

PROJECT LTEN1 GT BENTLEY
LOCATION ATC Speed and volume survey Colles Brook Rd GT BENTLEY - Colles Brook Rd, Gt Bentl
LOC. DESC. TP, 75m N of j/w Dial Rd
START DATE Tue 19 Jun, 2018
END DATE Mon 25 Jun, 2018
SPEED LIMIT 60mph
SURVEY TYPE 7-day ATC, 15min periods, 10 veh. classes



7-DAY AUTOMATIC TRAFFIC COUNT

SUMMARY

COMBINED SOUTH- & NORTHBOUND

Total recorded volume	19,909
Avg daily volume (based on 7 days)	2,844.1
Average daily speed (7 days)	36.6mph
Average daily 85%ile (7 days)	41.2mph
AAAT (annual average daily traffic)	2,866

Avg weekday volume (Mon-Fri, 24hrs)	2,866.6
Avg weekday speed (Mon-Fri, 24hrs)	36.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,260.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	35.7mph

A 7-day automatic traffic count on Colles Brook Rd, Gt Bentley, commencing Tue 19 Jun 2018, recorded a total of 19,909 vehicles. The posted speed limit of 60mph was exceeded by 0.1% of vehicles, and the seasonally adjusted, combined AADT value is 2,866 (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 61mph and above.

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

SOUTHBOUND



Total recorded volume	9,687
Avg daily volume (based on 7 days)	1,383.9
Average daily speed (7 days)	37.6mph
Average daily 85%ile (7 days)	42.3mph
% of vehicles exceeding 60mph	0.1%

Avg weekday volume (Mon-Fri, 24hrs)	1,414.6
Avg weekday speed (Mon-Fri, 24hrs)	37.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,132.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	36.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	41.6mph
AM avg peak vol period (Mon-Fri)	08:45 to 09:00
PM avg peak vol period (Mon-Fri)	17:30 to 17:45

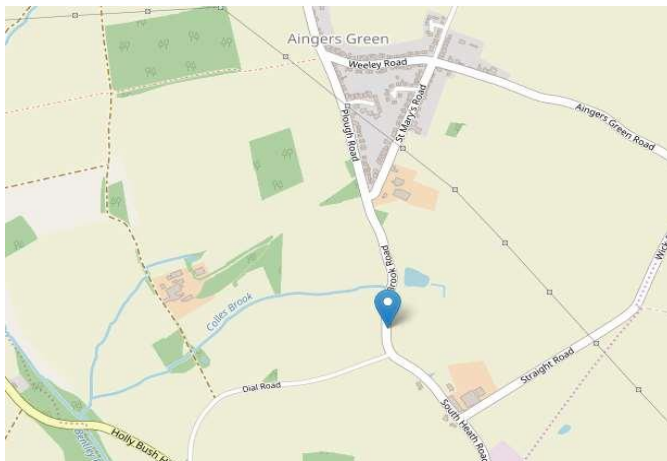
NORTHBOUND



Total recorded volume	10,222
Avg daily volume (based on 7 days)	1,460.3
Average daily speed (7 days)	35.6mph
Average daily 85%ile (7 days)	40.2mph
% of vehicles exceeding 60mph	0.0%

Avg weekday volume (Mon-Fri, 24hrs)	1,452.0
Avg weekday speed (Mon-Fri, 24hrs)	35.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,128.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	34.8mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	39.5mph
AM avg peak vol period (Mon-Fri)	08:00 to 08:15
PM avg peak vol period (Mon-Fri)	15:00 to 15:15

SITE LOCATION



Map © OpenStreetMap contributors

LOCATION Colles Brook Rd, Gt Bentley

DESC. TP, 75m N of j/w Dial Rd

DATES Tue 19 Jun to Mon 25 Jun inc.

OSGR 611731, 219619

LAT / LNG 51.835030, 1.071763

PROJECT & SITE LTEN1820

PSL 60mph

BUS ROUTE Yes

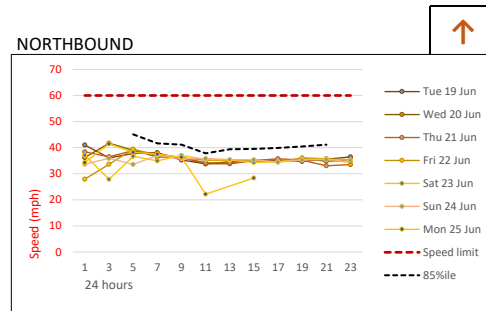
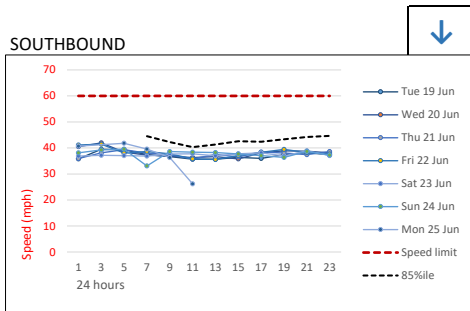
DIRECTION 1 Southbound ↓

DIRECTION 2 ↑ Northbound

Reported incident(s): Data loss from 1030 on

Mon 25 Jun (day 7).

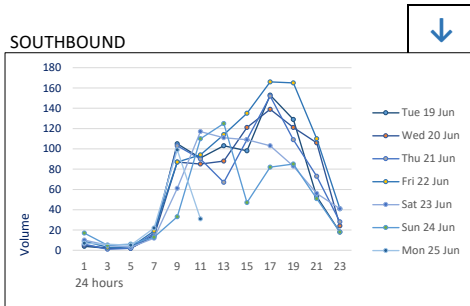
HOURLY SPEEDS



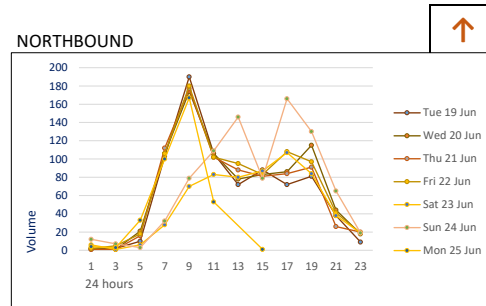
Average hourly speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation, hence the overnight low-volume 85%ile values may be zero.

The peak average southbound daytime speed was 42.3mph at 08:45 on Sun 24 Jun, whilst the peak average northbound speed was 40.1mph at 08:00 on Sun 24 Jun (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

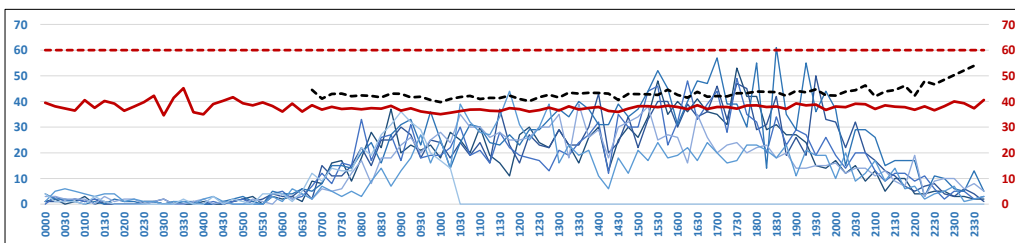


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data.

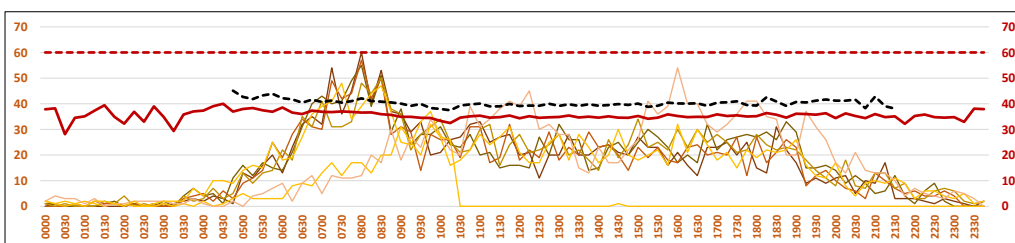


Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

15min VOL & SPEED



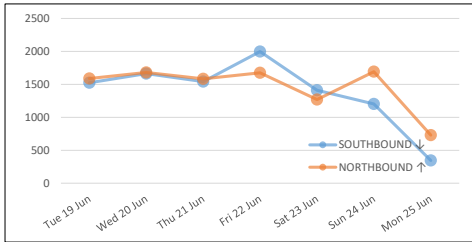
15min daily southbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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

DAILY VOLUMES

SOUTH & NORTHBOUND



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

Unusually, the lowest volumes were NOT recorded on a Sunday but on the Monday, whilst the highest was on the Friday.

5-DAY AVERAGE CLASSES

SOUTHBOUND WEEK-DAY AVG

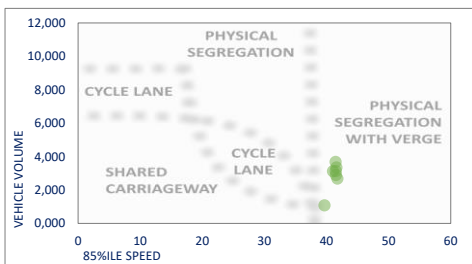
TIME	MOTOR CYCLES	CARS / LGV1	LG2 / MG2	HGV RIGID	HGV ARTIC'D	TOTAL
0000	0.0	5.8	0.4	0.0	0.0	6.2
0100	0.0	3.2	0.4	0.0	0.0	3.6
0200	0.0	1.2	0.4	0.0	0.0	1.6
0300	0.0	1.4	0.4	0.0	0.0	1.8
0400	0.0	1.6	1.2	0.0	0.0	2.8
0500	0.2	6.0	2.0	0.0	0.0	8.2
0600	0.2	14.6	2.4	0.2	0.0	17.4
0700	0.6	41.6	8.0	0.4	0.2	50.8
0800	0.8	83.0	10.4	1.0	1.0	96.2
0900	1.2	88.8	10.8	0.8	0.8	102.4
1000	0.6	66.4	10.6	0.6	0.0	78.2
1100	1.2	64.2	7.0	0.8	0.2	73.4
1200	0.6	65.8	7.2	0.4	0.4	74.4
1300	0.6	77.8	8.0	0.6	0.6	87.6
1400	1.4	82.2	8.4	0.6	0.0	92.6
1500	1.4	105.6	12.2	0.2	0.4	119.8
1600	1.2	108.4	11.8	0.2	0.4	122.0
1700	3.8	115.4	10.6	0.0	0.8	130.6
1800	2.2	95.0	7.4	0.2	0.0	104.8
1900	5.0	83.0	6.0	0.2	0.4	94.6
2000	5.0	58.8	3.8	0.6	0.2	68.4
2100	0.6	38.8	1.6	0.0	0.4	41.4
2200	1.2	18.6	2.2	0.0	0.2	22.2
2300	0.0	12.6	0.8	0.0	0.2	13.6
12hr TTL	15.6	994.2	112.4	5.8	4.8	1132.8
24hr TTL	27.8	1239.8	134.0	6.8	6.2	1414.6
	2%	88%	9%	0%	0%	

NORTHBOUND WEEK-DAY AVG

TIME	MOTOR CYCLES	CARS / LGV1	LG2 / MG2	HGV RIGID	HGV ARTIC'D	TOTAL
0000	0.0	1.4	0.6	0.0	0.0	2.0
0100	0.0	2.8	0.2	0.0	0.0	3.0
0200	0.0	2.2	0.2	0.0	0.0	2.4
0300	0.0	8.4	0.8	0.0	0.0	9.2
0400	0.2	17.2	2.2	0.0	0.0	19.6
0500	1.2	52.4	5.4	0.0	0.6	59.6
0600	0.4	95.6	8.6	0.2	0.6	105.4
0700	1.4	143.0	14.4	0.4	1.4	160.6
0800	2.2	159.0	13.8	1.4	1.2	177.6
0900	0.8	103.8	7.0	2.4	0.8	114.8
1000	1.8	84.6	5.8	1.2	0.4	93.8
1100	0.4	69.2	6.8	0.8	0.0	77.2
1200	0.8	59.8	5.8	0.2	0.0	66.6
1300	0.6	64.6	6.8	0.8	0.0	72.8
1400	1.2	58.2	6.0	1.4	0.4	67.2
1500	0.8	67.2	7.8	0.0	0.4	76.2
1600	0.4	64.2	5.2	0.2	0.0	70.0
1700	1.8	69.2	3.4	0.0	0.0	74.4
1800	5.2	67.4	4.0	0.2	0.0	76.8
1900	2.6	44.4	1.2	0.4	0.0	48.6
2000	0.2	28.6	1.0	0.0	0.0	29.8
2100	0.8	25.8	0.4	0.2	0.0	27.2
2200	0.0	12.6	0.6	0.0	0.0	13.2
2300	0.0	4.0	0.0	0.0	0.0	4.0
12hr TTL	17.4	1010.2	86.8	9.0	4.6	1128.0
24hr TTL	22.8	1305.6	108.0	9.8	5.8	1452.0
	2%	90%	7%	1%	0%	

Average weekday southbound and northbound 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.

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.

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	TB2	2 axle truck / bus		OGV1	HGV & RIGID	HGV1	
5	TB3	3 axle truck / bus		LONG 11.5m to 19.0m	OGV2	HGV ARTIC	HGV2
6	T4	4 axle truck					
7	ART3	3 axle articulated					
8	ART4	4 axle articulated					
9	ART5	5 axle articulated					
10	ART6	6+ axle articulated					

Generated 11 Oct 2018 v6.9c

LTEN182013 - Speed and volume survey Colles Brook Rd GT BENTLEY . JUN 2018 (ATC).xls

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.

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.

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.

