

Oakley Traffic Information Survey

Sponsored by Bakers Recovery

Report number 8
Survey location - B3400 Newfound
February 2020
Revision number 2



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Copies of this report can be downloaded from Oakley and Deane's Parish Council website.

<http://www.oakleydeane-pc.gov.uk/community/oakley-deane-parish-council-6507/speed-monitoring/>

Alternatively, e-mail hwp.odpc@gmx.com



1 Survey methodology

This survey was made using an MSID Counter device, known as OTIS (Oakley Traffic Information Surveyor), mounted on the redundant speed limit post at Newfound (GPS 51° 140771' N, 001° 10.558' W) on the B3400. The survey point is approximately 100 yards inside the 30 mph speed limit. Traffic travelling west towards Overton may still be slowing down after entering the speed limit and traffic travelling east towards Basingstoke may be speeding up in anticipation of leaving the 30mph limit and entering the 40mph limit.



Figure 1: OTIS's position on the redundant speed limit pole

B3400 is the main route between Basingstoke and Andover passing through several large communities. At this point the road passes through the ribbon development of Newfound. Local residents frequently complain of the difficulty of joining the road from their properties because of the density and speed of the traffic. Figure 2 shows some of the ribbon development on both sides of the road in Newfound.





Figure 2: showing the location of the survey point on the B3400

Sight lines at this point are good both for vehicles travelling east and west as shown in figures 3 and 4 and this may encourage drivers to exceed the speed limit.



Figure 3: sight line looking east towards Basingstoke





Figure 4: sight line looking west towards Overton

The MSID Counter 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.

2 Survey results

2.1 85th percentile data

Data for the 85th percentile has been included in the results because it is on this data that speed limits are frequently set. The 85th percentile speed is what the majority of drivers will drive at and assumes that only 15% of drivers will exceed the speed limit. In Oakley this is clearly not the case.

The 85th percentile speed is based on the assisted clear distance ahead concept (ACDA) which is the distance ahead of the vehicle within which the driver would be able to bring it safely to a halt. It assumes the majority of drivers are reasonable and prudent, do not want to have a crash and wish to reach their destination in the shortest possible time. It also assumes weather and road conditions are good. Therefore, the 85th percentile can be considered as the maximum safe speed for the location where and when the data was collected.



2.2 Summary

The number of vehicles passing the survey point was roughly the same each week with a total of 196,916 vehicles passing the survey point during the three weeks as shown in table 1. Speeds in excess of 70mph are shown emboldened in red text with the maximum speed shown next to the week's total.

	Week 1 – 12th to 19th Jan 2020			Week 2 – 19th to 26th Jan 2020			Week 3 – 26th Jan to 2nd Feb 2020		
	Count	Max speed mph	85th percentile	Count	Max speed mph	85th percentile	Count	Max speed mph	85th percentile
2 wheelers	992	86	39	656	66	35	775	58	36
Cars	43078	91	38	48632	93	37	48884	92	38
Vans	12920	79	38	14930	84	37	12560	75	37
Rigid HGV	3459	64	38	3384	64	37	2944	60	38
Artic HGV	1185	54	37	1277	56	35	1240	50	36
Total	61634	91		68879	93		66403	92	

Table 1: summary of vehicle numbers, their maximum speed and 85th percentile speed

This compares with the survey conducted at the Dean Gate (see report 7) where over a three week period 126,503 vehicles passed the survey point. This suggests that Oakley contributes an additional 70,413 vehicles or 35.7% to the traffic moving along the B3400 at the survey point.

As expected the majority of vehicles passing the survey point were private cars as shown in figure 5.

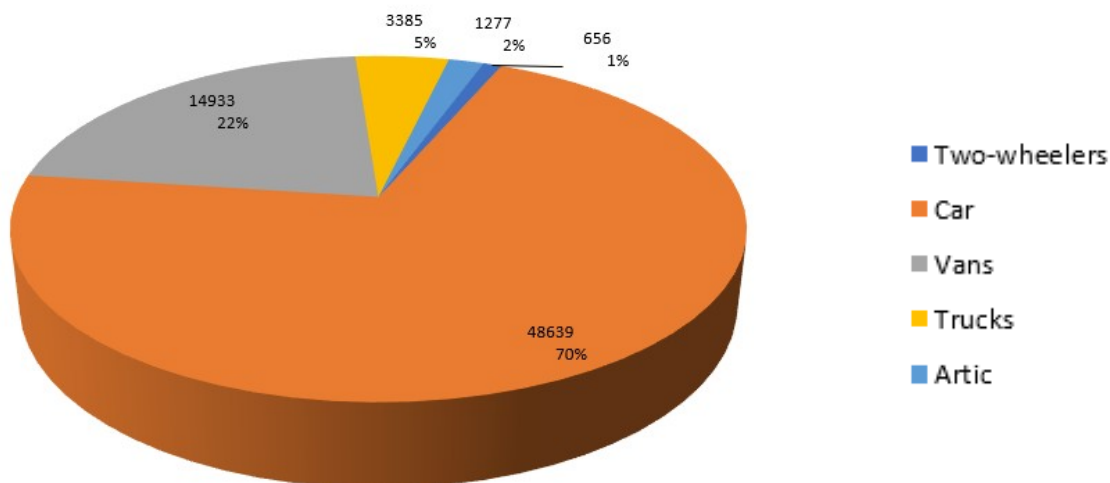


Figure 5: typical vehicle distribution by type

Speeding is very clearly an issue. Maximum vehicle speeds and timeslots have been analysed for the Wednesday of each week and the results are shown in table 2. This shows that for very few timeslots is less than 50% of the traffic speeding. Most of the time well over half the traffic is



exceeding the speed limit by considerable amount. Speeds in excess of 70mph are shown emboldened red text. At times the separation distance between vehicles is reduced to less than two seconds. This is below the recommended safe separation distance.

Time	15th Jan 2020		22nd Jan 2020		29th Jan 2020	
	% speeding	Max speed mph	% speeding	Max speed mph	% speeding	Max speed mph
00:00 to 07:00	88.93	91	86.56	93	87.6	69
07:01 to 08:00	87.64	64	65.23	52	62.9	54
08:01 to 09:00	71.42	63	56.16	50	56.9	49
09:01 to 10:00	71.22	62	61.79	52	57.98	51
10:01 to 11:00	68.8	66	60.81	73	64.61	60
11:01 to 12:00	71.44	57	52.79	48	55.38	52
12:01 to 13:00	68.07	59	48.09	49	58.46	55
13:01 to 14:00	66.58	56	56.24	52	57.32	54
14:01 to 15:00	68.86	62	54.24	65	69.23	54
05:01 to 16:00	68.21	59	58.37	49	56.23	51
16:01 to 17:00	66.38	64	50.73	61	51.84	54
17:01 to 18:00	59.68	53	42.71	49	50.86	49
18:01 to 19:00	52.08	57	53.27	52	57.22	52
19:01 to 23:59	68.73	67	64.84	66	67.08	67

Table 2: percentage of speeding vehicles and their maximum speed by timeslot

What is also concerning is that speeding is consistent throughout the day. The higher speeds tend to be recorded in the early part of the day (see tables 2 00:00 to 07:00 and 21). Speeding does taper off as the day progresses. This suggests that some of the early speeding may be people rushing to get their place of work or catch trains or other forms of public transport.

Accident data for this stretch of road is limited because only serious injury or death accidents are recorded. There was one serious injury accident at the junction of Fox Lane and the B3400 in April 2017 in the small hours of the morning (see figure 6). Local residents say there are many minor accidents as no injuries are caused, these go unreported.





Figure 6: site of the recent accident at the junction of Fox Lane and the B3400

2.3 Week 1 – 12th to 19th of January

Note: no data is shown for Saturday in the following set of tables because the survey started on the Sunday.

Daily traffic flows for traffic travelling towards Overton are shown in table 3. As can be seen the daily flows do not vary significantly. Weekend traffic flows are lower than during the week, but with current working patterns of a normal working week being Monday to Friday, this is not surprising. The bulk of the traffic is made up of private cars.

	Sat no data	Sun	Mon	Tue	Wed	Thur	Fri	Total	W'end av	W'day av
2 wheelers		33	54	51	38	55	41	239	33	47.8
Cars		2161	3544	3869	3357	3548	3538	17856	2161	3571.2
Vans		892	1297	1102	1683	1535	1657	7274	892	1454.8
Rigid HGV		164	426	351	412	555	446	2190	164	438
Artic HGV		22	147	157	135	149	149	737	22	147.4
Totals	0	3272	5468	5530	5625	5842	5831	28296		

Table 3: daily traffic flows for traffic travelling towards Overton

Table 4 shows the traffic flow in the opposite direction towards Basingstoke. Again cars make up the bulk of the traffic and the daily numbers do not show any great difference. What is interesting



here is that there are 11,000 vehicle movements less travelling towards Basingstoke than travelling into Overton.

									W'end	W'day
	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Total	av	av
	No									
2 wheelers	data	35	117	177	96	107	78	575	35	115
Cars		2085	2643	2514	2846	2919	3286	14208	2085	2841.6
Vans		333	355	264	531	537	460	2147	333	429.4
Rigid HGV		28	151	125	115	153	141	685	28	137
Artic HGV		12	54	37	55	57	73	276	12	55.2
Totals	0	2493	3320	3117	3643	3773	4038	17891		

Table 4: daily traffic flows for traffic travelling towards Basingstoke

Comparing these figures with those obtained from the survey at the Dean Gate Crossroads (see Report 7) shows a significant increase in the volume of traffic at this survey point suggesting that Oakley contributes significant number of vehicle movements to the traffic on the B3400.

When vehicle speed is examined, it can be seen that the majority of the traffic is travelling at speeds above 30mph. Table 5 shows the breakdown of vehicle speeds by type for traffic travelling towards Basingstoke. Over three quarters of vehicles are exceeding the speed limit.

Speed mph	2 wheeler	Car	Van	Rigid HGV	Artic HGV	Total
less than 15	41	10	4	2	1	58
16 – 20	2	59	12	9	3	85
21 – 25	13	194	36	19	16	278
26 – 30	156	3879	514	137	97	4783
31 – 35	262	9323	1554	370	158	11667
36 – 40	113	4423	775	176	52	5539
41 – 45	44	1358	255	64	15	1736
46 – 50	10	400	59	23	1	493
Over 50	6	179	35	5	1	226
Exceeding 30mph						19661
Under 30mph						5204
% speeding						79.1

Table 5: breakdown of vehicle speeds by type travelling towards Basingstoke

Table 6 shows the breakdown of vehicle speed by type of traffic travelling towards Overton and again the number exceeding the speed limit, 60%, is significant.



Speed mph	2 wheeler	Car	Van	Rigid HGV	Artic HGV	Total
less than 15	86	83	63	27	5	264
16 – 20	24	128	74	22	18	266
21 – 25	8	764	419	133	45	1369
26 – 30	40	8017	3554	938	266	12815
31 – 35	73	8786	3553	905	339	13656
36 – 40	54	3412	1356	395	118	5335
41 – 45	33	1347	450	153	44	2027
46 – 50	15	471	146	59	5	696
Over 50	12	255	63	23	1	354
Exceeding 30mph						22068
Under 30mph						14714
% speeding						60

Table 6: breakdown of vehicle speeds by type for traffic travelling towards Overton

Looking at the maximum speeds shows that all vehicles apart from two wheelers exceeded the 30 miles an hour limit. Table 7 shows the maximum speed by vehicle type for traffic travelling towards Basingstoke. Speeds over 70mph are shown in emboldened red text.

	Speed in miles per hour						
	Sat	Sun	Mon	Tue	Wed	Thur	Fri
2 wheelers	No data	47	47	57	53	51	57
Cars		67	71	63	74	79	65
Vans		50	53	79	56	64	62
Rigid HGV		46	58	50	53	59	50
Artic HGV		38	52	40	47	42	44

Table 7: maximum speeds by vehicle type for traffic travelling towards Basingstoke

Table 8 shows a similar pattern for traffic travelling towards Overton and again all vehicle types apart from two wheelers exceeded the 30mph speed limit. Speeds over 70mph are shown emboldened red text.

	Speed in miles per hour						
	Sat	Sun	Mon	Tue	Wed	Thur	Fri
2 wheelers	No data	51	52	63	61	48	86
Cars		61	61	81	65	63	91
Vans		63	61	61	57	71	69
Rigid HGV		53	59	56	60	56	54
Artic HGV		41	47	44	46	50	54

Table 8: maximum speeds by vehicle type for traffic travelling towards Overton



2.4 Week 2 – 19th to 26th January

Daily traffic flows for traffic travelling towards Overton are shown in table 9. As can be seen the daily flows do not vary significantly. Weekend traffic flows are lower than during the week, but with current working patterns of a normal working week being Monday to Friday, this is not surprising. The bulk of the traffic is made up of private cars.

	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Total	W'end av	W'day av
2 wheelers	34	23	38	72	53	53	53	269	28.5	53.8
Cars	3250	1368	3375	3491	4319	3753	4010	18948	2309	3789.6
Vans	802	446	1141	1188	613	1140	816	4898	624	979.6
Rigid HGV	83	38	213	193	142	201	175	924	60.5	184.8
Artic HGV	52	10	71	92	75	77	87	402	31	80.4
Totals	4221	1885	4838	5036	5202	5224	5141	25441		

Table 9: daily traffic numbers by type travelling towards Overton

Daily traffic flows for vehicles travelling towards Basingstoke are shown in table 10.

	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Total	W'end av	W'day av
2 wheelers	43	44	36	52	38	40	38	204	43.5	40.8
Cars	3314	2044	3660	3709	4202	3812	4022	19405	2679	3881
Vans	1136	638	1362	1464	1239	1476	1404	6945	887	1389
Rigid HGV	199	91	392	433	390	430	392	2037	145	407.4
Artic HGV	72	22	136	152	134	142	154	718	47	143.6
Totals	4764	2839	5586	5810	6003	5900	6010	29309		

Table 10: daily traffic numbers by type travelling towards Basingstoke

Table 11 shows the breakdown of vehicle speed by type of traffic travelling towards Overton and again the number exceeding the speed limit, 51.8%, is significant.



Speed mph	2 wheeler	Car	Van	Rigid HGV	Artic HGV	Total
less than 15	77	94	44	14	11	240
16 – 20	39	174	83	24	13	333
21 – 25	12	1343	558	189	61	2163
26 – 30	71	10725	3768	939	310	15813
31 – 35	51	8125	2890	719	295	12080
36 – 40	21	2956	943	312	86	4318
41 – 45	11	953	339	99	30	1432
46 – 50	5	309	94	29	5	1874
Over 50	8	200	39	12	2	261
Exceeding 30mph						19965
Under 30mph						18549
% speeding						51.8

Table 11: breakdown of vehicle speeds by type travelling towards Overton

A breakdown of traffic speeds travelling towards Basingstoke is shown in table 12 . Again the bulk of the traffic is private cars. Overall, nearly 70% were exceeding the speed limit.

Speed mph	2 wheeler	Car	Van	Rigid HGV	Artic HGV	Total
less than 15	90	139	41	7	10	287
16 – 20	12	175	47	17	12	263
21 – 25	18	477	143	41	47	989
26 – 30	68	6439	1542	279	145	8473
31 – 35	120	10541	2793	437	185	14076
36 – 40	39	4178	1145	196	49	5607
41 – 45	12	1298	337	56	14	1717
46 – 50	1	346	91	14	1	453
Over 50	1	167	36	1	1	206
Exceeding 30mph						22059
Under 30mph						10012
% speeding						68.7

Table 12: breakdown of speed by vehicle type travelling towards Basingstoke

The maximum speeds of vehicles by type travelling towards Overton is shown in table 13. Speeds over 70mph are shown emboldened red text.



	Speed in miles per hour						
	Sat	Sun	Mon	Tue	Wed	Thur	Fri
2 wheelers	86	59	48	51	52	42	52
Cars	91	81	81	62	69	70	70
Vans	57	51	53	60	66	57	60
Rigid HGV	56	57	55	51	64	62	53
Artic HGV	43	43	43	45	48	56	48

Table 13: maximum vehicle speeds by type travelling towards Overton

The maximum speeds of vehicles by type travelling towards Basingstoke is shown in table 14. Speeds over 70mph are shown emboldened red text.

	Speed in miles per hour						
	Sat	Sun	Mon	Tue	Wed	Thur	Fri
2 wheelers	63	86	41	45	41	40	54
Cars	70	91	83	69	93	77	62
Vans	67	57	68	84	56	59	70
Rigid HGV	59	56	49	47	45	45	48
Artic HGV	42	43	44	41	43	53	43

Table 14: maximum speeds by vehicle type travelling towards Basingstoke

2.5 Week 3 – 26th January to 2nd February

Daily traffic flows for traffic travelling towards Overton are shown in table 15. As can be seen the daily flows do not vary significantly. Weekend traffic flows are lower than during the week, but with current working patterns of a normal working week being Monday to Friday, this is not surprising. The bulk of the traffic is made up of private cars.

	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Total	W'end av	W'day av
2 wheelers	42	61	40	113	29	36	32	250	51.5	50
Cars	3258	2542	4039	3796	3705	4016	4011	19567	2900	3913.4
Vans	1119	577	1098	1285	1511	1161	1235	6290	848	1258
Rigid HGV	198	93	277	374	392	362	318	1723	145.5	344.6
Artic HGV	71	27	118	144	165	145	134	706	49	141.2
Totals	4688	3300	5572	5712	5802	5720	5730	28536		

Table 15: daily vehicle numbers by type travelling towards Overton

Table 16 shows the daily vehicle numbers by type travelling towards Basingstoke.



	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Total	W'end av	W'day av
2 wheelers	34	34	68	54	47	66	63	298	34	59.6
Cars	3213	2120	3489	3619	3533	3754	3734	18129	2666.5	3625.8
Vans	798	200	461	664	1149	419	604	3297	499	659.4
Rigid HGV	83	31	124	163	197	164	173	821	57	164.2
Artic HGV	52	8	52	83	97	64	71	367	30	73.4
Totals	4180	2839	4194	4583	5023	4467	4645	22912		

Table 16: daily vehicle numbers by type travelling towards Basingstoke

A breakdown of speeds by traffic type travelling towards Overton is shown in table 17. Just over half the traffic is exceeding the speed limit.

Speed mph	2 wheeler	Car	Van	Rigid HGV	Artic HGV	Total
less than 15	198	544	209	26	10	987
16 – 20	37	142	76	20	16	291
21 – 25	9	1013	365	111	36	1534
26 – 30	40	10315	3210	792	301	14658
31 – 35	46	8498	2758	624	311	12237
36 – 40	28	3151	999	256	96	4530
41 – 45	10	1139	336	129	32	1646
46 – 50	3	410	98	34	9	554
Over 50	4	206	38	16	0	264
				Exceeding 30mph		19231
				Under 30mph		17470
				% speeding		52.4

Table 17: breakdown of speeds by traffic type travelling towards Overton

A breakdown of speeds by traffic type travelling towards Basingstoke is shown in table 18 with nearly three quarters of all vehicles exceeding the speed limit.



Speed mph	2 wheeler	Car	Van	Rigid HGV	Artic HGV	Total
less than 15	57	13	3	1	4	78
16 – 20	8	55	14	11	6	94
21 – 25	14	251	39	25	14	343
26 – 30	108	5727	1050	242	140	7267
31 – 35	128	10711	2025	379	188	13431
36 – 40	59	4650	934	203	64	5910
41 – 45	18	1489	294	64	12	1877
46 – 50	4	407	76	8	1	496
Over 50	4	163	36	3	0	206
Exceeding 30mph						21920
Under 30mph						7782
% speeding						73.7

Table 18: breakdown of vehicle speeds by type travelling towards Basingstoke

Looking at the maximum speeds shows that all vehicles apart from two wheelers exceeded the 30 miles an hour limit. Table 19 shows the maximum speed by vehicle type for traffic travelling towards Basingstoke. Speeds over 70mph are shown in emboldened red text. There are noticeably fewer high speeds than in previous weeks.

	Speed in miles per hour						
	Sat	Sun	Mon	Tue	Wed	Thur	Fri
2 wheelers	66	58	55	38	54	49	52
Cars	77	67	63	76	67	66	68
Vans	61	63	53	57	71	60	56
Rigid HGV	55	54	50	54	58	55	56
Artic HGV	42	48	50	45	46	47	46

Table 19: maximum speeds by vehicle type travelling towards Overton

Maximum speeds for traffic travelling towards Basingstoke are shown in table 20. Speeds over 70mph are shown in emboldened red text.

	Speed in miles per hour						
	Sat	Sun	Mon	Tue	Wed	Thur	Fri
2 wheelers	50	46	48	46	44	53	53
Cars	92	78	86	62	69	89	92
Vans	59	54	73	53	64	62	62
Rigid HGV	50	42	49	46	54	46	52
Artic HGV	47	39	45	42	42	43	47

Table 20: maximum speeds by vehicle type travelling towards Basingstoke



3 Conclusions and recommendations

Speeding is a serious issue on this stretch of road with over 50% of vehicles exceeding the speed limit. Not only is the speed limit exceeded, but by significant amounts, the highest speeds being recorded at over 90mph early in the morning as shown in table 21!

Week 1 car travelling towards Overton

Fri 23:00-00:00	45	52	44		38	52
Sat 00:00-01:00	86	91	50	43	30	91
Sat 01:00-02:00	69	64	47			69
Sat 02:00-03:00		61	57	56		61

Week 2 car travelling towards Basingstoke

Sat 04:00-05:00		59	47	41		59
Sat 05:00-06:00	56	92	58			92
Sat 06:00-07:00		73	50	43	37	73

Week 3 car travelling towards Basingstoke

Fri 05:00-05:30		57	54			57
Fri 05:30-06:00		92	51			92
Fri 06:00-06:30	32	65	48	32	45	65

Table 21: maximum vehicle speed, day of the week and time of day

There is a need for careful speed monitoring over an extended period of time to see whether the results recorded here are consistent over time. Such a study is beyond the resources of Oakley and Deane Parish Council both in terms of time and manpower. In the meantime, regular visits by the Police speed enforcement camera are recommended. Two good sites are available: the car park at the eastern end of the 30mph limit and the entrance to Leamington Court at the western end of the 30mph limit.

A local resident is to be commended for his efforts to moderate traffic speed by putting the Parish Council's speed indication device on the footway (pavement) outside his property from time to time. Anecdotal evidence strongly suggests that this has a good moderating effect on traffic speed. Later in this year (2020) the Parish Council will be purchasing an unattended speed indication device which can be mounted on a lamp post and this will be deployed on the B3400 on a regular basis when not required elsewhere in the village. Evidence from other areas suggests this will impact on traffic speeds. However, the real answer is to educate drivers on their responsibilities, particularly with regard to speed.



Given the number of building developments in progress and planned in the future, the volume of traffic on this stretch of road will increase significantly and speed control will be even more important. There is an argument that says the 85th percentile results show that a 40mph limit might be more appropriate for this stretch of road, but with the T junction at The Fox and Newfound's ribbon development, this is not a good idea. Local residents complain that it is very difficult to exit from their driveways onto the road because of the volume and speed of traffic. This will get worse as time goes by.

Government policy is to encourage walking and cycling. There is a footway on the southern side of the B3400 which runs from a point near Leamington Court in the west to the end of the 30mph limit in the east, but this only serves the Newfound ribbon development. Cycling and walking away from this footway is not recommended because of the volume of traffic and restricted road width. Cycle ways and footpaths need to be put in place before any further encouragement of cycling and walking on the B3400 is encouraged.

Maintaining a speed limit is not just important because it improves safety, it also has a significant impact on pollution and fuel consumption. Carbon emissions from exhaust gases, dust from brake pads and tyre wear all contribute to atmospheric and rainwater run-off pollution. Driving at the speed limit also reduces fuel consumption which can reduce the cost of motoring considerably..

4 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.

5 Acknowledgements

Figure 2 is derived from Google Maps.

Figure 6 is derived from Crashmap.

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

6 MSID Counter set up parameters

Default setting parameters for the MSID Counter are as follows:

Mounting height – lower edge of the MSID Counter device is 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 22: set up parameters used in OTIS

7 Laser measuring device

Model Tracklife MLR01 serial number K024-UKAKKOB167547-FBA40

8 Data sources

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

- Week 1, 12th to 19th January 2020 – vc190120.53 and vc190120.54
- Week 2, 19th to 29th January 2020 – vc260120.55 and vc260120.56
- Week 3, 26th January to 2nd February 2020 vc020220.57 and vc020220.58

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



9 Revision history

Date	Revision no	Detail	Author
19/2/2020	1	Initial draft.	Stephen Harding

