PROJECT	18318 STURMER
LOCATION	ATC01 - Rowley Hill, Sturmer
LOC. DESC.	115m SE of j/w Water Ln
START DATE	Wed 19 Sep, 2018
END DATE	Tue 25 Sep, 2018
SPEED LIMIT	30mph
SURVEY TYPE	7-day ATC, 15min periods, 10 veh. classes

RINGWAY JACOBS integrated expertise | **Essex County Council**

7-DAY AUTOMATIC TRAFFIC COUNT

A 7-day automatic traffic count on Rowley Hill, Sturmer, commencing Wed 19 Sep 2018, recorded a total of 61,009 vehicles. The posted speed limit of 30mph was exceeded by 60.8% of vehicles, and the seasonally adjusted, combined AADT value is 8,718 (see 'Equipment & methodology' below).

SUMMARY

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data, plus the Mon-Fri peak periods. Speeding vehicles are defined as those travelling 31mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

### COMBINED SOUTHEAST- & NORTHWESTBOUND

Total recorded volume	**61,009**
Avg daily volume (based on 7 days)	**8,715.6**
Average daily speed (7 days)	**33.6mph**
Average daily 85%ile (7 days)	**36.8mph**
AADT (annual average daily traffic)	**8,718**
Avg weekday volume (Mon-Fri, 24hrs)	9,517.6
Avg weekday speed (Mon-Fri, 24hrs)	33.3mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	7,965.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	30.7mph

SOUTHEASTBOUND ↘

Total recorded volume	**30,539**
Avg daily volume (based on 7 days)	4,362.7
Average daily speed (7 days)	32.8mph
Average daily 85%ile (7 days)	35.7mph
% of vehicles exceeding 30mph	50.0%
Avg weekday volume (Mon-Fri, 24hrs)	4,776.2
Avg weekday speed (Mon-Fri, 24hrs)	32.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,955.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	29.8mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	33.8mph
AM avg peak vol period (Mon-Fri)	07:45 to 08:00
PM avg peak vol period (Mon-Fri)	16:15 to 16:30

NORTHWESTBOUND ↖

|	
Total recorded volume	**30,470**
Avg daily volume (based on 7 days)	4,352.9
Average daily speed (7 days)	34.4mph
Average daily 85%ile (7 days)	37.9mph
% of vehicles exceeding 30mph	71.7%
Avg weekday volume (Mon-Fri, 24hrs)	4,741.4
Avg weekday speed (Mon-Fri, 24hrs)	34.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	4,009.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	31.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	35.9mph
AM avg peak vol period (Mon-Fri)	12:00 to 12:15
PM avg peak vol period (Mon-Fri)	17:00 to 17:15

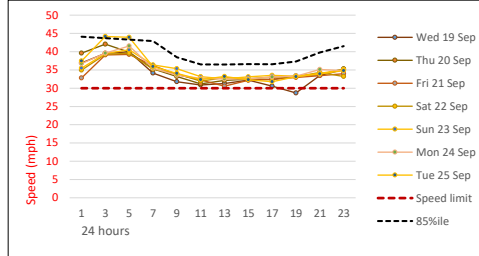## SITE LOCATION
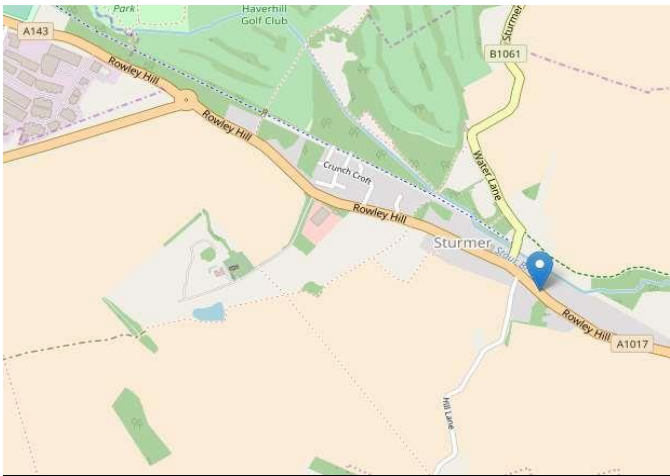
Map © OpenStreetMap contributors

LOCATION	Rowley Hill, Sturmer
DESC.	115m SE of j/w Water Ln
DATES	Wed 19 Sep to Tue 25 Sep inc.
OSGR	569858, 243860
LAT / LNG	52.067062, 0.476667
PROJECT & SITE	18318-01
PSL	30mph
BUS ROUTE	Yes
DIRECTION 1	Southeastbound ↘
DIRECTION 2	↖ Northwestbound

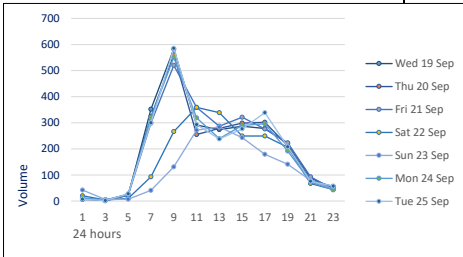## HOURLY SPEEDS

SOUTHEASTBOUND
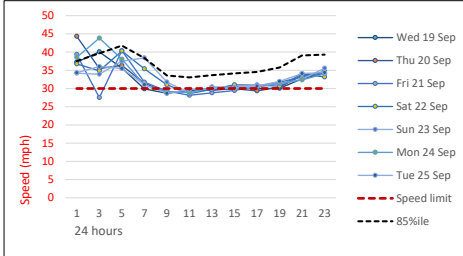
NORTHWESTBOUND

Average hourly speeds (solid thin colours) and 85%ile (dashed black) compared against 30mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average southeastbound daytime speed was 38.5mph at 07:15 on Sun 23 Sep, whilst the peak average northwestbound speed was 39.9mph at 07:15 on Sat 22 Sep (based on 15min averages between 0700 & 1900).
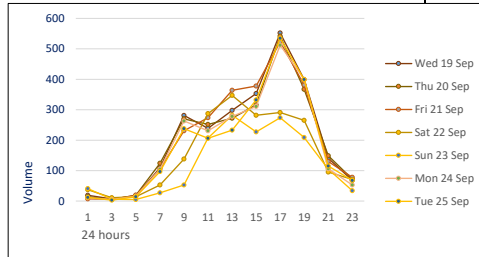
HOURLY VOLUMES
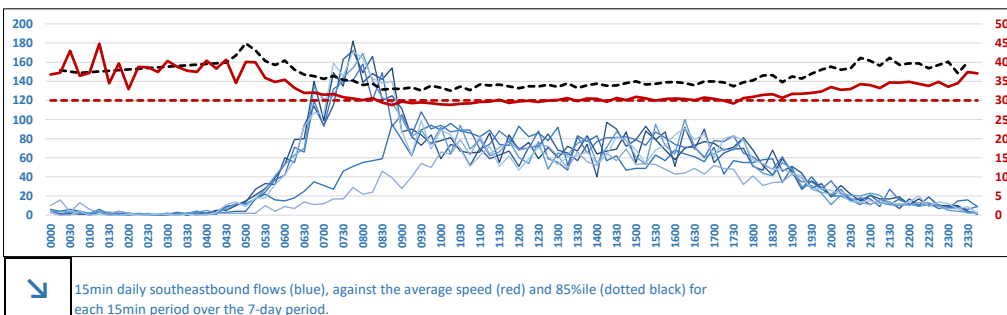
SOUTHEASTBOUND

Hourly southeastbound traffic volumes over each 24hr period for 7 days from all available data.

NORTHWESTBOUND

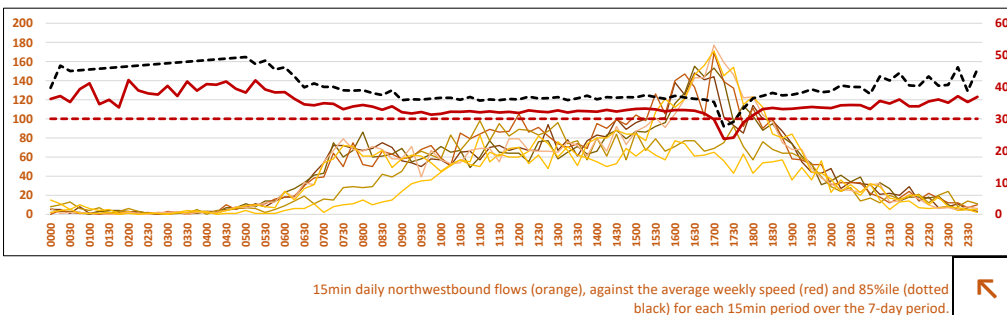Hourly northwestbound traffic volumes over each 24hr period for 7 days from all available data.
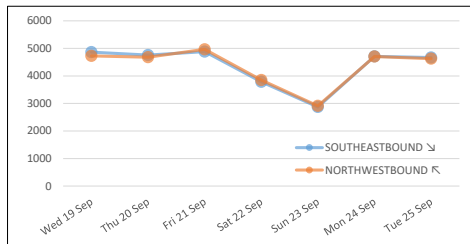
15min VOL & SPEED

15min daily southeastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

15min daily northwestbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

DAILY VOLUMES

SOUTHEAST & NORTHWESTBOUND

Total 24hr southeastbound (blue) and northwestbound (orange) traffic volumes over 7 consecutive days from all available data.

As can be expected, the lowest volumes were recorded on the Sunday, whilst the highest was on the Friday.

## 5-DAY AVERAGE CLASSES

SOUTHEASTBOUND 5-DAY AVG

TIME	MOTOR CYCLES	CARS / LGV1	LGV2 / MGV	HGV RIGID	HGV ARTIC'D	TOTAL
0000	0.0	8.0	0.6	0.0	0.8	9.4
0100	0.0	4.0	1.2	0.0	0.6	5.8
0200	0.0	1.8	0.0	0.0	0.6	2.4
0300	0.0	4.0	0.2	0.0	1.0	5.2
0400	0.0	19.6	3.2	0.0	2.2	25.0
0500	0.4	80.6	10.8	0.0	2.6	94.4
0600	3.2	289.4	20.8	0.4	5.0	318.8
0700	6.2	485.6	49.4	2.6	4.2	548.0
0800	5.0	504.4	45.0	0.8	4.6	559.8
0900	1.2	298.2	42.6	2.2	3.4	347.6
1000	3.2	260.6	33.6	1.2	4.8	303.4
1100	2.8	233.6	35.8	2.8	3.6	278.6
1200	1.8	220.0	36.2	1.4	4.0	263.4
1300	3.4	226.0	29.2	1.0	4.6	264.2
1400	2.6	247.8	38.8	1.6	4.0	294.8
1500	2.0	250.8	38.0	2.6	5.2	298.6
1600	1.8	263.0	27.4	2.6	3.4	298.2
1700	5.0	265.2	13.2	1.4	3.0	287.8
1800	2.2	198.2	8.2	0.6	2.0	211.2
1900	1.2	132.2	6.6	0.4	0.8	141.2
2000	1.2	76.2	3.8	0.2	0.6	82.0
2100	0.6	58.8	2.0	0.0	0.2	61.6
2200	0.6	47.0	1.2	0.0	1.0	49.8
2300	0.0	21.4	2.6	0.0	1.0	25.0
12hr TTL	37.2	3453.4	397.4	20.8	46.8	3955.6
24hr TTL	44.4	4196.4	450.4	21.8	63.2	4776.2
	1%	88%	9%	0%	1%	

NORTHWESTBOUND 5-DAY AVG

TIME	MOTOR CYCLES	CARS / LGV1	LGV2 / MGV	HGV RIGID	HGV ARTIC'D	TOTAL
0000	0.2	10.2	1.8	0.0	0.4	12.6
0100	0.0	4.4	0.8	0.0	0.2	5.4
0200	0.0	4.4	0.2	0.0	0.6	5.2
0300	0.0	5.2	0.8	0.0	0.6	6.6
0400	0.0	13.2	3.8	0.0	0.0	17.0
0500	0.0	34.2	6.0	0.0	1.4	41.6
0600	0.8	92.6	12.4	0.8	1.4	108.0
0700	0.8	212.8	30.6	5.4	3.2	252.8
0800	0.4	215.4	35.2	2.2	3.4	256.6
0900	2.8	193.4	32.6	2.8	6.6	238.2
1000	2.6	195.8	34.4	2.6	5.0	240.4
1100	2.2	235.4	34.4	1.8	5.2	279.0
1200	3.2	247.4	31.0	3.4	4.0	289.0
1300	2.4	232.2	30.6	0.8	7.8	273.8
1400	2.4	293.6	34.6	1.8	5.6	338.0
1500	3.4	340.4	40.4	1.4	4.6	390.2
1600	5.8	476.0	43.6	1.8	5.6	532.8
1700	4.6	496.0	25.2	0.4	3.6	529.8
1800	4.8	364.2	17.6	0.0	2.4	389.0
1900	3.2	206.8	11.4	0.0	1.2	222.6
2000	1.2	122.2	4.2	0.0	0.6	128.2
2100	1.0	84.0	2.6	0.0	0.4	88.0
2200	0.4	64.0	2.8	0.0	0.6	67.8
2300	0.6	26.2	1.6	0.0	0.4	28.8
12hr TTL	35.4	3502.6	390.2	24.4	57.0	4009.6
24hr TTL	42.8	4170.0	438.6	25.2	64.8	4741.4
	1%	88%	9%	1%	1%	

Average weekday southeastbound and northwestbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 5 weekdays. See 'Equipment & Methodology' below for accuracy details.

CYCLE PROVISION
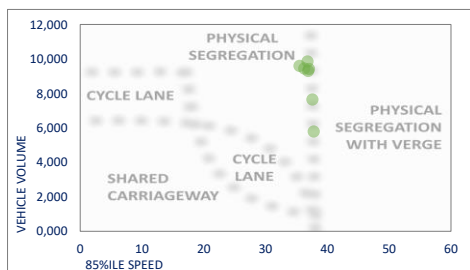
The diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment may reduce as follows;

· 20 – 30mph: potential reduction of 9% accuracy in volume values
· 10 – 20mph: potential reduction of 26% accuracy in volume values
· 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4: Traffic Input To COBA, with formulae available in the (hidden) config worksheet.

Equipment damage & failure

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and Essex Highways cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and Essex Highways cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, Essex Highways cannot be held responsible for the forecast accuracy.

Roadworks & events

Where possible, roadworks checks are made 10 days before, and 48 hours before, the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	AQMA	MANUAL
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	MC	MC
2	SV	Cars, taxis, 4WD, vans		CAR & LGV	CAR	CAR & LGV1
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m			
4	TB2	2 axle truck / bus		OGV1 & PSV	LGV & MGV	LGV2 & PSV
5	TB3	3 axle truck / bus		OGV1		MGV & PSV
6	T4	4 axle truck			HGV RIGID	HGV1
7	ART3	3 axle articulated	LONG 11.5m to 19.0m	OGV2		
8	ART4	4 axle articulated				
9	ART5	5 axle articulated			HGV ARTIC	HGV2
10	ART6	6+ axle articulated				

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications, AQMA (air quality management standard) and the Essex 9-class, as used in manual junction counts undertaken by Essex Highways.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

Although every attempt is made to achieve accuracy, neither Essex County Council nor Essex Highways may be held liable for errors of fact or interpretation.

RINGWAY JACOBS
integrated expertise

Essex County Council