

## Annex F – Speed Surveys



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-001 - Newmarket Road
<b>LOC. DESC.</b>	Newmarket Road
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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

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

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.

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

### NORTHBOUND ↑

<b>Total recorded volume</b>	<b>14,952</b>
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 ↓

<b>Total recorded volume</b>	<b>14,902</b>
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

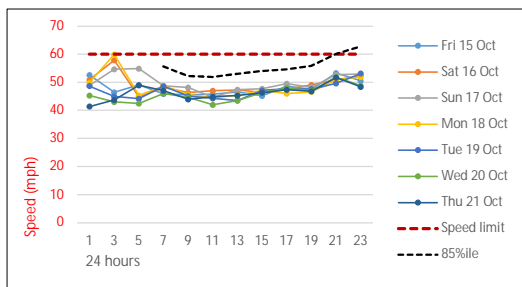
## SITE LOCATION



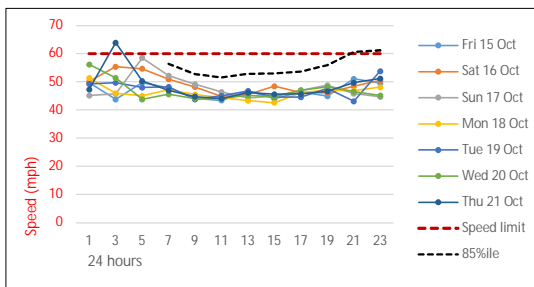
<b>Location</b>	Newmarket Road
<b>Lat, lng.</b>	52°17'52.24"N, 0°23'17.30"E
<b>Project &amp; site</b>	28925-001
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

**NORTHBOUND ↑**



**SOUTHBOUND ↓**

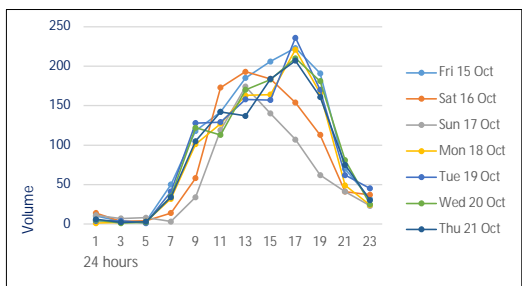


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

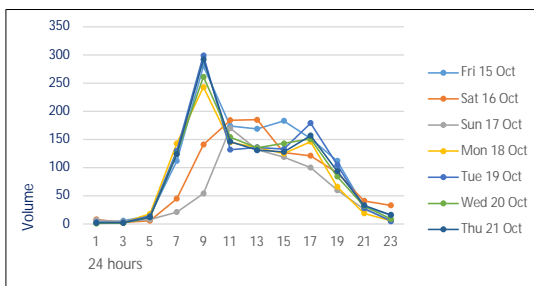
The peak average northbound daytime speed was 56.1mph at 18:15 on Sun 17 Oct, whilst the peak average southbound speed was 57.5mph at 07:00 on Sun 17 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

**NORTHBOUND ↑**



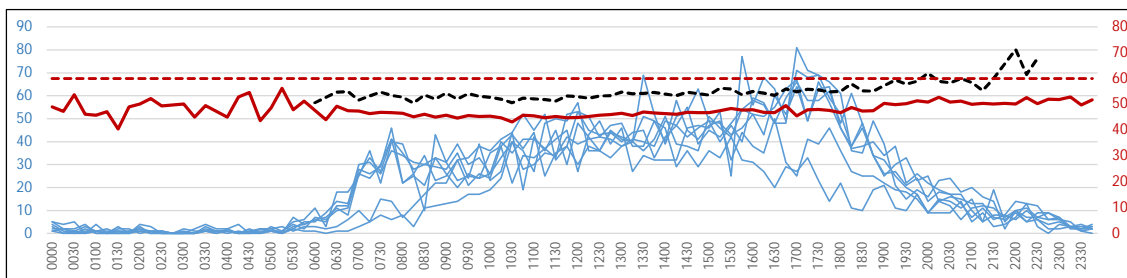
**SOUTHBOUND ↓**



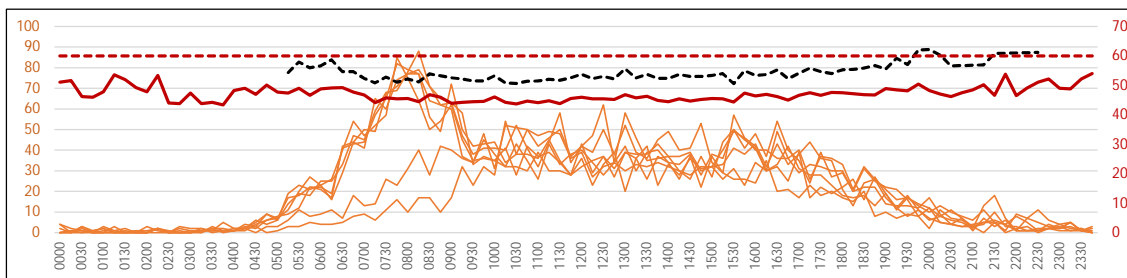
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



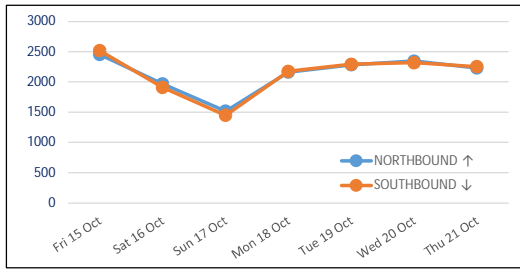
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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 ↑

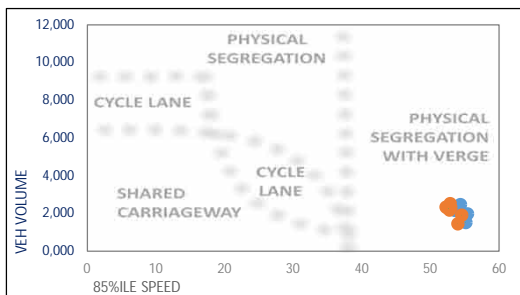
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	7.1	0.0	0.0	0.0	7.3
0100	0.1	3.0	0.0	0.0	0.0	3.1
0200	0.0	3.1	0.0	0.0	0.0	3.1
0300	0.0	3.1	0.4	0.0	0.0	3.6
0400	0.0	2.6	0.6	0.3	0.0	3.4
0500	0.7	8.4	0.0	0.1	0.0	9.3
0600	0.3	26.4	1.3	1.4	0.4	29.9
0700	0.1	90.7	5.1	1.9	0.6	98.4
0800	0.1	85.1	5.1	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 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		LONG 11.5m to 19.0m
5	TB3	3 axle truck / bus		
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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28925-001 Cambridge, Newmarket Road, Summary.xlsx

## 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.



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-002 - Fordham Road
<b>LOC. DESC.</b>	Fordham Road
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>5,568</b>
<b>Avg daily volume (based on 7 days)</b>	795.4
<b>Average daily speed (7 days)</b>	29.6mph
<b>Average daily 85%ile (7 days)</b>	33.6mph
<b>AADT (annual average daily traffic)</b>	848
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	930.2
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	29.7mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	845.2
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	29.7mph

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 ↑	
<b>Total recorded volume</b>	<b>2,791</b>
<b>Avg daily volume (based on 7 days)</b>	398.7
<b>Average daily speed (7 days)</b>	28.8mph
<b>Average daily 85%ile (7 days)</b>	32.9mph
<b>% of vehicles exceeding 60mph</b>	0.1%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	470.8
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	29.0mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	426.6
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	28.9mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	32.6mph

SOUTHBOUND ↓	
<b>Total recorded volume</b>	<b>2,777</b>
<b>Avg daily volume (based on 7 days)</b>	396.7
<b>Average daily speed (7 days)</b>	30.4mph
<b>Average daily 85%ile (7 days)</b>	34.3mph
<b>% of vehicles exceeding 60mph</b>	0.2%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	459.4
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	30.5mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	418.6
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	30.5mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	34.1mph

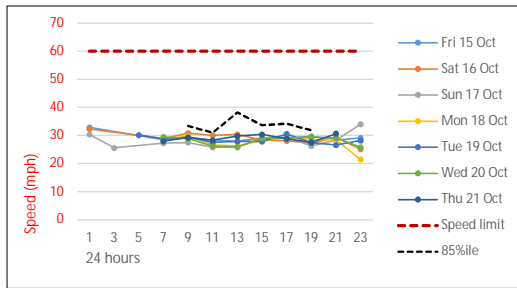
## SITE LOCATION



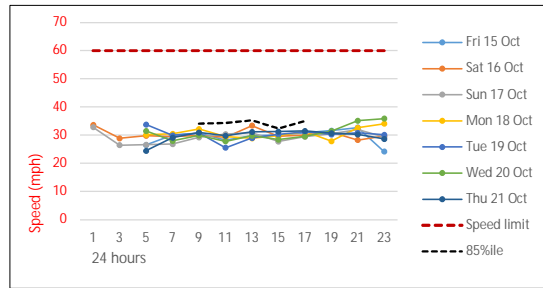
<b>Location</b>	Fordham Road
<b>Lat, lng.</b>	52°17'11.31"N, 0°24'21.68"E
<b>Project &amp; site</b>	28925-002
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

## NORTHBOUND ↑



## SOUTHBOUND ↓

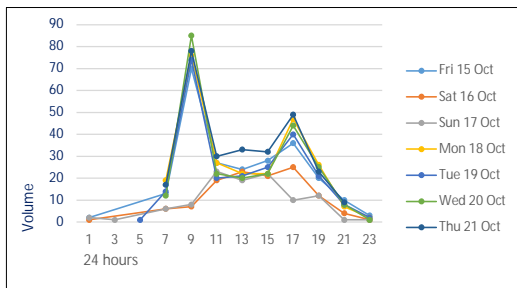


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

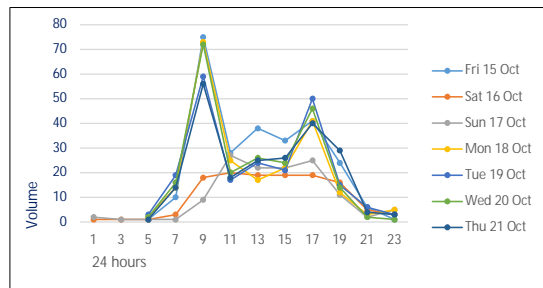
The peak average northbound daytime speed was 36.8mph at 09:15 on Sat 16 Oct, whilst the peak average southbound speed was 39.5mph at 15:00 on Fri 15 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## NORTHBOUND ↑



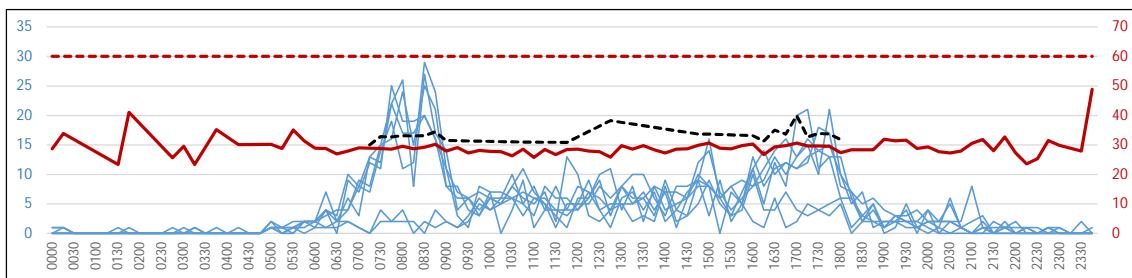
## SOUTHBOUND ↓



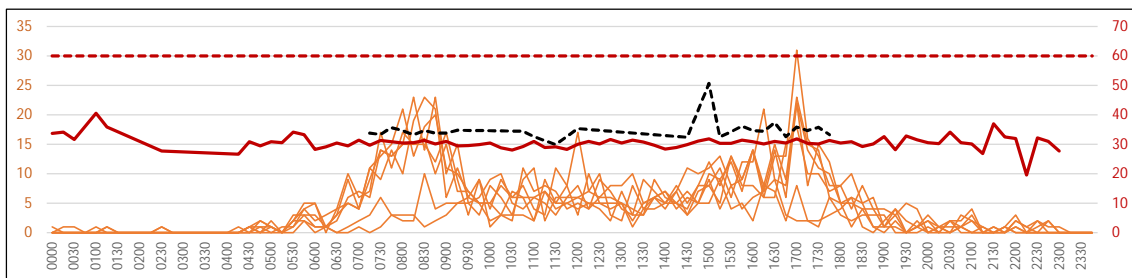
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



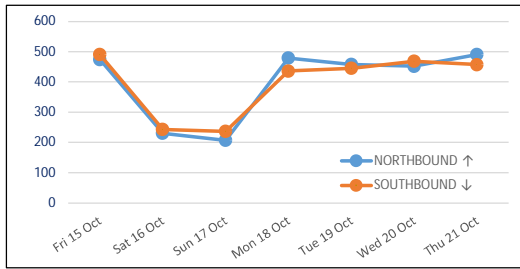
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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.

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 ↑

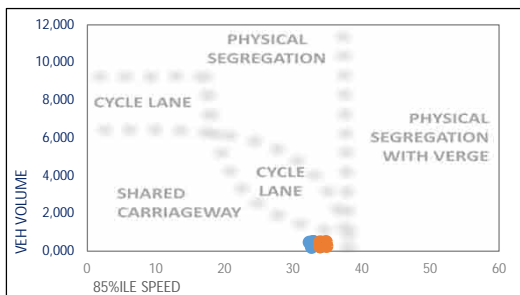
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.7	0.0	0.0	0.0	0.7
0100	0.0	0.3	0.0	0.0	0.0	0.3
0200	0.0	0.1	0.0	0.0	0.0	0.1
0300	0.0	0.6	0.0	0.0	0.0	0.6
0400	0.0	0.1	0.0	0.0	0.0	0.1
0500	0.3	4.0	0.0	0.0	0.0	4.3
0600	0.4	12.0	0.0	0.0	0.0	12.4
0700	1.1	37.3	0.3	0.0	0.0	38.7
0800	0.9	55.0	0.9	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		CAR & LGV
3	SVT	Class 2 plus trailer	MEDIUM 5.5m to 14.5m	
4	TB2	2 axle truck / bus		
5	TB3	3 axle truck / bus		
6	T4	4 axle truck	LONG 11.5m to 19.0m	OGV2
7	ART3	3 axle articulated		
8	ART4	4 axle articulated		
9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

Generated 05 Nov 2021 v6.0

28925-002 Cambridge, Fordham Road, Summary.xlsx

## 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.



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Norfolk
<b>LOCATION</b>	28925-002 - Elms Road (East)
<b>LOC. DESC.</b>	Elms Road (East)
<b>START DATE</b>	Tue 28 Sep, 2021
<b>END DATE</b>	Mon 04 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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

<b>Total recorded volume</b>	<b>9,366</b>
<b>Avg daily volume (based on 7 days)</b>	1,338.0
<b>Average daily speed (7 days)</b>	39.7mph
<b>Average daily 85%ile (7 days)</b>	46.8mph
<b>AADT (annual average daily traffic)</b>	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

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 ↑

<b>Total recorded volume</b>	<b>4,978</b>
<b>Avg daily volume (based on 7 days)</b>	711.1
<b>Average daily speed (7 days)</b>	40.9mph
<b>Average daily 85%ile (7 days)</b>	48.0mph
<b>% of vehicles exceeding 60mph</b>	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%ile (Mon-Fri, 0700-1900)	47.7mph

### SOUTHBOUND ↓

<b>Total recorded volume</b>	<b>4,388</b>
<b>Avg daily volume (based on 7 days)</b>	626.9
<b>Average daily speed (7 days)</b>	38.5mph
<b>Average daily 85%ile (7 days)</b>	45.6mph
<b>% of vehicles exceeding 60mph</b>	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%ile (Mon-Fri, 0700-1900)	45.7mph

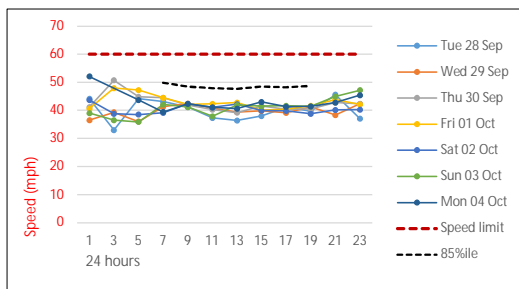
## SITE LOCATION



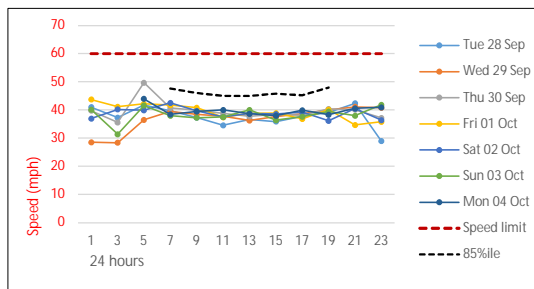
<b>Location</b>	Elms Road (East)
<b>Lat, lng.</b>	52°19'33.68"N/52°19'33.68" N
<b>Project &amp; site</b>	28925-002
<b>PSL</b>	60mph
<b>Bus route</b>	No
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

## NORTHBOUND ↑



## SOUTHBOUND ↓

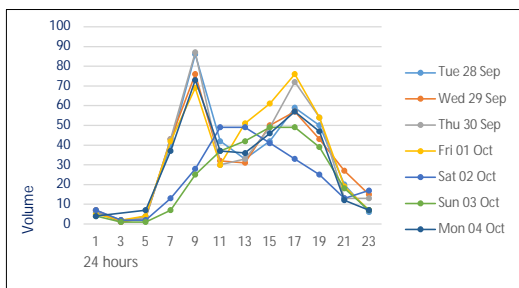


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

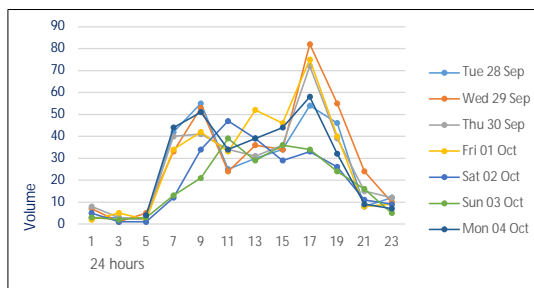
The peak average northbound daytime speed was 47.7mph at 15:00 on Sun 03 Oct, whilst the peak average southbound speed was 50.7mph at 07:30 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## NORTHBOUND ↑



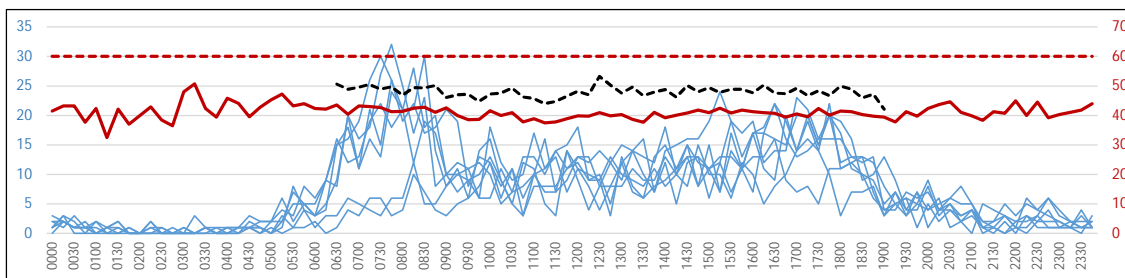
## SOUTHBOUND ↓



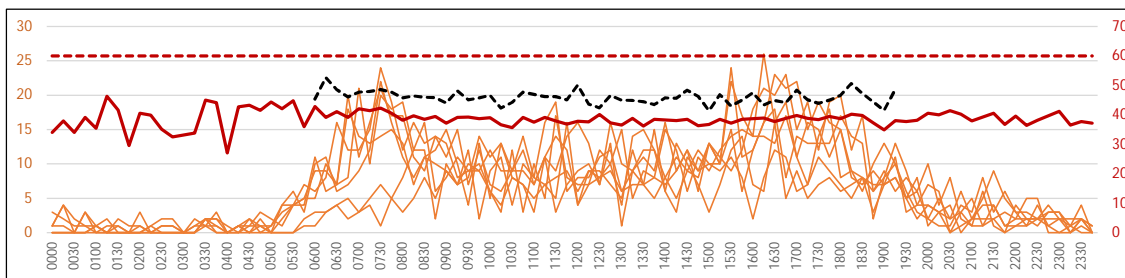
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



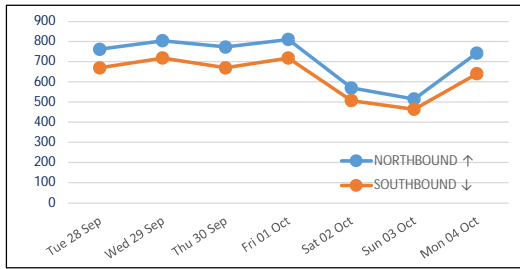
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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.

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 ↑

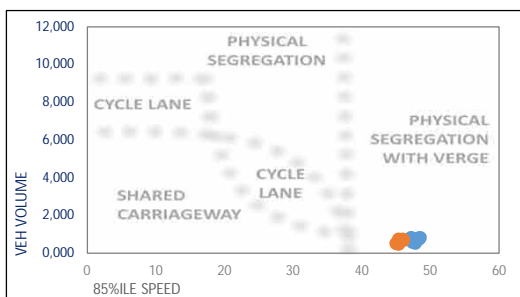
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.7	0.0	0.0	0.0	5.7
0100	0.0	2.4	0.0	0.0	0.0	2.4
0200	0.0	1.0	0.1	0.0	0.1	1.3
0300	0.0	1.6	0.0	0.1	0.0	1.7
0400	0.0	3.1	0.0	0.3	0.0	3.4
0500	0.0	11.3	0.6	0.1	0.0	12.0
0600	0.3	30.1	1.1	0.4	0.1	32.1
0700	0.3	59.0	3.0	0.4	0.0	62.7
0800	0.3	60.9	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

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		
5	TB3	3 axle truck / bus		
6	T4	4 axle truck	LONG 11.5m to 19.0m	OGV2
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

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Generated 19 Oct 2021 v6.0

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



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Norfolk
<b>LOCATION</b>	28925-003 - Elms Road (West)
<b>LOC. DESC.</b>	Elms Road (West)
<b>START DATE</b>	Tue 28 Sep, 2021
<b>END DATE</b>	Mon 04 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>9,203</b>
<b>Avg daily volume (based on 7 days)</b>	1,314.7
<b>Average daily speed (7 days)</b>	47.6mph
<b>Average daily 85%ile (7 days)</b>	56.3mph
<b>AADT (annual average daily traffic)</b>	1,294
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	1,436.2
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	47.7mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	1,167.6
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	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 ↑	
<b>Total recorded volume</b>	<b>4,892</b>
<b>Avg daily volume (based on 7 days)</b>	698.9
<b>Average daily speed (7 days)</b>	48.9mph
<b>Average daily 85%ile (7 days)</b>	57.7mph
<b>% of vehicles exceeding 60mph</b>	9.5%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	764.4
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	49.0mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	632.4
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	48.9mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	57.6mph

SOUTHBOUND ↓	
<b>Total recorded volume</b>	<b>4,311</b>
<b>Avg daily volume (based on 7 days)</b>	615.9
<b>Average daily speed (7 days)</b>	46.2mph
<b>Average daily 85%ile (7 days)</b>	55.0mph
<b>% of vehicles exceeding 60mph</b>	5.5%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	671.8
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	46.5mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	535.2
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	46.6mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	55.3mph

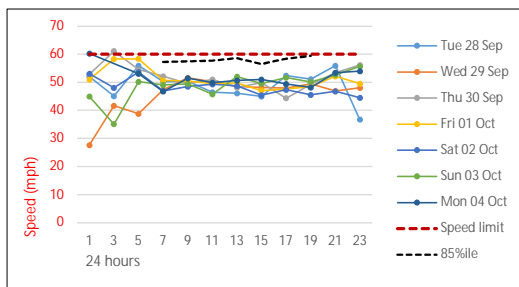
## SITE LOCATION



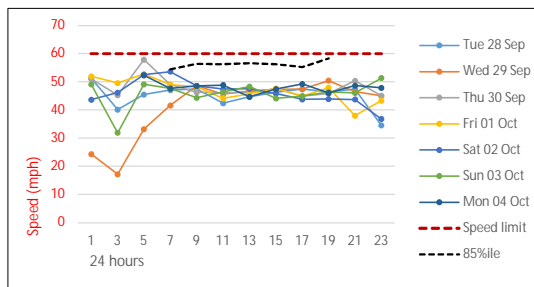
<b>Location</b>	Elms Road (West)
<b>Lat, lng.</b>	52°19'33.68"N/52°19'33.68"W
<b>Project &amp; site</b>	28925-003
<b>PSL</b>	60mph
<b>Bus route</b>	No
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

**NORTHBOUND ↑**



**SOUTHBOUND ↓**

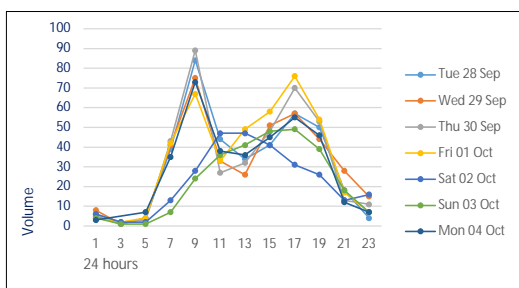


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

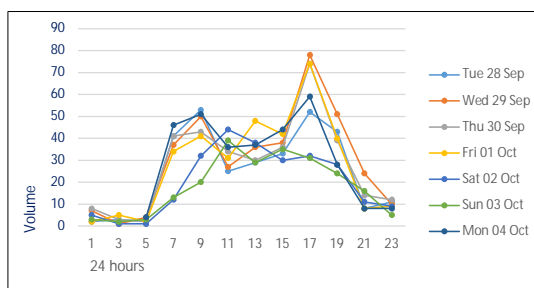
The peak average northbound daytime speed was 60.3mph at 07:15 on Sat 02 Oct, whilst the peak average southbound speed was 56.6mph at 18:15 on Sat 02 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

**NORTHBOUND ↑**



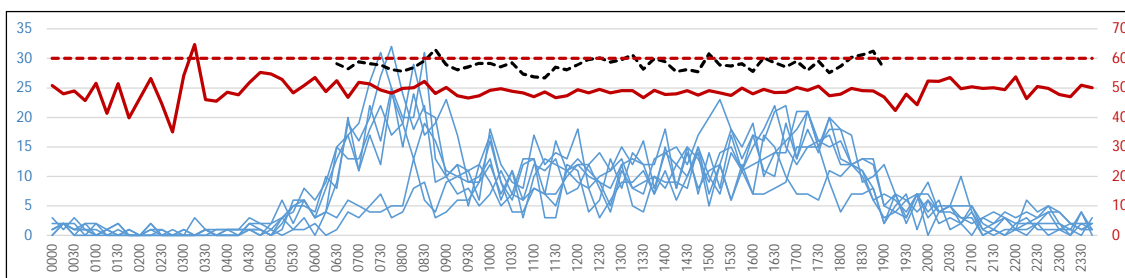
**SOUTHBOUND ↓**



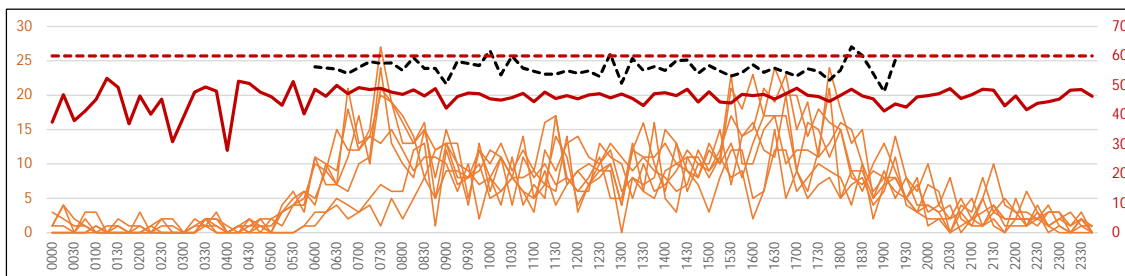
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



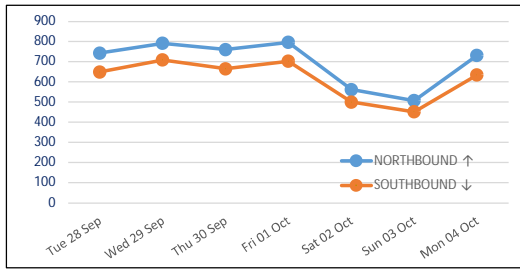
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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.

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 ↑

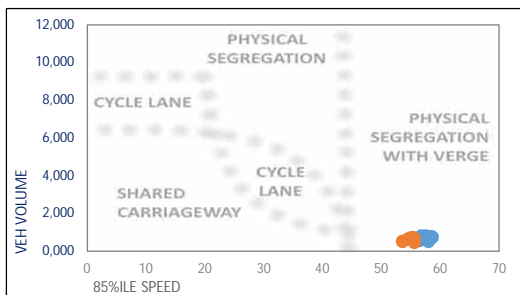
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.1	0.0	0.0	0.0	5.1
0100	0.0	2.3	0.0	0.0	0.0	2.3
0200	0.0	1.0	0.1	0.0	0.1	1.3
0300	0.0	1.6	0.0	0.1	0.0	1.7
0400	0.0	2.7	0.6	0.3	0.0	3.6
0500	0.0	11.3	0.6	0.0	0.0	11.9
0600	0.3	29.7	1.4	0.0	0.0	31.4
0700	0.3	56.6	4.7	1.1	0.1	62.9
0800	0.3	58.1	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 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	LONG 11.5m to 19.0m	
4	TB2	2 axle truck / bus		OGV1
5	TB3	3 axle truck / bus		
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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28925-003 Norfolk, Elms Road (West). Summary.xlsx

## 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.



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-003 - Chippenham Road
<b>LOC. DESC.</b>	Chippenham Road
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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

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

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.

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

### EASTBOUND →

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

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

### WESTBOUND ←

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

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

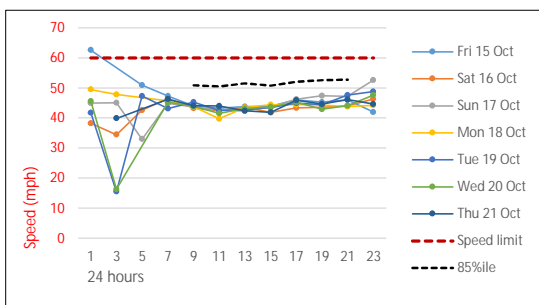
## SITE LOCATION



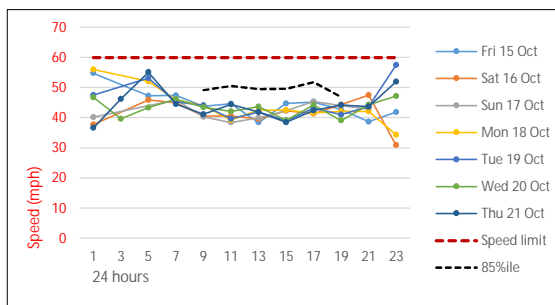
<b>Location</b>	Chippenham Road
<b>Lat, lng.</b>	52°16'56.03"N,0°24'50.85"E
<b>Project &amp; site</b>	28925-003
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Eastbound→
<b>Direction 2</b>	Westbound←

# DAILY SPEEDS

## EASTBOUND →



## WESTBOUND ←

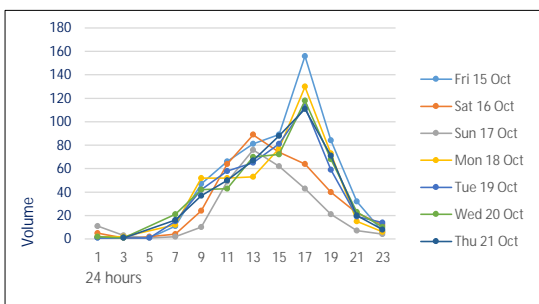


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

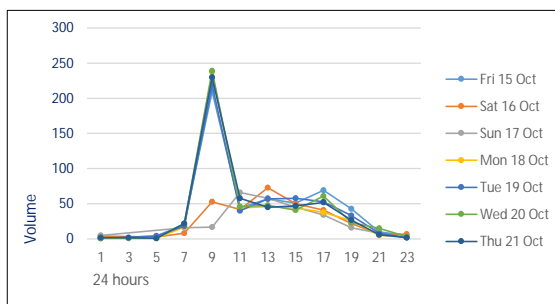
The peak average eastbound daytime speed was 52.6mph at 07:00 on Fri 15 Oct, whilst the peak average westbound speed was 56.5mph at 17:15 on Sun 17 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## EASTBOUND →



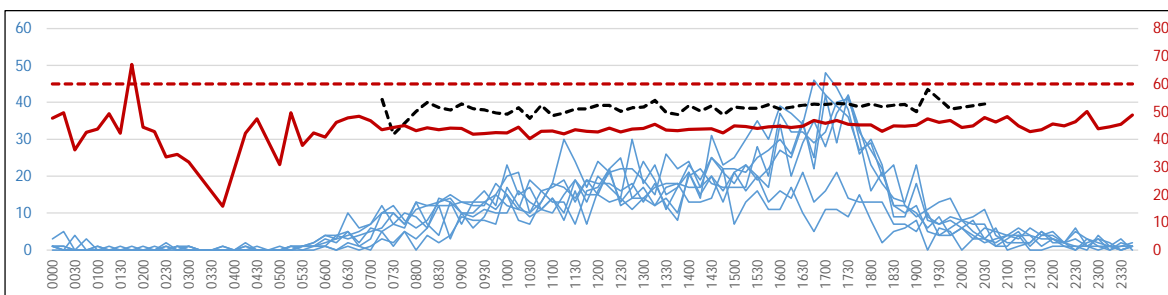
## WESTBOUND ←



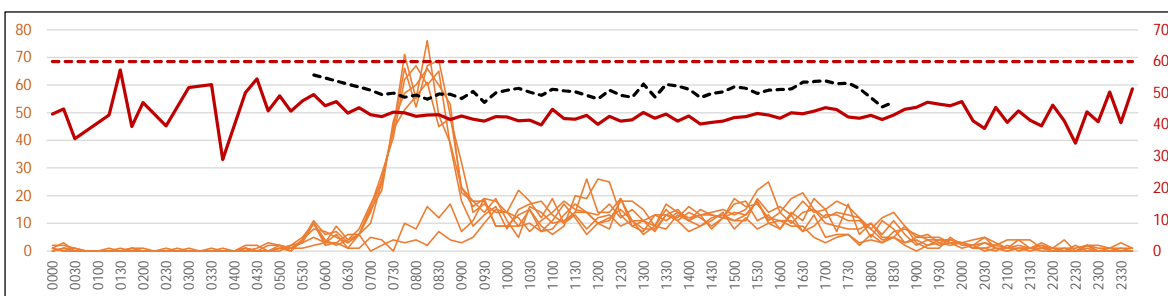
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.


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

# 15min VOL & SPEED



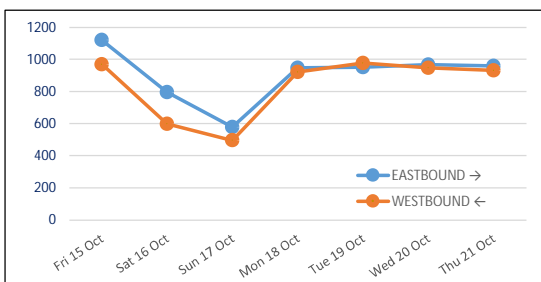
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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 →

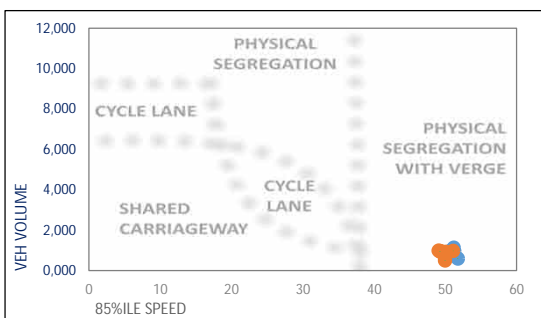
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	3.0	0.0	0.0	0.0	3.1
0100	0.0	0.7	0.0	0.0	0.0	0.7
0200	0.3	0.9	0.1	0.0	0.0	1.3
0300	0.4	0.3	0.0	0.0	0.0	0.7
0400	0.0	0.4	0.3	0.0	0.0	0.7
0500	0.0	2.4	0.0	0.0	0.0	2.4
0600	0.0	11.1	0.4	0.0	0.0	11.6
0700	0.0	24.6	0.7	0.0	0.0	25.3
0800	0.1	34.4	1.7	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.

# 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
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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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## 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	LONG 11.5m to 19.0m	OGV1
5	TB3	3 axle truck / bus		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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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

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Generated 05 Nov 2021 v6.0

28925-003 Cambridge, Chippenham Road, Summary.xlsx



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-004 - Chippenham Road
<b>LOC. DESC.</b>	Chippenham Road
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>12,147</b>
<b>Avg daily volume (based on 7 days)</b>	1,735.3
<b>Average daily speed (7 days)</b>	47.9mph
<b>Average daily 85%ile (7 days)</b>	55.2mph
<b>AADT (annual average daily traffic)</b>	1,844
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	1,939.0
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	48.0mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	1,756.0
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	47.9mph

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 →	
<b>Total recorded volume</b>	<b>6,316</b>
<b>Avg daily volume (based on 7 days)</b>	902.3
<b>Average daily speed (7 days)</b>	48.4mph
<b>Average daily 85%ile (7 days)</b>	55.7mph
<b>% of vehicles exceeding 60mph</b>	5.7%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	989.6
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	48.5mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	879.6
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	48.5mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	55.7mph

WESTBOUND ←	
<b>Total recorded volume</b>	<b>5,831</b>
<b>Avg daily volume (based on 7 days)</b>	833.0
<b>Average daily speed (7 days)</b>	47.3mph
<b>Average daily 85%ile (7 days)</b>	54.7mph
<b>% of vehicles exceeding 60mph</b>	5.0%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	949.4
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	47.4mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	876.4
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	47.4mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	54.4mph

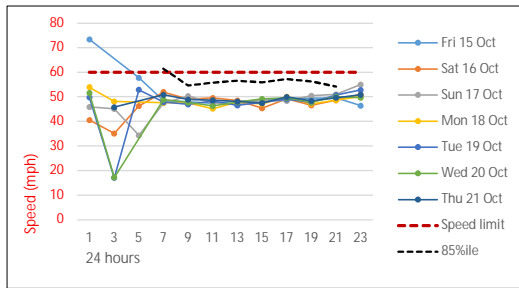
## SITE LOCATION



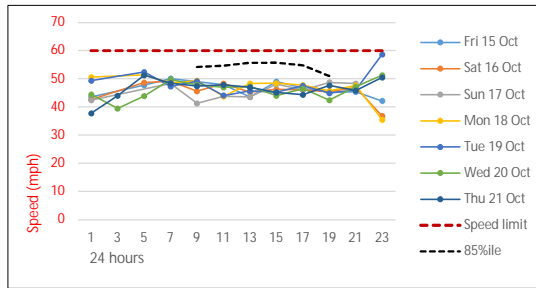
<b>Location</b>	Chippenham Road
<b>Lat, lng.</b>	52°17'9.14"N, 0°25'18.85"E
<b>Project &amp; site</b>	28925-004
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Eastbound→
<b>Direction 2</b>	Westbound←

# DAILY SPEEDS

## EASTBOUND →



## WESTBOUND ←

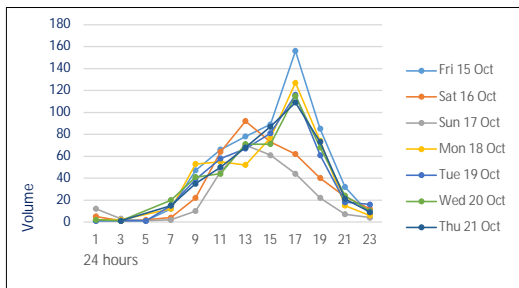


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

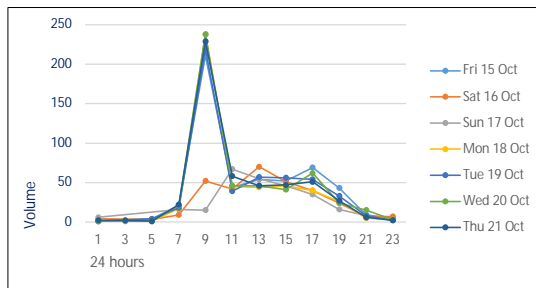
The peak average eastbound daytime speed was 56.2mph at 07:45 on Mon 18 Oct, whilst the peak average westbound speed was 56.6mph at 18:45 on Thu 21 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## EASTBOUND →



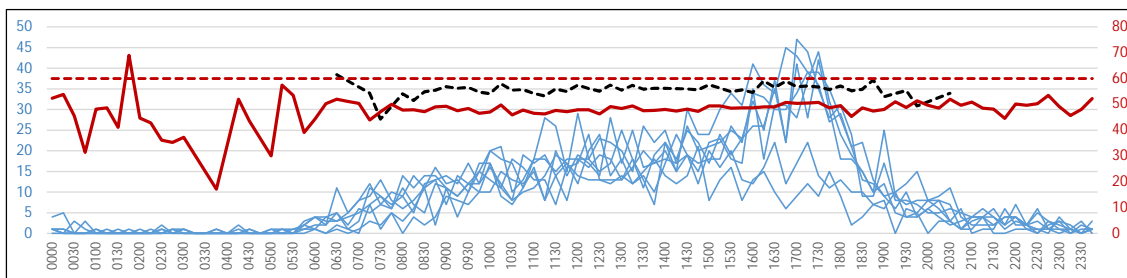
## WESTBOUND ←



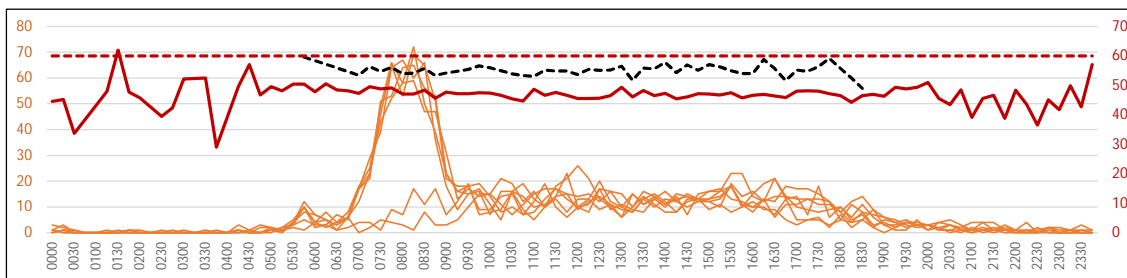
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



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

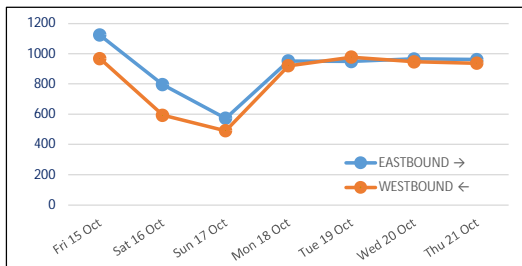


15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ←



# 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 →

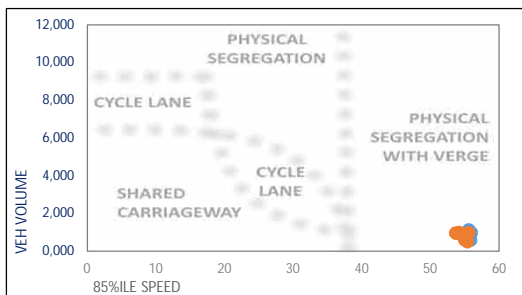
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	3.1	0.0	0.0	0.0	3.3
0100	0.0	0.7	0.0	0.0	0.0	0.7
0200	0.3	0.9	0.1	0.0	0.0	1.3
0300	0.4	0.3	0.0	0.0	0.0	0.7
0400	0.0	0.4	0.3	0.0	0.0	0.7
0500	0.1	2.4	0.0	0.0	0.0	2.6
0600	0.0	11.0	0.4	0.0	0.0	11.4
0700	0.3	24.6	0.9	0.0	0.0	25.7
0800	0.3	33.1	1.7	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 85th percentile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

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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.

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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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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		LONG 11.5m to 19.0m
5	TB3	3 axle truck / bus		
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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28925-004 Cambridge, Chippenham Road, Summary.xlsx

## 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.

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.



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Norfolk
<b>LOCATION</b>	28925-004 - Newmarket Road
<b>LOC. DESC.</b>	Newmarket Road
<b>START DATE</b>	Tue 28 Sep, 2021
<b>END DATE</b>	Mon 04 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>34,325</b>
<b>Avg daily volume (based on 7 days)</b>	4,903.6
<b>Average daily speed (7 days)</b>	45.9mph
<b>Average daily 85%ile (7 days)</b>	51.9mph
<b>AADT (annual average daily traffic)</b>	4,944
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	5,462.2
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	45.6mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	4,639.0
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	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 ↑	
<b>Total recorded volume</b>	<b>15,256</b>
<b>Avg daily volume (based on 7 days)</b>	2,179.4
<b>Average daily speed (7 days)</b>	45.5mph
<b>Average daily 85%ile (7 days)</b>	51.4mph
<b>% of vehicles exceeding 60mph</b>	1.0%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	2,416.2
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	45.2mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	2,044.6
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	45.2mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	50.9mph

SOUTHBOUND ↓	
<b>Total recorded volume</b>	<b>19,069</b>
<b>Avg daily volume (based on 7 days)</b>	2,724.1
<b>Average daily speed (7 days)</b>	46.2mph
<b>Average daily 85%ile (7 days)</b>	52.4mph
<b>% of vehicles exceeding 60mph</b>	2.4%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	3,046.0
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	46.0mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	2,594.4
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	45.7mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	51.7mph

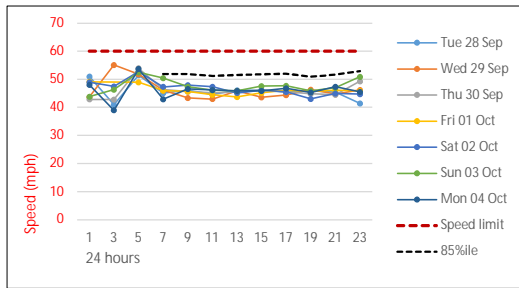
## SITE LOCATION



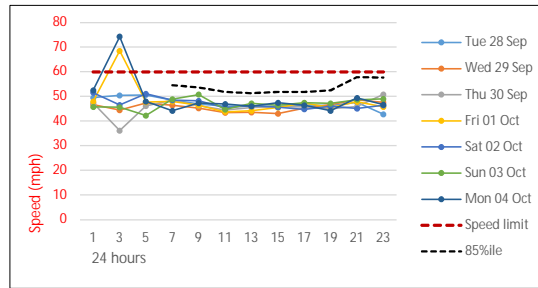
<b>Location</b>	Newmarket Road
<b>Lat, lng.</b>	52°19'33.68"N/52°19'33.68"W
<b>Project &amp; site</b>	28925-004
<b>PSL</b>	60mph
<b>Bus route</b>	No
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

## NORTHBOUND ↑



## SOUTHBOUND ↓

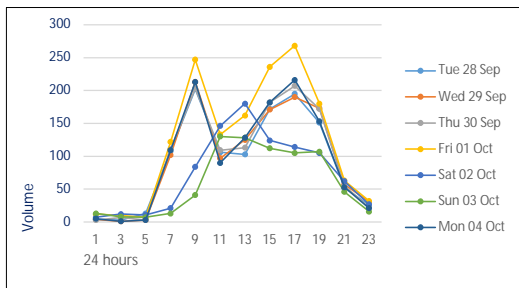


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

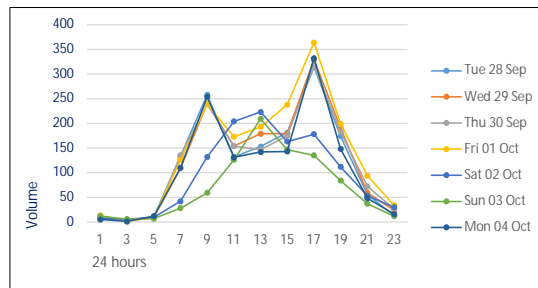
The peak average northbound daytime speed was 51.7mph at 08:15 on Sun 03 Oct, whilst the peak average southbound speed was 53.9mph at 08:45 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## NORTHBOUND ↑



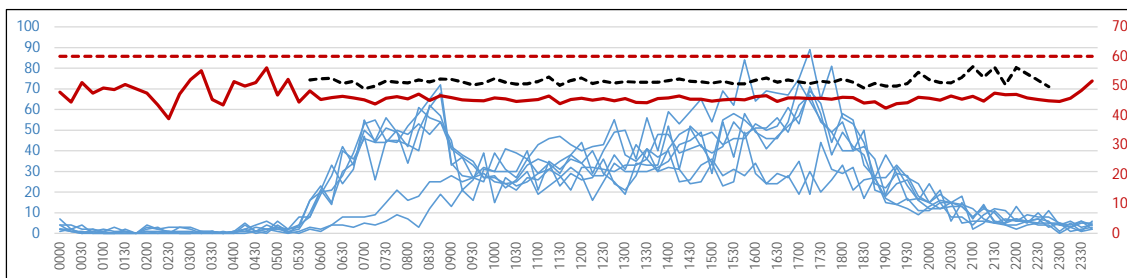
## SOUTHBOUND ↓



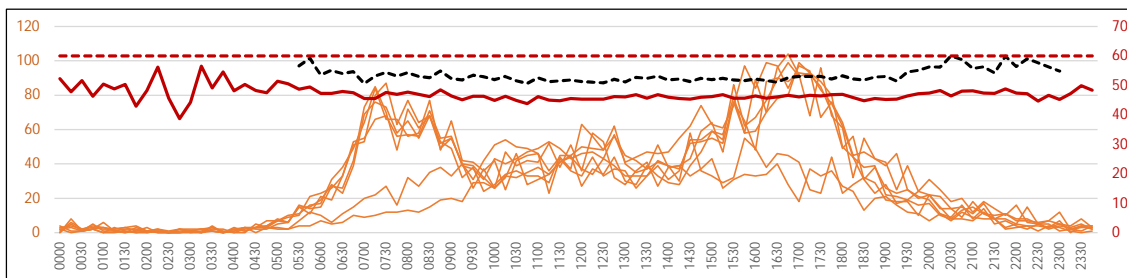
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



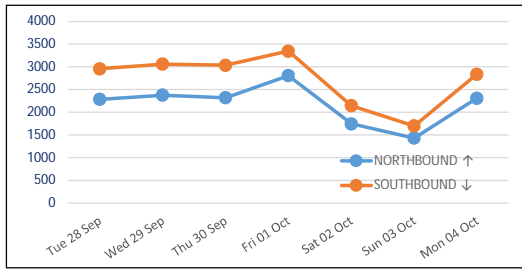
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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 ↑

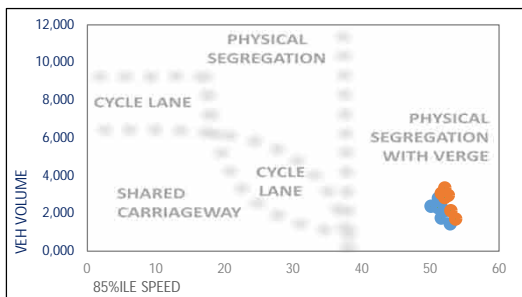
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.9	0.0	0.0	0.0	6.9
0100	0.0	1.9	0.0	0.0	0.0	1.9
0200	0.0	4.6	0.0	0.0	0.0	4.6
0300	0.0	1.9	0.0	0.1	0.0	2.0
0400	0.0	6.6	0.0	0.1	0.0	6.7
0500	0.0	16.0	0.0	0.1	0.1	16.3
0600	1.3	82.1	0.3	0.0	0.0	83.7
0700	0.4	142.4	2.0	0.7	0.1	145.7
0800	0.4	167.9	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.

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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.

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3	SVT	Class 2 plus trailer		OGV1 & PSV
4	TB2	2 axle truck / bus	LONG 11.5m to 19.0m	OGV1
5	TB3	3 axle truck / bus		OGV2
6	T4	4 axle truck		
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9	ART5	5 axle articulated		
10	ART6	6+ axle articulated		

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28925-004 Norfolk. Newmarket Road. Summary.xlsx



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-005 - La Hogue Road
<b>LOC. DESC.</b>	La Hogue Road
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>4,584</b>
<b>Avg daily volume (based on 7 days)</b>	654.9
<b>Average daily speed (7 days)</b>	43.0mph
<b>Average daily 85%ile (7 days)</b>	50.6mph
<b>AADT (annual average daily traffic)</b>	705
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	613.0
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	43.7mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	573.2
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	43.6mph

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 ↑	
<b>Total recorded volume</b>	<b>2,994</b>
<b>Avg daily volume (based on 7 days)</b>	427.7
<b>Average daily speed (7 days)</b>	42.4mph
<b>Average daily 85%ile (7 days)</b>	50.5mph
<b>% of vehicles exceeding 60mph</b>	1.7%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	410.4
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	43.3mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	379.6
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	43.1mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	51.3mph

SOUTHBOUND ↓	
<b>Total recorded volume</b>	<b>1,590</b>
<b>Avg daily volume (based on 7 days)</b>	227.1
<b>Average daily speed (7 days)</b>	43.7mph
<b>Average daily 85%ile (7 days)</b>	50.6mph
<b>% of vehicles exceeding 60mph</b>	1.4%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	202.6
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	44.2mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	193.6
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	44.0mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	51.2mph

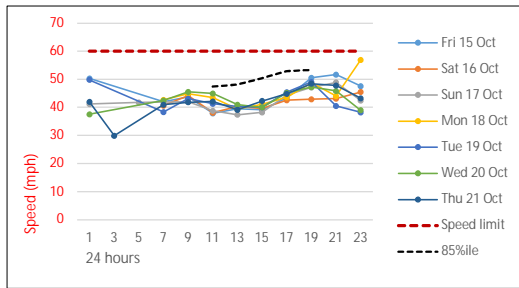
## SITE LOCATION



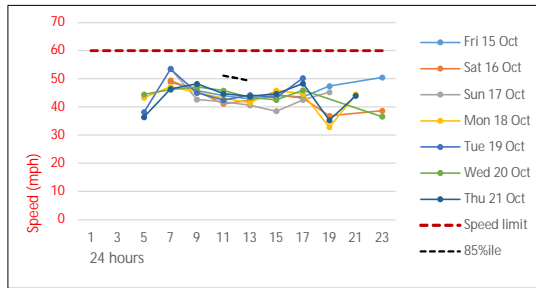
<b>Location</b>	La Hogue Road
<b>Lat, lng.</b>	52°17'7.30"N, 0°27'15.49"E
<b>Project &amp; site</b>	28925-005
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

## NORTHBOUND ↑



## SOUTHBOUND ↓

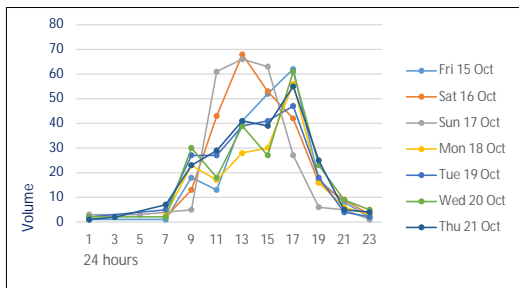


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

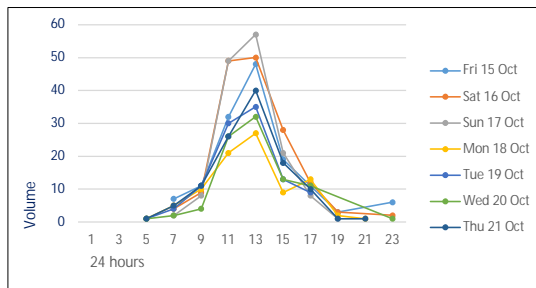
The peak average northbound daytime speed was 61.3mph at 18:45 on Fri 15 Oct, whilst the peak average southbound speed was 61.5mph at 07:45 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## NORTHBOUND ↑



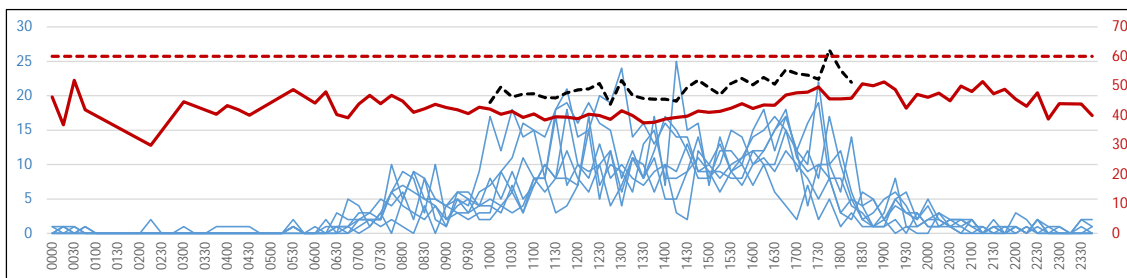
## SOUTHBOUND ↓



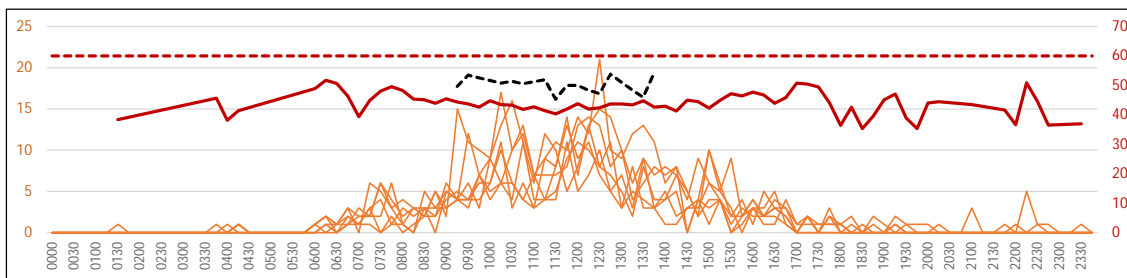
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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.

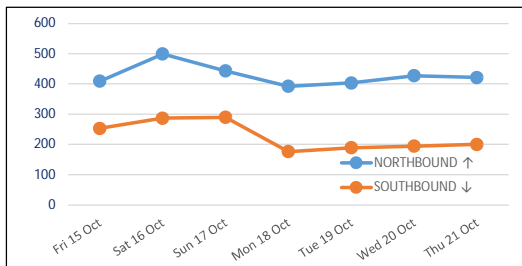


15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ↓



# 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 ↑

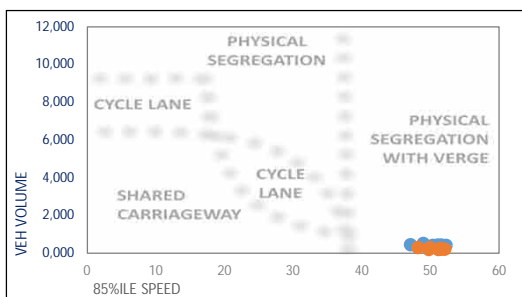
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	1.3
0100	0.0	0.0	0.0	0.0	0.0	0.0
0200	0.0	0.3	0.0	0.0	0.0	0.3
0300	0.0	0.3	0.0	0.0	0.0	0.3
0400	0.0	0.4	0.0	0.0	0.0	0.4
0500	0.0	0.9	0.0	0.0	0.0	0.9
0600	0.0	2.6	0.3	0.0	0.0	2.9
0700	0.0	10.0	1.3	0.1	0.0	11.4
0800	0.0	18.3	1.0	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		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	LONG 11.5m to 19.0m	

## 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

<b>PROJECT</b>	28925 Norfolk
<b>LOCATION</b>	28925-005 - Freckenham Road
<b>LOC. DESC.</b>	Freckenham Road
<b>START DATE</b>	Tue 28 Sep, 2021
<b>END DATE</b>	Mon 04 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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

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

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 ↑

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

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

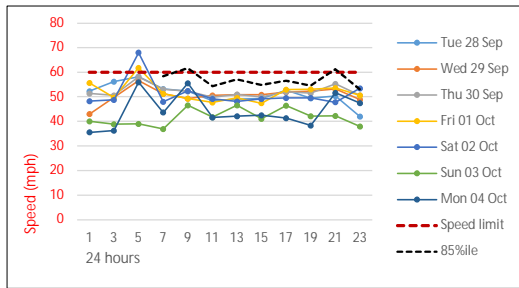
SITE PLAN



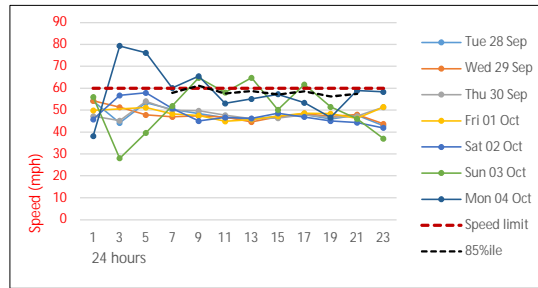
<b>Location</b>	Freckenham Road
<b>Coordinates</b>	52°19'33.68"N/52°19'33.68"W
<b>Location, Inq.</b>	N
<b>Project &amp; site</b>	28925-005
<b>PSL</b>	60mph
<b>Bus route</b>	No
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

## NORTHBOUND ↑



## SOUTHBOUND ↓

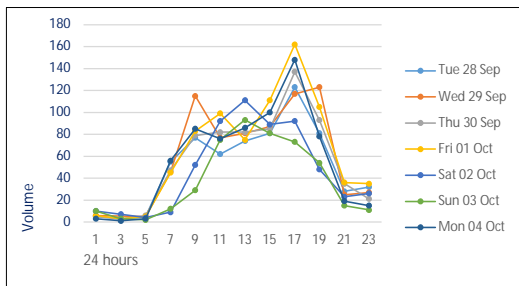


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

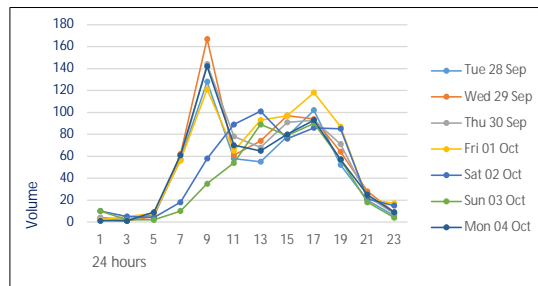
The peak average northbound daytime speed was 64.2mph at 08:00 on Mon 04 Oct, whilst the peak average southbound speed was 84.9mph at 12:00 on Sun 03 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## NORTHBOUND ↑



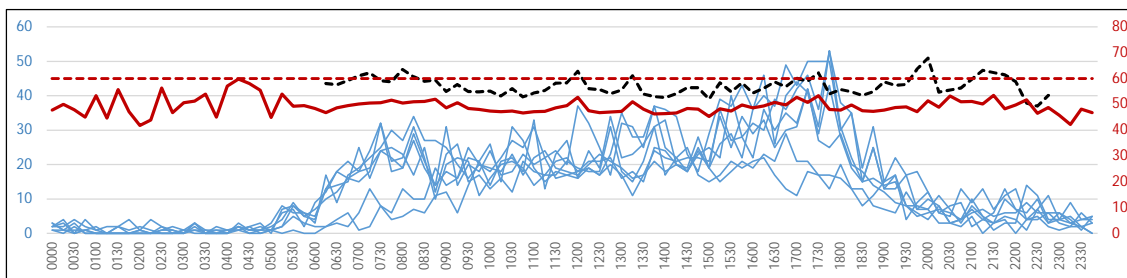
## SOUTHBOUND ↓



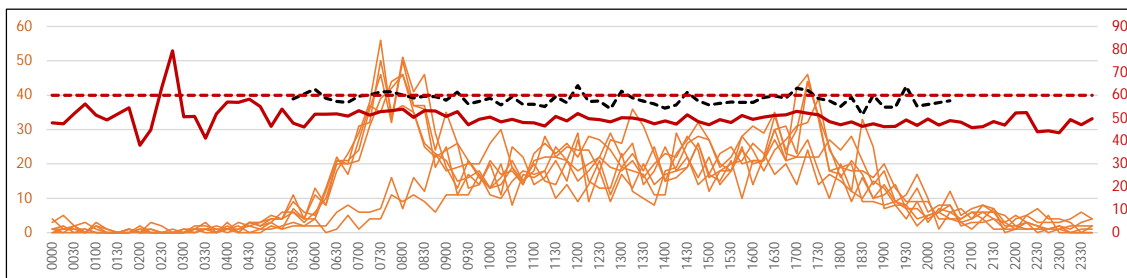
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



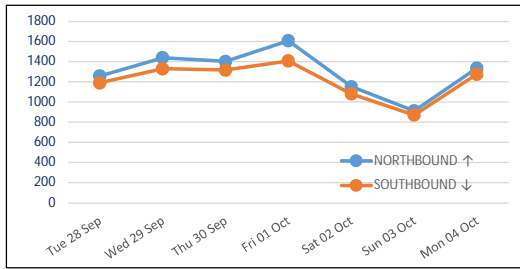
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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.

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 ↑

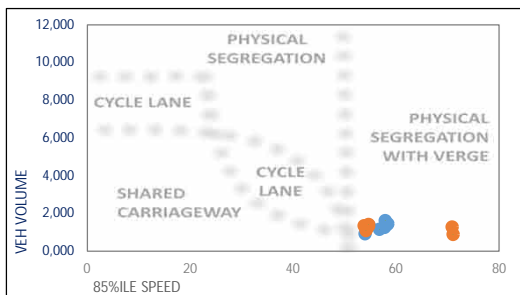
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	6.3	0.0	0.1	0.0	6.4
0100	0.0	2.3	0.1	0.0	0.0	2.4
0200	0.0	1.9	1.0	0.0	0.0	2.9
0300	0.0	2.0	0.7	0.4	0.0	3.1
0400	0.0	3.9	0.4	0.0	0.0	4.3
0500	0.1	15.3	0.0	0.1	0.0	15.6
0600	0.3	36.9	1.0	0.4	0.0	38.6
0700	0.1	67.6	2.6	0.4	0.0	70.7
0800	1.1	69.6	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	LONG 11.5m to 19.0m	
4	TB2	2 axle truck / bus		OGV1
5	TB3	3 axle truck / bus		
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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28925-005 Norfolk. Freckenham Road. Summary.xlsx

## 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.



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-006 - B1085 Dane Hill Road
<b>LOC. DESC.</b>	B1085 Dane Hill Road
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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

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

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 →

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

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 ←

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

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

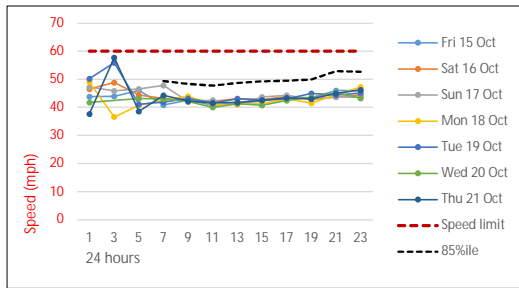
## SITE LOCATION



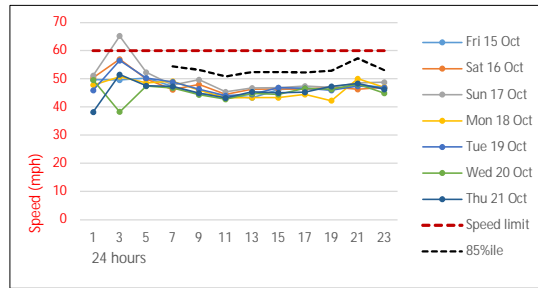
<b>Location</b>	B1085 Dane Hill Road
<b>Lat, lng.</b>	52°17'13.14"N/0°28'28.89"E
<b>Project &amp; site</b>	28925-006
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Eastbound→
<b>Direction 2</b>	Westbound←

# DAILY SPEEDS

**EASTBOUND →**



**WESTBOUND ←**

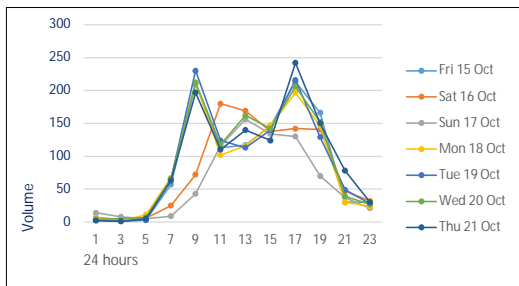


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

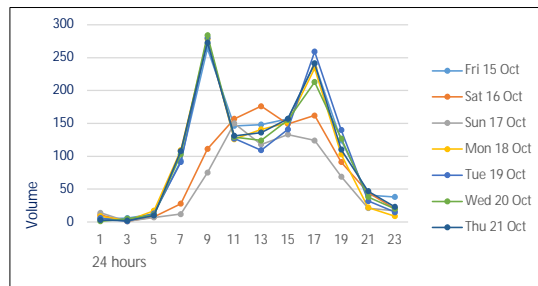
The peak average eastbound daytime speed was 48.5mph at 18:45 on Tue 19 Oct, whilst the peak average westbound speed was 52.7mph at 07:15 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

**EASTBOUND →**



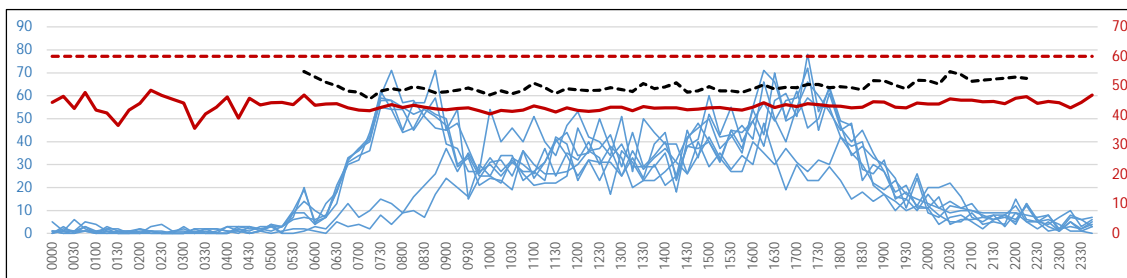
**WESTBOUND ←**



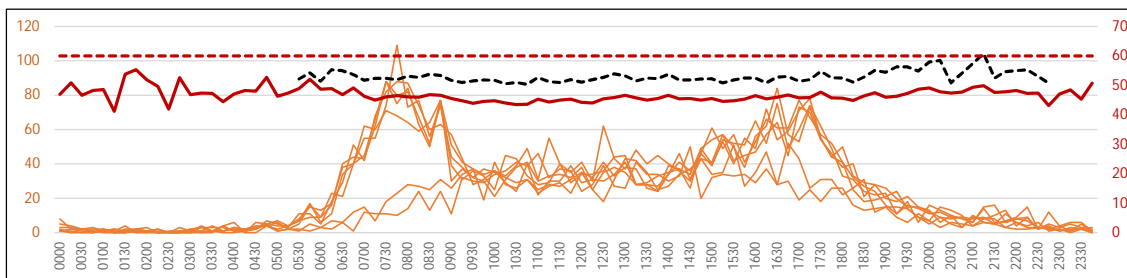
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



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

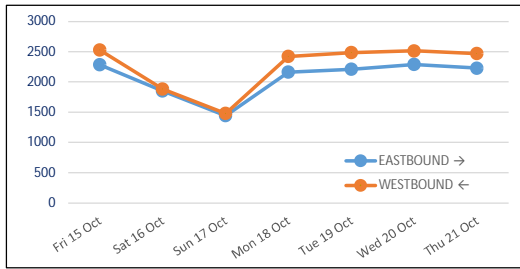


15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period. ←



# 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 →

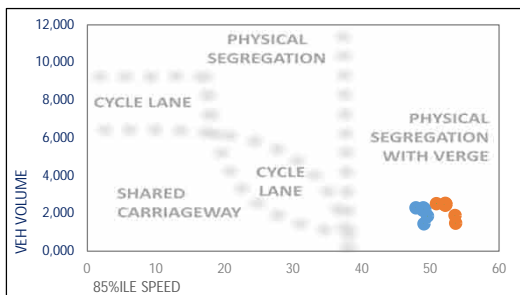
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.9	0.0	0.1	0.0	6.0
0100	0.0	2.7	0.3	0.1	0.0	3.1
0200	0.0	2.6	0.0	0.1	0.0	2.7
0300	0.3	2.9	0.1	0.0	0.0	3.3
0400	0.1	5.0	0.3	0.3	0.0	5.7
0500	0.0	19.4	0.4	1.0	0.0	20.9
0600	0.0	48.1	1.4	0.7	0.0	50.3
0700	0.1	140.3	3.6	2.4	0.9	147.3
0800	0.4	160.9	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	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		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	LONG 11.5m to 19.0m	

## 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.

## Disclaimer

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Generated 05 Nov 2021 v6.0

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



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-007 - B1085 Dane Hill Road
<b>LOC. DESC.</b>	B1085 Dane Hill Road
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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

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

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 →

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

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 ←

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

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

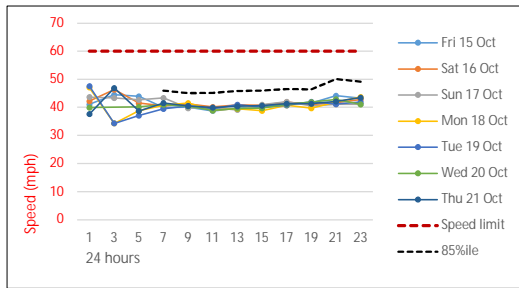
## SITE LOCATION



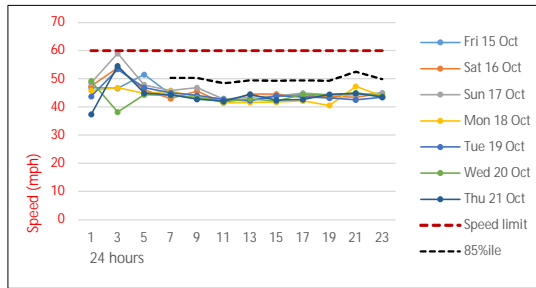
<b>Location</b>	B1085 Dane Hill Road
<b>Lat, lng.</b>	52°17'15.15"N, 0°28'21.81"E
<b>Project &amp; site</b>	28925-007
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Eastbound→
<b>Direction 2</b>	Westbound←

# DAILY SPEEDS

**EASTBOUND →**



**WESTBOUND ←**

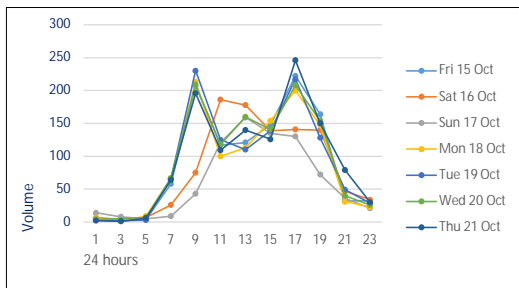


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

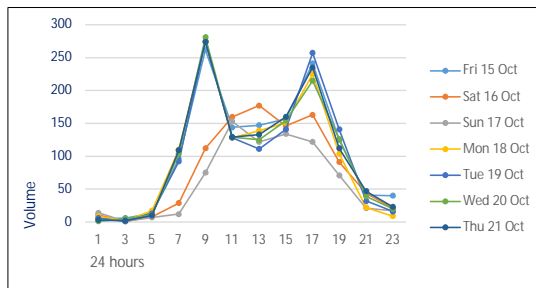
The peak average eastbound daytime speed was 45.8mph at 07:00 on Sun 17 Oct, whilst the peak average westbound speed was 48.5mph at 18:30 on Wed 20 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

**EASTBOUND →**



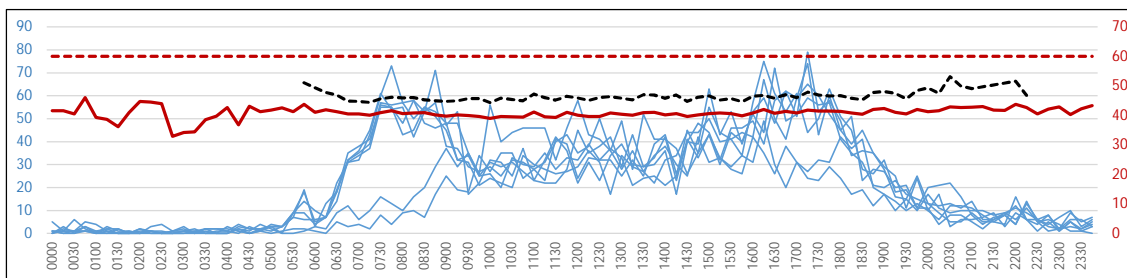
**WESTBOUND ←**



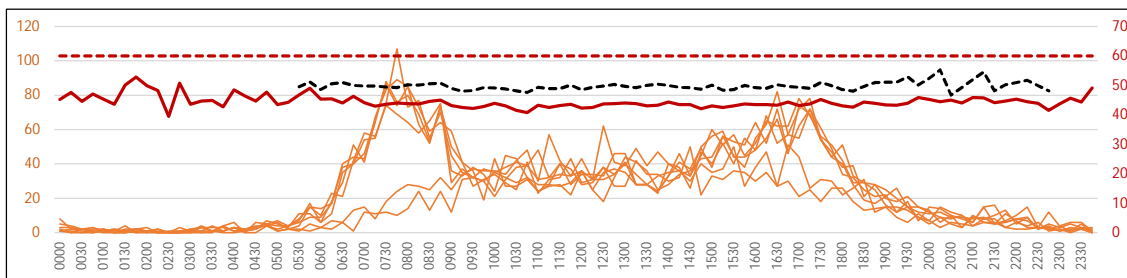
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



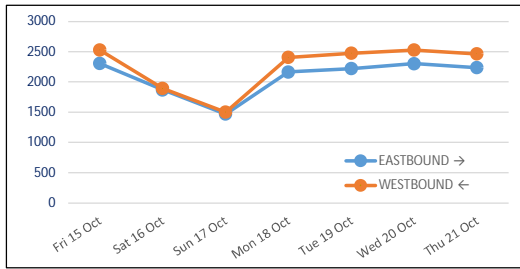
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



← 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 →

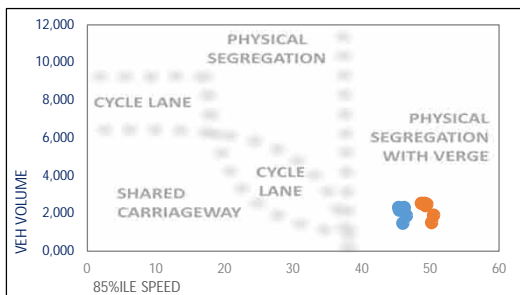
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	5.9	0.0	0.1	0.0	6.0
0100	0.0	2.7	0.3	0.1	0.0	3.1
0200	0.1	2.6	0.0	0.1	0.0	2.9
0300	0.4	2.9	0.0	0.0	0.1	3.4
0400	0.3	5.0	0.3	0.3	0.0	5.9
0500	0.0	18.4	0.6	1.1	0.0	20.1
0600	0.4	48.6	1.1	0.7	0.0	50.9
0700	0.4	138.4	4.0	2.9	0.7	146.4
0800	0.9	159.6	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%	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%	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		LONG 11.5m to 19.0m
5	TB3	3 axle truck / bus		
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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28925-007 Cambridge, B1085 Dane Hill Road. Summary.xlsx

## 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.



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Norfolk
<b>LOCATION</b>	28925-006 - Isleham Road
<b>LOC. DESC.</b>	Isleham Road
<b>START DATE</b>	Tue 28 Sep, 2021
<b>END DATE</b>	Mon 04 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>8,009</b>
<b>Avg daily volume (based on 7 days)</b>	<b>1,144.1</b>
<b>Average daily speed (7 days)</b>	<b>45.1mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>52.6mph</b>
<b>AADT (annual average daily traffic)</b>	<b>1,139</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>1,229.4</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>45.0mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>1,000.2</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>45.0mph</b>

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 →	
<b>Total recorded volume</b>	<b>4,006</b>
<b>Avg daily volume (based on 7 days)</b>	<b>572.3</b>
<b>Average daily speed (7 days)</b>	<b>42.6mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>49.6mph</b>
<b>% of vehicles exceeding 60mph</b>	<b>1.0%</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>616.4</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>42.6mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>495.0</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>42.6mph</b>
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	<b>49.2mph</b>

WESTBOUND ←	
<b>Total recorded volume</b>	<b>4,003</b>
<b>Avg daily volume (based on 7 days)</b>	<b>571.9</b>
<b>Average daily speed (7 days)</b>	<b>47.6mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>55.6mph</b>
<b>% of vehicles exceeding 60mph</b>	<b>5.9%</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>613.0</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>47.4mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>505.2</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>47.5mph</b>
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	<b>55.5mph</b>

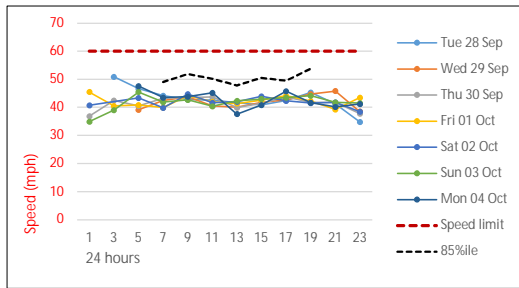
## SITE LOCATION



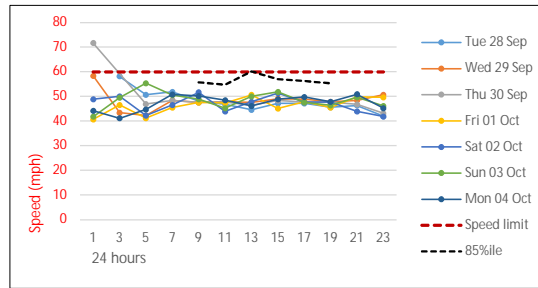
<b>Location</b>	Isleham Road
<b>Lat, lng.</b>	52°19'33.68"N/52°19'33.68" N
<b>Project &amp; site</b>	28925-006
<b>PSL</b>	60mph
<b>Bus route</b>	No
<b>Direction 1</b>	Eastbound→
<b>Direction 2</b>	Westbound←

# DAILY SPEEDS

## EASTBOUND →



## WESTBOUND ←

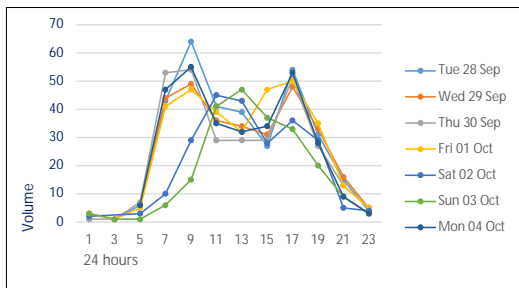


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

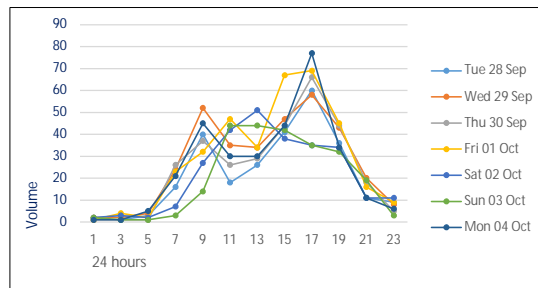
The peak average eastbound daytime speed was 51.1mph at 07:00 on Sun 03 Oct, whilst the peak average westbound speed was 64.5mph at 07:15 on Sat 02 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## EASTBOUND →



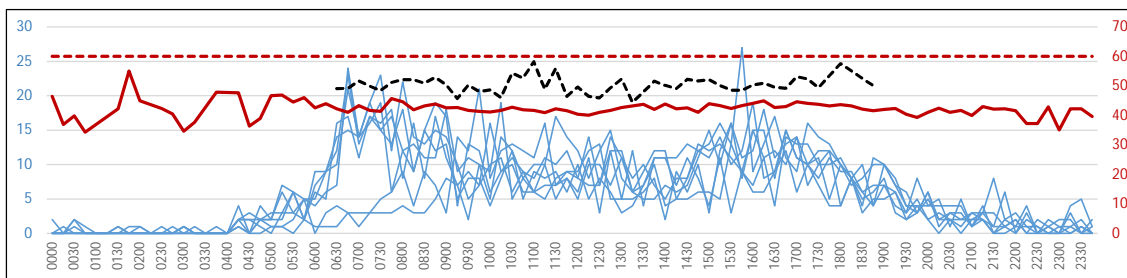
## WESTBOUND ←



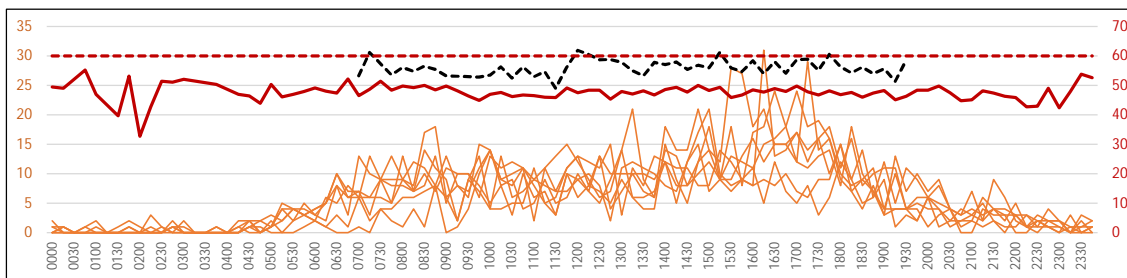
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



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

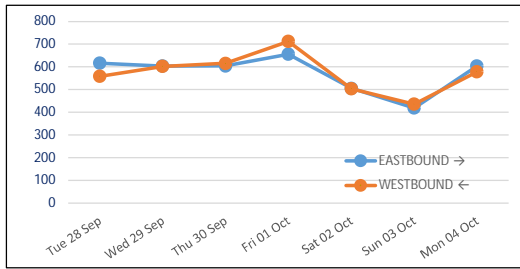


← 15min daily westbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



# 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 →

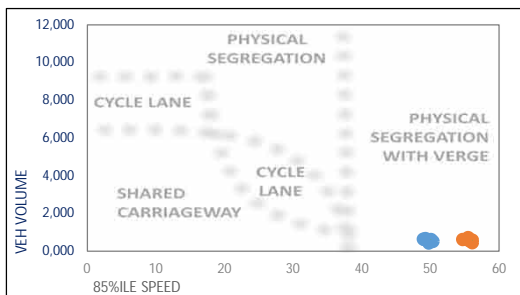
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	1.3	0.0	0.0	0.0	1.3
0100	0.0	0.4	0.0	0.0	0.0	0.4
0200	0.0	0.6	0.0	0.0	0.0	0.6
0300	0.0	0.7	0.0	0.0	0.0	0.7
0400	0.0	3.6	0.0	1.3	0.0	4.9
0500	0.0	10.4	0.0	1.4	0.0	11.9
0600	1.4	30.3	0.6	2.0	0.6	34.9
0700	1.3	44.0	0.6	1.0	1.0	47.9
0800	1.0	42.3	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.

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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.

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Valid 85%iles are required to plot the graph.

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- 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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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		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	LONG 11.5m to 19.0m	

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28925-006 Norfolk. Isleham Road. Summary.xlsx

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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.

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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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# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-008 - B1085
<b>LOC. DESC.</b>	B1085
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>24,148</b>
<b>Avg daily volume (based on 7 days)</b>	<b>3,449.7</b>
<b>Average daily speed (7 days)</b>	<b>49.7mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>57.2mph</b>
<b>AADT (annual average daily traffic)</b>	<b>3,648</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>3,740.8</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>49.7mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>3,305.6</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>49.5mph</b>

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 →	
<b>Total recorded volume</b>	<b>12,221</b>
<b>Avg daily volume (based on 7 days)</b>	<b>1,745.9</b>
<b>Average daily speed (7 days)</b>	<b>48.1mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>55.7mph</b>
<b>% of vehicles exceeding 60mph</b>	<b>5.9%</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>1,863.8</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>48.2mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>1,635.8</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>48.0mph</b>
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	<b>55.3mph</b>

WESTBOUND ←	
<b>Total recorded volume</b>	<b>11,927</b>
<b>Avg daily volume (based on 7 days)</b>	<b>1,703.9</b>
<b>Average daily speed (7 days)</b>	<b>51.2mph</b>
<b>Average daily 85%ile (7 days)</b>	<b>58.7mph</b>
<b>% of vehicles exceeding 60mph</b>	<b>11.5%</b>
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	<b>1,877.0</b>
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	<b>51.1mph</b>
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	<b>1,669.8</b>
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	<b>51.0mph</b>
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	<b>58.2mph</b>

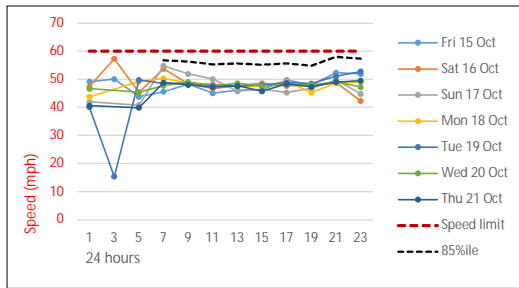
## SITE LOCATION



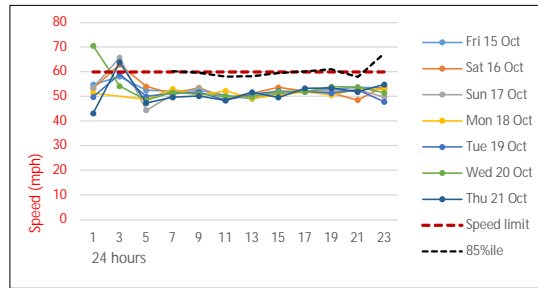
<b>Location</b>	B1085
<b>Lat, lng.</b>	52°17'26.70"N/0°27'38.58"E
<b>Project &amp; site</b>	28925-008
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Eastbound→
<b>Direction 2</b>	Westbound←

# DAILY SPEEDS

**EASTBOUND →**



**WESTBOUND ←**

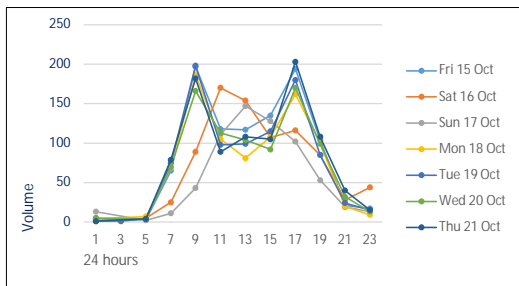


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

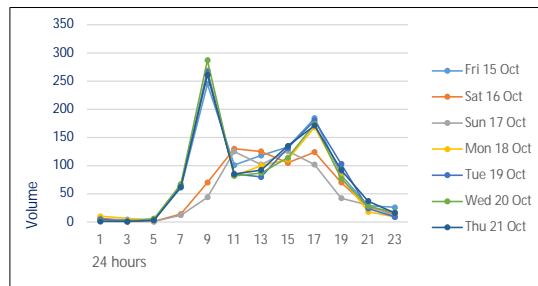
The peak average eastbound daytime speed was 55.3mph at 07:00 on Sat 16 Oct, whilst the peak average westbound speed was 59.2mph at 08:30 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

**EASTBOUND →**



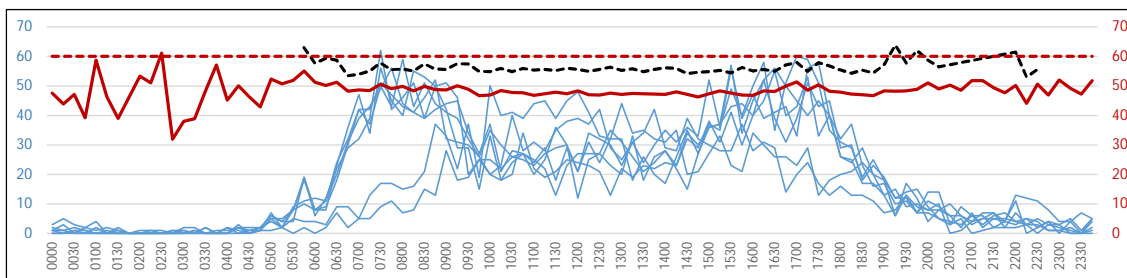
**WESTBOUND ←**



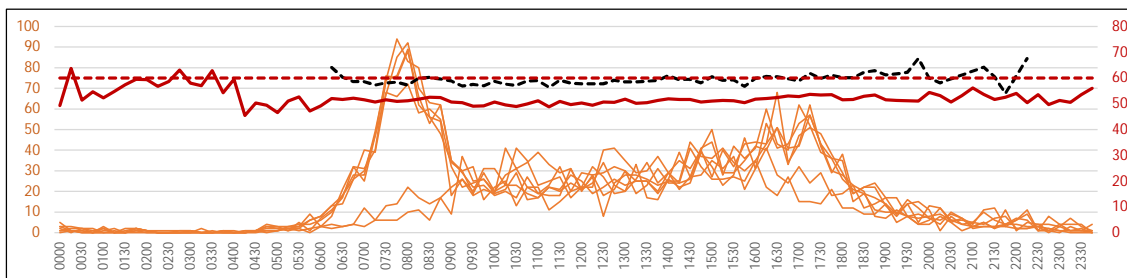
→ Hourly eastbound traffic volumes over each 24hr period for 7 days from all available data.

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

# 15min VOL & SPEED



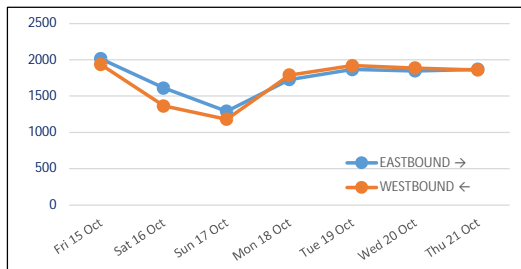
→ 15min daily eastbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



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 →

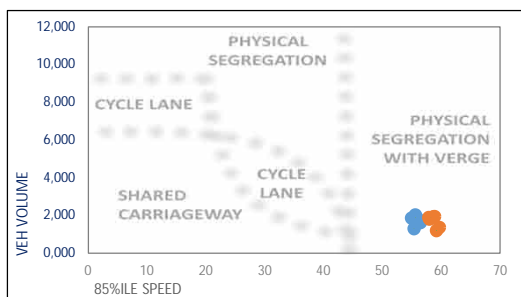
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.1	4.3	0.0	0.0	0.0	4.4
0100	0.0	1.9	0.1	0.0	0.0	2.0
0200	0.1	0.7	0.0	0.0	0.0	0.9
0300	0.3	1.6	0.0	0.0	0.0	1.9
0400	0.3	3.6	0.1	0.1	0.0	4.1
0500	0.0	24.9	0.7	0.1	0.0	25.7
0600	0.1	53.9	1.3	0.6	0.4	56.3
0700	0.4	132.6	3.1	1.3	2.6	140.0
0800	1.0	145.1	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 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	CAR & LGV
3	SVT	Class 2 plus trailer		OGV1 & PSV
4	TB2	2 axle truck / bus		OGV1
5	TB3	3 axle truck / bus		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	LONG 11.5m to 19.0m	

## 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

28925-008 Cambridge. B1085. Summary.xlsx



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-009 - B1102
<b>LOC. DESC.</b>	B1102
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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

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

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.

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

### NORTHBOUND ↑

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

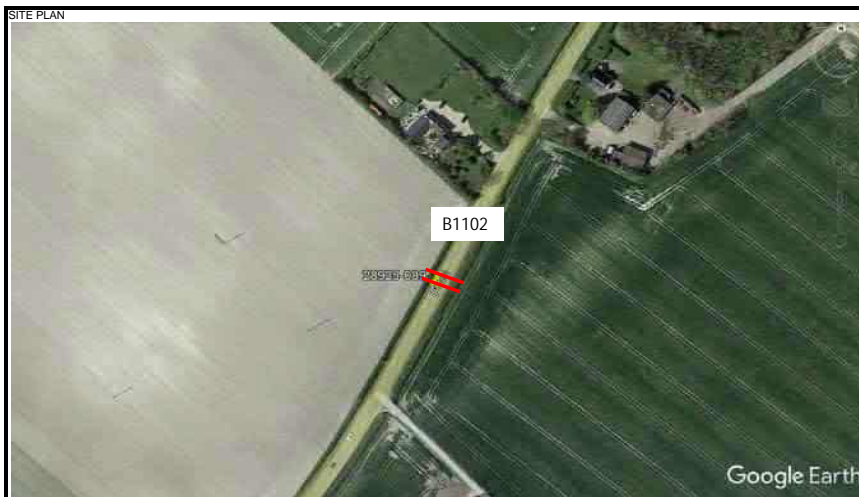
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	3,766.0
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	53.7mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	3,282.2
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	53.3mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	59.5mph

### SOUTHBOUND ↓

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

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

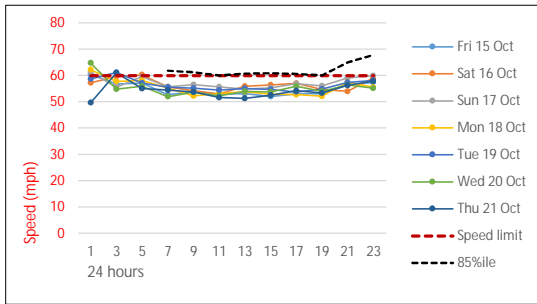
## SITE LOCATION



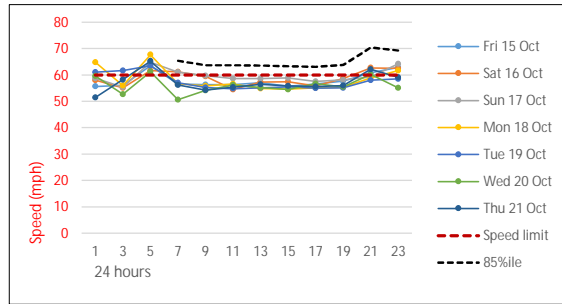
<b>Location</b>	B1102
<b>Lat, lng.</b>	52°17'35.11"N,0°20'55.67"E
<b>Project &amp; site</b>	28925-009
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

## NORTHBOUND ↑



## SOUTHBOUND ↓

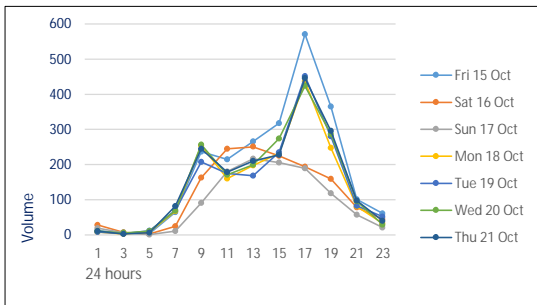


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

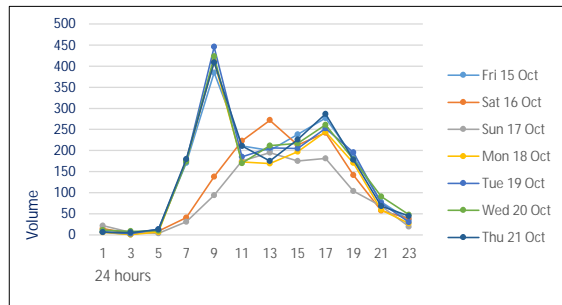
The peak average northbound daytime speed was 61.5mph at 07:15 on Sat 16 Oct, whilst the peak average southbound speed was 64.2mph at 07:00 on Sat 16 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## NORTHBOUND ↑



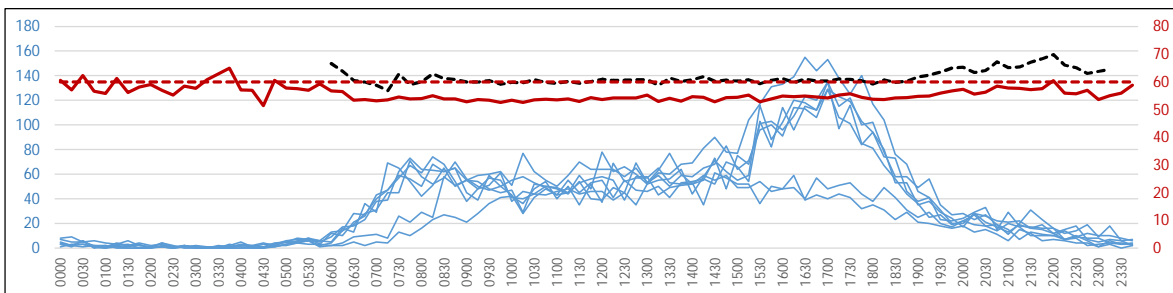
## SOUTHBOUND ↓



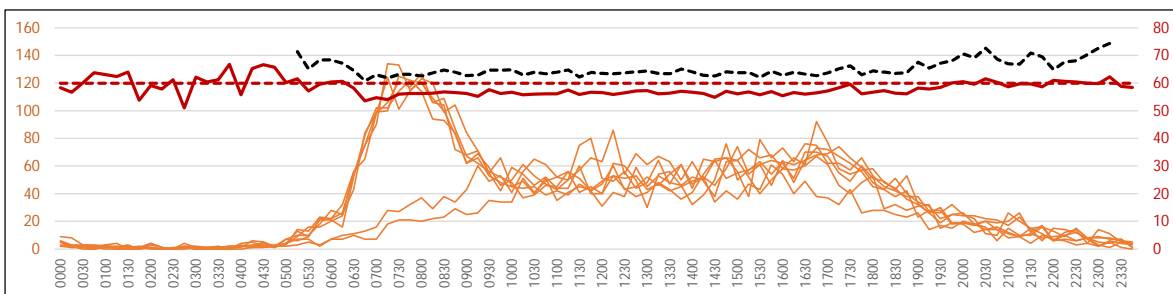
↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data.

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.



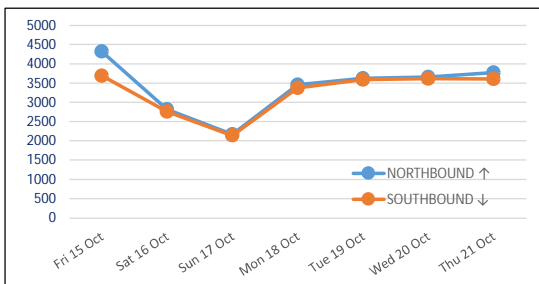


15min daily southbound flows (orange), against the average weekly speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



# DAILY VOLUMES

## NORTH & SOUTHBOUND



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

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 ↑

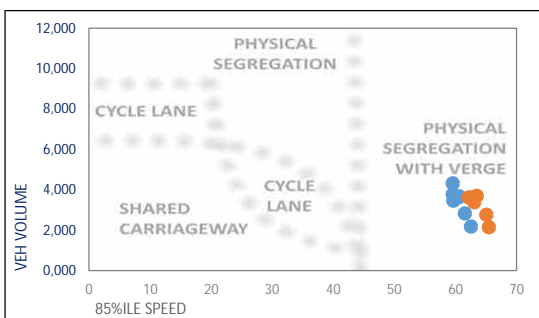
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	13.3	0.6	0.0	0.0	13.9
0100	0.0	6.7	0.3	0.0	0.0	7.0
0200	0.1	4.4	0.1	0.0	0.1	4.9
0300	0.0	2.4	0.4	0.0	0.0	2.9
0400	0.0	6.1	0.1	0.1	0.0	6.4
0500	0.0	18.7	0.7	0.3	0.0	19.7
0600	2.0	50.3	1.1	2.1	0.0	55.6
0700	1.9	155.3	2.7	1.3	1.0	162.1
0800	1.7	198.1	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.

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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.

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3	SVT	Class 2 plus trailer		OGV1 & PSV
4	TB2	2 axle truck / bus	LONG 11.5m to 19.0m	OGV1
5	TB3	3 axle truck / bus		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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28925-009 Cambridge. B1102. Summary.xlsx



# ATC SUMMARY REPORT

<b>PROJECT</b>	28925 Cambridge
<b>LOCATION</b>	28925-010 - Weirs Drove
<b>LOC. DESC.</b>	Weirs Drove
<b>START DATE</b>	Fri 15 Oct, 2021
<b>END DATE</b>	Thu 21 Oct, 2021
<b>SPEED LIMIT</b>	60mph
<b>SURVEY TYPE</b>	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	
<b>Total recorded volume</b>	<b>2,300</b>
<b>Avg daily volume (based on 7 days)</b>	328.6
<b>Average daily speed (7 days)</b>	19.0mph
<b>Average daily 85%ile (7 days)</b>	22.6mph
<b>AADT (annual average daily traffic)</b>	353
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	347.8
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	18.9mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	314.8
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	18.7mph

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 ↑	
<b>Total recorded volume</b>	<b>1,174</b>
<b>Avg daily volume (based on 7 days)</b>	167.7
<b>Average daily speed (7 days)</b>	19.0mph
<b>Average daily 85%ile (7 days)</b>	22.4mph
<b>% of vehicles exceeding 60mph</b>	0.0%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	175.4
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	18.9mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	156.8
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	18.7mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	22.1mph

SOUTHBOUND ↓	
<b>Total recorded volume</b>	<b>1,126</b>
<b>Avg daily volume (based on 7 days)</b>	160.9
<b>Average daily speed (7 days)</b>	18.9mph
<b>Average daily 85%ile (7 days)</b>	22.8mph
<b>% of vehicles exceeding 60mph</b>	0.0%
<b>Avg weekday volume (Mon-Fri, 24hrs)</b>	172.4
<b>Avg weekday speed (Mon-Fri, 24hrs)</b>	18.9mph
<b>Avg 12hr weekday volume (Mon-Fri, 0700-1900)</b>	158.0
<b>Avg 12hr weekday speed (Mon-Fri, 0700-1900)</b>	18.7mph
<b>Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900)</b>	22.3mph

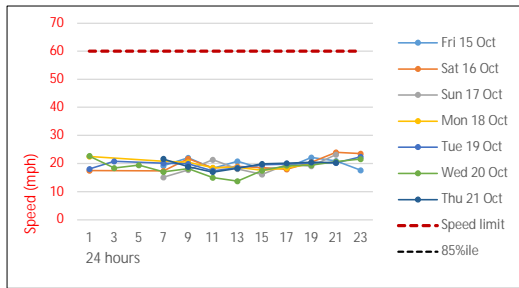
## SITE LOCATION



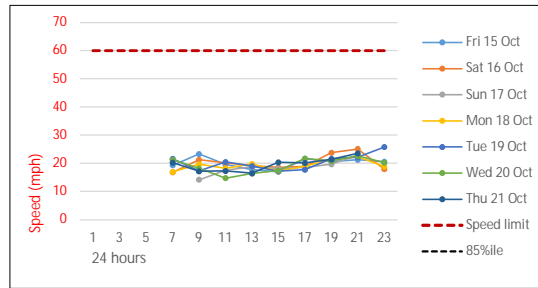
<b>Location</b>	Weirs Drove
<b>Lat, lng.</b>	52°16'44.68"N/0°19'1.33"E
<b>Project &amp; site</b>	28925-010
<b>PSL</b>	60mph
<b>Bus route</b>	Yes
<b>Direction 1</b>	Northbound↑
<b>Direction 2</b>	Southbound↓

# DAILY SPEEDS

## NORTHBOUND ↑



## SOUTHBOUND ↓

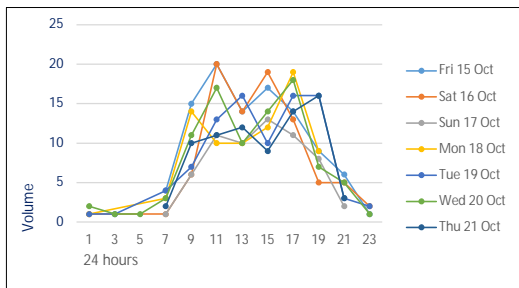


Average daily speeds (solid thin colours) and 85%ile (dashed black) compared against 60mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are observed to travel under free flowing conditions. A minimum of ten vehicles per speed bin is required for this calculation,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

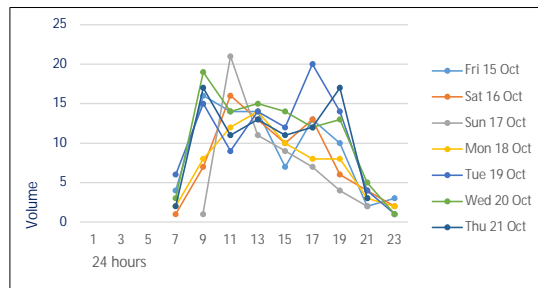
The peak average northbound daytime speed was 27.5mph at 11:00 on Fri 15 Oct, whilst the peak average southbound speed was 30.8mph at 08:15 on Fri 15 Oct (based on 15min averages between 0700 & 1900).

# HOURLY VOLUMES

## NORTHBOUND ↑

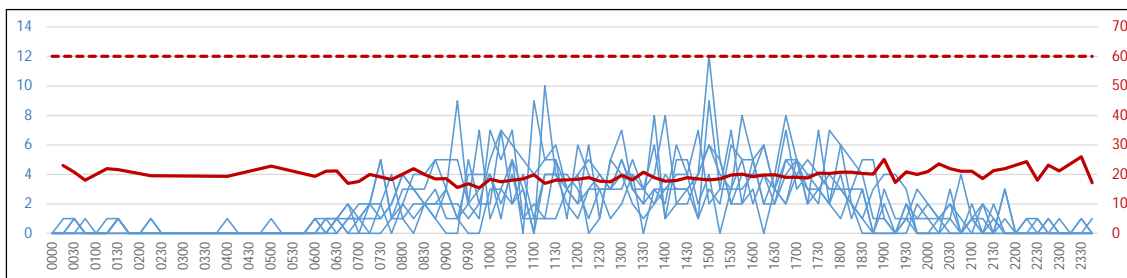


## SOUTHBOUND ↓

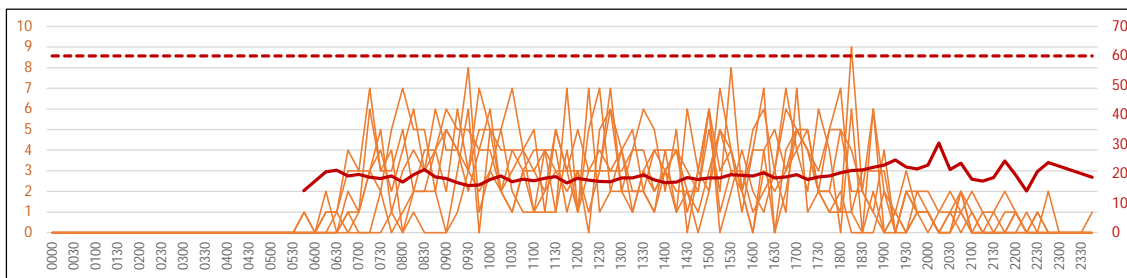


↑ Hourly northbound traffic volumes over each 24hr period for 7 days from all available data. ↓ Hourly southbound traffic volumes over each 24hr period for 7 days from all available data.

# 15min VOL & SPEED



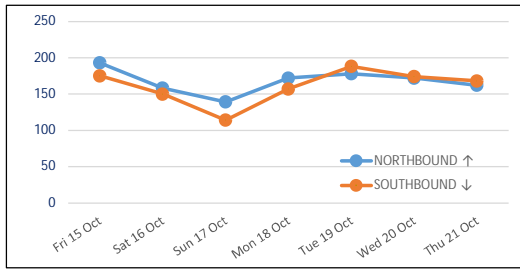
↑ 15min daily northbound flows (blue), against the average speed (red) and 85%ile (dotted black) for each 15min period over the 7-day period.



↓ 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 ↑

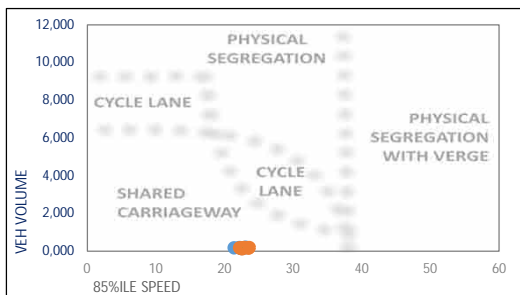
TIME	MOTOR CYCLES	CARS / LGV	OGV1	OGV2	PSV	TOTAL
0000	0.0	0.7	0.0	0.0	0.0	0.7
0100	0.0	0.9	0.0	0.0	0.0	0.9
0200	0.0	0.3	0.0	0.0	0.0	0.3
0300	0.0	0.0	0.0	0.0	0.0	0.0
0400	0.0	0.1	0.0	0.0	0.0	0.1
0500	0.0	0.1	0.0	0.0	0.0	0.1
0600	0.1	2.4	0.0	0.0	0.0	2.6
0700	0.6	5.3	0.0	0.1	0.0	6.0
0800	1.4	8.3	0.0	0.1	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.

# 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.

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