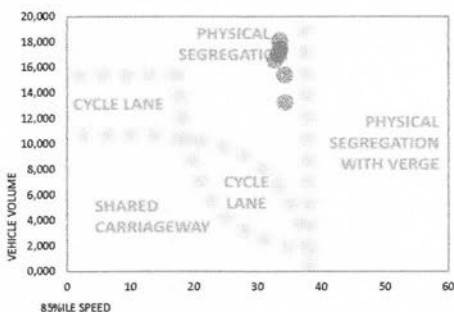


# CYCLE PROVISION



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 / MGV	HGV RIGID	HGV ARTIC'D	TOTAL
0000	1.4	54.4	5.8	0.4	0.0	62.0
0100	0.2	22.2	3.2	0.2	0.8	26.6
0200	0.4	16.8	3.2	0.0	0.2	20.6
0300	0.0	11.2	3.0	0.0	0.0	14.2
0400	0.8	20.4	3.2	0.0	0.2	24.6
0500	1.8	46.0	9.4	0.4	0.2	57.8
0600	1.6	147.4	22.6	0.4	1.2	173.2
0700	2.6	382.4	48.4	3.6	1.8	438.8
0800	3.4	523.0	44.6	2.6	3.0	576.6
0900	2.6	442.0	53.4	2.6	1.6	502.2
1000	2.8	426.0	45.6	1.8	1.6	477.8
1100	3.8	447.2	39.0	3.4	2.4	495.8
1200	3.4	480.2	42.0	1.6	2.2	529.4
1300	4.4	490.8	39.8	3.4	3.4	541.8
1400	4.0	503.8	39.8	2.2	2.0	551.8
1500	2.6	585.6	43.4	2.4	1.6	635.6
1600	4.0	621.2	39.6	1.0	1.4	667.2
1700	7.8	746.0	32.2	0.6	1.8	789.4
1800	7.8	603.0	29.4	1.2	0.6	642.0
1900	4.2	463.2	21.2	2.2	0.6	491.4
2000	4.0	327.0	8.0	0.6	0.4	340.0
2100	2.0	239.2	5.2	0.8	0.2	247.4
2200	1.8	170.6	5.2	0.8	0.4	178.8
2300	0.6	110.4	5.0	1.4	0.0	117.4
12hr TTL	49.2	6251.2	497.2	26.4	23.4	6847.4
24hr TTL	68.0	7880.0	592.2	33.6	27.6	8601.4
	1%	92%	7%	0%	0%	

### SOUTHBOUND WEEKDAY AVG

TIME	MOTOR CYCLES	CARS / LGV1	LGV2 / MGV	HGV RIGID	HGV ARTIC'D	TOTAL
0000	0.6	49.4	2.2	0.6	0.0	52.8
0100	0.2	17.2	3.8	0.4	0.2	21.8
0200	0.2	16.0	2.2	0.4	0.0	18.8
0300	1.4	19.2	2.4	0.2	0.0	23.2
0400	0.6	31.2	3.8	0.2	0.2	36.0
0500	2.4	132.6	12.0	0.2	0.0	147.2
0600	5.4	314.8	27.8	0.4	1.0	349.4
0700	6.6	620.0	50.6	1.2	1.6	680.0
0800	4.8	710.2	46.8	3.0	2.4	767.2
0900	4.2	555.0	45.2	3.0	1.2	608.6
1000	4.2	483.4	42.4	3.2	1.6	534.8
1100	4.6	487.6	41.4	3.8	1.6	539.0
1200	4.2	484.6	35.4	4.0	0.8	529.0
1300	5.0	482.0	38.6	2.6	1.4	528.6
1400	4.8	480.8	38.4	4.0	2.4	530.4
1500	5.4	550.0	38.0	2.8	1.6	597.8
1600	5.2	567.6	32.8	1.2	1.0	607.8
1700	5.4	592.2	23.2	1.8	0.6	623.2
1800	4.8	465.6	18.4	1.8	0.6	491.2
1900	4.8	354.4	14.4	0.4	0.2	374.2
2000	8.2	224.2	11.8	0.2	0.2	244.6
2100	3.4	172.4	4.8	0.2	0.2	181.0
2200	1.2	132.4	3.8	0.6	0.4	138.4
2300	0.2	74.2	2.4	0.0	0.0	76.8
12hr TTL	59.2	6479.0	451.2	32.4	16.8	7038.6
24hr TTL	87.8	8017.0	542.6	36.2	19.2	8702.8
	1%	92%	6%	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 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.

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.

### 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.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	AQMA	MANUAL
1	MC	Motorcycle	SHORT Up to 5.5m	MC/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 & MGV	LGV2 & PSV MGV & PSV
4	TB2	2 axle truck / bus		OGV1		
5	TB3	3 axle truck / bus			HGV RIGID	HGV3
6	T4	4 axle truck	LONG 11.5m to 19.0m	OGV2		
7	ART3	3 axle articulated			HGV ARTIC.	HGV2
8	ART4	4 axle articulated				
9	ART5	5 axle articulated				
10	ART6	6+ axle articulated				