

SITE CODE #VALUE!  
 LOCATION #VALUE!  
 LOC. DESC. LC, 30m S of j/w Weeley Rd  
 START DATE Sat 29 Sep, 2018  
 END DATE Fri 05 Oct, 2018  
 SPEED LIMIT 30mph  
 SURVEY TYPE 7-day ATC, 15min periods, 10 veh. classes

## 7-DAY AUTOMATIC TRAFFIC COUNT

### SUMMARY

#### COMBINED NORTH- & SOUTHBOUND

<b>Total recorded volume</b>	<b>21,513</b>
<b>Avg daily volume (based on 7 days)</b>	<b>3,073.3</b>
<b>Average daily speed (7 days)</b>	<b>33.1mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>39.3mph</b>
<b>AADT (annual average daily traffic)</b>	<b>3,028</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>3,246.6</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>32.9mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>2,599.4</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>32.4mph</b>

A 7-day automatic traffic count on Plough Rd, Aingers Green, commencing Sat 29 Sep 2018, recorded a total of 21,513 vehicles. The posted speed limit of 30mph was exceeded by 67.8% of vehicles, and the seasonally adjusted, combined AADT value is 3,028 (see 'Equipment & methodology' below).

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.

#### NORTHBOUND

<b>Total recorded volume</b>	<b>11,134</b>
<b>Avg daily volume (based on 7 days)</b>	<b>1,590.6</b>
<b>Average daily speed (7 days)</b>	<b>33.9mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>40.2mph</b>
<b>% of vehicles exceeding 30mph</b>	<b>73.0%</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>1,664.0</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>33.8mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>1,319.2</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>33.1mph</b>
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	<b>39.1mph</b>
<b>AM avg peak vol period (Mon-Fri)</b>	<b>07:30 to 07:45</b>
<b>PM avg peak vol period (Mon-Fri)</b>	<b>15:00 to 15:15</b>

#### SOUTHBOUND

<b>Total recorded volume</b>	<b>10,379</b>
<b>Avg daily volume (based on 7 days)</b>	<b>1,482.7</b>
<b>Average daily speed (7 days)</b>	<b>32.3mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>38.5mph</b>
<b>% of vehicles exceeding 30mph</b>	<b>62.7%</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>1,582.6</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>32.0mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>1,280.2</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>31.7mph</b>
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	<b>37.7mph</b>
<b>AM avg peak vol period (Mon-Fri)</b>	<b>08:45 to 09:00</b>
<b>PM avg peak vol period (Mon-Fri)</b>	<b>16:30 to 16:45</b>

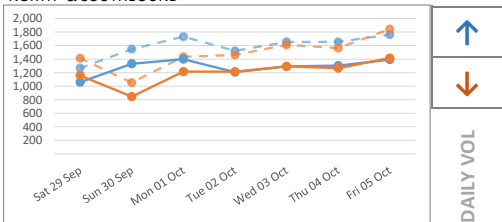
### SITE LOCATION



<b>LOCATION</b>	Plough Rd, Aingers Green
<b>DESC.</b>	LC, 30m S of j/w Weeley Rd
<b>DATES</b>	Sat 29 Sep to Fri 05 Oct inc.
<b>OSGR</b>	611543, 220400
<b>LAT / LNG</b>	51.842106, 1.069517
<b>PSL</b>	30mph
<b>BUS ROUTE</b>	Yes
<b>DIRECTION 1</b>	↑ Northbound
<b>DIRECTION 2</b>	↓ Southbound

### DAILY VOLUMES

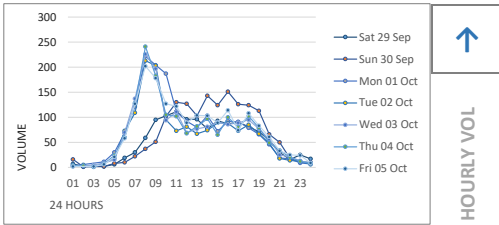
#### NORTH- & SOUTHBOUND



Total 24hr northbound (dashed blue) and southbound (dashed orange) traffic volumes, and solid blue and orange representing 12hr volumes (0700-1900), over 7 consecutive days from all available data.

As can be expected, the lowest 24hr volumes were recorded on the Sunday, whilst the highest was on the Friday.

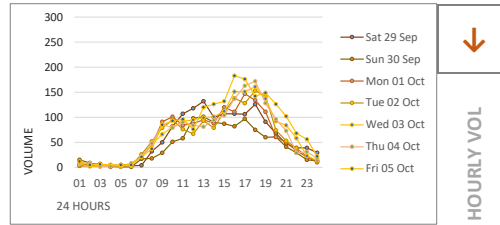
## HOURLY VOLUMES



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



HOURLY VOL

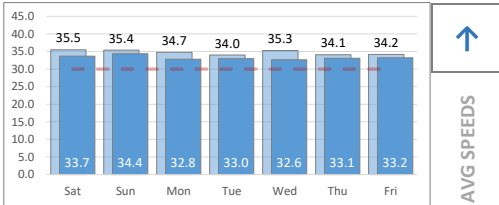


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data



HOURLY VOL

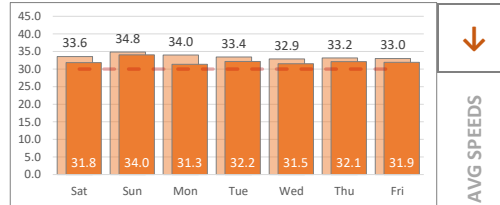
## 24hr & 12hr AVG SPEEDS



24hr (light) & 12hr daytime (dark blue, 0700-1900) average northbound speeds compared against the posted speed limit of 30mph



AVG SPEEDS

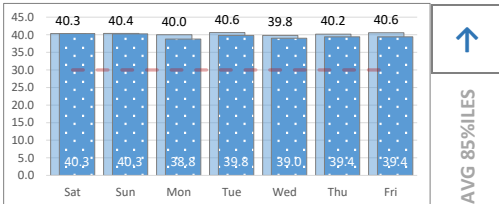


24hr (light) & 12hr daytime (dark orange) average southbound speeds compared against the posted speed limit of 30mph



AVG SPEEDS

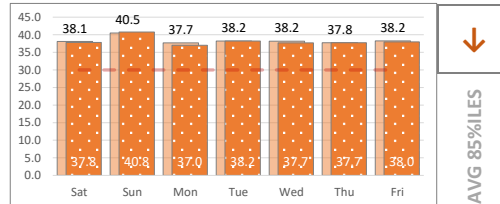
## 24hr & 12hr 85%ile SPEEDS



24hr (light) & 12hr daytime (dark blue, 0700-1900) average northbound 85%ile speeds compared against the posted speed limit of 30mph



AVG 85%ILES

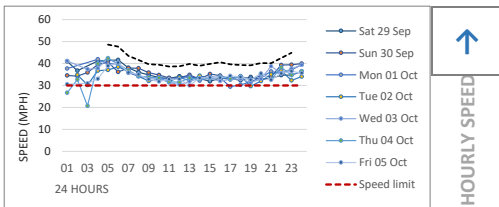


24hr (light) & 12hr daytime (dark orange, 0700-1900) average southbound 85%ile speeds compared against the posted speed limit of 30mph



AVG 85%ILES

## HOURLY SPEEDS

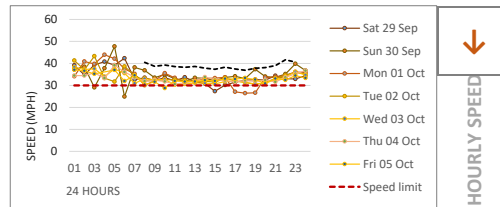


Average hourly speeds (solid thin colours) and 85%ile (dashed black) compared against 30mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

The peak average northbound daytime speed was 39.7mph at 07:45 on Sun 30 Sep, whilst the peak average southbound speed was 40.1mph at 18:45 on Sun 30 Sep (based on 15min averages between 0700 & 1900).

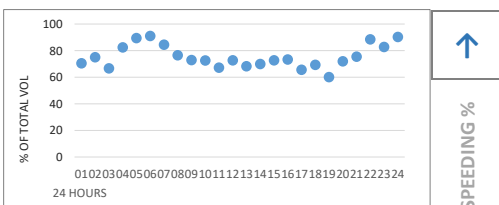


HOURLY SPEED



HOURLY SPEED

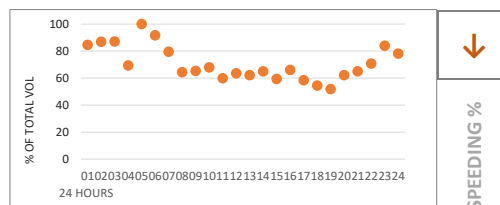
## SPEEDING %



7-day average percentages of northbound vehicles exceeding the posted speed limit of 30mph. This ONLY represents the 73.0% of northbound vehicles travelling at 31mph and above.



SPEEDING %

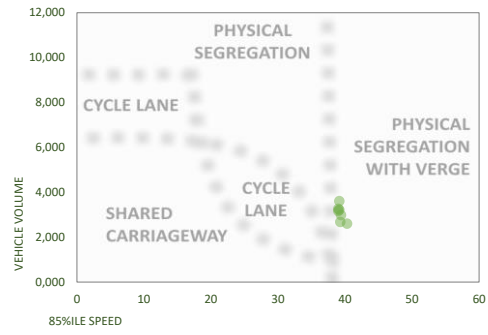


7-day average percentages of southbound vehicles exceeding the posted speed limit of 30mph. This ONLY represents the 62.7% of southbound vehicles travelling at 31mph and above.



SPEEDING %

## CYCLE PROVISION



The cycle provision diagram compares total daily traffic flow (vertical axis) against the average daily 85th percentile 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 85th percentiles are required to plot the graph.

## 5-DAY AVERAGE CLASSES

### NORTHBOUND WEEKDAY AVG

TIME	MOTOR CYCLES	CARS / LGV1	LGV2 / MGW	HGV RIGID	HGV ARTIC'D	TOTAL
0000	0.0	1.8	0.2	0.0	0.2	2.2
0100	0.0	1.6	0.0	0.0	0.0	1.6
0200	0.0	1.4	0.4	0.0	0.0	1.8
0300	0.0	7.6	0.8	0.0	0.0	8.4
0400	0.0	18.0	3.6	0.0	0.0	21.6
0500	0.0	57.8	7.6	0.0	0.6	66.0
0600	0.0	106.6	15.4	1.0	1.4	124.4
0700	2.0	191.6	26.4	0.2	0.6	220.8
0800	1.4	177.4	13.8	0.0	0.4	193.0
0900	1.2	111.4	8.8	0.0	0.2	121.6
1000	0.6	91.8	10.4	0.2	0.8	103.8
1100	0.6	71.8	7.0	0.0	0.4	79.8
1200	0.2	72.0	9.4	0.2	0.2	82.0
1300	1.0	83.0	7.4	0.2	0.0	91.6
1400	0.4	70.8	9.2	0.4	0.2	81.0
1500	0.0	85.6	10.0	0.2	0.2	96.0
1600	0.4	73.8	6.8	0.2	0.2	81.4
1700	1.2	85.4	7.0	0.2	0.0	93.8
1800	2.0	65.4	6.8	0.0	0.2	74.4
1900	0.4	48.8	2.8	0.0	0.0	52.0
2000	0.2	24.0	1.6	0.0	0.0	25.8
2100	0.0	18.6	0.8	0.0	0.0	19.4
2200	0.0	13.6	0.4	0.0	0.0	14.0
2300	0.0	7.6	0.0	0.0	0.0	7.6
12hr TTL	11.0	1180.0	123.0	1.8	3.4	1319.2
24hr TTL	11.6	1487.4	156.6	2.8	5.6	1664.0
	1%	89%	9%	0%	0%	

### SOUTHBOUND WEEKDAY AVG

TIME	MOTOR CYCLES	CARS / LGV1	LGV2 / MGW	HGV RIGID	HGV ARTIC'D	TOTAL
0000	0.0	6.8	0.2	0.0	0.0	7.0
0100	0.0	4.2	0.2	0.0	0.0	4.4
0200	0.0	2.8	0.6	0.0	0.0	3.4
0300	0.0	2.4	0.6	0.0	0.0	3.0
0400	0.0	1.8	1.6	0.0	0.0	3.4
0500	0.0	5.0	0.4	0.0	0.0	5.4
0600	0.0	19.8	2.6	0.0	0.0	22.4
0700	0.2	37.4	7.8	0.2	0.0	45.6
0800	0.6	70.0	10.0	0.4	0.4	81.4
0900	0.0	80.2	9.0	0.2	0.4	89.8
1000	1.2	75.2	10.2	0.8	0.2	87.6
1100	1.0	74.6	6.0	0.2	0.2	82.0
1200	1.0	87.2	8.4	0.2	0.8	97.6
1300	0.2	85.6	10.8	0.8	0.2	97.6
1400	1.4	105.6	7.4	0.8	0.6	115.8
1500	0.6	131.8	10.8	0.6	0.2	144.0
1600	1.4	136.4	14.0	0.4	0.8	152.4
1700	2.8	139.8	9.2	0.0	0.6	152.4
1800	1.2	124.4	7.6	0.2	0.0	133.4
1900	1.2	83.2	5.2	0.0	0.2	89.8
2000	0.4	67.2	4.6	0.0	0.2	72.4
2100	0.2	42.4	2.6	0.0	0.0	45.2
2200	0.4	29.4	0.8	0.0	0.0	30.6
2300	0.2	14.2	1.0	0.0	0.0	15.4
12hr TTL	11.6	1148.2	111.2	4.8	4.4	1280.2
24hr TTL	14.0	1427.4	131.6	4.8	4.8	1582.6
	1%	90%	8%	0%	0%	

Average weekday northbound and southbound 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.

## 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.

### 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.

### Equipment damage, failure & calculations

Although checked intermittently the equipment remains unattended 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.

16hr AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4: Traffic Flow Input To COBA, with formulae available in the (hidden) config worksheet.

### 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	OGV1 & PSV	LGV & MGW	LGV2 & PSV
4	TBZ	2 axle truck / bus		OGV1		MGV & PSV
5	TB3	3 axle truck / bus				
6	T4	4 axle truck	LONG 11.5m to 19.0m	HGV RIGID		HGV1
7	ART3	3 axle articulated		OGV2		
8	ART4	4 axle articulated		HGV ARTIC		HGV2
9	ART5	5 axle articulated				
10	ART6	6+ axle articulated				

### Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes (bins) 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.