Traffic movements on Stretton Lane

A record of observations made by Paul and Sue Hart[1] between 15th August and 4th September 2015.

Introduction

The Co-operative Group plan for 32 houses proposes that the new development would have an exit onto Stretton Lane, placed about half way down the north side between the sharp bend exiting the village and the sharp bend approximately 200m further west. This road is already heavily used, in particular during term time when parents park on the south side of Stretton Lane. Many in the village would agree with this assessment but to be credible any claims of heavy traffic need to be supported by evidence. For this reason we took it upon ourselves to collect data on vehicle movements into and out of the village over a period of time and under the conditions that would be representative of the use of this road exiting Houghton on the Hill.

It should be pointed out that we are not directly affected by the proposed development.

Methods

The authors of this report made all the observations. One person watched out for events and kept time using a digital stopwatch, whilst the other recorded and made additional observations. Each observation period was one hour long. Vehicle movements where recorded in minute intervals. Also recorded during the school term were the number of times vehicles exiting the village were forced to mount the pavement just down from the school to avoid hitting vehicles entering the village (see Figure 1 for the location); the number of people crossing the road on the bend into the village (see position on Figure 1); the number of vehicles parked on the south side of Stretton Lane; and the number doing three-point turns in the same area.

Two mornings between 08:15 and 09:15 were recorded during the school holiday and three mornings over the first week of term. Only one afternoon between 14:45 and 15:45 was recorded in the holiday but three in the first week of term. We also recorded data on a Saturday afternoon between 15:17

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[1] 6 Chapel Close, Houghton on the Hill, Leicester LE7 9HT.

and 16:16 and on one school holiday late afternoon between 16:45 to 17:44 (see Table 1 for the dates).

Results

Table 1 shows the number of vehicles moving into and out of the village on the various observation days. This also provides additional information such as the day of the week or whether it was a school day or not. Table 2 provides the per hour rates for vehicles mounting the pavement, people crossing the road, vehicles parking on Stretton Lane and the number doing three-point turns.

The most detailed analysis was done on the morning data. Figure 2 shows the mean number of vehicles per minute on five occasions, two before term started and for three in the first week of term. There are statistically significant[2] differences across the dates with the two holiday dates being significantly lower than the means during term time. An analysis of the afternoon data showed no significant differences although the mean vehicles per minute was lower in the holiday than during term but not significantly so.

The pattern of vehicle movements, both before and after school started on 1st September, is shown for the mornings in Figure 3a and afternoons in Figure 3b. The figure also shows the time that school starts and ends. It is evident that there is an increase in vehicle traffic during term time at the time children are being delivered to school or collected from it.

Conclusions

There are three main conclusions that bear on the proposed Co-operative Group application.

1. The number of vehicles using Stretton Lane is high at all times even at the weekend.
2. Parents bringing children to the school in the morning and fetching them in the afternoon increases vehicle movements significantly.
3. The biggest increase in vehicle movements in term time is before school starts or ends. The traffic flow at this time is also hampered by parents parking on Stretton Lane opposite the putative location of the exit from the proposed new development.

[2] Details of the statistical analysis can be provided if required.

	Time period	Vehicles in	Vehicles out	Total	Notes
15/08/2015	15:17 - 16:16	95	83	178	Saturday
27/08/2015	08:15 - 08:14	104	131	235	Working day in school hols
27/08/2015	14:45 - 15:44	86	74	160	"
27/08/2015	16:45 - 17:44	161	124	285	"
28/08/2015	08:15 - 09:14	89	108	197	Day before bank holiday weekend
01/09/2015	08:15 - 09:14	118	167	285	First school day
01/09/2015	14:45 - 15:45	121	97	218	"
03/09/2015	08:15 - 09:14	140	149	289	School day
03/09/2015	14:45 - 15:45	113	94	207	"
04/09/2015	08:15 - 09:14	134	140	274	SchD 4 yr old start
04/09/2015	14:45 – 15:45	118	92	210	School day
	Mean ± SD	116.3±22.8	114.5±29.8	230.7±46.1	

SchD = School Day; SD = standard deviation

Table 1. The number of vehicles moving in and out of the village via Stretton Lane as observed from the point labelled in Figure 1. The first five records are for days before school started and the rest were recorded on school days. On the morning of 4th September children entering the reception class had their first day.

Day	Time period	Mounting pavement	People crossing	Vehicles parking	Three point turns
01/09/2015	08:15 - 09:14	9	46	13	2
01/09/2015	14:45 - 15:45	4	47	14	5
03/09/2015	08:15 - 09:14	7	32	13	3
03/09/2015	14:45 - 15:45	3	40	17	8
04/09/2015	08:15 - 09:14	3	56	13	8
04/09/2015	14:45 - 15:45	10	64	12	7
	Mean ±SD	6.0±3.1	47.5±11.3	13.7±1.8	5.5±2.6

SD = standard deviation

Table 2. This table shows the number of times out going vehicles rounding the corner by the school had to mount the pavement to avoid vehicles moving into the village, The number of parents and children crossing the road as they came from or returned too their vehicles parked in Freer Close, the number of vehicles parked on Stretton Lane and the number of vehicles doing three point turns in Stretton Lane. All counts are per hour.

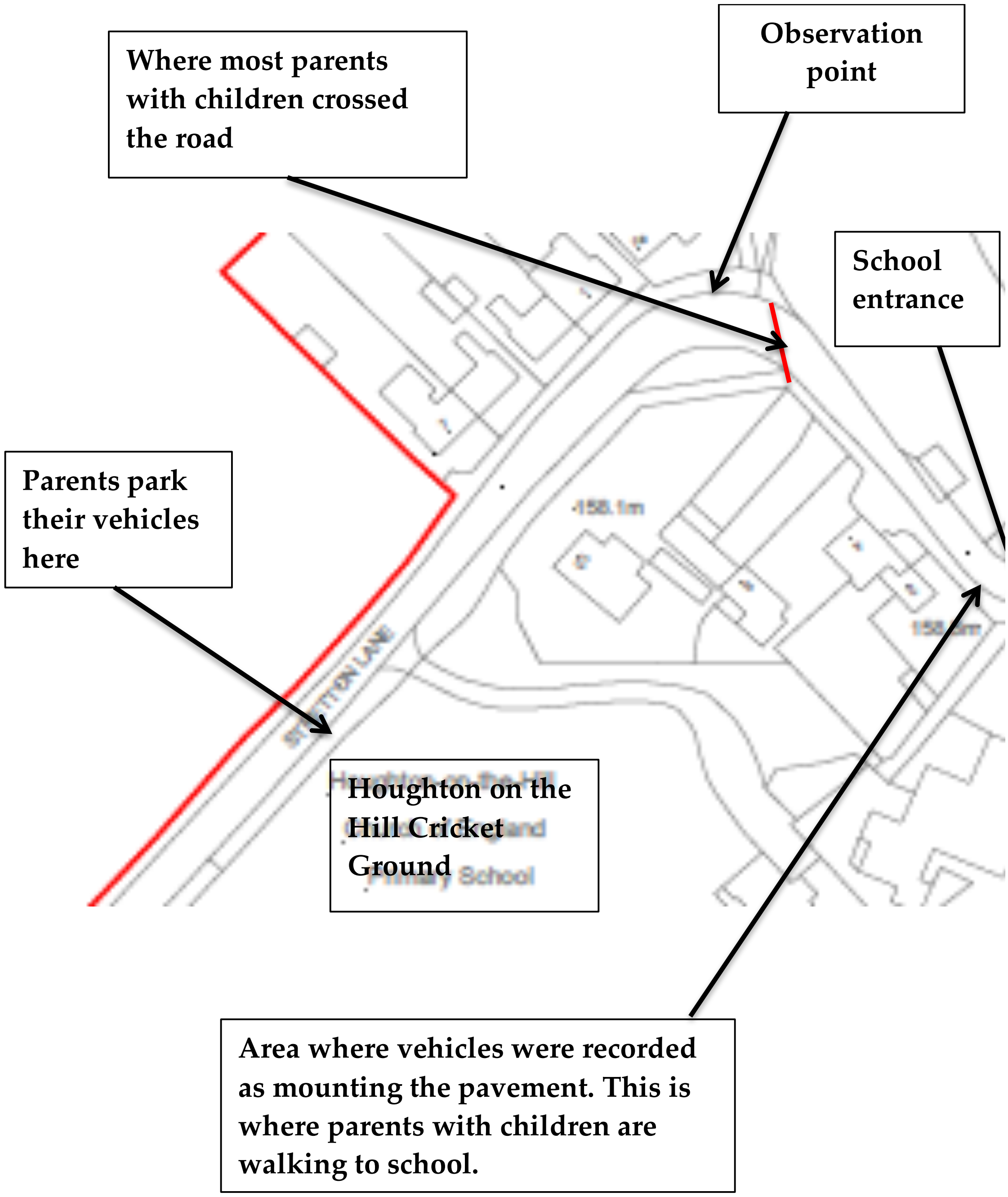
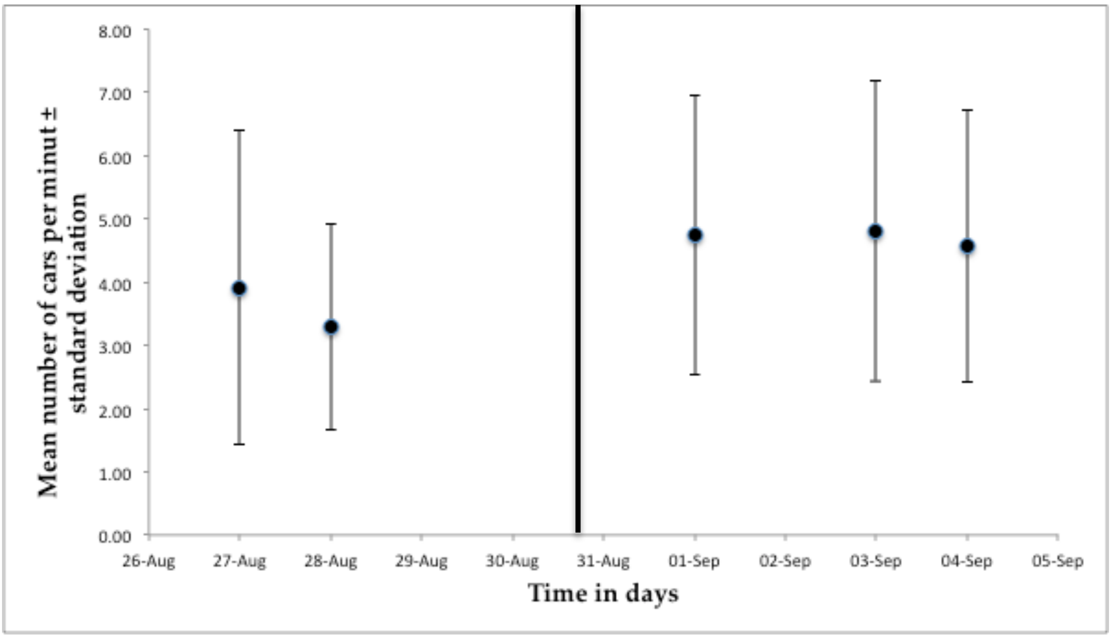


Figure 1. A map of the section of Stretton Lane observed for vehicle movements. The observation point, the place where most parents crossed the road and the part of the pavement mounted by vehicles passing out of the village are shown.



School holiday **Term time**

Figure 2. Mean number of vehicles passing the observation point per minute between 08:15 and 09:15. The vertical bars represent plus or minus the standard deviation on the mean. The vertical bar separates the two observation days from the school holiday from the three days observed at the start of the school year.

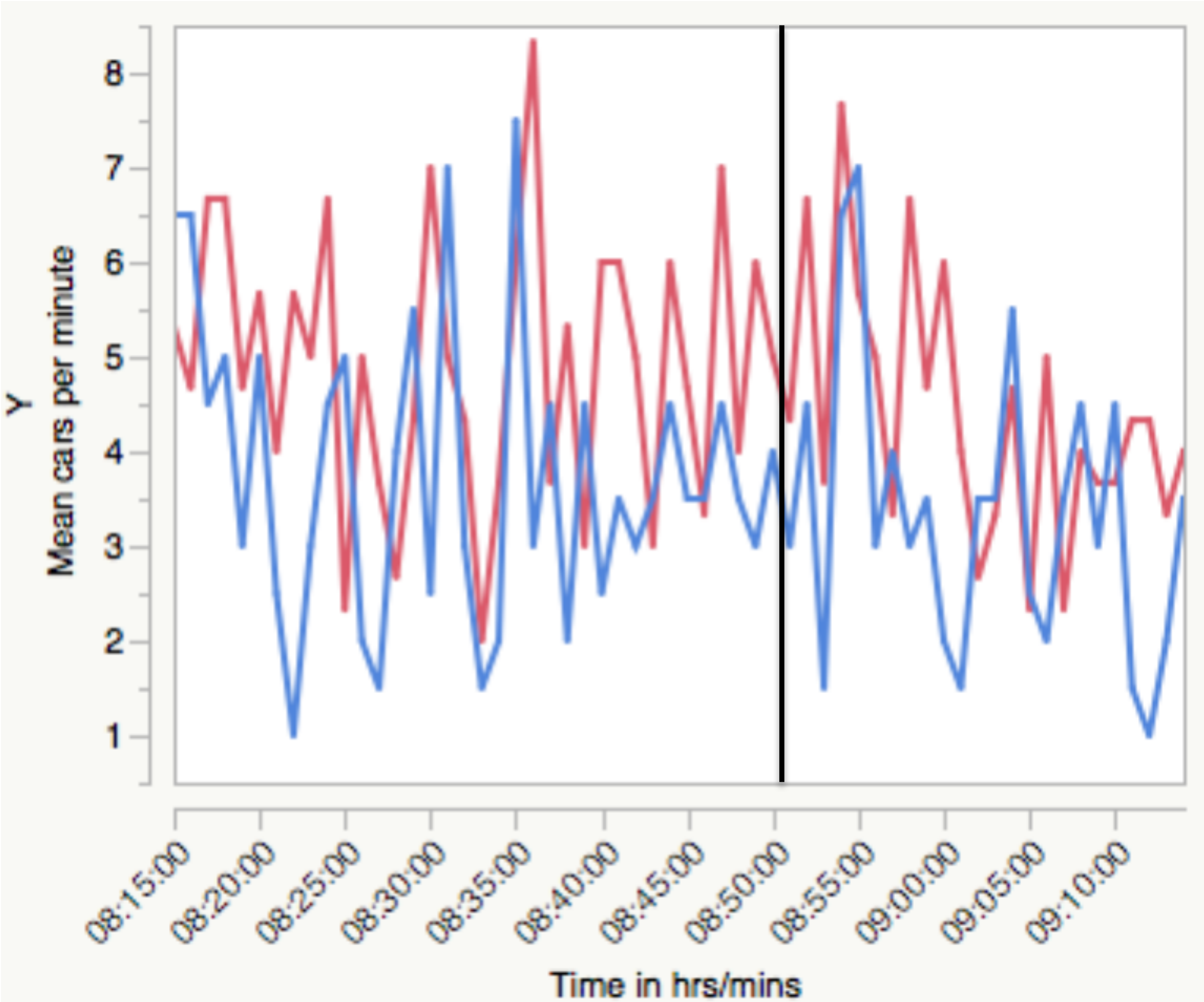


Figure 3a. The mean number of vehicles per minute passing the observation point during the mornings of the school holiday (blue line) and during term time (red line). The black vertical line represents the time at which children should be in the school.

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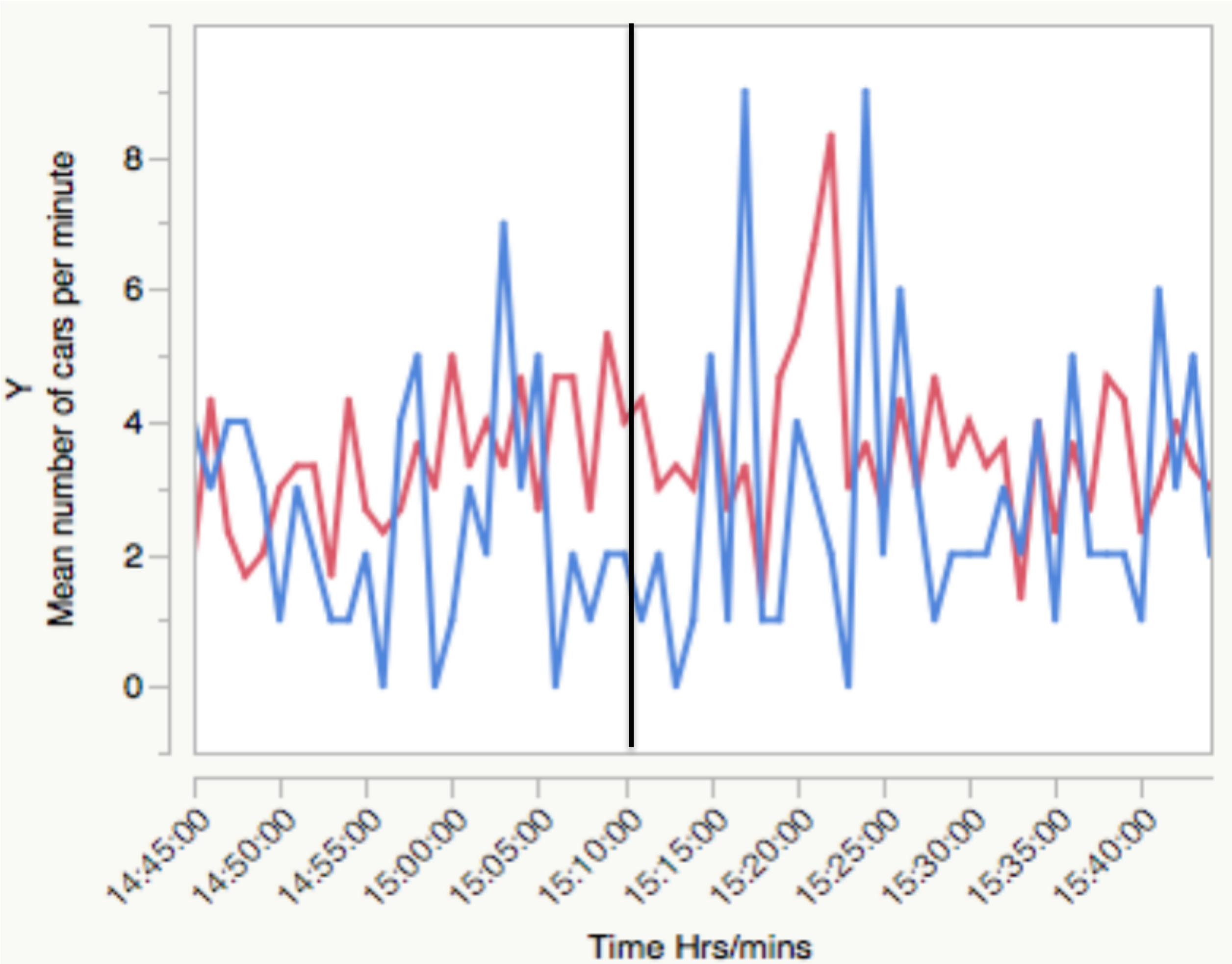

Figure 3b. The mean number of vehicles per minute passing the observation point during the afternoons of the school holiday (blue line) and during term time (red line). The black vertical line represents the time at which school finishes.