

Oakley Traffic Information Survey

Report number 1
Survey location - Avon Road
January 2019
Revision number 1



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1. Introduction

This survey was made using a Viacount II device, known as OTIS (Oakley Traffic Information Surveyor), mounted on lamp post no 7 (GPS 51° 150.23' N, 001° 10.123' W) in Avon Road, Oakley.



Figure 1: showing OTIS's location



Figure 2: showing OTIS mounted on lamp post 7



Viacount II uses a radar beam to detect and measure a 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.

Avon Road is a residential road connecting St John's Road at its eastern end with Kennet Way at its western end. The road gives access to ten "closes" also containing residential housing. The buildings in the road are a mixture of bungalows, semi-detached and detached housing. There is a small play area at the western end of the road.

Avon Road is part of the number 11 service bus route with two buses per hour. The route is arranged so that one bus travels east and the next bus travels westward. The route is also used by buses collecting and returning secondary school children to/from their schools and goods vehicles delivering to local businesses that are too large (higher than 11' 10") to negotiate the bridge on Oakley Lane.

It was anticipated the majority of traffic using the road would be local residents entering/leaving the area in private cars.

2. The survey period

The survey began at one minute past midnight on Friday 11th January 2019¹ and ran for 16 days ending on Saturday 26th January. During the first week, the railway bridge on Oakley Lane was closed for 2 days (14th and 15th January) so the natural alternative route for diverted traffic was via Avon Road giving the opportunity to see how this affected traffic movements in Avon Road.

OTIS was set to capture data for traffic travelling in both directions. Details of the settings used to determine vehicle type are given in table 7 on page 16.

There were three aims for this survey:

- to validate the chosen settings for OTIS,
- to establish a benchmark for traffic movement in this road,
- to determine whether the claims by Avon Road residents of speeding in the road were valid,

The road closure of Oakley Lane also gave an opportunity to see the effects on traffic flows of diverted traffic.

1 The survey was intended to run from midnight on 4th January, but due to a programming error, did not start until 11th January.



3. Summary of results

Not surprisingly, the majority of vehicles passing the survey point were cars comprising nearly 50% of the total number of vehicles. The relatively high number of rigid LGV type vehicles can be attributed to a vehicle mix of school and service buses, plus delivery vehicles heading for the village shops although some adjustment of the measurement parameters may be needed to verify the results (see table 7 on page 16 for details of measurement parameters). It is proposed not to change the parameters for the remainder of the study enabling direct comparisons to be made with future surveys.

The baseline survey showed low level speeding is an issue with average vehicle speeds in the range of 31 to 37mph. The maximum recorded during this period was 42mph. Overall, 27.2.% of vehicles were exceeding the speed limit in the baseline survey. This was confirmed in both full weeks of the study with the proportion of speeding vehicles and their speeds being similar.

4. The main survey

4.1. Setting a daily base line

The first day of the survey, January 11th, was chosen as a base line to against which other days could be compared. During this day, 451 vehicles passed the survey point with an average speed of 36.2mph. Breakdown of vehicle types and speeds is shown in table 1.

Vehicle type	Number	Max speed (mph)
2 wheelers	44	37
Car	217	42
Van	65	36
Rigid LGV	80	35
Artic LGV	45	31

Table 1: vehicle breakdown and speeds (all vehicles)



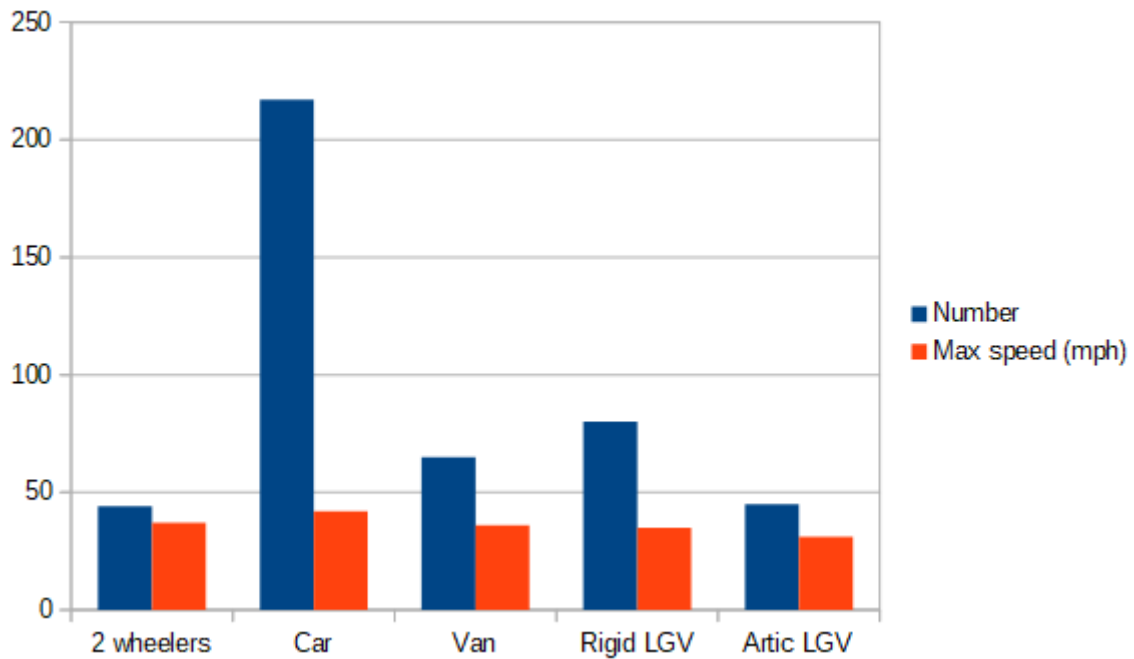


Figure 3: vehicle breakdown and maximum speeds

Breaking the traffic down into direction of travel showed traffic from St John’s Road travelling at an average speed of 35mph and from Kennet Way, 34mph, as shown in table 2.

	From St John’s Road		From Kennet Way	
	Number	Max speed (mph)	Number	Max speed
2 wheelers	11	31	33	37
Car	118	42	99	36
Van	44	36	21	34
Rigid LGV	46	35	34	35
Artic LGV	28	31	17	30

Table 2: vehicle breakdown by direction

Figure 4 shows vehicle activity by time of day.



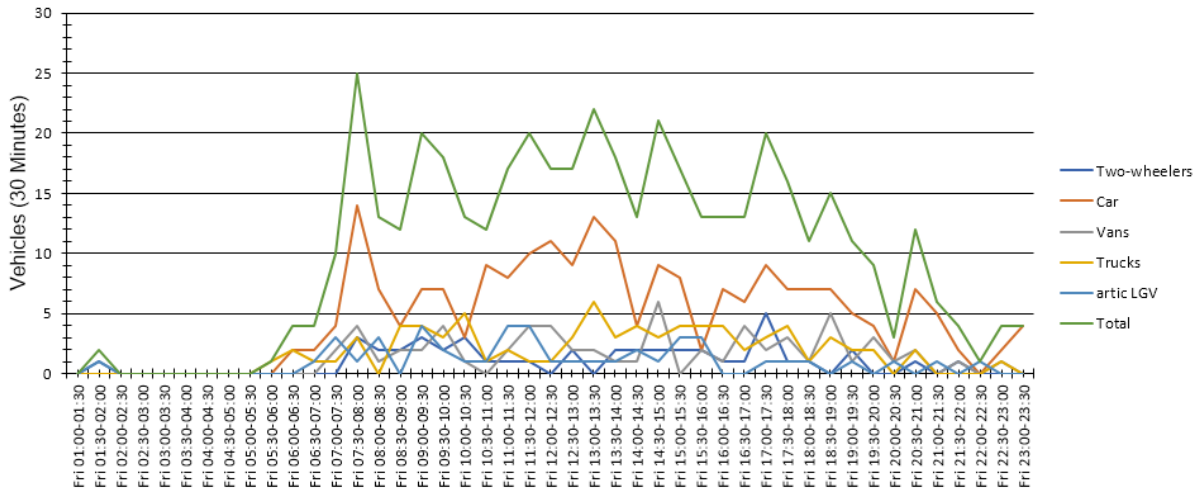


Figure 4: vehicle activity by time of day

There is an initial early morning peak followed by a steady flow until early evening when the traffic reduces significantly falling away to virtually nothing during the night.

Overall vehicle distribution for the benchmark day is shown in figure 5

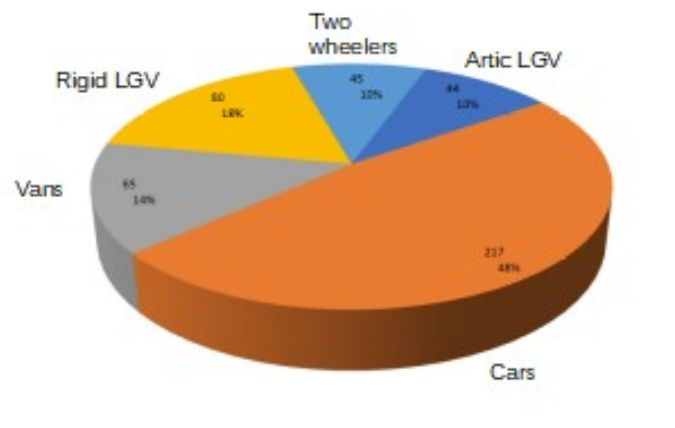


Figure 5: overall vehicle distribution on the benchmark day



4.2. Survey results – week one

The first week of the survey was carried out from midday Saturday January 12th to mid afternoon on Saturday January 19th. Overall traffic distribution is shown in figure 6.

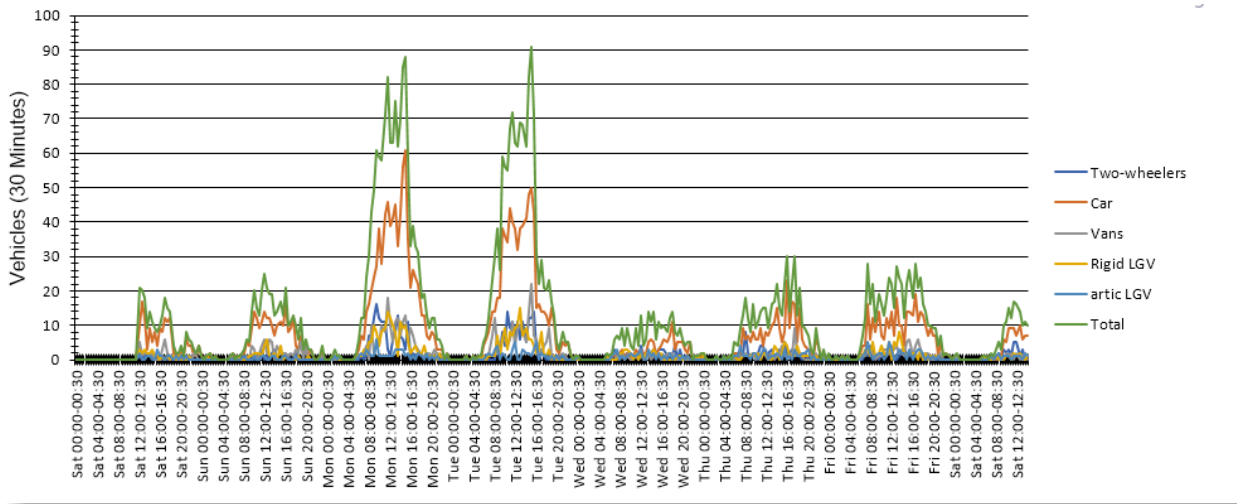


Figure 6: overall traffic distribution 12th - 19th January 2019

Immediately noticeable is the increase in traffic on the Monday and Tuesday as a result of the bridge closure in Oakley Lane causing traffic to divert via Avon Road.

Overall traffic volumes are shown in table 3.

	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
2 wheelers	7	15	150	141	52	59	36
Car	149	231	782	725	107	253	314
Van	30	63	174	175	20	44	73
Rigid LGV	22	32	163	131	37	49	70
Artic LGV	14	9	48	46	33	42	48
total	222	350	1317	1228	249	447	541

Table 3: overall traffic flows by vehicle type week 1

The huge increase in traffic caused by the bridge close is very clear with around three times more vehicles using the road when the bridge was closed.

The average number of vehicles per day by type is shown in figure 7 which shows the significant increase on Monday and Tuesday.



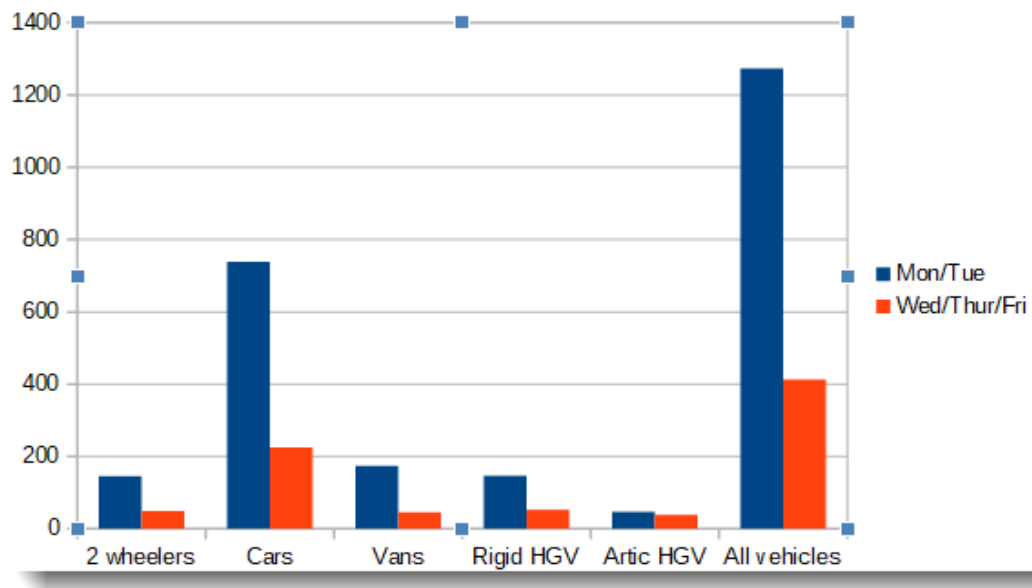


Figure 7: daily average number of vehicles passing the survey point by type

Traffic travelling from St John’s Road (inflow) is shown in table 4.

	Traffic coming from St John’s Road						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
2 wheelers	5	9	20	28	24	8	5
Car	91	118	520	446	73	173	187
Van	12	28	124	123	14	29	39
Rigid LGV	10	12	95	81	15	26	34
Artic LGV	8	6	34	17	23	26	30
totals	126	173	793	705	149	262	295

Table 4: overall traffic travelling from St John's Road week 1

Figure 8 shows this information graphically.



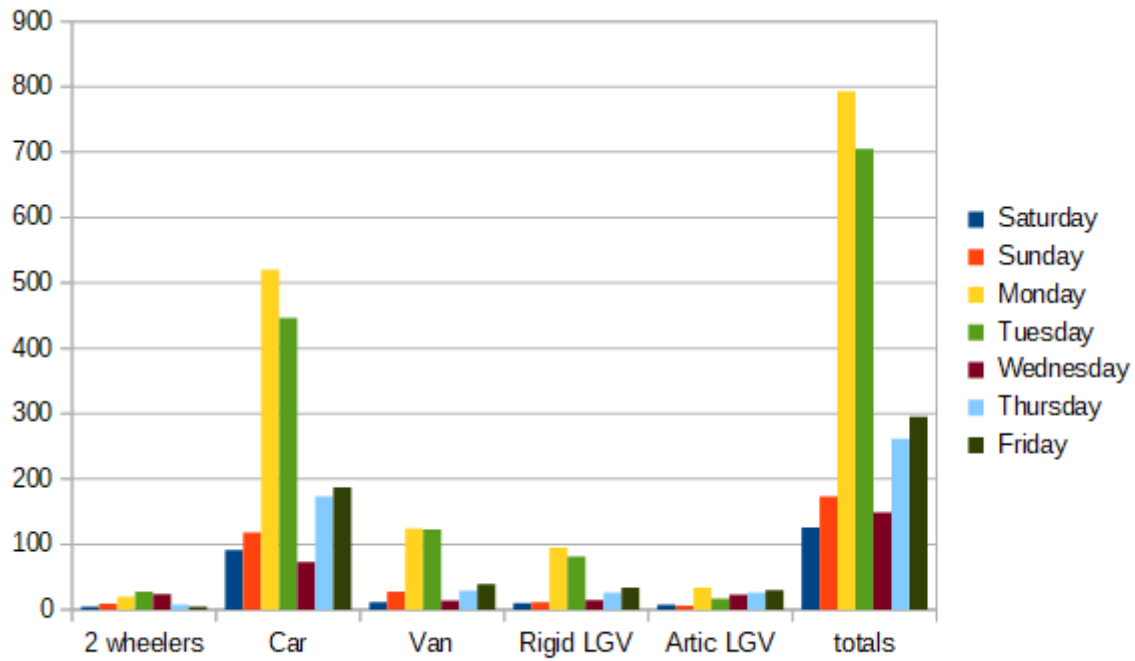


Figure 8: traffic travelling from St John's Road

Traffic travelling from Kennet Way (outflow) is shown in table 5.

	Traffic coming from Kennet Way						
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
2 wheelers	2	6	130	113	28	51	31
Car	58	113	262	289	34	80	127
Van	18	35	50	52	6	15	34
Rigid LGV	12	20	68	50	22	23	36
Artic LGV	6	3	14	19	10	16	18
totals	96	177	524	523	100	185	246

Table 5: overall traffic travelling from Kennet Way week 1

Figure 9 shows this information graphically.



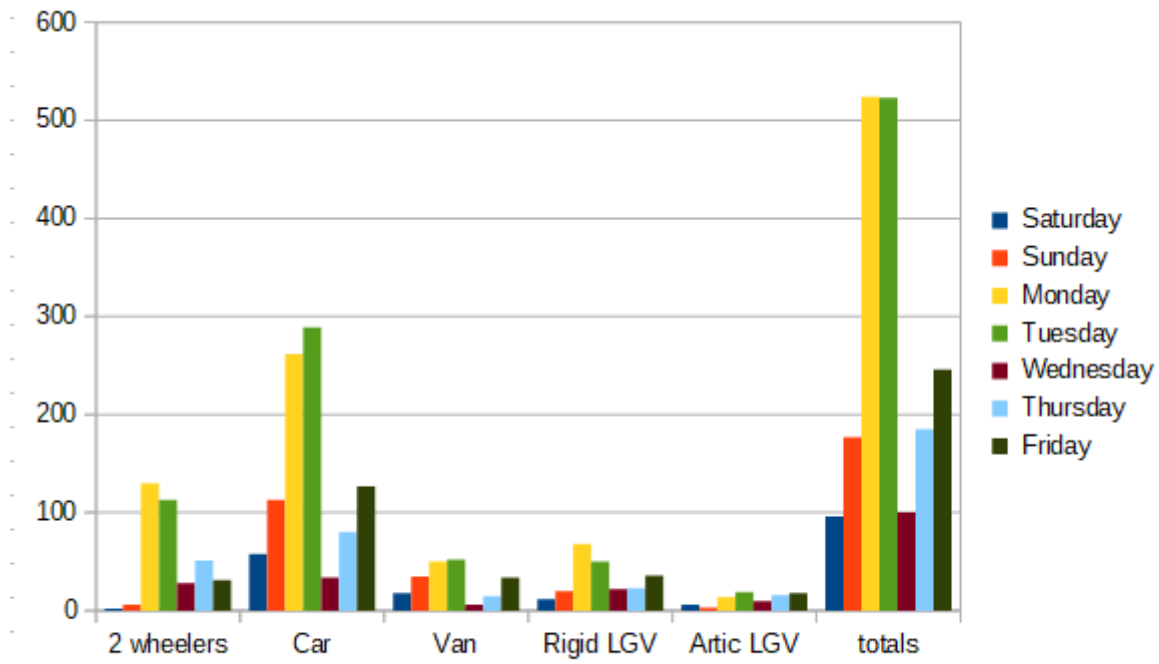


Figure 9: graph showing traffic coming from Kennet Way week 1

Overall vehicle speeds in miles per hour for the week are shown in table 6.

	Number	Average speed	Max speed
2 wheelers	489	32	48
Car	2649	32	47
Van	589	32	44
Rigid LGV	512	31	44
Artic LGV	252	28	36
total	4491		

Table 6: speeds for all vehicles week 1

Speeding is clearly an issue with 20.91% of all vehicles exceeding the 30mph speed limit with all vehicle classes, with the exception of larger heavy goods vehicles, being well above the 30mph limit. This is significantly above the baseline figures recorded for January 11th. Figure 10 shows the number of speeding vehicles by type and speed.



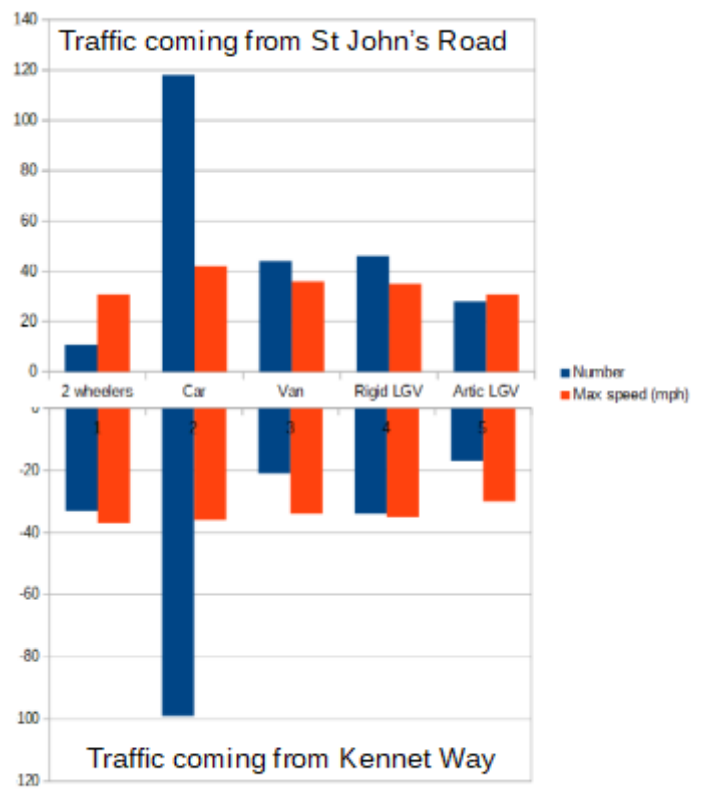


Figure 10: speeding traffic by vehicle type and speed

The overall vehicle distribution by type for the first week is shown in figure 11.

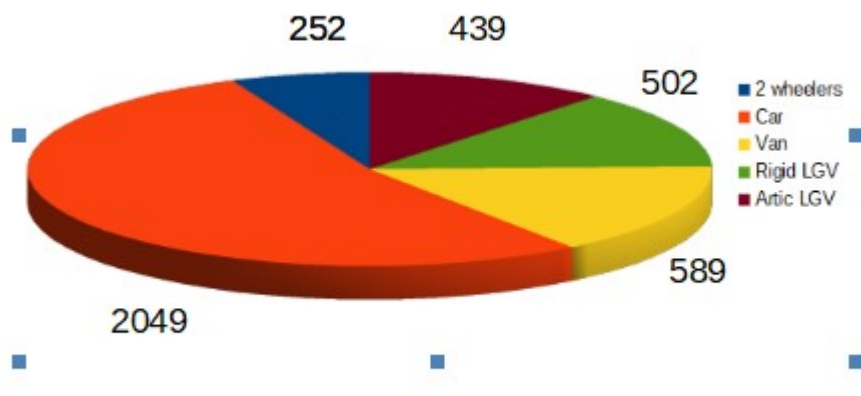


Figure 11: overall vehicle distribution by type – week 1



4.3. Survey results – week two

The survey for the second week was carried out from 16:00 on Saturday 19th January to 15:00 on Saturday 26th January 2019. Overall traffic flow by day is shown in figure 12 and is fairly constant day-by-day.

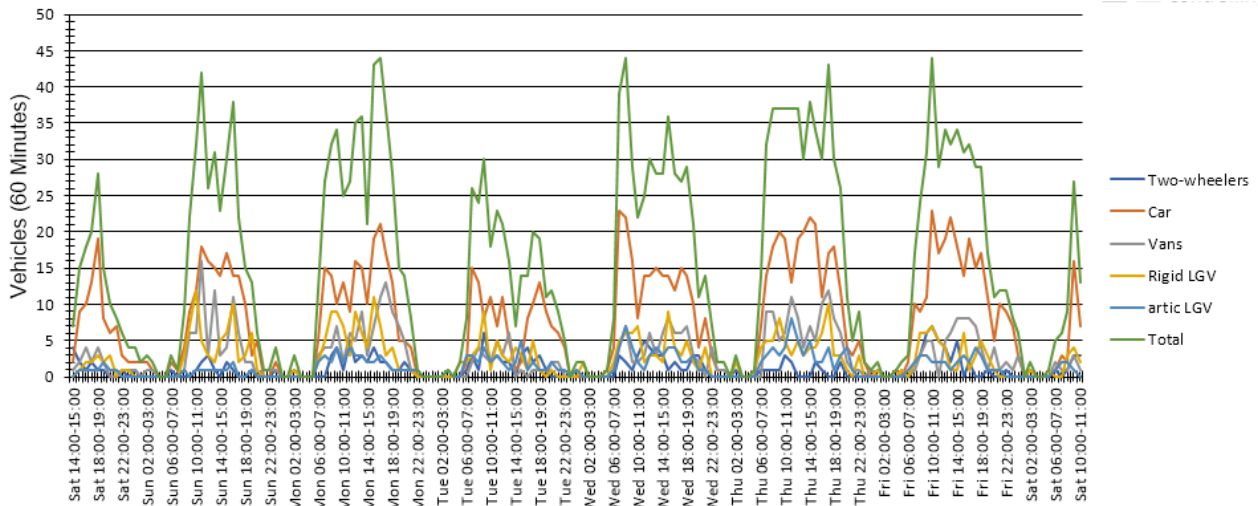


Figure 12: overall traffic flow by day week 2

Once again, private cars dominate the traffic make-up, but the proportion of HGV and large vehicles rose to 24.7% compared with 17% in week 1. Speeding is also less of an issue with slightly under 15% breaking the speed limit compared with 20.9% in week 1.

The average number of vehicles by type passing the survey point each weekday is shown in figure 13.

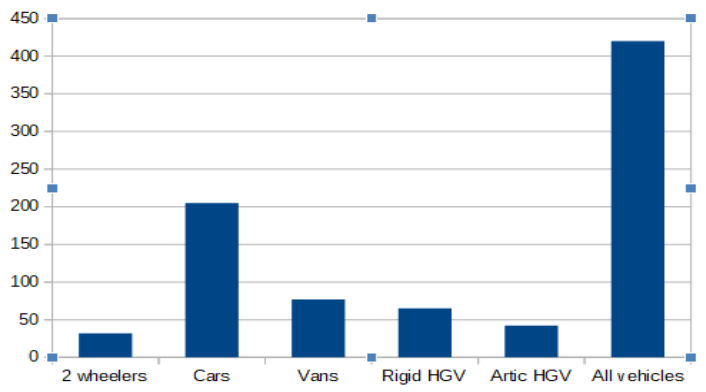


Figure 13: average weekday number of vehicles by type



Daily traffic flow by vehicle type and direction is shown in figure 14.



Figure 14: daily traffic flow by vehicle type and direction

Overall vehicle distribution for week 2 is shown in figure 15.

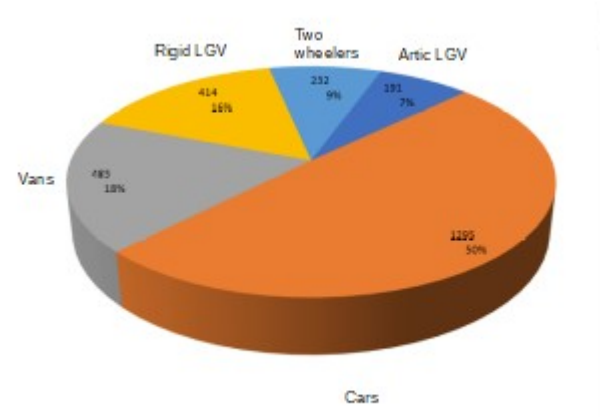


Figure 15: overall vehicle distribution week 2



5. Conclusions and recommendations

Avon Road is a well used road by all vehicle types. As a residential area, it is not surprising the majority of vehicle movements are private cars used by residents entering and leaving the estate. The relatively high number of large vehicles using the road can be attributed to service and school buses plus delivery lorries servicing the local shopping area which are unable to use Oakley Lane due to the bridge height restriction.

That Avon Road is used as a rat run for large vehicles and when Oakley Lane is closed as was clearly illustrated in the first full week of the study (see figure 12). As a road through a residential area with several large bends and on street parking, this is not ideal. It would be better to direct traffic via St John’s Road, The Drive and Kennet Way. These roads are straighter, have better sight lines and fewer roadside parked vehicles.

Speeding is an issue. The majority of speeding vehicles were travelling between 35 and 37mph with a small minority travelling in excess of 40mph: figure 16 shows the maximum speed in miles per hour for each vehicle type. A number of Community Speedwatch sessions run at peak times could help to moderate driver behaviour, but in the absence of a speedwatch co-ordinator, this will not happen. Alternatively, the Parish Council may wish to consider future purchase of a speed indication sign such as an M-SID Vario to give drivers an indication of their speed. This could also be deployed around other sites in the village as part of a general education programme. However, the speeding issue is not severe enough to warrant requesting the Police camera car to monitor the road.

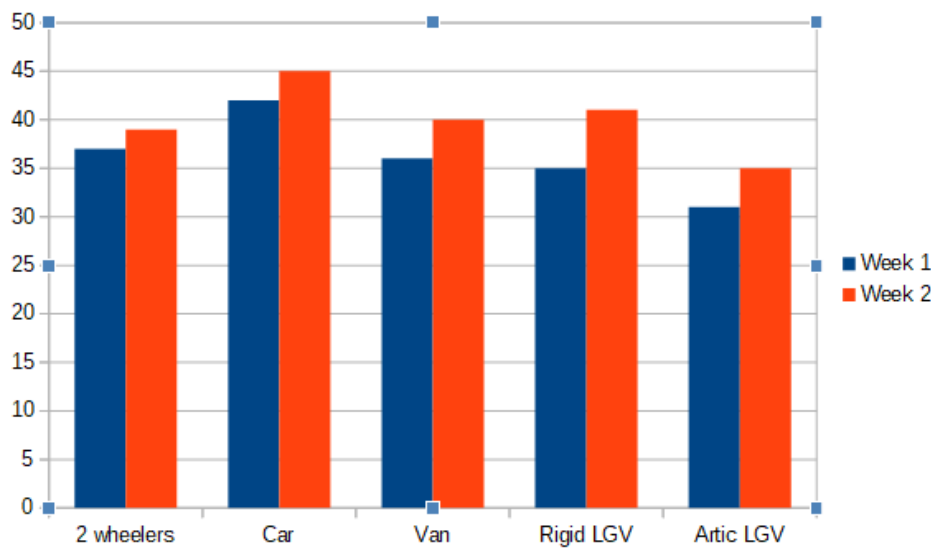


Figure 16: comparison of speeding vehicles by type for the two weeks



Consideration can also be given to the creation of a traffic flow plan for the village whereby traffic is directed to use certain roads and prohibited or restricted in its use of other roads.

6. Viacount II set up parameters

Manufacturer's default setting parameters for Viacount II are as follows:

Mounting height – lower edge of Viacount II 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 7: set up parameters used in OTIS

Alternative settings parameters are being explored, but it is not intended to implement them during this study.

7. Data sources

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

- **vc120119.004** – data for the period 11th January to 12th January 2019
- **vc190119.005** and **vc190119.006** – data for the period January 12th to January 19th 2019
- **vc260119.007** – data for the period January 20th to January 26th 2019

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



8. Revision history

Date	Revision no	Detail	Author
7/02/2019	1	Initial draft	Stephen Harding

