



Suffolk County Council

TRAFFIC DATA COLLECTION REPORT

Sudbury Relief Road





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TRAFFIC DATA COLLECTION REPORT

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1. INTRODUCTION

1.1. BACKGROUND

- 1.1.1. WSP has been commissioned by Suffolk County Council (SCC) to undertake an assessment of future highway schemes within Sudbury to potentially support an Outline Business Case for a relief road. This a previous Strategic Outline Business Case (SOBC) which assessed a relief road option to the west of Sudbury. WSP is working in partnership with Kier under the Suffolk County Council Professional Services Framework.
- 1.1.2. WSP have developed the Suffolk County Transport Model (SCTM) on behalf of SCC. The SCTM comprises a highway assignment model built in SATURN, as well as a public transport and demand model based in VISUM.
- 1.1.3. The SCTM has a base year of 2016 based on an average Monday to Thursday for neutral months. Traffic surveys specifically commissioned for the model build of the SCTM were carried out by Intelligent Data on behalf of WSP in April 2016. The SCTM has since integrated traffic data from a variety of sources which is detailed in the main D2 SCTM Traffic Data Collection Report (June 2018).
- 1.1.4. The SCTM requires detailed modelling in Sudbury, as well as the need to extend the Area of Detailed Modelling (ADM) to include parts of Essex. Previously Sudbury was included within the SCTM simulation network as part of the 2016 model build, however adjacent areas to the south and west of Essex were not modelled in detail. Additional simulation network detail was therefore required for the base year validation of the SCTM to support the Sudbury OBC.
- 1.1.5. In order to inform the local network, additional traffic surveys were required to improve the local calibration and validation of the SCTM, including the extension of the simulation network into Essex in the vicinity of the potential Sudbury Relief Road schemes and to inform any subsequent traffic forecasting and economic assessment work.

1.2. PURPOSE OF THIS REPORT

- 1.2.1. The aim of this highway traffic data collection report is to outline the survey data which has been collected and collated for the calibration and validation of the SCTM highway assignment model to support the Sudbury OBC. This report will detail the checks and data processing which has been undertaken to the data to ensure it is fit for purpose and can be carried forward for model validation and calibration.
- 1.2.2. This report is for the purposes of the data collected in Sudbury and Essex only. For details of other traffic data used within the SCTM refer to the D2 SCTM Traffic Data Collection Report (June 2018).

1.3. REPORT STRUCTURE

- 1.3.1. This Traffic Data Collection Report (TDCR) sets out information relating to the collection, checks and processing of the traffic data within Sudbury and Essex. It is structured as follows:
 - Section 2 – Sudbury and Essex Traffic Count data
 - Section 3 – Trafficmaster GPS Data
 - Section 4 – Summary

2. SUDBURY AND ESSEX TRAFFIC COUNT DATA

2.1.1. WSP commissioned TRACSIS in 2018 to undertake additional Automatic Traffic Counts (ATCs) and Manually Classified Turning Counts (MCTC) in Sudbury and Essex. The dates for the collection of this data are as follows:

- 23 ATCs collected between 19 April and 02 May 2018; and
- 4 MCTCs collected on 25 April 2018.

2.1.2. Different sets of surveys were received from Essex County Council:

- 39 ATCs collected between 2015 and 2017; and
- 15 Permanent Loop Counts (PLCs) collected from January to December 2017.

2.2. ATC SURVEYS

2.2.1. Figure 1 shows the locations of the 23 commissioned surveys conducted for Sudbury local model validation.

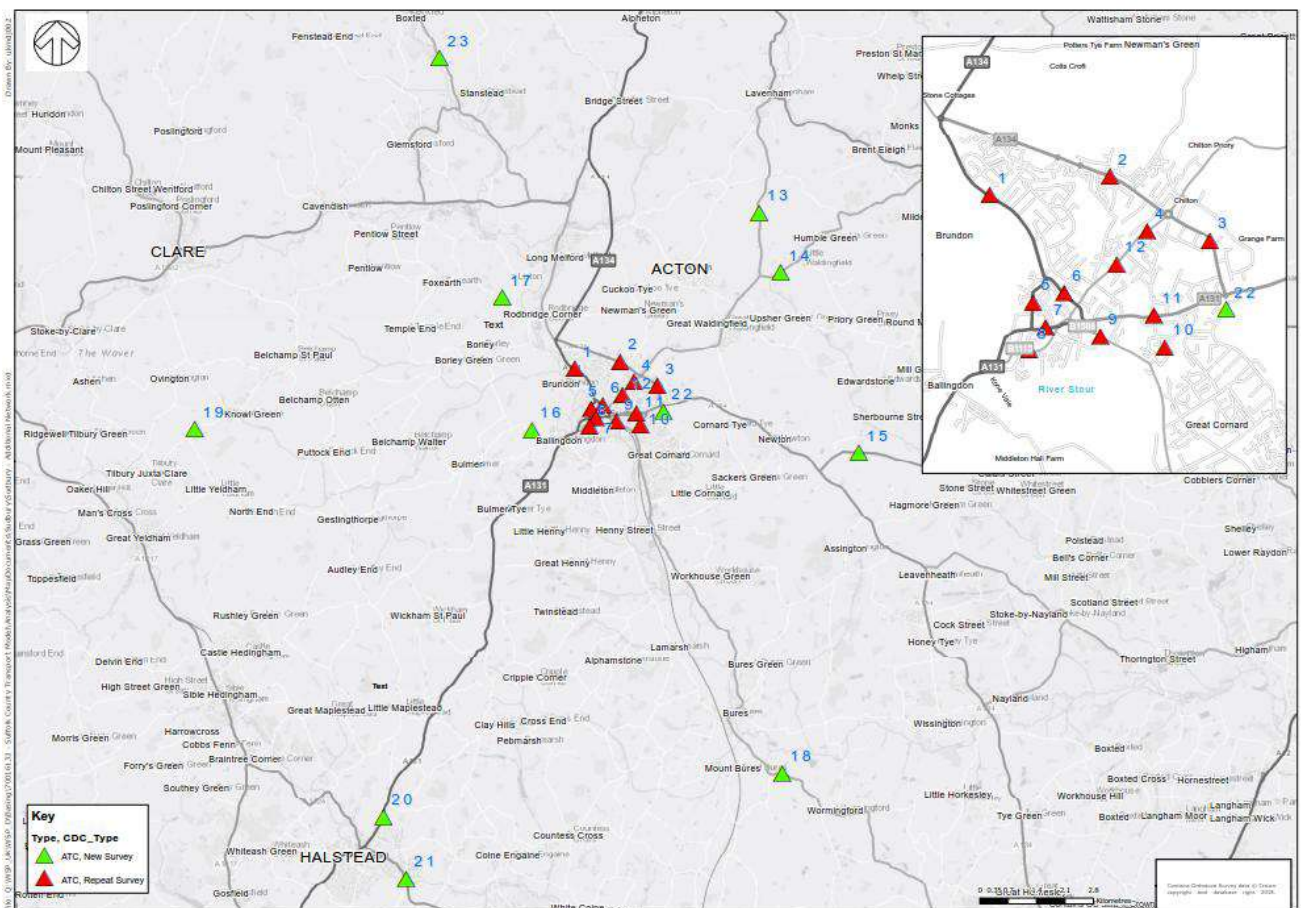


Figure 1 – Sudbury ATC Survey Locations

2.2.2. Table 1 describes the location of each of the 2018 Sudbury ATCs according to their Reference ID.

Table 1 - Sudbury ATC Survey Locations

Ref	Site Location
1	Melford Road (North of St Bartholomews Lane)
2	Springlands Way (East of Talbot Road)
3	Northern Road (South of Addison Road)
4	Waldingfield Road (North of Landsdown Road)
5	Gainsborough Road (South of Church Walk)
6	Girling Street (South of Suffolk Road)
7	Gainsborough Road (West of Christopher Lane)
8	Friars Street (East of School Street)
9	Cornard Road (North of Ingrams Well Road)
10	Cats Lane (North of Elm Road)
11	Newton Road (East of Alexandra Road)
12	Waldingfield Road (South of Alder Way)
13	Lavenham Road (South of School Farm Way)
14	The Street (South of Church Road)
15	Boxford Lane (East of Trotts Lane)
16	Kitchen Hill (West of Bulmer Road)
17	School Lane (East of Claypits Lane)
18	Lower Road (East of Peartree Hill)
19	Belchamp Road (North of Mashay Road)
20	Sudbury Road (North of Churchill Ave)

21	Colchester Road (South of First Ave)
22	Shawlands Avenue (North of Maldon Court)
23	Lower Street (North of Low Street)

2.2.3. The ATC data was classified according to the ARX classification system detailed in Table 2. The data was processed into the required Car, LGV and HGV for model calibration and validation. The distinction between OGV1 and OGV2 was initially kept to understand the split to inform generalised cost parameter assumptions for the model assignment. These were then combined in the observed data to create a single observed HGV value.

Table 2 - ARX Classification System

Automatic Traffic Counts Classification Scheme							
Length	Axles & Groups		Vehicle Type	ARX Classification			
Type	Axles	Groups	Description	Class	Parameters	Dominant Vehicle	
Short up to 5.5m	Light Vehicles						
	2	1 or 2	Very Short Bicycle or Motorcycle	MC	1	d(1) < 1.7 and axles = 2	
	2	1 or 2	Short Saloon, Hatchback, Estate, 4WD, Pick-Up, Light Van, Bicycle, Motorcycle, etc.	SV	2	d(1) > 1.7m. d(1) < = 3.2m and axles = 2	
Medium 5.5m to 14.5m	3, 4 or 5	3	Short - Towing Trailer, Caravan, Boat, etc.	SVT	3	groups = 3, d(1) > 2.1m. d(1) < = 3.2m. d(2) > = 2.1m and axles = 3,4,5	
	Heavy Vehicles						
	2	2	Two Axle Truck or Bus	TB2	4	d(1) > 3.2m and axles = 2	
	3	2	Three Axle Truck or Bus	TB3	5	axles = 3 and groups = 2	
	> 3	2	Four Axle Truck	T4	6	d(1) > 3.2m. axles = 3 and groups = 3	
Long 11.5m to 19.0m	3	3	Three Axle Articulated <small>Three axle articulated vehicle or rigid vehicle and trailer</small>	ART3	7	d(1) > 3.2m. Axles = 3 and groups = 3	
	4	> 2	Four Axle Articulated <small>Four axle articulated vehicle or rigid vehicle and trailer</small>	ART4	8	d(2) < 2.1m or d(1) < 2.1m or d(1) > 3.2m axles = 5 and groups < 2	
	5	> 2	Five Axle Articulated <small>Five axle articulated vehicle or rigid vehicle and trailer</small>	ART5	9	axles = 5 and groups > 2 or axles 6 and groups = 3	
	> = 6	> 2	Six Axle Articulated <small>Six (or more) axle articulated vehicle or rigid vehicle and trailer</small>	ART6	10	axles = 6 and groups > 2 or axles > 6 and groups = 3	
Ungrouped classes							
			Unclassifiable Vehicle		13		
			Unclassifiable Axle Event		0		

2.2.4. Table 3 outlines how the ARX classifications were applied to the model user classes.

Table 3 – ARX classification to SCTM model vehicle classes

ARX ID	Description	Observed data classification
1	Motorcycles	Ignore
2	Car	Car
3	Car – Towing	LGV
4	Two Axle Truck	LGV

ARX ID	Description	Observed data classification
5	Three Axle Truck	HGV (OGV1)
6	Four Axle Truck	HGV (OGV2)
7	Three Axle Articulated	HGV (OGV2)
8	Four Axle Articulated	HGV (OGV2)
9	Three Axle Articulated	HGV (OGV2)
10	Four Axle Articulated	HGV (OGV2)

2.2.5. Appendix A contains the 2018 commissioned ATC total peak hour flows.

2.2.6. Figure 2 shows the locations of the ATC data provided by Essex CC for the purposes of Sudbury local model validation differentiating between Permanent Loop Counts (PLCs) and shorter term ATC data.

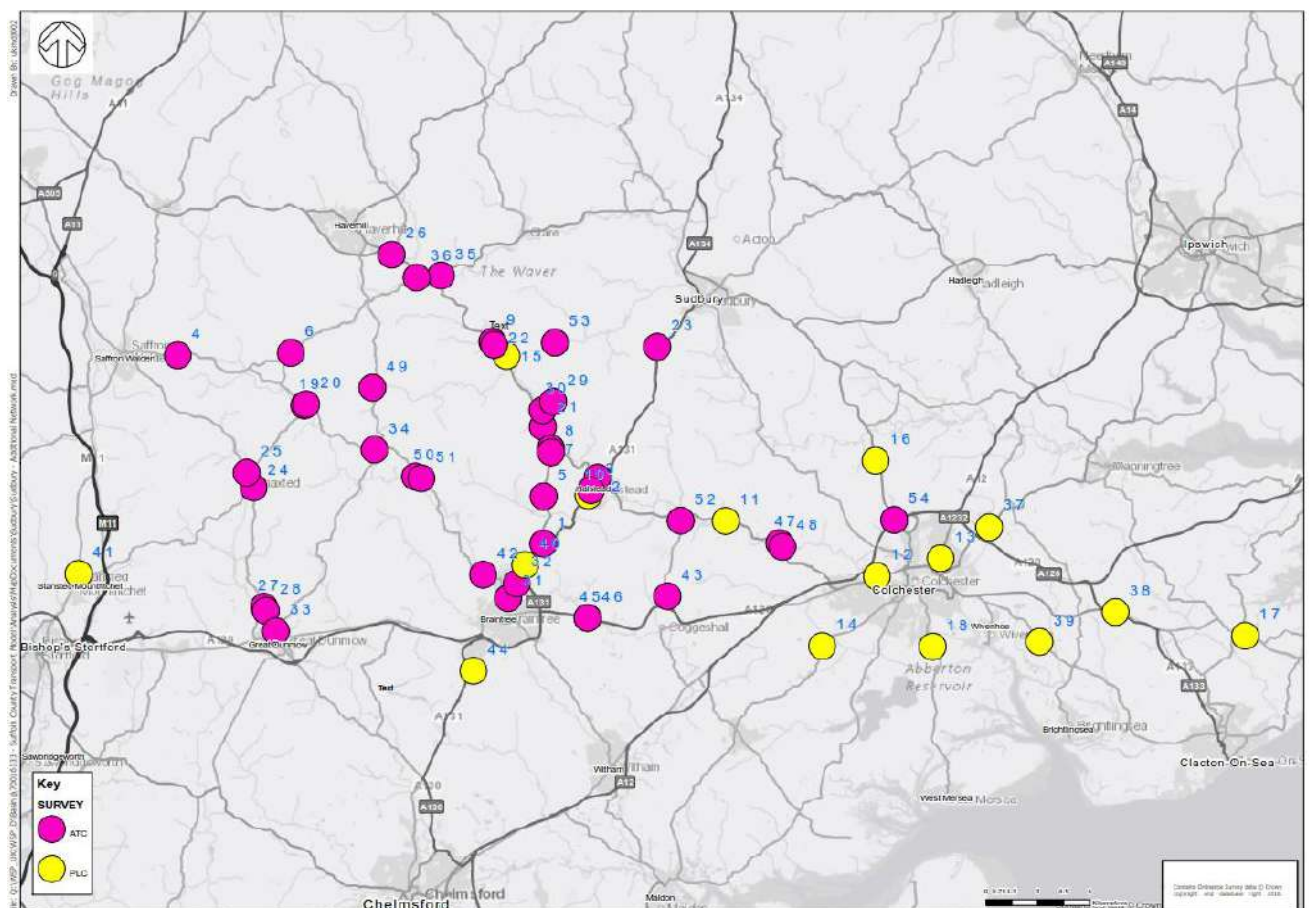


Figure 2 – Essex CC ATC Survey Locations

2.2.7. Table 4 describes the location of each of the Essex CC traffic counts, their duration and average daily flow according to their Reference ID.

Table 4 – Essex CC ATC Survey Locations

Ref	Site Location	Count Type	Date Range	Average 24 hour Weekday Volume (Mon-Fri) – Both Directions
1	B1053 Finchingfield Rd (W), Gt Sampford	ATC	16-22 Mar 2015	2,033
2	B1053 Finchingfield Rd (E), Gt Sampford	ATC	16-22 Mar 2015	1,815
3	A1017 Swan St, Sible Hedingham	ATC	23-29 Jun 2015	13,791
4	B184 North of Woodside Way, Gt Dunmow	ATC	30 Jun – 6 Jul 2015	9,278
5	B184 South of Woodside Way, Gt Dunmow	ATC	30 Jun – 6 Jul 2015	6,198
6	Queen St, Castle Hedingham	ATC	30 Jun – 6 Jul 2015	3,525
7	B1053 Broad Road (Convent Hill), Braintree	ATC	24-30 Jun 2015	11,570
8	B1053 Broad Road, Braintree	ATC	17-23 Sep 2015	10,165
9	B184 North Street (N), Gt Dunmow	ATC	22-28 Sep 2015	5,274
10	B1053 Bridge Street, Finchingfield	ATC	6-12 Oct 2015	4,997
11	A1017 Baythorne End	ATC	20-26 Oct 2015	8,289
12	A1017 New England	ATC	20-26 Oct 2015	8,393

Ref	Site Location	Count Type	Date Range	Average 24 hour Weekday Volume (Mon-Fri) – Both Directions
13	B1053 Deanery Hill, Braintree	ATC	7-13 Apr 2016	4,569
14	B1024 Colne Rd, Coggeshall	ATC	7-13 Apr 2016	7,416
15	A120 Coggeshall Rd, Bradwell, Braintree	ATC	8-14 Apr 2016	27,544
16	A120 Coggeshall Rd, Bradwell, Braintree	ATC	8-14 Apr 2016	28,276
17	A1124 Halstead Road (N), Fordham	ATC	8-14 Apr 2016	10,698
18	A1124 Halstead Road (S), Fordham	ATC	8-14 Apr 2016	7,503
19	B1057, Cornish Hall End	ATC	20-26 Apr 2016	1,376
20	Silver St, Wethersfield	ATC	20-26 Apr 2016	3,729
21	Braintree Rd, Wethersfield	ATC	20-26 Apr 2016	3,063
22	A1124 Church Hill, Earls Colne	ATC	26 Apr – 2 May 2016	12,792
23	North End Rd, Lt Yeldham	ATC	17-23 May 2016	1,207
24	A134 Nayland Rd, Mile End	ATC	20-26 May 2016	9,823
25	A131 Halstead Rd, High Garrett, Braintree	ATC	13-19 Sep 2016	12,835
26	A1124 Hedingham Rd, Halstead	ATC	13-19 Sep 2016	6,210

Ref	Site Location	Count Type	Date Range	Average 24 hour Weekday Volume (Mon-Fri) – Both Directions
27	A131 Trinity Street, Halstead	ATC	27 Sep – 3 Oct 2016	14,429
28	St James St, Castle Hedingham	ATC	18-24 Oct 2016	3,580
29	B1053 Walden Rd (Mid), Swards End	ATC	9-15 May 2017	4,421
30	A1017 Hedingham Rd, Gosfield	ATC	6-12 Jun 2017	8,789
31	B1054 High St, Hempstead	ATC	19-25 Sep 2017	3,088
32	A1017 Hedingham Rd (N), Sible Hedingham	ATC	3-9 Oct 2017	13,301
33	A1017 Hedingham Rd (S), Sible Hedingham	ATC	3-9 Oct 2017	8,995
34	A1017 Ridgewell Rd (N), Gt Yeldham	ATC	3-9 Oct 2017	5,117
35	A1017 Ridgewell Rd (S), Gt Yeldham	ATC	3-9 Oct 2017	6,012
36	A131 Sudbury Rd, Bulmer Tye	ATC	31 Oct – 6 Nov 2017	11,265
37	B184 Dunmow Rd, Thaxted	ATC	16-22 Nov 2017	7,084
38	B184 Walden Rd, Thaxted	ATC	16-22 Nov 2017	8,117
39	A1017 Rowley Hill (W), Sturmer	ATC	28 Nov – 4 Dec 2017	9,314
40	A131 Mount Hill, Ne/O Ramsey Road	PLC	01 Jan – 31 Dec 2017	13,294

Ref	Site Location	Count Type	Date Range	Average 24 hour Weekday Volume (Mon-Fri) – Both Directions
41	A1124 Colchester Rd, O/S Busns Centre	PLC	01 Jan – 31 Dec 2017	9,746
42	A133 Cymbeline Way, W/O Glen Ave	PLC	01 Jan – 31 Dec 2017	35,832
43	London Road 56M N/O Gt Notley Ave	PLC	01 Jan – 31 Dec 2017	16,023
44	A1232 Ipswich Road, S/O Uplands Drive	PLC	01 Jan – 31 Dec 2017	23,356
45	B1022 Maldon Road, Sw/O Fountains Rd	PLC	01 Jan – 31 Dec 2017	9,919
46	A1017 Church Road	PLC	01 Jan – 31 Dec 2017	8,240
47	A134 Nayland Rd	PLC	01 Jan – 31 Dec 2017	10,067
48	B1033 Frinton Rd, W/P Byng Cres	PLC	01 Jan – 31 Dec 2017	11,681
49	B1025 Mersea Road, Jnc With Weir Lane	PLC	01 Jan – 31 Dec 2017	10,092
50	A137 Colchester Road Ne/E Clover Way	PLC	01 Jan – 31 Dec 2017	6,677
51	A133 Colchester Road Opp Heckfords Rd	PLC	01 Jan – 31 Dec 2017	31,450
52	B1027 Colchester Road Near Coach Road	PLC	01 Jan – 31 Dec 2017	10,448
53	A131 High Garrett N/O Church Street	PLC	01 Jan – 31 Dec 2017	22,694

Ref	Site Location	Count Type	Date Range	Average 24 hour Weekday Volume (Mon-Fri) – Both Directions
54	B1383 Cambridge Road Near Five Acres	PLC	01 Jan – 31 Dec 2017	10,960

2.2.8. The Essex CC ATC and PLC data was also based on ARX classification system as defined in Table 2 above. However, the PLC data provided were already processed into neutral day averages and grouped into four classes: Car, LGV, OGV and PSV.

2.2.9. Appendix B and C contain the ATC and PLC peak hour flows of the supplied Essex CC survey data.

2.3. ANALYSIS OF NUMBER OF ATC OBSERVATIONS

2.3.1. Checks were made for unusual observations in the Sudbury 2018 ATC data. This analysis was carried out by graphing the hourly variation for each day data was collected. This analysis highlighted unusual observations and missing data which needed to be removed to ensure they did not have skew the average traffic flow calculated for each site.

2.3.2. Table 5 shows the commissioned ATC location at which observations were removed during the data cleaning process, but for which there were still a minimum of two weeks' worth of Monday to Thursday observations (i.e. 8 observations).

Table 5 - Sudbury Local Validation ATC Surveys 2018 sites with excluded data with > 8 observations

Ref	Site Location	Mon-Thu – Obs Removed (Days)	Mon-Thu – Obs Removed (Remaining)	Reason
3	Northern Road (South of Addison Road)	2	8	Tubes were damaged

2.3.3. Table 6 shows the commissioned 2018 ATC location with the number of observations falls below the minimum of two weeks' worth of data, i.e. eight Monday-Thursday observations. This is not considered a significant issue as this affects a small number of sites, and those that are affected still have several days' worth of data from which to calculate average traffic flows.

Table 6 – Sudbury Local Validation ATC Surveys 2017 sites with excluded data with < 8 observations

Ref	Site Location	Mon-Thu – Obs Removed (Days)	Mon-Thu – Obs Removed (Remaining)	Reason
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7	Gainsborough Road (West of Christopher Lane)	1	7	Tubes were damaged
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2.4. AM AND PM PEAK HOUR FLOWS

2.4.1. Analysis of the rolling peak hour flows per 15 minutes within the Sudbury ATC survey undertaken between 19 April and 02 May 2018 reveals the following time periods represent the peak in traffic, based on adding all flows from the ATC sites together:

- AM peak – 0800 to 0900
- Inter peak – 1500 to 1600
- PM peak – 1630 to 1730
 - 1.3% higher than the 1700-1800 time period which is the PM peak hour modelled within the SCTM

2.4.2. Analysis was conducted to identify the peak hours at each of the sites is required in section 5 of WebTAG unit M3.1 (January 2014). This analysis considers the peak hours across Monday to Thursday.

2.4.3. Table 7 shows which hour within the AM peak period (07:00-10:00) at each ATC site shows the highest average flow. Counts of the peak hour by site for cars and HGVs show there is a clear peak between 08:00 and 09:00. For LGVs there are more vehicles between 07:00 to 08:00 For HGVs in terms of the peak hour.

Table 7 - Count of Sites with AM Peak Hour at Given Time Period

Time Period Starting	Car	LGV	HGV
07:00	7	22	10
08:00	36	18	18
09:00	0	3	15
Total	43	43	43

2.4.4. Table 8 compares the average traffic flow by hour in the inter peak period (10:00-16:00), counting which hour across the ATC sites shows the highest flow. The analysis shows there is a clear peak between 15:00 and 16:00 for both Cars, LGVs and HGVs.

Table 8 - Count of Sites with Inter Peak Hour at Given Time Period

Time Period Starting	Car	LGV	HGV
10:00	2	1	6
11:00	0	0	5
12:00	0	2	3

13:00	1	0	4
14:00	5	4	9
15:00	35	36	16
Total	43	43	43

2.4.5. Table 9 shows which hour within the PM peak period (16:00-19:00) has the highest flow at each ATC site. This comparison shows for cars the peak hour is between 17:00 and 18:00. For LGVs and HGVs, 16:00 to 17:00 is the peak hour.

Table 9 - Count of Sites with PM Peak Hour at Given Time Period

Time Period Starting	Car	LGV	HGV
16:00	5	35	37
17:00	38	8	6
18:00	0	0	0
Total	43	43	43

2.4.6. The peak hour analysis shows the peak hours outlined in the D2 SCTM TDCR (June 2018) and the modelling approach in Section 2.4 of this report are appropriate. Compared to cars, LGVs are shown to have a different peak hour in AM and PM, whilst HGVs are shown to have a different peak hour in both the PM peak. However, given cars form the majority of the traffic, the average peak hour traffic for cars will be used as the basis for the modelled time periods in the SCTM highway model.

2.4.7. Appendix D1, D2 and D3 contain the total links flow for each 2018 ATC count site by AM, IP and PM peak hour, respectively.

2.5. SUDBURY 2018 MCTC SURVEYS

2.5.1. Figure 3 shows the locations of the four MCTCs undertaken between 07:00 and 19:00 on Wednesday 25 April 2018 in Sudbury and Halstead, respectively.

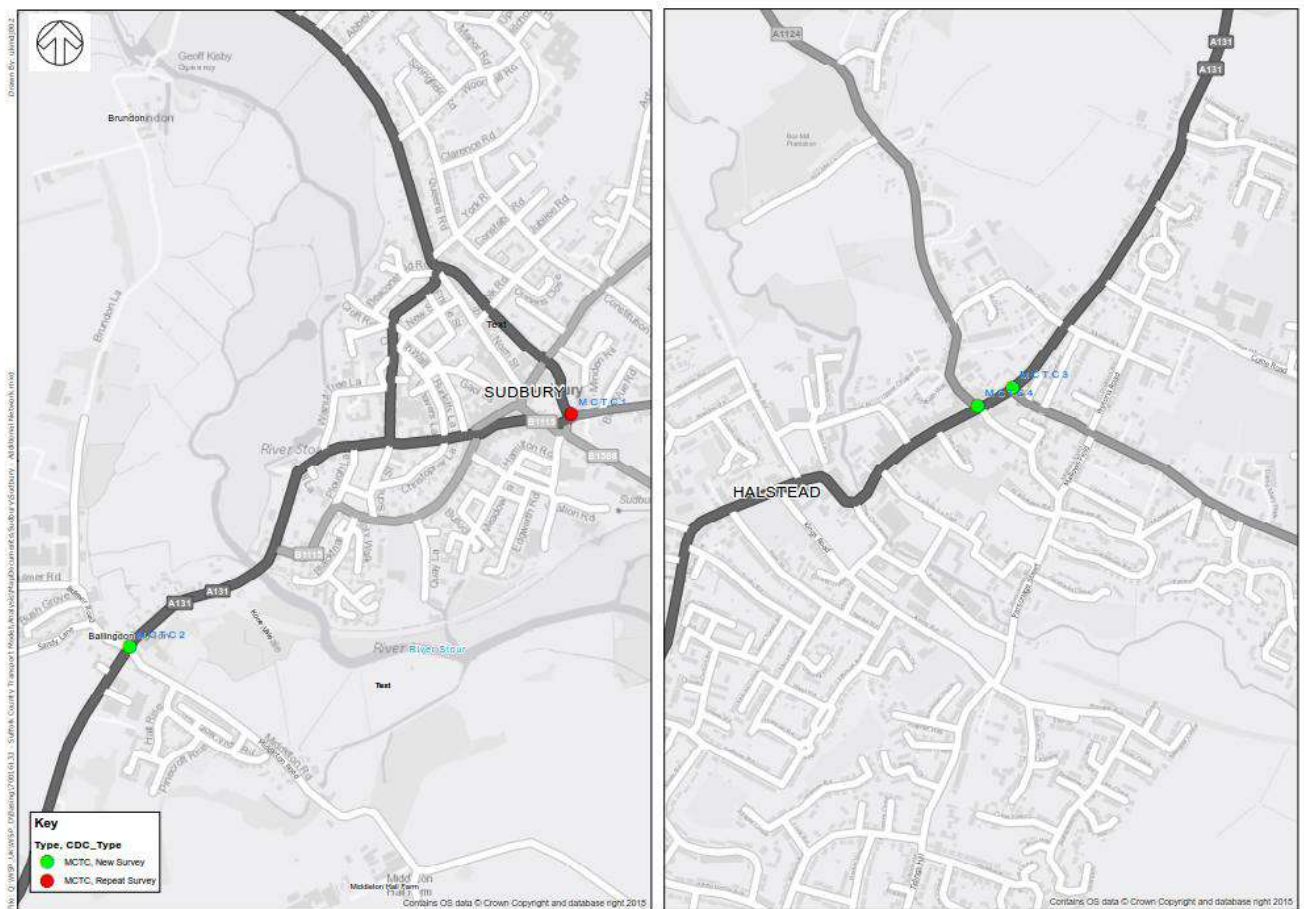


Figure 3 – Sudbury 2018 MCTC Survey Locations

2.5.2. The MCTC data was split into the following vehicle classifications:

- Car
- LGV – goods vehicles up to 3.5 tonnes
- OGV1
- OGV2
- PSV
- Motorcycle
- Pedal Cycle



2.5.3. Table 10 describes the locations of the MCTCs undertaken for a single day in Sudbury in 2018. The MCTC flows by peak hour can be found in Appendix E.

Table 10 - Sudbury Local Validation 1 day MCC Surveys 2018

Ref	Site Location
1	A131 / B1508 / Great Eastern Road / King Street
2	A131 Ballingdon Street / Middleton Road / Bulmer Road
3	A131 Head Street / A1124 Colchester Road
4	A131 Head Street / Parsonage Street / A131 High Street / Market Hill

2.6. CONSISTENCY OF REPEATED COMMISSIONED 2018 DATA TO THE 2016 DATA

2.6.1. Consistency checks were carried to comparing the repeated 2018 commissioned data to the 2016 data at the following locations (refer to Figure 1, Figure 3 and Table 1 for location and full description):

- ATC Site 1 to 12; and
- MCTC Site 1.

2.6.2. The 2018 survey data has been converted to 2016 based on Babergh growth factor for consistency between flows and is shown in Table 11.

Table 11 - Babergh Growth Factor 2018 to 2016 (TEMPro)

Area	AM	IP	PM
Babergh	0.99	0.98	0.99

2.6.3. WebTAG M1.2 specifies the level of accuracy for ATCs is 5%, whilst for MCTCs is 10%. Both levels of accuracy were used to check the consistency between 2016 and 2018 data for AM, IP and PM and are shown Table 12.

Table 12 – Consistency check between repeated commissioned 2018 data and 2016 data

2018 Ref	2016 Ref	Type	AM	IP	PM	AM	IP	PM
1	32	ATC	0%	2%	2%	Consistent	Consistent	Consistent
2	24	ATC	-4%	0%	-5%	Consistent	Consistent	Inconsistent
3	25	ATC	2%	7%	8%	Consistent	Inconsistent	Inconsistent
4	Y220	ATC	-1%	-8%	-9%	Consistent	Inconsistent	Inconsistent
5	29	ATC	0%	0%	2%	Consistent	Consistent	Consistent
6	27	ATC	1%	7%	5%	Consistent	Inconsistent	Inconsistent
7	28	ATC	0%	1%	0%	Consistent	Consistent	Consistent
8	33	ATC	4%	1%	3%	Consistent	Consistent	Consistent
9	31	ATC	6%	1%	3%	Inconsistent	Consistent	Consistent
10	225	ATC	5%	3%	4%	Inconsistent	Consistent	Consistent
11	30	ATC	2%	-2%	-5%	Consistent	Consistent	Inconsistent
12	26	ATC	-9%	14%	-14%	Inconsistent	Inconsistent	Inconsistent
1	17	MCTC	30%	23%	30%	Inconsistent	Inconsistent	Inconsistent

- 2.6.4. The comparison shows majority of counts are consistent in AM and IP with 8 sites being within the WebTAG level of accuracy. However, only ATC 6 sites in PM peak are within the level of accuracy.
- 2.6.5. Site 12 (2018) has the largest difference overall; however further analysis showed that the northbound traffic only has a difference of less than 5 vehicles in each peak hour. The southbound flows cause the overall consistency in Site 12 (2018), with a difference of almost 40 vehicles in both AM and IP peaks.
- 2.6.6. There is significant difference between the MCTC 2016 and 2018 counts in Site 1 - A131 / B1508 / Great Eastern Road / King Street and does not satisfy WebTAG's level of accuracy of 10%. The two arms with the greatest difference in flows are on the A131 and King Street, with differences of between 48-58%.

2.7. COMPARISON OF 2018 MCTC AND ATC

2.7.1. Consistency checks were carried out comparing specific arms of junction turning counts for which there was also a nearby ATC. Only one pair of MCTC and ATC are within close proximity from each other, which is MCTC1 and ATC 9. A comparison of the flows between the counts was undertaken and their differences in percentage terms are in Table 13.

Table 13 – Difference in flows between adjacent MCTC and ATC sites (Total MCTC/Total ATC)

MCTC Ref	ATC Ref	Direction	AM	IP	PM
1	9	EB	2%	1%	6%
1	9	WB	6%	-1%	-3%

2.7.2. WebTAG A1.2 specifies the level of accuracy for MCCs is 10%, whilst for ATCs it is 5%. Therefore two tests were carried out comparing upper and lower limits to determine if the values between the two sources were outside these bands. The comparison shows in the majority of cases there is consistency between the single day MCC observation and the flow from the ATC which is an average across several days.

2.8. SEASONAL VARIATION IN TRAFFIC FLOWS

2.8.1. Table 14 below shows the location of Essex County Council's permanent loop count sites in which a full year of data in 2017 was supplied.

Table 14 - Supplied Essex CC Permanent Loop Count Locations

Reference	Location
40	A131 Mount Hill, Ne/O Ramsey Road
41	A1124 Colchester Rd, O/S Busns Centre
42	A133 Cymbeline Way, W/O Glen Ave
43	London Road 56M N/O Gt Notley Ave
44	A1232 Ipswich Road, S/O Uplands Drive
45	B1022 Maldon Road, Sw/O Fountains Rd
46	A1017 Church Road
47	A134 Nayland Rd
48	B1033 Frinton Rd, W/P Byng Cres

49	B1025 Mersea Road, Jnc With Weir Lane
50	A137 Colchester Road Ne/E Clover Way
51	A133 Colchester Road Opp Heckfords Rd
52	B1027 Colchester Road Near Coach Road
53	A131 High Garrett N/O Church Street
54	B1383 Cambridge Road Near Five Acres

2.8.2. Seasonal variations can be calculated using the PLCs above which can be used to inform the daily (e.g. AADT/AAWT) flows for estimation of benefits for the future scheme.

3. TRAFFICMASTER GPS DATA

- 3.1.1. Trafficmaster GPS data was obtained from both Suffolk and Essex County Council covering a period between September 2015 and December 2016. This data will be used for journey time validation of the SCTM highway assignment model.
- 3.1.2. The SCTM already uses Trafficmaster data from Suffolk CC and is discussed in the D2 SCTM TDCR (June 2018); however due to the extension of the ADM, Essex data was also incorporated. The data was filtered to only include data from the following neutral months:
- September 2015
 - October 2015
 - November 2015
 - March 2016
 - April 2016
 - May 2016
 - June 2016
- 3.1.3. The data was processed to provide the median weekday (Monday to Thursday) travel time by direction for each peak hour being modelled within the SCTM. Essex school holidays and bank holidays were excluded from the data used to derive the average travel times.
- 3.1.4. Travel time data was processed for a total of 32 routes across Essex in both directions. Following the guidance in WebTAG unit M1.2 it has been ensured the journey time routes are between 3km and 15km. Appendix A provides a list of the journey time routes that have been analysed, consistent with the proposed journey time routes.
- 3.1.5. Figure 4 shows the journey time routes for which TrafficMaster GPS data has been processed and analysed. The additional journey time routes for Sudbury are route numbers 501 to 533. The other journey time routes outside of this range are existing routes already defined within the SCTM which utilise Suffolk Trafficmaster GPS data.



Figure 4 – TrafficMaster Routes

3.1.6. Table 15 shows the routes and their distances. Appendix F contains the observed travel time by peak hour, the observed overall average speed of each route in tabular form.

Table 15 - Additional Journey Time Routes

Route Description	Route ID	Direction	Distance (km)
A1124 to A1107	501	NB	10.7
A1107 to A1124	501	SB	10.7
North Road to Borley Road	502	EB	15.6
Borley Road to North Road	502	WB	15.6
Hedingham Road (Sible Hedingham to Bulmer Tye)	503	EB	8.8
Hedingham Road (Bulmer Tye to Sible Hedingham)	503	WB	8.8
B1057 (Finchingfield to Steeple Bumpstead)	504	NB	9.7
B1057 (Steeple Bumpstead to Finchingfield)	504	SB	9.7
B1508 (Wormingford to Sudbury)	505	NB	12.5

Route Description	Route ID	Direction	Distance (km)
B1508 (Sudbury to Wormingford)	505	SB	12.5
B1508 (Colchester to Wormingford)	506	NB	9.4
B1508 (Wormingford to Colchester)	506	SB	9.4
Weathersfield Road	507	EB	8.1
Weathersfield Road	507	WB	8.1
B1057 (Steeple Bumpstead to Haverhill)	508	NB	3.8
B1057 (Haverhill to Steeple Bumpstead)	508	SB	3.8
A1017 (Halstead Road to High Garrett)	509	NB	6.0
A1017 (High Garrett to Halstead Road)	509	SB	6.1
A1017 (Great Yeldham to Baythorne End)	510	NB	7.0
A1017 (Baythorne End to Great Yeldham)	510	SB	7.0
B1064 (A131 roundabout to A1092)	511	NB	3.5
B1064 (A1092 to A131 roundabout)	511	SB	3.5
B1115 (Sudbury to Swingleton Green)	512	NB	11.5
B1115 (Swingleton Green to Sudbury)	512	SB	11.5
Valley Road to Bull Lane (via Acton)	513	NB	7.1
Bull Lane to Valley Road (via Acton)	513	SB	7.1
A131 (Braintree to Halstead)	514	NB	10.1
A131 (Halstead to Braintree)	514	SB	10.1
A131 (Halstead to Bulmer Tye)	515	NB	9.4
A131 (Bulmer Tye to Halstead)	515	SB	9.3
A1124 (Halstead to Earls Colne)	516	EB	5.7
A1124 (Earls Colne to Halstead)	516	WB	5.7
A1124 (A12 to Earls Colne)	517	NB	10.7
A1124 (Earls Colne to A12)	517	SB	10.7
B1051 (Great Sampford to Stansted)	518	NB	13.4
B1051 (Stansted to Great Sampford)	518	SB	13.4

Route Description	Route ID	Direction	Distance (km)
B1053 (Braintree - Finchingfield)	519	NB	13.9
B1053 (Finchingfield to Braintree)	519	SB	13.9
B1054 (Redwinter to Steeple Bumpstead)	520	EB	8.6
B1054 (Steeple Bumpstead to Redwinter)	520	WB	8.6
B1054 (Steeple Bumpstead to New England)	521	EB	3.5
B1054 (New England to Steeple Bumpstead)	521	WB	3.5
A1017 (Baythorne End to Haverhill)	522	NB	4.5
A1017 (Haverhill to Baythorne End)	522	SB	4.5
A11 (Great Abington to A14)	523	NB	8.8
A11 (A14 to Great Abington)	523	SB	9.1
M11 (B1039 to Great Abington)	524	NB	13.4
M11 (Great Abington to B1039)	524	SB	13.3
M11 (B1051 to B1039)	525	NB	11.1
M11 (B1039 to B1051)	525	SB	11.1
A12 (Copford to A1232)	526	NB	3.5
A12 (A1232 to Copford)	526	SB	3.5
A120 (Braintree to Coggeshall)	527	EB	13.1
A120 (Coggeshall to Braintree)	527	WB	13.0
A120 (Great Dunmow to Braintree)	528	EB	11.9
A120 (Braintree to Great Dunmow)	528	WB	12.0
A120 (M11 to Great Donmow)	529	EB	12.1
A120 (Great Donmow to M11)	529	WB	12.1
B1053 (Saffron Walden to Radwinter)	530	EB	8.7
B1053 (Radwinter to Saffron Walden)	530	WB	8.5
A1307 (Great Abington to Haverhill)	531	EB	5.4
A1307 (Haverhill to Great Abington)	531	WB	9.4
M11 (Bishops Stortford to B1051)	532	NB	4.3

Route Description	Route ID	Direction	Distance (km)
M11 (B1051 to Bishops Stortford)	532	SB	4.3
A120 (Coggeshall to Copford)	533	EB	6.5
A120 (Copford to Coggeshall)	533	WB	6.6

3.1.7. Figure 5 to Figure 7 show the average speed time for the AM peak, inter peak and PM peak based on the processed TrafficMaster GPS data by Essex County Council ITN link. The figures split the average speed by direction into the following bands:

- Below 10 mph
- 10 - 20 mph
- 20 – 30 mph
- 30 – 40 mph
- 40 – 50 mph
- 50 – 60 mph
- 60+ mph

3.1.8. Figure 5 and Figure 7 show there are lower average speeds in the AM peak and PM peak compared to the inter peak in Figure 6 as expected. The lowest speeds between 10 – 20 mph are concentrated in town centres such as Sudbury, Halstead and Braintree.

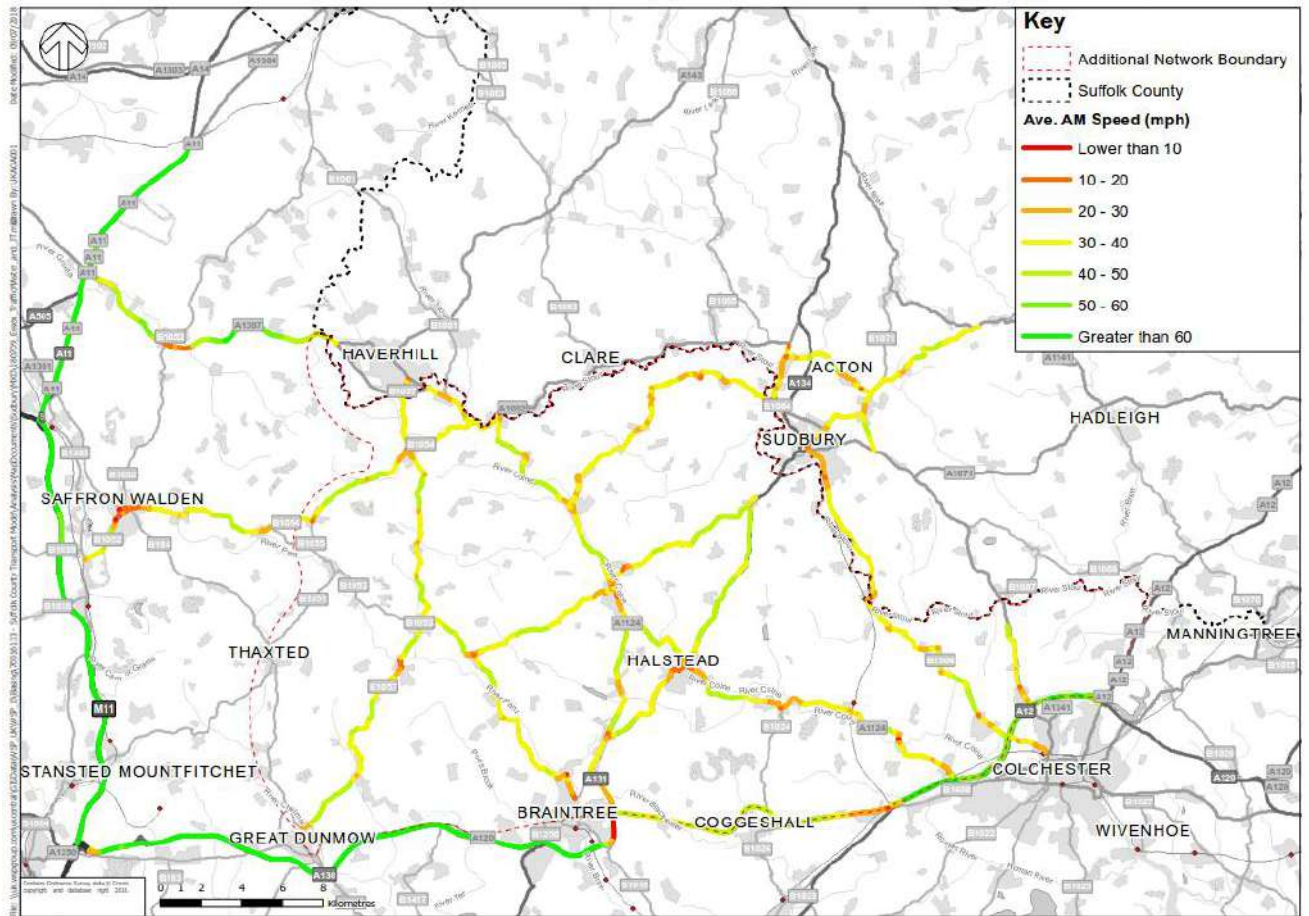


Figure 5 – Journey Time Routes - AM Peak Average Speed

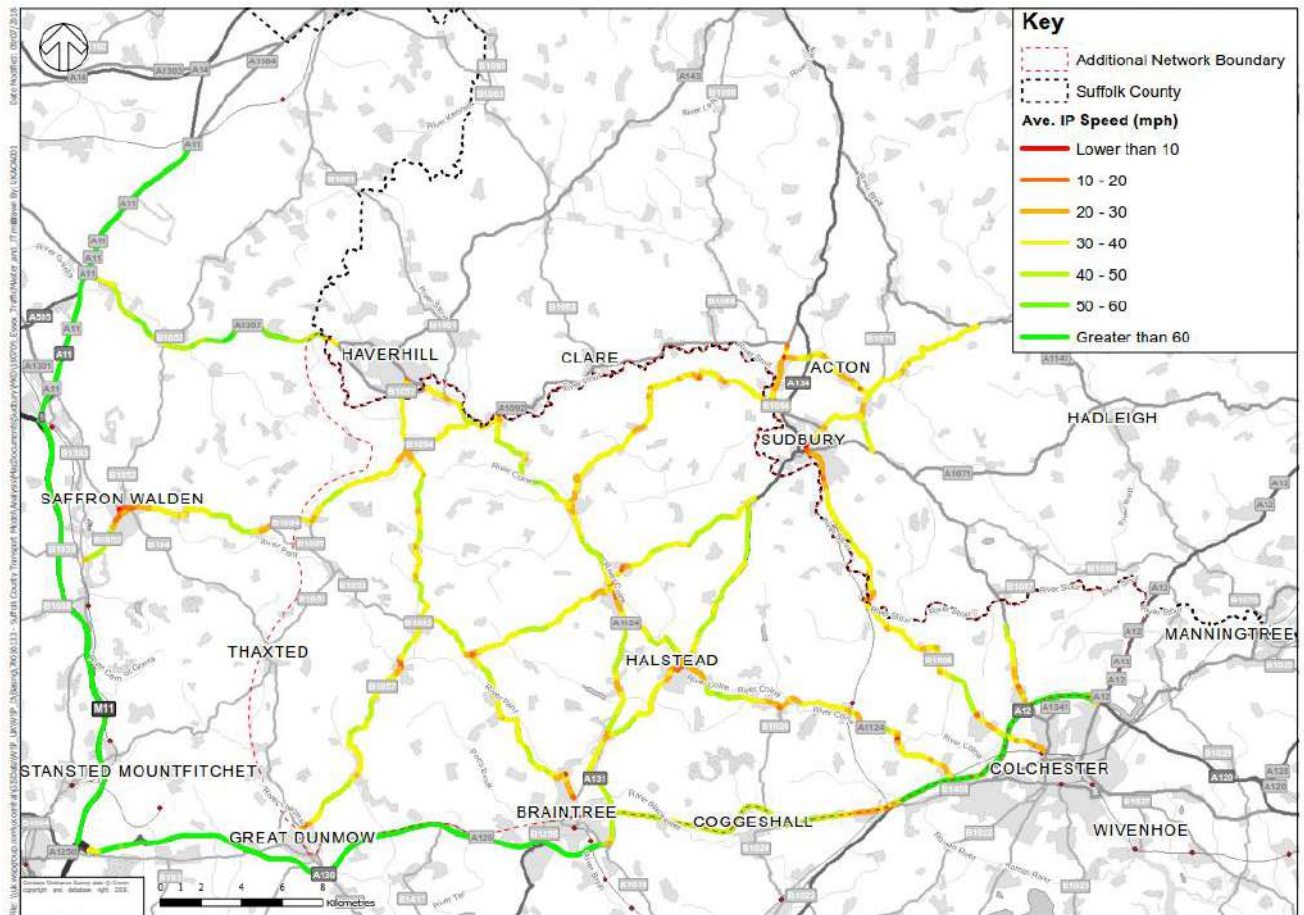


Figure 6 – Journey Time Routes - Inter Peak Average Speed

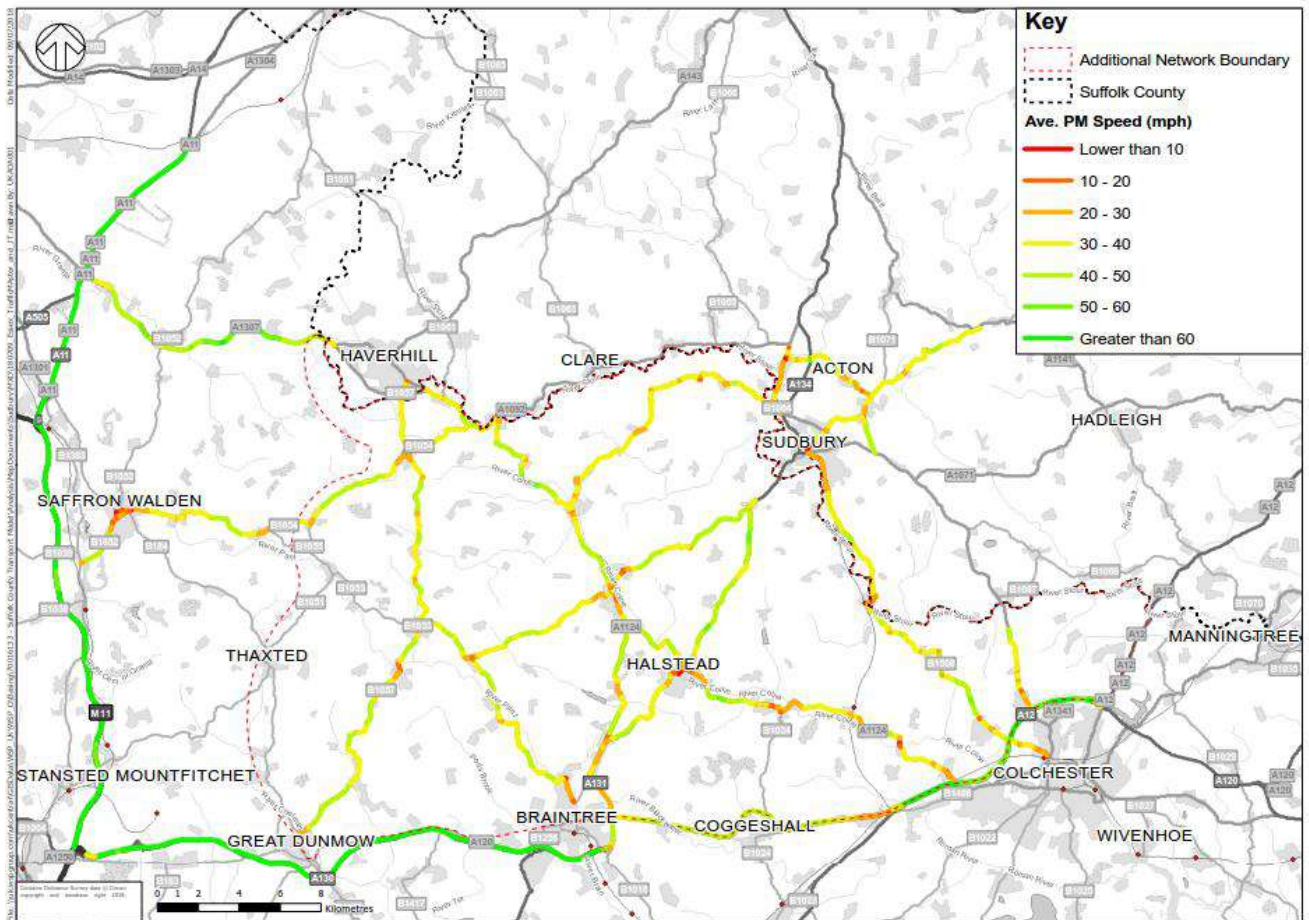


Figure 7 – Journey Time Routes - PM Peak Average Speed

- 3.1.9. Overall, the coverage of the journey time routes is deemed comprehensive as it covers the major strategic routes across Essex for the purposes of extending the SCTM simulation network. In total 33 journey time routes in two directions will be used for validation of the SCTM. Analysis of the average speeds across the selected routes and by individual link making up the overall routes suggest the data realistically emulates known congestion within Essex.
- 3.1.10. It has been ensured there is an adequate number of observations across each journey time route, with all links within a journey time route having a minimum of 12 observations per time period modelled. It is considered the journey time route data is appropriate to for validation of the SCTM to ensure the model accurately reflects travel time on key corridors and congestion.

4. SUMMARY

- 4.1.1. This data collection report details additional traffic data which has been obtained to support an update for Sudbury Relief Road which is looking to undertake an Outline Business Case (OBC) following a Strategic Outline Business Case (SOBC) in 2016. Therefore, the SCTM requires detailed modelling in Sudbury, as well as the need to extend the Area of Detailed Modelling (ADM) to include parts of Essex. This will improve the local calibration and validation of the SCTM and inform any subsequent traffic forecasting and economic assessment work.
- 4.1.2. The data detailed in this report has been collected and processed in adherence to the latest WebTAG guidance in unit M1.2 'Data Sources and Surveys' (January 2014).
- 4.1.3. TRACSIS were commissioned by WSP in 2018 to carry out 23 ATCs and 4 MCTCs at key junctions in Sudbury and parts of Essex CC in the vicinity of Sudbury Relief Road scheme. This additional data was required in order to carry out a local re-validation of the SCTM.
- 4.1.4. Essex CC provided 39 ATCs (undertaken between 2015-2017) and 15 PLCs (undertaken in 2017) to supplement the commissioned traffic survey data.
- 4.1.5. Some data loss occurred at ATC sites but this is not considered a significant issue and the data collected will be sufficient for the model build process. ATC data was cleaned to ensure there were no outliers affecting the average flows calculated.
- 4.1.6. Trafficmaster GPS data was obtained from Essex County Council covering a period between September 2015 and December 2016 and will be used for journey time validation. This data was averaged by peak hour for neutral months. Analysis of the number of observations available for each route highlighted instances where the sample was below the minimum requirement of 12 observations outlined in WebTAG. In total 32 journey time routes in two directions were processed for use within the SCTM. Checks of the average speeds in the journey time data highlight areas of congestion which are shown to be logical and correspond with known delays during peak periods
- 4.1.7. In combination with the commissioned surveys it is considered there is extensive coverage of suitable traffic data which will provide a basis for building a robust highway model. The data has been checked and processed to minimise the impact of outliers and missing data.

Appendix A

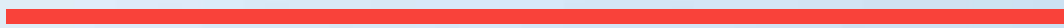
2018 COMMISSIONED ATC DATA



Ref	Site Location	Dir	AM	IP	PM
1	Melford Road (North of St Bartholomews Lane)	NB	517	470	608
1	Melford Road (North of St Bartholomews Lane)	SB	585	447	625
2	Springlands Way (East of Talbot Road)	EB	656	603	704
2	Springlands Way (East of Talbot Road)	WB	706	615	741
3	Northern Road (South of Addison Road)	NB	730	593	594
3	Northern Road (South of Addison Road)	SB	706	584	592
4	Waldingfield Road (North of Landsdown Road)	NB	310	331	392
4	Waldingfield Road (North of Landsdown Road)	SB	446	340	458
5	Gainsborough Road (South of Church Walk)	NB	783	756	919
6	Girling Street (South of Suffolk Road)	SB	912	820	987
7	Gainsborough Road (West of Christopher Lane)	WB	868	737	886
8	Friars Street (East of School Street)	EB	233	182	272
8	Friars Street (East of School Street)	WB	225	245	321
9	Cornrad Road (North of Ingrams Well Road)	EB	387	466	704
9	Cornrad Road (North of Ingrams Well Road)	WB	490	334	382
10	Cats Lane (North of Elm Road)	NB	117	156	148
10	Cats Lane (North of Elm Road)	SB	117	115	140
11	Newton Road (East of Alexandra Road)	EB	331	324	425
11	Newton Road (East of Alexandra Road)	WB	469	356	378
12	Waldingfield Road (South of Alder Way)	NB	271	317	395
12	Waldingfield Road (South of Alder Way)	SB	442	321	409
13	Lavenham Road (South of School Farm Way)	NB	127	94	122
13	Lavenham Road (South of School Farm Way)	SB	128	100	123
14	The Street (South of Church Road)	EB	113	88	158
14	The Street (South of Church Road)	WB	141	86	140
15	Boxford Lane (East of Trotts Lane)	EB	331	221	321
15	Boxford Lane (East of Trotts Lane)	WB	315	220	334
16	Kitchen Hill (West of Bulmer Road)	EB	120	68	81
16	Kitchen Hill (West of Bulmer Road)	WB	60	63	96
17	School Lane (East of Claypits Lane)	EB	121	78	100
17	School Lane (East of Claypits Lane)	WB	107	84	128
18	Lower Road (East of Peartree Hill)	EB	224	94	152
18	Lower Road (East of Peartree Hill)	WB	142	103	241
19	Belchamp Road (North of Mashay Road)	NB	40	23	56
19	Belchamp Road (North of Mashay Road)	SB	56	25	32
20	Sudbury Road (North of Churchill Ave)	NB	370	295	443
20	Sudbury Road (North of Churchill Ave)	SB	410	289	358
21	Colchester Road (South of First Ave)	NB	445	346	541
21	Colchester Road (South of First Ave)	SB	501	344	534
22	Shawlands Avenue (North of Maldon Court)	NB	715	381	432
22	Shawlands Avenue (North of Maldon Court)	SB	377	347	619
23	Lower Street (North of Low Street)	NB	88	42	55
23	Lower Street (North of Low Street)	SB	66	46	94

Appendix B

ESSEX CC ATC DATA

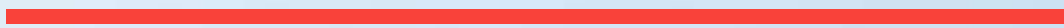


Ref	Site Location	Dir	AM	IP	PM
Site 01	B1053 FINCHINGFIELD RD (W), GT SAMPFORD	EB	53	61	80
Site 01	B1053 FINCHINGFIELD RD (W), GT SAMPFORD	WB	176	64	60
Site 02	B1053 FINCHINGFIELD RD (E), GT SAMPFORD	EB	46	56	69
Site 02	B1053 FINCHINGFIELD RD (E), GT SAMPFORD	WB	154	60	55
Site 03	A1017 SWAN ST, SIBLE HEDINGHAM	NB	497	399	670
Site 03	A1017 SWAN ST, SIBLE HEDINGHAM	SB	579	394	533
Site 04	B184, GT DUNMOW	NB	368	267	403
Site 04	B184, GT DUNMOW	SB	443	274	371
Site 05	B184, GT DUNMOW	NB	286	181	252
Site 05	B184, GT DUNMOW	SB	296	191	272
Site 06	QUEEN ST, CASTLE HEDINGHAM	NEB	158	105	177
Site 06	QUEEN ST, CASTLE HEDINGHAM	SWB	189	101	128
Site 07	B1053 BROAD ROAD (CONVENT HILL), BRAintree	NEB	294	342	633
Site 07	B1053 BROAD ROAD (CONVENT HILL), BRAintree	SWB	630	311	408
Site 08	B1053 BROAD ROAD, BRAintree	NB	291	304	568
Site 08	B1053 BROAD ROAD, BRAintree	SB	618	288	398
Site 09	B184 NORTH STREET (N), GT DUNMOW	NB	220	166	271
Site 09	B184 NORTH STREET (N), GT DUNMOW	SB	224	165	176
Site 10	B1053 BRIDGE STREET, FINCHINGFIELD	EB	155	140	340
Site 10	B1053 BRIDGE STREET, FINCHINGFIELD	WB	309	137	151
Site 11	A1017 BAYTHORNE END	EB	220	239	527
Site 11	A1017 BAYTHORNE END	WB	495	235	262
Site 12	A1017 NEW ENGLAND	NWB	231	241	517
Site 12	A1017 NEW ENGLAND	SEB	489	237	278
Site 13	B1053 DEANERY HILL, BRAintree	NWB	143	149	195
Site 13	B1053 DEANERY HILL, BRAintree	SEB	202	145	202
Site 14	B1024 COLNE RD, COGGESHALL	NB	352	211	366
Site 14	B1024 COLNE RD, COGGESHALL	SB	299	211	322
Site 15	A120 COGGESHALL RD, BRADWELL, BRAintree	EB	946	815	1126
Site 15	A120 COGGESHALL RD, BRADWELL, BRAintree	WB	1051	810	1025
Site 16	A120 COGGESHALL RD, BRADWELL, BRAintree	EB	994	826	1159
Site 16	A120 COGGESHALL RD, BRADWELL, BRAintree	WB	1102	813	1006
Site 17	A1124 HALSTEAD ROAD (N), FORDHAM	EB	542	318	546
Site 17	A1124 HALSTEAD ROAD (N), FORDHAM	WB	416	306	508
Site 18	A1124 HALSTEAD ROAD (S), FORDHAM	NB	222	115	177
Site 18	A1124 HALSTEAD ROAD (S), FORDHAM	SB	492	264	431
Site 19	B1057, CORNISH HALL END	NB	48	37	81
Site 19	B1057, CORNISH HALL END	SB	70	34	57
Site 20	SILVER ST, WETHERSFIELD	SEB	125	114	268
Site 20	SILVER ST, WETHERSFIELD	NWB	255	98	134
Site 21	BRAintree RD, WETHERSFIELD	NB	158	87	173
Site 21	BRAintree RD, WETHERSFIELD	SB	157	92	150
Site 22	A1124 CHURCH HILL, EARLS COLNE	NB	505	400	710

Ref	Site Location	Dir	AM	IP	PM
Site 22	A1124 CHURCH HILL, EARLS COLNE	SB	653	380	618
Site 23	NORTH END RD, LT YELDHAM	EB	49	38	41
Site 23	NORTH END RD, LT YELDHAM	WB	33	38	50
Site 24	A134 NAYLAND RD, MILE END	NB	312	285	457
Site 24	A134 NAYLAND RD, MILE END	SB	436	296	371
Site 25	A131 HALSTEAD RD, HIGH GARRETT, BRAINTREE	NEB	330	365	642
Site 25	A131 HALSTEAD RD, HIGH GARRETT, BRAINTREE	SWB	569	344	379
Site 26	A1124 HEDINGHAM RD, HALSTEAD	NB	245	173	277
Site 26	A1124 HEDINGHAM RD, HALSTEAD	SB	255	183	264
Site 27	A131 TRINITY STREET, HALSTEAD	EB	569	457	640
Site 27	A131 TRINITY STREET, HALSTEAD	WB	610	465	573
Site 28	ST JAMES ST, CASTLE HEDINGHAM	EB	151	112	182
Site 28	ST JAMES ST, CASTLE HEDINGHAM	WB	189	108	155
Site 29	B1053 WALDEN RD (MID), SEWARDS END	NB	140	135	266
Site 29	B1053 WALDEN RD (MID), SEWARDS END	SB	280	131	121
Site 30	A1017 HEDINGHAM RD, GOSFIELD	NB	365	267	432
Site 30	A1017 HEDINGHAM RD, GOSFIELD	SB	454	254	312
Site 31	B1054 HIGH ST, HEMPSTEAD	NEB	99	86	235
Site 31	B1054 HIGH ST, HEMPSTEAD	SWB	203	69	97
Site 32	A1017 HEDINGHAM RD (N), SIBLE HEDINGHAM	NB	504	377	660
Site 32	A1017 HEDINGHAM RD (N), SIBLE HEDINGHAM	SB	651	378	499
Site 33	A1017 HEDINGHAM RD (S), SIBLE HEDINGHAM	NB	339	262	461
Site 33	A1017 HEDINGHAM RD (S), SIBLE HEDINGHAM	SB	473	251	278
Site 34	A1017 RIDGEWELL RD (N), GT YELDHAM	NWB	285	133	195
Site 34	A1017 RIDGEWELL RD (N), GT YELDHAM	SEB	191	143	312
Site 35	A1017 RIDGEWELL RD (S), GT YELDHAM	NWB	335	157	226
Site 35	A1017 RIDGEWELL RD (S), GT YELDHAM	SEB	224	167	382
Site 36	A131 SUDBURY RD, BULMER TYE	NEB	450	349	477
Site 36	A131 SUDBURY RD, BULMER TYE	SWB	478	362	525
Site 37	B184 DUNMOW RD, THAXTED	NB	384	216	296
Site 37	B184 DUNMOW RD, THAXTED	SB	291	212	288
Site 38	B184 WALDEN RD, THAXTED	NB	412	235	315
Site 38	B184 WALDEN RD, THAXTED	SB	378	255	386
Site 39	A1017 ROWLEY HILL (W), STURMER	EB	238	285	588
Site 39	A1017 ROWLEY HILL (W), STURMER	WB	567	275	256

Appendix C

ESSEX CC PLC DATA



Ref	Site Location	Dir	AM	IP	PM
1	A131 Mount Hill, Ne/O Ramsey Road	SWB	435	378	542
1	A131 Mount Hill, Ne/O Ramsey Road	NEB	539	390	500
2	A1124 Colchester Rd, O/S Busns Cntre	SWB	465	287	512
2	A1124 Colchester Rd, O/S Busns Cntre	NEB	407	277	453
3	A133 Cymbeline Way, W/O Glen Ave	SWB	1215	1092	1101
3	A133 Cymbeline Way, W/O Glen Ave	NEB	1015	1177	1407
4	London Road 56M N/O Gt Notley Ave	SWB	492	439	1159
4	London Road 56M N/O Gt Notley Ave	NEB	803	408	529
5	A1232 Ipswich Road, S/O Uplands Drive	SWB	863	749	933
5	A1232 Ipswich Road, S/O Uplands Drive	NEB	922	777	971
6	B1022 Maldon Road,Sw/O Fountains Rd	SWB	501	315	615
6	B1022 Maldon Road,Sw/O Fountains Rd	NEB	526	293	362
7	A1017 Church Road	SWB	362	239	379
7	A1017 Church Road	NEB	385	235	391
8	A134 Nayland Rd	SWB	434	284	496
8	A134 Nayland Rd	NEB	566	294	433
9	B1033 Frinton Rd, W/P Byng Cres	SWB	402	375	531
9	B1033 Frinton Rd, W/P Byng Cres	NEB	541	376	359
10	B1025 Mersea Road, Jnc With Weir Lane	SWB	411	295	298
10	B1025 Mersea Road, Jnc With Weir Lane	NEB	301	279	378
11	A137 Colchester Road Ne/E Clover Way	SWB	291	216	296
11	A137 Colchester Road Ne/E Clover Way	NEB	355	204	327
12	A133 Colchester Road Opp Heckfords Rd	SWB	962	961	1451
12	A133 Colchester Road Opp Heckfords Rd	NEB	1272	893	965
13	B1027 Colchester Road Near Coach Road	SWB	281	322	579
13	B1027 Colchester Road Near Coach Road	NEB	583	304	289
14	A131 High Garrett N/O Church Street	SWB	666	670	1095
14	A131 High Garrett N/O Church Street	NEB	1072	632	722
15	B1383 Cambridge Road Near Five Acres	SWB	402	324	471
15	B1383 Cambridge Road Near Five Acres	NEB	522	337	474

Appendix D

2018 COMMISSIONED ATC PEAK

HOUR ANALYSIS



Appendix D.1

AM PEAK HOUR



Ref	Site Location	Dir	07:00	07:00	07:00	08:00	08:00	08:00	09:00	09:00	09:00
			Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
1	Melford Road (North of St Bartholomews Lane)	NB	395	44	19	467	31	19	361	25	26
1	Melford Road (North of St Bartholomews Lane)	SB	359	34	17	519	46	20	457	36	24
2	Springlands Way (East of Talbot Road)	EB	500	59	16	577	59	20	472	61	23
2	Springlands Way (East of Talbot Road)	WB	452	99	36	558	113	35	468	94	31
3	Northern Road (South of Addison Road)	NB	491	96	29	588	107	35	440	86	34
3	Northern Road (South of Addison Road)	SB	505	102	35	565	102	38	424	91	40
4	Waldingfield Road (North of Landsdown Road)	NB	226	29	7	277	28	6	258	22	8
4	Waldingfield Road (North of Landsdown Road)	SB	228	40	9	391	41	14	322	37	11
5	Gainsborough Road (South of Church Walk)	NB	512	92	23	676	79	27	615	82	33
6	Girling Street (South of Suffolk Road)	SB	665	69	38	800	65	47	746	55	46
7	Gainsborough Road (West of Christopher Lane)	WB	547	139	49	714	109	45	569	108	52
8	Friars Street (East of School Street)	EB	158	12	2	218	11	4	189	9	3
8	Friars Street (East of School Street)	WB	152	12	2	210	11	4	170	10	4
9	Cornrad Road (North of Ingrams Well Road)	EB	246	38	10	332	42	13	325	45	12
9	Cornrad Road (North of Ingrams Well Road)	WB	263	47	8	419	60	11	314	46	10
10	Cats Lane (North of Elm Road)	NB	75	13	3	105	10	2	102	10	2
10	Cats Lane (North of Elm Road)	SB	61	10	2	93	19	4	89	19	3
11	Newton Road (East of Alexandra Road)	EB	233	51	15	264	48	20	199	47	22
11	Newton Road (East of Alexandra Road)	WB	256	76	19	375	76	17	307	65	19
12	Waldingfield Road (South of Alder Way)	NB	188	29	6	230	34	7	229	31	7
12	Waldingfield Road (South of Alder Way)	SB	242	40	7	393	38	10	309	38	9
13	Lavenham Road (South of School Farm Way)	NB	65	9	5	113	10	4	80	6	5
13	Lavenham Road (South of School Farm Way)	SB	60	34	6	76	43	9	70	35	9
14	The Street (South of Church Road)	EB	78	26	8	82	23	8	61	20	8
14	The Street (South of Church Road)	WB	94	21	6	107	27	6	87	17	5
15	Boxford Lane (East of Trotts Lane)	EB	225	59	20	244	63	25	170	48	22
15	Boxford Lane (East of Trotts Lane)	WB	281	52	19	250	43	21	147	33	19

Ref	Site Location	Dir	07:00	07:00	07:00	08:00	08:00	08:00	09:00	09:00	09:00
			Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
16	Kitchen Hill (West of Bulmer Road)	EB	59	15	1	97	21	2	77	15	5
16	Kitchen Hill (West of Bulmer Road)	WB	40	10	2	44	12	5	38	9	4
17	School Lane (East of Claypits Lane)	EB	85	14	5	96	21	4	74	15	5
17	School Lane (East of Claypits Lane)	WB	79	12	4	85	17	5	64	13	6
18	Lower Road (East of Peartree Hill)	EB	182	54	9	168	49	7	92	28	7
18	Lower Road (East of Peartree Hill)	WB	88	31	6	106	28	9	64	18	9
19	Belchamp Road (North of Mashay Road)	NB	13	12	4	16	20	4	9	10	5
19	Belchamp Road (North of Mashay Road)	SB	36	3	1	50	4	2	24	3	1
20	Sudbury Road (North of Churchill Ave)	NB	318	90	31	312	68	30	230	55	28
20	Sudbury Road (North of Churchill Ave)	SB	318	90	31	312	68	30	230	55	28
21	Colchester Road (South of First Ave)	NB	216	203	35	210	196	39	159	165	29
21	Colchester Road (South of First Ave)	SB	536	43	21	450	27	23	353	26	21
22	Shawlands Avenue (North of Maldon Court)	NB	543	77	14	643	58	14	345	39	12
22	Shawlands Avenue (North of Maldon Court)	SB	204	7	2	361	14	3	250	18	3
23	Lower Street (North of Low Street)	NB	79	24	7	66	18	4	40	14	3
23	Lower Street (North of Low Street)	SB	28	8	1	56	7	3	35	8	3

Appendix D.2

INTER PEAK HOUR



Ref	Site Location	Dir	10:00	10:00	10:00	11:00	11:00	11:00	12:00	12:00	12:00	13:00	13:00	13:00	14:00	14:00	14:00	15:00	15:00	15:00
			Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
1	Melford Road (North of St Bartholomews Lane)	NB	360	27	20	399	27	27	424	29	26	406	30	22	414	25	25	503	33	24
1	Melford Road (North of St Bartholomews Lane)	SB	395	30	20	375	28	22	381	32	19	373	27	17	408	39	23	440	40	17
2	Springlands Way (East of Talbot Road)	EB	468	62	24	473	58	22	522	61	23	517	59	24	534	67	24	584	71	25
2	Springlands Way (East of Talbot Road)	WB	453	85	35	479	87	37	521	86	33	468	90	31	503	85	38	531	95	31
3	Northern Road (South of Addison Road)	NB	418	79	34	451	79	34	493	82	34	473	81	33	482	82	37	541	90	36
3	Northern Road (South of Addison Road)	SB	418	79	35	423	78	38	469	74	34	481	85	37	492	85	37	503	98	38
4	Waldingfield Road (North of Landsdown Road)	NB	261	27	9	274	26	8	302	27	9	299	26	8	310	28	10	324	30	8
4	Waldingfield Road (North of Landsdown Road)	SB	287	40	12	283	32	11	294	35	10	278	31	13	306	31	12	323	37	9
5	Gainsborough Road (South of Church Walk)	NB	580	74	34	637	80	41	640	79	40	632	82	33	646	82	42	690	83	41
6	Girling Street (South of Suffolk Road)	SB	686	44	44	701	44	48	696	48	45	727	48	41	705	53	48	836	50	53
7	Gainsborough Road (West of Christopher Lane)	WB	560	92	45	588	86	47	610	94	45	589	87	44	613	90	46	643	93	46
8	Friars Street (East of School Street)	EB	177	9	3	170	9	4	157	9	4	160	10	3	155	9	5	190	11	4
8	Friars Street (East of School Street)	WB	196	7	3	222	10	4	247	11	3	223	8	4	235	10	5	268	10	5
9	Cornrad Road (North of Ingrams Well Road)	EB	349	45	11	382	45	13	421	41	11	387	48	13	417	48	13	478	61	15
9	Cornrad Road (North of Ingrams Well Road)	WB	292	40	9	278	36	11	261	38	12	266	42	8	288	38	10	316	45	15
10	Cats Lane (North of Elm Road)	NB	121	12	2	139	10	3	157	11	3	139	10	4	134	11	3	160	14	3
10	Cats Lane (North of Elm Road)	SB	93	17	4	86	16	4	95	14	4	94	18	3	103	15	2	97	20	4
11	Newton Road (East of Alexandra Road)	EB	196	45	24	231	50	21	263	44	19	229	50	19	310	54	21	292	53	24
11	Newton Road (East of Alexandra Road)	WB	278	54	17	270	56	20	258	60	19	325	59	19	273	65	20	272	57	17
12	Waldingfield Road (South of Alder Way)	NB	235	33	10	257	39	8	280	36	9	269	38	7	277	40	11	307	42	10
12	Waldingfield Road (South of Alder Way)	SB	282	38	11	267	33	11	271	35	8	255	36	9	285	34	11	294	38	10
13	Lavenham Road (South of School Farm Way)	NB	76	6	5	80	6	5	88	6	3	79	5	4	80	6	4	98	8	5
13	Lavenham Road (South of School Farm Way)	SB	67	22	8	60	26	8	61	24	5	64	26	6	78	29	5	68	36	7
14	The Street (South of Church Road)	EB	58	15	6	61	16	6	70	15	5	66	16	5	71	17	5	70	19	7
14	The Street (South of Church Road)	WB	69	16	7	66	12	7	66	16	5	64	11	5	66	15	5	64	17	7
15	Boxford Lane (East of Trotts Lane)	EB	152	35	22	147	40	21	154	34	21	167	34	22	155	37	21	191	48	25
15	Boxford Lane (East of Trotts Lane)	WB	136	30	22	140	35	17	161	30	18	150	30	17	198	40	20	204	50	22

Ref	Site Location	Dir	10:00	10:00	10:00	11:00	11:00	11:00	12:00	12:00	12:00	13:00	13:00	13:00	14:00	14:00	14:00	15:00	15:00	15:00
			Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
16	Kitchen Hill (West of Bulmer Road)	EB	57	11	5	50	11	3	53	13	5	51	12	4	52	12	4	50	14	3
16	Kitchen Hill (West of Bulmer Road)	WB	43	9	3	47	9	3	54	7	4	52	8	3	47	9	3	60	12	3
17	School Lane (East of Claypits Lane)	EB	57	11	4	53	14	6	54	14	6	54	13	7	58	17	7	68	20	6
17	School Lane (East of Claypits Lane)	WB	52	10	4	65	10	5	69	11	4	67	10	7	77	9	6	81	16	4
18	Lower Road (East of Peartree Hill)	EB	67	20	8	65	19	7	58	22	10	60	21	8	67	22	8	69	28	9
18	Lower Road (East of Peartree Hill)	WB	57	16	10	63	17	7	66	18	6	69	17	9	89	21	8	109	30	8
19	Belchamp Road (North of Mashay Road)	NB	8	9	3	8	8	3	8	11	3	8	11	2	9	15	2	11	21	1
19	Belchamp Road (North of Mashay Road)	SB	21	3	2	19	2	1	17	2	1	18	2	1	21	2	1	30	4	2
20	Sudbury Road (North of Churchill Ave)	NB	207	48	30	200	41	26	211	47	27	208	39	29	220	46	30	248	52	27
20	Sudbury Road (North of Churchill Ave)	SB	207	48	30	200	41	26	211	47	27	208	39	29	220	46	30	248	52	27
21	Colchester Road (South of First Ave)	NB	137	124	30	146	134	34	155	150	30	154	152	30	170	174	34	193	199	33
21	Colchester Road (South of First Ave)	SB	291	26	23	280	27	25	281	30	19	251	26	22	309	30	24	341	37	25
22	Shawlands Avenue (North of Maldon Court)	NB	289	34	9	297	32	11	301	35	11	351	37	12	314	42	12	438	45	15
22	Shawlands Avenue (North of Maldon Court)	SB	237	18	4	243	21	3	304	30	5	292	33	9	373	50	9	395	51	9
23	Lower Street (North of Low Street)	NB	32	8	3	26	10	3	31	9	3	28	8	1	35	10	5	28	10	2
23	Lower Street (North of Low Street)	SB	31	5	1	35	5	1	32	5	2	34	6	3	40	7	1	60	8	4

Appendix D.3

PM PEAK HOUR

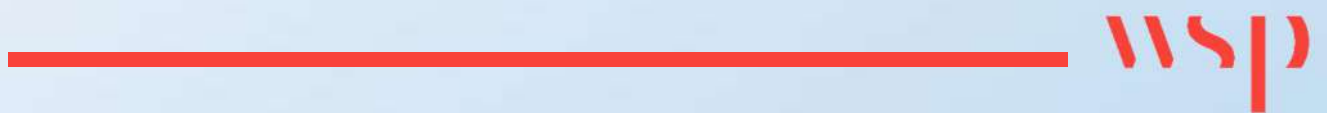


Ref	Site Location	Dir	16:00	16:00	16:00	17:00	17:00	17:00	18:00	18:00	18:00
			Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
1	Melford Road (North of St Bartholomews Lane)	NB	491	36	18	560	33	16	396	21	7
1	Melford Road (North of St Bartholomews Lane)	SB	505	53	19	565	47	14	386	29	8
2	Springlands Way (East of Talbot Road)	EB	603	84	20	622	69	13	477	41	8
2	Springlands Way (East of Talbot Road)	WB	618	107	28	621	99	21	431	65	11
3	Northern Road (South of Addison Road)	NB	593	96	28	516	63	15	431	58	11
3	Northern Road (South of Addison Road)	SB	561	97	33	513	62	18	440	59	14
4	Waldingfield Road (North of Landsdown Road)	NB	332	35	9	356	29	7	302	21	3
4	Waldingfield Road (North of Landsdown Road)	SB	374	46	9	411	39	8	285	22	5
5	Gainsborough Road (South of Church Walk)	NB	725	113	34	794	98	27	638	62	16
6	Girling Street (South of Suffolk Road)	SB	848	63	48	898	56	33	700	37	17
7	Gainsborough Road (West of Christopher Lane)	WB	686	114	38	759	98	28	633	66	16
8	Friars Street (East of School Street)	EB	199	15	3	252	16	3	182	12	2
8	Friars Street (East of School Street)	WB	298	14	4	309	9	2	198	6	0
9	Cornrad Road (North of Ingrams Well Road)	EB	504	60	12	619	75	10	423	46	5
9	Cornrad Road (North of Ingrams Well Road)	WB	314	46	11	329	46	8	304	37	6
10	Cats Lane (North of Elm Road)	NB	142	15	1	138	8	1	102	8	1
10	Cats Lane (North of Elm Road)	SB	106	23	3	118	21	2	88	12	1
11	Newton Road (East of Alexandra Road)	EB	348	72	18	358	56	11	212	33	5
11	Newton Road (East of Alexandra Road)	WB	314	69	13	315	55	9	259	38	5
12	Waldingfield Road (South of Alder Way)	NB	315	41	12	349	39	7	277	33	3
12	Waldingfield Road (South of Alder Way)	SB	330	47	10	366	37	5	250	27	5
13	Lavenham Road (South of School Farm Way)	NB	101	8	4	112	7	3	85	3	1
13	Lavenham Road (South of School Farm Way)	SB	77	39	6	79	38	6	47	26	2
14	The Street (South of Church Road)	EB	99	26	6	128	27	3	68	15	4
14	The Street (South of Church Road)	WB	88	22	5	114	22	4	55	10	1
15	Boxford Lane (East of Trotts Lane)	EB	232	54	14	267	44	10	177	25	5
15	Boxford Lane (East of Trotts Lane)	WB	253	53	16	279	42	14	173	24	4

Ref	Site Location	Dir	16:00	16:00	16:00	17:00	17:00	17:00	18:00	18:00	18:00
			Car	LGV	HGV	Car	LGV	HGV	Car	LGV	HGV
16	Kitchen Hill (West of Bulmer Road)	EB	59	20	5	61	16	3	48	10	1
16	Kitchen Hill (West of Bulmer Road)	WB	64	13	3	83	12	2	60	9	1
17	School Lane (East of Claypits Lane)	EB	74	14	5	81	13	6	52	10	2
17	School Lane (East of Claypits Lane)	WB	93	13	4	115	11	2	70	8	3
18	Lower Road (East of Peartree Hill)	EB	87	36	8	111	35	7	63	19	3
18	Lower Road (East of Peartree Hill)	WB	148	37	10	195	40	5	143	23	3
19	Belchamp Road (North of Mashay Road)	NB	15	22	4	25	26	6	14	16	1
19	Belchamp Road (North of Mashay Road)	SB	28	2	1	28	4	1	21	2	0
20	Sudbury Road (North of Churchill Ave)	NB	271	64	28	289	51	18	192	33	13
20	Sudbury Road (North of Churchill Ave)	SB	271	64	28	289	51	18	192	33	13
21	Colchester Road (South of First Ave)	NB	229	212	23	274	249	18	219	189	11
21	Colchester Road (South of First Ave)	SB	484	49	18	489	33	11	290	18	7
22	Shawlands Avenue (North of Maldon Court)	NB	399	47	12	379	46	7	347	28	6
22	Shawlands Avenue (North of Maldon Court)	SB	484	64	7	555	59	6	402	31	3
23	Lower Street (North of Low Street)	NB	33	14	1	44	10	1	31	11	1
23	Lower Street (North of Low Street)	SB	72	13	5	86	7	1	45	4	1

Appendix E

2018 COMMISSIONED MCTC DATA



Ref	Site Location	Date	AM	IP	PM
MCTC 1	A131/ B1508 - From A131 to junction	25/04/2018	1161	1029	1276
MCTC 1	A131/ B1508 - From B1508 to junction	25/04/2018	499	337	405
MCTC 1	A131/ B1508 - From Great Eastern Road to junction	25/04/2018	306	492	625
MCTC 1	A131/ B1508 - From King Street to junction	25/04/2018	0	0	0
MCTC 1	A131/ B1508 - To A131 from junction	25/04/2018	0	0	0
MCTC 1	A131/ B1508 - To B1508 from junction	25/04/2018	408	460	680
MCTC 1	A131/ B1508 - To Great Eastern Road from junction	25/04/2018	493	421	457
MCTC 1	A131/ B1508 - To King Street from junction	25/04/2018	1065	977	1169
MCTC 2	A131 Ballingdon St/ Bulmer Road - From A131 Ballingdon Street (N) to junction	25/04/2018	588	481	708
MCTC 2	A131 Ballingdon St/ Bulmer Road - From Middleton Road to junction	25/04/2018	135	82	105
MCTC 2	A131 Ballingdon St/ Bulmer Road - From A131 Ballingdon Street (S) to junction	25/04/2018	441	363	535
MCTC 2	A131 Ballingdon St/ Bulmer Road - From Bulmer Road to junction	25/04/2018	156	177	168
MCTC 2	A131 Ballingdon St/ Bulmer Road - To A131 Ballingdon Street (N) from junction	25/04/2018	641	516	699
MCTC 2	A131 Ballingdon St/ Bulmer Road - To Middleton Road from junction	25/04/2018	67	86	138
MCTC 2	A131 Ballingdon St/ Bulmer Road - To A131 Ballingdon Street (S) from junction	25/04/2018	421	335	520
MCTC 2	A131 Ballingdon St/ Bulmer Road - To Bulmer Road from junction	25/04/2018	191	130	159
MCTC 3	A131 Head Street/ A1124 Colchester Road - From A131 Head Street (NE) to junction	25/04/2018	525	353	442
MCTC 3	A131 Head Street/ A1124 Colchester Road - From A1124 Colchester Road to junction	25/04/2018	438	340	458
MCTC 3	A131 Head Street/ A1124 Colchester Road - From A131 Head Street (SW) to junction	25/04/2018	769	597	891
MCTC 3	A131 Head Street/ A1124 Colchester Road - To A131 Head Street (NE) from junction	25/04/2018	477	378	588
MCTC 3	A131 Head Street/ A1124 Colchester Road - To A1124 Colchester Road from junction	25/04/2018	476	355	504
MCTC 3	A131 Head Street/ A1124 Colchester Road - To A131 Head Street (SW) from junction	25/04/2018	779	557	699
MCTC 4	A131 Head Street/ Market Hill - From A131 Head Street to junction	25/04/2018	776	557	700
MCTC 4	A131 Head Street/ Market Hill - From Parsonage Street to junction	25/04/2018	58	29	31
MCTC 4	A131 Head Street/ Market Hill - From A131 High Street to junction	25/04/2018	612	536	742
MCTC 4	A131 Head Street/ Market Hill - From Market Hill to junction	25/04/2018	284	266	322
MCTC 4	A131 Head Street/ Market Hill - To A131 Head Street from junction	25/04/2018	764	597	893
MCTC 4	A131 Head Street/ Market Hill - To Parsonage Street from junction	25/04/2018	0	0	1
MCTC 4	A131 Head Street/ Market Hill - To A131 High Street from junction	25/04/2018	708	521	605
MCTC 4	A131 Head Street/ Market Hill - To Market Hill from junction	25/04/2018	258	216	296

Appendix F

ESSEX TRAFFICMASTER JOURNEY



TIME OUTPUTS

Route Description	Route ID	Direction	Distance (km)	AM Journey Time (mins)	IP Journey Time (mins)	PM Journey Time (mins)	AM Average Speed (kph)	IP Average Speed (kph)	PM Average Speed (kph)
A1124 to A1107	501	NB	10.7	11.8	11.4	11.5	55	57	56
A1107 to A1124	501	SB	10.7	11.8	11.5	11.8	55	56	54
North Road to Borley Road	502	EB	15.6	18.9	18.0	17.3	49	52	54
Borley Road to North Road	502	WB	15.6	17.7	18.1	17.9	53	52	52
Hedingham Road (Sible Hedingham to Bulmer Tye)	503	EB	8.8	8.9	8.8	8.6	60	60	62
Hedingham Road (Bulmer Tye to Sible Hedingham)	503	WB	8.8	9.0	9.0	8.8	59	59	61
B1057 (Finchingfield to Steeple Bumpstead)	504	NB	9.7	9.9	10.0	9.8	59	58	59
B1057 (Steeple Bumpstead to Finchingfield)	504	SB	9.7	10.2	10.0	10.2	57	58	57
B1508 (Wormingford to Sudbury)	505	NB	12.5	14.6	14.8	14.6	51	51	51
B1508 (Sudbury to Wormingford)	505	SB	12.5	14.3	14.4	14.3	53	52	52
B1508 (Colchester to Wormingford)	506	NB	9.4	10.0	9.9	9.6	56	57	59
B1508 (Wormingford to Colchester)	506	SB	9.4	10.8	10.3	10.4	52	55	54
Weathersfield Road	507	EB	8.1	8.9	8.6	8.3	55	57	59
Weathersfield Road	507	WB	8.1	8.1	8.5	8.6	60	57	57
B1057 (Steeple Bumpstead to Haverhill)	508	NB	3.8	4.6	4.6	4.5	49	50	51
B1057 (Haverhill to Steeple Bumpstead)	508	SB	3.8	4.5	4.6	4.6	50	49	50
A1017 (Halstead Road to High Garrett)	509	NB	6.0	5.9	5.9	5.7	61	62	63
A1017 (High Garrett to Halstead Road)	509	SB	6.1	6.4	6.2	6.3	57	59	57
A1017 (Great Yeldham to Baythorne End)	510	NB	7.0	6.7	6.6	6.4	63	64	66
A1017 (Baythorne End to Great Yeldham)	510	SB	7.0	6.7	6.6	6.5	63	64	65
B1064 (A131 roundabout to A1092)	511	NB	3.5	4.2	4.5	4.4	50	47	48
B1064 (A1092 to A131 roundabout)	511	SB	3.5	4.2	4.4	4.3	50	49	50
B1115 (Sudbury to Swingleton Green)	512	NB	11.5	12.6	12.8	12.9	55	54	53
B1115 (Swingleton Green to Sudbury)	512	SB	11.5	12.8	13.3	13.0	54	52	53
Valley Road to Bull Lane (via Acton)	513	NB	7.1	7.7	7.9	7.9	55	53	53
Bull Lane to Valley Road (via Acton)	513	SB	7.1	8.2	7.7	7.9	52	55	54
A131 (Braintree to Halstead)	514	NB	10.1	11.4	11.1	12.8	53	55	48
A131 (Halstead to Braintree)	514	SB	10.1	13.1	11.2	12.2	46	54	50
A131 (Halstead to Bulmer Tye)	515	NB	9.4	8.4	8.5	8.2	68	67	69
A131 (Bulmer Tye to Halstead)	515	SB	9.3	9.1	8.6	8.4	62	65	66

Route Description	Route ID	Direction	Distance (km)	AM Journey Time (mins)	IP Journey Time (mins)	PM Journey Time (mins)	AM Average Speed (kph)	IP Average Speed (kph)	PM Average Speed (kph)
A1124 (Halstead to Earls Colne)	516	EB	5.7	6.9	6.4	6.6	50	54	52
A1124 (Earls Colne to Halstead)	516	WB	5.7	6.9	6.5	6.9	49	53	49
A1124 (A12 to Earls Colne)	517	NB	10.7	12.5	12.2	12.9	51	53	50
A1124 (Earls Colne to A12)	517	SB	10.7	13.3	12.1	12.8	48	53	50
B1051 (Great Sampford to Stansted)	518	NB	13.4	14.1	13.9	13.3	57	58	60
B1051 (Stansted to Great Sampford)	518	SB	13.4	13.6	14.1	14.1	59	57	57
B1053 (Braintree - Finchingfield)	519	NB	13.9	15.4	15.1	15.0	54	55	56
B1053 (Finchingfield to Braintree)	519	SB	13.9	15.1	15.0	15.0	55	55	55
B1054 (Redwinter to Steeple Bumpstead)	520	EB	8.6	9.0	8.8	8.3	57	59	62
B1054 (Steeple Bumpstead to Redwinter)	520	WB	8.6	8.8	8.9	9.0	58	57	57
B1054 (Steeple Bumpstead to New England)	521	EB	3.5	3.9	3.8	3.6	55	56	58
B1054 (New England to Steeple Bumpstead)	521	WB	3.5	3.9	3.8	3.6	55	55	59
A1017 (Baythorne End to Haverhill)	522	NB	4.5	4.7	4.7	4.6	57	57	59
A1017 (Haverhill to Baythorne End)	522	SB	4.5	4.8	4.6	4.6	56	58	58
A11 (Great Abington to A14)	523	NB	8.8	4.9	4.9	5.0	109	107	107
A11 (A14 to Great Abington)	523	SB	9.1	5.4	5.1	5.0	101	107	109
M11 (B1039 to Great Abington)	524	NB	13.4	7.5	7.6	7.4	107	106	109
M11 (Great Abington to B1039)	524	SB	13.3	7.5	7.5	7.6	106	106	104
M11 (B1051 to B1039)	525	NB	11.1	6.6	6.6	6.5	100	102	103
M11 (B1039 to B1051)	525	SB	11.1	6.5	6.6	7.0	102	101	96
A12 (Copford to A1232)	526	NB	3.5	2.3	2.2	2.2	93	94	95
A12 (A1232 to Copford)	526	SB	3.5	2.4	2.2	2.2	88	98	97
A120 (Braintree to Coggeshall)	527	EB	13.1	10.5	10.5	18.3	75	75	43
A120 (Coggeshall to Braintree)	527	WB	13.0	16.3	10.4	10.3	48	75	76
A120 (Great Dunmow to Braintree)	528	EB	11.9	6.4	6.2	6.3	112	115	113
A120 (Braintree to Great Dunmow)	528	WB	12.0	6.5	6.5	6.3	111	111	115
A120 (M11 to Great Donmow)	529	EB	12.1	6.8	6.7	6.8	106	109	107
A120 (Great Donmow to M11)	529	WB	12.1	7.3	6.9	6.8	100	105	107
B1053 (Saffron Walden to Radwinter)	530	EB	8.7	11.4	11.3	11.3	46	46	46
B1053 (Radclyffe to Saffron Walden)	530	WB	8.5	10.7	9.6	9.6	48	53	53
A1307 (Great Abington to Haverhill)	531	EB	5.4	11.8	11.3	14.1	27	29	23
A1307 (Haverhill to Great Abington)	531	WB	9.4	14.1	11.7	11.5	40	48	49
M11 (Bishops Stortford to B1051)	532	NB	4.3	2.5	2.5	2.4	105	104	107
M11 (B1051 to Bishops Stortford)	532	SB	4.3	2.5	2.6	2.6	103	101	98
A120 (Coggeshall to Copford)	533	EB	6.5	7.8	6.4	10.0	50	62	39
A120 (Copford to Coggeshall)	533	WB	6.6	6.8	6.3	6.5	58	63	61



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