.132	12.394	26.526	1.000	1.000	1.000			

VEHICLES	Arrivals	Departures	Total
AM	0	0	0
PM	1.743	1.773	3.516
12 Hour	14.132	12.394	26.526

TRIP RATE for Land Use 06 - HOTEL

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Rang	Arrivals			Departure: Total			Proportion of 12 hour		
	Arrivals	Departure: Total	Total	Arrivals	Departure: Total	Total	Arrivals	Departure: Total	Total
07:00-08:00				0.000	0.000	0.000			
08:00-09:00				0.000	0.000	0.000			
09:00-10:00	0.235	0	0.235	0.006	0.000	0.003			
10:00-11:00	0.605	0.242	0.847	0.015	0.007	0.011			
11:00-12:00	2.122	0.99	3.112	0.052	0.028	0.041			
12:00-13:00	5.799	1.983	7.782	0.141	0.056	0.102			
13:00-14:00	6.25	5.288	11.538	0.152	0.149	0.151			
14:00-15:00	5.319	7.302	12.621	0.129	0.206	0.165			
15:00-16:00	4.688	5.679	10.367	0.114	0.160	0.135			
16:00-17:00	5.198	4.327	9.525	0.126	0.122	0.124			
17:00-18:00	4.928	4.177	9.105	0.120	0.118	0.119			
18:00-19:00	5.95	5.469	11.419	0.145	0.154	0.149			
Daily Trip I	41.094	35.457	76.551	1.000	1.000	1.000			

PEOPLE	Arrivals	Departures	Total
AM	0	0	0
PM	4.928	4.177	9.105
12 Hour	41.094	35.457	76.551

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Rang	Arrivals		Departure:Total		Proportion of 12 hour	
	Arrivals	Departure:Total	Arrivals	Departure:Total	Arrivals	Departure:Total
07:00-07:3	0.206	0.039	0.245	0.028	0.006	0.017
07:30-08:0	0.589	0.057	0.646	0.079	0.008	0.045
08:00-08:3	0.872	0.099	0.971	0.117	0.014	0.067
08:30-09:0	1.071	0.124	1.195	0.144	0.018	0.083
09:00-09:3	0.89	0.17	1.06	0.119	0.024	0.073
09:30-10:0	0.415	0.216	0.631	0.056	0.031	0.044
10:00-10:3	0.234	0.174	0.408	0.031	0.025	0.028
10:30-11:0	0.301	0.181	0.482	0.040	0.026	0.033
11:00-11:3	0.255	0.213	0.468	0.034	0.030	0.032
11:30-12:0	0.277	0.199	0.476	0.037	0.028	0.033
12:00-12:3	0.206	0.309	0.515	0.028	0.044	0.036
12:30-13:0	0.248	0.241	0.489	0.033	0.034	0.034
13:00-13:3	0.202	0.312	0.514	0.027	0.044	0.036
13:30-14:0	0.294	0.245	0.539	0.039	0.035	0.037
14:00-14:3	0.273	0.266	0.539	0.037	0.038	0.037
14:30-15:0	0.177	0.337	0.514	0.024	0.048	0.036
15:00-15:3	0.117	0.28	0.397	0.016	0.040	0.027
15:30-16:0	0.181	0.323	0.504	0.024	0.046	0.035
16:00-16:3	0.16	0.66	0.82	0.021	0.094	0.057
16:30-17:0	0.16	0.88	1.04	0.021	0.125	0.072
17:00-17:3	0.181	0.947	1.128	0.024	0.135	0.078
17:30-18:0	0.089	0.454	0.543	0.012	0.065	0.038
18:00-18:3	0.043	0.202	0.245	0.006	0.029	0.017
18:30-19:0	0.014	0.089	0.103	0.002	0.013	0.007
Daily Trip f	7.455	7.017	14.472	1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	1.943	0.223	2.166
PM	0.27	1.401	1.671
12 Hour	7.455	7.017	14.472

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Rang	Arrivals		Departure:Total		Proportion of 12 hour	
	Arrivals	Departure:Total	Arrivals	Departure:Total	Arrivals	Departure:Total
07:00-07:3	0.323	0.021	0.344	0.018	0.001	0.010
07:30-08:0	1.036	0.05	1.086	0.059	0.003	0.031
08:00-08:3	1.55	0.089	1.639	0.088	0.005	0.047
08:30-09:0	1.933	0.174	2.107	0.110	0.010	0.061
09:00-09:3	1.429	0.319	1.748	0.081	0.019	0.050
09:30-10:0	0.841	0.39	1.231	0.048	0.023	0.036
10:00-10:3	0.536	0.429	0.965	0.030	0.025	0.028
10:30-11:0	0.681	0.518	1.199	0.039	0.030	0.035
11:00-11:3	0.578	0.507	1.085	0.033	0.030	0.031
11:30-12:0	0.738	0.628	1.366	0.042	0.037	0.039
12:00-12:3	0.812	1.472	2.284	0.046	0.087	0.066
12:30-13:0	1.312	1.39	2.702	0.074	0.082	0.078
13:00-13:3	1.291	1.401	2.692	0.073	0.082	0.078
13:30-14:0	1.461	0.819	2.28	0.083	0.048	0.066
14:00-14:3	0.89	0.716	1.606	0.050	0.042	0.046
14:30-15:0	0.5	0.692	1.192	0.028	0.041	0.034
15:00-15:3	0.355	0.649	1.004	0.020	0.038	0.029
15:30-16:0	0.436	0.727	1.163	0.025	0.043	0.034
16:00-16:3	0.305	1.163	1.468	0.017	0.068	0.042
16:30-17:0	0.234	1.596	1.83	0.013	0.094	0.053
17:00-17:3	0.209	1.752	1.961	0.012	0.103	0.057
17:30-18:0	0.106	0.993	1.099	0.006	0.058	0.032
18:00-18:3	0.05	0.337	0.387	0.003	0.020	0.011
18:30-19:0	0.025	0.163	0.188	0.001	0.010	0.005
Daily Trip f	17.631	16.995	34.626	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	3.483	0.263	3.746
PM	0.315	2.745	3.06
12 Hour	17.631	16.995	34.626

B2 - Light Industry

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	Arrivals		Departure:Total		Proportion of 12 hour	
	Arrivals	Departure:Total	Arrivals	Departure:Total	Arrivals	Departure:Total
07:00-07:30	0.15	0.02	0.17	0.031	0.004	0.018
07:30-08:00	0.372	0.046	0.418	0.077	0.010	0.044
08:00-08:30	1.293	0.15	1.443	0.267	0.032	0.151
08:30-09:00	0.705	0.124	0.829	0.145	0.026	0.087
09:00-09:30	0.32	0.131	0.451	0.066	0.028	0.047
09:30-10:00	0.144	0.091	0.235	0.030	0.019	0.025
10:00-10:30	0.078	0.078	0.156	0.016	0.017	0.016
10:30-11:00	0.163	0.091	0.254	0.034	0.019	0.027
11:00-11:30	0.078	0.085	0.163	0.016	0.018	0.017
11:30-12:00	0.104	0.118	0.222	0.021	0.025	0.023
12:00-12:30	0.118	0.137	0.255	0.024	0.029	0.027
12:30-13:00	0.104	0.202	0.306	0.021	0.043	0.032
13:00-13:30	0.189	0.176	0.365	0.039	0.037	0.038
13:30-14:00	0.242	0.17	0.412	0.050	0.036	0.043
14:00-14:30	0.176	0.124	0.3	0.036	0.026	0.031
14:30-15:00	0.085	0.078	0.163	0.018	0.017	0.017
15:00-15:30	0.052	0.118	0.17	0.011	0.025	0.018
15:30-16:00	0.098	0.091	0.189	0.020	0.019	0.020
16:00-16:30	0.078	0.15	0.228	0.016	0.032	0.024
16:30-17:00	0.091	0.281	0.372	0.019	0.060	0.039
17:00-17:30	0.085	0.431	0.516	0.018	0.092	0.054
17:30-18:00	0.039	1.103	1.142	0.008	0.234	0.120
18:00-18:30	0.052	0.424	0.476	0.011	0.090	0.050
18:30-19:00	0.033	0.287	0.32	0.007	0.061	0.033
Daily Trip Rates:	4.849	4.706	9.555	1.000	1.000	1.000
				1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	1.998	0.274	2.272
PM	0.124	1.534	1.658
12 Hour	4.849	4.706	9.555

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	Arrivals		Departure:Total		Proportion of 12 hour	
	Arrivals	Departure:Total	Arrivals	Departure:Total	Arrivals	Departure:Total
07:00-07:30	0.202	0.033	0.235	0.080	0.011	0.045
07:30-08:00	0.477	0.065	0.542	0.263	0.029	0.146
08:00-08:30	1.573	0.17	1.743	0.147	0.029	0.088
08:30-09:00	0.881	0.17	1.051	0.067	0.022	0.044
09:00-09:30	0.398	0.131	0.529	0.032	0.017	0.025
09:30-10:00	0.189	0.104	0.293	0.012	0.013	0.013
10:00-10:30	0.072	0.078	0.15	0.035	0.016	0.026
10:30-11:00	0.209	0.098	0.307	0.014	0.014	0.014
11:00-11:30	0.085	0.085	0.17	0.021	0.021	0.021
11:30-12:00	0.124	0.124	0.248	0.021	0.038	0.030
12:00-12:30	0.124	0.229	0.353	0.024	0.045	0.035
12:30-13:00	0.144	0.268	0.412	0.051	0.039	0.045
13:00-13:30	0.307	0.235	0.542	0.047	0.035	0.041
13:30-14:00	0.281	0.209	0.49	0.035	0.023	0.029
14:00-14:30	0.209	0.137	0.346	0.016	0.019	0.018
14:30-15:00	0.098	0.111	0.209	0.010	0.021	0.015
15:00-15:30	0.059	0.124	0.183	0.019	0.016	0.018
15:30-16:00	0.111	0.098	0.209	0.015	0.034	0.025
16:00-16:30	0.091	0.202	0.293	0.017	0.064	0.040
16:30-17:00	0.104	0.379	0.483	0.016	0.095	0.056
17:00-17:30	0.098	0.568	0.666	0.007	0.239	0.123
17:30-18:00	0.039	1.423	1.462	0.009	0.092	0.050
18:00-18:30	0.052	0.548	0.6	0.008	0.061	0.035
18:30-19:00	0.046	0.366	0.412	1.000	1.000	1.000
Daily Trip Rates:	5.973	5.955	11.928	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	2.454	0.34	2.794
PM	0.137	1.991	2.128
12 Hour	5.973	5.955	11.928

Primary School

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	Trip Rate			Proportion of 12 hour		
	Rate	Rate	Rate	Arrivals	Departure	Total
07:00-08:00	0.531	0.234	0.765	0.035	0.016	0.025
08:00-09:00	6.979	4.965	11.944	0.456	0.330	0.394
09:00-10:00	0.656	1.233	1.889	0.043	0.082	0.062
10:00-11:00	0.187	0.312	0.499	0.012	0.021	0.016
11:00-12:00	0.812	0.468	1.28	0.053	0.031	0.042
12:00-13:00	0.25	0.687	0.937	0.016	0.046	0.031
13:00-14:00	0.562	0.562	1.124	0.037	0.037	0.037
14:00-15:00	1.952	0.39	2.342	0.127	0.026	0.077
15:00-16:00	2.685	4.918	7.603	0.175	0.327	0.251
16:00-17:00	0.453	0.765	1.218	0.030	0.051	0.040
17:00-18:00	0.25	0.5	0.75	0.016	0.033	0.025
18:00-19:00	0	0	0	0.000	0.000	0.000
Daily Trip Rates	15.317	15.034	30.351	1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	6.979	4.965	11.944
PM	0.25	0.5	0.75
12 Hour	15.317	15.034	30.351

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	Trip Rate			Proportion of 12 hour		
	Rate	Rate	Rate	Arrivals	Departure	Total
07:00-08:00	0.656	0.25	0.906	0.015	0.006	0.010
08:00-09:00	23.607	5.933	29.54	0.535	0.137	0.338
09:00-10:00	1.53	3.497	5.027	0.035	0.081	0.057
10:00-11:00	0.406	0.578	0.984	0.009	0.013	0.011
11:00-12:00	1.78	1.03	2.81	0.040	0.024	0.032
12:00-13:00	1.046	1.311	2.357	0.024	0.030	0.027
13:00-14:00	1.421	1.577	2.998	0.032	0.036	0.034
14:00-15:00	5.839	1.499	7.338	0.132	0.035	0.084
15:00-16:00	6.667	24.918	31.585	0.151	0.575	0.361
16:00-17:00	0.781	1.92	2.701	0.018	0.044	0.031
17:00-18:00	0.375	0.812	1.187	0.009	0.019	0.014
18:00-19:00	0	0.039	0.039	0.000	0.001	0.000
Daily Trip Rates	44.108	43.364	87.472	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	23.607	5.933	29.54
PM	0.375	0.812	1.187
12 Hour	44.108	43.364	87.472

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

Calculation Factor: 1 PUPILS

Count Type: VEHICLES

Time Rang	Trip		Proportion of 12 hour			
	Rate	Rate	Rate	Arrivals	Departure	Total
07:00-08:C	0.021	0.005	0.026	0.052	0.013	0.033
08:00-09:C	0.161	0.105	0.266	0.396	0.271	0.335
09:00-10:C	0.022	0.017	0.039	0.054	0.044	0.049
10:00-11:C	0.009	0.008	0.017	0.022	0.021	0.021
11:00-12:C	0.012	0.01	0.022	0.029	0.026	0.028
12:00-13:C	0.013	0.016	0.029	0.032	0.041	0.037
13:00-14:C	0.017	0.015	0.032	0.042	0.039	0.040
14:00-15:C	0.011	0.015	0.026	0.027	0.039	0.033
15:00-16:C	0.077	0.088	0.165	0.189	0.227	0.208
16:00-17:C	0.029	0.063	0.092	0.071	0.163	0.116
17:00-18:C	0.021	0.033	0.054	0.052	0.085	0.068
18:00-19:C	0.014	0.012	0.026	0.034	0.031	0.033
Daily Trip I	0.407	0.387	0.794	1.000	1.000	1.000

VEHICLES	Arrivals	Departures	Total
AM	0.161	0.105	0.266
PM	0.021	0.033	0.054
12 Hour	0.407	0.387	0.794

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

Calculation Factor: 1 PUPILS

Count Type: TOTAL PEOPLE

Time Rang	Trip		Proportion of 12 hour			
	Rate	Rate	Rate	Arrivals	Departure	Total
07:00-08:C	0.036	0.004	0.04	0.022	0.002	0.012
08:00-09:C	0.965	0.049	1.014	0.595	0.031	0.314
09:00-10:C	0.061	0.03	0.091	0.038	0.019	0.028
10:00-11:C	0.034	0.033	0.067	0.021	0.021	0.021
11:00-12:C	0.037	0.051	0.088	0.023	0.032	0.027
12:00-13:C	0.081	0.129	0.21	0.050	0.080	0.065
13:00-14:C	0.217	0.158	0.375	0.134	0.098	0.116
14:00-15:C	0.033	0.049	0.082	0.020	0.031	0.025
15:00-16:C	0.074	0.752	0.826	0.046	0.468	0.256
16:00-17:C	0.028	0.252	0.28	0.017	0.157	0.087
17:00-18:C	0.029	0.072	0.101	0.018	0.045	0.031
18:00-19:C	0.028	0.027	0.055	0.017	0.017	0.017
Daily Trip I	1.623	1.606	3.229	1.000	1.000	1.000

PEOPLE	Arrivals	Departures	Total
AM	0.965	0.049	1.014
PM	0.029	0.072	0.101
12 Hour	1.623	1.606	3.229

Parameter summary

Trip rate parameter range selected:

Survey date date range:

Number of weekdays (Monday-Friday):

Number of Saturdays:

Number of Sundays:

Surveys manually removed from selection:

This section the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed

TRICS 7.1.1

Trip Rate Parameter: Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 01 - RETAIL
 Category A - FOOD SUPERSTORE
 MULTI-MODAL VEHICLES

Selected regions and areas:

2 SOUTH EAST		
SC	SURREY	1 days
WN	WINDSOR & MAID	1 days
3 SOUTH WEST		
DC	DORSET	1 days
DV	DEVON	1 days
GS	GLOUCESTERSHIRE	1 days
SM	SOMERSET	1 days
5 EAST MIDLANDS		
LE	LEICESTERSHIRE	1 days
7 YORKSHIRE & NORTH LINCOLNSHIRE		
NY	NORTH YORKSHIRE	2 days

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

Filtering Stage 2 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: Gross floor area
 Actual Range: 4237 to 6320 (units: sqm)
 Range Selected by: 3500 to 6500 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 14/07/12

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:

Thursday	1 days
Friday	1 days
Saturday	7 days

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

Selected survey types:

Manual count 9 days
 Directional ATC C 0 days

This data displays the total adding up to 9 whilst ATC surveys are undertaken using machines.

Food Superstore Data

Selected Locations:

Town Centre	1
Edge of Town Cer	0
Suburban Area (P	0
Edge of Town	8
Neighbourhood C	0
Free Standing (PP	0
Not Known	0

This data displays Edge of Town Suburban Area Neighbourhood Edge of To Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	0
Commercial Zone	1
Development Zon	0
Residential Zone	5
Retail Zone	1
Built-Up Zone	0
Village	0
Out of Town	0
High Street	0
No Sub Category	2

This data displays Industrial Zone Development Zon Residential Zone Retail Zon Built-Up Zr Village Out of Tov High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

A1 9 days

This data displays which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000 1 days

5,001 to 10,000 3 days

10,001 to 15,000 3 days

15,001 to 20,000 1 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 3 days

50,001 to 75,000 1 days

100,001 to 125,000 2 days

125,001 to 250,000 2 days

250,001 to 500,000 1 days

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

Car ownership within 5 miles:

0.6 to 1.0 1 days

1.1 to 1.5 6 days

1.6 to 2.0 2 days

This data displays within a radius of 5-miles of selected survey sites.

Petrol filling station:

PFS is present at 16 days

PFS is present at 10 days

There is no PFS at 3 days

This data displays and the number of surveys that do not.

Travel Plan:

Not Known 1 days

Yes 1 days

No 7 days

This data displays and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	DC-01-A-18	MORRISONS	DORSET
	DORCHESTER ROAD		
	WEYMOUTH		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:		5156 sqm
	Survey date:	SATURDAY	12/07/2008 Survey Typ MANUAL
2	DV-01-A-20	SAINSBURYS	DEVON
	HILL BARTON ROAD		
	WHIPTON		
	EXETER		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:		6081 sqm
	Survey date:	SATURDAY	24/10/2009 Survey Typ MANUAL
3	GS-01-A-04	SAINSBURYS	GLOUCESTERSHIRE
	PRIORS ROAD		
	CHELTENHAM		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:		4250 sqm
	Survey date:	SATURDAY	24/04/2010 Survey Typ MANUAL
4	LE-01-A-01	SAINSBURYS	LEICESTERSHIRE
	GLEN ROAD		
	OADBY		
	LEICESTER		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:		4850 sqm
	Survey date:	FRIDAY	19/06/2009 Survey Typ MANUAL
5	NY-01-A-03	MORRISONS	NORTH YORKSHIRE
	HARROGATE ROAD		

Food Superstore Data

RIPON
 Edge of Town
 Residential Zone
 Total Gross floor area: 4237 sqm
 Survey date: SATURDAY 20/09/2008 Survey Typ MANUAL
 6 NY-01-A-04 MORRISONS NORTH YORKSHIRE
 WETHERBY ROAD

BOROUGHBRIDGE
 Edge of Town
 No Sub Category
 Total Gross floor area: 6320 sqm
 Survey date: SATURDAY 13/09/2008 Survey Typ MANUAL
 7 SC-01-A-08 SAINSBURY'S SURREY
 LONDON ROAD

REDHILL
 Town Centre
 Retail Zone
 Total Gross floor area: 4746 sqm
 Survey date: THURSDAY 08/07/2010 Survey Typ MANUAL
 8 SM-01-A-02 MORRISONS SOMERSET
 VULCAN ROAD

MINEHEAD
 Edge of Town
 Commercial Zone
 Total Gross floor area: 4575 sqm
 Survey date: SATURDAY 14/07/2012 Survey Typ MANUAL
 9 WN-01-A-01 SAINSBURYS WINDSOR & MAIDENHEAD
 LAKE END ROAD
 LENT RISE
 SLOUGH
 Edge of Town
 Residential Zone
 Total Gross floor area: 6065 sqm
 Survey date: SATURDAY 08/10/2011 Survey Typ MANUAL

This section provides a unique site ID, the selected trip ID, the day of the week, and whether the survey was a manual classified count or an ATC count.

Food Superstore Data

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	No. Days	ARRIVALS		No. Days	DEPARTURES		No. Days	TOTALS		
		Ave. GFA	Trip Rate		Ave. GFA	Trip Rate		Ave. GFA	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		2	5406	0.472	2	5406	0.092	2	5406	0.564
07:00-08:00		9	5142	1.932	9	5142	1.182	9	5142	3.114
08:00-09:00		9	5142	4.257	9	5142	2.885	9	5142	7.142
09:00-10:00		9	5142	5.94	9	5142	4.888	9	5142	10.828
10:00-11:00		9	5142	7.63	9	5142	6.307	9	5142	13.937
11:00-12:00		9	5142	8.293	9	5142	7.621	9	5142	15.914
12:00-13:00		9	5142	7.712	9	5142	8.06	9	5142	15.772
13:00-14:00		9	5142	7.005	9	5142	7.115	9	5142	14.12
14:00-15:00		9	5142	6.962	9	5142	7.124	9	5142	14.086
15:00-16:00		9	5142	7.366	9	5142	7.388	9	5142	14.754
16:00-17:00		9	5142	7.165	9	5142	7.766	9	5142	14.931
17:00-18:00		9	5142	6.655	9	5142	7.61	9	5142	14.265
18:00-19:00		9	5142	5.117	9	5142	6.206	9	5142	11.323
19:00-20:00		9	5142	3.066	9	5142	4.097	9	5142	7.163
20:00-21:00		9	5142	1.698	9	5142	2.381	9	5142	4.079
21:00-22:00		7	5103	0.957	7	5103	1.542	7	5103	2.499
22:00-23:00		2	5406	0.018	2	5406	0.139	2	5406	0.157
23:00-24:00										
Daily Trip Rates:				82.245			82.403			164.648

Food Superstore Data

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	No. Days	ARRIVALS		No. Days	DEPARTURES		No. Days	TOTALS		
		Ave. GFA	Trip Rate		Ave. GFA	Trip Rate		Ave. GFA	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		2	5406	0.573	2	5406	0.12	2	5406	0.693
07:00-08:00		9	5142	2.712	9	5142	1.735	9	5142	4.447
08:00-09:00		9	5142	6.45	9	5142	4.276	9	5142	10.726
09:00-10:00		9	5142	9.609	9	5142	7.455	9	5142	17.064
10:00-11:00		9	5142	13.306	9	5142	10.536	9	5142	23.842
11:00-12:00		9	5142	14.514	9	5142	13.241	9	5142	27.755
12:00-13:00		9	5142	13.842	9	5142	14.373	9	5142	28.215
13:00-14:00		9	5142	12.861	9	5142	12.869	9	5142	25.73
14:00-15:00		9	5142	12.463	9	5142	12.792	9	5142	25.255
15:00-16:00		9	5142	13.414	9	5142	13.207	9	5142	26.621
16:00-17:00		9	5142	12.906	9	5142	14.235	9	5142	27.141
17:00-18:00		9	5142	12.377	9	5142	13.742	9	5142	26.119
18:00-19:00		9	5142	9.339	9	5142	11.333	9	5142	20.672
19:00-20:00		9	5142	5.782	9	5142	7.411	9	5142	13.193
20:00-21:00		9	5142	3.153	9	5142	4.373	9	5142	7.526
21:00-22:00		7	5103	1.652	7	5103	2.553	7	5103	4.205
22:00-23:00		2	5406	0.018	2	5406	0.203	2	5406	0.221
23:00-24:00										
Daily Trip Rates:				144.971			144.454			289.425

Parameter summary

Trip rate paramet 4237 - 6320 (units: sqm)
 Survey date date 01/01/05 - 14/07/12
 Number of weekc 3
 Number of Saturc 7
 Number of Sunda 0
 Surveys manually 0

TRICS 7.1.1

Trip Rate Parameter: Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 01 - RETAIL
 Category K - RETAIL PARK - EXCLUDING FOOD
 MULTI-MODAL VEHICLES

Selected regions and areas:

2 SOUTH EAST			
EX	ESSEX		1 days
SC	SURREY		1 days
3 SOUTH WEST			
CW	CORNWALL		1 days
DC	DORSET		1 days
GS	GLOUCESTERSHIRE		1 days
4 EAST ANGLIA			
NF	NORFOLK		1 days
SF	SUFFOLK		1 days
5 EAST MIDLANDS			
LN	LINCOLNSHIRE		1 days
NR	NORTHAMPTONSHIRE		1 days
NT	NOTTINGHAMSHIRE		1 days
6 WEST MIDLANDS			
WM	WEST MIDLANDS		4 days
WO	WORCESTERSHIRE		1 days
7 YORKSHIRE & NORTH LINCOLNSHIRE			
NY	NORTH YORKSHIRE		1 days
9 NORTH			
CB	CUMBRIA		1 days

Note: this contains shops such as Comet, Homebase, Halfords, B&Q, Harveys, Boots etc. However the sites are not town centre sites and would therefore have higher vehicle trip rates.

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

Filtering Stage 2 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: Gross floor area
 Actual Range: 2800 to 16000 (units: sqm)
 Range Selected by User: 2575 to 16000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 10/11/12

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:

Thursday 1 days
 Saturday 16 days

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

Selected survey types:

Manual count 17 days
 Directional ATC Count 0 days

This data displays the number of surveys by type. Manual counts are undertaken using machines.

Selected Locations:

Town Centre 0
 Edge of Town Centre 0
 Suburban Area (PPS6 Out 9
 Edge of Town 7
 Neighbourhood Centre (P 1
 Free Standing (PPS6 Out c 0
 Not Known 0

This data displays the number of surveys by location. Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 6
 Commercial Zone 2
 Development Zone 1
 Residential Zone 2
 Retail Zone 1
 Built-Up Zone 2
 Village 0
 Out of Town 0
 High Street 0
 No Sub Category 3

This data displays the number of surveys by location sub-category. Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

A1 17 days

This data displays the nun which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000 1 days

10,001 to 15,000 5 days

15,001 to 20,000 5 days

20,001 to 25,000 1 days

25,001 to 50,000 5 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 4 days

125,001 to 250,000 7 days

250,001 to 500,000 4 days

500,001 or More 2 days

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

Car ownership within 5 miles:

0.5 or Less 1 days

0.6 to 1.0 6 days

1.1 to 1.5 10 days

This data displays the nun within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey col 0 days

Excluded from count or n 17 days

This data displays the nun and the number of surveys that do not.

Travel Plan:

No 17 days

This data displays the nun and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	CB-01-K-01	HOMEBASE/PC WORLD	CUMBRIA	
		PARKHOUSE ROAD		
		KINGSTOWN		
		CARLISLE		
		Edge of Town		
		Industrial Zone		
		Total Gross floor area:		9225 sqm
		Survey date:	SATURDAY	06/02/2010 Survey Typ MANUAL
2	CW-01-K-01	RETAIL PARK	CORNWALL	
		TREVENSON ROAD		
		CAMBORNE		
		Suburban Area (PP56 Out of Centre)		
		Industrial Zone		
		Total Gross floor area:		11400 sqm
		Survey date:	SATURDAY	22/09/2007 Survey Typ MANUAL
3	DC-01-K-07	RETAIL PARK	DORSET	
		REDLANDS		
		BRANKSOME		
		POOLE		
		Suburban Area (PP56 Out of Centre)		
		Built-Up Zone		
		Total Gross floor area:		12850 sqm
		Survey date:	SATURDAY	19/07/2008 Survey Typ MANUAL
4	EX-01-K-01	RETAIL PARK	ESSEX	
		CHELMER ROAD		
		CHELMER VILLAGE		
		CHELMSFORD		
		Edge of Town		
		Residential Zone		
		Total Gross floor area:		16000 sqm
		Survey date:	SATURDAY	12/07/2008 Survey Typ MANUAL
5	GS-01-K-01	RETAIL PARK	GLOUCESTERSHIRE	
		EASTERN AVENUE		
		BARNWOOD		
		GLOUCESTER		
		Suburban Area (PP56 Out of Centre)		
		No Sub Category		
		Total Gross floor area:		9325 sqm
		Survey date:	THURSDAY	29/04/2010 Survey Typ MANUAL
6	LN-01-K-01	RETAIL PARK	LINCOLNSHIRE	
		TRITTON ROAD		
		LINCOLN		
		Suburban Area (PP56 Out of Centre)		
		Industrial Zone		
		Total Gross floor area:		13129 sqm
		Survey date:	SATURDAY	12/05/2007 Survey Typ MANUAL

Comparison Data

7	NF-01-K-01	RETAIL PARK	NORFOLK		
	HALL ROAD LONG JOHN'S HILL NORWICH Edge of Town No Sub Category				
	Total Gross floor area:			14100 sqm	
	Survey date: SATURDAY			12/05/2007	Survey Typ: MANUAL
8	NR-01-K-01	RETAIL PARK	NORTHAMPTONSHIRE		
	WEEDON ROAD SIXFIELDS NORTHAMPTON Suburban Area (PP56 Out of Centre) Development Zone				
	Total Gross floor area:			6675 sqm	
	Survey date: SATURDAY			29/11/2008	Survey Typ: MANUAL
9	NT-01-K-01	RETAIL PARK	NOTTINGHAMSHIRE		
	MANSFIELD ROAD DAYBROOK NOTTINGHAM Suburban Area (PP56 Out of Centre) Retail Zone				
	Total Gross floor area:			7020 sqm	
	Survey date: SATURDAY			26/05/2007	Survey Typ: MANUAL
10	NY-01-K-03	RETAIL PARK	NORTH YORKSHIRE		
	SEAMER ROAD SCARBOROUGH Edge of Town No Sub Category				
	Total Gross floor area:			2800 sqm	
	Survey date: SATURDAY			19/09/2009	Survey Typ: MANUAL
11	SC-01-K-05	RETAIL PARK	SURREY		
	ORIENTAL ROAD MAYBURY WOKING Suburban Area (PP56 Out of Centre) Residential Zone				
	Total Gross floor area:			4300 sqm	
	Survey date: SATURDAY			05/07/2008	Survey Typ: MANUAL
12	SF-01-K-01	RETAIL PARK	SUFFOLK		
	EASLEA ROAD BURY ST EDMUNDS Edge of Town Commercial Zone				
	Total Gross floor area:			9437 sqm	
	Survey date: SATURDAY			13/05/2006	Survey Typ: MANUAL
13	WM-01-K-02	RETAIL PARK	WEST MIDLANDS		
	MARSHALL LAKE ROAD SHIRLEY SOLIHULL Edge of Town Commercial Zone				
	Total Gross floor area:			9350 sqm	
	Survey date: SATURDAY			15/09/2007	Survey Typ: MANUAL
14	WM-01-K-03	RETAIL PARK	WEST MIDLANDS		
	FLAXLEY PARKWAY STECHEFORD BIRMINGHAM Suburban Area (PP56 Out of Centre) Industrial Zone				
	Total Gross floor area:			5025 sqm	
	Survey date: SATURDAY			29/11/2008	Survey Typ: MANUAL
15	WM-01-K-04	RETAIL PARK	WEST MIDLANDS		
	KINGSBURY ROAD ERDINGTON BIRMINGHAM Suburban Area (PP56 Out of Centre) Industrial Zone				
	Total Gross floor area:			14690 sqm	
	Survey date: SATURDAY			29/11/2008	Survey Typ: MANUAL
16	WM-01-K-05	RETAIL PARK	WEST MIDLANDS		
	HARBORNE LANE SELLY OAK BIRMINGHAM Neighbourhood Centre (PP56 Local Centre) Built-Up Zone				
	Total Gross floor area:			11599 sqm	
	Survey date: SATURDAY			10/11/2012	Survey Typ: MANUAL
17	WO-01-K-02	RETAIL PARK	WORCESTERSHIRE		
	KIDDERMINSTER ROAD NEWTOWN DROITWICH SPA Edge of Town Industrial Zone				
	Total Gross floor area:			7405 sqm	
	Survey date: SATURDAY			25/06/2005	Survey Typ: MANUAL

This section provides a list of retail parks. It displays a unique ID for each park, the selected trip rate calculation method, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Comparison Data

TRIP RATE for Land Use 01 - RETAIL/K - RETAIL PARK - EXCLUDING FOOD
 Calculation Factor: 100 sqm
 Count Type: VEHICLES

Time Range	No. Days	ARRIVALS		Trip Rate	No. Days	DEPARTURES		No. Days	TOTALS		
		Ave. GFA				Ave. GFA	Trip Rate		Ave. GFA	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		15		9307	0.148	15	9307	0.045	15	9307	0.193
08:00-09:00		17		9666	0.605	17	9666	0.245	17	9666	0.85
09:00-10:00		17		9666	1.475	17	9666	0.926	17	9666	2.401
10:00-11:00		17		9666	2.314	17	9666	1.891	17	9666	4.205
11:00-12:00		17		9666	2.774	17	9666	2.476	17	9666	5.25
12:00-13:00		17		9666	2.778	17	9666	2.788	17	9666	5.566
13:00-14:00		17		9666	2.823	17	9666	2.874	17	9666	5.697
14:00-15:00		17		9666	2.92	17	9666	2.934	17	9666	5.854
15:00-16:00		17		9666	2.912	17	9666	2.892	17	9666	5.804
16:00-17:00		17		9666	2.334	17	9666	2.842	17	9666	5.176
17:00-18:00		17		9666	1.605	17	9666	2.166	17	9666	3.771
18:00-19:00		17		9666	0.684	17	9666	1.177	17	9666	1.861
19:00-20:00		15		9893	0.28	15	9893	0.387	15	9893	0.667
20:00-21:00		2		9275	0.005	2	9275	0.032	2	9275	0.037
21:00-22:00											
22:00-23:00											
23:00-24:00											
Daily Trip Rates:					23.657			23.675			47.332

TRIP RATE for Land Use 01 - RETAIL/K - RETAIL PARK - EXCLUDING FOOD
 Calculation Factor: 100 sqm
 Count Type: TOTAL PEOPLE

Time Range	No. Days	ARRIVALS		Trip Rate	No. Days	DEPARTURES		No. Days	TOTALS		
		Ave. GFA				Ave. GFA	Trip Rate		Ave. GFA	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		15		9307	0.199	15	9307	0.053	15	9307	0.252
08:00-09:00		17		9666	0.851	17	9666	0.324	17	9666	1.175
09:00-10:00		17		9666	2.32	17	9666	1.338	17	9666	3.658
10:00-11:00		17		9666	3.965	17	9666	3.039	17	9666	7.004
11:00-12:00		17		9666	4.932	17	9666	4.291	17	9666	9.223
12:00-13:00		17		9666	5.064	17	9666	5.194	17	9666	10.258
13:00-14:00		17		9666	5.38	17	9666	5.376	17	9666	10.756
14:00-15:00		17		9666	5.647	17	9666	5.55	17	9666	11.197
15:00-16:00		17		9666	5.627	17	9666	5.663	17	9666	11.29
16:00-17:00		17		9666	4.334	17	9666	5.308	17	9666	9.642
17:00-18:00		17		9666	2.926	17	9666	4.029	17	9666	6.955
18:00-19:00		17		9666	1.196	17	9666	2.098	17	9666	3.294
19:00-20:00		15		9893	0.484	15	9893	0.67	15	9893	1.154
20:00-21:00		2		9275	0.011	2	9275	0.054	2	9275	0.065
21:00-22:00											
22:00-23:00											
23:00-24:00											
Daily Trip Rates:					42.936			42.987			85.923

Parameter summary

Trip rate parameter range 2800 - 16000 (units: sqm)
 Survey date date range: 01/01/05 - 10/11/12
 Number of weekdays (Mc) 1
 Number of Saturdays: 16
 Number of Sundays: 0
 Surveys manually remove 1

This section displays a qui followed by the rang the total number of selectec the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.1.1

Trip Rate P Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 07 - LEISURE
 Category A - MULTIPLEX CINEMAS
 MULTI-MODAL VEHICLES

Selected regions and areas:

6 WEST MIDLANDS
 SH SHROPSHIRE 1 days
 9 NORTH
 TV TEES VALLEY 1 days

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

Filtering Stage 2 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: Gross floor area
 Actual Range 2400 to 3205 (units: sqm)
 Range Selected 2323 to 4500 (units: sqm)

Public Transport Provision:

Selection b Include all surveys

Date Range 01/01/05 to 18/09/09

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:

Friday 1 days
 Saturday 1 days

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

Selected survey types:

Manual count 2 days
 Directional 0 days

This data displays the total amount of surveys whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre 0
 Edge of Town 2
 Suburban Area 0
 Edge of Town 0
 Neighbourhood 0
 Free Standing 0
 Not Known 0

This data displays the total amount of surveys by location: Edge of Town, Suburban Area, Neighbourhood, Edge of Town, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 0
 Commercial 0
 Development 1
 Residential 0
 Retail Zone 0
 Built-Up Zone 1
 Village 0
 Out of Town 0
 High Street 0
 No Sub Category 0

This data displays the total amount of surveys by location sub-category: Industrial Zone, Development, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

Not Known 1 days
 D2 1 days

This data displays the number of surveys which can be found within the Library module of TRICS®.

Population within 1 mile:

15,001 to 21 days
 20,001 to 21 days

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

Population within 5 miles:

75,001 to : 2 days

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

Car ownership within 5 miles:

0.6 to 1.0 1 days

1.6 to 2.0 1 days

This data d within a radius of 5-miles of selected survey sites.

Travel Plan:

No 2 days

This data d and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 SH-07-A-02 CINEWORL SHROPSHIRE

OLD POTTS WAY

SHREWSBURY

Edge of Town Centre

Built-Up Zone

Total Gross floor area: 2400 sqm

Survey date: FRIDAY 19/06/2009 Survey Typ MANUAL

2 TV-07-A-01 VUE

TEES VALLEY

MARINA WAY

HARTLEPOOL

Edge of Town Centre

Development Zone

Total Gross floor area: 3205 sqm

Survey date: SATURDAY 30/04/2005 Survey Typ MANUAL

This sector it displays the selecte the day of the and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 07 - LEISURE/A - MULTIPLEX CINEMAS

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range: Days	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:0	1	2400	0.333	1	2400	0.875	1	2400	1.208
01:00-02:0	1	2400	0	1	2400	1.167	1	2400	1.167
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									
09:00-10:00									
10:00-11:0	2	2803	0.393	2	2803	0.25	2	2803	0.643
11:00-12:0	2	2803	0.892	2	2803	0.571	2	2803	1.463
12:00-13:0	2	2803	2.266	2	2803	1.517	2	2803	3.783
13:00-14:0	2	2803	3.426	2	2803	2.694	2	2803	6.12
14:00-15:0	2	2803	3.229	2	2803	2.016	2	2803	5.245
15:00-16:0	2	2803	2.034	2	2803	2.462	2	2803	4.496
16:00-17:0	2	2803	3.14	2	2803	3.39	2	2803	6.53
17:00-18:0	2	2803	3.979	2	2803	3.408	2	2803	7.387
18:00-19:0	2	2803	3.372	2	2803	3.104	2	2803	6.476
19:00-20:0	2	2803	6.53	2	2803	4.032	2	2803	10.562
20:00-21:0	2	2803	5.335	2	2803	4.175	2	2803	9.51
21:00-22:0	2	2803	2.516	2	2803	2.926	2	2803	5.442
22:00-23:0	2	2803	1.891	2	2803	5.798	2	2803	7.689
23:00-24:0	2	2803	0.107	2	2803	1.784	2	2803	1.891
Daily Trip Rates:			39.443			40.169			79.612

TRIP RATE for Land Use 07 - LEISURE/A - MULTIPLEX CINEMAS

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:0	1	2400	0.333	1	2400	3.167	1	2400	3.5
01:00-02:0	1	2400	0	1	2400	3.208	1	2400	3.208
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									
09:00-10:00									
10:00-11:0	2	2803	0.839	2	2803	0.5	2	2803	1.339
11:00-12:0	2	2803	2.498	2	2803	1.338	2	2803	3.836
12:00-13:0	2	2803	6.655	2	2803	3.818	2	2803	10.473
13:00-14:0	2	2803	9.795	2	2803	7.208	2	2803	17.003
14:00-15:0	2	2803	8.831	2	2803	5.352	2	2803	14.183
15:00-16:0	2	2803	5.067	2	2803	5.424	2	2803	10.491
16:00-17:0	2	2803	7.654	2	2803	8.011	2	2803	15.665
17:00-18:0	2	2803	10.937	2	2803	9.938	2	2803	20.875
18:00-19:0	2	2803	8.564	2	2803	7.172	2	2803	15.736
19:00-20:0	2	2803	16.896	2	2803	10.223	2	2803	27.119
20:00-21:0	2	2803	12.596	2	2803	10.633	2	2803	23.229
21:00-22:0	2	2803	6.316	2	2803	7.261	2	2803	13.577
22:00-23:0	2	2803	3.729	2	2803	15.593	2	2803	19.322
23:00-24:0	2	2803	0.268	2	2803	4.228	2	2803	4.496
Daily Trip Rates:			100.978			103.074			204.052

Parameter summary

Trip rate p: 2400 - 3205 (units: sqm)

Survey date: 01/01/05 - 18/09/09

Number of 1

Number of 1

Number of 0

Surveys made 1

This section followed by the total number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.1.1

Trip Rate P Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 07 - LEISURE
 Category B - BOWLING ALLEYS
 MULTI-MODAL VEHICLES

Selected regions and areas:

6 WEST MIDLANDS
 HE HEREFORD 1 days
 9 NORTH
 DH DURHAM 1 days

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

Filtering Stage 2 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 Gross floor area
 Actual Ran 913 to 1809 (units: sqm)
 Range Sele 913 to 5060 (units: sqm)

Public Transport Provision:

Selection b Include all surveys

Date Range 01/01/05 to 15/10/11

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:

Friday 1 days
 Saturday 1 days

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

Selected survey types:

Manual count 2 days
 Directional 0 days

This data displays the total number of surveys whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre 0
 Edge of Town 2
 Suburban 0
 Edge of Town 0
 Neighbourhood 0
 Free Stand 0
 Not Known 0

This data displays the number of surveys by location: Edge of Town, Suburban, Neighbourhood, Edge of Town, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial 0
 Commercial 0
 Development 1
 Residential 0
 Retail Zone 0
 Built-Up Zone 1
 Village 0
 Out of Town 0
 High Street 0
 No Sub Category 0

This data displays the number of surveys by location sub-category: Industrial, Development, Residential, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

D2 2 days

This data displays the number of surveys which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000 1 days
 15,001 to 25,000 1 days

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

Population within 5 miles:

75,001 to 2 days

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

Car ownership within 5 miles:

0.6 to 1.0 2 days

This data d within a radius of 5-miles of selected survey sites.

Travel Plan:

No 2 days

This data d and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 DH-07-B-0: BOWLING DURHAM
FREEMANS PLACE

DURHAM

Edge of Town Centre

Development Zone

Total Gross floor area: 1809 sqm

Survey dat: FRIDAY ##### Survey Typ: MANUAL

2 HE-07-B-01: TGS BOWL HEREFORDSHIRE

STATION APPROACH

BARRS COURT ESTATE

HEREFORD

Edge of Town Centre

Built-Up Zone

Total Gross floor area: 913 sqm

Survey dat: SATURDAY ##### Survey Typ: MANUAL

This section it displays the select the day of and whether the survey was a manual classified count or an ATC count.

Manually Deselected Sites

Site Ref Reason for Deselection

AN-07-B-0: Belfast

AN-07-B-0: Belfast

TRIP RATE for Land Use 07 - LEISURE/B - BOWLING ALLEYS

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range: Days	ARRIVALS			DEPARTURES			TOTALS		
	No.	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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									
09:00-10:0	2	1361	0.037	2	1361	0	2	1361	0.037
10:00-11:0	2	1361	0.22	2	1361	0.037	2	1361	0.257
11:00-12:0	2	1361	0.294	2	1361	0.22	2	1361	0.514
12:00-13:0	2	1361	0.735	2	1361	0.184	2	1361	0.919
13:00-14:0	2	1361	0.331	2	1361	0.698	2	1361	1.029
14:00-15:0	2	1361	0.845	2	1361	0.478	2	1361	1.323
15:00-16:0	2	1361	0.588	2	1361	0.441	2	1361	1.029
16:00-17:0	2	1361	0.698	2	1361	0.478	2	1361	1.176
17:00-18:0	2	1361	0.771	2	1361	0.882	2	1361	1.653
18:00-19:0	2	1361	1.323	2	1361	1.543	2	1361	2.866
19:00-20:0	2	1361	2.021	2	1361	1.433	2	1361	3.454
20:00-21:0	2	1361	1.58	2	1361	1.763	2	1361	3.343
21:00-22:0	2	1361	0.735	2	1361	1.139	2	1361	1.874
22:00-23:0	1	913	0.329	1	913	2.41	1	913	2.739
23:00-24:0	1	913	0.219	1	913	0.876	1	913	1.095
Daily Trip Rates:			10.726			12.582			23.308

Leisure - Bowling Data

TRIP RATE for Land Use 07 - LEISURE/B - BOWLING ALLEYS

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	No. Days	ARRIVALS		No. Days	DEPARTURES		No. Days	TOTALS	
		Ave. GFA	Trip Rate		Ave. GFA	Trip Rate		Ave. GFA	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									
09:00-10:0	2	1361	0.073	2	1361	0	2	1361	0.073
10:00-11:0	2	1361	0.882	2	1361	0.22	2	1361	1.102
11:00-12:0	2	1361	1.139	2	1361	0.698	2	1361	1.837
12:00-13:0	2	1361	2.094	2	1361	1.139	2	1361	3.233
13:00-14:0	2	1361	1.029	2	1361	1.653	2	1361	2.682
14:00-15:0	2	1361	1.874	2	1361	1.359	2	1361	3.233
15:00-16:0	2	1361	1.837	2	1361	1.359	2	1361	3.196
16:00-17:0	2	1361	1.212	2	1361	1.029	2	1361	2.241
17:00-18:0	2	1361	2.241	2	1361	1.69	2	1361	3.931
18:00-19:0	2	1361	2.204	2	1361	3.343	2	1361	5.547
19:00-20:0	2	1361	4.739	2	1361	2.241	2	1361	6.98
20:00-21:0	2	1361	3.931	2	1361	3.6	2	1361	7.531
21:00-22:0	2	1361	1.653	2	1361	2.351	2	1361	4.004
22:00-23:0	1	913	0.548	1	913	6.791	1	913	7.339
23:00-24:0	1	913	0.329	1	913	6.243	1	913	6.572
Daily Trip Rates:			25.785			33.716			59.501

Parameter summary

Trip rate pi: 913 - 1809 (units: sqm)

Survey dat 01/01/05 - 15/10/11

Number of 1

Number of 1

Number of 0

Surveys m: 1

This section followed by the total number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.1.1

Trip Rate Parameter: Number of seats

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 07 - LEISURE
 Category H - BINGO HALLS
 MULTI-MODAL VEHICLES

Selected regions and areas:

4 EAST ANGLIA
 SF SUFFOLK 1 days
 5 EAST MIDLANDS
 NR NORTHAM 1 days
 9 NORTH
 DH DURHAM 1 days

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

Filtering Stage 2 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 seats
 Actual Range: 320 to 1293 (units:)
 Range Selected by User: 320 to 2140 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 23/11/12

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:

Friday 2 days
 Saturday 1 days

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

Selected survey types:

Manual count 3 days
 Directional ATC Count 0 days

This data displays the number of the total amount of ATC surveys are undertaken using machines.

Selected Locations:

Town Centre 3
 Edge of Town Centre 0
 Suburban Area (PPS6 Out c 0
 Edge of Town 0
 Neighbourhood Centre (PP 0
 Free Standing (PPS6 Out of 0
 Not Known 0

This data displays the number of surveys conducted in Edge of Town, Suburban, Neighbourhood, Edge of Town, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 0
 Commercial Zone 0
 Development Zone 0
 Residential Zone 0
 Retail Zone 0
 Built-Up Zone 1
 Village 0
 Out of Town 0
 High Street 2
 No Sub Category 0

This data displays the number of surveys conducted in Industrial, Development, Residential, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

D2 3 days

This data displays the number of surveys which can be found within the Library module of TRICS®.

Population within 1 mile:

20,001 to 25,000 1 days
 25,001 to 50,000 2 days

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

Population within 5 miles:

75,001 to 100,000 2 days
 125,001 to 250,000 1 days

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

Car ownership within 5 miles:

0.5 or Less 2 days
 1.1 to 1.5 1 days

This data displays the num within a radius of 5-miles of selected survey sites.

Travel Plan:

No 3 days

This data displays the num and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 DH-07-H-0: BINGO DURHAM
 YORK ROAD

 HARTLEPOOL
 Town Centre
 High Street
 Total Number of seats: 320
 Survey dat: FRIDAY ##### Survey Typ: MANUAL
 2 NR-07-H-0: GALA NORTHAMPTONSHIRE
 HIGH STREET

 KETTERING
 Town Centre
 Built-Up Zone
 Total Number of seats: 1293
 Survey dat: SATURDAY ##### Survey Typ: MANUAL
 3 SF-07-H-01 MECCA BIN SUFFOLK
 LLOYDS AVENUE

 IPSWICH
 Town Centre
 High Street
 Total Number of seats: 880
 Survey dat: FRIDAY ##### Survey Typ: MANUAL

This section provides a list it displays the selecte the day of and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 07 - LEISURE/H - BINGO HALLS

Calculation Factor: 1 SEATS

Count Type: VEHICLES

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. SEATS	Trip Rate	No. Days	Ave. SEATS	Trip Rate	No. Days	Ave. SEATS	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									
09:00-10:00	1	1293	0.001	1	1293	0.001	1	1293	0.002
10:00-11:00	3	831	0.012	3	831	0.006	3	831	0.018
11:00-12:00	3	831	0.008	3	831	0.006	3	831	0.014
12:00-13:00	3	831	0.01	3	831	0.006	3	831	0.016
13:00-14:00	3	831	0.01	3	831	0.004	3	831	0.014
14:00-15:00	3	831	0.004	3	831	0.006	3	831	0.01
15:00-16:00	3	831	0.013	3	831	0.031	3	831	0.044
16:00-17:00	3	831	0.003	3	831	0	3	831	0.003
17:00-18:00	3	831	0.02	3	831	0.008	3	831	0.028
18:00-19:00	3	831	0.058	3	831	0.019	3	831	0.077
19:00-20:00	3	831	0.012	3	831	0.002	3	831	0.014
20:00-21:00	3	831	0.01	3	831	0.015	3	831	0.025
21:00-22:00	3	831	0.011	3	831	0.063	3	831	0.074
22:00-23:00	3	831	0.001	3	831	0.002	3	831	0.003
23:00-24:00	2	807	0	2	807	0	2	807	0
Daily Trip Rates:			0.173			0.169			0.342

TRIP RATE for Land Use 07 - LEISURE/H - BINGO HALLS

Calculation Factor: 1 SEATS

Count Type: TOTAL PEOPLE

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. SEATS	Trip Rate	No. Days	Ave. SEATS	Trip Rate	No. Days	Ave. SEATS	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									
09:00-10:00	1	1293	0.003	1	1293	0.001	1	1293	0.004
10:00-11:00	3	831	0.059	3	831	0.004	3	831	0.063
11:00-12:00	3	831	0.037	3	831	0.029	3	831	0.066
12:00-13:00	3	831	0.064	3	831	0.017	3	831	0.081
13:00-14:00	3	831	0.046	3	831	0.012	3	831	0.058
14:00-15:00	3	831	0.007	3	831	0.009	3	831	0.016
15:00-16:00	3	831	0.011	3	831	0.144	3	831	0.155
16:00-17:00	3	831	0.013	3	831	0.008	3	831	0.021
17:00-18:00	3	831	0.051	3	831	0.012	3	831	0.063
18:00-19:00	3	831	0.108	3	831	0.016	3	831	0.124
19:00-20:00	3	831	0.023	3	831	0.008	3	831	0.031
20:00-21:00	3	831	0.012	3	831	0.042	3	831	0.054
21:00-22:00	3	831	0.008	3	831	0.137	3	831	0.145
22:00-23:00	3	831	0	3	831	0.005	3	831	0.005
23:00-24:00	2	807	0	2	807	0	2	807	0
Daily Trip Rates:			0.442			0.444			0.886

Parameter summary

Trip rate parameter range: 320 - 1293 (units:)

Survey date range: 01/01/05 - 23/11/12

Number of weekdays (Mon): 2

Number of Saturdays: 1

Number of Sundays: 0

Surveys manually removed: 0

This section displays a quick followed by the total number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.1.1

Trip Rate P Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 06 - HOTEL FOOD & DRINK

Category B - RESTAURANTS

MULTI-MODAL VEHICLES

Selected regions and areas:

3 SOUTH WEST
 DC DORSET 1 days
 5 EAST MIDLANDS
 DS DERBYSHIR 1 days
 LE LEICESTER 1 days
 6 WEST MIDLANDS
 WM WEST MID 1 days
 8 NORTH WEST
 GM GREATER M 1 days
 MS MERSEYSID 1 days
 9 NORTH
 DH DURHAM 1 days

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

Filtering Stage 2 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 Gross floor area

Actual Ran 178 to 900 (units: sqm)

Range Sele 178 to 900 (units: sqm)

Public Transport Provision:

Selection b Include all surveys

Date Rang: 01/01/05 to 23/11/09

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
 Thursday 1 days
 Friday 3 days
 Saturday 2 days

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

Selected survey types:

Manual co 7 days

Directional 0 days

This data d the total a whilst ATC surveys are undertaking using machines.

Selected Locations:

Town Cent 3
 Edge of To 4
 Suburban / 0
 Edge of To 0
 Neighbour 0
 Free Stand 0
 Not Knowr 0

This data d Edge of Tc Suburban Neighbour Edge of To Town Centre and Not Known.

Selected Location Sub Categories:

Industrial 2 0
 Commerci 1
 Developm 3
 Residential 0
 Retail Zone 0
 Built-Up Zc 2
 Village 0
 Out of Tow 0
 High Street 0
 No Sub Cat 1

This data d Industrial ; Developm Residential Retail Zone Built-Up Zc Village Out of Tow High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

A3 7 days

This data d which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5 1 days

10,001 to 12 1 days

25,001 to 14 1 days

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

Population within 5 miles:

75,001 to 1 1 days

125,001 to 2 1 days

250,001 to 1 1 days

500,001 or 3 1 days

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

Car ownership within 5 miles:

0.5 or Less 1 1 days

0.6 to 1.0 3 1 days

1.1 to 1.5 3 1 days

This data d within a radius of 5-miles of selected survey sites.

Travel Plan:

No 7 1 days

This data d and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 DC-06-B-0: PIZZA EXPF DORSET

HIGH STREET

POOLE

Town Centre

No Sub Category

Total Gross floor area: 178 sqm

Survey dat: FRIDAY ##### Survey Typ MANUAL

2 DH-06-B-0: CHIQUITO DURHAM

FREEMANS PLACE

MILLENIUM PLACE

DURHAM

Edge of Town Centre

Development Zone

Total Gross floor area: 500 sqm

Survey dat: THURSDAY ##### Survey Typ MANUAL

3 DS-06-B-01 LITTLE FRA DERBYSHIRE

CORN MARKET

DERBY

Town Centre

Built-Up Zone

Total Gross floor area: 425 sqm

Survey dat: SATURDAY ##### Survey Typ MANUAL

4 GM-06-B-0 PIZZA HUT GREATER MANCHESTER

WELLINGTON ROAD STH.

STOCKPORT

Edge of Town Centre

Built-Up Zone

Total Gross floor area: 900 sqm

Survey dat: MONDAY ##### Survey Typ MANUAL

5 LE-06-B-01 THAI REST/ LEICESTERSHIRE

BRAUNSTONE GATE

LEICESTER

Edge of Town Centre

Commercial Zone

Total Gross floor area: 450 sqm

Survey dat: SATURDAY ##### Survey Typ MANUAL

6 MS-06-B-0 INDIAN RE: MERSEYSIDE

GOWER STREET

ALBERT DOCK

LIVERPOOL

Edge of Town Centre

Development Zone

Total Gross floor area: 600 sqm

Survey dat: FRIDAY ##### Survey Typ MANUAL

7 WM-06-B-0 WAGAMAI WEST MIDLANDS

EDGBASTON STREET

BULL RING

BIRMINGHAM

Town Centre

Development Zone

Total Gross floor area: 275 sqm

Survey dat: FRIDAY ##### Survey Typ MANUAL

This section displays the select, the day of and whether the survey was a manual classified count or an ATC count.

Food and Drink Restaurant Data

TRIP RATE FOOD & DRINK/B - RESTAURANTS

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. GFA	Trip Rate	No. Days	No. Ave. GFA	Trip Rate	No. Days	Ave. GFA	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									
09:00-10:0	1	425	0	1	425	0	1	425	0
10:00-11:0	4	413	0	4	413	0	4	413	0
11:00-12:0	6	471	0.46	6	471	0.283	6	471	0.743
12:00-13:0	7	475	1.593	7	475	0.391	7	475	1.984
13:00-14:0	7	475	2.224	7	475	1.683	7	475	3.907
14:00-15:0	7	475	2.103	7	475	2.584	7	475	4.687
15:00-16:0	7	475	2.103	7	475	2.314	7	475	4.417
16:00-17:0	7	475	1.833	7	475	1.653	7	475	3.486
17:00-18:0	7	475	1.743	7	475	1.773	7	475	3.516
18:00-19:0	7	475	2.073	7	475	1.713	7	475	3.786
19:00-20:0	7	475	2.945	7	475	2.644	7	475	5.589
20:00-21:0	7	475	2.464	7	475	2.464	7	475	4.928
21:00-22:0	7	475	2.073	7	475	2.614	7	475	4.687
22:00-23:0	7	475	0.811	7	475	1.803	7	475	2.614
23:00-24:0	6	405	0.082	6	405	0.535	6	405	0.617
Daily Trip Rates:			22.507			22.454			44.961

TRIP RATE FOOD & DRINK/B - RESTAURANTS

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. GFA	Trip Rate	No. Days	No. Ave. GFA	Trip Rate	No. Days	Ave. GFA	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									
09:00-10:0	1	425	0.235	1	425	0	1	425	0.235
10:00-11:0	4	413	0.605	4	413	0.242	4	413	0.847
11:00-12:0	6	471	2.122	6	471	0.99	6	471	3.112
12:00-13:0	7	475	5.799	7	475	1.983	7	475	7.782
13:00-14:0	7	475	6.25	7	475	5.288	7	475	11.538
14:00-15:0	7	475	5.319	7	475	7.302	7	475	12.621
15:00-16:0	7	475	4.688	7	475	5.679	7	475	10.367
16:00-17:0	7	475	5.198	7	475	4.327	7	475	9.525
17:00-18:0	7	475	4.928	7	475	4.177	7	475	9.105
18:00-19:0	7	475	5.95	7	475	5.469	7	475	11.419
19:00-20:0	7	475	8.203	7	475	5.469	7	475	13.672
20:00-21:0	7	475	6.07	7	475	6.31	7	475	12.38
21:00-22:0	7	475	3.846	7	475	7.752	7	475	11.598
22:00-23:0	7	475	1.743	7	475	4.447	7	475	6.19
23:00-24:0	6	405	0	6	405	1.812	6	405	1.812
Daily Trip Rates:			60.956			61.247			122.203

Parameter summary

Trip rate p: 178 - 900 (units: sqm)

Survey dat: 01/01/05 - 23/11/09

Number of 5

Number of 2

Number of 0

Surveys m: 0

This section followed by the total number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.1.1

Trip Rate F Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 02 - EMPLOYMENT
 Category A - OFFICE
 MULTI-MODAL VEHICLES

Selected regions and areas:

2 SOUTH EAST		
ES	EAST SUSSEX	1 days
KC	KENT	2 days
3 SOUTH WEST		
CW	CORNWALL	1 days
DC	DORSET	1 days
7 YORKSHIRE & NORTH LINCOLNSHIRE		
WY	WEST YORKSHIRE	1 days
8 NORTH WEST		
GM	GREATERT MANCH	1 days
LC	LANCASHIRE	1 days
9 NORTH		
TV	TEES VALLEY	1 days
TW	TYNE & WEAR	1 days

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

Filtering Stage 2 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 Gross floor area
 Actual Ran 1500 to 4850 (units: sqm)
 Range Sele 500 to 5000 (units: sqm)

Public Transport Provision:
 Selection L Include all surveys

Date Rang: 01/01/05 to 24/09/13

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:

Monday 1 days
 Tuesday 4 days
 Wednesday 3 days
 Thursday 1 days
 Friday 1 days

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

Selected survey types:

Manual co 10 days
 Directional 0 days

This data d the total adding up to th whilst ATC surveys are undertaking using machines.

Selected Locations:

Town Cent	3
Edge of To	7
Suburban /	0
Edge of To	0
Neighbour	0
Free Stand	0
Not Knowr	0

This data d Edge of Town Suburban Area Neighbourhood Edge of Tc Town Centre and Not Known.

Selected Location Sub Categories:

Industrial ;	0
Commerci;	1
Developm;	0
Residentia	0
Retail Zone	1
Built-Up Zc	7
Village	0
Out of Tow	0
High Stree	0
No Sub Cat	1

This data d Industrial Zone Development Zo Residential Zone Retail Zon Built-Up Zc Village Out of Tow High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:
 B1 10 days

This data d which can be found within the Library module of TRICS®.

Population within 1 mile:

10,001 to : 3 days
 15,001 to : 1 days
 20,001 to : 2 days
 25,001 to : 4 days

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

Population within 5 miles:

25,001 to 1 days

50,001 to 2 days

125,001 to 3 days

250,001 to 3 days

500,001 or 1 days

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

Car ownership within 5 miles:

0.5 or Less 1 days

0.6 to 1.0 2 days

1.1 to 1.5 7 days

This data displays the number of surveys within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes 3 days

No 7 days

This data displays the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	CW-02-A-02	INLAND REVENUE CORNWALL
	TRINITY STREET	
	ST AUSTELL	
	Edge of Town Centre	
	Built-Up Zone	
	Total Gross floor area:	4850 sqm
	Survey date:	FRIDAY 08/06/2007 Survey Typ MANUAL
2	DC-02-A-08	OFFICE DORSET
	STATION APPROACH	
	DORCHESTER	
	Edge of Town Centre	
	No Sub Category	
	Total Gross floor area:	1550 sqm
	Survey date:	THURSDAY 03/07/2008 Survey Typ MANUAL
3	ES-02-A-10	DISTRICT COUNCIL EAST SUSSEX
	VICARAGE LANE	
	HAILSHAM	
	Edge of Town Centre	
	Built-Up Zone	
	Total Gross floor area:	3640 sqm
	Survey date:	TUESDAY 24/09/2013 Survey Typ MANUAL
4	GM-02-A-07	LAW OFFICES GREATER MANCHESTER
	MOSELEY STREET	
	MANCHESTER	
	Town Centre	
	Built-Up Zone	
	Total Gross floor area:	4200 sqm
	Survey date:	WEDNESDAY 19/10/2011 Survey Typ MANUAL
5	KC-02-A-09	COUNCIL OFFICES KENT
	SANDLING ROAD	
	MAIDSTONE	
	Edge of Town Centre	
	Built-Up Zone	
	Total Gross floor area:	1500 sqm
	Survey date:	WEDNESDAY 19/10/2011 Survey Typ MANUAL
6	KC-02-A-10	COUNCIL OFFICES KENT
	SANDLING ROAD	
	MAIDSTONE	
	Edge of Town Centre	
	Built-Up Zone	
	Total Gross floor area:	2900 sqm
	Survey date:	WEDNESDAY 19/10/2011 Survey Typ MANUAL
7	LC-02-A-08	COUNCIL OFFICES LANCASHIRE
	UNION STREET	
	CHORLEY	
	Edge of Town Centre	
	Retail Zone	
	Total Gross floor area:	2000 sqm
	Survey date:	TUESDAY 13/06/2006 Survey Typ MANUAL

8 TV-02-A-03	OFFICE	TEES VALLEY
PINE STREET		
MIDDLESBROUGH		
Town Centre		
Commercial Zone		
Total Gross floor area:		3482 sqm
Survey date:	TUESDAY	21/06/2011 Survey Typ MANUAL
9 TW-02-A-02	UNION OFFICES	TYNE & WEAR
JOHN DOBSON STREET		
NEWCASTLE-UPON-TYNE		
Town Centre		
Built-Up Zone		
Total Gross floor area:		1675 sqm
Survey date:	TUESDAY	03/05/2005 Survey Typ MANUAL
10 WY-02-A-01	CALL CENTRE	WEST YORKSHIRE
FILEY STREET		
BRADFORD		
Edge of Town Centre		
Built-Up Zone		
Total Gross floor area:		2400 sqm
Survey date:	MONDAY	09/05/2005 Survey Typ MANUAL

This section displays a unique site reference, the selected trip, the day of the week and whether the survey was a manual classified count or an ATC count.

Manually Deselected Sites

Site Ref	Reason for Deselection
TW-02-A-0	Radio Station

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Rang Days	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. GFA	Trip Rate	No. Days	No. Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	
00:00-00:30									
00:30-01:00									
01:00-01:30									
01:30-02:00									
02:00-02:30									
02:30-03:00									
03:00-03:30									
03:30-04:00									
04:00-04:30									
04:30-05:00									
05:00-05:30									
05:30-06:00									
06:00-06:30									
06:30-07:00									
07:00-07:3	10	2820	0.206	10	2820	0.039	10	2820	0.245
07:30-08:0	10	2820	0.589	10	2820	0.057	10	2820	0.646
08:00-08:3	10	2820	0.872	10	2820	0.099	10	2820	0.971
08:30-09:0	10	2820	1.071	10	2820	0.124	10	2820	1.195
09:00-09:3	10	2820	0.89	10	2820	0.17	10	2820	1.06
09:30-10:0	10	2820	0.415	10	2820	0.216	10	2820	0.631
10:00-10:3	10	2820	0.234	10	2820	0.174	10	2820	0.408
10:30-11:0	10	2820	0.301	10	2820	0.181	10	2820	0.482
11:00-11:3	10	2820	0.255	10	2820	0.213	10	2820	0.468
11:30-12:0	10	2820	0.277	10	2820	0.199	10	2820	0.476
12:00-12:3	10	2820	0.206	10	2820	0.309	10	2820	0.515
12:30-13:0	10	2820	0.248	10	2820	0.241	10	2820	0.489
13:00-13:3	10	2820	0.202	10	2820	0.312	10	2820	0.514
13:30-14:0	10	2820	0.294	10	2820	0.245	10	2820	0.539
14:00-14:3	10	2820	0.273	10	2820	0.266	10	2820	0.539
14:30-15:0	10	2820	0.177	10	2820	0.337	10	2820	0.514
15:00-15:3	10	2820	0.117	10	2820	0.28	10	2820	0.397
15:30-16:0	10	2820	0.181	10	2820	0.323	10	2820	0.504
16:00-16:3	10	2820	0.16	10	2820	0.66	10	2820	0.82
16:30-17:0	10	2820	0.16	10	2820	0.88	10	2820	1.04
17:00-17:3	10	2820	0.181	10	2820	0.947	10	2820	1.128
17:30-18:0	10	2820	0.089	10	2820	0.454	10	2820	0.543
18:00-18:3	10	2820	0.043	10	2820	0.202	10	2820	0.245
18:30-19:0	10	2820	0.014	10	2820	0.089	10	2820	0.103
19:00-19:30									
19:30-20:00									
20:00-20:30									
20:30-21:00									
21:00-21:30									
21:30-22:00									
22:00-22:30									
22:30-23:00									
23:00-23:30									
23:30-24:00									
Daily Trip Rates:			7.455			7.017			14.472

B1 - Office Data

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Rang Days	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. GFA	Trip Rate	No. Days	No. Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	
00:00-00:30									
00:30-01:00									
01:00-01:30									
01:30-02:00									
02:00-02:30									
02:30-03:00									
03:00-03:30									
03:30-04:00									
04:00-04:30									
04:30-05:00									
05:00-05:30									
05:30-06:00									
06:00-06:30									
06:30-07:00									
07:00-07:3	10	2820	0.323	10	2820	0.021	10	2820	0.344
07:30-08:0	10	2820	1.036	10	2820	0.05	10	2820	1.086
08:00-08:3	10	2820	1.55	10	2820	0.089	10	2820	1.639
08:30-09:0	10	2820	1.933	10	2820	0.174	10	2820	2.107
09:00-09:3	10	2820	1.429	10	2820	0.319	10	2820	1.748
09:30-10:0	10	2820	0.841	10	2820	0.39	10	2820	1.231
10:00-10:3	10	2820	0.536	10	2820	0.429	10	2820	0.965
10:30-11:0	10	2820	0.681	10	2820	0.518	10	2820	1.199
11:00-11:3	10	2820	0.578	10	2820	0.507	10	2820	1.085
11:30-12:0	10	2820	0.738	10	2820	0.628	10	2820	1.366
12:00-12:3	10	2820	0.812	10	2820	1.472	10	2820	2.284
12:30-13:0	10	2820	1.312	10	2820	1.39	10	2820	2.702
13:00-13:3	10	2820	1.291	10	2820	1.401	10	2820	2.692
13:30-14:0	10	2820	1.461	10	2820	0.819	10	2820	2.28
14:00-14:3	10	2820	0.89	10	2820	0.716	10	2820	1.606
14:30-15:0	10	2820	0.5	10	2820	0.692	10	2820	1.192
15:00-15:3	10	2820	0.355	10	2820	0.649	10	2820	1.004
15:30-16:0	10	2820	0.436	10	2820	0.727	10	2820	1.163
16:00-16:3	10	2820	0.305	10	2820	1.163	10	2820	1.468
16:30-17:0	10	2820	0.234	10	2820	1.596	10	2820	1.83
17:00-17:3	10	2820	0.209	10	2820	1.752	10	2820	1.961
17:30-18:0	10	2820	0.106	10	2820	0.993	10	2820	1.099
18:00-18:3	10	2820	0.05	10	2820	0.337	10	2820	0.387
18:30-19:0	10	2820	0.025	10	2820	0.163	10	2820	0.188
19:00-19:30									
19:30-20:00									
20:00-20:30									
20:30-21:00									
21:00-21:30									
21:30-22:00									
22:00-22:30									
22:30-23:00									
23:00-23:30									
23:30-24:00									
Daily Trip Rates:			17.631			16.995			34.626

Parameter summary

Trip rate p 1500 - 4850 (units: sqm)

Survey dat 01/01/05 - 24/09/13

Number of 10
 Number of 0
 Number of 0
 Surveys m: 5

This sectio followed by the range of the total number the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed

TRICS 7.1.1

Trip Rate P: Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 02 - EMPLOYMENT
 Category C - INDUSTRIAL UNIT
 MULTI-MODAL VEHICLES

Selected regions and areas:

2 SOUTH EAST	
HF	HERTFORD: 1 days
3 SOUTH WEST	
BR	BRISTOL CI: 1 days
DC	DORSET 1 days
6 WEST MIDLANDS	
HE	HEREFORD: 1 days
WM	WEST MID: 1 days

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

Filtering Stage 2 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: Gross floor area

Actual Range: 1100 to 5467 (units: sqm)

Range Selected: 1100 to 10000 (units: sqm)

Public Transport Provision:

Selection b: Include all surveys

Date Range: 01/01/05 to 06/11/12

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 2 days

Tuesday 1 days

Thursday 2 days

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

Selected survey types:

Manual count 5 days

Directional 0 days

This data displays the total adding up to 5 whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre	0
Edge of Town	0
Suburban Area	2
Edge of Town	3
Neighbourhood	0
Free Standing	0
Not Known	0

This data displays the total adding up to 5 for Suburban Area, Neighbourhood, Edge of Town, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	3
Commercial	1
Development	0
Residential	0
Retail Zone	0
Built-Up Zone	0
Village	0
Out of Town	0
High Street	0
No Sub Category	1

This data displays the total adding up to 4 for Industrial Zone, Commercial, Development, Residential, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

- B1 3 days
- B2 2 days

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

Population within 1 mile:

10,001 to 13 days

25,001 to 52 days

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

Population within 5 miles:

50,001 to 102 days

125,001 to 250 days

250,001 to 500 days

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

Car ownership within 5 miles:

0.6 to 1.0 2 days

1.1 to 1.5 3 days

This data displays the number of selected surveys within a radius of 5-miles of selected survey sites.

Travel Plan:

No 5 days

This data displays the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

- 1 BR-02-C-01 MECH. ENCL BRISTOL CITY
NOVERS HILL
BEDMINSTER
BRISTOL
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 1100 sqm
Survey date: MONDAY ##### Survey Typ MANUAL
- 2 DC-02-C-07 NEW LOOK DORSET
MERCERY ROAD

WEYMOUTH
Edge of Town
No Sub Category
Total Gross floor area: 5467 sqm
Survey date: MONDAY ##### Survey Typ MANUAL
- 3 HE-02-C-01 METAL. CO HEREFORDSHIRE
COLLEGE ROAD

HEREFORD
Edge of Town
Commercial Zone
Total Gross floor area: 1880 sqm
Survey date: THURSDAY ##### Survey Typ MANUAL
- 4 HF-02-C-01 INDUSTRIA HERTFORDSHIRE
BRIDGE ROAD EAST

WELWYN GARDEN CITY
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 1800 sqm
Survey date: THURSDAY ##### Survey Typ MANUAL
- 5 WM-02-C-03 INDUSTRIA WEST MIDLANDS
DOWNING STREET

SMETHWICK
Edge of Town
Industrial Zone
Total Gross floor area: 5070 sqm
Survey date: TUESDAY ##### Survey Typ MANUAL

This sector displays a unique site ID, the day of the week and whether the survey was a manual classified count or an ATC count.

B2 - Light Industry Data

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range Days	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	
00:00-00:30									
00:30-01:00									
01:00-01:30									
01:30-02:00									
02:00-02:30									
02:30-03:00									
03:00-03:30									
03:30-04:00									
04:00-04:30									
04:30-05:00									
05:00-05:30									
05:30-06:00									
06:00-06:30									
06:30-07:00									
07:00-07:30	5	3063	0.15	5	3063	0.02	5	3063	0.17
07:30-08:00	5	3063	0.372	5	3063	0.046	5	3063	0.418
08:00-08:30	5	3063	1.293	5	3063	0.15	5	3063	1.443
08:30-09:00	5	3063	0.705	5	3063	0.124	5	3063	0.829
09:00-09:30	5	3063	0.32	5	3063	0.131	5	3063	0.451
09:30-10:00	5	3063	0.144	5	3063	0.091	5	3063	0.235
10:00-10:30	5	3063	0.078	5	3063	0.078	5	3063	0.156
10:30-11:00	5	3063	0.163	5	3063	0.091	5	3063	0.254
11:00-11:30	5	3063	0.078	5	3063	0.085	5	3063	0.163
11:30-12:00	5	3063	0.104	5	3063	0.118	5	3063	0.222
12:00-12:30	5	3063	0.118	5	3063	0.137	5	3063	0.255
12:30-13:00	5	3063	0.104	5	3063	0.202	5	3063	0.306
13:00-13:30	5	3063	0.189	5	3063	0.176	5	3063	0.365
13:30-14:00	5	3063	0.242	5	3063	0.17	5	3063	0.412
14:00-14:30	5	3063	0.176	5	3063	0.124	5	3063	0.3
14:30-15:00	5	3063	0.085	5	3063	0.078	5	3063	0.163
15:00-15:30	5	3063	0.052	5	3063	0.118	5	3063	0.17
15:30-16:00	5	3063	0.098	5	3063	0.091	5	3063	0.189
16:00-16:30	5	3063	0.078	5	3063	0.15	5	3063	0.228
16:30-17:00	5	3063	0.091	5	3063	0.281	5	3063	0.372
17:00-17:30	5	3063	0.085	5	3063	0.431	5	3063	0.516
17:30-18:00	5	3063	0.039	5	3063	1.103	5	3063	1.142
18:00-18:30	5	3063	0.052	5	3063	0.424	5	3063	0.476
18:30-19:00	5	3063	0.033	5	3063	0.287	5	3063	0.32
19:00-19:30									
19:30-20:00									
20:00-20:30									
20:30-21:00									
21:00-21:30									
21:30-22:00									
22:00-22:30									
22:30-23:00									
23:00-23:30									
23:30-24:00									
Daily Trip Rates:			4.849			4.706			9.555

B2 - Light Industry Data

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range Days	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	
00:00-00:30									
00:30-01:00									
01:00-01:30									
01:30-02:00									
02:00-02:30									
02:30-03:00									
03:00-03:30									
03:30-04:00									
04:00-04:30									
04:30-05:00									
05:00-05:30									
05:30-06:00									
06:00-06:30									
06:30-07:00									
07:00-07:30	5	3063	0.202	5	3063	0.033	5	3063	0.235
07:30-08:00	5	3063	0.477	5	3063	0.065	5	3063	0.542
08:00-08:30	5	3063	1.573	5	3063	0.17	5	3063	1.743
08:30-09:00	5	3063	0.881	5	3063	0.17	5	3063	1.051
09:00-09:30	5	3063	0.398	5	3063	0.131	5	3063	0.529
09:30-10:00	5	3063	0.189	5	3063	0.104	5	3063	0.293
10:00-10:30	5	3063	0.072	5	3063	0.078	5	3063	0.15
10:30-11:00	5	3063	0.209	5	3063	0.098	5	3063	0.307
11:00-11:30	5	3063	0.085	5	3063	0.085	5	3063	0.17
11:30-12:00	5	3063	0.124	5	3063	0.124	5	3063	0.248
12:00-12:30	5	3063	0.124	5	3063	0.229	5	3063	0.353
12:30-13:00	5	3063	0.144	5	3063	0.268	5	3063	0.412
13:00-13:30	5	3063	0.307	5	3063	0.235	5	3063	0.542
13:30-14:00	5	3063	0.281	5	3063	0.209	5	3063	0.49
14:00-14:30	5	3063	0.209	5	3063	0.137	5	3063	0.346
14:30-15:00	5	3063	0.098	5	3063	0.111	5	3063	0.209
15:00-15:30	5	3063	0.059	5	3063	0.124	5	3063	0.183
15:30-16:00	5	3063	0.111	5	3063	0.098	5	3063	0.209
16:00-16:30	5	3063	0.091	5	3063	0.202	5	3063	0.293
16:30-17:00	5	3063	0.104	5	3063	0.379	5	3063	0.483
17:00-17:30	5	3063	0.098	5	3063	0.568	5	3063	0.666
17:30-18:00	5	3063	0.039	5	3063	1.423	5	3063	1.462
18:00-18:30	5	3063	0.052	5	3063	0.548	5	3063	0.6
18:30-19:00	5	3063	0.046	5	3063	0.366	5	3063	0.412
19:00-19:30									
19:30-20:00									
20:00-20:30									
20:30-21:00									
21:00-21:30									
21:30-22:00									
22:00-22:30									
22:30-23:00									
23:00-23:30									
23:30-24:00									
Daily Trip Rates:			5.973			5.955			11.928

Parameter summary

Trip rate per 100 - 5467 (units: sqm)

Survey dates 01/01/05 - 06/11/12

Number of 5

Number of 0

Number of 0

Surveys made 0

This sector followed by the range the total number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRICS 7.1.1

Trip Rate Parameter: Gross floor area

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 04 - EDUCATION
 Category A - PRIMARY
 MULTI-MODAL VEHICLES

Selected regions and areas:

3 SOUTH WEST
 DV DEVON 1 days
 6 WEST MIDLANDS
 WO WORCESTE 1 days
 8 NORTH WEST
 MS MERSEYSII 1 days
 10 WALES
 WR WREXHAM 1 days

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

Filtering Stage 2 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: Gross floor area
 Actual Range: 1245 to 2000 (units: sqm)
 Range Selected by User: 1245 to 2000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 13/10/11

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
 Thursday 2 days
 Friday 1 days

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

Selected survey types:

Manual count 4 days
 Directional ATC Count 0 days

This data displays the number of manual count surveys and the total amount of ATC surveys undertaken using machines.

Selected Locations:

Town Centre 0
 Edge of Town Centre 1
 Suburban Area (PPS6 Out of Centre) 3
 Edge of Town 0
 Neighbourhood Centre (PPS6 Local Centre) 0
 Free Standing (PPS6 Out of Town) 0
 Not Known 0

This data displays the number of surveys by location: Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 0
 Commercial Zone 0
 Development Zone 0
 Residential Zone 3
 Retail Zone 0
 Built-Up Zone 0
 Village 0
 Out of Town 0
 High Street 0
 No Sub Category 1

This data displays the number of surveys by location sub-category: Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

D1 4 days

This data displays the number of surveys which can be found within the Library module of TRICS®.

Population within 1 mile:

15,001 to 20,000 2 days
 20,001 to 25,000 1 days
 25,001 to 50,000 1 days

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

Population within 5 miles:

75,001 to 100,000 2 days
 250,001 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:

0.6 to 1.0 2 days
 1.1 to 1.5 2 days

This data displays the number of selected surveys within a radius of 5-miles of selected survey sites.

Travel Plan:

No 4 days

This data displays the number of surveys and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

- 1 DV-04-A-0 PRIMARY S DEVON
 ARDEN GROVE
 PENNYCROSS
 PLYMOUTH
 Suburban Area (PPS6 Out of Centre)
 Residential Zone
 Total Gross floor area 1245 sqm
 Survey dat FRIDAY ##### Survey Typ MANUAL
- 2 MS-04-A-0 RC PRIMAF MERSEYSIDE
 DERWENT ROAD

 ST HELENS
 Suburban Area (PPS6 Out of Centre)
 Residential Zone
 Total Gross floor area 1260 sqm
 Survey dat THURSDAY ##### Survey Typ MANUAL
- 3 WO-04-A-0 PRIMARY S WORCESTERSHIRE
 ST PETERS CHURCH LANE

 DROITWICH SPA
 Suburban Area (PPS6 Out of Centre)
 Residential Zone
 Total Gross floor area 1900 sqm
 Survey dat MONDAY ##### Survey Typ MANUAL
- 4 WR-04-A-0 PRIMARY S WREXHAM
 BODHYFRYD

 WREXHAM
 Edge of Town Centre
 No Sub Category
 Total Gross floor area 2000 sqm
 Survey dat THURSDAY ##### Survey Typ MANUAL

This section provides a list of all surveys, it displays the selected day of and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

Calculation Factor: 100 sqm

Count Type: VEHICLES

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	1601	0.531	4	1601	0.234	4	1601	0.765
08:00-09:00	4	1601	6.979	4	1601	4.965	4	1601	11.944
09:00-10:00	4	1601	0.656	4	1601	1.233	4	1601	1.889
10:00-11:00	4	1601	0.187	4	1601	0.312	4	1601	0.499
11:00-12:00	4	1601	0.812	4	1601	0.468	4	1601	1.28
12:00-13:00	4	1601	0.25	4	1601	0.687	4	1601	0.937
13:00-14:00	4	1601	0.562	4	1601	0.562	4	1601	1.124
14:00-15:00	4	1601	1.952	4	1601	0.39	4	1601	2.342
15:00-16:00	4	1601	2.685	4	1601	4.918	4	1601	7.603
16:00-17:00	4	1601	0.453	4	1601	0.765	4	1601	1.218
17:00-18:00	4	1601	0.25	4	1601	0.5	4	1601	0.75
18:00-19:00	3	1720	0	3	1720	0	3	1720	0
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			15.317			15.034			30.351

Primary School - Data

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

Calculation Factor: 100 sqm

Count Type: TOTAL PEOPLE

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	4	1601	0.656	4	1601	0.25	4	1601	0.906
08:00-09:00	4	1601	23.607	4	1601	5.933	4	1601	29.54
09:00-10:00	4	1601	1.53	4	1601	3.497	4	1601	5.027
10:00-11:00	4	1601	0.406	4	1601	0.578	4	1601	0.984
11:00-12:00	4	1601	1.78	4	1601	1.03	4	1601	2.81
12:00-13:00	4	1601	1.046	4	1601	1.311	4	1601	2.357
13:00-14:00	4	1601	1.421	4	1601	1.577	4	1601	2.998
14:00-15:00	4	1601	5.839	4	1601	1.499	4	1601	7.338
15:00-16:00	4	1601	6.667	4	1601	24.918	4	1601	31.585
16:00-17:00	4	1601	0.781	4	1601	1.92	4	1601	2.701
17:00-18:00	4	1601	0.375	4	1601	0.812	4	1601	1.187
18:00-19:00	3	1720	0	3	1720	0.039	3	1720	0.039
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			44.108			43.364			87.472

Parameter summary

Trip rate parameter range selected: 1245 - 2000 (units: sqm)

Survey date range: 01/01/05 - 13/10/11

Number of weekdays (Monday-Friday) 4

Number of Saturdays: 0

Number of Sundays: 0

Surveys manually removed from selection: 0

This section displays a quick summary followed by the total number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed

TRICS 7.1.1

Trip Rate F Number of pupils

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 04 - EDUCATION

Category B - SECONDARY

MULTI-MODAL VEHICLES

Selected regions and areas:

2 SOUTH EAST

EX ESSEX 1 days

HC HAMPSHIF 1 days

OX OXFORDSH 1 days

3 SOUTH WEST

DC DORSET 1 days

5 EAST MIDLANDS

LE LEICESTER 1 days

LN LINCOLNSH 1 days

6 WEST MIDLANDS

ST STAFFORD 1 days

7 YORKSHIRE & NORTH LINCOLNSHIRE

KH KINGSTON 1 days

9 NORTH

CB CUMBRIA 1 days

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

Filtering Stage 2 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 pupils

Actual Range 758 to 1913 (units:)

Range Selected 758 to 1913 (units:)

Public Transport Provision:

Selection Include all surveys

Date Range 01/01/01 to 21/06/05

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 3 days

Thursday 5 days

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

Selected survey types:

Manual 9 days

Directional 0 days

This data covers the total days whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre 0

Edge of Town 0

Suburban 4

Edge of Town 3

Neighbourhood 2

Free Stand 0

Not Known 0

This data covers Edge of Town Suburban Neighbourhood Edge of Town Town Centre and Not Known.

Selected Location Sub Categories:

Industrial 0

Commercial 0

Development 0

Residential 3

Retail Zone 0

Built-Up Zone 0

Village 0

Out of Town 0

High Street 0

No Sub Category 6

This data covers Industrial Development Residential Retail Zone Built-Up Zone Village Out of Town High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

D1 9 days

This data can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 51 days

5,001 to 12 days

15,001 to 3 days

20,001 to 2 days

25,001 to 1 days

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

Population within 5 miles:

5,001 to 2 days

25,001 to 1 days

50,001 to 1 days

75,001 to 1 days

100,001 to 1 days

125,001 to 2 days

250,001 to 1 days

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

Car ownership within 5 miles:

0.6 to 1.0 4 days

1.1 to 1.5 5 days

This data can be found within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known 8 days

No 1 days

This data can be found and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 CB-04-B-0: SECONDARY CUMBRIA
STAINBURN ROAD

WORKINGTON
Edge of Town
No Sub Category
Total Number of pupils 861
Survey date TUESDAY ##### Survey Type: MANUAL

2 DC-04-B-0: SECONDARY DORSET
BRISTOL ROAD

SHERBORNE
Edge of Town
No Sub Category
Total Number of pupils 1327
Survey date TUESDAY ##### Survey Type: MANUAL

3 EX-04-B-0: SECONDARY ESSEX
SHEEPEN ROAD

COLCHESTER
Edge of Town
No Sub Category
Total Number of pupils 927
Survey date THURSDAY ##### Survey Type: MANUAL

4 HC-04-B-0: SECONDARY HAMPSHIRE
CROYE CLOSE

ANDOVER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils 895
Survey date THURSDAY ##### Survey Type: MANUAL

5 KH-04-B-0 PRIVATE C KINGSTON UPON HULL
 HYMERS AVENUE

HULL
 Neighbourhood Centre (PPS6 Local Centre)
 No Sub Category
 Total Number of pupi 973
 Survey dat MONDAY ##### Survey Ty: MANUAL

6 LE-04-B-01 GRAMMA LEICESTERSHIRE
 BITTESWELL ROAD

LUTTERWORTH
 Suburban Area (PPS6 Out of Centre)
 Residential Zone
 Total Number of pupi 1913
 Survey dat TUESDAY ##### Survey Ty: MANUAL

7 LN-04-B-0: SECONDA LINCOLNSHIRE
 WRAGBY ROAD
 GLEBE
 LINCOLN
 Suburban Area (PPS6 Out of Centre)
 No Sub Category
 Total Number of pupi 1200
 Survey dat THURSDAY ##### Survey Ty: MANUAL

8 OX-04-B-0 SECONDA OXFORDSHIRE
 MARSTON FERRY ROAD
 SUMMERTOWN
 OXFORD
 Neighbourhood Centre (PPS6 Local Centre)
 No Sub Category
 Total Number of pupi 1069
 Survey dat THURSDAY ##### Survey Ty: MANUAL

9 ST-04-B-01 SECONDA STAFFORDSHIRE
 SANDON ROAD
 LIGHTWOOD
 STOKE-ON-TRENT
 Suburban Area (PPS6 Out of Centre)
 Residential Zone
 Total Number of pupi 758
 Survey dat THURSDAY ##### Survey Ty: MANUAL

This section displays the selected day of and whether the survey was a manual classified count or an ATC count.

Secondary School Data

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

Calculation Factor: 1 PUPILS

Count Type: VEHICLES

Time Rang Days	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. PUPILS	Trip Rate	No. Days	No. Ave. PUPILS	Trip Rate	No. Days	No. Ave. PUPILS	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	8	1001	0.021	8	1001	0.005	8	1001	0.026
08:00-09:00	9	1103	0.161	9	1103	0.105	9	1103	0.266
09:00-10:00	9	1103	0.022	9	1103	0.017	9	1103	0.039
10:00-11:00	9	1103	0.009	9	1103	0.008	9	1103	0.017
11:00-12:00	9	1103	0.012	9	1103	0.01	9	1103	0.022
12:00-13:00	9	1103	0.013	9	1103	0.016	9	1103	0.029
13:00-14:00	9	1103	0.017	9	1103	0.015	9	1103	0.032
14:00-15:00	9	1103	0.011	9	1103	0.015	9	1103	0.026
15:00-16:00	9	1103	0.077	9	1103	0.088	9	1103	0.165
16:00-17:00	9	1103	0.029	9	1103	0.063	9	1103	0.092
17:00-18:00	9	1103	0.021	9	1103	0.033	9	1103	0.054
18:00-19:00	9	1103	0.014	9	1103	0.012	9	1103	0.026
19:00-20:00	1	1913	0.028	1	1913	0.015	1	1913	0.043
20:00-21:00	1	1913	0.018	1	1913	0.02	1	1913	0.038
21:00-22:00	1	1913	0.005	1	1913	0.043	1	1913	0.048
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			0.458			0.465			0.923

TRIP RATE for Land Use 04 - EDUCATION/B - SECONDARY

Calculation Factor: 1 PUPILS

Count Type: TOTAL PEOPLE

Time Rang Days	ARRIVALS			DEPARTURES			TOTALS		
	No. Ave. PUPILS	Trip Rate	No. Days	No. Ave. PUPILS	Trip Rate	No. Days	No. Ave. PUPILS	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	8	1001	0.036	8	1001	0.004	8	1001	0.04
08:00-09:00	9	1103	0.965	9	1103	0.049	9	1103	1.014
09:00-10:00	9	1103	0.061	9	1103	0.03	9	1103	0.091
10:00-11:00	9	1103	0.034	9	1103	0.033	9	1103	0.067
11:00-12:00	9	1103	0.037	9	1103	0.051	9	1103	0.088
12:00-13:00	9	1103	0.081	9	1103	0.129	9	1103	0.21
13:00-14:00	9	1103	0.217	9	1103	0.158	9	1103	0.375
14:00-15:00	9	1103	0.033	9	1103	0.049	9	1103	0.082
15:00-16:00	9	1103	0.074	9	1103	0.752	9	1103	0.826
16:00-17:00	9	1103	0.028	9	1103	0.252	9	1103	0.28
17:00-18:00	9	1103	0.029	9	1103	0.072	9	1103	0.101
18:00-19:00	9	1103	0.028	9	1103	0.027	9	1103	0.055
19:00-20:00	1	1913	0.053	1	1913	0.024	1	1913	0.077
20:00-21:00	1	1913	0.027	1	1913	0.029	1	1913	0.056
21:00-22:00	1	1913	0.005	1	1913	0.054	1	1913	0.059
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			1.708			1.713			3.421

Parameter summary

Trip rate p 758 - 1913 (units:)
 Survey dat 01/01/01 - 21/06/05
 Number of 9
 Number of 0
 Number of 0
 Surveys m. 0

This section followed by the total number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Foodstore Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	34.30%
<i>Multi Vehicle Occupants</i>	54.20%
Vehicle Occupants	88.50%
Public Transport	1.50%
Pedestrians	9.50%
Cyclists	0.60%

Comparison Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	90.90%
Public Transport	1.70%
Pedestrians	6.60%
Cyclists	0.90%

Restaurant Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	29.10%
Public Transport	40.70%
Pedestrians	30.20%
Cyclists	

Bingo Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	39.30%
Public Transport	35.20%
Pedestrians	25.20%
Cyclists	0.30%

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	73.00%
Public Transport	6.00%
Pedestrians	20.40%
Cyclists	0.60%

Bowling Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	17.90%
<i>Multi Vehicle Occupants</i>	58.90%
Vehicle Occupants	76.80%
Public Transport	8.10%
Pedestrians	15.00%
Cyclists	0.20%

B1 Office Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	45.80%
Public Transport	10.80%
Pedestrians	42.40%
Cyclists	1.00%

Residential Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	80.90%
Public Transport	1.90%
Pedestrians	15.30%
Cyclists	2.00%

B2 Light Industry Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	69.30%
<i>Multi Vehicle Occupants</i>	22.00%
Vehicle Occupants	91.30%
Public Transport	0.00%
Pedestrians	7.70%
Cyclists	1.10%

Primary School Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	35.50%
Public Transport	3.60%
Pedestrians	60.70%
Cyclists	0.20%

Secondary School Mode Split

	Percentage
<i>Single Vehicle Occupants</i>	
<i>Multi Vehicle Occupants</i>	
Vehicle Occupants	25.30%
Public Transport	22.30%
Pedestrians	48.40%
Cyclists	4.00%

Mode Split Summary

	Residential	Foodstore	Comparison	Restaurant	Cinema	Bingo	Bowling	B1 Office	B2 Light Industry	Primary School	Secondary School
Single Vehicle Occupants	0.00%	34.3%	0.0%	0.0%	0.0%	0.0%	17.9%	0.0%	69.3%	0.0%	0.00%
Multi Vehicle Occupants	0.00%	54.2%	0.0%	0.0%	0.0%	0.0%	58.9%	0.0%	22.0%	0.0%	0.00%
Vehicle Occupants	80.90%	88.5%	90.9%	29.1%	73.0%	39.3%	76.8%	45.8%	91.3%	35.5%	25.30%
Public Transport	1.90%	1.5%	1.7%	40.7%	6.0%	35.2%	8.1%	10.8%	0.0%	3.6%	22.30%
Pedestrians	15.30%	9.5%	6.6%	30.2%	20.4%	25.2%	15.0%	42.4%	7.7%	60.7%	48.40%
Cyclists	2.00%	0.6%	0.9%	0.0%	0.6%	0.3%	0.2%	1.0%	1.1%	0.2%	4.00%



NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 10
CSRM Commentary on Saturn Model Outputs, Atkins 2014

August 2014

Technical Note 2

Project:	5129472 - Northstowe Phase 2	To:	Janice Hughes (Hyder)
Subject:	Commentary on SATURN Model Outputs	From:	Nicola Price (Atkins)
Version:	3.0 16 Jul 2014	cc:	James Lindsay (Atkins) Tam Parry (CCC)

1. Introduction

1.1. Background to the Modelling

Atkins has been commissioned to provide highway modelling results from the Cambridge Sub-Regional Model (CSRM) for Phase 2 of the Northstowe development. Part of the specification for this modelling work was that the results should be compatible (as far as possible) with those being used for the A14 upgrade modelling being carried out by AECOM (part of the J2A consortium).

Three scenarios have been modelled: Do Minimum (DM) with only the committed Phase 1 Northstowe development, Do Something 1 (DS1) with Phase 2 development and a dual carriageway access linking from Bar Hill interchange to the southern fringe of Northstowe and Do Something 2 (DS2) with a variation to the access arrangements with a single carriageway road additionally linking to the Dry Drayton interchange of the proposed A14 local access road.

The first stage of this study was to carry out a benchmarking exercise on the 2011 model, which is the initial forecast year of the CSRM. This built upon the Cambridge to Huntingdon A14 Road Model (CHARM), details of which are to be provided by AECOM. Further changes were made to the model in the Northstowe area to bring it better in line with newly available local data: these changes were presented in Technical Note 1 (“5129472 TN1 – Benchmarking v2.0.pdf”) and were agreed by AECOM and Hyder.

Much of this Northstowe Phase 2 modelling work was carried out in parallel with the A14 team’s “Design Freeze 2” (DF2) workstream. The full CSRM runs (simulating interactions between land use, demand and transport provision) used the same basic highway networks as A14 DF2, except for minor amendments in the immediate vicinity of Northstowe¹. AECOM in constructing the A14 DF2 CSRM runs chose not to incorporate the majority of the changes that had been implemented in the A14 Present Year Validation / CHARM 2011 networks (which included updates to infrastructure, zoning system and values of time), and so the Northstowe models were run in a consistent manner.

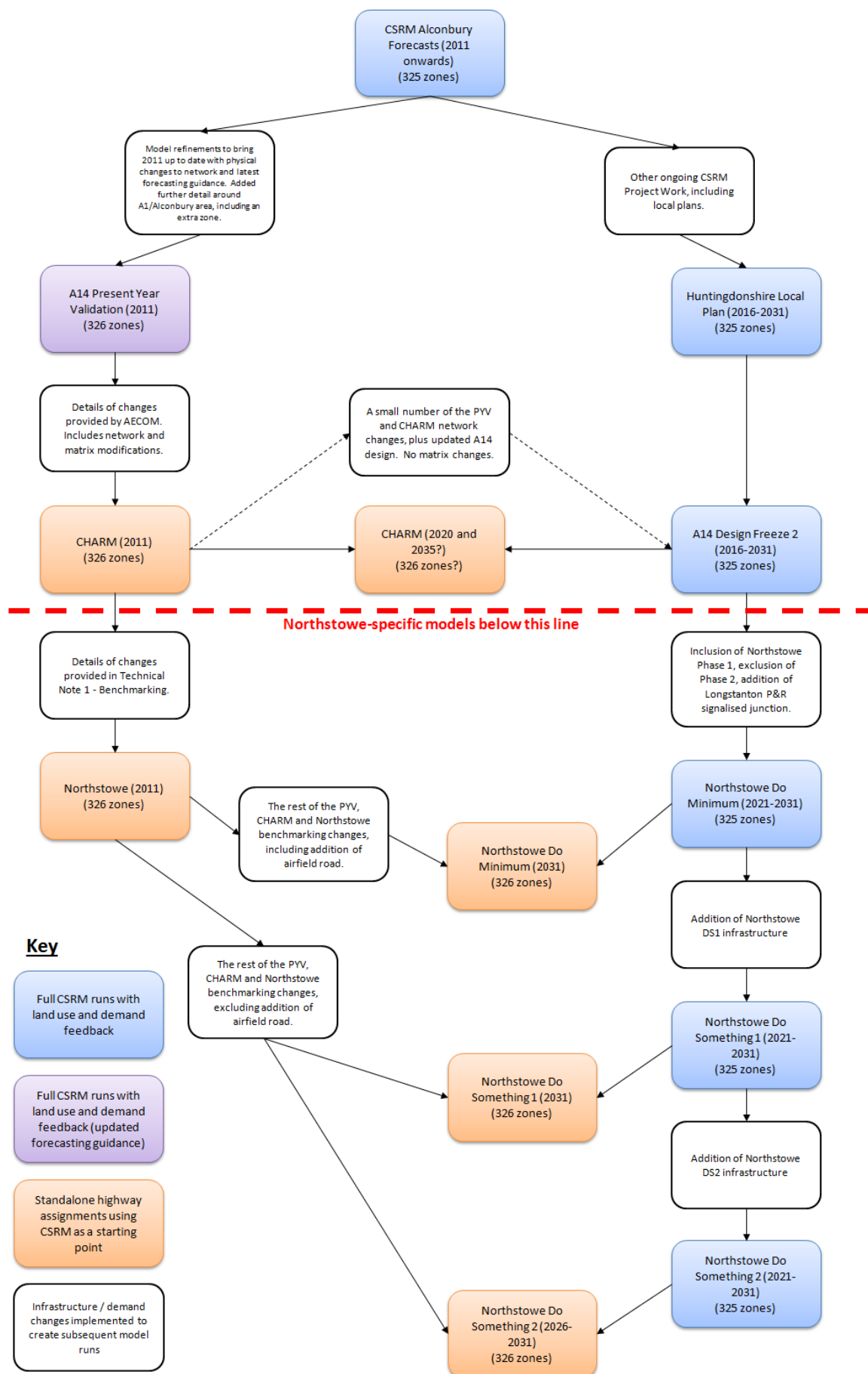
The final highway assignments for the Northstowe Phase 2 modelling *did* include the A14 PYV / CHARM changes, along with the Northstowe benchmarking updates. Figure 1 maps out the relationships between the CSRM and highway model runs that have fed into this work.

¹ The following changes were made to the A14 DF2 networks in preparation for the full CSRM Northstowe model runs:

- Inclusion of Northstowe Phase 1 infrastructure (connections to the B1050) as per the Design & Access statement for this phase of the development;
- Maintaining consistency with the Northstowe benchmarking by coding the Longstanton Park & Ride site entrance as a signalised junction; and
- Removal of infrastructure associated with Northstowe Phase 2 from the DM networks, and replacement with up-to-date coding in DS1 and DS2.

Technical Note 2

Figure 1. Relationship Between CSRM, A14 DCO and Northstowe Highway Models



Technical Note 2

The infrastructure associated with the different modelled scenarios for Northstowe Phase 2 was specified by Hyder and is summarised in Table 1.

Table 1. Infrastructure in Modelled Scenarios

Infrastructure	DM	DS1	DS2
Airfield Road between Longstanton and Oakington ²	Retained in all years	Removed from 2021 onwards	Removed from 2021 onwards
Northstowe Phase 1 connections to B1050, as per Transport Assessment for that site	All years	All years	All years
Central link through Northstowe Phase 2 (nominal 30 mph with lower design speed)	-	Included from 2021 onwards	Included from 2021 onwards
Dual carriageway link from Northstowe Phase 2 to B1050 between Longstanton and Bar Hill (70 mph, two lanes each way)	-	Included from 2021 onwards	Included from 2021 onwards
Dualling of B1050 between Northstowe link and A14 (70 mph, two lanes each way)	-	Included from 2021 onwards	Included from 2021 onwards
Eastern link through Northstowe Phase 2 (nominal 30 mph with lower design speed)	-	Included from 2026 onwards	Included from 2026 onwards
Single carriageway link from Northstowe Phase 2 to Dry Drayton Road (60 mph, one lane each way)	-	-	Included from 2026 onwards

1.2. This Note

This technical note sets out a summary of the SATURN highway modelling results for Northstowe Phase 2, highlighting any potential areas of concern and noting potential limitations of the modelling.

It comprises the following sections:

- Section 2 explains the model results that were specified by Hyder and have been provided in spreadsheet and PDF formats;
- Section 3 provides further commentary on the results;
- Section 4 notes any potential limitations of the modelling that should be borne in mind when using these results; and
- Section 5 provides recommendations and conclusions.

2. Model Results Extracted

The model results that have been provided in spreadsheet format comprise the following data, for DN 2011, DM 2031, DS1 2026, DS1 2031 and DS2 2031:

- Modelled actual link flows at 28 locations for AM peak, PM peak, and summation of relevant time periods to generate 24 hr AADT, 18 hr AAWT and 6 hr AAWT;
- Modelled actual junction turning flows at 17 junctions for AM and PM peaks; and
- Modelled journey times along six routes for AM and PM peaks.

In addition, PDF extracts direct from the SATURN model have been provided for the Northstowe area with the following data for all scenarios:

- Actual link flows in the AM and PM peaks;
- Difference in actual link flows (DS1 vs DM and DS2 vs DS1) in the 2031 AM and PM peaks; and
- Demand volume over capacity percentages in the AM and PM peaks.

² Final highway assignments only. The airfield road route was always excluded from full CSRMs runs.

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3. Commentary on 2031 Results

3.1. Highway Trip Matrix Totals

Table 2 shows the highway trip matrix totals for the AM and PM peak hours in the three forecast modelled scenarios. As expected, the total amount of traffic in the highway network increases when Northstowe Phase 2 is added (+332 PCU in the AM peak and +571 PCU in the PM peak). However, when the extra road link is added in DS2, the study-wide highway trips only increase slightly in the AM peak (+34 PCU) and actually decrease in the PM peak (-322 PCU) in comparison with DS1.

Table 3 shows the sectorised highway trips for the AM peak hour in the three scenarios, and Table 4 shows the equivalent for the PM peak. Table 5 presents the demand differences between scenarios in the AM peak, and Table 6 for the PM peak. These tables show that although the overall changes in matrix size are relatively small, the number of trips to/from Northstowe Phase 2 is far greater than these differences, since the new development is abstracting trips from elsewhere in the network. All other things being equal (population and employment assumptions are fixed in the land use modelling), the outputs suggest that Northstowe Phase 2 yields a greater dependence on car travel than the Do Minimum scenario, confirming the need for travel planning measures to mitigate this as far as possible.

Table 7 summarises the highway trip to totals to/from Northstowe Phase 2 in the AM and PM peak hours for all three scenarios. These tables show a few trips to/from Northstowe Phase 2 in the Do Minimum scenario, which can be attributed to some existing residential areas such as Rampton Drift.

Table 2. 2031 Study-Wide Highway Trip Matrix Totals (PCU)

Peak Hour	DM	DS1	DS2
AM (08:00-09:00)	120,197	120,529	120,562
PM (17:00-18:00)	124,086	124,657	124,335

Table 3. 2031 Sectorised Highway Matrices (PCU) – AM Peak

		DM			DS1			DS2		
		To Sector			To Sector			To Sector		
		1	2	3	1	2	3	1	2	3
From Sector	1 – Northstowe Phase 2	0	59	6	181	894	92	178	924	92
	2 – Rest of Core CSR	9	73,052	14,918	1,050	71,985	14,823	1,095	71,947	14,821
	3 – External Zones	2	16,374	15,776	105	15,622	15,776	106	15,624	15,776

NB: "Northstowe Phase 2" refers to the zone that is allocated to Northstowe Phase 2 in the Do Something scenarios – this includes some existing residential areas such as Rampton Drift, which are evident in the Do Minimum scenario. "Rest of Core CSR" refers to all of Cambridge City, South Cambridgeshire, East Cambridgeshire and Huntingdonshire, excluding Northstowe Phase 2.

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Table 4. 2031 Sectored Highway Matrices (PCU) – PM Peak

		DM			DS1			DS2		
		To Sector			To Sector			To Sector		
		1	2	3	1	2	3	1	2	3
From Sector	1 – Northstowe Phase 2	0	15	4	257	1,040	116	255	1,079	117
	2 – Rest of Core CSRM	48	74,528	17,628	1,186	73,128	17,038	1,220	72,876	16,969
	3 – External Zones	6	16,365	15,494	156	16,242	15,494	156	16,170	15,494

NB: “Northstowe Phase 2” refers to the zone that is allocated to Northstowe Phase 2 in the Do Something scenarios – this includes some existing residential areas such as Rampton Drift, which are evident in the Do Minimum scenario. “Rest of Core CSRM” refers to all of Cambridge City, South Cambridgeshire, East Cambridgeshire and Huntingdonshire, excluding Northstowe Phase 2.

Table 5. Differences in Sectored Highway Matrices (PCU) – AM Peak

		DS1 minus DM			DS2 minus DM			DS2 minus DS1		
		To Sector			To Sector			To Sector		
		1	2	3	1	2	3	1	2	3
From Sector	1 – Northstowe Phase 2	181	834	86	178	865	86	-4	30	0
	2 – Rest of Core CSRM	1,041	-1,066	-95	1,085	-1,105	-97	45	-39	-2
	3 – External Zones	103	-752	0	104	-750	0	1	2	0

NB: “Northstowe Phase 2” refers to the zone that is allocated to Northstowe Phase 2 in the Do Something scenarios – this includes some existing residential areas such as Rampton Drift, which are evident in the Do Minimum scenario. “Rest of Core CSRM” refers to all of Cambridge City, South Cambridgeshire, East Cambridgeshire and Huntingdonshire, excluding Northstowe Phase 2.

Table 6. Differences in Sectored Highway Matrices (PCU) – PM Peak

		DS1 minus DM			DS2 minus DM			DS2 minus DS1		
		To Sector			To Sector			To Sector		
		1	2	3	1	2	3	1	2	3
From Sector	1 – Northstowe Phase 2	257	1,025	113	255	1,064	113	-2	39	0
	2 – Rest of Core CSRM	1,138	-1,399	-589	1,172	-1,652	-659	34	-252	-69
	3 – External Zones	150	-123	0	150	-195	0	0	-72	0

NB: “Northstowe Phase 2” refers to the zone that is allocated to Northstowe Phase 2 in the Do Something scenarios – this includes some existing residential areas such as Rampton Drift, which are evident in the Do Minimum scenario. “Rest of Core CSRM” refers to all of Cambridge City, South Cambridgeshire, East Cambridgeshire and Huntingdonshire, excluding Northstowe Phase 2.

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Table 7. 2031 Highway Trip Totals to/from Sector 1 – Northstowe Phase 2

Peak Hour	To / From Sector	DM	DS1	DS2
AM (08:00-09:00)	To Northstowe	11	1,336	1,379
	From Northstowe	65	1,166	1,193
PM (17:00-18:00)	To Northstowe	53	1,598	1,630
	From Northstowe	19	1,413	1,451

As noted in the demand model results reported separately by WSP and confirmed by the highway trip analysis in Table 3 to Table 6, there is a significant decrease in the number of trips to/from external zones (particularly inbound in the AM peak (-649 PCU) and outbound in the PM peak (-477 PCU)) in the Northstowe Phase 2 scenarios. This effect could be attributed to local jobs (Cambridge, South Cambridgeshire, East Cambridgeshire and Huntingdonshire districts) being taken up by residents of Northstowe rather than commuters from other parts of East Anglia (external to the Core CSRM area). (NB: changes in external-to-external trips are not modelled by CSRM and so this number is fixed across all scenarios. These trips were input from the East of England Regional Model.)

3.2. Traffic Growth on Local Roads

The travel demand to/from Northstowe generates additional traffic on the majority of local roads, as shown in Table 8 which compares the 24-hour AADT values (calculated from modelled time periods) between different scenarios. These local roads are the sites of the permanent and temporary Northstowe traffic counters that were first installed in 2013. (Site 11, which is Swavesey Road in Fen Drayton, is not in the SATURN model and is therefore not included in the table below.)

Table 8. Comparison between 24-hour AADT Values (Vehicles)

Location	Direction	2031 DM vs 2011 Base	2031 DS1 vs DM	2031 DS2 vs DS1
Site 1 – B1050 Hatton's Road, northeast of A14	NB	59%	-14%	1%
	SB	53%	-20%	2%
Site 2 – Dry Drayton Road, northeast of A14	NB	15%	11%	8%
	SB	1%	15%	13%
Site 3 – Ramper Road, west of Longstanton Bypass roundabout	EB	54%	43%	-11%
	WB	63%	42%	-4%
Site 4 – B1050 Station Road, north of Cambridgeshire Guided Busway	NB	52%	25%	-2%
	SB	32%	31%	-6%
Site 5 – Cambridge Road, Oakington	NB	18%	5%	1%
	SB	25%	0%	1%
Site 6 – Rampton Road, between Rampton and Willingham	EB	40%	3%	-12%
	WB	25%	10%	-14%
Site 7 – B1050 Earith Road, north of Willingham	SB	17%	19%	-2%
	NB	24%	13%	0%
Site 8 – A1096 Harrison Way, St. Ives	NB	13%	-1%	0%
	SB	27%	1%	0%
Site 9 – Willingham Road, between Over and Willingham	EB	29%	-10%	-3%
	WB	25%	-10%	1%
Site 10 – Longstanton Road (the airfield road), Oakington	SB	-3%	-100% (closed)	-
	NB	29%	-100% (closed)	-

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Location	Direction	2031 DM vs 2011 Base	2031 DS1 vs DM	2031 DS2 vs DS1
Site 12 - Boxworth End, Swavesey (just north of A14)	NB	69%	15%	-11%
	SB	52%	12%	-5%
Site 13 - Ramper Road, just east of Swavesey	EB	102%	64%	-19%
	WB	123%	64%	-7%
Site 14 - Longstanton High Street	NB	29%	-25%	-1%
	SB	13%	-38%	0%
Site 15 - B1049, North of Cottenham	NB	10%	0%	-2%
	SB	30%	2%	3%
Site 16 - Cottenham Road, just south of Cottenham	NB	27%	0%	1%
	SB	35%	-3%	-1%
Site 17 - Bridge Road, Histon (near A14)	NB	20%	-1%	0%
	SB	51%	-1%	-1%
Site 18 - Oakington Road, Oakington (busway crossing)	NB	25%	-6%	8%
	SB	15%	-1%	19%
Site 19 - New Road, Histon	EB	50%	-6%	4%
	WB	35%	-6%	1%
Site 20 - Butt Lane, Milton (west of A10)	EB	56%	-3%	0%
	WB	49%	-5%	0%

Between 2011 and the 2031 Do Minimum scenario, the largest percentage increase in flow is on Ramper Road (site 13). This road also experiences the biggest increase between 2031 DM and DS1, resulting in a compound increase of 232% additional flow eastbound and 266% westbound between the 2011 Base and 2031 DS1. The flow decreases slightly in DS2 but not enough to restore it to DM conditions. However, this is a minor road with low flow, and the large percentage increases only represent a relatively small absolute increase. Modelling suggests that Ramper Road has enough capacity to accommodate this additional flow.

Conversely, Longstanton High Street (site 14) experiences a net decrease between 2011 and 2031 DS1: the closure of the airfield road removes more traffic between 2031 DM and DS1 than had been brought about by 20 years of background growth between 2011 Base and 2031 DM.

Table 9 and Table 10 show the same information as Table 8, but for the AM and PM peak hours respectively.

Table 9. Comparison between AM Peak Hour Flows (Vehicles)

Location	Direction	2031 DM vs 2011 Base	2031 DS1 vs DM	2031 DS2 vs DS1
Site 1 – B1050 Hatton's Road, northeast of A14	NB	116%	-17%	1%
	SB	33%	-15%	4%
Site 2 – Dry Drayton Road, northeast of A14	NB	19%	5%	6%
	SB	-3%	10%	2%
Site 3 – Ramper Road, west of Longstanton Bypass roundabout	EB	16%	42%	-10%
	WB	91%	13%	-7%
Site 4 – B1050 Station Road, north of Cambridgeshire Guided Busway	NB	100%	2%	-1%
	SB	6%	17%	-1%
Site 5 – Cambridge Road, Oakington	NB	15%	2%	3%
	SB	24%	-11%	-1%

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Location	Direction	2031 DM vs 2011 Base	2031 DS1 vs DM	2031 DS2 vs DS1
Site 6 – Rampton Road, between Rampton and Willingham	EB	37%	-9%	-5%
	WB	55%	13%	-9%
Site 7 – B1050 Earith Road, north of Willingham	SB	13%	8%	-1%
	NB	64%	4%	-2%
Site 8 – A1096 Harrison Way, St. Ives	NB	-1%	0%	0%
	SB	6%	-1%	0%
Site 9 – Willingham Road, between Over and Willingham	EB	35%	10%	-10%
	WB	41%	-19%	2%
Site 10 – Longstanton Road (the airfield road), Oakington	SB	-42%	-100% (closed)	-
	NB	88%	-100% (closed)	-
Site 12 - Boxworth End, Swavesey (just north of A14)	NB	82%	35%	-21%
	SB	44%	-3%	-6%
Site 13 - Ramper Road, just east of Swavesey	EB	38%	95%	-26%
	WB	135%	12%	-10%
Site 14 - Longstanton High Street	NB	51%	-23%	-2%
	SB	-23%	-49%	-1%
Site 15 - B1049, North of Cottenham	NB	3%	-4%	1%
	SB	9%	0%	0%
Site 16 - Cottenham Road, just south of Cottenham	NB	56%	-2%	1%
	SB	4%	-2%	-1%
Site 17 - Bridge Road, Histon (near A14)	NB	25%	0%	0%
	SB	29%	-1%	-1%
Site 18 - Oakington Road, Oakington (busway crossing)	NB	10%	-4%	7%
	SB	22%	0%	3%
Site 19 - New Road, Histon	EB	52%	-9%	-1%
	WB	7%	0%	2%
Site 20 - Butt Lane, Milton (west of A10)	EB	-14%	-4%	-2%
	WB	73%	-4%	0%

Table 10. Comparison between PM Peak Hour Flows (Vehicles)

Location	Direction	2031 DM vs 2011 Base	2031 DS1 vs DM	2031 DS2 vs DS1
Site 1 – B1050 Hatton's Road, northeast of A14	NB	33%	-10%	1%
	SB	81%	-17%	0%
Site 2 – Dry Drayton Road, northeast of A14	NB	11%	6%	0%
	SB	-5%	12%	8%
Site 3 – Ramper Road, west of Longstanton Bypass roundabout	EB	48%	15%	-2%
	WB	37%	49%	-7%
Site 4 – B1050 Station Road, north of Cambridgeshire Guided Busway	NB	15%	20%	-1%
	SB	60%	19%	-7%
Site 5 – Cambridge Road, Oakington	NB	-17%	7%	-3%
	SB	24%	15%	-5%

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Location	Direction	2031 DM vs 2011 Base	2031 DS1 vs DM	2031 DS2 vs DS1
Site 6 – Rampton Road, between Rampton and Willingham	EB	84%	0%	-9%
	WB	24%	-2%	-10%
Site 7 – B1050 Earith Road, north of Willingham	SB	37%	5%	0%
	NB	6%	-3%	1%
Site 8 – A1096 Harrison Way, St. Ives	NB	1%	0%	0%
	SB	-8%	1%	0%
Site 9 – Willingham Road, between Over and Willingham	EB	37%	-16%	-1%
	WB	13%	-6%	2%
Site 10 – Longstanton Road (the airfield road), Oakington	SB	-13%	-100% (closed)	-
	NB	3%	-100% (closed)	-
Site 12 - Boxworth End, Swavesey (just north of A14)	NB	63%	-10%	-2%
	SB	70%	7%	-6%
Site 13 - Ramper Road, just east of Swavesey	EB	74%	8%	-4%
	WB	94%	75%	-11%
Site 14 - Longstanton High Street	NB	5%	-33%	0%
	SB	-1%	-19%	0%
Site 15 - B1049, North of Cottenham	NB	-20%	6%	-4%
	SB	34%	6%	-2%
Site 16 - Cottenham Road, just south of Cottenham	NB	27%	-2%	-1%
	SB	65%	-5%	-1%
Site 17 - Bridge Road, Histon (near A14)	NB	17%	-3%	1%
	SB	70%	-2%	-3%
Site 18 - Oakington Road, Oakington (busway crossing)	NB	6%	2%	0%
	SB	20%	4%	11%
Site 19 - New Road, Histon	EB	32%	-5%	3%
	WB	-14%	-5%	4%
Site 20 - Butt Lane, Milton (west of A10)	EB	131%	-3%	3%
	WB	46%	1%	-2%

3.3. Do Something 1 Assignment Analysis

In the **AM peak**, the majority of traffic generated by Northstowe uses the new dual carriageway link to access the B1050 and A14. Northstowe Phase 2 also attracts a lot of traffic – largely retail/leisure based – which accesses the site via Swavesey, Willingham or the A14 east.

The B1050 in Willingham, southbound towards the signalised crossroads, has a V/C ratio of approximately 100% in the DM as well as the Do Something scenarios and therefore does not have spare capacity to carry additional traffic towards Northstowe. Consequently, traffic travelling southbound towards Northstowe displaces traffic that used to use the B1050, resulting in a net reduction in traffic downstream of the development on the Longstanton Bypass.

In addition, the high volumes of right-turning traffic travelling from the A14 into Northstowe (via the new access link) creating opposing circulatory flows which block the southbound traffic on the B1050 and therefore cause localised congestion southbound towards the new roundabout located between Longstanton and Bar Hill.

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The central link through Northstowe Phase 2 shows comparatively high V/C ratios (86% inbound and 80% outbound) but this is not a major concern. Due to the relatively coarse zone structure in Northstowe, all traffic is choosing to use this link rather than the eastern link in DS1 – whereas in reality, some of the traffic might choose to use the eastern link depending on the exact location of its trip end in Northstowe. There is no tangible evidence that these V/C ratios are high enough to have caused undesirable impacts (such as trip suppression) in the demand model.

The new A14 infrastructure close to Northstowe copes well with the additional traffic from Northstowe.

The Longstanton Park & Ride site attracts a lot more traffic in the AM peak (approximately 70 more PCU, representing an increase of 100%). This could be attributable to an increase in the P&R bus frequencies in the Do Something scenarios.

In the **PM peak**, the patterns are generally very similar, with the leisure/retail trips now leaving Northstowe using the same routes as they arrived by: via Swavesey, Willingham or the A14 east.

The northbound B1050 dual carriageway link between the A14 and the Northstowe access roundabout has a V/C ratio of 99%, suggesting that this junction might need a higher capacity approach than is currently proposed. The turning movements at this roundabout suggest that a similar amount of traffic is continuing northbound on the B1050 as is turning right into Northstowe Phase 2 and these movements are not being blocked by any others, so it is simply an issue of capacity for the northbound movements in the PM peak. Coupled to the observations made regarding local congestion southbound in the AM peak discussed above, it is strongly recommended that this junction is examined in more detail using lane based analysis).

Further sections of the B1050 northbound also have very high V/C ratios: namely, between the Longstanton Bypass and the Northstowe Phase 1 access junctions (98%), northbound towards the Park & Ride signalised access junction (98%) and north of the signalised crossroads in Willingham (between 104% and 113%). The first and last of these locations are only a few percentage points worse than the Do Minimum scenario, but the Park & Ride junction is a new pressure point that arises as a result of Northstowe Phase 2 assumptions. This is a combined effect of increased northbound traffic flow (traffic leaving Northstowe) and additional activity at the Park & Ride site (again due to increased bus frequencies).

However, the overall journey time along the B1050 northbound in the PM peak is actually faster in the Do Something scenarios than in the Do Minimum: this is due to congestion around the Northstowe Phase 1 accesses in the DM, which are less heavily used once the Phase 2 infrastructure provides an alternative route into the site from the south.

As with the AM peak, the central link into Northstowe has fairly high V/C ratios in the PM peak (89% inbound and 82% outbound) but this again is unlikely to be an issue in reality and should not have caused trip suppression in the demand model.

3.4. Do Something 2 Assignment Analysis

The comparison between DS1 and DS2 does not show any large widespread differences: the majority of changes are concentrated around the Northstowe local area. Within Northstowe Phase 2 itself, a lot more traffic uses the eastern link through the site because this is the more convenient way to access the Dry Drayton Road link that has now been provided.

Trips between Northstowe and Cambridge have changed their route in DS2: a significant proportion of those trips previously accessing Cambridge via Huntingdon Road now prefer to use the new Dry Drayton Road link and the A14 Local Access Roads to then access Huntingdon Road, rather than routing via Bar Hill. This is particularly true in the westbound direction. The A14 Local Access Road appears to have sufficient capacity to accommodate this extra traffic.

Trips between Northstowe and Cottenham have also changed their route as a result of the addition of the new link: instead of travelling through Northstowe Phase 1, Willingham and Rampton, they now route via the Dry Drayton Road link and through Oakington and Westwick.

DS2 goes some way to alleviating the problems at the Northstowe south-western access roundabout on the B1050, although the southbound approach in the AM peak still has a V/C ratio of 88%, which is higher than

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recommended. Similarly, the V/C ratio of the northbound approach to the Longstanton Park & Ride signalised junction reduces to 85% in the PM peak, which is an improvement over DS1 but still high.

In DS2, the spread of origins of car trips destined for Northstowe Phase 2 in the AM peak shifts further south: fewer trips travel along the old A14 eastbound from Huntingdon or the B1050 southbound from Earith, while more access Northstowe from the Dry Drayton, Cottenham and Cambridge directions. This is not just re-routing within the model: it is a response in the mode choice or demand models as a result of the additional link to Dry Drayton Road.

4. Limitations of the Modelling

CSRM is a strategic modelling suite that covers the whole of the Cambridge Sub-Region (Cambridge City, South Cambridgeshire, Huntingdonshire and East Cambridgeshire). As such, its accuracy at some individual junctions is not guaranteed due to the coarseness of the zone structure. Of particular relevance in the context of these results, it is worth noting that Longstanton village does not have a very high level of spatial disaggregation of zones and hence loses accuracy. As a consequence some turning movements provided for some of the internal junctions should be treated with caution.

The Northstowe Phase 1 infrastructure had not been tested in CSRM prior to its inclusion in these tests. It has been coded as specified, but it is worth highlighting that the central junction of the three accesses onto the B1050 is not used by any traffic in the SATURN model. Instead, trips travelling to/from the north use the northern priority junction. This means that the signal timings of the central B1050 junction, which are optimised within the SATURN assignment, will potentially have given more green time to the B1050 than might be the case in reality – therefore, the highway results may be under-predicting the congestion impacts on the B1050 at this location in all scenarios (DM, DS1 and DS2).

The land use model was run by WSP with the total number of jobs fixed. This has two consequences:

- Jobs in Northstowe result in a drop in jobs elsewhere in South Cambridgeshire (since the job totals are fixed by district); and
- There is a large increase in dwellings (and so population/households) in the core study area of the model due to Northstowe, so these residents compete for and take up existing jobs, resulting in a drop in in-commuting from other areas.

This makes the assumption that Northstowe does not contribute to overall jobs growth within the county, and therefore the amount of commuting does not increase as much as it might. Therefore, the resultant modelled traffic flows could be an underestimate.

5. Conclusions and Recommendations

The capacity of the new A14 infrastructure was designed with Northstowe in mind and this appears to have been successful: the operation of the A14 scheme is largely unaffected by the addition of Northstowe trips.

However, some of the local infrastructure around Northstowe is less able to accommodate the extra demand and the following areas of concern would warrant further investigation:

- The south-western Northstowe access roundabout (on the B1050 near Bar Hill) causes delays to high volumes of peak hour traffic in both the morning and the evening. Although the additional infrastructure in DS2 partially mitigates this, there would still be further issues to address at this junction. If DS2 is not taken forward and DS1 is favoured, then a redesign may be required.
- The increase in bus services on the Cambridgeshire Guided Busway in the Do Something scenarios brings about additional car trips to the Longstanton Park & Ride site (an increase of 100% inbound in the AM peak). Increases in P&R use should be considered to be advantageous; however the impacts on residual B1050 traffic needs to be more accurately quantified and monitored as development proceeds.



NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 11
Memorandum on Modelling Results and the Access
Strategy

August 2014

MEMORANDUM

Date 9 June 2014
Reference UA006156
From Janice Hughes
To Mike Salter - CCC, Tam Parry - CCC, Lois Bowser - SCDC, Dave Abbott - Highways Agency
Copies Paul Kitson – HCA
Damon Smith – HCA
Philip Harker - Hyder
David Chapman - Hyder
Nicola White – Arup
Subject Northstowe Phase 2 Traffic Modelling and Access Strategy Implications

Overview

This memo discusses the results of the traffic modelling using CSRМ for Northstowe Phase 2. It sets out the key issues and provides more detailed analysis of the implications of an Access Strategy for Phase 2 with a SW link road to the B1050 and the A14 at Bar Hill. It also considers the implications of the full Northstowe development (10,000 homes) for 'future-proofing' the Phase 2 Access Strategy.

Introduction

CSRМ Saturn Model results for the various scenarios tested have been supplied to Hyder by Atkins. This provides traffic flow forecasts for the following scenarios:

- Base Year 2011
- Do Minimum 2031 – A14 scheme improvement with Phase 1 Northstowe only
- Do Something 1 2031 – Phase 2 development + A14 scheme + Hatton's Road Link
- Do Something 2 2031 - Phase 2 development + A14 scheme + Hatton's Road Link + Dry Drayton Link

The results give link flows, junction turning movements, ratios of volume over capacity and journey times across the network. Differences between the various scenarios are also provided on a plan enabling changes to be clearly seen. In addition, the HCA has commissioned traffic surveys in November 2013 and February 2014, and had access to the outputs of traffic counters placed by Cambridgeshire County Council (CCC).

Appendix 1 provides the AM and PM peak hour link flows at key locations for each scenario.

Hyder has undertaken analysis of the results in order to form the basis for discussions on current issues and enable confirmation of the Phase 2 Highway Access Strategy. Issues related to the B1050 corridor will be separately presented.

In addition to the scenarios modelled for Phase 2, the Highways Agency consultants' have modelled the full Northstowe development of 10,000 homes in 2035 to inform the design and impact assessment of the A14 improvements. Link flow data from this scenario has been made available to Hyder. This enables the forecast traffic flows associated with the full development to be considered in the access arrangements for Phase 2.

Review of Access Strategy Scenarios

Link Flow Changes

The link flow changes as a result of the two Access Strategy scenarios for Phase 2 are set out in **Appendix 1**. The results are summarised below, highlighting the largest changes in red. The difference plots between the DM and DS1 and between DS1 and DS2 are included as **Appendix 2** and **3**.

Table 1: Comparison of DS1 (Phase 2 with SW Link Road only) to the Do Minimum (no Phase 2)

AM Peak Hour		PM Peak Hour	
Reductions compared to DM	Increases compared to DM	Reductions compared to DM	Increases compared to DM
<ul style="list-style-type: none"> ▪ B1050 Hatton's Road, N of new link junction ▪ Cambridge Road, Oakington ▪ Willingham Road ▪ Longstanton High Street ▪ Cottenham Road ▪ New Road, Histon 	<ul style="list-style-type: none"> ▪ Dry Drayton Road ▪ Ramper Road ▪ B1050 Station Road (N of CGB) ▪ B1050 Earith Road (N of Willingham) ▪ Boxworth End, Swavesey ▪ A14, E of Bar Hill and Local Access Road E of Bar Hill 	<ul style="list-style-type: none"> ▪ B1050 Hatton's Road, N of new link junction ▪ Willingham Road ▪ Boxworth End, Swavesey ▪ Longstanton High Street ▪ Cottenham Road ▪ Bridge Road, Histon ▪ New Road, Histon 	<ul style="list-style-type: none"> ▪ Dry Drayton Road ▪ Ramper Road ▪ B1050 Station Road (N of CGB) ▪ Cambridge Road, Oakington ▪ B1049 N of Cottenham ▪ Oakington Road, Oakington ▪ A14, E of Bar Hill and Local Access Road E of Bar Hill ▪ A14 E of J32 Histon

Table 2: Comparison of DS2 (Phase 2 with SW Link Road only) to DS1

AM Peak Hour		PM Peak Hour	
Reductions compared to DS1	Increases compared to DS1	Reductions compared to DS1	Increases compared to DS1
<ul style="list-style-type: none"> ▪ Ramper Road ▪ Rampton Road ▪ Boxworth End ▪ A14 E of Bar Hill and Local Access Road, E of Bar Hill ▪ B1050 N of Bar Hill ▪ Hatton's Link/ SW Link Road 	<ul style="list-style-type: none"> ▪ B1050 Hatton's Road, N of new link junction ▪ Dry Drayton Road ▪ Oakington Road ▪ Local Access Road South of Dry Drayton ▪ Dry Drayton Link Road 	<ul style="list-style-type: none"> ▪ Ramper Road ▪ B1050 Station Road, N of CGB ▪ Cambridge Road, Oakington ▪ Rampton Road ▪ Boxworth End ▪ B1049, N of Cottenham ▪ A14 E of Bar Hill and Local Access Road, E of Bar Hill ▪ B1050 N of Bar Hill 	<ul style="list-style-type: none"> ▪ Dry Drayton Road ▪ Oakington Road ▪ New Road, Histon ▪ Local Access Road South of Dry Drayton ▪ Dry Drayton Link Road

		▪ Hatton's Link/ SW Link Road	
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In summary the results show that:

- The Phase 2 development main impacts compared to the Reference Case in 2031 (A14 scheme and Phase 1) are mainly seen on the A14 towards Cambridge and Local Access Roads, as well as increases on the B1050 from Willingham through to the Ramper Road junction on the Longstanton By pass and on Ramper Road to Boxworth and the Swavesey A14 junction.
- Providing a second link (Dry Drayton Link) does not bring significant benefits for Phase 2, in fact it leads to additional traffic generation and mainly draws traffic from the Hatton's Road link and the A14 local access roads. It would reduce some traffic from some local roads (e.g. towards Swavesey) but lead to an increase compared to the 2031 Do Minimum/ Reference Case on the Longstanton By pass. There would be a decrease in some journey times given the reduced distance from the south into the site.

On the above basis Hyder cannot see a compelling reason to include a second link road for Phase 2 except for issues of resilience in the event of blockage/ closure of the B1050 to Bar Hill or the Hatton's Road link, or in the event that the junction with the B1050 and the links could not be designed to accommodate the level of traffic with this scenario.

These conclusions were discussed at the meeting on the 7th May 2014 and further detailed analysis was requested by CCC in order to assist in giving an informed view. This is provided in later sections of link and junction capacity issues together with resilience implications.

Link Capacity

The capacity of the various links has been assessed in relation to DMRB Vol 5.1 TD 79/99 road types. It is considered that each of the links below would be a **UAP1** High standard single or dual carriageway carrying predominately through traffic with limited access and a 40 to 60mph speed limit¹

Table 3: Link Capacity and Forecast Traffic Flow Phase 2

Link	Road Description	Capacity of Road Type	2031 DS1 Forecast AM Peak Hour Traffic Flow (total, % main direction)	2031 DS1 Forecast PM Peak Hour Traffic Flow (total, % main direction)
B1050 Bar Hill to proposed Hatton's Link roundabout	Dual carriageway	3600 peak hour vehicles in each direction. 7200 two way flow.	3208 (1397 NB, 1811 SB)	3818 (2173 NB, 1645 SB)
SW Link Road/ Hatton's Link	Dual carriageway	3600 peak hour vehicles in each direction. 7200 two way flow.	1596 (main flow 850, 53%)	1956 (main flow 1062, 54%)
Central Primary Route through Phase 3	7.3m Single carriageway	1590 peak hour vehicles in main direction. 2650 two way flow.	1463 (main flow 759, 52%)	1499 (main flow 779, 52%)
Eastern Primary Route through Phase 3	7.3m Single carriageway	1590 peak hour vehicles in main direction. 2650 two way flow.	132 (main flow 91, 69%)	457 (main flow 283, 62%)
Central Primary	7.3m Single	1590 peak hour vehicles	1595 (main flow	1956 (main flow

¹ <http://www.dft.gov.uk/ha/standards/dmrb/vol5/section1/ta7999.pdf>

Route through Phase 3 (combined traffic)	carriageway	in main direction. 2650 two way flow.	850, 53%)	1062, 54%)
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The analysis confirms that each of the road types would provide sufficient link capacity to accommodate the forecast traffic flows for DS1 according to the DMRB guidelines.

The SW Link Road could be provided as a single carriageway rather than a dual carriageway for Phase 2 as the forecast flows are significantly lower than both the capacity of a dual and single carriageway road. However, in order to provide resilience of access to Northstowe, it is recommended that it should be provided as a dual carriageway for Phase 2 or at least to provide suitable road width to reduce the chance of vehicles blocking the carriageway. This recognises that a single carriageway is more likely to be blocked by a traffic incident than a dual carriageway and that the alternative routes (i.e. in and out of Northstowe via the northern access) would impact on the B1050 and other more minor routes. A dual carriageway would also encourage as much traffic as possible to use the southern access to Northstowe rather than enter or exit by the northern access junctions.

With regards to the primary routes through the site, the analysis indicates that two routes are not necessary in terms of link capacity for Phase 2. If the traffic on the two primary routes is totalled in the PM peak, this gives 1956 vehicles, which is still within the capacity of a single carriageway. With respect to resilience of a single link, it is recommended that it is designed to accommodate a hard shoulder/ margin for vehicles to pull over. In the event of a major incident, the site construction route could also be made available to diverted traffic.

Link Capacity for 10,000 Homes

The link flows provided for the full 10,000 homes by the Highways Agency's consultant Aecom are provided below in comparison to the proposed link capacity.

Table 4: Link Capacity and Forecast Traffic Flow Full Northstowe Development

Link	Road Description	Capacity of Road Type	2035 Full Development AM Peak Hour Traffic Flow (total, % main direction)	2035 Full Development PM Peak Hour Traffic Flow (total, % main direction)
B1050 Bar Hill to proposed Hatton's Link roundabout	Dual carriageway	3600 peak hour vehicles in each direction. 7200 two way flow.	3830 (1379 NB, 2451 SB)	4142 (2143 NB, 1999 SB)
SW Link Road/ Hatton's Link	Dual carriageway	3600 peak hour vehicles in each direction. 7200 two way flow.	2326 (main flow 1426, 61%)	2708 (main flow 1420, 52%)
SE Dry Drayton Link Road	7.3m Single carriageway	1590 peak hour vehicles in main direction. 2650 two way flow.	1534 (main flow 883, 58%)	1698 (main flow 995, 59%)
Primary Routes from south through Phase 3	Each 7.3m Single carriageway	1590 peak hour vehicles in main direction for each. 2650 two way flow.	3797 total (main flow 2039, 54%) Requires minimum of 2 links	4349 (main flow 2366, 54%) Requires minimum of 2 links

The analysis indicates that each of the road types would provide sufficient link capacity to accommodate the forecast traffic flows for the full Northstowe Development according to the DMRB guidelines.

The SW Link Road is currently proposed as a dual carriageway but the traffic forecasts indicate that a single carriageway would only be marginally over capacity even with full development, given the provision of the

second link to Dry Drayton Road included in this scenario. This raises the question as to whether two single carriageways or one dual carriageway would be sufficient for the full development rather than require a dual carriageway and a single carriageway link.

The dual carriageway SW Link Road could in theory accommodate all of the traffic from Northstowe (SW + SE link traffic) but this is not considered an appropriate overall access strategy for such a large development and would have impacts on the B1050 and Bar Hill junctions, as well as accessibility to and from the town of Northstowe. This is emphasised by the junction modelling results set out at the end of this paper for the full development.

The question arises as to whether a dual carriageway is required from the outset, or could it be provided as a single carriageway with an additional single carriageway link added in the future for Phase 3. The benefit of this approach would be in providing alternative routes and better access to Northstowe than a single dual carriageway link and placing the Northstowe traffic onto two different junctions, should the equivalent of three carriageways in capacity not be needed at that point in the future.

With regards to the primary routes through the site, the analysis indicates that at least two single carriageway routes would be required for the full development. The provision can be finally determined during the planning of Phase 3.

Junction Capacity of the B1050/ Hatton's Link Roundabout for Phase 2

The junction design originally prepared by WSP (and submitted as part of the 2007 application for the full Northstowe development) has been tested for capacity with the DS1 traffic flows in 2031 as this is a critical location on the network where the flows would be much higher than the scenario without the second SE road link for Phase 2.

2031 - DS Scenario 1 Original Design with two lanes on southern arm (no flare)

This was modelled based on the proposed design of a four arm roundabout with two lanes on approach to the Northstowe (east) and the B1050 (south). This also assumes a flare of 30 metres (5 cars) on the northern arm. As there are two exit lanes on the southern B1050 arm vehicles can queue equally in both lanes on the B1050 (north). It has been assumed that the Northstowe (east arm) has equal queuing in both lanes and that both lanes turn left (no vehicles turned right at this point based on flows). The results of this assessment are shown below.

Table 4: 2031 – Arcady Results: DS Scenario 1 Original Design with two lanes on southern arm (no flare)

	AM Peak (0800-0900)		PM Peak (1700-1800)	
	RFC	Queue	RFC	Queue
B1050 (n)	0.703	2	0.526	1
Northstowe Access	0.516	1	0.551	1
Farm Access	0.018	0	0.014	0
B1050 (s)	0.676	2	1.052	76

The issue with this design is on the southern arm as in the PM peak the flow is over the saturation level of the arm and this leads to extensive queuing. This is as a result of the high traffic flows rather than opposing flows as the number of vehicles passing this arm on the circulatory is minimal. All other arms operate well within capacity.

2031 - DS Scenario 1 (with slip for straight over movements on southern arm and one lane for right turners)

To address the issues with the previous design, an assessment was undertaken assuming that the ahead movements from south to north all went via a diverging and merging lane on the left for traffic on the B1050 which bypasses the roundabout (and right turning lane remains as one lane). The results for the PM Peak are set out below.

Table 5: Arcady Results: DS Scenario 1 (with slip for straight over movements on southern arm and one lane for right turners)

	PM Peak (1700-1800)	
	RFC	Queue
B1050 (n)	0.529	1.1
Northstowe Access	0.551	1.2
Farm Access	0.014	0
B1050 (s)	1.025	32.5

Although the results show an improvement, this junction still operated over capacity and as such a right turning flare of one vehicle length was introduced to allow additional vehicles to queue at the stop line.

2031 - DS Scenario 1 (with slip for straight over movements on southern arm and one lane plus one car flare for right turners)

The results of introducing a turning flare of one vehicle length at the stop line (approaching the junction on the B1050 from the south) alongside the B1050 diverging and merging lane are shown below.

Table 6: Arcady Results: DS Scenario 1 (with slip for straight over movements on southern arm and one lane plus one car flare for right turners)

	PM Peak (1700-1800)	
	RFC	Queue
B1050 (n)	0.537	1.2
Northstowe Access	0.552	1.2
Farm Access	0.014	0
B1050 (s)	0.765	3.2

It can be seen that the junction now operates well within capacity although it should be noted that the model is particularly sensitive to flare length and entry width so that actual operation is likely to fall somewhere between the flare length modelled version and the one lane modelled version. It can therefore be concluded that the junction would operate at around maximum capacity with an appropriate queue length. It should be noted that this is in 2031 following full development of Phase 2 and including an additional allowance of 10% on town centre uses.

The results of the junction modelling for the amended layout in the PM peak (together with the previous layout in the AM peak) are presented in **Appendix 4**.

Hyder has reviewed the design implications of the modelling changes and we consider that the junction can be redesigned appropriately to accommodate the suggested changes. Subject to acceptance of the layout changes by CCC, and detailed design therefore, it is considered that a junction can be designed to accommodate the traffic turning movements of DS1 with the SW link road only.

Junction Capacity of the B1050/ Hatton's Link Roundabout: Full Development

An assessment has been undertaken of the proposed west access to Northstowe where the new link road would adjoin the B1050 Hatton's Road to consider the impact of the full Northstowe development of 10,000 houses based on the link flow outputs provided by AECOM as part of the A14 improvement scheme. The turning movements have been factored based on the 2031 Do Something scenario turning movements but balanced to broadly equate to the link in and out flows on each arm. The resultant turning movements were estimated as below (assuming one vehicle movement into and out of each of the other arms on the Farm Access – Arm B).

AM Peak

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	8.0	1066.0
Arm B	43.0	0.0	1.0	1386.0
Arm C	1.0	1.0	0.0	1.0
Arm D	0.0	894.0	1.0	0.0

PM Peak

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	6.0	1.0	718.0
Arm B	1.0	0.0	1.0	1287.0
Arm C	1.0	1.0	0.0	1.0
Arm D	0.0	1414.0	1.0	0.0

The results of the modelling based on the proposed layout have been set out below.

Table 7: B1050 Hatton's Road – New Link Road roundabout: 2035 Full Northstowe

Arm	Road	AM Peak (0800-0900)		PM Peak (1700-1800)	
		RFC	MMQ	RFC	MMQ
Arm A	B1050 north	0.821	4	0.691	2
Arm B	Northstowe access	0.990	24	0.785	4
Arm C	Farm Access	0	2	0.029	0
Arm D	B1050 south	0.546	1	0.853	6

The modelling demonstrates that the roundabout would operate broadly at capacity in the PM peak with queue lengths accommodated on all arms without blocking back.

In the AM peak period the roundabout operates over its maximum capacity on the Northstowe link access with an associated queue length of 24 vehicles. This arm has been modelled as a dual carriageway and as such the queue length can be assumed to be evenly distributed across the two arms (as traffic in both lanes can turn south onto the two lane exit arm). Although the junction is operating over capacity, the queue length can be accommodated on this arm without blocking back to any upstream junctions and a maximum queue of 12 vehicles in each lane during the busiest 15 minute period is not considered to be a significant delay and is broadly comparable to the type of delays which were observed in the junction surveys in 2014 on the B1050.

The modelling has been undertaken on the basis that there would also be a Dry Drayton Link for the full development. It is considered unlikely that the roundabout junction would be able to cater for all of Northstowe traffic if there was no Dry Drayton Link proposed.

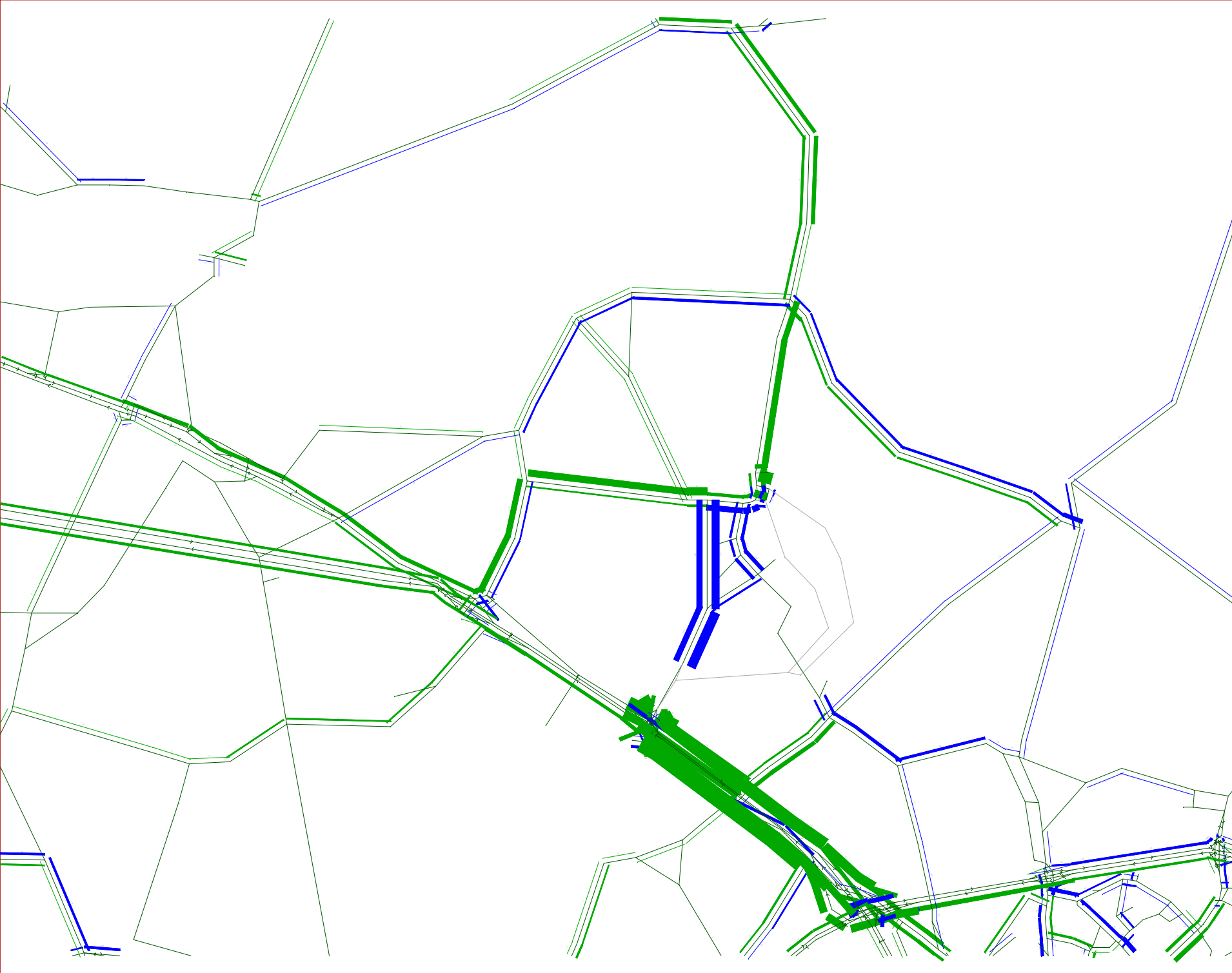
Conclusions

On the basis of the analysis presented, it is proposed that the Access Strategy for Phase 2 includes:

- A dual carriageway link from Bar Hill to the SW Link Road junction (the extent forming part of the HCA scheme to be agreed);
- A roundabout junction of the B1050/ SW Link Road with modifications to be designed as presented above;
- A dual carriageway link (or a single carriageway with ability to pass stationary vehicles) from the B1050 junction to the southern end of Phase 3;
- A single carriageway, central primary route from the southern end of Phase 3 to the Phase 2 development. This route will have a hard shoulder/ margin to enable vehicles to pull over in the event of a traffic incident.
- The arrangement of the junction/ transition of the dual carriageway to the central primary road at the southern end of Phase 3 will be subject to further consideration.
- In the long term for the full development, the need for additional road link capacity can be reviewed. It may require a dual carriageway to the SW and a single link to the SE, but this can be determined at a later stage.

AM PEAK			AM Peak Actual Flow (PCUs/hr)					Differences in Flows				Differences in Total Link Flow				% Impact on DM
Site No.	Description	Direction	2011 Base	2031 DM	2026 DS1	2031 DS1	2031 DS2	DM-BASE	DS1-DM	DS2-DM	DS2-DS1	DM-BASE	DS1-DM	DS2-DM	DS2-DS1	DS1
Permanent Sites:																
1	Site 1 – B1050 Hatton's Road, northeast of A14	NB	312	654	544	547	555	342	-107	-99	8					-16.32%
		SB	938	1251	1146	1066	1106	313	-185	-145	40	654	-292	-244	48	-14.80%
2	Site 2 – Dry Drayton Road, northeast of A14	NB	408	490	526	512	537	82	22	47	25					4.48%
		SB	721	729	751	794	818	8	66	89	24	89	88	136	49	9.01%
3	Site 3 – Ramper Road, west of Longstanton Bypass roundabout	EB	316	372	417	524	472	55	152	100	-52					40.96%
		WB	141	267	279	301	280	127	34	12	-22	182	186	112	-74	12.67%
4	Site 4 – B1050 Station Road, north of Cambridgeshire Guided Busway	NB	285	553	537	561	553	268	8	0	-8					1.47%
		SB	640	691	748	800	792	51	108	100	-8	319	116	101	-16	15.63%
5	Site 5 – Cambridge Road, Oakington	NB	335	386	392	391	400	51	5	15	9					1.41%
		SB	390	482	426	429	424	92	-53	-57	-5	143	-47	-43	4	-10.92%
6	Site 6 – Rampton Road, between Rampton and Willingham	EB	354	484	438	443	422	131	-41	-62	-21					-8.48%
		WB	135	210	240	240	218	75	30	8	-22	206	-11	-55	-43	14.16%
7	Site 7 – B1050 Earith Road, north of Willingham	SB	670	772	784	835	830	102	63	58	-5					8.15%
		NB	423	687	695	716	703	264	29	16	-13	367	92	74	-18	4.19%
8	Site 8 – A1096 Harrison Way, St. Ives	NB	1294	1320	1318	1317	1319	26	-4	-1	2					-0.27%
		SB	1197	1285	1285	1285	1285	88	0	0	0	114	-4	-1	2	0.00%
9	Site 9 – Willingham Road, between Over and Willingham	EB	89	118	109	130	117	29	12	-1	-13					10.27%
		WB	152	218	193	177	181	65	-40	-37	4	94	-28	-38	-9	-18.57%
10	Site 10 – Longstanton Road (the airfield road), Oakington.	SB	177	104												
		NB	50	93												
Temporary Sites:																
11	Site 11 - Swavesey Road, Fen Drayton - NOT IN MODEL															
12	Site 12 - Boxworth End, Swavesey (just north of A14)	NB	166	308	306	413	329	142	105	22	-84					34.21%
		SB	417	604	575	582	547	187	-21	-57	-36	328	84	-36	-120	-3.56%
13	Site 13 - Ramper Road, just east of Swavesey	EB	103	145	170	279	207	42	133	62	-72					91.55%
		WB	84	195	199	216	195	110	22	0	-21	152	155	62	-93	11.05%
14	Site 14 - Longstanton High Street	NB	80	122	67	91	89	41	-31	-33	-2					-25.36%
		SB	125	99	37	51	50	-26	-48	-48	-1	15	-79	-81	-2	-48.57%
15	Site 15 - B1049, North of Cottenham	NB	328	338	329	326	329	10	-13	-9	4					-3.71%
		SB	704	815	775	812	815	111	-3	-1	3	121	-16	-10	6	-0.40%
16	Site 16 - Cottenham Road, just south of Cottenham	NB	367	554	520	547	553	187	-8	-1	7					-1.43%
		SB	821	866	864	849	844	45	-17	-22	-5	233	-25	-23	2	-1.97%
17	Site 17 - Bridge Road, Histon (near A14)	NB	759	963	961	963	968	203	0	5	5					0.04%
		SB	1085	1420	1310	1409	1398	334	-10	-22	-12	538	-10	-17	-7	-0.72%
18	Site 18 - Oakington Road, Oakington (busway)	NB	362	408	393	394	418	45	-14	10	24					-3.35%
		SB	499	627	584	627	645	128	1	18	17	173	-13	28	41	0.11%
19	Site 19 - New Road, Histon	EB	319	484	439	442	439	166	-42	-46	-3					-8.69%
		WB	339	365	365	363	369	26	-1	4	6	192	-44	-41	2	-0.40%
20	Site 20 - Butt Lane, Milton (west of A10)	EB	104	90	91	86	85	-14	-3	-5	-2					-3.80%
		WB	147	262	182	251	252	115	-10	-10	1	101	-14	-15	-1	-3.99%
A14 and local access roads:																
21	West of Junction 28 (Swavesey) - Huntingdon Southern Bypass	EB		3423	3230	3460	3455	3423	36	32	-5					1.07%
		WB		3126	3013	3167	3164	3126	41	38	-4		78	70	-8	1.33%
22	East of Junction 28 (Swavesey)	EB	3609	4773	4600	4768	4834	1164	-5	61	66					-0.11%
		WB	3311	4395	4304	4451	4467	1084	56	72	16	2248	51	133	82	1.27%
23	East of Junction 29 (Bar Hill)	EB	4534	5815	5793	6064	6066	1281	249	251	2					4.28%
		WB	3810	4972	4972	5321	5234	1162	349	262	-87	2443	598	513	-85	7.02%
24	East of Junction 31 (Girton)	EB	4085	5612	5598	5618	5628	1527	5	15	10					0.09%
		WB	2992	4581	4517	4663	4661	1589	82	80	-2	3116	87	95	8	1.79%
25	East of Junction 32 (Histon)	EB	3546	4813	4733	4773	4759	1268	-41	-54	-13					-0.85%
		WB	2899	4306	4237	4340	4344	1407	34	38	4	2675	-7	-16	-9	0.79%
26	Local Access Road west of Bar Hill	EB		282	245	288	273	282	6	-9	-15					2.13%
		WB		222	221	214	204	222	-9	-19	-10	504	-3	-27	-25	-3.95%
27	Local Access Road east of Bar Hill	EB		491	563	593	416	491	101	-75	-176					20.59%
		WB		636	747	840	561	636	204	-75	-279	1128	305	-150	-455	32.09%
28	Local Access Road south of Dry Drayton	EB		299	244	257	268	299	-42	-31	10					-13.97%
		WB		119	116	145	248	119	26	130	103	418	-15	98	114	22.15%
Hyder Additional Locations (from Saturn outputs)																
29	B1050 North of Bar Hill Junction	NB	312	654		1397	1100	342	743	446	-297					113.61%
		SB	938	1251		1811	1661	313	560	410	-150	655	1303	856	-447	44.76%
30	Hatton's Link Road	EB				850	603		850	603	-247					
		WB				746	613		746	613	-133		1596	1216	-380	
31	Dry Drayton Link Road	NB				500			0	500	500					
		SB					301		0	301	301				801	
32	Primary Road 1 - Centre	NB				759	597		759	597	-162					
		SB				704	590		704	590	-114		1463	1187	-276	
32	Primary Road 2 - East	NB				91	451		91	451	360					
		SB				41	268		41	268	227		132	719	587	

PM PEAK		Direction	PM Peak Actual Flow (PCUs/hr)					Differences in Flows				Differences in Total Link Flow				% Impact on DM of DS1	
			2011 Base	2031 DM	2026 DS1	2031 DS1	2031 DS2	DM-BASE	DS1-DM	DS2-DM	DS2-DS1	DM-BASE	DS1-DM	DS2-DM	DS2-DS1	One way	Total
Permanent Sites:																	
1	Site 1 – B1050 Hatton's Road, northeast of A14	NB	918	1230	1145	1115	1123	311	-115	-107	8					-9.34%	
		SB	506	903	727	755	754	397	-148	-149	-1	709	-263	-255	8	-16.39%	-29.12%
2	Site 2 – Dry Drayton Road, northeast of A14	NB	615	700	661	739	739	86	39	38	-1					5.56%	
		SB	596	584	653	668	705	-13	84	122	37	73	123	160	36	14.47%	21.14%
3	Site 3 – Ramper Road, west of Longstanton Bypass roundabout	EB	200	299	317	345	335	99	45	35	-10					15.16%	
		WB	241	333	378	492	459	92	159	127	-33	191	205	162	-43	47.84%	61.49%
4	Site 4 – B1050 Station Road, north of Cambridgeshire Guided Busway	NB	661	759	825	906	896	99	146	137	-10					19.26%	
		SB	389	618	667	726	677	229	107	58	-49	328	254	195	-59	17.38%	41.03%
5	Site 5 – Cambridge Road, Oakington	NB	473	419	432	444	431	-55	25	12	-13					6.07%	
		SB	311	388	433	443	421	77	55	33	-22	23	80	45	-35	14.07%	20.61%
6	Site 6 – Rampton Road, between Rampton and Willingham	EB	101	186	164	188	170	85	2	-15	-18					1.19%	
		WB	400	506	520	497	447	106	-9	-59	-50	191	-7	-74	-68	-1.76%	-1.32%
7	Site 7 – B1050 Earith Road, north of Willingham	SB	483	666	682	700	698	183	34	31	-2					5.03%	
		NB	831	880	880	880	880	49	0	0	0	232	34	31	-2	0.00%	3.81%
8	Site 8 – A1096 Harrison Way, St. Ives	NB	1260	1306	1280	1315	1313	47	8	7	-1					0.64%	
		SB	1285	1285	1285	1285	1285	0	0	0	0	47	8	7	-1	0.00%	0.65%
9	Site 9 – Willingham Road, between Over and Willingham	EB	176	243	197	205	202	67	-37	-40	-3					-15.38%	
		WB	156	179	175	169	172	23	-10	-8	2	90	-47	-48	-1	-5.51%	-26.34%
10	Site 10 – Longstanton Road (the airfield road), Oakington.	SB	100	89													
		NB	120	125													
Temporary Sites:																	
11	Site 11 - Swavesey Road, Fen Drayton - NOT IN MODEL																
12	Site 12 - Boxworth End, Swavesey (just north of A14)	NB	391	653	601	591	580	262	-61	-73	-11					-9.40%	
		SB	224	387	371	416	390	163	29	3	-26	425	-33	-70	-37	7.39%	-8.45%
13	Site 13 - Ramper Road, just east of Swavesey	EB	111	195	193	210	200	84	15	5	-10					7.58%	
		WB	78	152	179	263	233	74	111	81	-30	157	126	86	-40	73.12%	82.86%
14	Site 14 - Longstanton High Street	NB	112	117	59	78	78	5	-39	-39	0					-33.02%	
		SB	122	121	72	95	95	-1	-26	-26	0	5	-64	-65	-1	-21.39%	-53.30%
15	Site 15 - B1049, North of Cottenham	NB	421	354	378	370	355	-68	16	1	-15					4.64%	
		SB	372	520	530	556	535	148	36	15	-21	81	52	16	-36	6.88%	10.04%
16	Site 16 - Cottenham Road, just south of Cottenham	NB	711	917	851	895	889	206	-22	-28	-6					-2.42%	
		SB	272	451	424	430	425	179	-21	-26	-5	385	-43	-54	-11	-4.68%	-9.59%
17	Site 17 - Bridge Road, Histon (near A14)	NB	964	1143	1022	1113	1125	179	-30	-18	12					-2.62%	
		SB	695	1210	1120	1175	1145	515	-35	-66	-30	694	-65	-84	-18	-2.92%	-5.39%
18	Site 18 - Oakington Road, Oakington (busway)	NB	459	503	425	508	507	45	4	3	-1					0.82%	
		SB	390	476	468	501	542	86	25	66	41	131	30	70	40	5.33%	6.20%
19	Site 19 - New Road, Histon	EB	283	374	339	354	364	92	-20	-10	10					-5.34%	
		WB	423	369	374	350	363	-54	-19	-6	13	38	-39	-17	22	-5.09%	-10.50%
20	Site 20 - Butt Lane, Milton (west of A10)	EB	134	290	165	281	289	155	-9	0	9					-3.09%	
		WB	203	310	249	312	306	107	2	-4	-6	262	-7	-4	2	0.78%	-2.11%
A14 and local access roads:																	
21	West of Junction 28 (Swavesey) - Huntingdon Southern Bypass	EB		3830	3637	3865	3857	3830	35	27	-8					0.91%	
		WB		2973	2786	2965	2947	2973	-8	-26	-18		27	1	-26	-0.27%	0.90%
22	East of Junction 28 (Swavesey)	EB	3580	4961	4811	5006	5019	1381	45	58	13					0.91%	
		WB	3698	4600	4376	4520	4516	901	-80	-84	-4	2282	-35	-26	9	-1.74%	-0.76%
23	East of Junction 29 (Bar Hill)	EB	4153	5762	5668	6048	6037	1609	286	276	-10					4.97%	
		WB	4668	5483	5546	5829	5676	814	346	193	-153	2423	632	469	-163	6.31%	11.53%
24	East of Junction 31 (Girton)	EB	3141	4677	4477	4746	4752	1536	69	75	6					1.48%	
		WB	3097	5274	5136	5316	5319	2177	42	45	3	3713	112	120	9	0.80%	2.11%
25	East of Junction 32 (Histon)	EB	3146	4243	4131	4274	4282	1097	30	39	9					0.71%	
		WB	3105	5236	5067	5214	5239	2131	-22	4	25	3228	9	43	34	-0.41%	0.16%
26	Local Access Road west of Bar Hill	EB		379	339	409	376	379	30	-2	-33					7.92%	
		WB		225	230	237	235	225	12	10	-2	604	42	7	-35	5.35%	18.68%
27	Local Access Road east of Bar Hill	EB		655	710	846	547	655	191	-107	-298					29.16%	
		WB		612	737	796	540	612	184	-72	-256	1267	375	-179	-554	30.03%	61.21%
28	Local Access Road south of Dry Drayton	EB		137	122	141	154	137	3	17	14					2.38%	
		WB		205	170	174	328	205	-31	123	155	342	-28	140	168	-15.23%	-13.63%
Hyder Additional Locations (from Saturn outputs)																	
29	B1050 North of Bar Hill Junction	NB	918	1230		2173	1776	312	943	546	-397					76.67%	
		SB	506	903		1645	1364	397	742	461	-281	709	1685	1007	-678	82.17%	186.60%
30	Hatton's Link Road	EB				1062	730		1062	730	-332						
		WB				894	686		894	686	-208		1956	1416	-540		
31	Dry Drayton Link Road	NB				540			0	540	540						
		SB				406			0	406	406			946	946		
32	Primary Road 1 - Centre	NB				779	690		779	690	-89						
		SB				720	656		720	656	-64		1499	1346	-153		
32	Primary Road 2 - East	NB				283	509		283	509	226						
		SB				174	366		174	366	192		457	875	418		



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1_NstoweP2DM
_160_0_2.UFS
2DS1_161_0_2

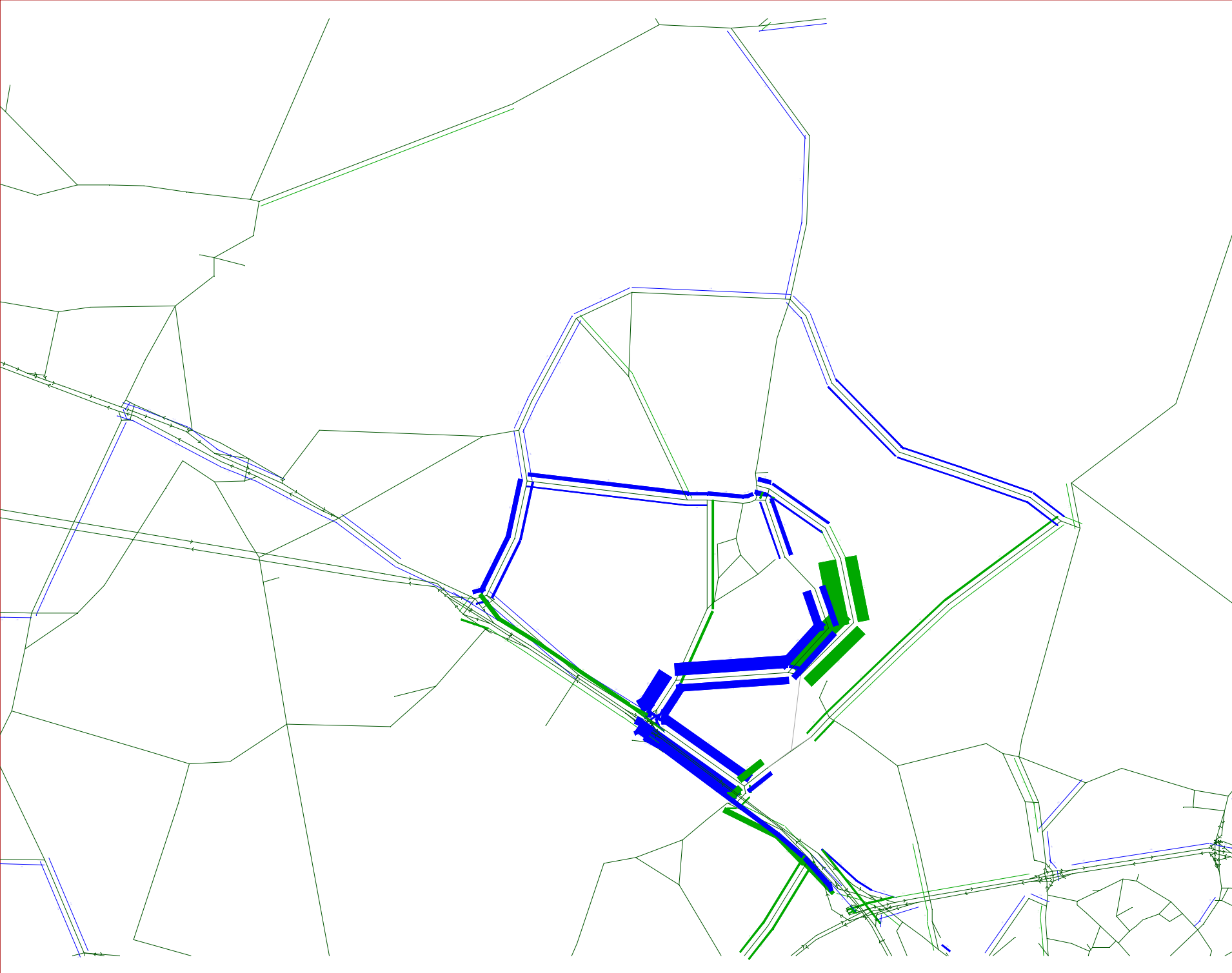
Scale 74560

Link Annot:

+ Actual flo
- Actual flo

Differ: 2-1

Bandwidths =
100./mm



SATURN

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_NstoweP2DS1
_161_0_2.UFS
2DS2_162_0_2

Scale 74560

Link Annot:


+ Actual flo
- Actual flo

Differ: 2-1

Bandwidths =
100./mm

29- 4-14

ATKINS (SATU

ARCADY 6		
GUI Version: 6.2 AG Analysis Program: Release 7.0 (FEBRUARY 2010) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO		
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Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\New Access Junction - B1050 Hattons Road_Northstowe\2031 AM Peak DS1 - B1050 Hattons Rd - Northstowe Access.vai
At: 09:06:01 on Tuesday, May 13, 2014
Mode: Drive On The Left
Units: Metric

Arm Labelling

Arm	Full Arm Names
Arm A	B1050 north
Arm B	Northstowe access
Arm C	Farm Access
Arm D	B1050 south

Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

File Properties

Run Title	Northstowe - B1050 Proposed roundabout
Location	Bar Hill (Northstowe)
Date	12/05/2014
Client	HCA
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Description	

Errors and Warnings

[No errors or warnings]

Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	3.65	7.30	3.00	7.30
Entry Width (m)	10.00	7.30	3.00	7.30
Flare Length (m)	30.00	0.00	0.00	0.00
Entry Radius (m)	30.00	30.00	18.00	50.00
Inscribed Circle Diameter (m)	80.00	80.00	80.00	80.00
Entry Angle (degrees)	45.00	30.00	50.00	30.00
Slope	0.534	0.556	0.329	0.563
Intercept (PCU/Min)	36.208	37.466	14.016	37.947

Demand Data

Demand Profiles are Synthesised using **ODTAB** Data
 Period of interest (for Queue and Delay calculations): **07:45 to 09:15**
 Length of Time Period: **90 min**
 Length of Time Segment: **15 min**

Total Traffic Demand (Vehicles/Hour) for Demand Set: AM Peak (0800-0900)

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	1.0	1066.0
Arm B	0.0	0.0	1.0	746.0
Arm C	1.0	1.0	0.0	1.0
Arm D	547.0	850.0	1.0	0.0

Entry Flow Data for Demand Set: AM Peak (0800-0900)

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	13.34	20.01	13.34
Arm B	15.00	45.00	75.00	9.34	14.01	9.34
Arm C	15.00	45.00	75.00	0.04	0.06	0.04
Arm D	15.00	45.00	75.00	17.48	26.21	17.48

Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

Heavy Vehicle Percentages for Demand Set: AM Peak (0800-0900)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	0.0	0.0	0.0

Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 07:45 to 08:00	A	13.39	30.52	0.439	-	0.0	0.8	11.3	-	0.058
	B	9.37	30.04	0.312	-	0.0	0.5	6.6	-	0.048
	C	0.04	6.55	0.006	-	0.0	0.0	0.1	-	0.154
	D	17.54	37.93	0.462	-	0.0	0.9	12.5	-	0.049
Segment : 2 - 08:00 to 08:15	A	15.99	29.40	0.544	-	0.8	1.2	17.2	-	0.074
	B	11.19	28.58	0.392	-	0.5	0.6	9.4	-	0.057
	C	0.04	5.09	0.009	-	0.0	0.0	0.1	-	0.198
	D	20.95	37.93	0.552	-	0.9	1.2	17.9	-	0.059
Segment : 3 - 08:15 to 08:30	A	19.58	27.88	0.702	-	1.2	2.3	32.6	-	0.118
	B	13.71	26.61	0.515	-	0.6	1.1	15.3	-	0.077
	C	0.06	3.10	0.018	-	0.0	0.0	0.3	-	0.328
	D	25.65	37.93	0.676	-	1.2	2.1	29.7	-	0.081
Segment : 4 - 08:30 to 08:45	A	19.58	27.87	0.703	-	2.3	2.3	34.8	-	0.121
	B	13.71	26.56	0.516	-	1.1	1.1	15.9	-	0.078
	C	0.06	3.07	0.018	-	0.0	0.0	0.3	-	0.331
	D	25.65	37.93	0.676	-	2.1	2.1	31.0	-	0.081
Segment : 5 - 08:45 to 09:00	A	15.99	29.38	0.544	-	2.3	1.2	18.7	-	0.075
	B	11.19	28.52	0.392	-	1.1	0.6	10.0	-	0.058
	C	0.04	5.04	0.009	-	0.0	0.0	0.1	-	0.200
	D	20.95	37.93	0.552	-	2.1	1.2	19.2	-	0.059
Segment : 6 - 09:00 to 09:15	A	13.39	30.50	0.439	-	1.2	0.8	12.1	-	0.059
	B	9.37	30.00	0.312	-	0.6	0.5	7.0	-	0.048
	C	0.04	6.51	0.006	-	0.0	0.0	0.1	-	0.155
	D	17.54	37.93	0.462	-	1.2	0.9	13.2	-	0.049