Oakley Traffic Information Survey

Sponsored by Bakers of Oakley

Report number 3

Survey location - Oakley Lane (South)

May 2019

Revision number 3

Contents

1 Survey methodology....3
2 The survey data....4
2.1 Summary....4
2.2 Week one – 23rd February to 2nd March....6
2.3 Week two – 2nd to 9th March....7
2.4 Week three – 9th to 16th March....8
2.5 Week four – 30th March to 6th April....9
2.6 Week six – 6th to 13th April....9
3 The case for a push-button light controlled pedestrian crossing....10
3.1 Numbers of pedestrians crossing....13
3.2 Traffic flow....13
3.3 Traffic composition....14
3.4 Road use and site characteristics....14
3.5 Surrounding environment, accident history, traffic speeds, accessibility and visibility....17
4 Conclusions and recommendations....24
5 Comments and suggestions....26
6 Acknowledgements....26
7 Viacount set up parameters....26
8 Laser measuring device....27
9 Data sources....27
10 Revision history....28

1 Survey methodology

This survey was made using a Viacount ll device, known as OTIS (Oakley Traffic Information Surveyor), mounted on lamp post no 12 (GPS 51°’ 14.992’N, 001° 10.661’ W) in Oakley Lane, Oakley.

Oakley Lane is one of the “spine” roads in Oakley leading out to the B3400 via Fox Lane, to Basingstoke via Pack Lane to the north, the M3 and A30 via Trenchards Lane to the south. It forms part of the number 11 bus route and is used by several contract buses taking pupils to local secondary schools. The infant school also has its own bus service that takes children within its catchment area to and from school.

The village’s central business district consisting of a supermarket, butcher, chemist and estate agent, and shortly, a second supermarket, is situated at Oakley Lane’s junction with The Vale, is accessed from Oakley Lane for both delivery vehicles and shoppers. During school term time many vehicles use the road as they deliver to and collect from the two local schools.

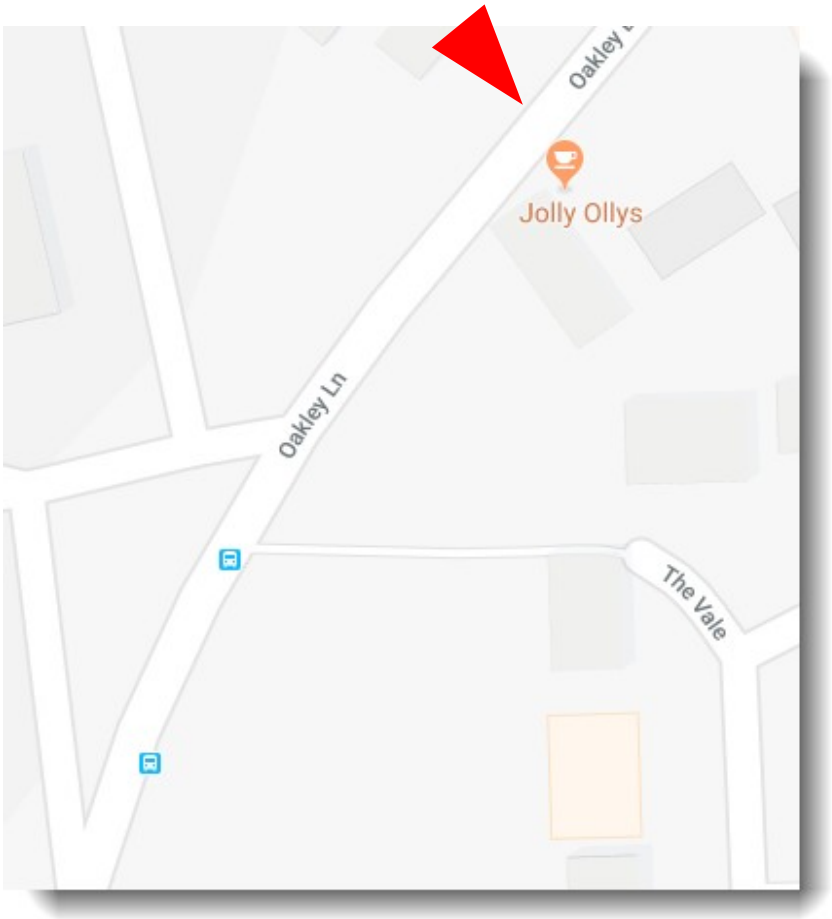

Figure 1: showing OTIS's position in Oakley Lane

Figure 2: OTIS mounted on lamp post 12

Viacount ll uses a radar beam to detect and measure the vehicle's speed, length (which is used to determine vehicle type), direction of travel and separation gap between vehicles. A date/time stamp is added to each vehicle record. Every vehicle passing the survey point is recorded.

The survey was run over two periods: the first a three week period from 23rd February to 16th March and the second a two week period from March 30th to April 6th.

2 The survey data

2.1 Summary

Traffic counts for the five weeks are broadly similar for weeks two, three, four and five with week one being significantly lower as shown in table 1 and figures 3, 4, 5, 6 and 7. Week five was the first week of the school Easter holiday and it is interesting to note the vehicle numbers, although lower, are not significantly lower.

The proportion of speeding vehicles is between 12% and 15% for all five weeks with a maximum recorded speed of 59mph by a two wheeler in week one and a car in week four. Of great concern, is the articulated HGV travelling at 50mph in week 1.

	23rd Feb to 2nd March		2nd March to 9th March		9th March t0 16th March		30th March to 6th April		6th April to 13th April	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	952	59	489	40	511	41	656	43	414	35
Cars	4760	54	14075	51	14529	52	15353	59	13247	51
Vans	2303	46	4385	51	3727	46	3429	43	3530	47
Rigid HGV	2288	47	1176	44	965	41	1111	42	992	41
Artic HGV	754	50	192	30	190	33	192	33	172	34
Total	11057		20317		19922		20741		18355	

Table 1: weekly vehicle numbers by type and their maximum speed

In total, just over a quarter of a million vehicles, 271,401, were counted in the five weeks.

Not surprisingly, the majority of the traffic is made up by cars and vans which in all five weeks, made up well over 50% of the traffic volume. The traffic proportions for the five weeks are shown in figures 3, 4, 5, 6 and 7 below.

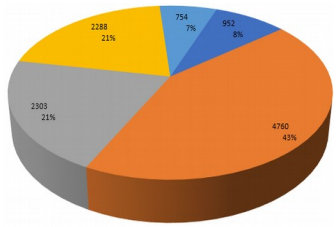

Figure 3: week 1 - breakdown of traffic by vehicle type

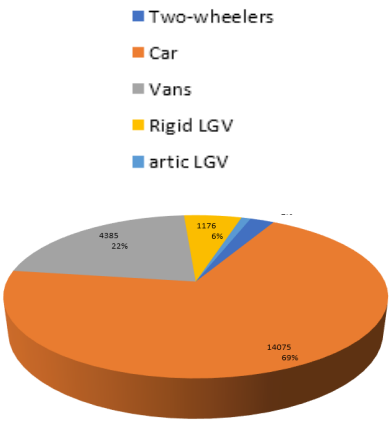

Figure 4: week 2 - breakdown of traffic by vehicle type

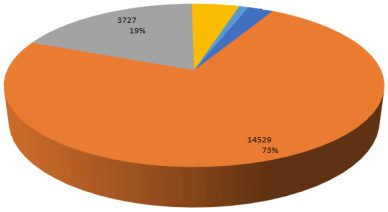

Figure 5: week 3 - breakdown of traffic by vehicle type

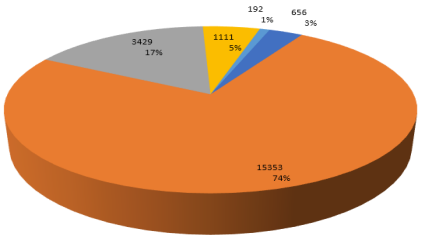

Figure 6: week 4 - breakdown of traffic by vehicle type

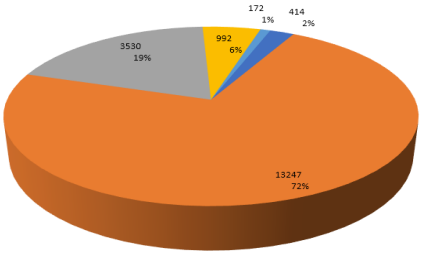

Figure 7: week 5 - breakdown of traffic by vehicle type

The worst offenders, by far, for speeding were cars.

2.2 Week one – 23rd February to 2nd March

It was decided to break each day into 15 time slots to get an accurate picture of traffic movements across the day. The selected slots are:

00:01 – 07:00	07:01 – 08:00	08:01 – 09:00
09:01 – 10:00	10:01 – 11:00	11:01 – 12:00
12:01 – 13:00	13:01 – 14:00	14:01 – 15:00
15:01 – 16:00	16:01 – 17:00	17:01 – 18:00
18:00 – 19:00	19:01 – 20:00	20:01 – 23:59

Table 2: chosen timeslots

	00:00 – 07:00		07:01 – 08:00		08:01 – 09:00		09:01 – 10:00		10:01 – 11:00		11:01 – 12:00		12:01 – 13:00	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	25	37	23	39	60	36	56	42	52	37	86	53	53	38
Cars	106	42	230	39	381	38	310	37	320	39	339	54	351	40
Vans	54	45	103	38	210	40	144	39	178	38	134	37	163	42
Rigid HGV	81	41	144	36	253	35	135	40	152	37	157	46	164	47
Artic HGV	38	50	44	36	72	30	58	43	66	37	87	47	59	33
Total	304		544		976		703		768		803		790	
% speeding		39.47%		26.43%		6.25%		16.22%		13.93		16.81%		18.23%

Table 3: week one - numbers of vehicles and their maximum speeds by time

	13:01 – 14:00		14:01 – 15:00		15:01 – 16:00		16:01 – 17:00		17:01 – 18:00		18:01 – 19:00		19:01 – 20:00		20:01 – 23:59	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	57	39	71	38	66	39	81	36	87	42	87	39	48	41	78	59
Cars	341	45	372	38	370	38	379	50	401	42	272	42	203	41	299	46
Vans	167	36	175	42	203	36	231	42	160	38	127	40	80	37	134	46
Rigid HGV	150	35	177	39	224	38	200	41	171	36	92	42	59	41	100	41
Artic HGV	59	33	55	34	66	30	49	33	30	35	17	27	22	34	22	45
Total	774		850		929		940		849		595		412		633	
% speeding		17.81%		13.06%		5.81%		14.89%		21.55%		17.14%		22.57%		28.44%

Table 4: week one - numbers of vehicles and their maximum speed by time

The number of vehicle movements in the early timeslot (00:00 to 07:00) is the lowest in the day, but has the highest proportion of speeders at fractionally under 40% with most vehicles travelling in the low 40's with the exception of one very quick HGV travelling at 50mph.

The number of vehicle movements increased in the next time slot which would be expected to be as a result of people heading for an early start to work and the number of speeding vehicles dropped by approximately one third with speeding in the range of 35 to 39mph.

The next time slot, 08:01 to 09:00 saw a significant rise in vehicle movements most likely caused by parents dropping their children off for school. Not surprisingly, because of the increased vehicle movements, with vehicles starting and stopping, vehicle speeds were more regulated with just over 6% of vehicles speeding. It is possible some speeding is caused by vehicles trying to overtake the line of parked cars as quickly as possible to avoid oncoming traffic. Again, speeding was in a similar range to the last time slot with vehicles travelling between 36 and 40mph.

Once the school run is over, the number of vehicle movements drops slightly, but the speeding increases with 16% of vehicles speeding in the slightly higher range of 37 to 43mph. This pattern is repeated in the next time slot.

The 11:00 to 12:00 time slot shows a slight increase in vehicle numbers, the percentage speeding, just under 17% and the speeding range, 37 to 54mph. This pattern continues through the next two time slots until the beginning of the school run again when the number of vehicles speeding drops sharply to just under 6% with a speeding range of 30 to 39mph. Considering the number of parents and children crossing the road and parked vehicles normally reducing the road to a single lane of traffic, the level of speeding is concerning.

Between 16:00 and 18:00 the pattern of vehicle movements remains high and the number of speeding vehicles increases towards the end of the time slot. Speeding is in the range of 33 to 50mph.

The final three time slots show vehicle movements declining, but the percentage of speeders increases as does the speeding range (39 to 59mph) with many vehicles travelling over 40mph.

2.3 Week two – 2nd to 9th March

The same approach was adopted for analysing the data for the next four weeks. Tables 5 and 6 show the data for the week which shows a larger number of vehicle movements. Both school runs are clearly identifiable by the significant drop in the number of speeding vehicles.

	00:00 – 07:00		07:01 – 08:00		08:01 – 09:00		09:01 – 10:00		10:01 – 11:00		11:01 – 12:00		12:01 – 13:00	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	7	16	21	39	80	27	35	23	23	39	37	40	29	33
Cars	328	51	747	44	1207	48	852	44	44	41	943	40	931	39
Vans	122	51	192	45	400	43	272	40	40	39	316	46	316	38
Rigid HGV	42	44	59	35	162	41	74	31	31	34	77	32	81	36
Artic HGV	9	27	14	29	12	26	17	27	27	26	15	27	27	30
Total	508		1033		1861		1250		165		1388		1384	
% speeding		24.60%		15.68%		6.34%		9.20%		10.35%		8.65%		8.89%

Table 5: week two - numbers of vehicles and their maximum speeds

Slightly different to week one, is the pattern of speeding in the middle of the day. The number of vehicles exceeding the speed limit drops to 10% or lower, but the speeding range stays much the same at 30 to 40mph, although the highest recorded speed is lower.

	13:01 – 14:00		14:01 – 15:00		15:01 – 16:00		16:01 – 17:00		17:01 – 18:00		18:01 – 19:00		19:01 – 20:00		20:01 – 23:59	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	33	26	31	36	62	27	22	27	12	30	9	29	14	27	20	18
Cars	39	45	917	45	1116	51	1117	42	1210	46	999	44	736	43	892	47
Vans	38	37	336	38	431	39	294	39	356	39	253	43	199	36	213	39
Rigid HGV	36	37	84	38	196	39	71	38	59	34	39	34	19	36	30	36
Artic HGV	30	21	15	28	17	29	11	29	9	27	8	26	4	23	10	25
Total	176		1383		1822		1515		1646		1308		972		1165	
% speeding		11.65%		8.46%		4.88%		12.28%		13.97%		11.70%		11.11%		17.85%

Table 6: week two - numbers of vehicles and their maximum speeds

The afternoon percentage of vehicle speed is also slightly lower with the pattern continuing to the end of the day but with some high speeds recorded towards the end of the day..

2.4 Week three – 9th to 16th March

The vehicle movement pattern for week three is shown in tables 7 and 8. Again, the pattern is broadly similar with week two.

	00:00 – 07:00		07:01 – 08:00		08:01 – 09:00		09:01 – 10:00		10:01 – 11:00		11:01 – 12:00		12:01 – 13:00	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	62	25	31	34	55	13	30	26	93	30	47	28	41	32
Cars	419	51	777	45	1380	23	1180	40	1078	40	1010	39	967	43
Vans	102	46	192	40	359	22	260	39	232	39	240	38	227	36
Rigid HGV	44	41	62	36	123	22	64	37	63	33	67	33	58	36
Artic HGV	5	23	13	24	11	19	16	26	14	25	17	27	30	32
Total	632		1075		1928		1550		1480		1381		1323	
% speeding		25.16%		16.37%		6.28%		12.00%		11.22%		10.79%		12.24%

Table 7: week three - numbers of vehicles and their maximum speeds

	13:01 – 14:00		14:01 – 15:00		15:01 – 16:00		16:01 – 17:00		17:01 – 18:00		18:01 – 19:00		19:01 – 20:00		20:01 – 23:59	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	31	29	24	41	36	31	31	32	10	35	6	32	7	26	15	13
Cars	902	41	926	42	1021	40	1134	47	1221	49	988	43	717	46	915	52
Vans	244	38	281	35	420	38	328	43	274	44	227	42	162	39	191	41
Rigid HGV	73	37	93	38	153	35	69	35	42	38	15	34	20	33	25	34
Artic HGV	14	33	10	32	20	33	9	25	15	29	5	25	4	25	9	24
Total	1264		1334		1650		1571		1562		1241		910		1155	
% speeding		13.05%		10.57%		5.27%		13.88%		15.36%		13.78%		16.37%		18.35

Table 8: week three - numbers of vehicles and their maximum speeds

2.5 Week four – 30th March to 6th April

Week four again reflects a similar pattern of vehicle movements, but with a lower percentage of speeding vehicles. The excess speed range remains much the same.

	00:00 – 07:00		07:01 – 08:00		08:01 – 09:00		09:01 – 10:00		10:01 – 11:00		11:01 – 12:00		12:01 – 13:00	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	27	26	80	30	26	32	40	34	22	42	64	43	23	30
Cars	1158	45	1273	39	1028	38	1030	40	885	36	929	41	1040	45
Vans	288	43	275	41	265	33	206	38	198	43	237	37	206	36
Rigid HGV	71	42	176	34	96	34	77	33	73	32	86	34	65	31
Artic HGV	21	33	13	25	22	31	24	31	14	29	13	31	15	27
Total	1565		1817		1437		1377		1192		1329		1349	
% speeding		11.69%		3.14%		4.73%		4.28%		4.53%		6.46%		6.75%

Table 9: week four - numbers of vehicles and their maximum speeds

	13:01 – 14:00		14:01 – 15:00		15:01 – 16:00		16:01 – 17:00		17:01 – 18:00		18:01 – 19:00		19:01 – 20:00		20:01 – 23:59	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	29	30	46	29	42	39	118	32	79	31	36	32	10	15	5	27
Cars	1069	39	1132	35	1322	38	1228	39	1036	59	774	43	548	45	679	49
Vans	257	34	380	34	285	35	215	43	167	38	166	38	97	33	126	41
Rigid HGV	71	33	135	32	71	34	73	37	28	31	32	34	20	36	13	36
Artic HGV	12	25	14	30	8	21	8	28	4	21	6	28	7	23	11	30
Total	1438		1707		1728		1642		1314		1014		682		834	
% speeding		5.70%		1.52%		4.98%		7.25%		7.84%		8.58%		12.17%		13.07%

Table 10: week four - numbers of vehicles and their maximum speeds

2.6 Week six – 6th to 13th April

Week six coincided with the first week of the schools' Easter Holiday, so it was expected that traffic patterns might be different as there would be no school runs to concentrate traffic into this area. Vehicle numbers were expected to be down and speed up. This was not the case. Vehicle numbers were slightly increased, the percentage of speeding vehicles remained roughly the same with a similar excess speed range. This suggests that while the school run has an obvious visual

effect with vehicles parking to discharge and pick up children, it does not increase the traffic volume significantly. In the holiday week, week five, vehicle numbers were reduced, but not as much as expected.

	00:00 – 07:00		07:01 – 08:00		08:01 – 09:00		09:01 – 10:00		10:01 – 11:00		11:01 – 12:00		12:01 – 13:00	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	41	26	104	30	45	32	77	34	74	42	104	43	47	30
Cars	1964	45	1940	42	1885	40	1960	40	1885	37	1883	41	1916	45
Vans	590	47	488	41	519	41	518	37	530	43	554	37	493	38
Rigid HGV	180	42	259	38	190	34	169	38	151	34	198	37	163	38
Artic HGV	32	33	27	27	46	31	45	33	31	34	26	31	27	28
Total	2807		2818		2685		2769		2671		2765		2646	
% speeding		13.15%		5.07%		5.51%		4.44%		4.46%		5.93%		6.76%

Table 11: week five - numbers of vehicles and their maximum speeds

	13:01 – 14:00		14:01 – 15:00		15:01 – 16:00		16:01 – 17:00		17:01 – 18:00		18:01 – 19:00		19:01 – 20:00		20:01 – 23:59	
	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed	Number	Max speed
2 wheelers	61	35	96	29	66	39	146	32	111	31	51	32	16	15	9	27
Cars	1874	39	1962	51	2372	50	2443	39	1969	59	1461	43	968	45	1179	49
Vans	524	37	682	39	597	40	522	43	424	38	382	38	236	39	319	41
Rigid HGV	190	34	247	33	178	36	151	37	76	38	66	39	48	37	46	41
Artic HGV	25	28	28	30	24	31	18	28	9	23	12	28	14	23	17	30
Total	2674		3015		3237		3280		2589		1972		1282		1570	
% speeding		6.06%		4.05%		6.39%		8.63%		9.66%		9.89%		11.62%		12.61%

Table 12: week five - numbers of vehicles and their maximum speeds

3 The case for a push-button light controlled pedestrian crossing

Until recently, there has been a school crossing patrol controlling traffic and pedestrians in Oakley Lane ensuring they do not come into conflict. The regular crossing patrol resigned and there has been considerable difficulty in recruiting a replacement, a process which took well over a year for the last incumbent. As this is a very busy crossing point for pedestrians, not only school children on their way to and from school, but also local residents accessing the shops and the business area it would seem prudent to look for a viable alternative. A drop kerb with a textured surface to aid visually impaired pedestrians already exists so it would seem sensible to incorporate this into the crossing.

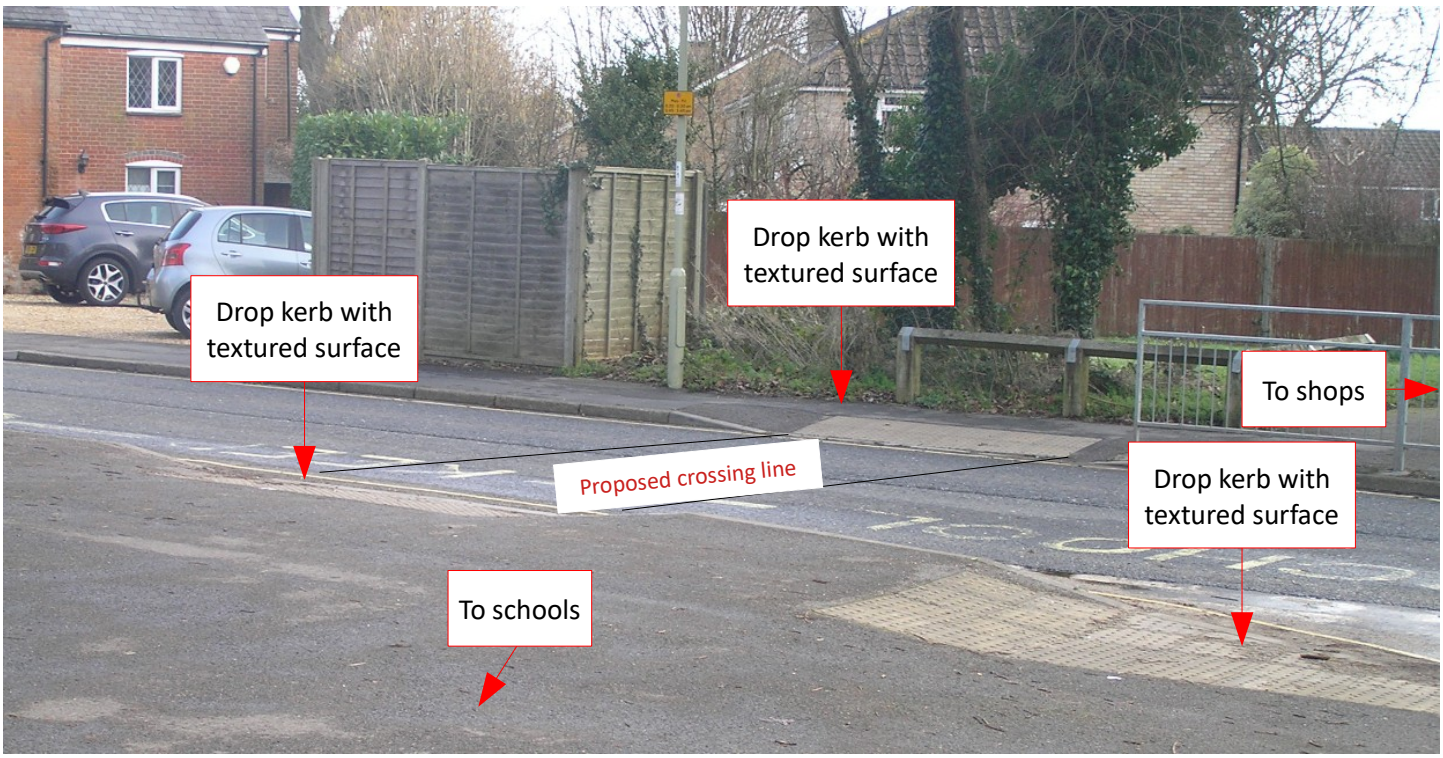

Figure 8: the proposed crossing site using the lollipop crossing

Many footpaths focus on this area and are well used. During the day, and especially early morning, local residents converge on the area to access the business facilities. School children from the north eastern and eastern side of the village frequently cross Oakley Lane to access the shops then cross the road again on their way to school. Footfall is likely to increase in the near future as the developments at Beech Tree Close (south east side of the village) and Park Farm (north west side of the village) are completed. The impending development of a second supermarket is also likely to act as a magnet drawing people into the area. Figure 9 shows a stylised map of the main footpaths converging on the area of the proposed crossing.

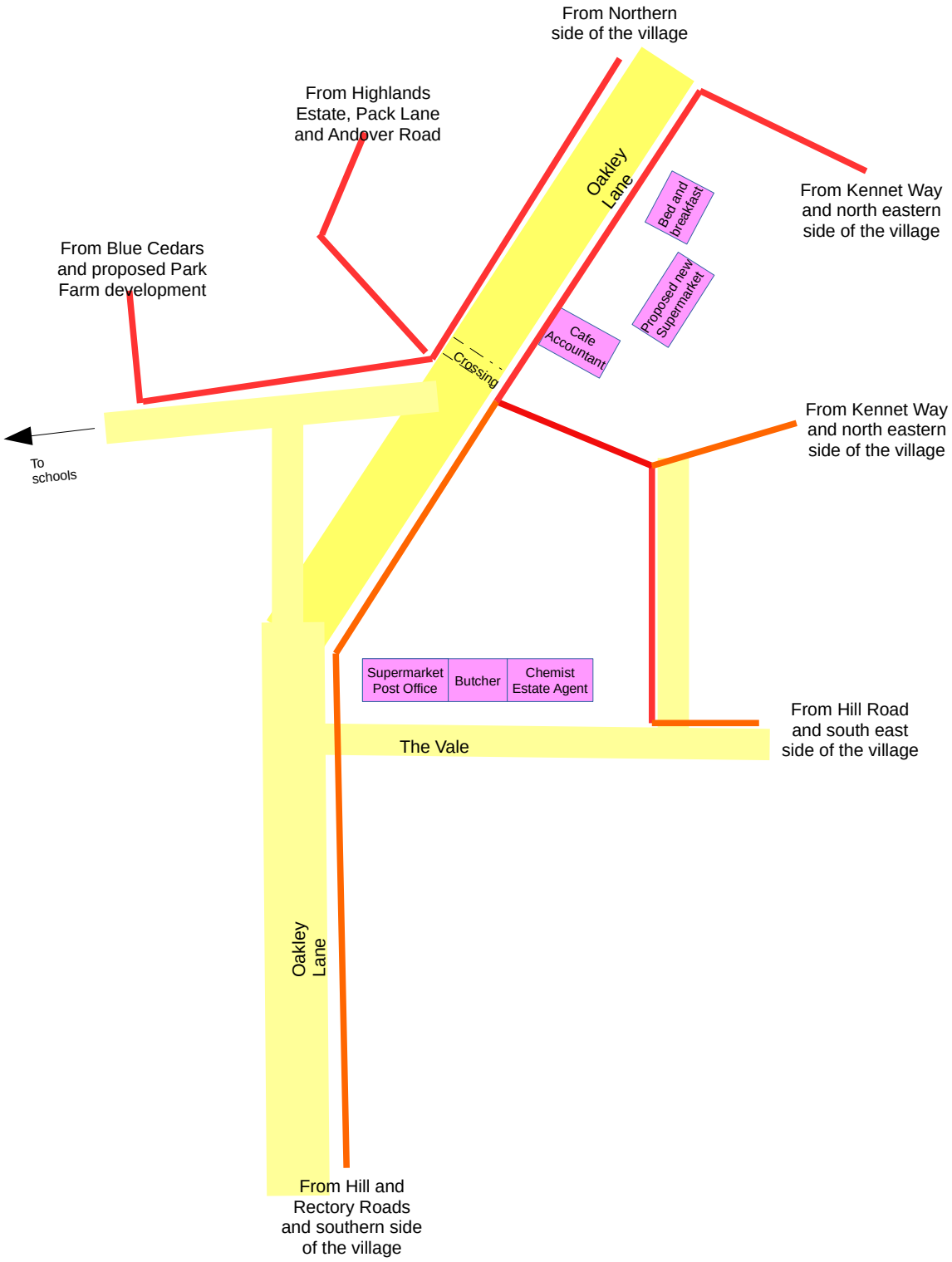

Figure 9: stylised map showing the main footpaths converging on the proposed crossing

Hampshire County Council criteria for implementing a light controlled pedestrian crossing use the following criteria:

- numbers of pedestrians crossing
- traffic flow
- traffic composition
- road use, site characteristics
- surrounding environment, accident history, traffic speeds, accessibility and visibility

A baseline requirement is set at a potential crossing point must have 50 pedestrians crossing and 1000 vehicles passing through the location every hour.

3.1 Numbers of pedestrians crossing

Oakley and Deane Parish Council does not have the resources to count pedestrians crossing the road throughout the day. However, at peak times, 8:00 to 9:15am and 3:00 to 4:15pm, the numbers crossing easily exceed the baseline figure. Other times of the day are unknown, but anecdotal evidence suggests a steady number of pedestrians crossing the road to access the business area and bus stops throughout the day. Many elderly residents rely on the bus service to get into Basingstoke for shopping and leisure activities. Depending in which way round the village the bus is travelling, they may have to cross the road to access the bus or get to their homes.

The village public house, The Barley Mow, is also adjacent to the business area requiring residents on the west side of the village to cross the road to get to the pub. In addition, on a Monday evening, there is a mobile fish and chip van operating from the pub car park. This is very well supported and generates a considerable pedestrian traffic, much of which crosses the road.

3.2 Traffic flow

Some details of traffic flow are shown in tables 1, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 which give a general overview of the traffic distribution.

To give a more detailed view of traffic flow hour by hour, a random day of the week was chosen, in this case Wednesday, and traffic flows analysed hour by hour. The results are shown in table 13. The highest hourly count is 318 (on average one vehicle passing every 11 seconds) early in the day. Throughout the main part of the day, late morning/early afternoon, the traffic flow is between 115 vehicles (on average one vehicle passing every 30 seconds) and 200 vehicles (on average one vehicle passing every 18 seconds) passing per hour. The overall average number of vehicles and their frequency for each hour is shown in the last two columns of the table. However, the critical factors here are not the number of vehicles passing per hour, but sight lines surrounding the

crossing area and the mix of pedestrian ability and these are addressed in sections 3.4 and 3.5 below.

Time	27th Feb	6th March	13th March	3rd April	10th April	Average	Vehicle every n seconds
00:00 – 07:00	166	98	84	286	219	170.6	21.10
07:01 – 08:00	97	179	195	306	137	182.8	19.69
08:01 – 09:00	188	304	318	223	163	239.2	15.05
09:01 – 10:00	108	118	202	185	161	154.8	23.26
10:01 – 11:00	89	194	208	176	160	165.4	21.77
11:01 – 12:00	115	175	170	227	195	176.4	20.41
12:01 – 13:00	118	186	181	181	177	168.6	21.35
13:01 – 14:00	123	159	160	200	172	162.8	22.11
14:00 – 15:00	114	204	223	270	218	205.8	17.49
15:00 – 16:00	172	282	265	277	255	250.2	14.39
16:01 – 17:00	139	244	242	228	254	221.4	16.26
17:01 – 18:00	147	261	248	107	194	191.4	18.81
18:01 – 19:00	107	236	211	131	168	170.6	21.10
19:01 – 20:00	61	160	137	100	116	114.8	31.36
20:01 – 23:59	98	166	165	101	114	128.8	27.95
Totals	1842	2966	3009	2998	2703	2703.6	

Table 13: hourly analysis of traffic flow for one day each week

3.3 Traffic composition

The majority of traffic passing through the proposed crossing point is private cars as shown in figures 3, 4, 5, 6 and 7 which make up between 50% and 75% of total traffic volume. Local deliveries by couriers, supermarkets and local tradesmen generate 20% to 25% of the traffic with HGVs, including buses, making up around 7% to 10%. Two wheelers, bicycles and motor cycles, make up a very small proportion of the traffic, but should not be discounted.

3.4 Road use and site characteristics

Oakley Lane rises to the south reaching a brow roughly where the proposed crossing is. The approach to this point is straight, but after the crossing point, the road curves to the left just before it reaches the business area. The road width is 6.3m (20.6ft) and is in good condition. It is bounded on both sides by footways with drop kerbs allowing vehicles to cross the footway to access to houses and commercial premises. Figure 10 shows the view to the north with the road sloping down gently away from the proposed crossing point.

Figure 10: looking north along Oakley Lane from the proposed crossing point showing the road sloping gently away

Between the proposed crossing point and the main business district there are two bus shelters set next to the footways. Figure 11 shows the bus shelters and the road curving to the left towards the business district. It was taken standing on the western end of the proposed crossing.

Figure 11: Looking south along Oakley Lane from the western end of the proposed crossing

Oakley Lane serves a residential community and therefore much of the traffic is domestic in nature with people leaving and returning to their properties to go to work and for pleasure. Also, substantial volume of traffic uses Oakley Lane to access the business area. In addition, there is an hourly bus service (number 11) Monday to Saturday and a two hourly service on Sundays passing along Oakley Lane. During school term time, a number of buses and mini-buses collecting and returning secondary school use the road as well as the Infants school minibus.

The business area is serviced by suppliers' lorries which include both rigid and articulated heavy goods vehicles. When unloading, these cause considerable disruption to the sight lines for traffic in Oakley Lane and difficulties for pedestrians because they park partly on the road, partly on the footway. At times, there may be more than one vehicle unloading, considerably adding to the difficulty for drivers and pedestrians. Currently, there are several major construction projects underway in the village which generate heavy goods vehicle traffic, some of which, use Oakley

Lane to access the building sites. This is likely to increase as other proposed developments come on-stream.

3.5 Surrounding environment, accident history, traffic speeds, accessibility and visibility

The surrounding environment is mainly residential with a mixture of bungalows, semi-detached and detached houses fronted with small gardens. Several small business are run from surrounding dwellings in addition those in the main businesses area. All act as a magnet drawing traffic and pedestrians into the area.

The area is covered by a 30mph limit. Community Speedwatch ad hoc surveys recorded approximately 10% of traffic speeding in the area. Recent Viacount surveys in March and April have reinforced this recording average speeding at just over 10%. The Viacount surveys have given a more detailed picture of speeding showing speeds in excess of 50mph being not uncommon for private cars, vans and motorcycles. Heavy goods vehicles do speed, but in the low 40mph range and lower. At times, there are periods where up to 40% of vehicles are speeding.

The time taken by various pedestrian users to cross the road at the site the proposed crossing was measured with a stopwatch and the results are shown in table 14.

Road crossing by	Average time taken
Average able bodied person	6 – 7 seconds
Mother with child	8 – 9 seconds
Mother with child and buggy	10 – 11 seconds
Elderly person	8 – 9 seconds
Arthritic elderly person	10 – 11 seconds
Elderly person using a walking aid	13 – 15 seconds
Mobility scooter	4 – 5seconds[1]

Table 14: observed average crossing times

Figure 12 shows the sight lines looking north from the proposed crossing. On both sides of the crossing, visibility is good, except at school drop off and pick up times when parked cars on the west side of the road destroy the sight line. On the east side of the crossing, the sight line is over 475ft. Assuming an approaching vehicle is travelling at 30mph (44ft per second), it would take approximately 11 seconds to reach the crossing from becoming visible. On the west side of the crossing, the sight line is over 560ft, and again assuming a vehicle is travelling at 30mph, it will take

1 Timed from standing start then slowing down to mount drop kerb and turn onto footway.

approximately 12 seconds to reach the crossing from becoming visible. Table 15 shows how the approach time is affected by vehicle speed approaching the proposed crossing from the north.

		West	East
Speed mph	Feet/second	approach time seconds	
30	44	12.73	10.80
35	52	10.77	9.13
40	59	9.49	8.05
45	66	8.48	7.20
50	74	7.57	6.42
55	81	6.91	5.86
60	88	6.36	5.40

Table 15: how vehicle speed affects approach time from the north

The majority of pedestrians using the crossing will be able to safely cross the road if traffic is travelling at 30mph (see table 14 for details of crossing times). During some times of day, as much as 18% of traffic (see tables 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12) is speeding at speeds of up to 51mph with speeds in the range of 35mph to 45mph being most common. This would be a danger for all groups of pedestrians who would be hard pressed to cross the road without running. Given the significant number of elderly persons living in Oakley, this of great concern.

Figure 12: sight lines looking north from the proposed crossing

When the sight line looking south (see figure 13) from the proposed crossing is examined, it is clear there is a much greater danger to pedestrians attempting to cross the road. The sight line on the

eastern side of the proposed crossing is obscured by the bus shelter and restricted to approximately 115ft. The sight line from the west side is better at approximately 345ft.

Figure 13: sight lines looking south from the proposed crossing

Every group of pedestrians is at danger, especially if crossing from east to west, because an approaching vehicle travelling at 30mph will reach the crossing just over 2 seconds from becoming visible. As speeds increase, this time reduces significantly as shown in table 16. This is exacerbated when deliveries are being made to the central business district: unloading vehicles reduce the sight lines, especially when more than one vehicle is being unloaded.

		West	East
Speed mph	Feet/second	approach time seconds	
30	44	7.84	2.61
35	52	6.63	2.21
40	59	5.85	1.95
45	66	5.23	1.74
50	74	4.66	1.55
55	81	4.26	1.42
60	88	3.92	1.31

Table 16: how vehicle speed affects approach time from the south

It is clear that a controlled crossing would improve the safety of pedestrians crossing the road. A zebra crossing such as is shown in figure 14 is the minimum that should be considered. However,

Figure 14: a typical zebra crossing

there are safety concerns with such crossings. They afford pedestrians the confidence that they have right of way on the crossing, but there is evidence that drivers do not always respect this and not give way to pedestrians.

A better solution would be to use a pelican crossing. These have the advantage of controlling the

Figure 15: a typical pelican crossing

traffic flow with traffic lights. A pedestrian presses a button, traffic is brought to a stop by traffic lights and pedestrians are signalled to cross by a signal on the opposite side of the road. The disadvantage of a pelican crossing is that they do not allow sufficient time for slow pedestrians, such as those using walking aids, to complete the crossing before the lights change. Given the high proportion of elderly residents in Oakley, this a potential limitation to the effectiveness of such a crossing. Also, drivers may become frustrated when the crossing is clear, but the traffic lights are still showing red: there is a temptation to "jump" the lights.

A better alternative would be to use a puffin crossing as shown in figure 16. These crossings have built-in intelligence which can tell when the crossing is clear to release the traffic with a green light, or when a pedestrian may be taking longer to cross the road and so can hold the traffic at a red light a little longer. The other difference is the signal to tell pedestrians when it is safe to cross is actually beside them, rather than the opposite side of the road to them.

Figure 16: a typical puffin crossing

Cost will obviously be a factor in determining which type of crossing should be deployed. A zebra crossing is obviously the cheapest option and consideration should be given to a 3D crossing. Figure 17 shows an example which was recently installed in St Johns Wood at a cost of £3000. The location was not an accident black spot, but an area where elderly people and mothers with push chairs were having difficulty in crossing the road. Such crossings have made drivers more cautious in approaching the crossing and reduce speeds by as much as a third.

Figure 17: an example of a 3D zebra crossing

The costs of installing a pelican or puffin crossing are significantly greater at between £80,000 and £100,000 depending on which type of crossing is installed.

4 Conclusions and recommendations

Oakley Lane is a busy road giving access to the village's business district and schools and is heavily used by all types of vehicles and pedestrians. Speeding traffic is an issue with between 10 and 40% of vehicles speeding in the range of 35 to 59mph, depending on the time of day. At school opening/closing times, large numbers of pedestrians cross the road which also coincides with times when traffic movements are high.

Oakley has a large proportion of elderly residents who make good use of the business district shops, post office and chemist and those living on the west side of Oakley Lane must cross the road to get to the facilities. For this group of people, crossing a busy road can be a significant challenge. For them, a pedestrian crossing would be a huge benefit, as it would be for schoolchildren and their parents, and is strongly supported by both the Junior and Infant schools. The argument that this is not warranted because there has not been a significant accident in the area does not hold good. It is a case of shutting the stable door after the horse has bolted and shows a low regard for human life or suffering from injury. Data from Crashmap.co.uk shows two accidents in the area adjacent to the proposed crossing as shown in figure 18. The accidents were as follows:

- on 11th November 2008 there was a serious accident involving one vehicle and three casualties.
- On 2nd November 2012 there was a slight accident involving three vehicles and one casualty.

This information is based on accidents reported to and recorded by Hampshire Police. Not all accidents are reported or recorded so the data may be incomplete. The author knows of an incident early in 2019 when a car left the road and crashed through a fence in the area opposite the Stratus Car Sales showroom.

With the impending expansion of the village where 150+ additional dwellings being added over the next few years plus another 93 unplanned "windfall developments", the pressure on this area of the village will only intensify adding many more vehicle and pedestrian movements.

Figure 18: accidents in the area of the proposed crossing

Parking in the area is problematic. At school opening/closing times, vehicles park on the west side of Oakley Lane between the lay-by and Croft Road junction causing much congestion and driver frustration. When the new supermarket is open, this is likely to be worse with vehicles entering and leaving its car park. Extending the yellow lines between the lay-by and Croft Road would alleviate this, but also move the school time parking problem to another area.

Goods vehicle deliveries to the business district are also a problem. Small vans can easily access the rear of the main building to make deliveries, but larger vehicles must park, part on the pavement, part on the road. This is further complicated by the presence of a utility supply pole, a telephone and post box reducing the parking area. This parking causes a partial reduction in road width and blocking sight lines causing an impediment to passing traffic especially at busy times.

Requests have been made with suppliers to avoid deliveries at busy times with some success, but more needs to be done to improve the situation.

5 Comments and suggestions

Your comments on this report are very welcome as are any suggestions you may have for improving Oakley's traffic management. Please send them to hwp.odpc@gmx.com.

6 Acknowledgements

Maps in figures 1, 12 and 13 are derived from Google maps.

Figures 14, 15 and 16 were taken from https://www.4wheelz.co.uk/learning-to-drive/pedestrian-crossings/.

Figure 17 was taken from The Mail on Sunday on 28th April 2019.

The data in figure 18 was taken from https://www.crashmap.co.uk.

Thanks to Bakers Recovery of Oakley for sponsoring Oakley's traffic surveys.

7 Viacount set up parameters

Default setting parameters for Viacount ll are as follows:

Mounting height – lower edge of Viacount ll device approximately 2.25m from ground level.

Distance from near kerb – approximately 1m

Measurement parameters (manufacturer's default):

	Bicycle/motor cycle	Car	Large van	Rigid HGV/bus	Artic HGV
Physical length	<2.5m	<5.2m	<9m	<12m	>12m
Measurement length on-coming traffic					
	<250	<450	<650	<870	>870
Measurement length departing traffic					
	<290	<500	<750	<850	>850

Table 17: set up parameters used in OTIS

8 Laser measuring device

Model, Tracklife MLR01 serial number K024-UKAKKOB167547-FBA40.

9 Data sources

The following files were used to provide data for this report:

- vc020319.15 and vc020319.16 for the week of 23rd February to 2nd March.
- vc090319.17 and vc090319.18 for the week of 2nd to 9th March.
- vc160319.19 and vc160319.20 for the week of 9th to 16th March.
- vc060419.02.023 and vc060419.024 for the week 30th March to 6th April.
- Vc130419.025 and vc130419.026 for the week 6th to 13th April.

Data was extracted from the files using the app Viagraph 5 supplied by Via Traffic Controlling, the manufacturer of the Viacount ll device.

10 Revision history

Date	Revision no	Detail	Author
28/4/2019	1	Initial draft out for consultation	Stephen Harding
5/5/2019	2	Feedback e-mail address updated	Stephen Harding
7/5/2019	3	Acknowledgements and accident data added	Stephen Harding