



**B4380 Buildwas
Speed Management
Feasibility Report
March 2017**

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Prepared by:



2nd Floor,
Shirehall
Abbey Foregate
Shrewsbury SY2 6ND

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Version	Date	Detail	Prepared By	Checked By	Approved By
Issue	March 2017	Feasibility Report	D Ross	D Davies	PF Williams
					

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1 Introduction

- 1.1 Buildwas village is situated on the B4380 road (between Shrewsbury and Ironbridge) close to its junction with the A4169 Ironbridge Bypass. A location plan is included in Dwg No 1076162-P-004.
- 1.2 The village was recorded as having a population of just over 300 in the 2011 census. Despite the relatively small population there is a village church and a village school, now an academy.
- 1.3 In Shropshire Council's Village Speed Limit Review some years ago the speed limit through the village, as requested by the Parish Council was reduced from 40 mph to 30mph. This was implemented in 2008.
- 1.4 The limit became 30mph over a distance of approximately 330 metres.
- 1.5 A 40mph 'buffer' limit was also introduced approaching the start of the 30mph limit in each direction.
- 1.6 Before the reduction to 30mph from 40mph limit (the previous speed limit) the mean speeds were 42mph and 43mph, the 85th percentile speed not known.
- 1.7 In November 2013 an Automatic Traffic Count (ATC) showed that the 85th percentile speeds were 42 and 43mph. The mean speeds were now 35 and 36mph which indicate an encouraging reduction in speeds since the lower limit was introduced. Despite this concerns have been raised by some local residents that some motorists are still travelling at inappropriate speeds.
- 1.8 Shropshire Council have commissioned Mouchel to recommend measures which may induce a greater compliance of the 30mph limit and also to consider any benefit of the speed limit being returned to 40mph.

2 Site Description

- 2.1 A brief description of the speed limit area now follows from west to east.
- 2.2 The start of speed limit at the western end of the village (40 mph buffer zone) is shown in Photo1.



Photo 1 – Start of 40mph buffer zone. View towards Ironbridge Bypass.
The spire of the village church is visible in the distance.

- 2.3 The carriageway width at these terminal signs is just 5.9 metres and the average width of carriageway from this point to the start of the 30mph limit is 6 metres. Red carriageway mats have been laid at the 30mph terminal areas. The road has a slightly winding nature through the speed limit area. Outside the village school (Photo 2) the carriageway width is 6.4 metres.
- 2.4 Edge lines are generally present where there is no footway. The verge widths are quite wide until the 'Park View' side road/ cul-de-sac near the easternmost limit of the 30mph zone.
- 2.5 There is no street lighting present nor footway/ 'parish' lighting.
- 2.6 A single sided vehicle activated (VAS) sign (facing westbound traffic, heading towards Shrewsbury) is present near the school (Photo 2). When triggered, this illuminates alternating '30' roundel and 'SLOW DOWN' displays. This sign is solar powered.



Photo 2 – Area within 30mph speed limit (view near village school in westbound direction towards Shrewsbury). The village school is the brick building on the right of the photo. Note VAS sign opposite and the presence of frontage development on one side of the B4380 only.



Photo 3 – Easternmost 30mph Gateway area – view in direction of Shrewsbury

- 2.7 The carriageway width in the second (easternmost) 40mph buffer zone, varies. It was measured at 5.7 metres near the start of the zone at its west end. Much of the easternmost 40mph buffer zone features a vehicle restraint barrier on the south side due to the sharp drop in levels towards the river (Photo 4). The carriageway width is 10.25 metres, this includes a right turn lane where the zone commences at its east end (Photo 5).



Photo 4 – Section of easternmost 40mph buffer zone. View in direction of Shrewsbury.



Photo 5 – Start of easternmost 40mph buffer zone. View in direction of Shrewsbury.

- 2.8 A plan showing the existing signage present through the speed limit areas is included in Dwg No 1076162-P-100.

3 Site Observations

- 3.1 This village does not have typical layout as it lies to the north of the B4380 rather than on both sides, see location plan Dwg No 1076162-P-004. The south side of the B4380 is therefore almost entirely lacking in frontage development. This means that the urban 'feel' required for a robustly self-enforcing 30mph speed limit is missing.
- 3.2 Traffic Advisory Leaflet (TAL) 01/04 (DfT 2004) suggests that 'reasonable minimum criteria for the definition of what constitutes a village, for the purpose of applying a village speed limit of 30mph, would be that there were :
- 20 or more houses (on one or both sides of the road); and
 - A minimum length of 600 metres.
- 3.3 Neither criteria is met at Buildwas, there being less than ten houses fronting the 30 mph zone and the length of the zone being only 330 metres. However it may be that 'extra allowance' was made for the presence of the school and village hall when the decision to implement a 30mph limit was made.
- 3.4 The short 30mph zone only requires one 30mph repeater site between the terminal signs to comply with the spacing guidance outlined in Traffic Signs Manual Chapter 3. This is satisfied with a double faced repeater sign opposite the school, however existing signs which could be used to mount further repeater signfaces have not been used for this purpose (eg.warning signs in Photo 4 for 40 mph repeaters).
- 3.5 As the general carriageway width over most of the speed limit areas is approximately 6 metres or less there would appear to be little or no scope for introducing centre hatching to change the appearance of the road.
- 3.6 Reference to Dwg No 1076162-P-100 will show that there are no 40mph repeaters present in the easternmost 40mph buffer despite this extending over 0.4 km (400 metres).
- 3.7 Compliance with the spacing guidance outlined in Traffic Signs Manual Chapter 3 requires the first 40 mph repeater sign to be sited no more than 250 metres from the terminal signs albeit the 2016 Traffic Signs Regulations and General Directions (TSRGD) is less prescriptive and allows the spacing to be determined as appropriate by the Highway Authority.
- 3.8 Reference to Google Streetview (Photo 7) shows that in 2011 there was a repeater sign present approximately 220 metres from the terminal signs which would have complied with the guidance. In January 2017 (Photo 8) this did not appear to be present.
- 3.9 The absence of the repeater sign may have a marginal effect on increasing the westbound entry speeds to the 30mph zone although the carriageway roundels are still present.



Photo 7 – 40mph repeater sign present on the right in easternmost 40mph buffer zone (June 2011).



Photo 8 – Same location Jan 2017.

- 3.10 The existing easternmost 40mph terminal signs are not clearly visible as they are positioned under overhanging canopy of trees (Photo 9), this may impact on the lack of speed reduction after leaving the Ironbridge bypass.



Photo 9 – Easternmost 40mph terminal signs under overhanging tree canopy.

4 Personal Injury Collision and Speed Data

- 4.1 Personal Injury Collision (PIC) data was sourced from Shropshire Council for the length of the B4380 subject to the 30 and 40mph speed limits.
- 4.2 Two PIC's were recorded in the last 5 years from 05-12-2011 to 05-12-2016. Both occurred in 2014, both were head-on collisions and both resulted in slight injuries.
- 4.3 The first occurred in summer on the easternmost 40mph buffer zone. It would appear that a 68 year old female driver heading for the Ironbridge Bypass for some reason lost her line and collided with an oncoming car heading for Shrewsbury being driven by a 29 year old male. The younger driver attempted to take evasive action but could not avoid a collision.
- 4.4 The second occurred in winter (December) in the 30mph zone and was of note in that it occurred outside the school. However it was in the dark outside of school hours (time of collision approx. 6pm). This time it was the car heading towards Shrewsbury which appears to have been on the wrong side of the road and it collided with a car travelling in the opposite direction. The Shrewsbury bound car driver stated that he swerved to avoid an animal in the road.
- 4.5 Speed data from Automatic Traffic Counts (ATC's) past and recent is summarised in the table below.

ATC Speed readings on B4380 adjacent to Buildwas School
(current speed limit 30mph)

	Eastbound Towards A4169 Ironbridge Bypass			Westbound Towards Shrewsbury		
	2007*	2013	2017	2007*	2013	2017
Mean	42mph	36mph	36mph	43mph	35mph	32.5mph
85th percentile	Not known	43mph	42.5mph	Not known	42mph	38mph

Notes

* recorded before introduction of 30mph limit, ie. 40mph speed limit in force

- 4.6 The 2013 and 2017 ATC data indicates the traffic flow on the road to be approximately 3,000 vehicles per day (two way).

5 Conclusions and Recommendations

Conclusions

- 5.1 It can be concluded that the 30mph speed limit introduced at Buildwas was not completely in keeping with the character of the road. Lack of frontage development on one side of the road means that the 40mph limit previously in force was a more appropriate speed limit for the character of the highway. However the 30mph speed limit does appear reasonable with the presence of the school and village hall.
- 5.2 It is notable from the speed data received that the westbound speeds (towards Shrewsbury) are approximately 4mph lower than the eastbound side. It is assumed that this may at least in part be due to the existing single sided Vehicle Activated Sign (VAS) which appears to be having a positive influence on vehicle speeds in the westbound direction.
- 5.3 The Personal Injury Collision (PIC) record over the 0.9 km of the B4380 subject to the 30mph/40mph speed limits has reduced in recent times.
- 5.4 An earlier search showed 3 PIC's in 5 years including one serious. The latest 5 year record (2011 to 2016 inclusive) shows only 2 PIC's recorded, both slight. The PIC record has therefore reduced.
- 5.5 A choice has therefore to be made between :
 - a. persisting with the short section of 30mph limit and introducing more measures to increase compliance with the speed limit.
 - b. reverting to a 40mph limit for the entire 0.9km.

Recommendations

- 5.6 If the 30mph limit is to remain an enhancement of the signing is possible by providing additional 30mph repeaters mounted on existing warning signs.
- 5.7 The opportunity should also be taken to replace the missing 40mph repeater in the easternmost buffer zone to ensure compliance with TSM Chapter 3 guidance.
- 5.8 The existing Vehicle Activated Sign (VAS) could be changed to a back to back updated '30/ Slow Down' speed display as indicated below, to address eastbound speeds as well as the existing westbound.



- 5.9 The verge width available on the western 30mph Speed Limit Gateway is sufficient for Glason 'Gateway' panels or similar to be sited on both sides of the carriageway.

The provision of these would harmonise with those being considered for Leighton, a village on the same route approximately 1.5 miles to the west and at the nearby village of Eaton Constantine. See photo 10 below.



Photo 10 – Possible gateway treatment at western entry to 30mph speed limit area

- 5.10 The relocation of the easternmost 40mph terminal signs of approximately 30m towards the Ironbridge bypass will enable them to be seen more clearly by drivers.
- 5.11 Also a Glason 'Gateway' panel or similar incorporating the village name could be positioned near the relocated terminal signing, on one side of the carriageway only, to alert drivers entering the village (Photo 11).



Photo 11 – Relocation of terminal signs and Gateway panel incorporating village name.

- 5.12 The option to revert back to a 40mph speed limit throughout, would enable the Police to undertake some enforcement if required and detect and fine the most excessively speeding drivers, however, this option is likely to result in higher vehicle speeds and as such prove unpopular with local residents.
- 5.13 It is therefore, recommended that retaining the 30mph speed limit with enhancements is taken forward, the estimated costs for this is in the region of £10,000.

