Report on Traffic Volume Survey Results for the Maltings Estate

Background

In response to the Pippins planning application ESCC Highways in their response gave an estimate of the number of round trips per day would be generated as a result of the development. At that time the Parish Council thought that these values were low and a survey of the Farleys Way estate was conducted for comparison. As a result, ESCC Highways figures were in line with what was recorded at Farleys Way, allowing for the different number residencies between the two estates.

A decision was taken to undertake a similar survey at the Maltings estate for comparison; however, the results of this survey was very different to those above prompting this report.

Survey Results

The ESCC Highways estimate for the number of round trips per day for 41 residencies was quoted at 623 or 15.15 round trips per residence per week. The results of the Farleys Way survey gave 820 round trips from 55 residences or 14.9 round trips per residence per week. The results from the Maltings survey gave 2012 round trips from 100 residences or 20.12 round trips per residence per week.

The results of the Maltings survey give a much higher round trip count and needs further analysis.

Analysis

In the case of the Pippins and Farleys Way surveys the total number of residencies is accurately known. In the case of the Maltings there are three complicating factors: the presence of the Recreation Ground, the Business Park and the Corkwood building.

The monitoring point for the Maltings survey was at the junction of the Maltings with the Old Hop Garden as there was no suitable point at the junction of the Maltings with the A268. This has resulted in the movements by the 8 residencies on the Maltings between the A268 and the Old Hop Garden junctions plus the 12 residencies in Woodlands Close have not been recorded.

The number of actual residences beyond the monitoring point is 95. The following assumptions were made; that the volume of traffic generated as a result of the Business Park and Recreation ground was equivalent to one residence each. That the Corkwood building was equivalent to three residencies giving 100 in total.

During the survey it was noticed that at least one vehicle performed a U-turn in the junction; this would result in a round trip being recorded. An analysis was attempted to determine the number of such round trips. It was assumed that a vehicle performing a U-turn would be recorded as leaving the junction within 30 seconds of being recorded as entering and then only if the vehicle length were within 0.5 meters of each other. However, it is possible that two similar vehicles could be recorded one entering and the other leaving within 30 seconds of each other giving a false positive.

As a result of this analysis, it was estimated that there were some 207 U-turns during the week. If these movements are excluded then the round-trip count reduces from 20 to 18 per residence per week.

Further Analysis

A further in-depth analysis was carried out on both the Farleys Way and Maltings surveys. A vehicle movement counter was set to zero at the start of the seven-day survey and was decremented when a vehicle was detected leaving the estate and incremented when one arrived. The time in days was also recorded when these events occurred, the results of which are shown in Figures 1 and 2. It will be noted that there are a lot of vehicle movement leaving the estates during the morning peek and returning in the evening peek. This results in a plot that is sinusoidal in nature.

It will be noted that in the Farleys Way plot for day 4 there are no movements for most of the day. This was the Sunday of the big storm and the Met office advised not to travel.

It would be reasonable to assume that if the movement counter is set to zero at the start of the survey it would be approximately zero at the end. A study of Figures 1 and 2 show that this is not the case. In the Farleys Way survey there is a net loss of 35 vehicles over the week and a net gain of 22 in the Maltings survey. This is not sustainable over time; some vehicle movements are not being recorded but why?

Monitoring Points

An analysis of the monitoring point may answer this. At the entrance to Farleys Way on the left behind the house facing Main Street there are two parking bays at right angles to the road. These are bounded by a hedge with a tree growing through it, the monitoring point, followed be a footway then a road heading to the left.

The location of the tree being used as the monitoring point was some 4.7m from the road being monitored. During the monitoring period it would have been necessary to visit the site to swap the batteries mid-week and pick-up the device at the end of the survey. For this purpose, I parked my car in the road to the left. It would be reasonable to assume that my entrance to this road on both occasions would be the last entry on the survey results collected; they were not recorded. Therefore, movement into Farleys Way heading to the junction on the immediate left are passing without being recorded. The tree is 4.7 meters from the nearside kerb and the device has to be set at a 45-degree angle to this kerb and was set to face away from the junction. Thus, any vehicle entering and passing through the radar beam will be 6.6 meters from the device. The distance from the device to the road that turned left was 1.5 meters thus any vehicle that entered Farleys Way and turned immediately left will be less that 6.6 meters from the device when it cut the radar beam and will be ignored by the device; vehicle is too close.

The monitoring point in the Maltings was a speed restriction repeater sign; this was rather low. This meant that if a vehicle entered the Maltings, it would be closer to the device and obstruct the view of a vehicle that was leaving at the same time, hence the accumulation of vehicles.

In Depth Analysis

Returning to the plots in Figures 1 and 2, for the Farleys Way plot in the troughs there is no significant movement in any particular direction. For the Maltings plot, particularly on the first and third day there is a definite increase in vehicles arriving during the day and staying until later, but why?

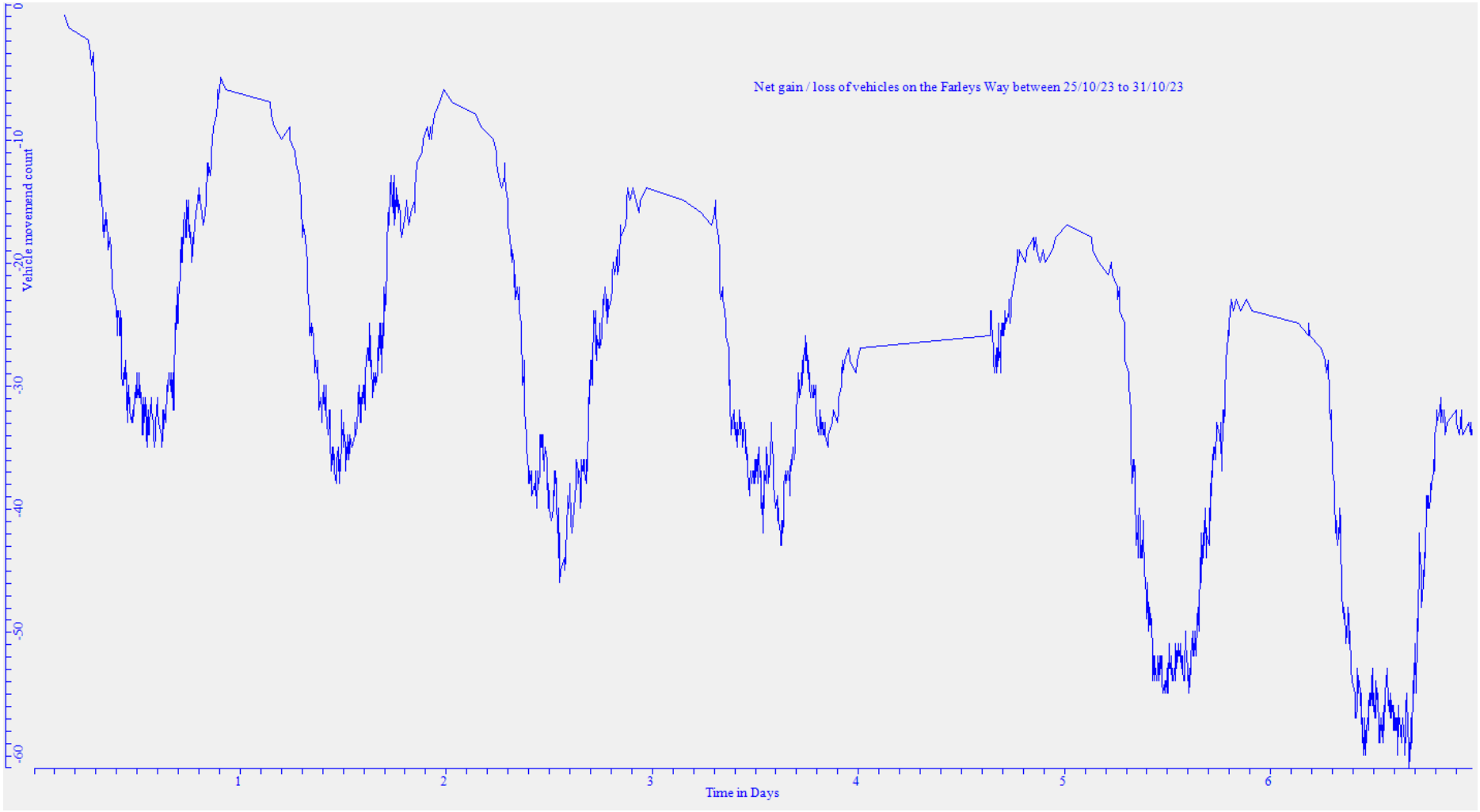

Figure 1 Plot of traffic movement into / out of Farleys Way

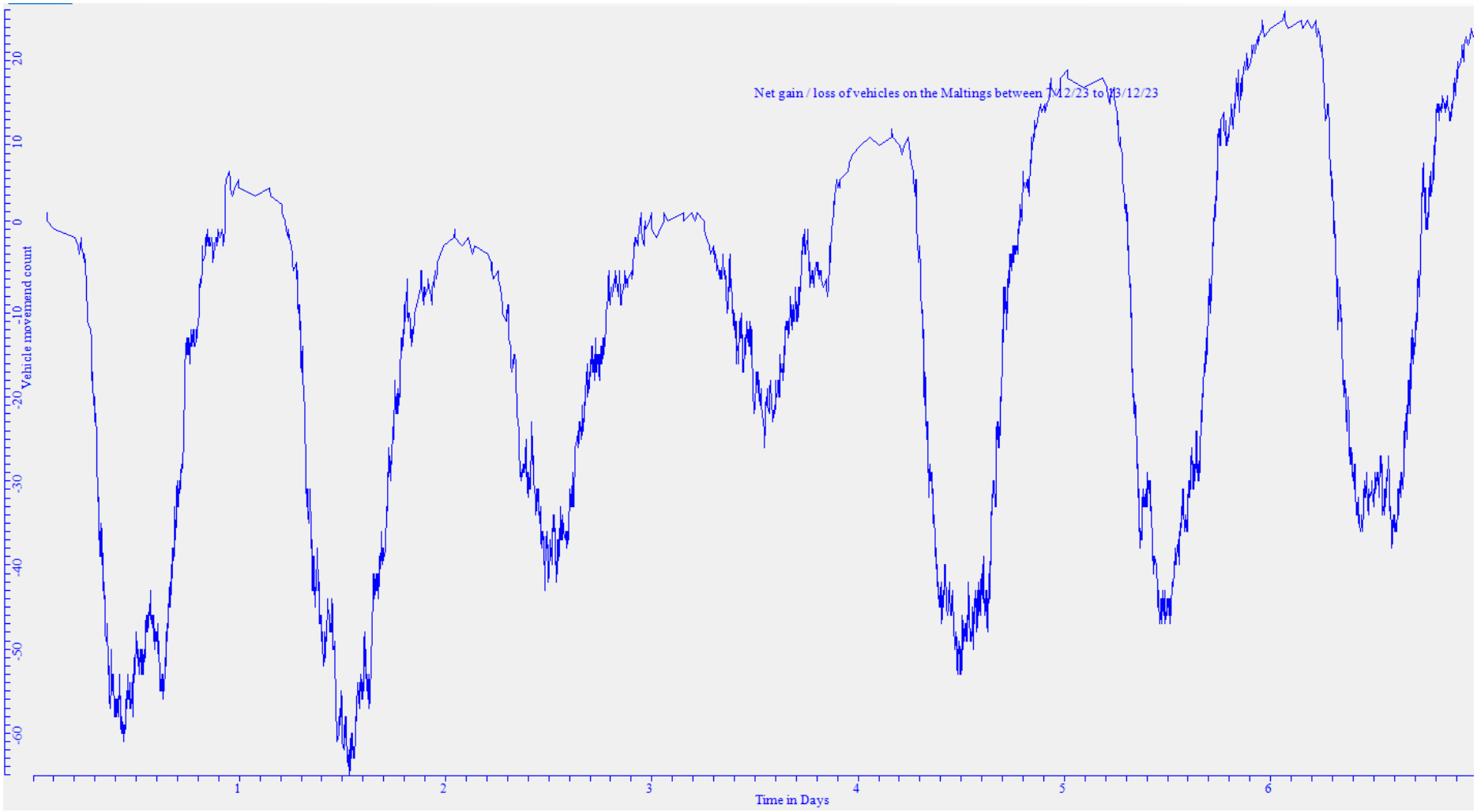

Figure 2 Plot of traffic movement into / out of the Maltings