

# **Chilton Parish Council Speed Warning Sign Report**



**Compiled by N Wasey  
September 2021**

# Introduction

Since the summer of 2019 Chilton Parish Council have operated a single **Speed Warning Sign** with three mounting points at each of the approaches into the village.

- a) On the Brill Road on the verge outside the Old School House
- b) On the Dorton Road just north of the grit box opposite Town Hill Farm
- c) On the Thame Road located 10m south of the BT cabinet opposite Chilton Meadow

The Warning Sign is manufactured by SWARCO, a UK firm, and is of the basic design that illuminates with a “30” reminder and a “SLOW DOWN” message if a vehicle is travelling in excess on the limit. This is known as a Speed Limit Reminder (SLR) type sign. Other types seen in neighboring villages are Speed Indication Device (SID) that indicates to the driver the speed at which they are travelling, and Smiley Activated Message (SAM) as used in Chearsley on the approach from Cuddington.

These signs use a radar to detect vehicle speeds and with an energy efficient LED display to show the message to oncoming drivers. The sign was delivered with a pair of 12V rechargeable batteries, each of which lasts around 6 weeks before having to be exchanged for its charged twin. A speed tolerance can also be set within the sign and this currently that is set to zero such that any vehicle exceeding 30mph will activate the sign.

Importantly, the sign also has an inbuilt data logging feature that provides statistical feedback on the number of activations, vehicle speeds, volumes and various other metrics. It doesn't, however, have a camera so there is no recording of vehicle registrations. The sign was a relatively sizeable investment for the PC costing £1,595 (£3,195 less a grant of £1,600) so in order to realize its full value the data logging feature should be fully used to make informed decisions about traffic calming through the village.

# What the sign records

The Speed Warning Sign uses a Bluetooth connection to download its recordings to a laptop and an American software (Houston Radar Stats Analyser) to compile and report on the data. The three locations have now been set up within the software and the exact position of the mounting plinths logged. The Houston software come with a suite of on-screen and generated reports that show the following metrics ;

- Vehicle counts by hour, day, week and month
- Mean average speeds by hour, day, week and month
- 85<sup>th</sup> Percentile speed\*
- Speeder counts and average speeder MPH
- Highest speed recorded in a period

The reports display a huge amount of data so interpreting them and presenting an easily digestible summary has been time quite consuming. The reports can be With time a template can be developed so that the Parish Council can easily review the speed data and measure the results of any initiatives to reduce speeding through our village.

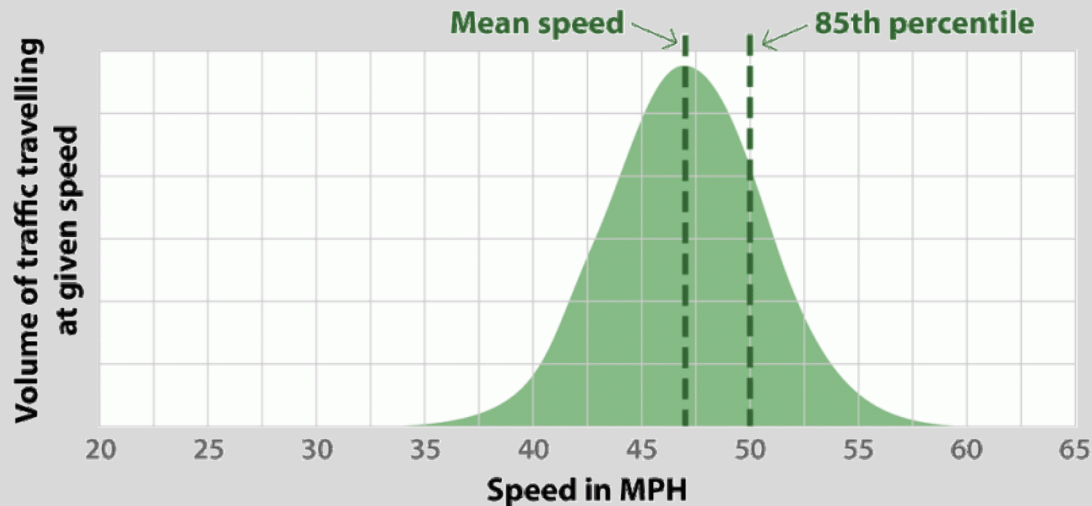
\* See following explanation

# Mean average vs. 85<sup>th</sup> Percentile speeds – an explanation

DfT advice is to use the **mean average** and **85th percentile speeds**, when considering speed implications (not limits). The mean (average) provides an overall indication of the speed environment, but it does not give a good indication of how many drivers may be exceeding the legal speed limit by a significant amount.

In statistics, a percentile is a score below which a given percentage of scores in its frequency distribution falls or a score at or below which a given percentage falls. For example, the 50th percentile is the score below which or at or below which 50% of the scores in the distribution may be found.

The 85th percentile speed helps to show this by indicating the speed not exceeded by 85% of the traffic surveyed, **and hence is the level exceeded by the other 15%**.



The mean speed is not the same as the 85th percentile — in fact it can be quite different and is almost certain to be lower.

Based on Association of Chief Police Officers (ACPO) criteria, the thresholds used nationally to bring a consistent approach in speed enforcement across the country, which is a requirement of Camera Safety Technology are worked out by the following formula:-

**Threshold speed** = speed limit + 10% + 2mph. For example, in a 20 zone, the formula would look like:-

$$\text{Speed limit} + 10\% + 2\text{mph} = 20\text{mph} + 2 + 2\text{mph} = \mathbf{24\text{mph}}$$


# Mean average and 85<sup>th</sup> Percentile speeds – an explanation

The table below summarises the thresholds above which vehicle speeds are regarded as “high” within the assessment framework adopted Nationally and Regionally:

Speed Limit	Threshold (mean speeds)	Threshold (85 <sup>th</sup> percentile speeds)
20 mph	20 mph	24 mph
30 mph	30 mph	35 mph
40 mph	40 mph	46 mph
60 mph	60 mph	68 mph

Based on the available speed data and the injury accident record, each road is then categorised using a scale of 1 - 4, 1 being the highest priority, as shown in the following table:

Category	Speed	Casualties	Priority	Treatment
1	High	High	Very High	Speed management measures
2	Low	High	High	Casualty reduction measures
3	High	Low	Medium	Speed management measures, <i>if funds available.</i>
4	Low	Low	Low	Speed Indicator Scheme (SID) scheme, bin stickers etc.



# Sign testing and data downloads

The sign was first tested for last two weeks of May on its Brill Road location where the sign's memory was found to be completely full having not been downloaded for over 12 months since Stuart Middeldine's departure. The sign was then reset and relocated to the Dorton Road location for further testing during June and July.

Finally, the sign has been set up on the Thame Road approach from the end of August with the aim of having a good set of data from 1<sup>st</sup> September in line with start of the new school term. The sign will remain on the Thame Road from the whole of October (estimated to be the worst approach for speeding into the village) to get a second month's data before rotating back to the Brill Road and then the Dorton Road during November and December, respectively.

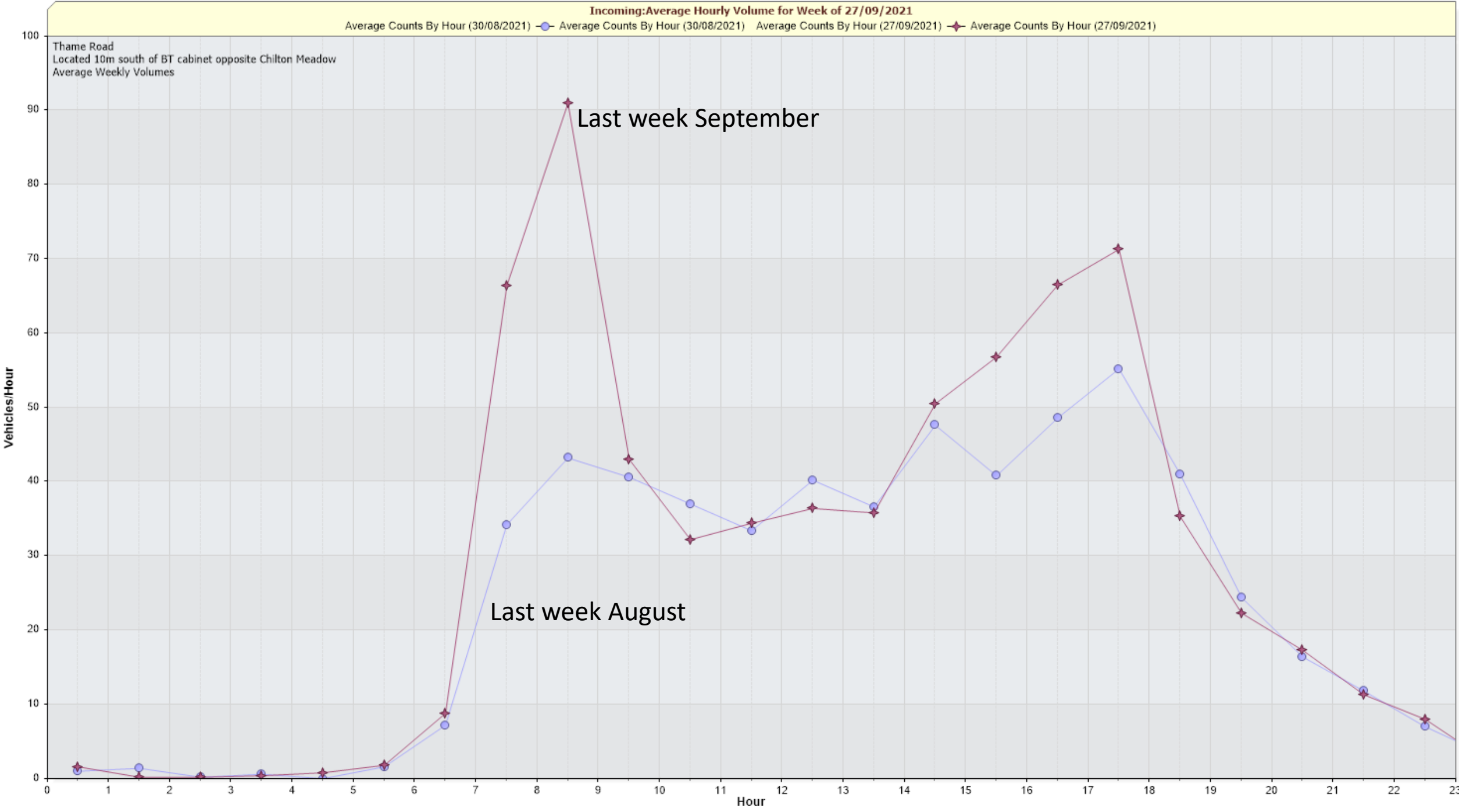
One interesting observation is the comparison for the traffic volumes between August and September. The graph overleaf shows the average traffic volumes by hour in both the last weeks of August and September. As expected, there is a marked increase in traffic volume during the school run in term time.



Incoming: Average Hourly Volume for Week of 27/09/2021

Average Counts By Hour (30/08/2021) Average Counts By Hour (30/08/2021) Average Counts By Hour (27/09/2021) Average Counts By Hour (27/09/2021)

Thame Road  
Located 10m south of BT cabinet opposite Chilton Meadow  
Average Weekly Volumes



# September 2021 Thame Road results

Below is the first summary page of the data report for September 2021.

The subsequent pages (28 of them) lists the values for each day, week by week as well as other graphs charts and table.

The full report can be emailed to the councillors in .pdf form or as an Excel spreadsheet.

For Project:	Thame Road				
Project Notes:	Located 10m south of BT cabinet opposite Chilton Meadow				
Location/Name:	Incoming				
Report Generated:	01/10/2021	14:09			
Speed Intervals	5 MPH				
Time Intervals	Instant				
Traffic Report From	22/07/2021	12:00:00	through	01/10/2021	13:59:59
85th Percentile Speed	37.4 MPH				
85th Percentile Vehides	32025				
Max Speed	65 MPH	on	24/09/2021	23:45:00	
Total Vehides	37677				
AADT:	530				

## Volumes - weekly counts

Time	5 Day	7 Day
Average Daily	617	559
AM Peak 08:00	67	52
PM Peak 05:00	60	51

## Speed

Speed Limit:	30						
85th Percentile Speed:	37.4						
Average Speed:	31.11						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	3466	3868	3672	3727	3728	2461	1861
% over limit	61.1	59.2	62.1	60.2	63.0	60.5	55.0
Avg Speeder	35.0	34.9	35.0	35.0	35.1	34.9	34.9

Percentage vehicles over the speed limit in September = 60.15%



# September Summary

## Thame Road Location

- 85% percentile speed was **37.4mph** meaning **15%** of traffic was exceeding that value.
  - ❖ This 85<sup>th</sup> percentile value is considered a Medium priority situation in the table above and would warrant speed management measures.
- The maximum speed recorded was **65 mph**
- **60.15%** of vehicles exceeded the speed limit during the month
- The average speeder was **34.97mph**
- The average speed during the period was **31.03mph \***

### Question

- Do cyclists affect the average? Certainly bicycles do activate speed signs. The manufacturer will be contacted to ask the question.



# Further measures & considerations

This data provided by our **Speed Warning Sign** should help the Parish Council to make informed decisions that result in actions to calm the traffic through Chilton.

Speeding through rural villages is clearly a problem being both anti-social (noise pollution) and very obviously dangerous.

With the likelihood of increased through traffic from Bruern Abbey and should the Parish Council consider some initiatives to before the school opens? There is also serious consideration being given to reopen the playground which obviously will entail our children cross the Thame Road.

Measures taken by ALL of our neighbouring villages include;

- Modern yellow background 30 limit signage on entering the restricted zone
- Gates on the village entrance(s)
- Hazard / Crocodile teeth road markings on entering restricted zone
- Rumble strips or coloured tarmac on the village approach
- Chicane on entering the 30mph limit
- Community operated camera
- Additional 30mph repeater signs – official and unofficial
- 30mph limit bin stickers
- Periodic police speed check



