

Woodchester Traffic & Road Safety Survey



Woodchester Parish Council Highways, Rights of Way and Environment Committee
28 March 2018

1. Introduction

Road safety issues have been a high priority for residents of Woodchester for many years, and were highlighted in the 2005 Woodchester Parish Plan and the 2012 update to the Parish Plan. A number of issues have been raised by residents, including:

- a. Vehicles are regularly thought to exceed the recently introduced 'twenty is plenty' 20mph speed limit within the village, and in some cases the mandatory 30mph speed limit, especially during periods of lower traffic flow, and particularly on upper Selsley Road (above the Blacklow Close Junction).
- b. Incidences of vehicles mounting the pavement in the area of the Post Office pinch point, and on lower Selsley Road (below the Southfield Road junction) with potential safety risk to pedestrians as well as damage to kerb stones.
- c. Some HGV's using Selsley Road exceed the mandatory 15-tonne weight limit for the bridge at the bottom of Selsley Road.
- d. There are concerns for the safety of pedestrians crossing Selsley Road to access the shop and Post Office.
- e. There have been numerous 'near misses' on the narrow bends on Selsley Road near the Church Road junction.
- f. There are concerns for pedestrians crossing the A46 to access southbound bus stops at Selsley Road, Station Road and Frogmarsh Mill
- g. It is increasingly difficult to exit feeder roads onto the A46 because of the continuous flow of traffic.
- h. There are concerns about speeding on the A46
- i. There are concerns about inappropriate parking at Frogmarsh Mill

A survey of traffic flow, traffic speeds and pedestrian crossing flow has been carried out by the Parish Council's Highways, Rights of Way and Environment Committee. This report is intended to provide evidence to Woodchester Parish Council to inform any decisions which might be taken in order to improve the safety of road users and pedestrians in the Parish of Woodchester.

2. Selsley Road

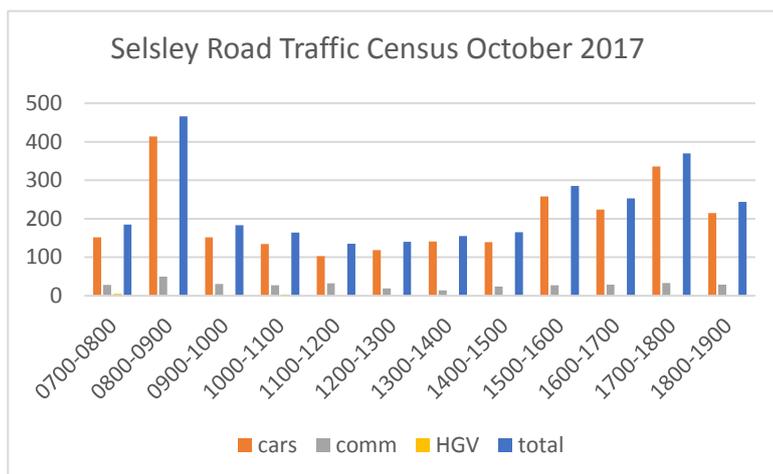
2.1 Selsley Road Traffic Flow Survey

A survey of traffic using Selsley Road was carried out, with traffic surveyed in one hour periods between 07:00 and 19:00. The survey was carried out mid-week during term time in October 2017 at the junction of Selsley Road and Southfield Road, with vehicles counted in three categories – cars and motorcycles, commercial vehicles, and HGV's.

The total number of vehicle movements on Selsley Road during the 12-hour period was 2,745. The peak period was between 08:00 and 09:00, with 466 vehicle movements, representing an average of one vehicle every 8.7 seconds. It is likely that there are around 3,500 vehicle movements on Selsley Road in a typical 24-hour period. It was noted that during the morning peak period there were significantly more vehicles traveling down Selsley Road than up, and that this trend was reversed during the evening peak period, with significantly more vehicles traveling up Selsley Road than down.

WOODCHESTER TRAFFIC AND ROAD SAFETY SURVEY

time	cars	comm	HGV	total
0700-0800	152	28	5	185
0800-0900	414	50	2	466
0900-1000	152	31	0	183
1000-1100	134	27	3	164
1100-1200	103	32	0	135
1200-1300	119	19	2	140
1300-1400	141	14	0	155
1400-1500	139	24	2	165
1500-1600	258	27	0	285
1600-1700	224	29	0	253
1700-1800	336	33	1	370
1800-1900	215	29	0	244
TOTAL	2387	343	15	2745



2.2 Selsley Road Traffic Speed Survey

Traffic speeds were monitored for over 900 vehicles in a single weekday in February 2018 at three points on Selsley Road using a hand-held radar device. The three points were:

- Lower Selsley Road (below the Southfield Road junction)
- Mid Selsley Road (at the Lawns Park junction)
- Upper Selsley Road (above Blacklow Close)

The results of the traffic speed survey for each of the three survey points, and a summary chart showing the totals for all three surveys points, are shown below:

Lower Selsley Road at Southfield Road 30mph							
speed	direction	date: 07/02 time: 13:30-14:30	date: 09/02 time: 11:00-12:00	Direction Total	%	Combined Total	%
<24mph	up	24	35	59	34.1	148	85.5
	down	37	52	89	51.4		
25-30mph	up	8	11	19	11.0	21	12.1
	down	2	0	2	1.2		
31-35mph	up	1	3	4	2.3	4	2.3
	down	0	0	0	0.0		
36-40mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
41-45mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
46-50mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
>51mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
Total		72	101	173			

Mid Selsley Road at Lawns Park 30mph							
speed	direction	date: 07/02 time: 13:30-14:30	date: 09/02 time: 12:00-14:00	Direction Total	%	Combined Total	%
<24mph	up	23	102	125	37.2	253	75.3
	down	40	88	128	38.1		
25-30mph	up	22	7	29	8.6	74	22.0
	down	24	21	45	13.4		
31-35mph	up	2	3	5	1.5	8	2.4
	down	2	1	3	0.9		
36-40mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
41-45mph	up	1	0	1	0.3	1	0.3
	down	0	0	0	0.0		
46-50mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
>51mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
Total		114	222	336			

Upper Selsley Road at Blacklow Close 30mph							
speed	direction	date: 07/02 time: 14:30-15:30	date: 09/02 time: 14:00-16:00	Direction Total	%	Combined Total	%
<24mph	up	7	89	96	23.8	197	48.9
	down	18	83	101	25.1		
25-30mph	up	25	41	66	16.4	149	37.0
	down	35	48	83	20.6		
31-35mph	up	14	6	20	5.0	45	11.2
	down	14	11	25	6.2		
36-40mph	up	3	1	4	1.0	11	2.7
	down	6	1	7	1.7		
41-45mph	up	0	0	0	0.0	1	0.2
	down	1	0	1	0.2		
46-50mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
>51mph	up	0	0	0	0.0	0	0.0
	down	0	0	0	0.0		
Total		123	280	403			

Selsley Road Total								
speed	direction	Junction			Direction Total	%	Combined Total	%
		Blacklow Close	Lawns Park	Southfield Road				
<24mph	up	96	125	59	280	30.7	598	65.6
	down	101	128	89	318	34.9		
25-30mph	up	66	29	19	114	12.5	244	26.8
	down	83	45	2	130	14.3		
31-35mph	up	20	5	4	29	3.2	57	6.3
	down	25	3	0	28	3.1		
36-40mph	up	4	0	0	4	0.4	10	1.1
	down	6	0	0	6	0.7		
41-45mph	up	0	1	0	1	0.1	2	0.2
	down	1	0	0	1	0.1		
46-50mph	up	0	0	0	0	0.0	0	0.0
	down	0	0	0	0	0.0		
>51mph	up	0	0	0	0	0.0	0	0.0
	down	0	0	0	0	0.0		
Total		402	336	173	911			

It can be seen from this survey that:

- many drivers are keeping to below 24mph, many of those respecting the 20mph ‘twenty is plenty’ limit
- the majority of drivers (92.4%) are respecting the mandatory 30 mph speed limit
- a small minority (7.4%, approximately 26 per day based on our traffic flow survey) are exceeding the mandatory speed limit, particularly on upper Selsley Road
- very few drivers (1.3%, approximately 4 per day based on our traffic flow survey) are exceeding the APCO-specified speed threshold of 35mph, above which drivers can be reported to the Police for speeding.

2.3 Selsley Road Pedestrian Survey

A survey of pedestrians accessing the village shop and Post Office was carried out over a number of days. The average number of people accessing the shop per day is 168. This can rise to over 200 on a busy day. Peak flow is between 07:30 and 10:00.

Although a number of people drive to the shop and park their cars directly outside, the majority either walk from within the village, or park their cars further down Selsley Road and walk up to the shop and are therefore crossing Selsley Road at a single point opposite the shop. If 150 people access the shop on foot, this means 300 pedestrian crossings of Selsley Road in a single day at this point.

Woodchester Shop Pedestrian traffic													
time	mon	wed	thu	fri	sat	mon	tue	wed	thu	fri	sat	average	highest
07:30-10:00		70		69	75	60	36	47		37	65	57	75
10:00-12:30	48	42	38	31		40	48	29	40	43	32	39	48
12:30-15:00	32	31	40	44		33	32	31	30	34		34	44
15:00-17:30	35		44	39		35	37	30	28	48		37	48
total	115	143	122	183	75	168	153	137	98	162	97	168	215

A significant number of these are elderly, school children or mothers with young children, particularly at times of peak traffic flow. Cars traveling at 30 mph on this stretch represent a serious hazard to these pedestrians.

2.4 Selsley Road Conclusions

Concerns about speeding, and a possible reduction of the speed limit within the village to 20mph, have been highlighted in the Woodchester Parish Plan in 2005 and 2012. Whilst the Speed Survey suggests that only a very small number of drivers are exceeding the mandatory 30mph speed limit through the village, there is still a clear risk to pedestrians from vehicles travelling at this speed, particularly the large number of both young and elderly people crossing Selsley Road to access the village shop and Post Office.

3. A46

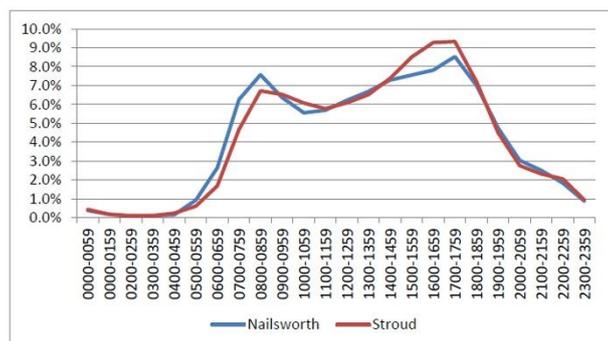
3.1 A46 Traffic Flow Survey

An M500 Traffic Counter was installed on the A46 near the junction with Selsley Road, providing detailed traffic flow data in both directions over a seven day period between 15th and 22nd February 2018. The total traffic volume over the seven-day period was 89,154 vehicles, suggesting that over 4.6 million vehicles pass through our Parish on the A46 each year, with a daily average of 12,736 vehicles. Weekday average traffic flow was 14,972 vehicles per day whilst weekend traffic was significantly reduced to almost half that volume at 7,148 vehicles per day. The mean speed measured during the survey was 42.5mph during weekdays and 45mph at weekends during lower traffic flow.

Peak weekday flow times are:

0700-0800	889 vehicles per hour
0800-0900	1,085 vehicles per hour
1500-1600	1,239 vehicles per hour
1600- 1700	1,357 vehicles per hour
1700-1800	1,357 vehicles per hour

% of Total Vehicle Flow by Time of Day



3.2 A46 Traffic Speed Survey

We have completed 9 hours of speed surveying northbound (one direction only) on the A46, with over 5,500 vehicles speed checked. The survey was carried out between 0700 and 1600 (daylight hours) on a weekday, and the results are summarised below:

Speedwatch: A46 at Sesley Road Junction					
	<40mph	41-45mph	45-50mph	>50mph	total
07:00-08:00	634	24	8	0	666
08:00-09:00	717	19	2	0	738
09:00-10:00	612	21	2	1	636
10:00-11:00	538	21	1	0	560
11:00-12:00	547	23	1	0	571
12:00-13:00	547	2	0	0	549
13:00-14:00	487	2	0	0	489
14:00-15:00	552	14	0	0	566
15:00-16:00	717	17	1	0	735
TOTAL	5351	143	15	1	5510

It can be seen from this data that 97.1% of vehicles are observing the speed limit, 2.6% are traveling between 40 and 45mph, and just 0.3% are exceeding the ACPO threshold speed of 46mph. Only one vehicle was observed exceeding 50mph (51mph). Whilst there are clearly occasional exceptions to this, it would seem from the survey that there is not generally a speeding problem on the A46 during the day.

3.3 Comparison with 2012

In 2012 we carried out limited 5-hour single-direction survey of traffic speed and flow on the A46, in the same northbound direction as the 2018 survey. A comparison of results follows:

Year	Hours	Number of vehicles	Average number per hour	Number exceeding 46mph	%	Number exceeding 50mph	%
2012	4.91	2458	501	65	2.6%	15	0.6%
2018	9	5510	612	15	0.27%	1	0.02%

Although the 2012 sample of 2458 vehicles should be sufficient to provide some statistical significance, it represents a smaller sample than the 2018 survey and caution should thus be exercised before drawing conclusions with high confidence. However, the data suggests an increase in traffic flow of 22.1% between 2012 and 2018. Interestingly, the number of vehicles exceeding the speed limit seems to have dropped dramatically. This may be partly due to the increased traffic volume meaning that 'clumping' of vehicles reduces the opportunity for exceeding the speed limit.

3.4 A46 Survey Conclusions

There has been an increase in traffic volume using this stretch of the A46 over the last 6 years of over 20%. At peak times one vehicle every three now passes any given point on the road, making it extremely difficult for vehicles to join the A46 from feeder roads within the village. This volume of traffic is likely to increase by virtue of the developments planned at Rooksmoor Mills and Bath Road trading estate.

Our surveys show that 97.1% of traffic is observing the current 40mph speed limit during daylight hours and that fewer vehicles are exceeding the speed limit now than 6 years ago, probably because of a combination of increased traffic volume and the recent introduction of speed awareness and enforcement measures on nearby stretches of the A46.

4. Possible 20mph speed limit on Selsley Road - Discussion

Various studies show that the rate of fatalities arising from 'injury accidents' between pedestrians and vehicles falls from between 8% and 20% at 30mph to between 1.5% and 2.5% at 20mph, suggesting that at the very least there is a five-fold reduction in fatalities at the lower speed. 450 20mph zones were introduced in the UK between 1991 and 1999, and as a result of improvements in road safety in these zones, the Road Traffic Act of 1999 suggested that **"speed limits of 20mph are appropriate where average speeds are already low (below 24mph)"**.

The Department of Transport current guideline is set out in DfT Circular 01/2013, which encourages traffic authorities to consider the introduction of 20mph limits "in urban areas and built up village streets that are primary residential to ensure greater safety for cyclists and pedestrians. The guidance sets out that the "purpose of 20mph areas is to create conditions in which drivers naturally drive at around 20mph as a result of traffic calming measures *or the general nature of the location.*"

A Government paper on 'Setting Local Speed Limits (July 2012) states that

- a. **'shop frontages' are an important factor when considering appropriate speed limits.**
- b. **"Traffic authorities can introduce 20 mph zones or limits into lesser residential roads in cities, towns and villages, particularly where this would be reasonable for the road environment, there is community support and streets are being used by pedestrians and cyclists".**
- c. Paragraph 78 of the paper states that **"20 mph zonesshould also be used around shops.....and other areas with high pedestrian or cyclist traffic".**
- d. Signed-only 20 mph speed limits are therefore most appropriate for areas where vehicle speeds are already low. This may, for example, be on roads that are very narrow, through engineering or on-road car parking.
- e. **If the mean speed is already at or below 24 mph on a road, introducing a 20 mph speed limit through signing alone is likely to lead to general compliance with the new speed limit.**

An evaluation of 20mph zones in the UK was carried out by TRL in 1996. It found that injury accidents were reduced by 60% and child injury accidents by 67%. A 2007 review of 20mph zones in London found that they had reduced injury accidents by 42% and fatal or serious injury accidents by 53%.

Several English Authorities have implemented 20mph as the default limit for residential street, including Oxford and Bristol. Although study results vary, it is generally suggested that traffic volumes decrease following implementation of a 20mph limit.

The RoSPA *Road Safety Fact Sheet: 20mph zones and speed limits* states that 20mph speed limits can also improve air quality and reduce noise pollution and RoSPA "strongly supports the use of 20mph zones, which are very effective in protecting our most vulnerable road users, including children, pedestrians and cyclists".

The high pedestrian crossing flow on Selsley Road in the area of the Post Office makes this a high risk area for pedestrians. Data from our speed survey shows that 85% of vehicles on lower Selsley Road are already travelling at below the 24mph speed suggested in the Road Traffic Act as making this area suitable for a speed limit of 20mph.

We believe that a mandatory 20mph speed limit in the area of this very busy crossing point would reduce the risk to pedestrians and make it easier for people to cross the road at this point.

5. Possible extension of 30mph speed limit on A46 through Woodchester - Discussion

Russell Cook, father of Scott, who was killed on the A46 in 2005, wrote to the Parish Council suggesting that the 30mph speed limit on the Rodborough stretch of the A46 is extended south through Woodchester to include the proposed Rooksmoor development and the Woodchester feeder roads. He also suggested that the Parish Council should adopt “positive” speed enforcement similar to that which Rodborough PC has done at sites on the A46, encouraging drivers to obey the speed limits and protect pedestrians.

A Government paper on ‘Setting Local Speed Limits (July 2012) states that “Roads suitable for 40 mph are generally higher-quality suburban roads or those on the outskirts of urban areas where there is little development. They should have good width and layout, parking and waiting restrictions in operation, and buildings set back from the road”. The paper also states that “30mph should be applied in other built-up areas with development on both sides of the road”. It also states that “for the purpose of applying a village speed limit of 30 mph, a definition of a village can be based on the following simple criteria relating to frontage development and distance: 20 or more houses (on one or both sides of the road) and a minimum length of 600 metres”. It is likely that the Woodchester section of the A46 qualifies as a village speed limit and should thus be 30mph already.

An extension of the 30mph speed limit south from its current position through Woodchester Parish may have a number of benefits:

- a. Improve ease of vehicular access to the A46 from village feeder roads
- b. Improve ease of access to the A46 for residents of the new Rooksmoor development
- c. Reduce the likelihood of additional fatalities in the event of a serious pedestrian/vehicle accident
- d. Make it safer for adults and school children crossing the A46 at Selsley Road, Station Road and Frogmarsh to access southbound bus stops
- e. Reduce noise and emission pollution for residents along the A46

If we were successful in getting a reduction of the speed limit to 30mph through the Parish, we should consider the use of an ANPR speed camera on the A46 in Woodchester. Rodborough are able to supply data which shows a 30% reduction in average speed on the 30mph section of the A46 in their Parish since the introduction of their ANPFR camera, and significant success reducing speeds on Minchinhampton Common. The latest Parish to introduce an ANPR camera is Cainscross, and they are suggesting a 40% reduction in speeds on a 30mph road in just two months since the introduction of their camera.

6. Parking at Frogmarsh Mill.

The issue of parking outside Frogmarsh Mill was raised. There are a number of drivers who obstruct the entrance despite polite signage asking drivers to avoid parking in certain places. Inconsiderate parking in North Woodchester around the school at drop-off and pick-up times is also an issue.