

Annex F – Speed Surveys



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-001 - Newmarket Road
LOC. DESC.	Newmarket Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Newmarket Road, commencing Fri 15 Oct 2021, recorded a total of 29,854 vehicles. The posted speed limit of 60mph was exceeded by 4.3% of vehicles, and the seasonally adjusted, combined AADT value is 4,476 (see Equipment & Methodology below).

COMBINED

Total recorded volume	29,854
Avg daily volume (based on 7 days)	4,264.9
Average daily speed (7 days)	46.3mph
Average daily 85%ile (7 days)	53.8mph
AADT (annual average daily traffic)	4,476

Avg weekday volume (Mon-Fri, 24hrs)	4,603.8
Avg weekday speed (Mon-Fri, 24hrs)	45.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,942.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.5mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

NORTHBOUND ↑

Total recorded volume	14,952
Avg daily volume (based on 7 days)	2,136.0
Average daily speed (7 days)	47.0mph
Average daily 85%ile (7 days)	54.3mph
% of vehicles exceeding 60mph	4.8%

Avg weekday volume (Mon-Fri, 24hrs)	2,294.0
Avg weekday speed (Mon-Fri, 24hrs)	46.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,975.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	46.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	53.3mph

SOUTHBOUND ↓

Total recorded volume	14,902
Avg daily volume (based on 7 days)	2,128.9
Average daily speed (7 days)	45.7mph
Average daily 85%ile (7 days)	53.2mph
% of vehicles exceeding 60mph	3.8%

Avg weekday volume (Mon-Fri, 24hrs)	2,309.8
Avg weekday speed (Mon-Fri, 24hrs)	45.3mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,966.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	44.9mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	52.1mph

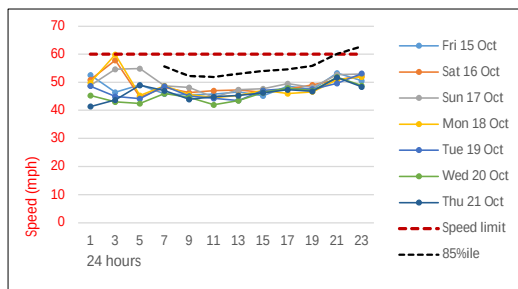
SITE LOCATION



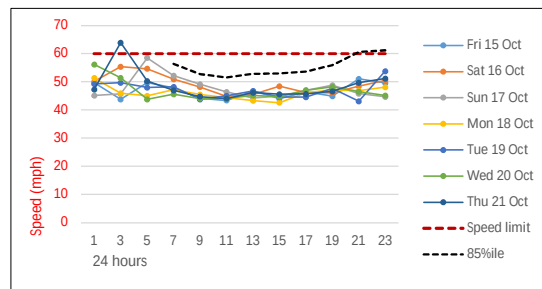
Location	Newmarket Road
Lat, lng.	52°17'52.24"N, 0°23'17.30"E
Project & site	28925-001
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

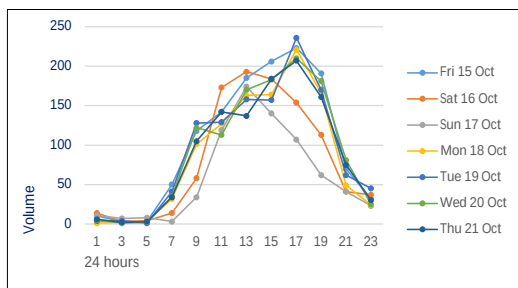


Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

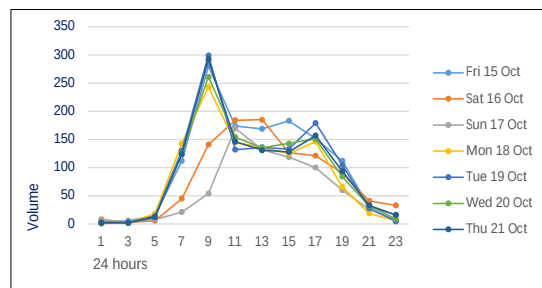
The peak average northbound daytime speed was 56.1mph at 18:15 on Sun 17 Oct, whilst the peak average southbound speed was 57.5mph at 07:00 on Sun 17 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

NORTHBOUND ↑



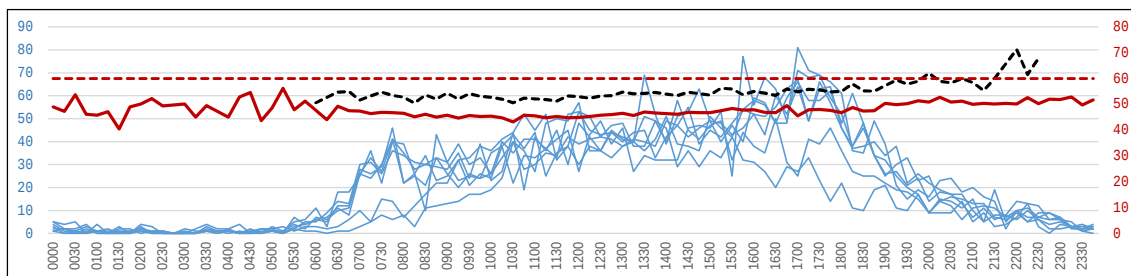
SOUTHBOUND ↓



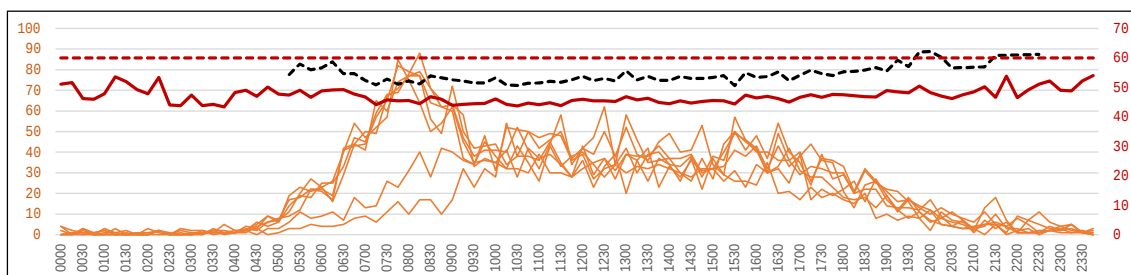
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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

15min VOL & SPEED



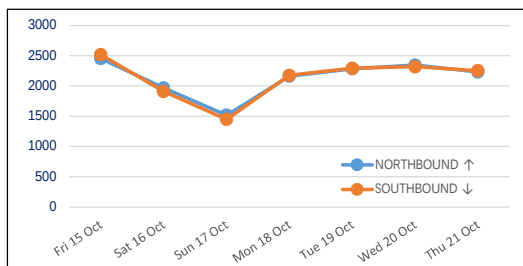
↑ 15min daily northbound flows (blue), against the average speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period.



15min daily southbound flows (orange), against the average weekly speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period. ↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

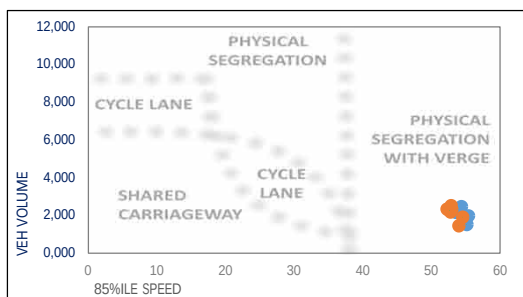
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	7.1	0.0	0.0	0.0	7.3
0100	0.1	3.0	0.0	0.0	0.0	3.1
0200	0.0	3.1	0.0	0.0	0.0	3.1
0300	0.0	3.1	0.4	0.0	0.0	3.6
0400	0.0	2.6	0.6	0.3	0.0	3.4
0500	0.7	8.4	0.0	0.1	0.0	9.3
0600	0.3	26.4	1.3	1.4	0.4	29.9
0700	0.1	90.7	5.1	1.9	0.6	98.4
0800	0.1	85.1	5.1	2.7	2.0	95.1
0900	0.9	96.4	5.4	3.6	0.6	106.9
1000	1.7	123.6	5.7	2.9	1.1	135.0
1100	0.7	145.7	6.9	3.0	0.3	156.6
1200	1.4	156.4	5.4	4.6	0.7	168.6
1300	1.3	158.3	4.1	2.7	0.7	167.1
1400	1.4	164.4	5.0	2.7	0.4	174.0
1500	0.7	168.1	5.0	5.0	1.1	180.0
1600	1.6	183.3	3.0	4.4	1.7	194.0
1700	3.0	209.0	2.4	2.7	0.7	217.9
1800	1.0	142.7	2.0	3.1	0.3	149.1
1900	0.6	89.3	1.0	2.0	0.0	92.9
2000	0.1	58.1	1.0	0.1	0.4	59.9
2100	0.3	35.9	0.4	0.3	0.3	37.1
2200	0.6	29.7	0.6	0.0	0.0	30.9
2300	0.3	12.4	0.1	0.0	0.0	12.9
12hr TTL	14.0	1723.9	55.3	39.3	10.3	1842.7
24hr TTL	17.1	2003.1	60.7	43.6	11.4	2136.0
1%	94%	3%	2%	1%		

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	3.6	0.1	0.0	0.0	3.7
0100	0.0	2.1	0.3	0.1	0.0	2.6
0200	0.0	3.0	0.0	0.1	0.0	3.1
0300	0.0	3.4	0.4	0.7	0.0	4.6
0400	0.0	8.7	0.6	2.9	0.0	12.1
0500	0.9	40.4	1.7	6.4	0.0	49.4
0600	1.4	89.9	1.7	6.0	1.0	100.0
0700	0.9	178.4	4.7	3.9	1.4	189.3
0800	1.3	214.0	5.0	3.6	0.4	224.3
0900	1.1	161.1	4.7	3.9	1.0	171.9
1000	0.6	147.1	5.7	2.9	1.6	157.9
1100	0.9	141.6	7.0	3.3	0.4	153.1
1200	1.0	136.4	5.7	2.6	0.6	146.3
1300	1.3	141.3	4.0	2.1	0.4	149.1
1400	1.0	127.7	5.0	2.0	1.1	136.9
1500	0.7	139.7	4.6	2.6	0.7	148.3
1600	0.6	138.3	3.3	1.4	0.1	143.7
1700	0.6	114.6	2.0	0.6	0.3	118.0
1800	0.7	84.6	1.3	0.7	0.1	87.4
1900	0.0	54.7	0.4	0.4	0.0	55.6
2000	0.0	29.6	0.3	0.1	0.0	30.0
2100	0.4	19.6	0.3	0.0	0.3	20.6
2200	0.0	13.0	0.1	0.0	0.0	13.1
2300	0.1	7.1	0.3	0.3	0.0	7.9
12hr TTL	10.6	1724.9	53.0	29.4	8.3	1826.1
24hr TTL	13.4	2000.0	59.3	46.6	9.6	2128.9
1%	94%	3%	2%	0%		

Average daily 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 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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 A-T-R 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 A-T-R 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 7 days 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.

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, A-T-R may not be held liable for errors of fact or interpretation.

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28925-001 Cambridge. Newmarket Road. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-002 - Fordham Road
LOC. DESC.	Fordham Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Fordham Road, commencing Fri 15 Oct 2021, recorded a total of 5,568 vehicles. The posted speed limit of 60mph was exceeded by 0.2% of vehicles, and the seasonally adjusted, combined AADT value is 848 (see Equipment & Methodology below).

COMBINED

Total recorded volume	5,568
Avg daily volume (based on 7 days)	795.4
Average daily speed (7 days)	29.6mph
Average daily 85%ile (7 days)	33.6mph
AADT (annual average daily traffic)	848

Avg weekday volume (Mon-Fri, 24hrs)	930.2
Avg weekday speed (Mon-Fri, 24hrs)	29.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	845.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	29.7mph

NORTHBOUND ↑

Total recorded volume	2,791
Avg daily volume (based on 7 days)	398.7
Average daily speed (7 days)	28.8mph
Average daily 85%ile (7 days)	32.9mph
% of vehicles exceeding 60mph	0.1%

Avg weekday volume (Mon-Fri, 24hrs)	470.8
Avg weekday speed (Mon-Fri, 24hrs)	29.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	426.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	28.9mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	32.6mph

SOUTHBOUND ↓

Total recorded volume	2,777
Avg daily volume (based on 7 days)	396.7
Average daily speed (7 days)	30.4mph
Average daily 85%ile (7 days)	34.3mph
% of vehicles exceeding 60mph	0.2%

Avg weekday volume (Mon-Fri, 24hrs)	459.4
Avg weekday speed (Mon-Fri, 24hrs)	30.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	418.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	30.5mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	34.1mph

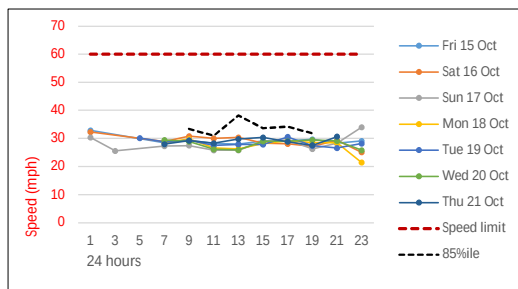
SITE LOCATION



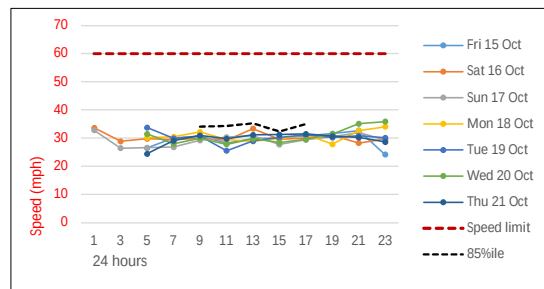
Location	Fordham Road
Lat, lng.	52°17'11.31"N, 0°24'21.68"E
Project & site	28925-002
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

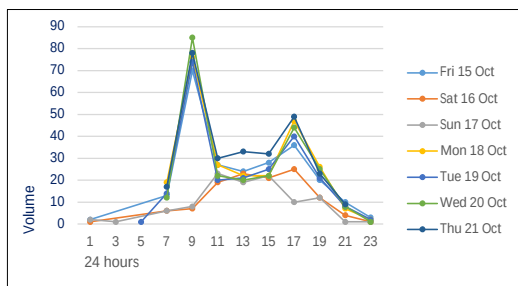


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

The peak average northbound daytime speed was 36.8mph at 09:15 on Sat 16 Oct, whilst the peak average southbound speed was 39.5mph at 15:00 on Fri 15 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

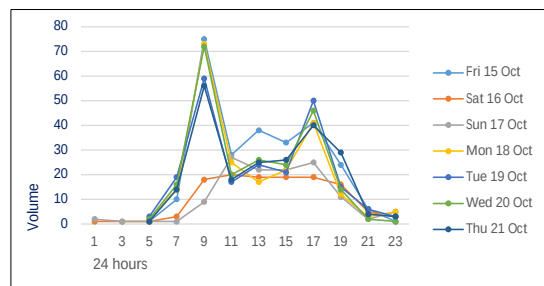
NORTHBOUND ↑



↑

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

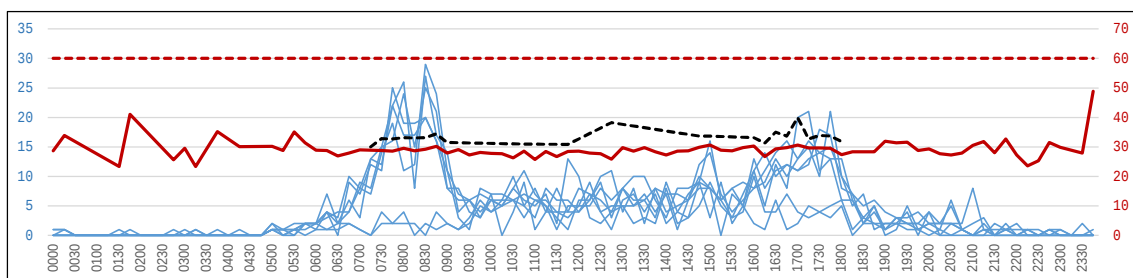
SOUTHBOUND ↓



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

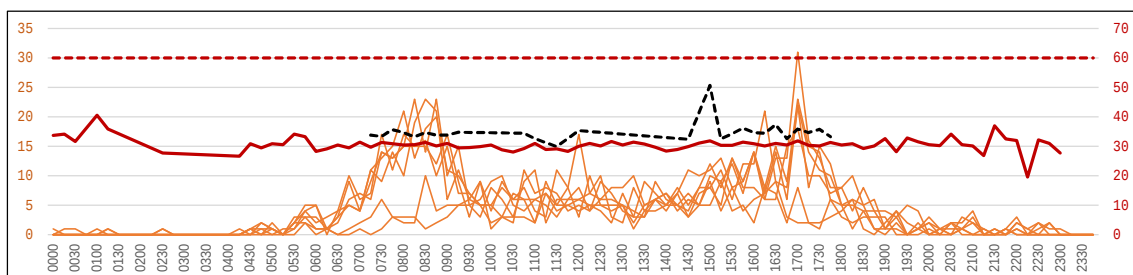
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15min VOL & SPEED



↑

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

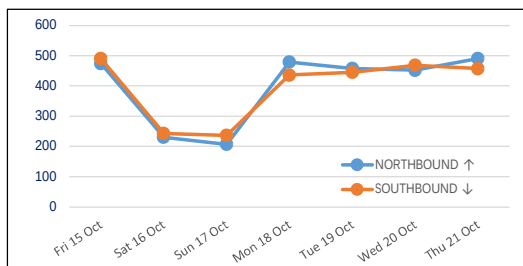


15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

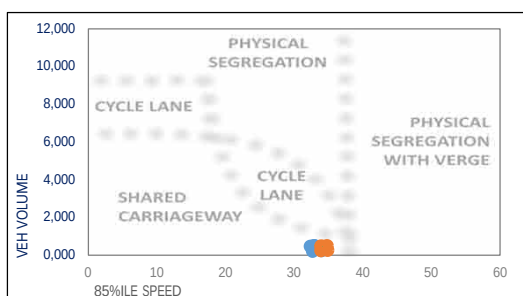
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.7	0.0	0.0	0.0	0.7
0100	0.0	0.3	0.0	0.0	0.0	0.3
0200	0.0	0.1	0.0	0.0	0.0	0.1
0300	0.0	0.6	0.0	0.0	0.0	0.6
0400	0.0	0.1	0.0	0.0	0.0	0.1
0500	0.3	4.0	0.0	0.0	0.0	4.3
0600	0.4	12.0	0.0	0.0	0.0	12.4
0700	1.1	37.3	0.3	0.0	0.0	38.7
0800	0.9	55.0	0.9	0.1	0.0	56.9
0900	0.3	20.4	0.7	0.0	0.0	21.4
1000	1.4	20.7	1.4	0.4	0.0	24.0
1100	1.3	18.0	0.4	0.1	0.0	19.9
1200	1.0	21.6	0.4	0.1	0.0	23.1
1300	1.0	21.0	1.1	0.1	0.0	23.3
1400	0.9	22.7	0.7	0.3	0.0	24.6
1500	0.0	25.1	0.6	0.0	0.1	25.9
1600	0.9	34.6	0.4	0.0	0.0	35.9
1700	0.4	45.1	0.3	0.0	0.0	45.9
1800	0.1	19.4	0.1	0.1	0.0	19.9
1900	0.0	7.9	0.1	0.1	0.0	8.1
2000	0.0	6.6	0.1	0.0	0.0	6.7
2100	0.0	3.9	0.0	0.0	0.0	3.9
2200	0.1	1.3	0.0	0.0	0.0	1.4
2300	0.0	0.7	0.0	0.0	0.0	0.7
12hr TTL	9.3	341.0	7.4	1.4	0.1	359.3
24hr TTL	10.1	379.1	7.7	1.6	0.1	398.7
	3%	95%	2%	0%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.4	0.0	0.0	0.0	0.4
0100	0.0	0.4	0.0	0.0	0.0	0.4
0200	0.0	0.3	0.0	0.0	0.0	0.3
0300	0.0	0.0	0.0	0.0	0.0	0.0
0400	0.0	1.6	0.0	0.0	0.0	1.6
0500	0.1	5.7	0.0	0.0	0.0	5.9
0600	0.0	11.0	0.0	0.0	0.0	11.0
0700	0.0	30.7	0.1	0.0	0.7	31.6
0800	1.1	50.1	0.3	0.1	0.0	51.7
0900	0.7	28.1	1.0	0.1	0.0	30.0
1000	1.0	19.9	0.9	0.4	0.0	22.1
1100	0.9	21.7	0.4	0.0	0.1	23.1
1200	1.0	22.9	0.4	0.1	0.0	24.4
1300	0.6	19.3	0.7	0.0	0.0	20.6
1400	0.6	22.9	0.4	0.0	0.0	23.9
1500	0.4	32.9	0.7	0.3	0.0	34.3
1600	0.3	36.3	0.7	0.1	0.0	37.4
1700	1.4	42.7	0.1	0.1	0.0	44.4
1800	0.0	17.1	0.1	0.0	0.0	17.3
1900	0.0	6.6	0.0	0.0	0.0	6.6
2000	0.1	3.9	0.0	0.0	0.0	4.0
2100	0.0	2.6	0.0	0.0	0.0	2.6
2200	0.1	2.9	0.0	0.0	0.0	3.0
2300	0.0	0.1	0.0	0.0	0.0	0.1
12hr TTL	8.0	344.6	6.0	1.4	0.9	360.9
24hr TTL	8.4	380.0	6.0	1.4	0.9	396.7
	2%	96%	2%	0%	0%	

Average daily 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 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m
3	SVT	Class 2 plus trailer	OGV1 & PSV	
4	TB2	2 axle truck / bus	OGV1	
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m	
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		

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 A-T-R 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 A-T-R 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 7 days 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.

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, A-T-R may not be held liable for errors of fact or interpretation.

Generated 05 Nov 2021 v6.0

28925-002 Cambridge, Fordham Road, Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-002 - Elms Road (East)
LOC. DESC.	Elms Road (East)
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Elms Road (East), commencing Tue 28 Sep 2021, recorded a total of 9,366 vehicles. The posted speed limit of 60mph was exceeded by 0.5% of vehicles, and the seasonally adjusted, combined AADT value is 1,317 (see Equipment & Methodology below).

COMBINED

Total recorded volume	9,366
Avg daily volume (based on 7 days)	1,338.0
Average daily speed (7 days)	39.7mph
Average daily 85 th ile (7 days)	46.8mph
AADT (annual average daily traffic)	1,317

Avg weekday volume (Mon-Fri, 24hrs)	1,461.6
Avg weekday speed (Mon-Fri, 24hrs)	39.8mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,187.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	39.7mph

NORTHBOUND ↑

Total recorded volume	4,978
Avg daily volume (based on 7 days)	711.1
Average daily speed (7 days)	40.9mph
Average daily 85 th ile (7 days)	48.0mph
% of vehicles exceeding 60mph	0.6%

Avg weekday volume (Mon-Fri, 24hrs)	778.4
Avg weekday speed (Mon-Fri, 24hrs)	41.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	642.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	40.7mph
Avg 12hr weekday 85 th ile (Mon-Fri, 0700-1900)	47.7mph

SOUTHBOUND ↓

Total recorded volume	4,388
Avg daily volume (based on 7 days)	626.9
Average daily speed (7 days)	38.5mph
Average daily 85 th ile (7 days)	45.6mph
% of vehicles exceeding 60mph	0.3%

Avg weekday volume (Mon-Fri, 24hrs)	683.2
Avg weekday speed (Mon-Fri, 24hrs)	38.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	545.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	38.6mph
Avg 12hr weekday 85 th ile (Mon-Fri, 0700-1900)	45.7mph

SITE LOCATION

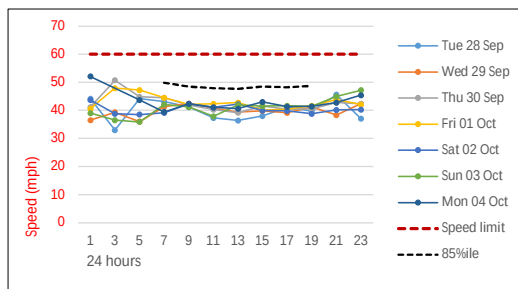
SITE PLAN



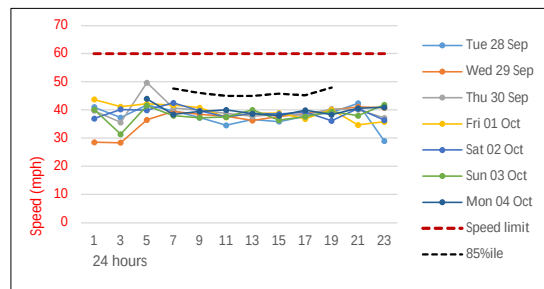
Location	Elms Road (East)
Lat, lng.	52°19'33.68"N/52°19'33.68" N
Project & site	28925-002
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

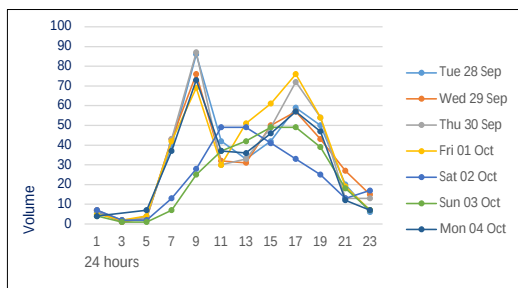


Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

The peak average northbound daytime speed was 47.7mph at 15:00 on Sun 03 Oct, whilst the peak average southbound speed was 50.7mph at 07:30 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

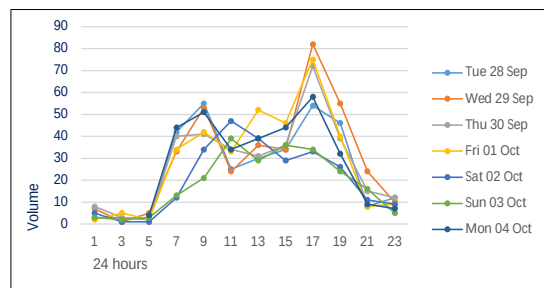
NORTHBOUND ↑



↑

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

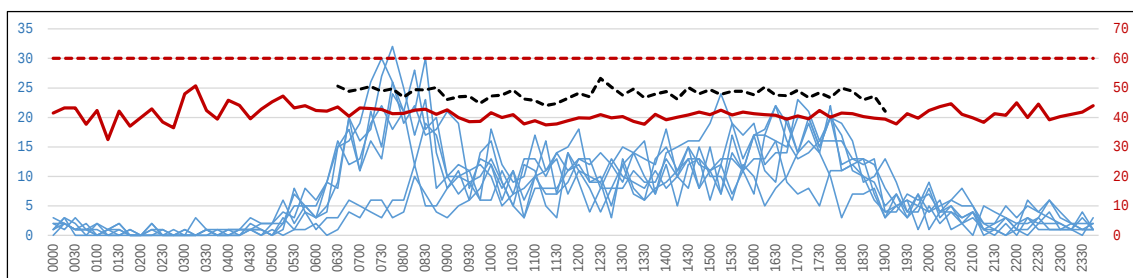
SOUTHBOUND ↓



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

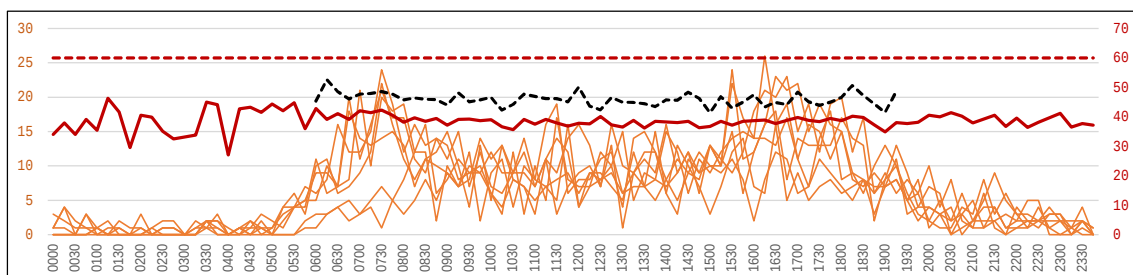
↓

15min VOL & SPEED



↑

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

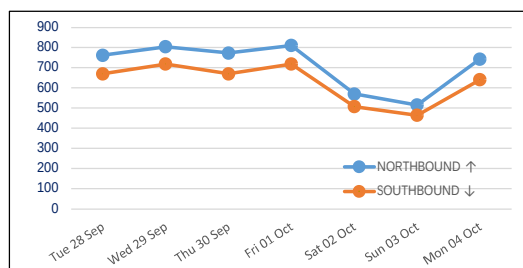


15min daily southbound flows (orange), against the average weekly speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

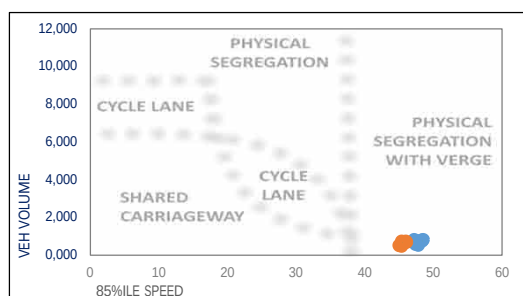
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.7	0.0	0.0	0.0	5.7
0100	0.0	2.4	0.0	0.0	0.0	2.4
0200	0.0	1.0	0.1	0.0	0.1	1.3
0300	0.0	1.6	0.0	0.1	0.0	1.7
0400	0.0	3.1	0.0	0.3	0.0	3.4
0500	0.0	11.3	0.6	0.1	0.0	12.0
0600	0.3	30.1	1.1	0.4	0.1	32.1
0700	0.3	59.0	3.0	0.4	0.0	62.7
0800	0.3	60.9	1.6	0.7	0.0	63.4
0900	0.4	37.1	1.1	0.3	0.0	39.0
1000	0.6	34.3	1.1	0.6	0.1	36.7
1100	1.1	39.0	1.4	0.4	0.0	42.0
1200	0.1	37.9	1.0	0.3	0.0	39.3
1300	0.7	39.3	1.3	0.3	0.0	41.6
1400	0.1	46.1	1.9	0.1	0.0	48.3
1500	0.6	48.1	1.0	0.1	0.0	49.9
1600	0.1	56.0	0.6	0.4	0.4	57.6
1700	1.6	60.3	0.3	0.3	0.0	62.4
1800	0.4	43.9	0.3	0.0	0.0	44.6
1900	0.1	21.3	0.0	0.0	0.0	21.4
2000	0.0	17.3	0.1	0.0	0.0	17.4
2100	0.0	9.1	0.0	0.0	0.0	9.1
2200	0.0	10.1	0.0	0.1	0.0	10.3
2300	0.0	6.6	0.1	0.0	0.0	6.7
12hr TTL	6.4	561.9	14.6	4.0	0.6	587.4
24hr TTL	6.9	681.6	16.7	5.1	0.9	711.1
1%	96%	2%	1%	0%		

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	2.9	0.6	0.4	0.0	4.0
0100	0.0	1.6	0.1	0.0	0.0	1.7
0200	0.0	2.0	0.1	0.0	0.0	2.1
0300	0.0	3.4	0.0	0.0	0.0	3.4
0400	0.0	2.7	0.0	0.0	0.0	2.7
0500	0.1	9.0	0.4	0.0	0.0	9.6
0600	0.0	31.0	0.0	0.1	0.0	31.1
0700	1.1	47.0	1.3	0.1	0.7	50.3
0800	0.4	40.6	0.9	0.6	0.0	42.4
0900	0.4	35.9	1.4	0.6	0.0	38.3
1000	0.1	32.1	1.3	0.1	0.0	33.7
1100	1.3	34.1	1.3	0.9	0.0	37.6
1200	0.3	34.7	1.3	0.3	0.0	36.6
1300	0.1	34.3	0.6	0.6	0.0	35.6
1400	0.6	35.1	0.6	0.7	0.0	37.0
1500	0.1	46.0	0.6	0.4	0.0	47.1
1600	0.6	56.7	0.7	0.3	0.0	58.3
1700	0.6	50.0	0.1	0.0	0.0	50.7
1800	0.1	37.3	0.0	0.0	0.0	37.4
1900	0.0	28.3	0.1	0.0	0.0	28.4
2000	0.0	12.9	0.0	0.1	0.0	13.0
2100	0.0	12.0	0.0	0.0	0.0	12.0
2200	0.1	9.0	0.0	0.0	0.0	9.1
2300	0.0	4.4	0.1	0.0	0.0	4.6
12hr TTL	5.9	483.9	10.0	4.6	0.7	505.0
24hr TTL	6.3	603.0	11.6	5.3	0.7	626.9
1%	96%	2%	1%	0%		

Average daily 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 7 days.

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 will 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:

Weather & environmental

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CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

Equipment damage & failure

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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.

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Generated 19 Oct 2021 v6.0

28925-002 Norfolk. Elms Road (East). Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-003 - Elms Road (West)
LOC. DESC.	Elms Road (West)
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Elms Road (West), commencing Tue 28 Sep 2021, recorded a total of 9,203 vehicles. The posted speed limit of 60mph was exceeded by 7.5% of vehicles, and the seasonally adjusted, combined AADT value is 1,294 (see Equipment & Methodology below).

COMBINED

Total recorded volume	9,203
Avg daily volume (based on 7 days)	1,314.7
Average daily speed (7 days)	47.6mph
Average daily 85%ile (7 days)	56.3mph
AADT (annual average daily traffic)	1,294

Avg weekday volume (Mon-Fri, 24hrs)	1,436.2
Avg weekday speed (Mon-Fri, 24hrs)	47.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,167.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.7mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

NORTHBOUND ↑

Total recorded volume	4,892
Avg daily volume (based on 7 days)	698.9
Average daily speed (7 days)	48.9mph
Average daily 85%ile (7 days)	57.7mph
% of vehicles exceeding 60mph	9.5%

Avg weekday volume (Mon-Fri, 24hrs)	764.4
Avg weekday speed (Mon-Fri, 24hrs)	49.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	632.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	48.9mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	57.6mph

SOUTHBOUND ↓

Total recorded volume	4,311
Avg daily volume (based on 7 days)	615.9
Average daily speed (7 days)	46.2mph
Average daily 85%ile (7 days)	55.0mph
% of vehicles exceeding 60mph	5.5%

Avg weekday volume (Mon-Fri, 24hrs)	671.8
Avg weekday speed (Mon-Fri, 24hrs)	46.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	535.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	46.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.3mph

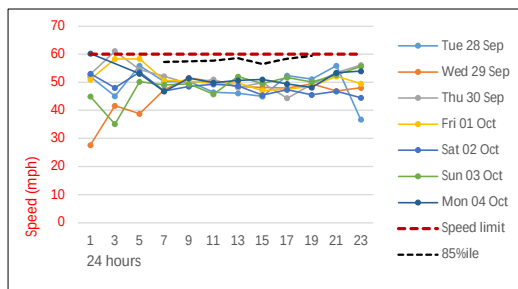
SITE LOCATION



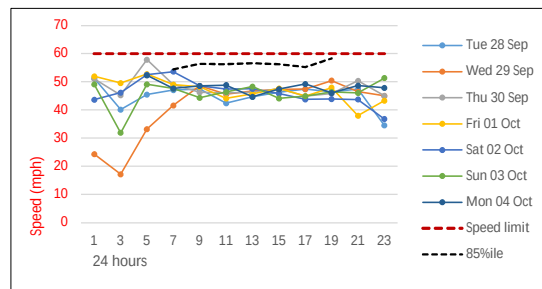
Location	Elms Road (West)
Lat, lng.	52°19'33.68"N/52°19'33.68"W
Project & site	28925-003
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

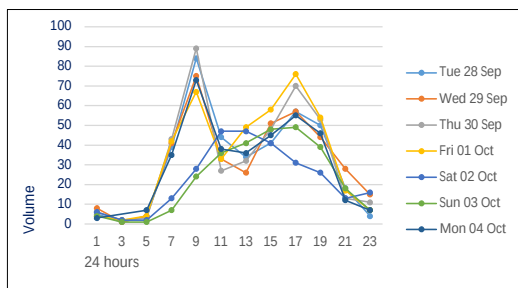


Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

The peak average northbound daytime speed was 60.3mph at 07:15 on Sat 02 Oct, whilst the peak average southbound speed was 56.6mph at 18:15 on Sat 02 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

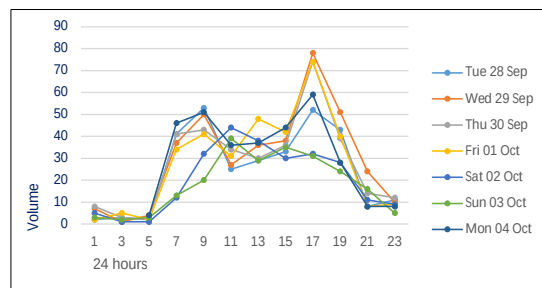
NORTHBOUND ↑



↑

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

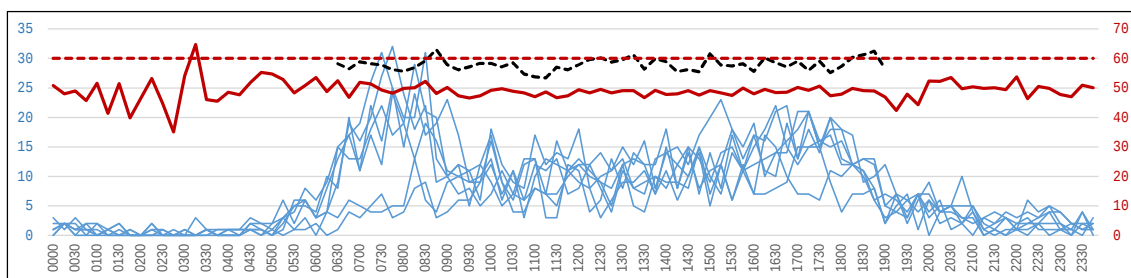
SOUTHBOUND ↓



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

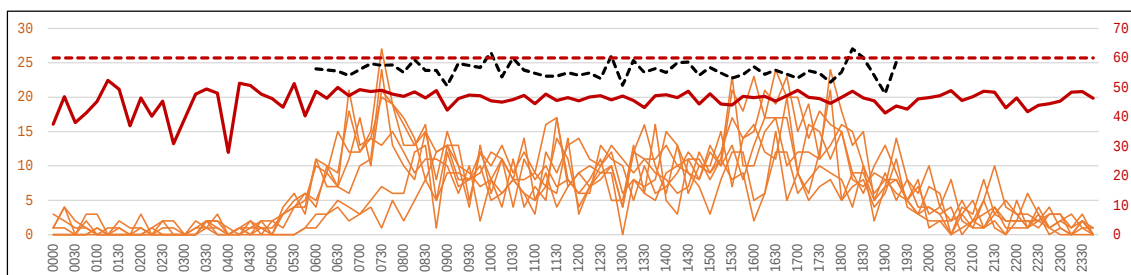
↓

15min VOL & SPEED



↑

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

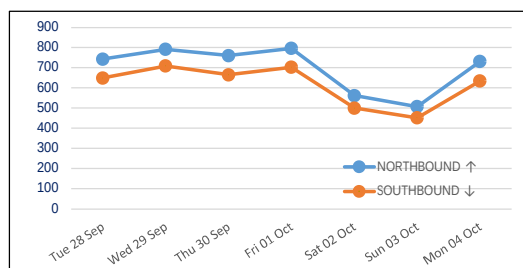


15min daily southbound flows (orange), against the average weekly speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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 Wednesday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

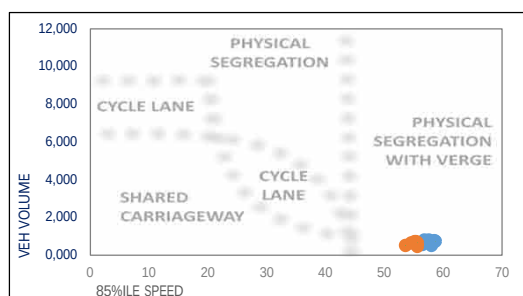
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.1	0.0	0.0	0.0	5.1
0100	0.0	2.3	0.0	0.0	0.0	2.3
0200	0.0	1.0	0.1	0.0	0.1	1.3
0300	0.0	1.6	0.0	0.1	0.0	1.7
0400	0.0	2.7	0.6	0.3	0.0	3.6
0500	0.0	11.3	0.6	0.0	0.0	11.9
0600	0.3	29.7	1.4	0.0	0.0	31.4
0700	0.3	56.6	4.7	1.1	0.1	62.9
0800	0.3	58.1	3.3	1.1	0.0	62.9
0900	0.4	35.6	2.4	0.6	0.0	39.0
1000	0.7	32.7	2.3	1.0	0.1	36.9
1100	0.9	36.1	1.7	1.3	0.9	40.9
1200	0.1	34.4	2.7	0.6	0.0	37.9
1300	0.6	37.9	2.0	0.4	0.1	41.0
1400	0.0	43.9	2.6	0.1	0.9	47.4
1500	0.3	46.6	1.9	0.1	0.0	48.9
1600	0.1	54.4	0.9	0.3	0.7	56.4
1700	1.6	57.4	1.0	0.4	0.1	60.6
1800	0.4	43.6	0.6	0.0	0.0	44.6
1900	0.1	20.3	0.3	0.1	0.0	20.9
2000	0.0	16.7	0.3	0.0	0.0	17.0
2100	0.0	8.3	0.0	0.0	0.0	8.3
2200	0.0	9.4	0.0	0.1	0.0	9.6
2300	0.0	6.6	0.1	0.0	0.0	6.7
12hr TTL	5.7	537.3	26.0	7.1	3.0	579.1
24hr TTL	6.1	652.3	29.4	7.9	3.1	698.9
1%	93%	4%	1%	0%		

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	2.9	0.6	0.4	0.0	3.9
0100	0.0	1.1	0.4	0.0	0.0	1.6
0200	0.0	1.9	0.3	0.0	0.0	2.1
0300	0.0	3.1	0.3	0.0	0.0	3.4
0400	0.0	2.6	0.0	0.0	0.0	2.6
0500	0.1	9.1	0.4	0.0	0.0	9.7
0600	0.0	31.3	0.4	0.3	0.0	32.0
0700	0.6	47.0	1.6	0.4	0.7	50.3
0800	0.3	39.1	1.4	0.6	0.0	41.4
0900	0.6	35.0	1.4	0.6	0.3	37.9
1000	0.3	30.7	2.4	0.1	0.1	33.7
1100	0.7	32.7	2.3	0.6	0.0	36.3
1200	0.0	33.1	0.9	0.4	0.9	35.3
1300	0.4	32.0	1.0	0.7	0.0	34.1
1400	0.4	33.9	1.9	0.7	0.0	36.9
1500	0.1	44.9	1.3	0.4	0.0	46.7
1600	0.3	56.0	0.7	0.1	0.0	57.1
1700	0.3	47.9	1.0	0.3	0.0	49.4
1800	0.1	36.0	0.0	0.0	0.0	36.1
1900	0.0	27.3	0.3	0.0	0.0	27.6
2000	0.0	12.6	0.0	0.1	0.0	12.7
2100	0.0	11.4	0.1	0.0	0.0	11.6
2200	0.1	9.0	0.0	0.0	0.0	9.1
2300	0.0	4.0	0.3	0.0	0.0	4.3
12hr TTL	4.1	468.3	15.9	5.0	2.0	495.3
24hr TTL	4.4	584.6	19.0	5.9	2.0	615.9
1%	95%	3%	1%	0%		

Average daily 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 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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 A-T-R 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 A-T-R 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 7 days 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.

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, A-T-R may not be held liable for errors of fact or interpretation.

Generated 19 Oct 2021 v6.0

28925-003 Norfolk. Elms Road (West). Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-003 - Chippenham Road
LOC. DESC.	Chippenham Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Chippenham Road, commencing Fri 15 Oct 2021, recorded a total of 12,163 vehicles. The posted speed limit of 60mph was exceeded by 2.0% of vehicles, and the seasonally adjusted, combined AADT value is 1,848 (see Equipment & Methodology below).

COMBINED

Total recorded volume	12,163
Avg daily volume (based on 7 days)	1,737.6
Average daily speed (7 days)	43.4mph
Average daily 85 th ile (7 days)	50.5mph
AADT (annual average daily traffic)	1,848

Avg weekday volume (Mon-Fri, 24hrs)	1,938.8
Avg weekday speed (Mon-Fri, 24hrs)	43.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,755.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.5mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85thiles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

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

EASTBOUND →

Total recorded volume	6,322
Avg daily volume (based on 7 days)	903.1
Average daily speed (7 days)	44.1mph
Average daily 85 th ile (7 days)	51.0mph
% of vehicles exceeding 60mph	2.0%

Avg weekday volume (Mon-Fri, 24hrs)	989.4
Avg weekday speed (Mon-Fri, 24hrs)	44.3mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	879.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	44.2mph
Avg 12hr weekday 85 th ile (Mon-Fri, 0700-1900)	50.8mph

WESTBOUND ←

Total recorded volume	5,841
Avg daily volume (based on 7 days)	834.4
Average daily speed (7 days)	42.7mph
Average daily 85 th ile (7 days)	49.9mph
% of vehicles exceeding 60mph	2.1%

Avg weekday volume (Mon-Fri, 24hrs)	949.4
Avg weekday speed (Mon-Fri, 24hrs)	42.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	876.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	42.7mph
Avg 12hr weekday 85 th ile (Mon-Fri, 0700-1900)	49.6mph

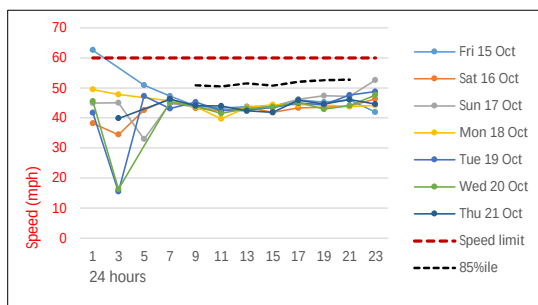
SITE LOCATION



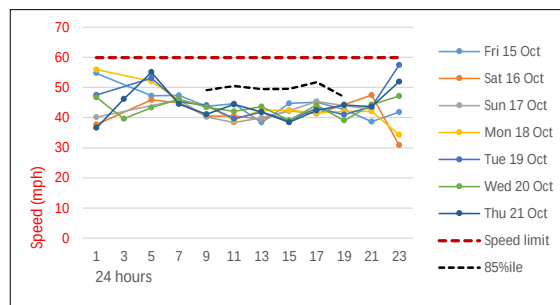
Location	Chippenham Road
Lat, lng.	52°16'56.03"N, 0°24'50.85"E
Project & site	28925-003
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

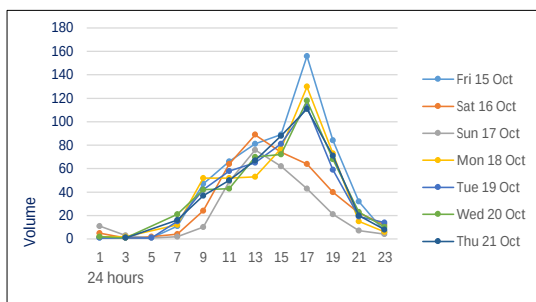


Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

The peak average eastbound daytime speed was 52.6mph at 07:00 on Fri 15 Oct, whilst the peak average westbound speed was 56.5mph at 17:15 on Sun 17 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

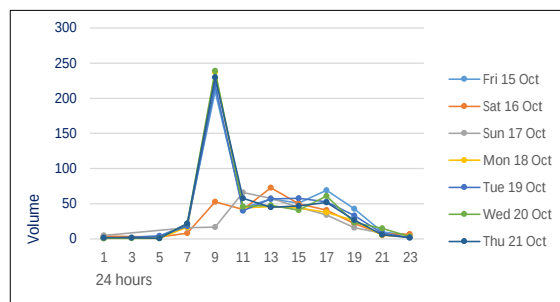
EASTBOUND →



→

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

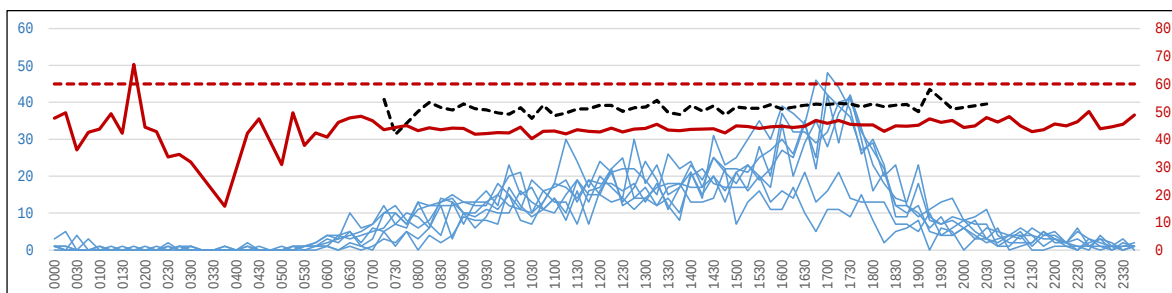
WESTBOUND ←



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

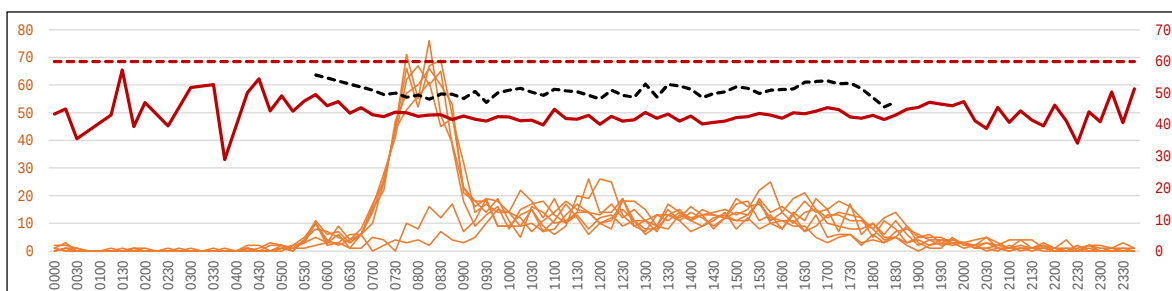
←

15min VOL & SPEED



→

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

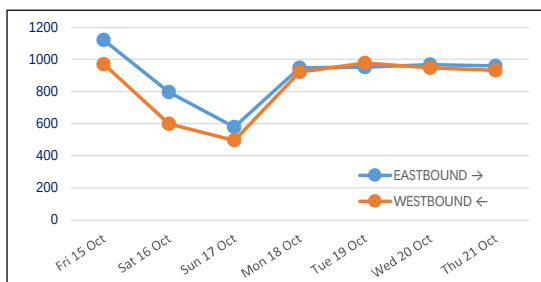


15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (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.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

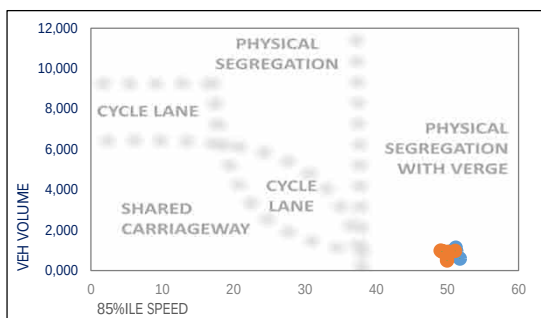
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	3.0	0.0	0.0	0.0	3.1
0100	0.0	0.7	0.0	0.0	0.0	0.7
0200	0.3	0.9	0.1	0.0	0.0	1.3
0300	0.4	0.3	0.0	0.0	0.0	0.7
0400	0.0	0.4	0.3	0.0	0.0	0.7
0500	0.0	2.4	0.0	0.0	0.0	2.4
0600	0.0	11.1	0.4	0.0	0.0	11.6
0700	0.0	24.6	0.7	0.0	0.0	25.3
0800	0.1	34.4	1.7	0.0	0.0	36.3
0900	0.7	41.7	2.0	0.3	0.0	44.7
1000	1.9	51.0	1.4	0.3	0.0	54.6
1100	0.6	61.0	0.3	0.1	0.0	62.0
1200	1.6	69.3	0.6	0.1	0.0	71.6
1300	0.6	63.6	0.9	0.3	0.1	65.4
1400	0.9	75.3	1.3	0.1	0.0	77.6
1500	1.3	79.7	1.1	0.1	0.1	82.4
1600	0.9	103.0	1.1	0.0	0.0	105.0
1700	0.7	118.7	0.3	0.0	0.0	119.7
1800	0.9	58.0	0.6	0.0	0.0	59.4
1900	0.1	33.1	0.1	0.0	0.0	33.4
2000	0.6	19.0	0.1	0.0	0.0	19.7
2100	0.0	12.0	0.0	0.0	0.0	12.0
2200	0.0	8.6	0.0	0.0	0.0	8.6
2300	0.0	4.9	0.0	0.0	0.0	4.9
12hr TTL	10.0	780.3	12.0	1.4	0.3	804.0
24hr TTL	11.6	876.7	13.1	1.4	0.3	903.1
	1%	97%	1%	0%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	2.1	0.0	0.0	0.0	2.1
0100	0.0	0.7	0.0	0.0	0.0	0.7
0200	0.0	0.4	0.0	0.0	0.0	0.4
0300	0.0	0.3	0.1	0.0	0.0	0.4
0400	0.0	1.4	0.6	0.0	0.0	2.0
0500	0.4	13.3	0.0	0.0	0.0	13.7
0600	0.0	17.1	0.4	0.1	0.0	17.7
0700	0.6	105.4	1.4	0.1	0.0	107.6
0800	0.7	168.1	2.1	1.1	0.0	172.1
0900	0.0	59.3	1.4	0.4	0.0	61.1
1000	1.4	45.6	1.1	0.1	0.3	48.6
1100	1.4	50.4	1.3	0.3	0.1	53.6
1200	1.4	52.1	1.0	0.3	0.0	54.9
1300	1.1	43.6	0.6	0.0	0.0	45.3
1400	1.1	46.3	0.3	0.3	0.0	48.0
1500	1.0	54.3	1.0	0.6	0.1	57.0
1600	0.7	48.3	0.6	0.1	0.0	49.7
1700	1.1	37.6	0.4	0.3	0.0	39.4
1800	0.3	26.9	0.0	0.0	0.0	27.1
1900	0.0	13.1	0.3	0.1	0.0	13.6
2000	0.0	8.3	0.1	0.0	0.0	8.4
2100	0.0	5.6	0.3	0.0	0.0	5.9
2200	0.0	3.1	0.0	0.0	0.0	3.1
2300	0.0	1.9	0.0	0.0	0.0	1.9
12hr TTL	11.0	737.9	11.3	3.7	0.6	764.4
24hr TTL	11.4	805.3	13.1	4.0	0.6	834.4
	1%	97%	2%	0%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The 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.

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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 will 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:

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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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
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2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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Roadworks & events

Where possible, roadworks checks are made 7 days 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.

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

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Generated 05 Nov 2021 v6.0

28925-003 Cambridge, Chippenham Road, Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-004 - Chippenham Road
LOC. DESC.	Chippenham Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Chippenham Road, commencing Fri 15 Oct 2021, recorded a total of 12,147 vehicles. The posted speed limit of 60mph was exceeded by 5.3% of vehicles, and the seasonally adjusted, combined AADT value is 1,844 (see Equipment & Methodology below).

COMBINED

Total recorded volume	12,147
Avg daily volume (based on 7 days)	1,735.3
Average daily speed (7 days)	47.9mph
Average daily 85%ile (7 days)	55.2mph
AADT (annual average daily traffic)	1,844

Avg weekday volume (Mon-Fri, 24hrs)	1,939.0
Avg weekday speed (Mon-Fri, 24hrs)	48.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,756.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.9mph

EASTBOUND →

Total recorded volume	6,316
Avg daily volume (based on 7 days)	902.3
Average daily speed (7 days)	48.4mph
Average daily 85%ile (7 days)	55.7mph
% of vehicles exceeding 60mph	5.7%

Avg weekday volume (Mon-Fri, 24hrs)	989.6
Avg weekday speed (Mon-Fri, 24hrs)	48.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	879.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	48.5mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.7mph

WESTBOUND ←

Total recorded volume	5,831
Avg daily volume (based on 7 days)	833.0
Average daily speed (7 days)	47.3mph
Average daily 85%ile (7 days)	54.7mph
% of vehicles exceeding 60mph	5.0%

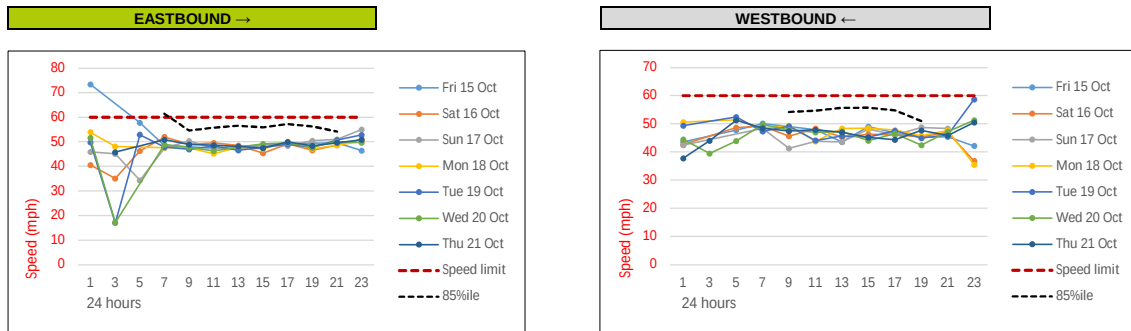
Avg weekday volume (Mon-Fri, 24hrs)	949.4
Avg weekday speed (Mon-Fri, 24hrs)	47.4mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	876.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	54.4mph

SITE LOCATION



Location	Chippenham Road
Lat, lng.	52°17'9.14"N, 0°25'18.85"E
Project & site	28925-004
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

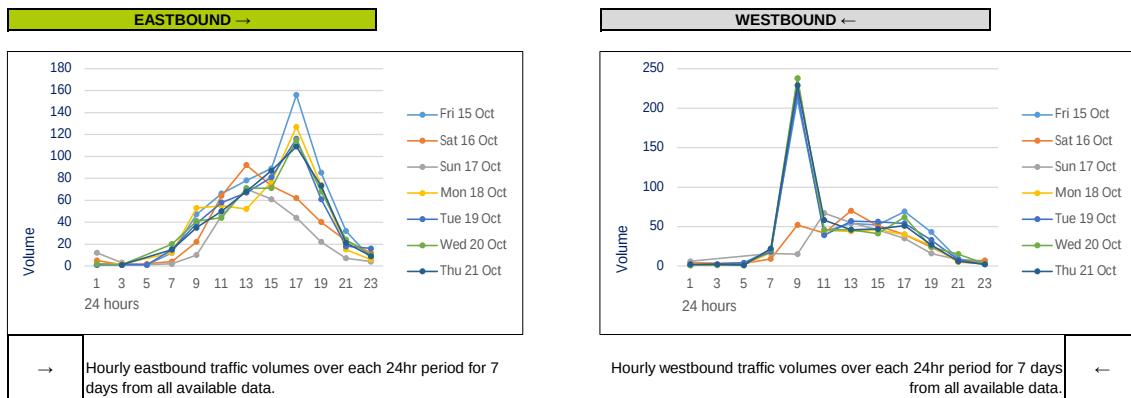
DAILY SPEEDS



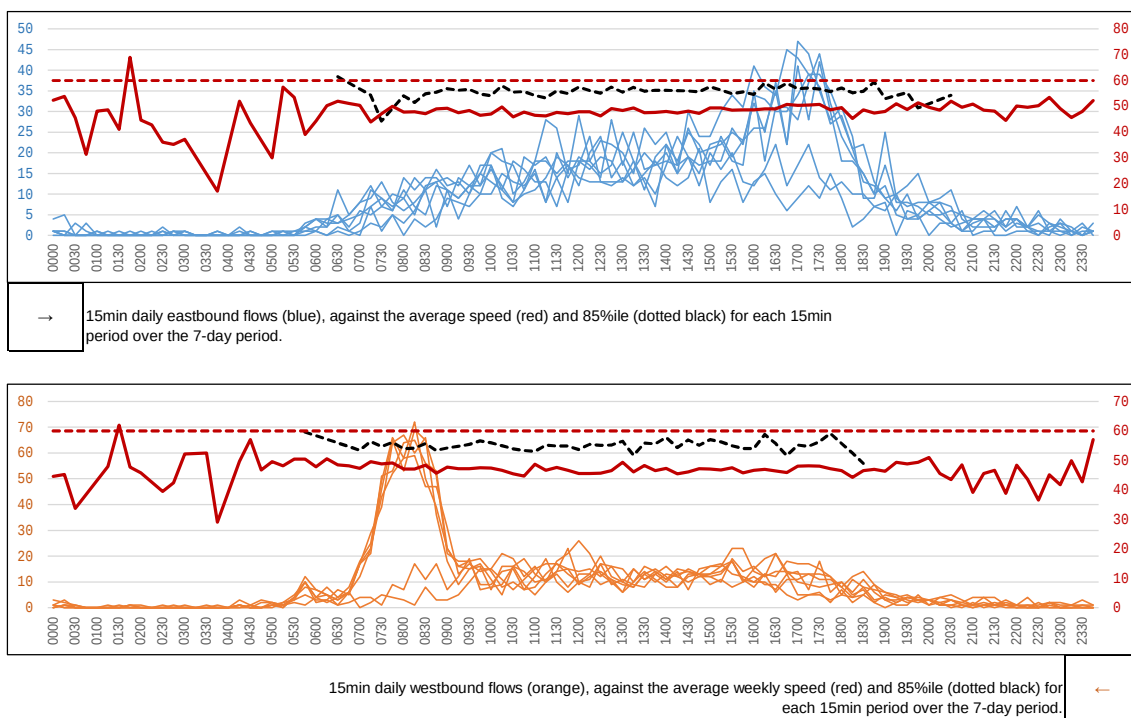
Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

The peak average eastbound daytime speed was 56.2mph at 07:45 on Mon 18 Oct, whilst the peak average westbound speed was 56.6mph at 18:45 on Thu 21 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

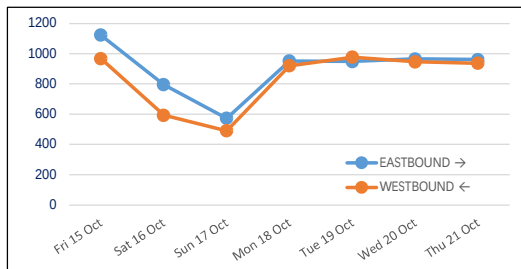


15min VOL & SPEED



DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (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.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

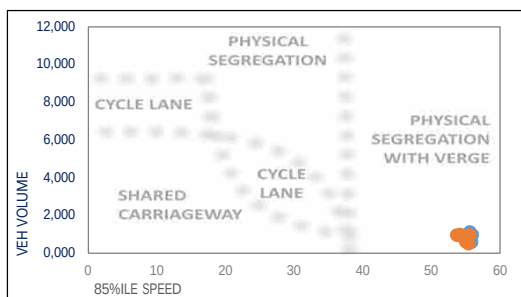
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	3.1	0.0	0.0	0.0	3.3
0100	0.0	0.7	0.0	0.0	0.0	0.7
0200	0.3	0.9	0.1	0.0	0.0	1.3
0300	0.4	0.3	0.0	0.0	0.0	0.7
0400	0.0	0.4	0.3	0.0	0.0	0.7
0500	0.1	2.4	0.0	0.0	0.0	2.6
0600	0.0	11.0	0.4	0.0	0.0	11.4
0700	0.3	24.6	0.9	0.0	0.0	25.7
0800	0.3	33.1	1.7	0.1	0.0	35.3
0900	0.9	41.4	2.1	0.6	0.0	45.0
1000	2.3	50.7	1.4	0.3	0.0	54.7
1100	1.1	60.6	0.3	0.3	0.0	62.3
1200	1.9	68.7	0.4	0.1	0.0	71.1
1300	0.7	63.6	1.1	0.3	0.1	65.9
1400	1.0	74.7	1.1	0.1	0.0	77.0
1500	1.1	78.6	1.3	0.4	0.1	81.6
1600	1.1	101.6	1.3	0.1	0.0	104.1
1700	0.7	118.6	0.3	0.0	0.0	119.6
1800	0.9	59.0	0.6	0.0	0.0	60.4
1900	0.1	32.9	0.3	0.0	0.0	33.3
2000	0.6	19.3	0.1	0.0	0.0	20.0
2100	0.0	11.6	0.0	0.0	0.0	11.6
2200	0.0	9.1	0.0	0.0	0.0	9.1
2300	0.0	4.9	0.0	0.0	0.0	4.9
12hr TTL	12.3	775.1	12.6	2.4	0.3	802.7
24hr TTL	14.0	871.7	13.9	2.4	0.3	902.3
	2%	97%	2%	0%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	2.3	0.0	0.0	0.0	2.3
0100	0.0	0.7	0.0	0.0	0.0	0.7
0200	0.0	0.4	0.0	0.0	0.0	0.4
0300	0.0	0.3	0.1	0.0	0.0	0.4
0400	0.0	1.4	0.6	0.0	0.0	2.0
0500	0.4	13.4	0.0	0.0	0.0	13.9
0600	0.0	17.1	0.4	0.1	0.0	17.7
0700	0.7	105.1	2.4	0.1	0.0	108.4
0800	0.7	168.0	2.0	1.0	0.0	171.7
0900	0.0	59.0	1.4	0.1	0.0	60.6
1000	1.6	45.6	1.1	0.1	0.3	48.7
1100	0.7	50.7	1.3	0.4	0.1	53.3
1200	0.6	51.0	1.0	0.6	0.0	53.1
1300	1.3	43.4	0.6	0.1	0.0	45.4
1400	1.1	46.7	0.4	0.1	0.0	48.4
1500	1.1	54.0	1.1	0.3	0.0	56.6
1600	0.7	48.7	0.6	0.1	0.0	50.1
1700	1.1	37.4	0.4	0.0	0.0	39.0
1800	0.4	27.0	0.1	0.0	0.0	27.6
1900	0.0	13.0	0.3	0.1	0.0	13.4
2000	0.0	8.1	0.1	0.0	0.0	8.3
2100	0.0	5.6	0.3	0.0	0.0	5.9
2200	0.0	3.1	0.0	0.0	0.0	3.1
2300	0.0	1.9	0.0	0.0	0.0	1.9
12hr TTL	10.1	736.7	12.6	3.1	0.4	763.0
24hr TTL	10.6	804.1	14.4	3.4	0.4	833.0
	1%	97%	2%	0%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m
3	SVT	Class 2 plus trailer	OGV1 & PSV	
4	TB2	2 axle truck / bus	OGV1	
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m	OGV2
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		

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 A-T-R 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 A-T-R 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 7 days 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.

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, A-T-R may not be held liable for errors of fact or interpretation.

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28925-004 Cambridge, Chippenham Road. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-004 - Newmarket Road
LOC. DESC.	Newmarket Road
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Newmarket Road, commencing Tue 28 Sep 2021, recorded a total of 34,325 vehicles. The posted speed limit of 60mph was exceeded by 1.7% of vehicles, and the seasonally adjusted, combined AADT value is 4,944 (see Equipment & Methodology below).

COMBINED

Total recorded volume	34,325
Avg daily volume (based on 7 days)	4,903.6
Average daily speed (7 days)	45.9mph
Average daily 85%ile (7 days)	51.9mph
AADT (annual average daily traffic)	4,944

Avg weekday volume (Mon-Fri, 24hrs)	5,462.2
Avg weekday speed (Mon-Fri, 24hrs)	45.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	4,639.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.5mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

NORTHBOUND ↑

Total recorded volume	15,256
Avg daily volume (based on 7 days)	2,179.4
Average daily speed (7 days)	45.5mph
Average daily 85%ile (7 days)	51.4mph
% of vehicles exceeding 60mph	1.0%

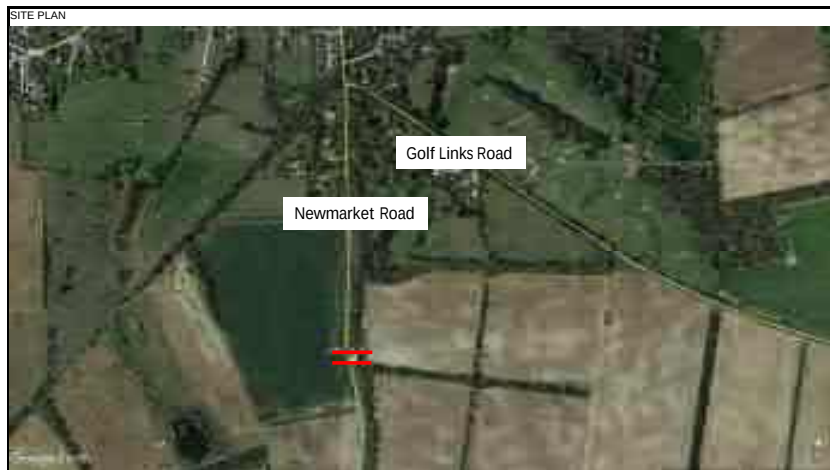
Avg weekday volume (Mon-Fri, 24hrs)	2,416.2
Avg weekday speed (Mon-Fri, 24hrs)	45.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,044.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.2mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	50.9mph

SOUTHBOUND ↓

Total recorded volume	19,069
Avg daily volume (based on 7 days)	2,724.1
Average daily speed (7 days)	46.2mph
Average daily 85%ile (7 days)	52.4mph
% of vehicles exceeding 60mph	2.4%

Avg weekday volume (Mon-Fri, 24hrs)	3,046.0
Avg weekday speed (Mon-Fri, 24hrs)	46.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,594.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.7mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.7mph

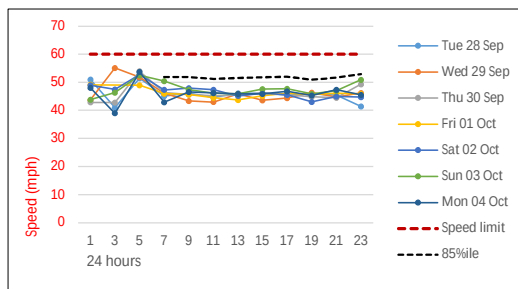
SITE LOCATION



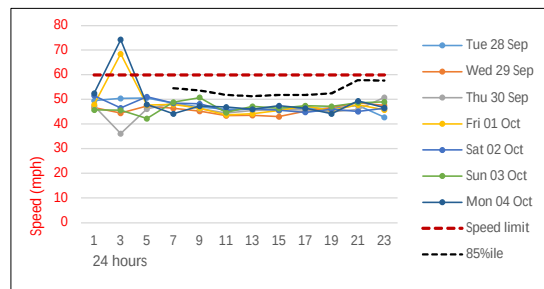
Location	Newmarket Road
Lat, lng.	52°19'33.68"N/52°19'33.68" N
Project & site	28925-004
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

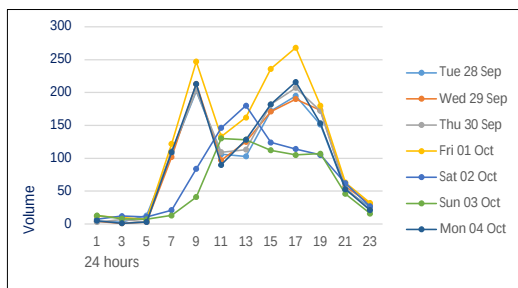


Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

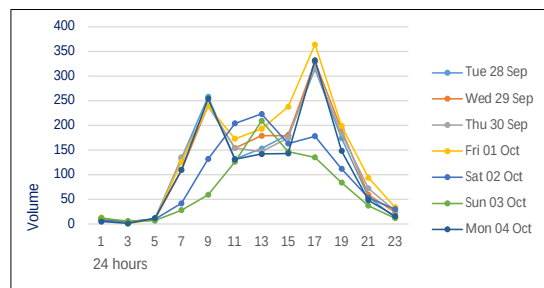
The peak average northbound daytime speed was 51.7mph at 08:15 on Sun 03 Oct, whilst the peak average southbound speed was 53.9mph at 08:45 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

NORTHBOUND ↑



SOUTHBOUND ↓

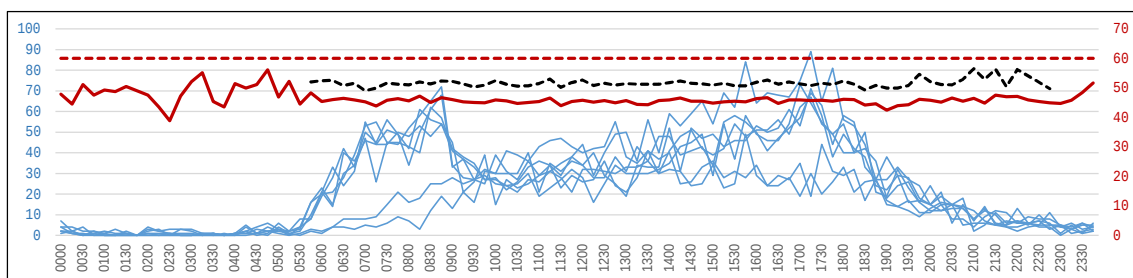


↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

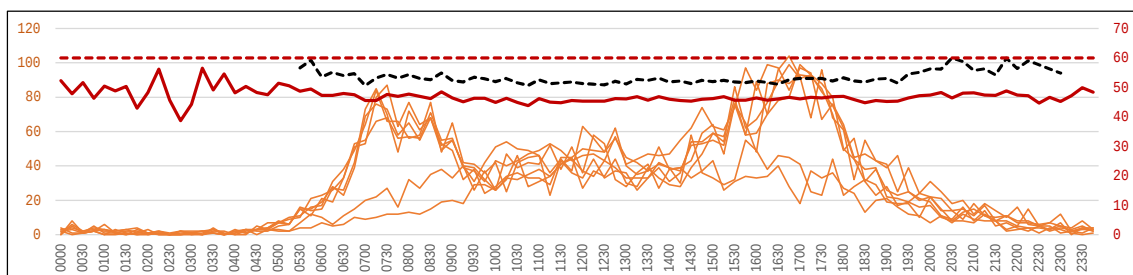
Hourly southbound traffic volumes over each 24hr period for 7 days from all available data.

↓

15min VOL & SPEED



↑ 15min daily northbound flows (blue), against the average speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period.

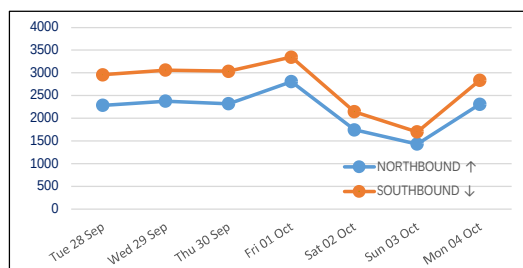


15min daily southbound flows (orange), against the average weekly speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

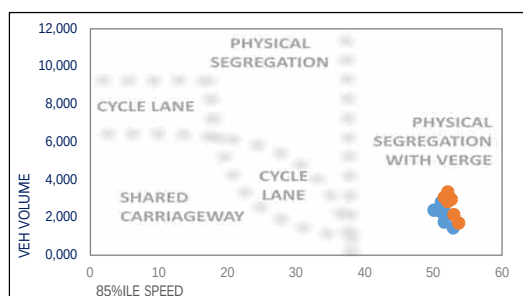
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.9	0.0	0.0	0.0	6.9
0100	0.0	1.9	0.0	0.0	0.0	1.9
0200	0.0	4.6	0.0	0.0	0.0	4.6
0300	0.0	1.9	0.0	0.1	0.0	2.0
0400	0.0	6.6	0.0	0.1	0.0	6.7
0500	0.0	16.0	0.0	0.1	0.1	16.3
0600	1.3	82.1	0.3	0.0	0.0	83.7
0700	0.4	142.4	2.0	0.7	0.1	145.7
0800	0.4	167.9	2.7	0.9	0.0	171.9
0900	1.0	116.1	3.3	0.1	0.0	120.6
1000	0.9	112.1	2.1	0.7	0.0	115.9
1100	1.1	123.0	2.7	0.9	0.0	127.7
1200	1.0	130.3	2.3	0.6	0.0	134.1
1300	2.0	134.9	2.6	1.0	0.1	140.6
1400	0.7	164.6	2.1	1.0	0.0	168.4
1500	1.9	176.9	1.1	1.3	0.3	181.4
1600	1.6	181.3	1.3	0.9	0.0	185.0
1700	1.1	204.9	1.7	0.9	0.0	208.6
1800	1.1	146.0	0.7	0.6	0.3	148.7
1900	0.4	83.3	0.3	0.4	0.0	84.4
2000	0.1	55.0	0.3	0.0	0.0	55.4
2100	0.1	29.7	0.0	0.0	0.0	29.9
2200	0.0	25.0	0.0	0.0	0.0	25.0
2300	0.0	14.1	0.0	0.0	0.0	14.1
12hr TTL	13.3	1800.3	24.7	9.4	0.9	1848.6
24hr TTL	15.3	2127.3	25.6	10.3	1.0	2179.4
1%	98%	1%	0%	0%		

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	9.7	0.0	0.0	0.0	9.7
0100	0.1	6.4	0.0	0.0	0.0	6.6
0200	0.0	3.1	0.0	0.0	0.0	3.1
0300	0.0	4.3	0.1	0.0	0.0	4.4
0400	0.0	8.9	0.3	0.4	0.0	9.6
0500	0.7	33.7	0.4	1.0	0.0	35.9
0600	1.4	93.7	1.4	1.0	0.0	97.6
0700	1.7	204.7	3.6	2.3	0.3	212.6
0800	0.4	198.6	2.1	1.7	0.1	203.0
0900	1.4	143.4	4.9	1.1	0.0	150.9
1000	1.3	146.1	4.6	1.3	0.1	153.4
1100	0.9	155.6	6.3	0.9	0.3	163.9
1200	1.6	170.3	5.3	0.9	0.0	178.0
1300	1.3	144.0	2.7	0.7	0.3	149.0
1400	1.6	168.1	4.6	0.9	0.0	175.1
1500	1.0	218.4	4.4	2.3	0.3	226.4
1600	0.7	275.1	4.4	0.6	0.4	281.3
1700	1.6	273.6	4.1	0.3	0.0	279.6
1800	0.6	153.6	1.6	0.1	0.0	155.9
1900	0.3	91.1	0.6	0.1	0.0	92.1
2000	0.6	58.4	0.7	0.0	0.0	59.7
2100	0.6	39.6	0.4	0.0	0.0	40.6
2200	0.4	21.3	0.6	0.0	0.0	22.3
2300	0.1	13.4	0.0	0.0	0.0	13.6
12hr TTL	14.0	2251.6	48.6	13.0	1.9	2329.0
24hr TTL	18.3	2635.3	53.1	15.6	1.9	2724.1
1%	97%	2%	1%	0%		

Average daily 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 7 days.

CYCLE PROVISION



The 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.

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 will 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

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AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4:

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CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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 A-T-R 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 A-T-R 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 7 days 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.

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

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Generated 19 Oct 2021 v6.0

28925-004 Norfolk. Newmarket Road. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-005 - La Hogue Road
LOC. DESC.	La Hogue Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on La Hogue Road, commencing Fri 15 Oct 2021, recorded a total of 4,584 vehicles. The posted speed limit of 60mph was exceeded by 1.6% of vehicles, and the seasonally adjusted, combined AADT value is 705 (see Equipment & Methodology below).

COMBINED

Total recorded volume	4,584
Avg daily volume (based on 7 days)	654.9
Average daily speed (7 days)	43.0mph
Average daily 85%ile (7 days)	50.6mph
AADT (annual average daily traffic)	705

Avg weekday volume (Mon-Fri, 24hrs)	613.0
Avg weekday speed (Mon-Fri, 24hrs)	43.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	573.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.6mph

NORTHBOUND ↑

Total recorded volume	2,994
Avg daily volume (based on 7 days)	427.7
Average daily speed (7 days)	42.4mph
Average daily 85%ile (7 days)	50.5mph
% of vehicles exceeding 60mph	1.7%

Avg weekday volume (Mon-Fri, 24hrs)	410.4
Avg weekday speed (Mon-Fri, 24hrs)	43.3mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	379.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.1mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.3mph

SOUTHBOUND ↓

Total recorded volume	1,590
Avg daily volume (based on 7 days)	227.1
Average daily speed (7 days)	43.7mph
Average daily 85%ile (7 days)	50.6mph
% of vehicles exceeding 60mph	1.4%

Avg weekday volume (Mon-Fri, 24hrs)	202.6
Avg weekday speed (Mon-Fri, 24hrs)	44.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	193.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	44.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.2mph

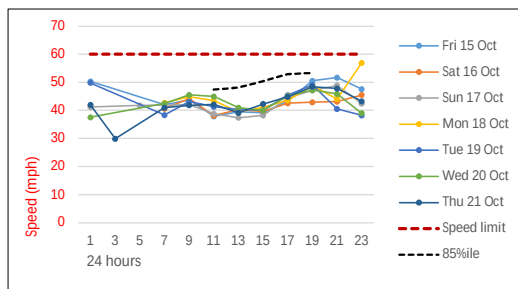
SITE LOCATION



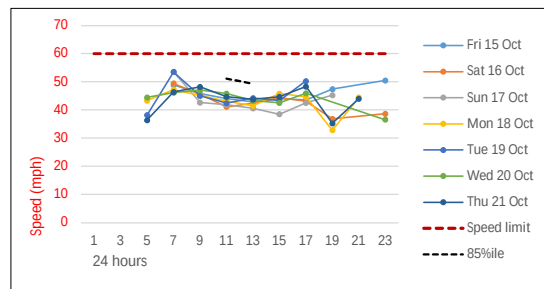
Location	La Hogue Road
Lat, lng.	52°17'7.30"N, 0°27'15.49"E
Project & site	28925-005
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

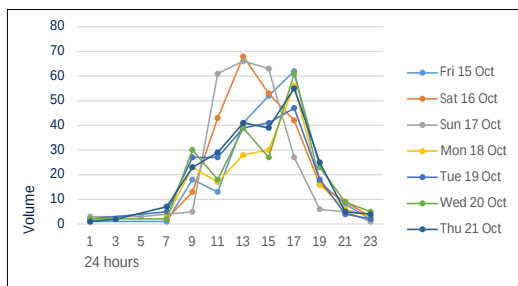


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

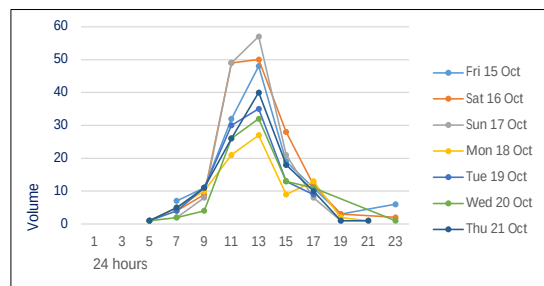
The peak average northbound daytime speed was 61.3mph at 18:45 on Fri 15 Oct, whilst the peak average southbound speed was 61.5mph at 07:45 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

NORTHBOUND ↑



SOUTHBOUND ↓

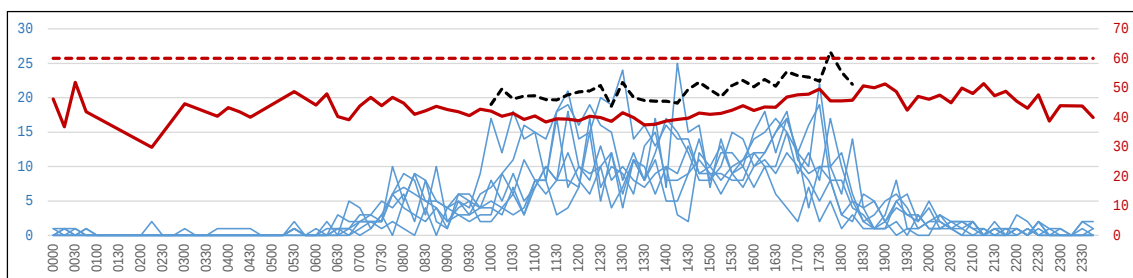


↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

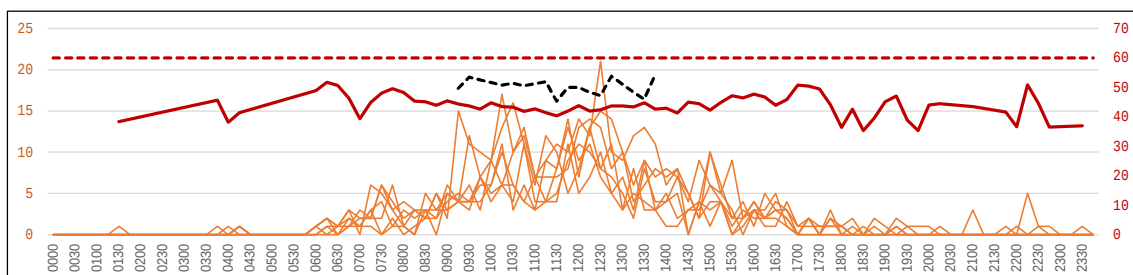
Hourly southbound traffic volumes over each 24hr period for 7 days from all available data.

↓

15min VOL & SPEED



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

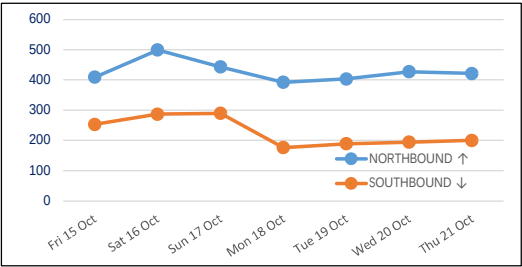


15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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 Saturday.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

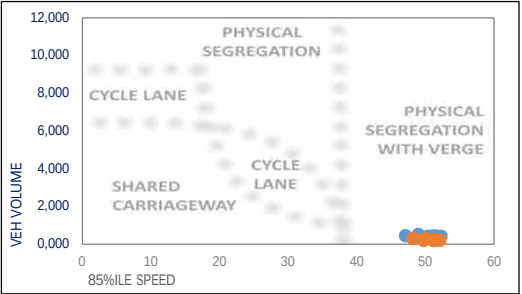
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	1.3
0100	0.0	0.0	0.0	0.0	0.0	0.0
0200	0.0	0.3	0.0	0.0	0.0	0.3
0300	0.0	0.3	0.0	0.0	0.0	0.3
0400	0.0	0.4	0.0	0.0	0.0	0.4
0500	0.0	0.9	0.0	0.0	0.0	0.9
0600	0.0	2.6	0.3	0.0	0.0	2.9
0700	0.0	10.0	1.3	0.1	0.0	11.4
0800	0.0	18.3	1.0	0.6	0.0	19.9
0900	0.1	14.0	1.3	0.3	0.0	15.7
1000	0.6	27.6	1.3	0.3	0.0	29.7
1100	0.4	41.3	0.6	0.7	0.0	43.0
1200	1.0	43.7	0.4	0.9	0.0	46.0
1300	0.1	41.1	0.3	0.4	0.0	42.0
1400	0.1	42.0	0.9	0.6	0.0	43.6
1500	0.1	37.1	1.0	0.9	0.3	39.4
1600	0.3	47.4	0.3	0.7	1.3	50.0
1700	0.0	38.9	0.1	0.3	0.1	39.4
1800	0.0	17.0	0.3	0.0	0.0	17.3
1900	0.0	10.9	0.0	0.0	0.0	10.9
2000	0.0	6.6	0.0	0.0	0.0	6.6
2100	0.0	2.4	0.0	0.0	0.0	2.4
2200	0.0	2.9	0.0	0.0	0.0	2.9
2300	0.0	1.6	0.0	0.0	0.0	1.6
12hr TTL	2.9	378.4	8.7	5.7	1.7	397.4
24hr TTL	2.9	408.4	9.0	5.7	1.7	427.7
1%	95%	2%	1%	0%		

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.0	0.0	0.0	0.0	0.0
0100	0.0	0.1	0.0	0.0	0.0	0.1
0200	0.0	0.0	0.0	0.0	0.0	0.0
0300	0.0	0.0	0.1	0.0	0.0	0.1
0400	0.0	0.0	0.0	0.6	0.0	0.6
0500	0.0	0.0	0.0	0.0	0.0	0.0
0600	0.0	3.4	0.4	0.3	0.0	4.1
0700	0.4	9.0	0.6	0.3	0.0	10.3
0800	0.0	8.9	0.3	0.0	0.0	9.1
0900	0.0	21.7	0.3	0.3	0.0	22.3
1000	0.9	31.4	0.4	0.6	0.0	33.3
1100	0.3	28.7	0.7	0.0	0.1	29.9
1200	0.1	41.0	0.1	0.0	0.0	41.3
1300	0.0	24.6	0.6	0.3	0.0	25.4
1400	0.1	17.0	0.1	0.0	0.0	17.3
1500	0.1	14.4	0.1	0.0	0.0	14.7
1600	0.0	10.1	0.3	0.1	0.0	10.6
1700	0.0	3.1	0.0	0.0	0.0	3.1
1800	0.0	1.4	0.0	0.0	0.0	1.4
1900	0.0	1.1	0.0	0.0	0.0	1.1
2000	0.0	0.3	0.0	0.0	0.0	0.3
2100	0.0	0.6	0.0	0.0	0.0	0.6
2200	0.0	1.3	0.0	0.0	0.0	1.3
2300	0.0	0.1	0.0	0.0	0.0	0.1
12hr TTL	2.0	211.4	3.6	1.6	0.1	218.7
24hr TTL	2.0	218.4	4.1	2.4	0.1	227.1
1%	96%	2%	1%	0%		

Average daily 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 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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 A-T-R 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 A-T-R 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 7 days 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.

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, A-T-R may not be held liable for errors of fact or interpretation.

Generated 05 Nov 2021 v6.0

28925-005 Cambridge. La Hogue Road. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-005 - Freckenham Road
LOC. DESC.	Freckenham Road
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Freckenham Road, commencing Tue 28 Sep 2021, recorded a total of 17,588 vehicles. The posted speed limit of 60mph was exceeded by 11.5% of vehicles, and the seasonally adjusted, combined AADT value is 2,503 (see Equipment & Methodology below).

COMBINED

Total recorded volume	17,588
Avg daily volume (based on 7 days)	2,512.6
Average daily speed (7 days)	49.6mph
Average daily 85%ile (7 days)	58.0mph
AADT (annual average daily traffic)	2,503

Avg weekday volume (Mon-Fri, 24hrs)	2,713.6
Avg weekday speed (Mon-Fri, 24hrs)	49.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,289.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.6mph

NORTHBOUND ↑

Total recorded volume	9,113
Avg daily volume (based on 7 days)	1,301.9
Average daily speed (7 days)	48.9mph
Average daily 85%ile (7 days)	56.9mph
% of vehicles exceeding 60mph	9.6%

Avg weekday volume (Mon-Fri, 24hrs)	1,409.4
Avg weekday speed (Mon-Fri, 24hrs)	49.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,180.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	57.2mph

SOUTHBOUND ↓

Total recorded volume	8,475
Avg daily volume (based on 7 days)	1,210.7
Average daily speed (7 days)	50.2mph
Average daily 85%ile (7 days)	59.1mph
% of vehicles exceeding 60mph	13.5%

Avg weekday volume (Mon-Fri, 24hrs)	1,304.2
Avg weekday speed (Mon-Fri, 24hrs)	49.5mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,108.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	57.6mph

SITE LOCATION

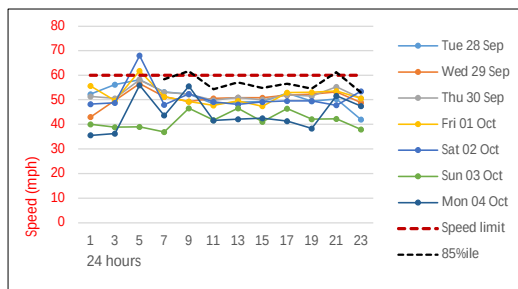
SITE PLAN



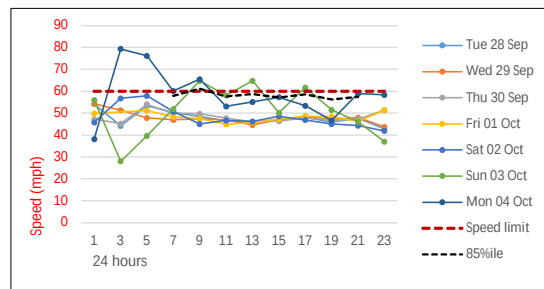
Location	Freckenham Road
Lat, lng.	52°19'33.68"N/52°19'33.68"W
Project & site	28925-005
PSL	60mph
Bus route	No
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

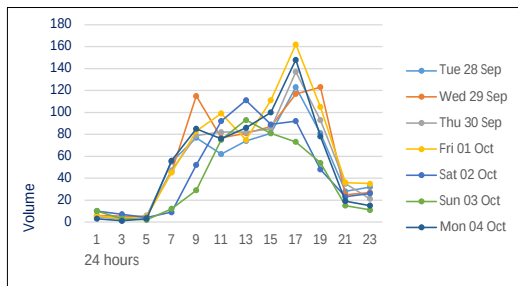


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

The peak average northbound daytime speed was 64.2mph at 08:00 on Mon 04 Oct, whilst the peak average southbound speed was 84.9mph at 12:00 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

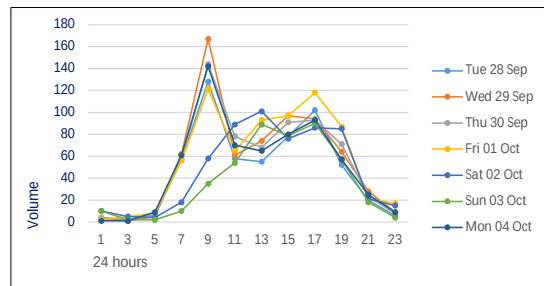
NORTHBOUND ↑



↑

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

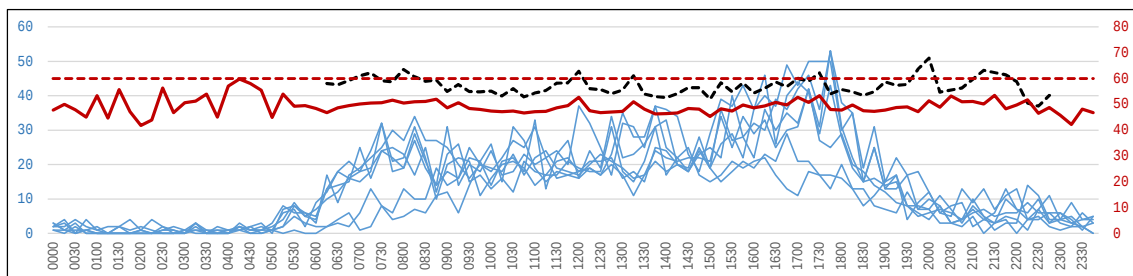
SOUTHBOUND ↓



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

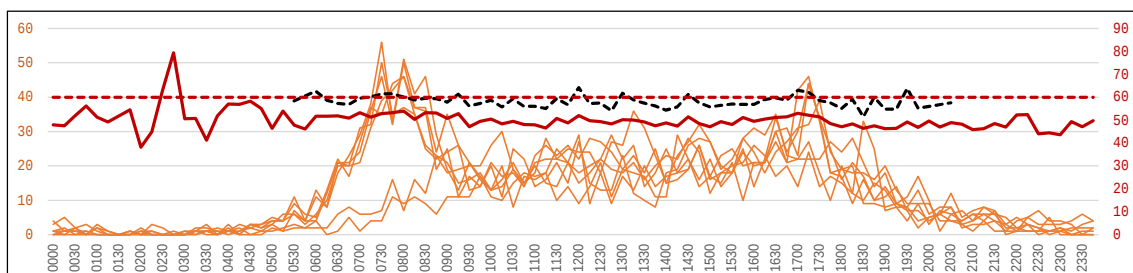
↓

15min VOL & SPEED



↑

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

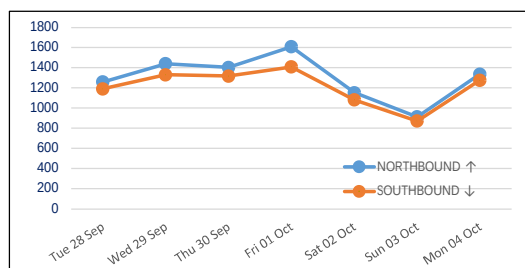


15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

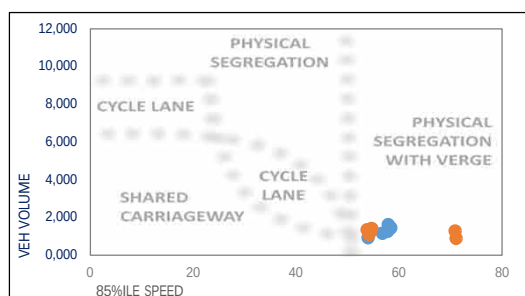
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.3	0.0	0.1	0.0	6.4
0100	0.0	2.3	0.1	0.0	0.0	2.4
0200	0.0	1.9	1.0	0.0	0.0	2.9
0300	0.0	2.0	0.7	0.4	0.0	3.1
0400	0.0	3.9	0.4	0.0	0.0	4.3
0500	0.1	15.3	0.0	0.1	0.0	15.6
0600	0.3	36.9	1.0	0.4	0.0	38.6
0700	0.1	67.6	2.6	0.4	0.0	70.7
0800	1.1	69.6	3.1	0.3	0.1	74.3
0900	0.9	69.4	3.6	1.0	0.0	74.9
1000	0.7	77.0	2.7	0.0	0.0	80.4
1100	2.0	73.7	3.0	1.1	1.1	81.0
1200	1.7	81.6	2.0	0.6	0.1	86.0
1300	2.3	88.3	2.6	0.3	0.3	93.7
1400	1.0	85.6	1.9	1.6	0.6	90.6
1500	2.9	96.0	2.3	2.0	0.9	104.0
1600	2.1	117.3	1.3	0.4	0.6	121.7
1700	2.0	131.6	1.4	0.0	0.0	135.0
1800	1.7	80.9	0.6	0.0	0.0	83.1
1900	0.3	45.4	0.1	0.1	0.0	46.0
2000	0.1	25.3	0.4	0.0	0.0	25.9
2100	0.0	23.1	0.1	0.3	0.0	23.6
2200	0.4	23.3	0.1	0.0	0.0	23.9
2300	0.4	13.0	0.1	0.3	0.0	13.9
12hr TTL	18.6	1038.4	27.0	7.7	3.7	1095.4
24hr TTL	20.3	1237.0	31.3	9.6	3.7	1301.9
	2%	95%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	4.7	0.0	0.0	0.0	4.7
0100	0.1	1.7	0.0	0.0	0.0	1.9
0200	0.0	1.6	0.1	0.0	0.0	1.7
0300	0.0	2.7	0.1	0.1	0.0	3.0
0400	0.1	5.6	0.1	0.0	0.0	5.9
0500	0.3	15.3	0.4	0.1	0.0	16.1
0600	0.1	45.0	0.7	0.0	0.0	45.9
0700	1.4	105.6	2.3	0.4	0.7	110.4
0800	1.0	107.1	4.6	0.9	0.0	113.6
0900	0.9	68.9	2.1	0.9	0.0	72.7
1000	0.9	65.1	1.4	0.4	0.0	67.9
1100	1.0	75.6	1.4	0.7	0.1	78.9
1200	1.3	73.4	2.4	0.7	0.0	77.9
1300	0.4	73.7	1.7	1.0	0.0	76.9
1400	1.4	81.6	1.3	1.0	0.1	85.4
1500	0.7	77.6	1.1	0.7	0.3	80.4
1600	0.1	94.7	1.0	0.7	0.0	96.6
1700	0.7	105.6	1.3	0.3	0.1	108.0
1800	1.1	66.3	0.0	0.1	0.0	67.6
1900	0.1	39.0	0.3	0.0	0.0	39.4
2000	0.0	21.9	0.0	0.3	0.1	22.3
2100	0.1	16.9	0.1	0.0	0.0	17.1
2200	0.4	9.3	0.0	0.0	0.0	9.7
2300	0.0	6.4	0.4	0.0	0.0	6.9
12hr TTL	11.0	995.1	20.7	7.9	1.4	1036.1
24hr TTL	12.4	1165.1	23.1	8.4	1.6	1210.7
	1%	96%	2%	1%	0%	

Average daily 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 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m
3	SVT	Class 2 plus trailer	OGV1 & PSV	
4	TB2	2 axle truck / bus	OGV1	
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m	
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		

Equipment damage & failure

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The equipment is located in accordance with the details provided by the client and A-T-R 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 7 days 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.

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Disclaimer

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Generated 19 Oct 2021 v6.0

28925-005 Norfolk, Freckenham Road, Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-006 - B1085 Dane Hill Road
LOC. DESC.	B1085 Dane Hill Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1085 Dane Hill Road, commencing Fri 15 Oct 2021, recorded a total of 30,241 vehicles. The posted speed limit of 60mph was exceeded by 1.8% of vehicles, and the seasonally adjusted, combined AADT value is 4,539 (see Equipment & Methodology below).

COMBINED

Total recorded volume	30,241
Avg daily volume (based on 7 days)	4,320.1
Average daily speed (7 days)	44.3mph
Average daily 85%ile (7 days)	50.7mph
AADT (annual average daily traffic)	4,539

Avg weekday volume (Mon-Fri, 24hrs)	4,717.8
Avg weekday speed (Mon-Fri, 24hrs)	44.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	4,087.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.7mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

EASTBOUND →

Total recorded volume	14,470
Avg daily volume (based on 7 days)	2,067.1
Average daily speed (7 days)	42.8mph
Average daily 85%ile (7 days)	49.0mph
% of vehicles exceeding 60mph	1.2%

Avg weekday volume (Mon-Fri, 24hrs)	2,235.2
Avg weekday speed (Mon-Fri, 24hrs)	42.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,931.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	42.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	48.5mph

WESTBOUND ←

Total recorded volume	15,771
Avg daily volume (based on 7 days)	2,253.0
Average daily speed (7 days)	45.8mph
Average daily 85%ile (7 days)	52.4mph
% of vehicles exceeding 60mph	2.5%

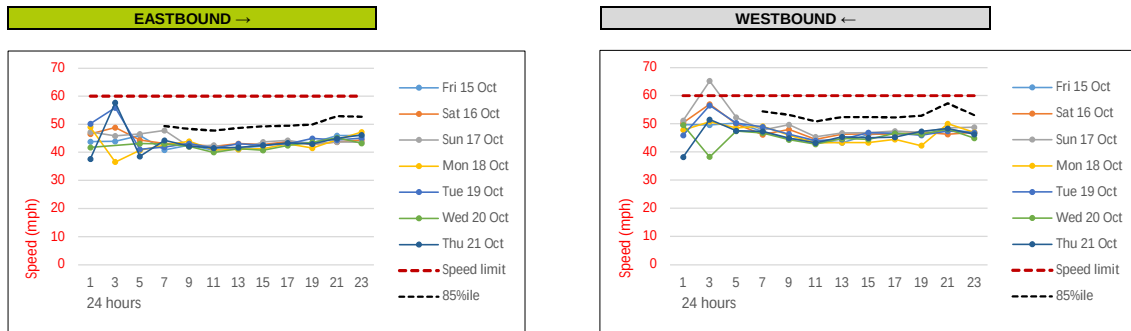
Avg weekday volume (Mon-Fri, 24hrs)	2,482.6
Avg weekday speed (Mon-Fri, 24hrs)	45.4mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,155.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	51.5mph

SITE LOCATION



Location	B1085 Dane Hill Road
Lat, lng.	52°17'13.14"N/0°28'28.89"E
Project & site	28925-006
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

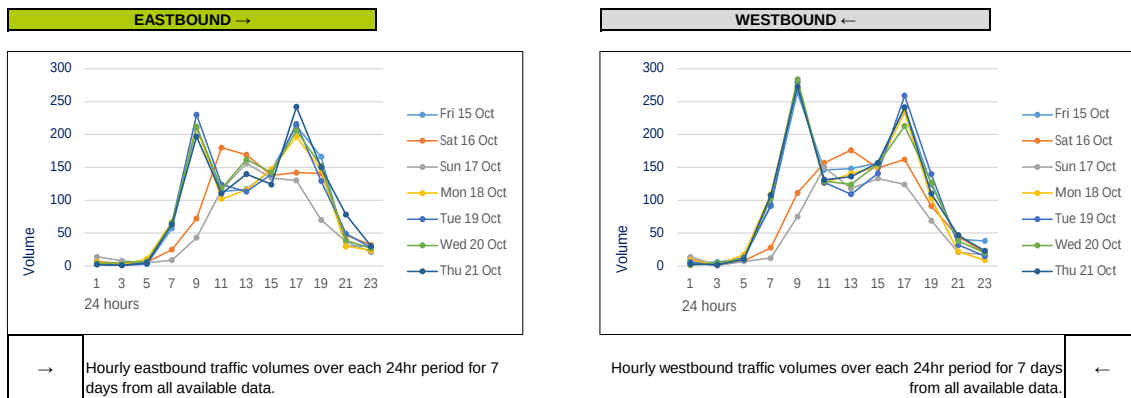
DAILY SPEEDS



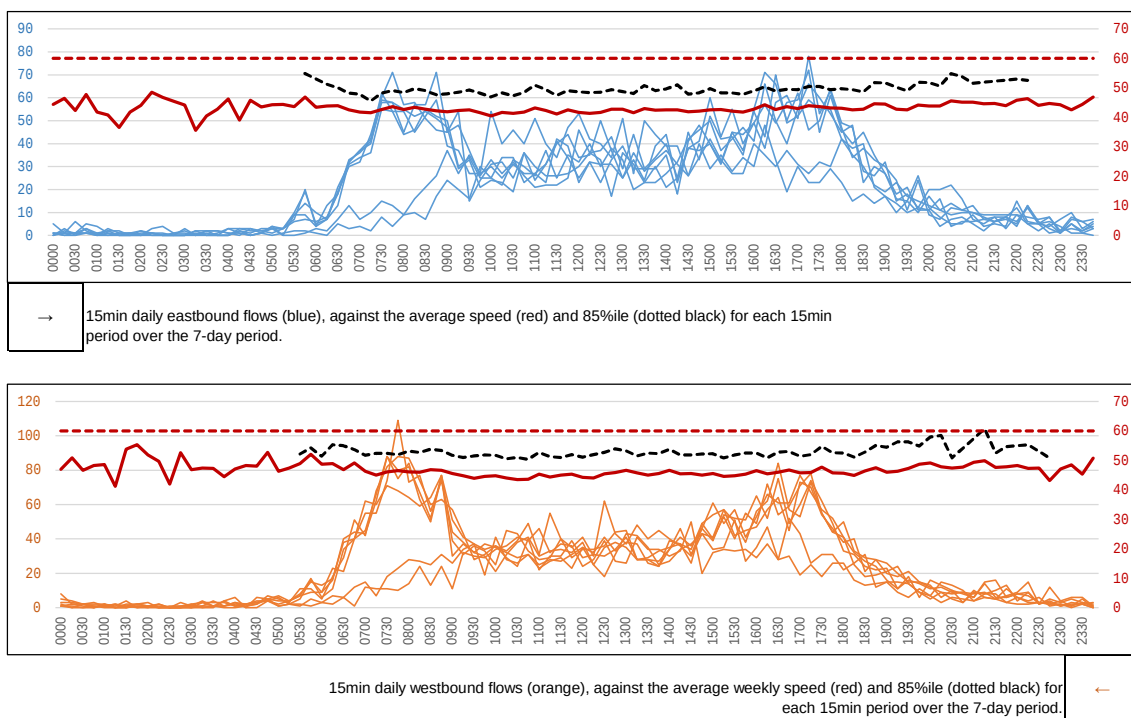
Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

The peak average eastbound daytime speed was 48.5mph at 18:45 on Tue 19 Oct, whilst the peak average westbound speed was 52.7mph at 07:15 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

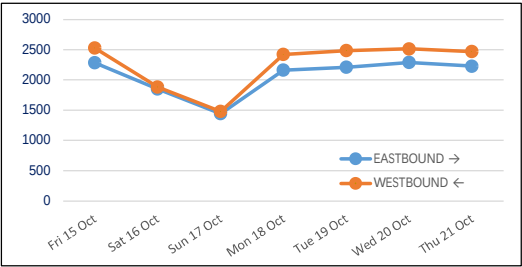


15min VOL & SPEED



DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (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.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

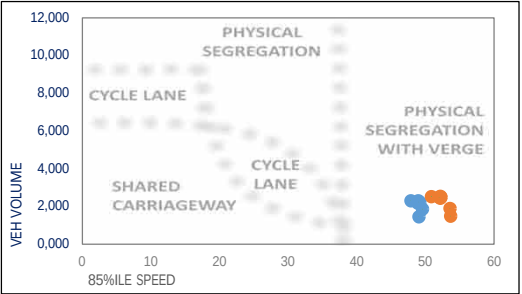
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.9	0.0	0.1	0.0	6.0
0100	0.0	2.7	0.3	0.1	0.0	3.1
0200	0.0	2.6	0.0	0.1	0.0	2.7
0300	0.3	2.9	0.1	0.0	0.0	3.3
0400	0.1	5.0	0.3	0.3	0.0	5.7
0500	0.0	19.4	0.4	1.0	0.0	20.9
0600	0.0	48.1	1.4	0.7	0.0	50.3
0700	0.1	140.3	3.6	2.4	0.9	147.3
0800	0.4	160.9	4.0	2.6	0.1	168.0
0900	0.9	121.6	4.9	2.1	0.4	129.9
1000	1.1	114.1	6.0	1.4	0.6	123.3
1100	1.7	119.1	4.9	2.0	0.4	128.1
1200	1.3	127.9	6.9	2.4	0.6	139.0
1300	0.9	117.3	6.6	3.0	0.3	128.0
1400	0.9	126.3	6.3	5.0	0.3	138.7
1500	1.3	151.6	4.0	1.7	0.7	159.3
1600	3.0	179.4	6.4	2.9	0.6	192.3
1700	0.7	191.7	4.0	1.1	0.1	197.7
1800	1.0	131.9	2.4	1.0	0.0	136.3
1900	0.6	70.3	0.7	0.6	0.1	72.3
2000	0.0	43.0	1.0	0.3	0.0	44.3
2100	0.0	27.7	0.1	0.3	0.0	28.1
2200	0.0	27.1	0.3	0.0	0.0	27.4
2300	0.0	14.3	0.9	0.0	0.0	15.1
12hr TTL	13.3	1682.0	59.9	27.7	5.0	1787.9
24hr TTL	14.3	1951.0	65.4	31.3	5.1	2067.1
1%	94%	3%	2%	0%		

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.6	0.1	0.3	0.0	7.0
0100	0.0	4.0	0.0	0.3	0.0	4.3
0200	0.0	2.0	0.4	0.1	0.0	2.6
0300	0.0	3.0	2.3	0.7	0.1	6.1
0400	0.0	8.6	1.6	1.0	0.0	11.1
0500	0.0	20.9	0.9	1.4	0.0	23.1
0600	0.9	72.9	2.4	1.4	0.1	77.7
0700	1.7	201.7	5.6	2.4	1.1	212.6
0800	0.3	214.4	6.3	2.4	0.1	223.6
0900	0.3	128.4	6.0	2.1	0.1	137.0
1000	1.3	127.9	6.0	2.1	0.7	138.0
1100	0.7	122.7	3.6	1.0	0.7	128.7
1200	0.6	127.0	6.1	2.0	0.3	136.0
1300	1.9	125.4	6.6	1.4	0.3	135.6
1400	0.4	140.9	5.7	2.0	0.0	149.0
1500	1.1	168.1	6.0	3.3	0.9	179.4
1600	1.6	201.6	4.9	2.3	0.3	210.6
1700	0.6	199.0	3.9	1.1	0.1	204.7
1800	0.1	105.6	1.9	1.4	0.1	109.1
1900	0.1	59.4	0.7	0.7	0.0	61.0
2000	0.0	34.6	0.3	0.3	0.0	35.1
2100	0.1	30.3	0.4	0.1	0.0	31.0
2200	0.0	19.3	0.3	0.7	0.0	20.3
2300	0.0	9.1	0.1	0.0	0.0	9.3
12hr TTL	10.6	1862.7	62.4	23.7	4.9	1964.3
24hr TTL	11.7	2133.3	72.0	30.9	5.1	2253.0
1%	95%	3%	1%	0%		

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

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

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 A-T-R 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 A-T-R 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 7 days 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.

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, A-T-R may not be held liable for errors of fact or interpretation.

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28925-006 Cambridge. B1085 Dane Hill Road. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-007 - B1085 Dane Hill Road
LOC. DESC.	B1085 Dane Hill Road
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1085 Dane Hill Road, commencing Fri 15 Oct 2021, recorded a total of 30,349 vehicles. The posted speed limit of 60mph was exceeded by 0.5% of vehicles, and the seasonally adjusted, combined AADT value is 4,555 (see Equipment & Methodology below).

COMBINED

Total recorded volume	30,349
Avg daily volume (based on 7 days)	4,335.6
Average daily speed (7 days)	42.1mph
Average daily 85%ile (7 days)	47.7mph
AADT (annual average daily traffic)	4,555

Avg weekday volume (Mon-Fri, 24hrs)	4,723.2
Avg weekday speed (Mon-Fri, 24hrs)	41.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	4,087.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	41.7mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

EASTBOUND →

Total recorded volume	14,559
Avg daily volume (based on 7 days)	2,079.9
Average daily speed (7 days)	40.7mph
Average daily 85%ile (7 days)	46.0mph
% of vehicles exceeding 60mph	0.4%

Avg weekday volume (Mon-Fri, 24hrs)	2,244.4
Avg weekday speed (Mon-Fri, 24hrs)	40.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,937.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	40.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	45.6mph

WESTBOUND ←

Total recorded volume	15,790
Avg daily volume (based on 7 days)	2,255.7
Average daily speed (7 days)	43.5mph
Average daily 85%ile (7 days)	49.5mph
% of vehicles exceeding 60mph	0.7%

Avg weekday volume (Mon-Fri, 24hrs)	2,478.8
Avg weekday speed (Mon-Fri, 24hrs)	43.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	2,150.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	43.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	48.9mph

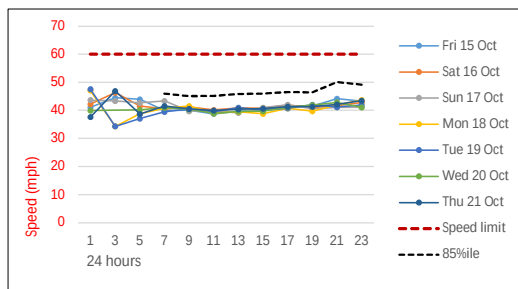
SITE LOCATION



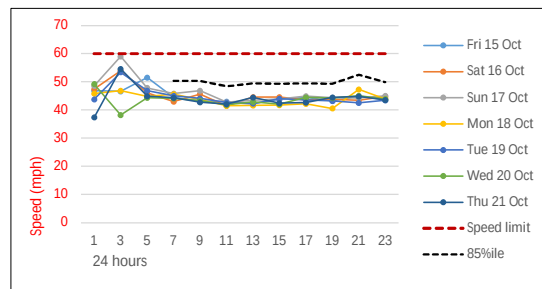
Location	B1085 Dane Hill Road
Lat, lng.	52°17'15.15"N, 0°28'21.81"E
Project & site	28925-007
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

EASTBOUND →



WESTBOUND ←

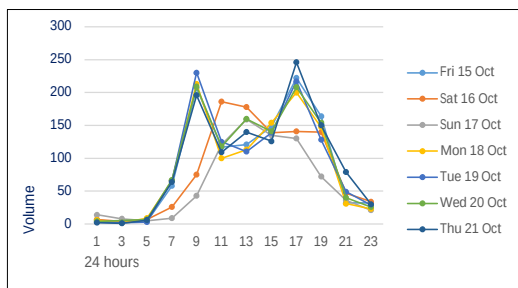


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

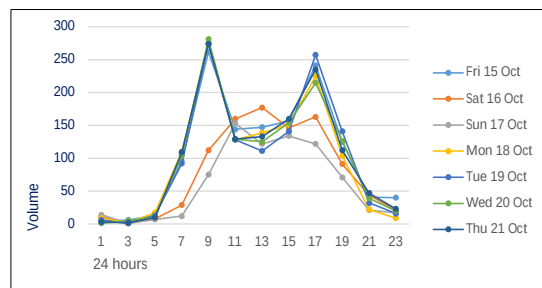
The peak average eastbound daytime speed was 45.8mph at 07:00 on Sun 17 Oct, whilst the peak average westbound speed was 48.5mph at 18:30 on Wed 20 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

EASTBOUND →



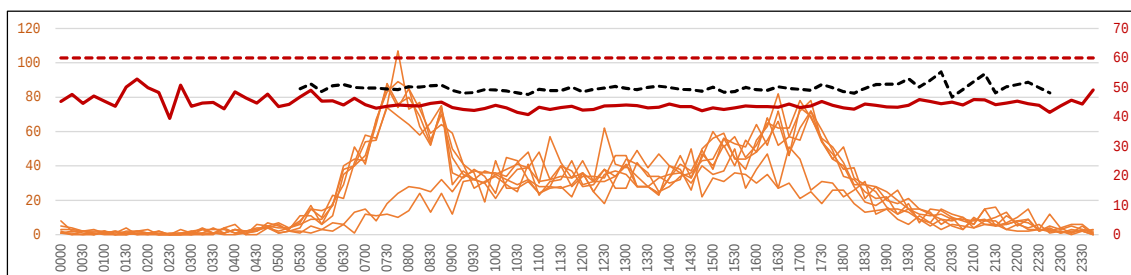
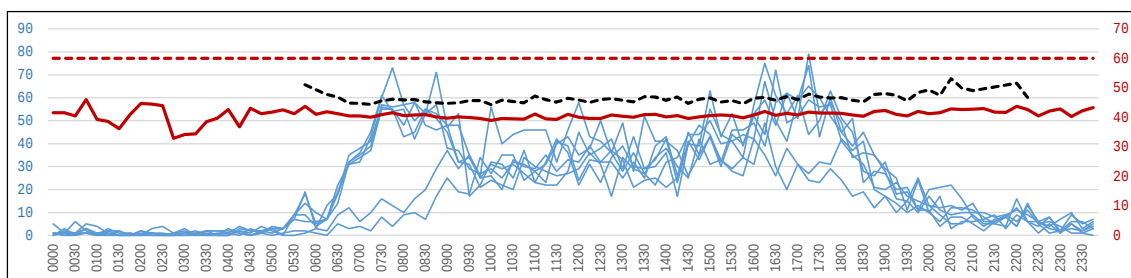
WESTBOUND ←



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

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

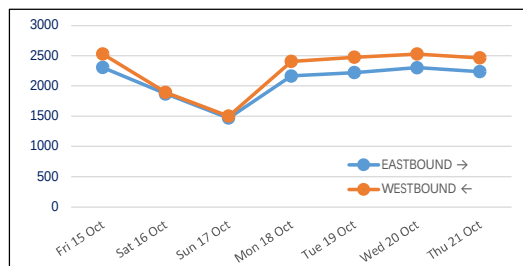
15min VOL & SPEED



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

DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (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.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

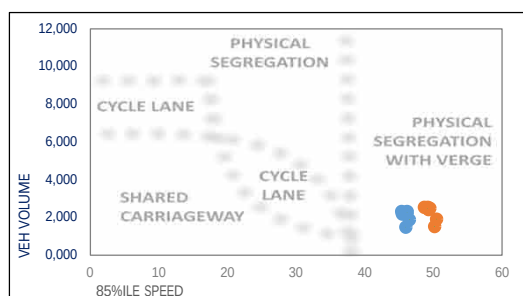
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.9	0.0	0.1	0.0	6.0
0100	0.0	2.7	0.3	0.1	0.0	3.1
0200	0.1	2.6	0.0	0.1	0.0	2.9
0300	0.4	2.9	0.0	0.0	0.1	3.4
0400	0.3	5.0	0.3	0.3	0.0	5.9
0500	0.0	18.4	0.6	1.1	0.0	20.1
0600	0.4	48.6	1.1	0.7	0.0	50.9
0700	0.4	138.4	4.0	2.9	0.7	146.4
0800	0.9	159.6	4.4	2.6	0.1	167.6
0900	1.1	121.6	5.3	2.6	0.4	131.0
1000	1.6	114.4	6.3	2.1	0.7	125.1
1100	2.6	119.7	5.0	1.9	0.4	129.6
1200	2.0	127.1	7.0	3.1	0.9	140.1
1300	1.6	115.3	7.3	3.1	0.3	127.6
1400	1.4	126.7	6.9	4.7	0.6	140.3
1500	1.4	153.0	4.6	1.4	0.9	161.3
1600	3.4	180.7	6.7	3.6	0.4	194.9
1700	0.9	191.0	3.7	1.9	0.1	197.6
1800	1.0	131.7	2.6	1.1	0.0	136.4
1900	0.6	71.4	0.7	0.4	0.1	73.3
2000	0.0	43.6	1.0	0.3	0.0	44.9
2100	0.0	28.4	0.0	0.1	0.0	28.6
2200	0.0	27.7	0.1	0.0	0.0	27.9
2300	0.0	14.3	0.9	0.0	0.0	15.1
12hr TTL	18.3	1679.3	63.7	31.0	5.6	1797.9
24hr TTL	20.1	1950.7	68.7	34.4	5.9	2079.9
1%	1%	94%	3%	2%	0%	

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.7	0.1	0.1	0.0	7.0
0100	0.0	4.0	0.0	0.3	0.0	4.3
0200	0.0	2.0	0.4	0.1	0.0	2.6
0300	0.0	2.9	3.0	0.3	0.0	6.1
0400	0.0	8.4	2.4	0.4	0.0	11.3
0500	0.0	20.4	0.9	1.4	0.0	22.7
0600	0.9	74.0	2.4	1.4	0.1	78.9
0700	2.0	201.0	5.4	2.4	0.7	211.6
0800	0.3	212.7	6.0	2.7	0.3	222.0
0900	1.0	128.0	5.6	2.3	0.1	137.0
1000	2.0	127.0	6.0	3.0	0.7	138.7
1100	1.0	124.0	3.7	0.7	0.7	130.1
1200	1.3	126.7	5.9	2.1	0.3	136.3
1300	3.1	123.7	6.7	2.0	0.6	136.1
1400	0.7	140.0	5.9	2.1	0.3	149.0
1500	2.1	168.7	6.0	3.3	1.0	181.1
1600	1.9	199.1	4.4	2.4	0.4	208.3
1700	0.6	199.1	3.9	1.4	0.1	205.1
1800	0.4	105.7	2.1	1.6	0.1	110.0
1900	0.3	59.1	0.7	0.9	0.0	61.0
2000	0.0	34.9	0.1	0.1	0.0	35.1
2100	0.1	30.6	0.3	0.1	0.0	31.1
2200	0.0	20.3	0.1	0.4	0.0	20.9
2300	0.0	9.1	0.1	0.0	0.0	9.3
12hr TTL	16.4	1855.9	61.6	26.1	5.4	1965.4
24hr TTL	17.7	2128.3	72.3	31.9	5.6	2255.7
1%	1%	94%	3%	1%	0%	

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA
1	MC	Motorcycle	SHORT Up to 5.5m	N/A
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m
3	SVT	Class 2 plus trailer	OGV1 & PSV	
4	TB2	2 axle truck / bus	OGV1	
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m	
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		

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 A-T-R cannot be held responsible for any periods where data has not been captured.

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Roadworks & events

Where possible, roadworks checks are made 7 days 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.

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28925-007 Cambridge. B1085 Dane Hill Road. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Norfolk
LOCATION	28925-006 - Isleham Road
LOC. DESC.	Isleham Road
START DATE	Tue 28 Sep, 2021
END DATE	Mon 04 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Isleham Road, commencing Tue 28 Sep 2021, recorded a total of 8,009 vehicles. The posted speed limit of 60mph was exceeded by 3.4% of vehicles, and the seasonally adjusted, combined AADT value is 1,139 (see Equipment & Methodology below).

COMBINED

Total recorded volume	8,009
Avg daily volume (based on 7 days)	1,144.1
Average daily speed (7 days)	45.1mph
Average daily 85%ile (7 days)	52.6mph
AADT (annual average daily traffic)	1,139

Avg weekday volume (Mon-Fri, 24hrs)	1,229.4
Avg weekday speed (Mon-Fri, 24hrs)	45.0mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,000.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	45.0mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

EASTBOUND →

Total recorded volume	4,006
Avg daily volume (based on 7 days)	572.3
Average daily speed (7 days)	42.6mph
Average daily 85%ile (7 days)	49.6mph
% of vehicles exceeding 60mph	1.0%

Avg weekday volume (Mon-Fri, 24hrs)	616.4
Avg weekday speed (Mon-Fri, 24hrs)	42.6mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	495.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	42.6mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	49.2mph

WESTBOUND ←

Total recorded volume	4,003
Avg daily volume (based on 7 days)	571.9
Average daily speed (7 days)	47.6mph
Average daily 85%ile (7 days)	55.6mph
% of vehicles exceeding 60mph	5.9%

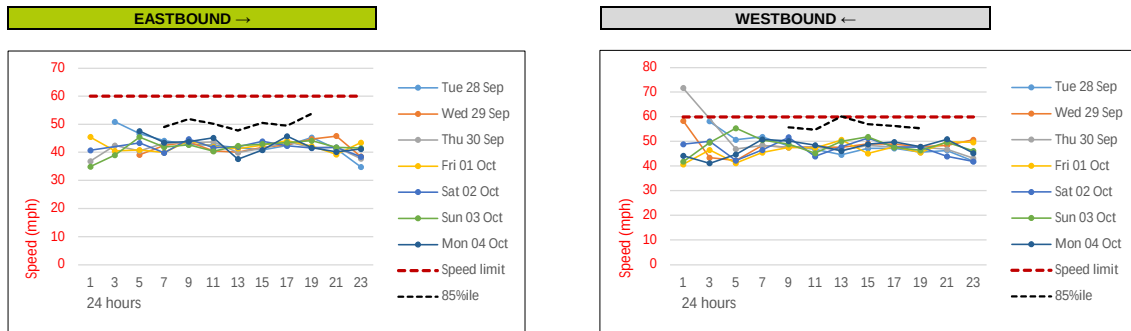
Avg weekday volume (Mon-Fri, 24hrs)	613.0
Avg weekday speed (Mon-Fri, 24hrs)	47.4mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	505.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	47.5mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.5mph

SITE LOCATION



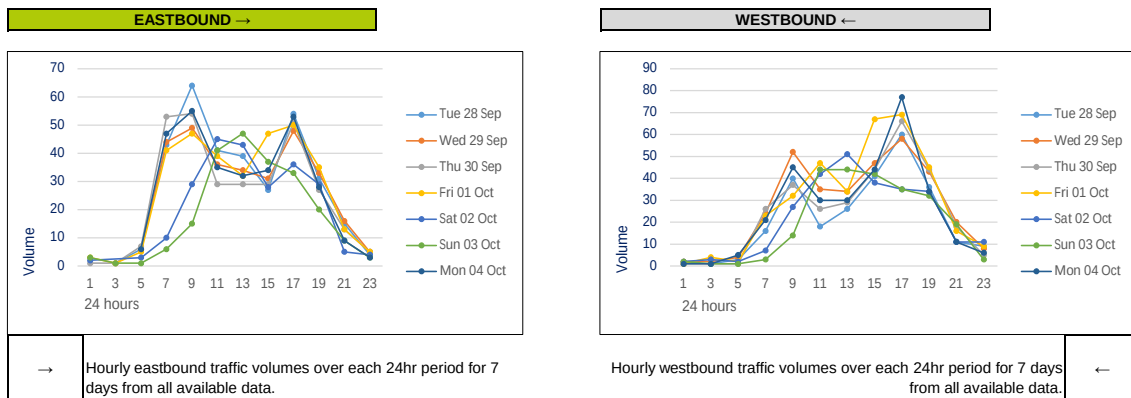
Location	Isleham Road
Lat, lng.	52°19'33.68"N/52°19'33.68" N
Project & site	28925-006
PSL	60mph
Bus route	No
Direction 1	Eastbound→
Direction 2	Westbound←

DAILY SPEEDS

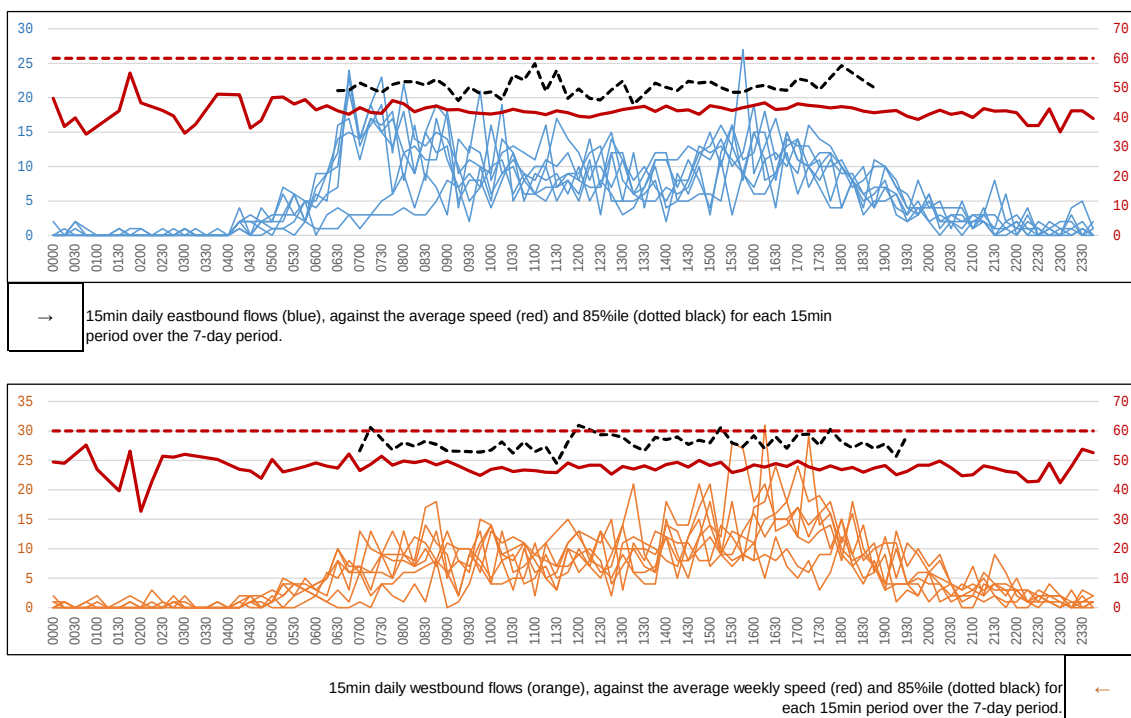


The peak average eastbound daytime speed was 51.1mph at 07:00 on Sun 03 Oct, whilst the peak average westbound speed was 64.5mph at 07:15 on Sat 02 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

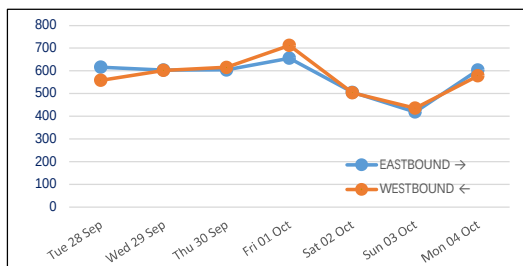


15min VOL & SPEED



DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (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.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

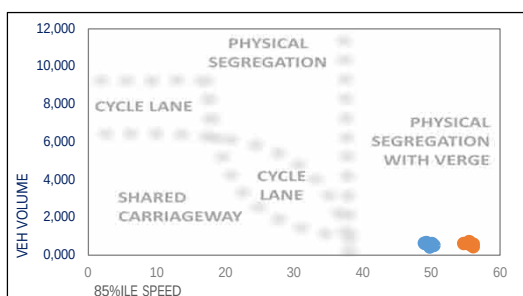
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	1.3
0100	0.0	0.4	0.0	0.0	0.0	0.4
0200	0.0	0.6	0.0	0.0	0.0	0.6
0300	0.0	0.7	0.0	0.0	0.0	0.7
0400	0.0	3.6	0.0	1.3	0.0	4.9
0500	0.0	10.4	0.0	1.4	0.0	11.9
0600	1.4	30.3	0.6	2.0	0.6	34.9
0700	1.3	44.0	0.6	1.0	1.0	47.9
0800	1.0	42.3	0.6	0.9	0.0	44.7
0900	0.3	37.1	1.4	0.4	0.0	39.3
1000	0.7	35.0	1.4	0.9	0.0	38.0
1100	0.4	34.6	0.9	0.1	0.0	36.0
1200	0.6	34.0	1.3	0.6	0.1	36.6
1300	0.0	28.3	1.0	1.0	0.3	30.6
1400	0.6	30.7	1.1	0.7	0.1	33.3
1500	0.3	43.0	1.0	0.3	0.0	44.6
1600	0.3	45.6	0.4	0.1	0.0	46.4
1700	0.4	41.3	0.0	0.1	0.0	41.9
1800	0.0	29.0	0.0	0.0	0.0	29.0
1900	0.4	20.9	0.4	0.0	0.0	21.7
2000	0.0	11.1	0.3	0.0	0.0	11.4
2100	0.0	8.3	0.0	0.0	0.0	8.3
2200	0.0	4.1	0.0	0.0	0.0	4.1
2300	0.0	4.0	0.0	0.0	0.0	4.0
12hr TTL	5.9	444.9	9.7	6.1	1.6	468.1
24hr TTL	7.7	540.6	11.0	10.9	2.1	572.3
1%	94%	2%	2%	0%		

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	1.3
0100	0.0	1.1	0.0	0.0	0.0	1.1
0200	0.0	1.6	0.0	0.1	0.0	1.7
0300	0.0	0.7	0.0	0.0	0.0	0.7
0400	0.0	2.6	0.0	0.0	0.0	2.6
0500	0.1	8.9	0.0	0.7	0.0	9.7
0600	0.0	16.4	0.3	0.4	0.0	17.1
0700	0.1	23.0	0.9	0.4	1.6	26.0
0800	0.3	31.3	2.0	1.1	0.6	35.3
0900	0.6	27.9	1.9	0.4	0.1	30.9
1000	0.6	31.9	1.1	1.0	0.0	34.6
1100	0.9	28.7	0.9	1.0	0.0	31.4
1200	1.4	32.4	0.7	0.9	0.0	35.4
1300	0.4	34.1	1.0	0.7	0.0	36.3
1400	0.3	44.0	0.6	0.9	0.4	46.1
1500	1.3	44.7	1.6	0.6	1.6	49.7
1600	1.9	53.0	0.6	0.9	0.9	57.1
1700	2.1	49.6	0.1	1.1	0.0	53.0
1800	0.3	36.4	0.7	0.6	0.3	38.3
1900	0.0	23.7	0.4	0.0	0.0	24.1
2000	0.0	15.1	0.0	0.0	0.0	15.1
2100	0.0	13.0	0.0	0.0	0.0	13.0
2200	0.0	7.3	0.0	0.0	0.0	7.3
2300	0.0	3.9	0.0	0.0	0.0	3.9
12hr TTL	10.1	437.0	12.0	9.6	5.4	474.1
24hr TTL	10.3	532.6	12.7	10.9	5.4	571.9
2%	93%	2%	2%	1%		

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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 A-T-R 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 A-T-R 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 7 days 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.

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, A-T-R may not be held liable for errors of fact or interpretation.

Generated 19 Oct 2021 v6.0

28925-006 Norfolk. Isleham Road. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-008 - B1085
LOC. DESC.	B1085
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1085, commencing Fri 15 Oct 2021, recorded a total of 24,148 vehicles. The posted speed limit of 60mph was exceeded by 8.7% of vehicles, and the seasonally adjusted, combined AADT value is 3,648 (see Equipment & Methodology below).

COMBINED

Total recorded volume	24,148
Avg daily volume (based on 7 days)	3,449.7
Average daily speed (7 days)	49.7mph
Average daily 85%ile (7 days)	57.2mph
AADT (annual average daily traffic)	3,648

Avg weekday volume (Mon-Fri, 24hrs)	3,740.8
Avg weekday speed (Mon-Fri, 24hrs)	49.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,305.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	49.5mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

EASTBOUND →

Total recorded volume	12,221
Avg daily volume (based on 7 days)	1,745.9
Average daily speed (7 days)	48.1mph
Average daily 85%ile (7 days)	55.7mph
% of vehicles exceeding 60mph	5.9%

Avg weekday volume (Mon-Fri, 24hrs)	1,863.8
Avg weekday speed (Mon-Fri, 24hrs)	48.2mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,635.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	48.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	55.3mph

WESTBOUND ←

Total recorded volume	11,927
Avg daily volume (based on 7 days)	1,703.9
Average daily speed (7 days)	51.2mph
Average daily 85%ile (7 days)	58.7mph
% of vehicles exceeding 60mph	11.5%

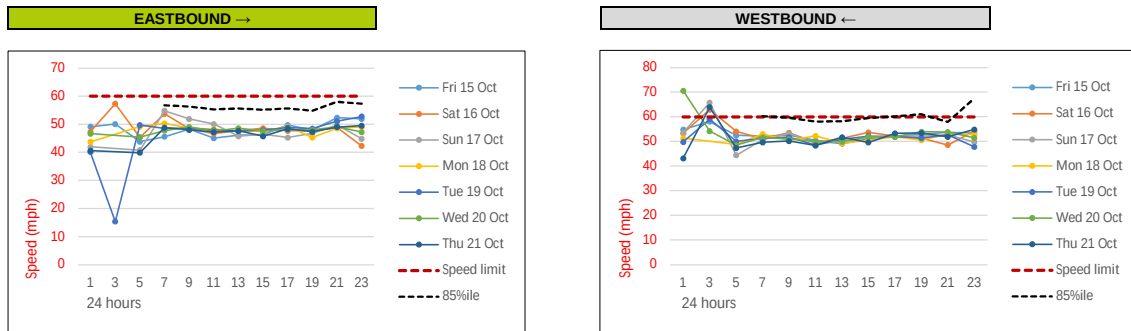
Avg weekday volume (Mon-Fri, 24hrs)	1,877.0
Avg weekday speed (Mon-Fri, 24hrs)	51.1mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	1,669.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	51.0mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	58.2mph

SITE LOCATION



Location	B1085
Lat, lng.	52°17'26.70"N/0°27'38.58"E
Project & site	28925-008
PSL	60mph
Bus route	Yes
Direction 1	Eastbound→
Direction 2	Westbound←

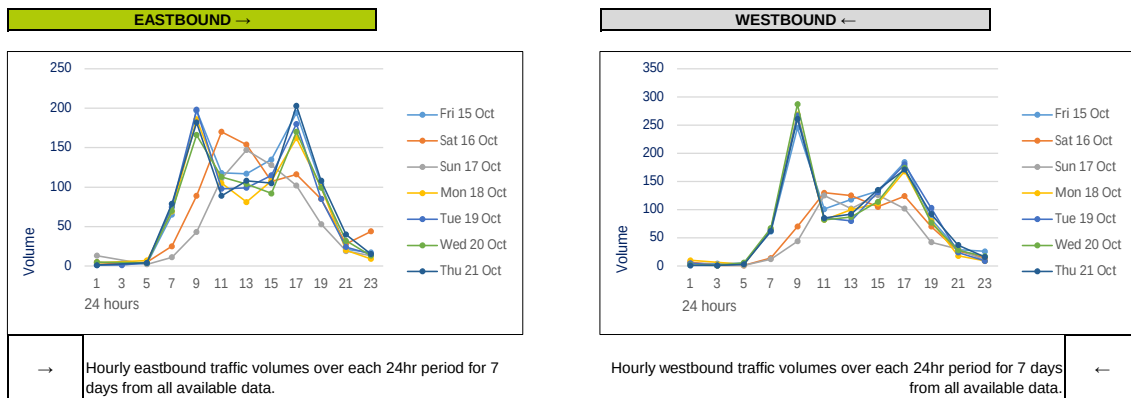
DAILY SPEEDS



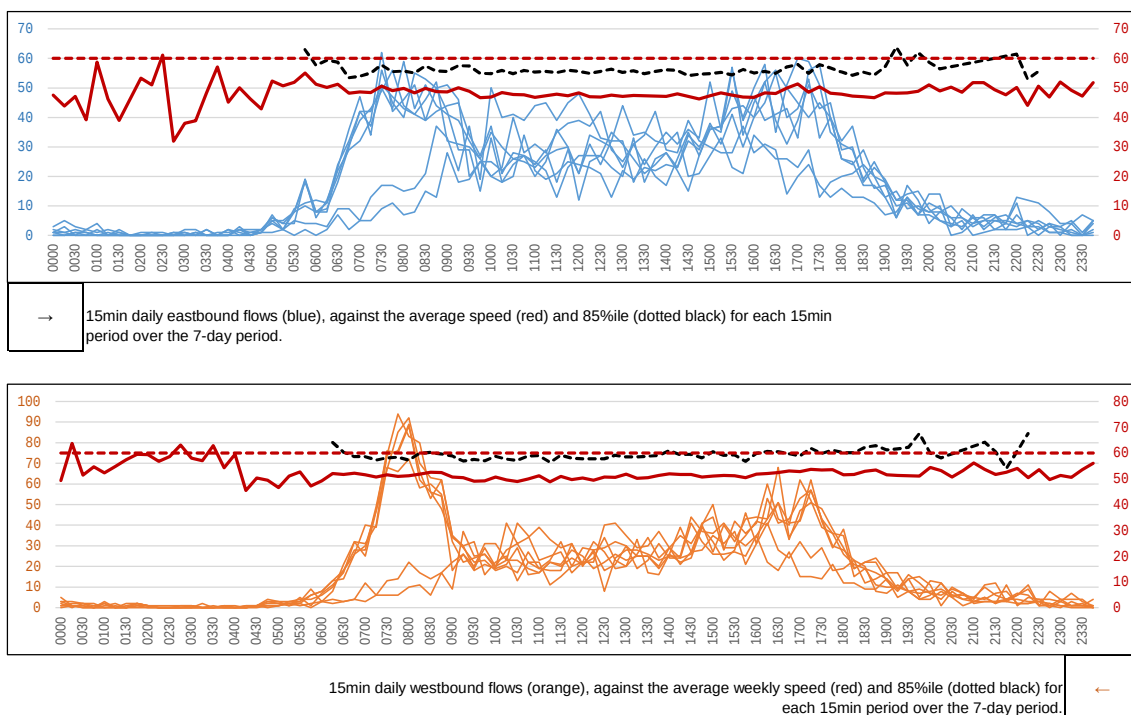
Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

The peak average eastbound daytime speed was 55.3mph at 07:00 on Sat 16 Oct, whilst the peak average westbound speed was 59.2mph at 08:30 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

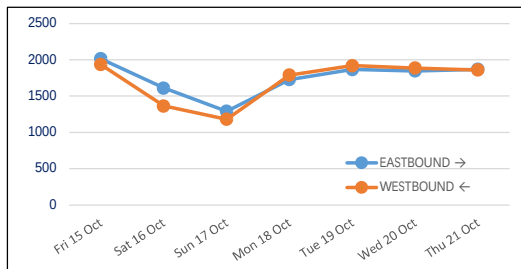


15min VOL & SPEED



DAILY VOLUMES

EAST & WESTBOUND



Total 24hr eastbound (blue) and westbound (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.

7-DAY AVERAGE CLASSES

EASTBOUND 7-DAY AVG →

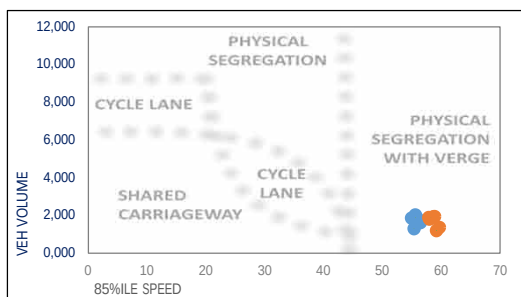
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	4.3	0.0	0.0	0.0	4.4
0100	0.0	1.9	0.1	0.0	0.0	2.0
0200	0.1	0.7	0.0	0.0	0.0	0.9
0300	0.3	1.6	0.0	0.0	0.0	1.9
0400	0.3	3.6	0.1	0.1	0.0	4.1
0500	0.0	24.9	0.7	0.1	0.0	25.7
0600	0.1	53.9	1.3	0.6	0.4	56.3
0700	0.4	132.6	3.1	1.3	2.6	140.0
0800	1.0	145.1	2.6	2.9	0.0	151.6
0900	1.7	115.7	4.0	2.0	0.1	123.6
1000	0.6	108.9	2.7	2.7	0.0	114.9
1100	3.4	103.7	3.7	2.7	0.0	113.6
1200	1.3	109.0	2.4	2.7	0.3	115.7
1300	1.9	104.0	2.1	1.3	0.1	109.4
1400	1.3	104.6	3.4	3.4	0.1	112.9
1500	0.6	141.7	2.0	2.4	1.1	147.9
1600	2.3	154.4	2.3	1.9	0.1	161.0
1700	1.1	148.9	1.6	0.7	0.0	152.3
1800	0.6	88.7	0.4	0.9	0.0	90.6
1900	0.3	46.3	0.3	0.1	0.1	47.1
2000	0.0	25.9	0.3	0.1	0.0	26.3
2100	0.0	16.6	0.4	0.1	0.1	17.3
2200	0.0	18.0	0.0	0.0	0.0	18.0
2300	0.0	8.1	0.4	0.0	0.0	8.6
12hr TTL	16.1	1457.3	30.4	24.9	4.6	1533.3
24hr TTL	17.4	1662.9	34.1	26.1	5.3	1745.9
1%	95%	2%	1%	0%		

WESTBOUND 7-DAY AVG ←

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.0	0.0	0.0	0.0	5.0
0100	0.0	3.3	0.0	0.1	0.0	3.4
0200	0.0	1.3	0.0	0.0	0.0	1.3
0300	0.0	1.1	0.1	0.0	0.0	1.3
0400	0.0	3.3	0.0	0.0	0.0	3.3
0500	0.0	9.4	0.0	0.3	1.0	10.7
0600	0.7	45.9	1.1	1.4	0.1	49.3
0700	1.1	164.0	3.0	2.1	0.7	171.0
0800	0.6	195.0	7.7	2.4	0.4	206.1
0900	0.9	93.4	5.3	2.3	0.6	102.4
1000	1.1	91.3	3.1	3.0	0.0	98.6
1100	1.1	87.4	1.9	1.1	0.3	91.9
1200	1.0	94.4	3.3	1.6	0.3	100.6
1300	3.0	93.3	3.6	2.9	0.3	103.0
1400	0.7	116.0	2.9	2.1	0.4	122.1
1500	2.0	124.7	4.1	1.1	1.3	133.3
1600	2.1	151.3	1.9	2.1	0.1	157.6
1700	0.9	150.4	0.7	1.9	0.1	154.0
1800	0.6	76.1	0.9	0.0	0.6	78.1
1900	0.3	40.7	0.3	0.4	0.1	41.9
2000	0.0	27.4	0.1	0.0	0.0	27.6
2100	0.1	19.1	0.4	0.0	0.0	19.7
2200	0.0	14.4	0.0	0.0	0.0	14.4
2300	0.0	7.3	0.0	0.0	0.0	7.3
12hr TTL	15.1	1437.4	38.3	22.7	5.1	1518.7
24hr TTL	16.3	1615.7	40.4	25.0	6.4	1703.9
1%	95%	2%	1%	0%		

Average daily eastbound and westbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 7 days.

CYCLE PROVISION



The 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.

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 will 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:

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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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 A-T-R cannot be held responsible for any periods where data has not been captured.

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Roadworks & events

Where possible, roadworks checks are made 7 days 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.

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

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Generated 05 Nov 2021 v6.0

28925-008 Cambridge. B1085. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-009 - B1102
LOC. DESC.	B1102
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on B1102, commencing Fri 15 Oct 2021, recorded a total of 46,590 vehicles. The posted speed limit of 60mph was exceeded by 23.2% of vehicles, and the seasonally adjusted, combined AADT value is 7,013 (see Equipment & Methodology below).

COMBINED

Total recorded volume	46,590
Avg daily volume (based on 7 days)	6,655.7
Average daily speed (7 days)	55.4mph
Average daily 85%ile (7 days)	62.1mph
AADT (annual average daily traffic)	7,013

Avg weekday volume (Mon-Fri, 24hrs)	7,341.0
Avg weekday speed (Mon-Fri, 24hrs)	54.8mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	6,303.6
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	54.4mph

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. Speeding vehicles are defined as those travelling 61mph and above.

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

NORTHBOUND ↑

Total recorded volume	23,818
Avg daily volume (based on 7 days)	3,402.6
Average daily speed (7 days)	54.3mph
Average daily 85%ile (7 days)	60.6mph
% of vehicles exceeding 60mph	16.7%

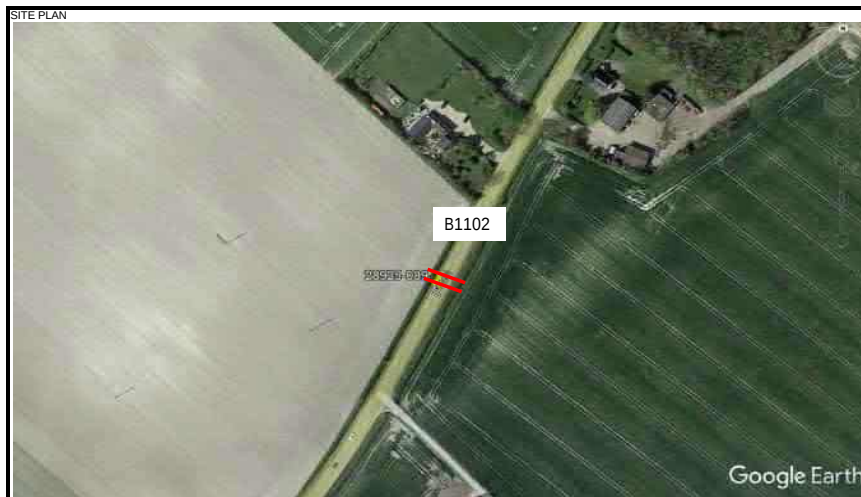
Avg weekday volume (Mon-Fri, 24hrs)	3,766.0
Avg weekday speed (Mon-Fri, 24hrs)	53.7mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,282.2
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	53.3mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	59.5mph

SOUTHBOUND ↓

Total recorded volume	22,772
Avg daily volume (based on 7 days)	3,253.1
Average daily speed (7 days)	56.5mph
Average daily 85%ile (7 days)	63.6mph
% of vehicles exceeding 60mph	29.7%

Avg weekday volume (Mon-Fri, 24hrs)	3,575.0
Avg weekday speed (Mon-Fri, 24hrs)	55.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	3,021.4
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	55.4mph
Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)	62.4mph

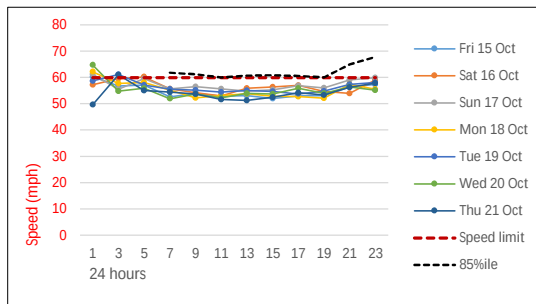
SITE LOCATION



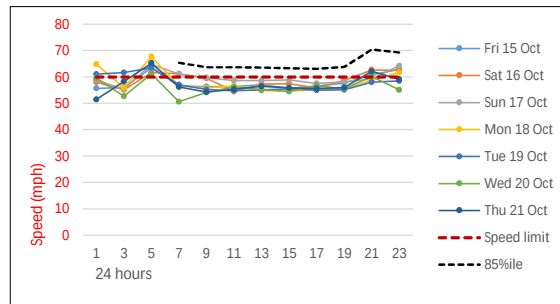
Location	B1102
Lat, lng.	52°17'35.11"N, 0°20'55.67"E
Project & site	28925-009
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

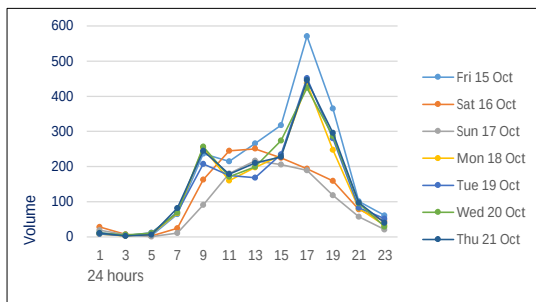


Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

The peak average northbound daytime speed was 61.5mph at 07:15 on Sat 16 Oct, whilst the peak average southbound speed was 64.2mph at 07:00 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

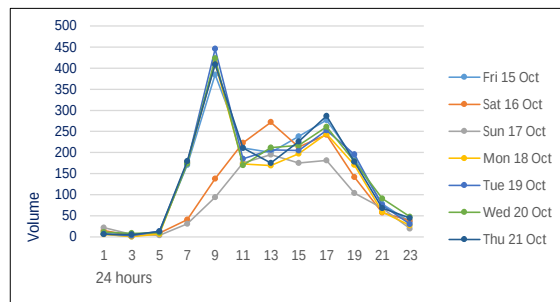
NORTHBOUND ↑



↑

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

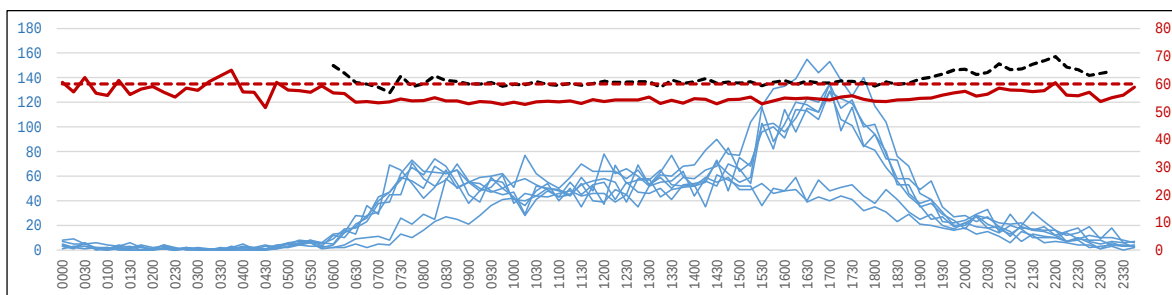
SOUTHBOUND ↓



↓

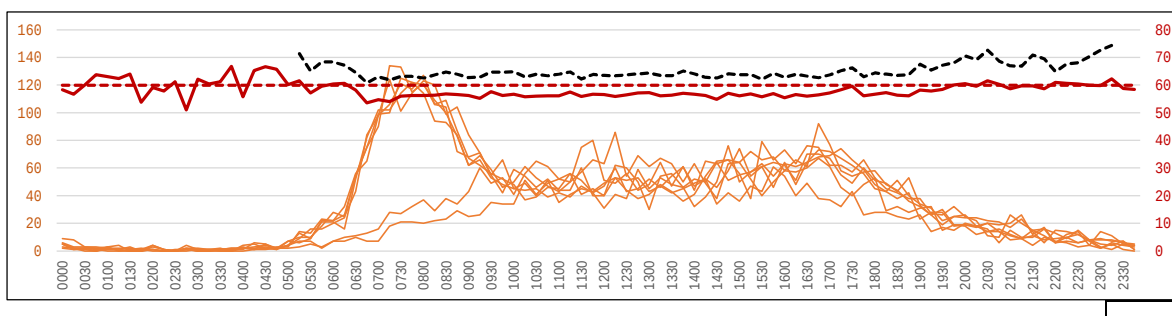
Hourly southbound traffic volumes over each 24hr period for 7 days from all available data.

15min VOL & SPEED



↑

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

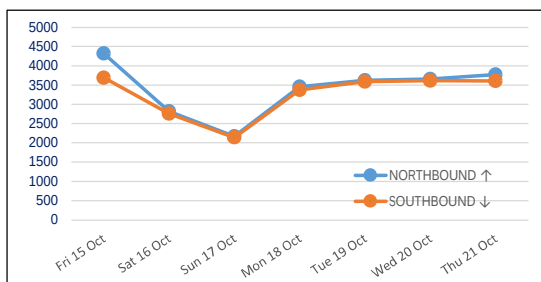


15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

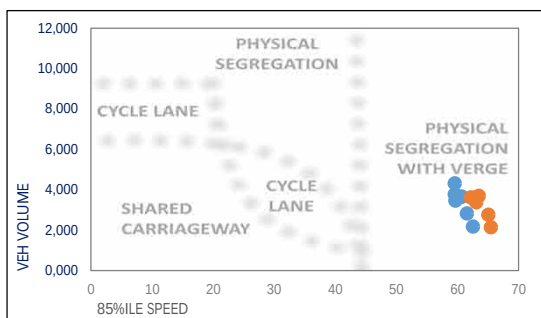
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	13.3	0.6	0.0	0.0	13.9
0100	0.0	6.7	0.3	0.0	0.0	7.0
0200	0.1	4.4	0.1	0.0	0.1	4.9
0300	0.0	2.4	0.4	0.0	0.0	2.9
0400	0.0	6.1	0.1	0.1	0.0	6.4
0500	0.0	18.7	0.7	0.3	0.0	19.7
0600	2.0	50.3	1.1	2.1	0.0	55.6
0700	1.9	155.3	2.7	1.3	1.0	162.1
0800	1.7	198.1	3.9	3.0	1.1	207.9
0900	1.3	185.9	5.4	3.4	0.1	196.1
1000	1.7	178.7	6.0	2.1	0.6	189.1
1100	0.9	188.0	5.3	3.1	0.4	197.7
1200	0.9	205.4	6.4	2.4	0.4	215.6
1300	2.0	211.3	5.9	2.7	1.0	222.9
1400	2.0	232.9	6.6	3.1	0.9	245.4
1500	1.7	290.1	6.6	3.1	1.0	302.6
1600	2.7	376.6	5.0	3.1	0.1	387.6
1700	2.1	379.4	3.1	1.9	0.3	386.9
1800	1.1	246.1	2.6	0.6	0.0	250.4
1900	0.7	116.6	0.9	0.1	0.0	118.3
2000	1.4	83.0	0.1	0.0	0.1	84.7
2100	2.0	61.6	0.1	0.1	0.1	64.0
2200	0.3	39.6	0.3	0.0	0.0	40.1
2300	0.4	19.6	0.7	0.0	0.1	20.9
12hr TTL	20.0	2847.9	59.4	30.0	7.0	2964.3
24hr TTL	27.0	3270.1	65.0	32.9	7.6	3402.6
	1%	96%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	9.6	0.4	0.4	0.3	10.7
0100	0.1	3.9	0.1	0.3	0.0	4.4
0200	0.0	3.7	0.0	0.3	0.1	4.1
0300	0.0	2.6	0.1	0.1	0.0	2.9
0400	0.0	9.7	0.0	0.0	0.0	9.7
0500	0.1	36.9	0.1	0.7	0.3	38.1
0600	1.0	130.0	2.7	1.4	0.4	135.6
0700	4.6	326.7	7.4	2.9	2.3	343.9
0800	0.9	317.0	6.9	3.4	1.4	329.6
0900	1.3	209.7	6.6	2.0	0.3	219.9
1000	1.1	181.4	5.9	3.3	0.9	192.6
1100	2.6	182.7	8.3	3.4	0.6	197.6
1200	1.4	193.3	6.9	1.9	0.7	204.1
1300	2.1	189.6	5.1	2.0	0.7	199.6
1400	2.6	198.7	5.6	1.4	1.9	210.1
1500	3.7	212.6	7.4	3.0	1.6	228.3
1600	2.4	238.9	4.9	2.3	0.9	249.3
1700	2.6	219.3	2.4	1.4	0.3	226.0
1800	1.1	162.1	1.4	0.4	0.0	165.1
1900	1.6	97.7	1.0	1.0	0.3	101.6
2000	0.4	69.1	1.1	0.3	0.0	71.0
2100	0.0	53.7	0.1	0.3	0.1	54.3
2200	0.0	34.1	0.3	0.4	0.1	35.0
2300	0.0	18.6	0.7	0.1	0.3	19.7
12hr TTL	26.4	2632.0	68.7	27.4	11.4	2766.0
24hr TTL	29.7	3101.6	75.6	32.9	13.4	3253.1
	1%	95%	2%	1%	0%	

Average daily 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 7 days.

CYCLE PROVISION



The 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.

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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 will reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
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These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

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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, A-T-R cannot be held responsible for the forecast accuracy.

CLASS	ABBREV.	DESCRIPTION	LENGTH	COBA	
1	MC	Motorcycle	SHORT Up to 5.5m	N/A	
2	SV	Cars, taxis, 4WD, vans		MEDIUM 5.5m to 14.5m	CAR & LGV
3	SVT	Class 2 plus trailer	OGV1 & PSV		
4	TB2	2 axle truck / bus	OGV1		
5	TB3	3 axle truck / bus	LONG 11.5m to 19.0m		OGV2
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			

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 A-T-R cannot be held responsible for any periods where data has not been captured.

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Roadworks & events

Where possible, roadworks checks are made 7 days 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.

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

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28925-009 Cambridge. B1102. Summary.xlsx



ATC SUMMARY REPORT

PROJECT	28925 Cambridge
LOCATION	28925-010 - Weirs Drove
LOC. DESC.	Weirs Drove
START DATE	Fri 15 Oct, 2021
END DATE	Thu 21 Oct, 2021
SPEED LIMIT	60mph
SURVEY TYPE	7-day ATC, 15min periods, 6 veh. classes

OVERVIEW

A 7-day automatic traffic count on Weirs Drove, commencing Fri 15 Oct 2021, recorded a total of 2,300 vehicles. The posted speed limit of 60mph was exceeded by 0.0% of vehicles, and the seasonally adjusted, combined AADT value is 353 (see Equipment & Methodology below).

COMBINED

Total recorded volume	2,300
Avg daily volume (based on 7 days)	328.6
Average daily speed (7 days)	19.0mph
Average daily 85 th ile (7 days)	22.6mph
AADT (annual average daily traffic)	353

Avg weekday volume (Mon-Fri, 24hrs)	347.8
Avg weekday speed (Mon-Fri, 24hrs)	18.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	314.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	18.7mph

The combined summary on the left shows the total volumes, average speeds, AADT and 85thiles recorded in both directions from all the recorded data. Speeding vehicles are defined as those travelling 61mph and above.

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

NORTHBOUND ↑

Total recorded volume	1,174
Avg daily volume (based on 7 days)	167.7
Average daily speed (7 days)	19.0mph
Average daily 85 th ile (7 days)	22.4mph
% of vehicles exceeding 60mph	0.0%

Avg weekday volume (Mon-Fri, 24hrs)	175.4
Avg weekday speed (Mon-Fri, 24hrs)	18.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	156.8
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	18.7mph
Avg 12hr weekday 85 th ile (Mon-Fri, 0700-1900)	22.1mph

SOUTHBOUND ↓

Total recorded volume	1,126
Avg daily volume (based on 7 days)	160.9
Average daily speed (7 days)	18.9mph
Average daily 85 th ile (7 days)	22.8mph
% of vehicles exceeding 60mph	0.0%

Avg weekday volume (Mon-Fri, 24hrs)	172.4
Avg weekday speed (Mon-Fri, 24hrs)	18.9mph
Avg 12hr weekday volume (Mon-Fri, 0700-1900)	158.0
Avg 12hr weekday speed (Mon-Fri, 0700-1900)	18.7mph
Avg 12hr weekday 85 th ile (Mon-Fri, 0700-1900)	22.3mph

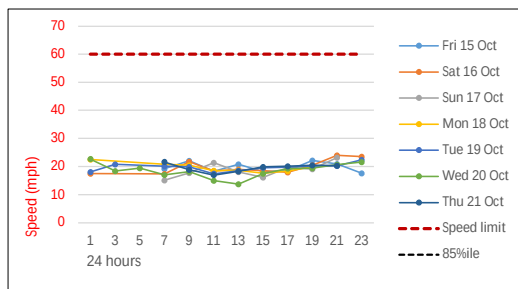
SITE LOCATION



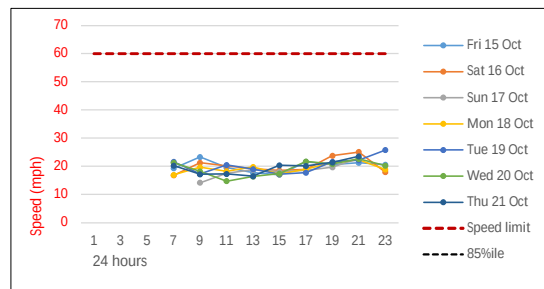
Location	Weirs Drove
Lat, lng.	52°16'44.68"N/0°19'1.33"E
Project & site	28925-010
PSL	60mph
Bus route	Yes
Direction 1	Northbound↑
Direction 2	Southbound↓

DAILY SPEEDS

NORTHBOUND ↑



SOUTHBOUND ↓

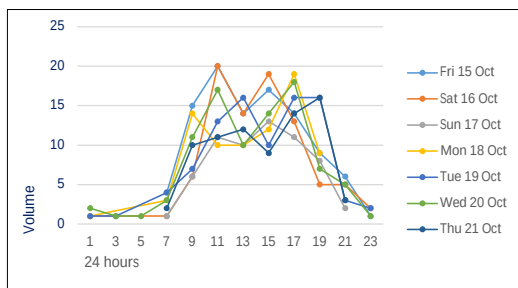


Average daily speeds (solid thin colours) and 85th percentile (dashed black) compared against 60mph posted speed limit (dashed red). The 85th percentile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required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

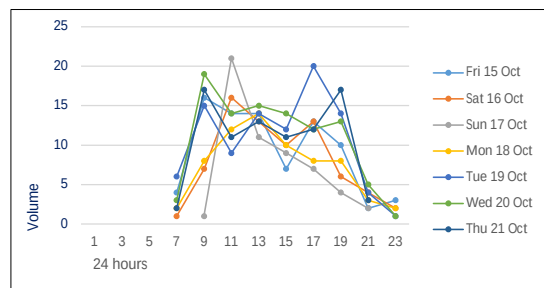
The peak average northbound daytime speed was 27.5mph at 11:00 on Fri 15 Oct, whilst the peak average southbound speed was 30.8mph at 08:15 on Fri 15 Oct (based on 15min averages between 0700 & 1900).

HOURLY VOLUMES

NORTHBOUND ↑



SOUTHBOUND ↓

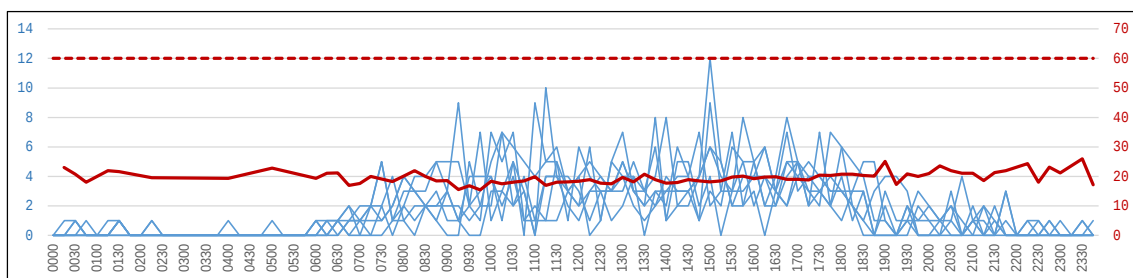


↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

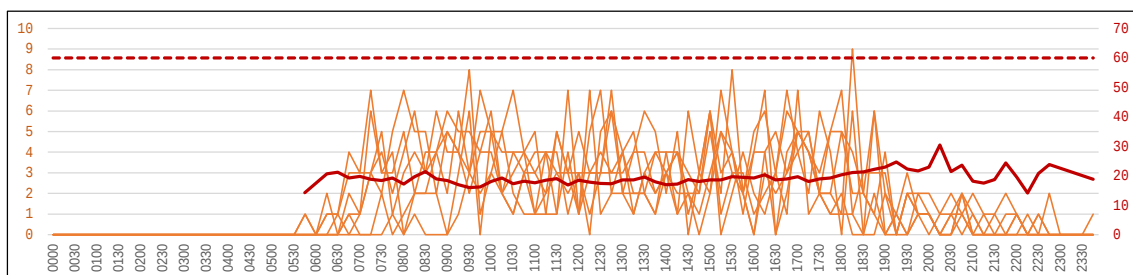
Hourly southbound traffic volumes over each 24hr period for 7 days from all available data.

↓

15min VOL & SPEED



↑ 15min daily northbound flows (blue), against the average speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period.

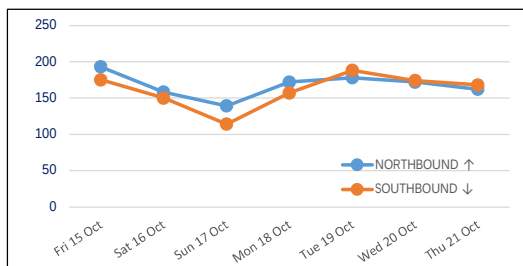


15min daily southbound flows (orange), against the average weekly speed (red) and 85th percentile (dotted black) for each 15min period over the 7-day period.

↓

DAILY VOLUMES

NORTH & SOUTHBOUND



Total 24hr northbound (blue) and southbound (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.

7-DAY AVERAGE CLASSES

NORTHBOUND 7-DAY AVG ↑

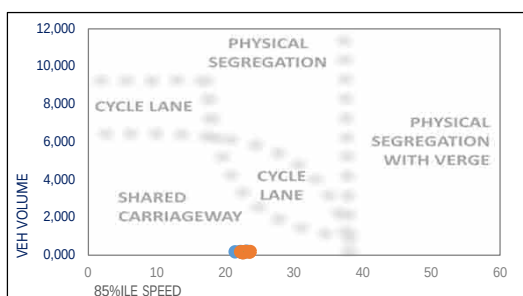
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.7	0.0	0.0	0.0	0.7
0100	0.0	0.9	0.0	0.0	0.0	0.9
0200	0.0	0.3	0.0	0.0	0.0	0.3
0300	0.0	0.0	0.0	0.0	0.0	0.0
0400	0.0	0.1	0.0	0.0	0.0	0.1
0500	0.0	0.1	0.0	0.0	0.0	0.1
0600	0.1	2.4	0.0	0.0	0.0	2.6
0700	0.6	5.3	0.0	0.1	0.0	6.0
0800	1.4	8.3	0.0	0.1	0.0	9.9
0900	1.0	8.4	0.6	0.1	0.0	10.1
1000	2.0	11.6	0.6	0.3	0.1	14.6
1100	0.9	11.7	0.6	0.4	0.0	13.6
1200	1.0	10.9	0.1	0.1	0.1	12.3
1300	1.6	11.6	0.3	0.3	0.0	13.7
1400	1.6	11.3	0.3	0.3	0.0	13.4
1500	1.3	15.3	0.4	0.0	0.0	17.0
1600	1.4	13.1	0.3	0.1	0.0	15.0
1700	1.1	13.6	0.0	0.0	0.0	14.7
1800	1.0	9.0	0.0	0.0	0.0	10.0
1900	0.4	4.3	0.0	0.0	0.0	4.7
2000	0.0	3.4	0.0	0.0	0.0	3.4
2100	0.0	3.1	0.0	0.0	0.0	3.1
2200	0.0	0.9	0.0	0.0	0.0	0.9
2300	0.0	0.6	0.0	0.0	0.0	0.6
12hr TTL	14.9	130.0	3.1	2.0	0.3	150.3
24hr TTL	15.4	146.9	3.1	2.0	0.3	167.7
	9%	88%	2%	1%	0%	

SOUTHBOUND 7-DAY AVG ↓

TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.0	0.0	0.0	0.0	0.0
0100	0.0	0.0	0.0	0.0	0.0	0.0
0200	0.0	0.0	0.0	0.0	0.0	0.0
0300	0.0	0.0	0.0	0.0	0.0	0.0
0400	0.0	0.0	0.0	0.0	0.0	0.0
0500	0.3	0.0	0.0	0.0	0.0	0.3
0600	0.3	2.3	0.0	0.0	0.0	2.6
0700	1.3	8.1	0.0	0.0	0.0	9.4
0800	0.7	10.1	0.9	0.1	0.0	11.9
0900	1.9	11.9	0.6	0.3	0.0	14.6
1000	0.6	12.6	0.4	0.3	0.0	13.9
1100	0.3	10.4	0.7	0.1	0.0	11.6
1200	1.3	11.6	0.3	0.1	0.1	13.4
1300	0.6	10.4	0.4	0.1	0.0	11.6
1400	0.7	9.3	0.0	0.3	0.1	10.4
1500	0.6	12.6	0.7	0.0	0.0	13.9
1600	0.3	11.4	0.3	0.1	0.0	12.1
1700	0.4	13.3	0.0	0.4	0.0	14.1
1800	0.1	10.1	0.0	0.0	0.0	10.3
1900	0.1	4.4	0.0	0.0	0.0	4.6
2000	0.0	3.3	0.0	0.0	0.0	3.3
2100	0.0	1.6	0.0	0.0	0.0	1.6
2200	0.0	1.3	0.0	0.0	0.0	1.3
2300	0.0	0.1	0.0	0.0	0.0	0.1
12hr TTL	8.7	131.9	4.3	2.0	0.3	147.1
24hr TTL	9.4	144.9	4.3	2.0	0.3	160.9
	6%	90%	3%	1%	0%	

Average daily 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 7 days.

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