

Report to	Scrutiny Committee for Economy, Transport and Environment
Date	23 November 2011
Report By	Director of Economy, Transport and Environment
Title of Report	Review of the Rural Speed Limit Review
Purpose of Report	To review the impacts of the rural speed limit review and to seek the views of Members about the County Council's approach to speed limit reviews in the future.

RECOMMENDATION: To consider the outcomes of the rural speed limit review and seek the views of Members about the County Council's approach to speed limit reviews in the future.

1. Financial Appraisal

1.1 To date the County Councils speed limit review programme has been funded from a specific allocation in the County Council's capital programme. The investment levels for the County Council's capital programme are determined through the Reconciling Policy, Performance and Resources (RPPR) process in accordance with relative priorities for investment across all Council services. The current speed limit review programme is due to be completed in 2012/13 and any funding for a continuation of the speed limit review programme beyond this date will have to be considered as part of this ongoing RPPR process. Any funding secured as part of the County Council's capital programme will be augmented with external contributions secured from new development as well as contributions received from other organisations towards the cost of specific improvements.

2. Background

2.1 On 22 March 2011 the Director of Transport and Environment presented a report to the Lead Member for Transport and Environment setting out progress to date on the review of rural speed limits and seeking approval for a future programme of speed limit reductions. In agreeing the report the Lead Member requested that a report be presented to the Economy, Transport and Environment Scrutiny Committee, which initiated the original Review of Rural Speed Limits, to assess its effectiveness, as measured by any change in the Killed and Seriously Injured (KSI) figures since 2008/2009 in those villages or on those routes where speed limits had been introduced.

3. Comments/Appraisal

3.1 An analysis of before and after speed data collected at a sample of the sites where speed limit reductions have taken place shows that average speeds have gone down at the majority of sites. Reductions have taken place at all of the sites where engineering measures have been introduced in support of the reduced limit.

3.2 Although the speed limit reductions were not introduced solely as a casualty reduction measure, analysis of before and after accident data collected at a sample of sites reveals that overall accident levels have decreased across the sites where speed limit reductions have taken place. Again, the reduction has been more marked at sites where engineering measures have been introduced, although the accident rate at these sites was higher before the introduction of the reduced limit. The analysis is set out in full in table 6 and 7 of Appendix 1 but, in summary, total accidents have reduced from 58 to 23 and KSIs from 14 to 5.

3.3 The implementation of the reduced limits at the majority of sites has gone very well, particularly where these have involved only the introduction of new road signs and lines. Issues have arisen with the introduction of reduced limits in some of the villages where there have

been concerns about the extent of the proposed limit and/or the introduction or positioning of engineering measures (to help control vehicle speed) needed to ensure that a lower speed limit is self enforcing.

3.4 The current speed limit review programme is due to be completed by the end of 2012/13. A decision needs to be taken as to how the requests from local communities should be dealt with in the future. A more community led approach to speed limit reduction may provide a way forward.

3.5 A number of key lessons have been learned to date which will need to be incorporated in any future speed limit review work. These include the need for improved communications about the approach to speed limit reduction, the need to engender a greater sense of ownership of speed management issues amongst the local community, the need to increase the level of community engagement early in the scheme development process and the need to consider a more 'minimal engineering approach' in instances where speed reducing features are required.

3.6 A review of the approach adopted by the County Council to its rural speed limit review is presented in Appendix 1. The results of an analysis of the impact of the review on average speed and accidents at the sites where speed limit reductions have been introduced are also set out in this Appendix. The review has been strongly influenced by the recommendations of the 2005 Scrutiny Review Board on setting rural speed limits, and the 2006 Government guidance on setting local speed limits

4. Conclusion and Reason for Recommendation

4.1 The review of rural speed limits in East Sussex has followed the approach set out in the Government guidance and has taken account of the findings and recommendations of the Scrutiny board review of rural speed limits. All of the limits on the County's rural A and B roads have been reviewed and those villages where the introduction of a 30mph limit would be appropriate, based on the County Councils speed limit policy, have been identified. The implementation of the speed limit reductions identified as a result of the review is still ongoing and is due to be completed by the end of March 2013.

4.2 Whilst the speed limit reductions were not specifically introduced as a casualty reduction measure, the results of before and after analysis of accident data collected at a sample of sites reveals that overall accident levels have decreased across the sites where speed limits have been introduced although the accident reductions cannot be attributed to the reduced speed limits alone, given the-ongoing downward trend in accident rates across the County.

RUPERT CLUBB

Director of Economy, Transport and Environment

Contact Officers: Mark Valleley
Brian Banks

Tel. No. 01273 482237

Tel. No. 01424 724558

Local Member: All Members

Appendix 1. Review of the County Council's Approach to the Rural Speed Limit Review

1. Introduction

1.1 The purpose of this Appendix is to review the approach adopted by the County Council to its rural speed limit review and to present the results of an analysis of the impact of the review on average speed and accidents. The Government guidance relating to the setting of rural speed limits and the findings and recommendations of the Scrutiny Review Board on setting rural speed limits in East Sussex are reviewed first, as these have influenced the way in which the review has been undertaken.

2. Government Guidance on setting local Speed Limits

2.1 In 2006 The Department for Transport published Circular 01/2006 "Setting Local Speed Limits". This guidance, which is still current aims to provide a national framework for future assessments of local speed limits to ensure that they are rational, consistent, readily understood and appropriate for local circumstances. The guidance contained a request for traffic authorities to review the limits on all of their A and B roads and make any necessary changes in accordance with the new guidance by 2011.

2.2 A number of key principles are set out in the 2006 guidance including the following:

- speed limits should be evidence led, self explaining and seek to reinforce people's assessment of what is a safe speed to travel;
- speed limits are only one element of speed management and should be part of a package of measures which includes landscaping and engineering standards to raise drivers awareness of their environment together with education, driver information, training and publicity;
- It is important that traffic authorities and police forces work closely together in determining or considering any changes to speed limits;
- alternative speed management options such as engineering measures should be carefully considered before a new speed limit is introduced;
- what the road looks like to road users should be a key factor in setting a speed limit as drivers are likely to expect and respect lower limits where they can see potential hazards, for examples outside schools or in residential areas;
- the factors which should be taken into account when setting a speed limit are:
 - road function (strategic, through traffic, local access)
 - road geometry (width, sightlines, bends, junctions and accesses)
 - road environment (rural, residential, school)
 - level of adjacent development
 - traffic composition (levels of pedestrian, cycle and equestrian usage);
- means speeds should be the basis for setting speed limits as they reflect what the majority of drivers perceive as an appropriate speed to be driven for the road;
- Speed limits should not be used to solve the problems of isolated hazards such as a bend as they are difficult to enforce over short distances;
- Speed can be a major factor in the severance of local communities but the implementation of speed limit and speed management measures could require a costly and environmentally sensitive increase in the number of signs and engineering features. Traffic authorities should seek to ensure that a sensible balance is achieved;
- It is government policy that where appropriate, a 30mph speed limit should be the norm in villages;
- For the purpose of applying a 30mph limit a definition of what constitutes a village should be used to ensure that there is an adequate visual message to drives to reduce their speed;
- Traffic authorities are encouraged to adopt a two tier approach to speed limit setting in rural areas with higher speed limits on higher quality strategic roads and lower speed limits on roads passing through a villages or having a local access or recreational

function.

In summary the new guidance set out the way in which all local speed limits on single and dual carriageway roads should be set in both urban and rural areas.

3 Scrutiny Review of setting local speed limits in rural East Sussex

3.1 In 2004 the Transport and Environment Scrutiny Committee established a scrutiny review board to examine the County Council's approach to setting rural speed limits. Although this predated the publishing of the 2006 Government Guidance, the guidance was at consultation draft stage at the time of the review and therefore the review board were able to take account of it in their review.

3.2 The review board reported to the Scrutiny Committee for Transport and Environment in March 2005. Their report set out a number of findings and made a number of recommendations including the following:

- there are too few police resource to provide effective and continuous resources at all locations where speed limits are being ignored;
- evidence from Oxfordshire and elsewhere indicates that lowering the speed limits alone will not necessarily reduce vehicle speeds very much and inappropriate limits make drivers less willing to comply with limits generally;
- reduced speed limits must be accompanied by speed reduction methods if the mean speeds being driven indicate that are necessary to ensure the new limit is observed;
- the development criteria for speed limits should be clear and be defined;
- mean speeds should be used by East Sussex in preference to 85th percentile speeds in determining local speed limits.;
- In responding to the Scrutiny review Sussex Police maintained that they have too few resources to provide effective continuous enforcement for all the locations where speed limits are being ignored. They stated that *"Police enforcement is one tactic in the range of measures available but we will continue to target our resource priorities at sites where there can be a positive effect on casualty reduction, together with other priorities listed in the local policing plan. Enforcement cannot be an alternative to an appropriate permanent engineering measure."*
- some Parishes were concerned about the length of time taken to progress requests for speed limit reductions;
- there is significant scope to improve transparency of the process of assessing which schemes will be implemented and which will not;
- the complete list of requests for speed reduction measures should be published and regularly updated to show in some detail how the criteria have been applied together with the resulting priority order.

4. The County Councils approach to rural speed limit setting

4.1 Following the Scrutiny review and the issuing of the new Government guidance on the setting of speed limits, the County Council commenced work on revising its speed limit policy to reflect the new definition for a village and take account of the speed assessment framework for rural roads set out in the guidance. An issues paper was forwarded to all district and parish councils and County Council members in December 2006. This was accompanied by a questionnaire about the County Councils approach to local speed limit setting.

4.2 Following this consultation the new guidance, a revised policy (PS4/2) for setting speed limits, was approved by the Lead Member for Transport and Environment in 2007. In approving the new policy, the County Council committed itself to reviewing every settlement in East Sussex having a speed limit of 40mph or greater and seeing whether it met the new definition for a village (i.e. 20 or more properties served by private accesses adjoining the main road, located over a distance of not less than 600 metres and clearly visible to drivers). In addition the new Government Guidance required all highway authorities to review the speed limits on all their A and B Roads and implement any changes considered necessary by that date.

Village speed limit review

4.3 A total of 448 settlements were identified for village speed limits reviews. Those settlements in urban areas and those already having 30mph limits were excluded from the list and the remaining 266 placed in priority order for assessment based on the latest 3 year casualty record. The casualty record (2004 to 2006 inclusive) showed that 149 settlements had recorded at least one crash in the 3 year period whilst the remaining 117 settlements had recorded none. All the settlements with a crash record were assessed against the new definition for a village.

4.4 In order to be considered for a 30mph speed limit, a village had to meet the following criteria:

1. twenty or more properties served by private accesses which adjoin the main road (on one or both sides of the road), located over a length of not less than 600 metres, and clearly visible to drivers;
2. the distance over which the limit is to be applied is at least 600 metres, in accordance with Department for Transport guidelines;
3. the environment should give a clear indication to drivers of the need to reduce speed.

4.5 The settlements were assessed by carrying out a map-based assessment to confirm whether they have the required number of properties within the minimum distance. For those meeting these criteria, a site visit was then carried out to determine the visibility of the properties, ensuring that there were 20 properties clearly visible to drivers.

4.6 The assessment identified 38 settlements across the county meeting the new criteria for a village, and where the current speed limit was 40mph or more. Speed surveys were undertaken to identify the mean speeds to establish the level of engineering measures that would be required to reduce vehicle speeds to an appropriate level. The villages were placed into the following three categories based on the mean speeds recorded:

- mean speed of 32 mph or less - the limit can be introduced by means of signs alone. The means speed recorded in Hankham meant that the new limit was introduced in this way
- mean speed greater than 32 mph but less than 35 mph – minor remedial engineering works may be required.
- mean speed of 35 mph or greater – more intensive measures required appropriate to the function of the road to bring speeds down to required level. Traffic calming measures including a mini roundabout and centre island were introduced in Ninfield in support of the new 30mph limit.

4.7 Once a scheme proposal had been developed Sussex Police were consulted to ensure that they supported the lower limit. A key priority for the Police is to ensure that any new limits were introduced in a way which meant that were self enforcing and would not place any additional enforcement requirement on them.

4.8 A priority programme based on the number of KSIs in the 18 rural divisions was then developed. An indicative capital allocation of £400,000 p.a. was identified in the County Council's capital programme to take both the village and A and B road speed limit reviews forward in the four years between 2008/9 and 2011/12.

4.9 The implementation programme for the village speed limit reviews is shown in Table 1. To date 30mph speed limits have been introduced in 26 settlements across the County and there are twelve more villages where reduced speed limits are to be introduced in 2011/12 and

2012/13. Originally the intention was to have the village speed limit programme completed by the end of 2011/12. As a direct result of the in-year cuts announced by the Coalition Government in June 2010, some of the planned speed limit reductions on both the A and B Roads and in the villages had to be put on hold and this work has had to be re-programmed for future years. In addition issues have arisen with the introduction of reduced limits in some of the villages where there have been concerns about the extent of the proposed limit and/or the introduction or positioning of the speed controlling features that would be needed to ensure that a lower speed limit is respected and observed. As a consequence, the completion date for both the village speed limit and review of rural A and B class roads has had to be extended until March 2013.

Table 1 - Village Speed Limit Implementation Programme

Financial Year	Settlement
2008-2009 (Complete)	Upper Dicker Berwick Station Chelwood Gate Danehill Ninfield Potmans Lane/Lunsford Cross Hooe Common Hankham Town Row Stone Cross/Wadhurst North Chailey
2009-2010 (Complete)	Upper Hartfield Priory Road/Forest Row Corsley Road/Groombridge (Extension) Halland Hadlow Down Boreham Street Bodle Street Green Netherfield Offham Cooksbridge Maynards Green Five Ashes Cripps Corner Staplecross
2010-2011 (complete)	Broad Oak, Heathfield
2011-2012	Wivelsfield Green (Phase 1) Broad Oak, Brede Cackle Street, Brede Blackboys Chalvington Gilberts Drive, East Dean Ewhurst Green (Extension)

Financial Year	Settlement
2012-2013	Punnetts Town Wivelsfield (Phase 2) Beckley and Four Oaks Iden Iford Stone Cross/Pevensy

The Review of A and B Class Roads

4.10 To carry out the review in each of the A and B class roads the County was divided up into a number of sections, typically between 600 metres and 1 kilometre in length, based upon their character, frontage development, major junctions, and existing speed limits. The crash rate was then obtained for each section and those sites with a crash rate exceeding the threshold of 35 Personal Injury Accidents per 100 million vehicle kilometres were identified and reviewed with Sussex Police to determine whether the introduction of a lower limit would be appropriate.

4.11 The A and B Roads were prioritised for implementation in the same way as the villages based on an assessment of the number of KSIs that had taken place. The implementation programme for the speed limit reductions on rural A and B class roads is shown in Table 2. To date the speed limit reductions have taken place on eleven rural A class roads and six rural B class roads. In addition, the existing 60mph national speed limit on the A265 between Broad Oak and Heathfield has also been reduced to 40mph as part of the 30mph speed limit scheme for Broad Oak, Heathfield implemented in 2011/12. As part of the current year's programme speed limit reductions are being introduced on seven sections of rural A and B class roads and a further six due to be implemented in 2012/13. Assessments of the need for speed limit reductions on A and B roads are still to take place in 4 electoral divisions (Rye and Eastern Rother, Newhaven and Ouse Valley West, Pevensy and Westham and Rother North West). These assessments will be completed in 2011/12 with a view to implementing any reduced limits by the end of the 2012/13.

Table 2. Rural A & B Class Road Review – Roads Identified for a Reduction in Speed Limit

Financial Year	Road Number	Description
2008-2009 (Complete)	A264	50mph speed limit at Hammerwood
	A26	50mph speed limit at Heron's Ghyll
		50mph speed limit from A22 to Kiln Lane, Isfield
	A272	40mph speed limit at Piltdown and 50mph speed limit between Piltdown and A22.
	A275	40mph speed limit for Sheffield Park

Financial Year	Road Number	Description
	B2095	40mph speed limit between Lower Street and Hooe Common
2009-2010 (Complete)	A272	50mph speed limit between Hadlow Down 40mph and Beech Villas
	A271	40mph speed limit between Boreham Street and Wartling Road (C17)
	A267	50mph speed limit between roundabout at Mayfield and Five Ashes
	A2100	Extend 40mph speed limit at Starrs Green and Telham to The Mount
	A267	40mph speed limit between Sheepsetting Lane and Horam
	A28	40mph speed limit between Newenden Bridge and Northiam
	B2104	40mph speed limit between Hailsham and Shepham Lane
2009-2010 (Cont)	B2095	40mph speed limit between Lower Street and Hooe Common
	B2204	40mph speed limit for Catsfield Stream
	B2089	40mph speed limit at Swailes Green
	B2192	Extended 40mph speed limit at Ringmer
	C15	40mph speed limit at Carters Corner
	C293	40mph speed limit at Whatlington
	C96	40mph speed limit on Netherfield Road

Financial Year	Road Number	Description
	C14	20mph speed limit at Mayfield High Street
2010-2011 (In progress)	A265	40mph speed limit between existing Heathfield 40mph and proposed Broad Oak 30mph
	B2244	50mph speed limit between Sedlescombe and Beech Farm House
	B2099	Extend 40mph speed limit at Wadhurst to a point just beyond the railway bridge
2011-2012	A275	Extend existing 40mph speed limit in South Chailey northwards to include South Street
	A259	Extend existing 40mph in Eastdean to the west to a point just beyond the junction with Jevington Road
	A2270	Reduce existing 40mph speed limit on Willingdon Road, Eastbourne to 30mph
	B2110	40mph speed limit at Withyham
	B2099	40mph speed limit at Wallcrouch
	2011-2012 Cont.	C92
UC7061		40mph speed limit on Deanland Road
	B2096	Reduce 50mph speed limit to 40mph in Three Cups Corner between the Three Cups Public House and Punnetts Town
	A265	Reduce existing 50mph speed limit at Burwash Common in part to 40mph and extend the extent of the existing 50mph speed limits

2012-2013	A272	50mph Speed Limit between North Chailey and Scaynes Hill
	A275	40mph speed limit between North Chailey and Banks Road
	A22	Reduce existing 50mph speed limit to 40mph between the Boship Roundabout and a point just west of Hackhurst Lane
	B2100	40mph speed limit between Palesgate Lane and Jarvis Brook 30mph speed limit
	Other rural A & B class roads	Rye and Eastern Rother, Newhaven and Ouse Valley West, Pevensey and Westham and Rother North West Electoral Division

5. Results of the review of village and A and B road speed limit review.

Impact on vehicle speeds

5.1 Speed data was collected at the majority of sites identified for speed limit reductions and after data has been collected at some of the sites that have been completed to date. A comparison of this before and after data collected at the village sites is presented in Tables 3 and 4. Table 3 shows the before and after data for the sites that were introduced by signs and lines alone and Table 4 shows the data for the sites where engineering measures were introduced in support of the reduced limit.

Table 3. Comparison of before and after average speeds recorded at village sites where only signs and lines were introduced

Village	Speed Limit		Average Speed Before (mph)	Average Speed After (mph)	Change in Average Speed (mph)	Change in Average Speed %
	Before (mph)	After (mph)				
Cripps Corner	40	30	35.7	32.2	-3.6	-9.9%
Danehill	40	30	38.7	39.2	0.5	1.3%
Hadlow Down	40	30	33.5	33.6	0.1	0.3%
Halland (Phase 1)	40	30	37.4	36.6	0.8	-2.1%
Hooe Common	40	30	38.6	35.3	-3.3	-8.4%
Offham	40	30	34.0	33.3	-0.7	-1.9%
Town Row	40	30	33.5	40.2	6.7	20.0%
Upper Dicker	40	30	30.1	28.4	-1.7	-5.6%

Table 4. Comparison of before and after average speeds recorded at village sites where engineering measures were introduced

Village	Speed Limit		Average Speed Before (mph)	Average Speed After (mph)	Change in Average Speed (mph)	Change in Average Speed %
	Before (mph)	After (mph)				
Berwick Station	40	30	39.2	29.0	-10.2	-26.0%
Boreham Street	40	30	40.6	35.1	-5.5	-13.6%
Cooksbridge	40	30	35.9	32.1	-3.8	-10.6%
Five Ashes	40	30	35.8	31.5	-4.3	-12.0%
Halland (Phase 2)	40	30	37.4	32.4	-5.0	-13.4%
Maynards Green	40	30	35.1	32.0	-3.1	-8.8%
Ninfield	40	30	36.4	31.8	-4.7	-12.8%
North Chailey	40	30	39.2	36.4	-2.8	-7.2%

5.2 The figures shown in Tables 3 and 4 indicate that the use of engineering measures is more effective in achieving speed reductions. Reductions have been recorded at all of the sites where engineering measure have been introduced, whereas reductions were recorded at five of the eight sites where only signs and lines were introduced with very slight increases at a further two sites.

5.3 The increase in the average speed recorded at Town Row reflects the fact that the 40mph speed limit repeater signs had to be removed in order to introduce the 30mph limit. However, these could not be replaced with 30mph repeaters as national regulations dictate that these cannot be used if there is a system of street lighting in place. Clearly the absence of the signs has had an adverse impact in this case. The national regulations governing the use of 30mph repeaters in street lit areas have been the subject of national debate. If the existing regulations were to be changed to allow their use it would mean that they would have to be introduced in all existing street lit areas to ensure a consistent and enforceable approach. However, this change would come at a considerable cost to the highway authorities across the country and would be contrary to the Government's current initiative aimed at reducing sign clutter.

Table 5 shows the before and after speed data for a sample of the A and B roads. Reductions in average speed were recorded at all of the A and B road sites apart from the C7. The average speed on the C7 before the introduction of the reduced speed limit was 41mph. However given the character and appearance of the road it was not felt that a 40mph limit would be appropriate. As a consequence a 50mph was introduced but it appears it has become a 'target' speed for drivers using the route. Recent changes to the traffic flow level on the C7 following the introduction of the Beddingham improvement may also have had an impact on average speeds.

Table 5. Comparison of before and after average speeds recorded at a sample of the A and B Road speed reduction sites.

Village	Speed Limit		Type of measures	Avrge. Speed Before (mph)	Avrge. Speed After (mph)	Change in Avrge. Speed (mph)	Change in Avrge. Speed %
	Before (mph)	After (mph)					
B2204 Catsfield Stream	50	40	Engineering	43.1	39.3	-3.9	-8.9%
A26 Herons Ghyll	60	50	Signs and Lines	43.4	39.7	-3.6	-8.4%
B2089 Swailes Green	60	40	Signs and	42.2	32.5	-9.7	-22.9%

			Lines				
A264 Hammerwood	60	50	Signs and Lines	43.2	41.5	-1.7	-3.8%
A28 Newenden Bridge	60	40	Signs and Lines	36.9	35.5	-1.4	-3.8%
A272 Piltdown to Maresfield	60	50	Signs and Lines	45.3	33.8	-11.5	-25.3%
C7 Kingston to Newhaven	60	50	Signs and Lines	41.5	48.1	6.6	15.8%

Impact of accidents and KSIs

5.4 Before and after studies were carried out to establish the effect of the reduced speed limits on the accident record. Since the majority of sites do not have three full years of after data, accident savings have been calculated on a 'per annum' basis, using sites which have a minimum of 12 months after data.

5.5 A comparison of the accident data before and after the introduction of the reduced speed limits is presented in Table 6 for the sites where only signs and lines were introduced and in Table 7 for sites where engineering measures were introduced. Across all villages, the number of accidents per annum reduced by 45%, and the number of KSI casualties per annum reduced by 53%. As shown in Table 6, at those sites where the speed limits were introduced by means of signs and lines alone only a minimal reduction in the accident record was achieved. As shown in Table 6 the crash record at most of the sites was already very good, with only one KSI casualty recorded across the 15 sites in the three years prior to implementation. As a consequence there was limited scope for accident reduction at these sites and the purpose of the reduced speed limit was merely to ensure the posted speed limit was consistent with existing driver behaviour.

5.6 As shown in Table 7 there was a far greater potential for accident reduction at the sites where engineering measures were introduced in support of the reduced speed limit with 14 accidents 'per annum' occurring across the 11 identified sites. As shown in Table 7 both the number of accidents 'per annum', and the number of KSI casualties 'per annum', decreased by approximately half at the sites where supporting engineering measures were introduced.

5.7 Statistical tests were carried out to establish whether these accident reductions were a direct result of the reduced speed limits or merely a result of the ongoing downward trend across the County. The results of a Tanner k-test comparing the magnitude of the accident reduction at the treated sites with the corresponding reduction across the wider County, indicated that:

- thirteen of the 26 sites (50%) achieved a reduction that was greater than the corresponding reduction across the County.
- nine sites (35%) experienced no change relative to County-wide reductions, whereas
- four sites (15%) experienced an increase relative to the Countywide reduction, although it is worth noting that these 'increases' were influenced by the use of shorter 'after' periods.

Table 6. Before and after comparison accident data at sites where signs and lines introduced

Site name	BEFORE IMPLEMENTATION					AFTER IMPLEMENTATION					Change in Accidents
	No. of Months	Total Accidents	Accidents p.a.	Total KSI	KSI p.a.	No. of Months	Total Accidents	Accidents p.a.	Total KSI	KSI p.a.	
Bodle Street Green	36	0	0.0	0	0.0	16	0	0.0	0	0.0	0.0
Chelwood Gate	36	0	0.0	0	0.0	29	0	0.0	0	0.0	0.0
Corseley Road, Groombridge	36	0	0.0	0	0.0	28	0	0.0	0	0.0	0.0
Cripps Corner	36	3	1.0	0	0.0	16	0	0.0	0	0.0	-1.0
Danehill	36	1	0.3	0	0.0	29	1	0.4	0	0.0	0.1
Hadlow Down	36	7	2.3	1	0.3	28	4	1.7	0	0.0	-0.6
Hankham	36	2	0.7	0	0.0	36	0	0.0	0	0.0	-0.7
Hooe Common	36	1	0.3	0	0.0	28	1	0.4	0	0.0	0.1
Potmans Lane, Lunsford Cross	36	0	0.0	0	0.0	36	0	0.0	0	0.0	0.0
Priory Rd, Forest Row	36	0	0.0	0	0.0	27	0	0.0	0	0.0	0.0
Rushlake Green	36	1	0.3	0	0.0	30	1	0.4	0	0.0	0.1
Staplecross	36	1	0.3	0	0.0	16	0	0.0	0	0.0	-0.3
Stone Cross, Wadhurst	36	0	0.0	0	0.0	36	0	0.0	0	0.0	0.0
Town Row	36	0	0.0	0	0.0	28	1	0.4	0	0.0	0.4
Upper Hartfield	36	1	0.3	0	0.0	24	0	0.0	0	0.0	-0.3
<i>Totals (per annum)</i>		<i>17</i>	<i>5.7</i>	<i>1</i>	<i>0.3</i>		<i>8</i>	<i>3.4</i>	<i>0</i>	<i>0.0</i>	<i>-2.3</i>

Table 7. Before and after comparison of accident date at sites where engineering measures were introduced

Site name	BEFORE IMPLEMENTATION					AFTER IMPLEMENTATION					Change in Accidents
	No. of Months	Total Accidents	Accidents p.a.	Total KSI	KSI p.a.	No. of Months	Total Accidents	Accidents p.a.	Total KSI	KSI p.a.	
Berwick Station	36	0	0.0	0	0.0	29	2	0.8	0	0.0	0.8
Boreham Street	36	3	1.0	0	0.0	17	1	0.7	0	0.0	-0.3
Cooksbridge	36	4	1.3	2	0.7	19	0	0.0	0	0.0	-1.3
Five Ashes	36	3	1.0	1	0.3	16	2	1.5	0	0.0	0.5
Halland	36	9	3.0	4	1.3	22	4	2.2	2	1.1	-0.8
Maynards Green	36	3	1.0	1	0.3	16	0	0.0	0	0.0	-1.0
Netherfield	36	0	0.0	0	0.0	15	0	0.0	0	0.0	0.0
Ninfield	36	5	1.7	0	0.0	36	2	0.7	2	0.7	-1.0
North Chailey	36	5	1.7	1	0.3	36	3	1.0	0	0.0	-0.7
Offham	36	5	1.7	1	0.3	21	0	0.0	0	0.0	-1.7
Upper Dicker	36	4	1.3	3	1.0	28	1	0.4	1	0.4	-0.9
<i>Totals (per annum)</i>		<i>41</i>	<i>13.7</i>	<i>13</i>	<i>4.3</i>		<i>15</i>	<i>7.3</i>	<i>5</i>	<i>2.2</i>	<i>-6.4</i>

5.8 Further statistical tests were unable to confirm that the reductions were not due to random fluctuation. Therefore the accident reductions cannot be attributed directly to the reduced speed limits alone, as the accident reductions may have occurred as part of the on-going downward trend across the County.

5.9 An analysis of the reductions in accidents that have occurred on A and B roads where reduced limits were introduced is presented in Table 8. Overall there has been a 26% reduction in the number of crashes 'per annum' however, the number of KSI casualties 'per annum' has actually increased. This is because in a couple of instances large numbers of KSI casualties were recorded within single collisions. The remaining sites all experienced reductions in the number of KSI casualties per annum.

5.10 The results of a Tanner k-test indicated that:

- four sites experienced a decrease in crashes relative to the County.
- two sites experienced no change relative to the County.
- four sites experienced an increase relative to the County.

5.11 Further statistical tests confirmed that the decreases recorded at two of the sites were statistically significant (A26 Little Horsted and B2104 Ersham Road). This means that we can say with a fair level of confidence that a real change of collisions has occurred at the site as a result of the speed limit. The statistical tests confirmed that the remaining sites, including those where an increase was recorded, may be attributed to random fluctuation.

Table 8 . Before and after comparison accident data at A and B road sites

Site name	BEFORE IMPLEMENTATION					AFTER IMPLEMENTATION					Change in Accidents
	No. of Months	Total Accidents	Accidents p.a.	Total KSI	KSI p.a.	No. of Months	Total Accidents	Accidents p.a.	Total KSI	KSI p.a.	
A26 Heron's Ghyll	36	12	4.0	3	1.0	36	15	5.0	13	4.3	1.0
A26 Little Horsted	36	17	5.7	2	0.7	33	5	1.8	1	0.4	-3.8
A264 Hammerwood to Holtye	36	7	2.3	2	0.7	26	3	1.4	8	3.7	-0.9
A267 Little London Road	36	7	2.3	4	1.3	18	3	2.0	0	0.0	-0.3
A267 Mayfield & Five Ashes	36	5	1.7	3	1.0	26	7	3.2	3	1.4	1.6
A272 Piltdown	36	8	2.7	2	0.7	31	3	1.2	0	0.0	-1.5
A272 Piltdown	36	0	0.0	0	0.0	31	0	0.0	0	0.0	0.0
A275 Sheffield Park	36	7	2.3	3	1.0	31	6	2.3	1	0.4	0.0
B2089 Swailes Green	36	1	0.3	0	0.0	14	1	0.9	0	0.0	0.5
B2104 Ersham Road, Hailsham	36	10	3.3	4	1.3	22	1	0.5	1	0.5	-2.8
<i>Totals (per annum)</i>			<i>24.7</i>		<i>7.7</i>			<i>18.3</i>		<i>10.7</i>	<i>-6.3</i>

6. The future of speed limit review work in East Sussex

6.1 The approach that has been adopted to the review of speed limits in villages and on rural A and B roads reflects the principles set out in the 2006 Government Guidance on setting local speed limits and has taken account of the findings and recommendations of the Scrutiny Review board on setting rural speed limits in East Sussex. Essentially the review has one more year to run before the entire village and A and B road speed limit reductions which have been identified through the review process are largely complete. However, the County Council is still likely to receive further requests for speed limit reductions and a decision need to be made as to how these requests are dealt with if the community are not to feel that their local desire for reduced speed limits is not being met. Also there are important lessons that have been learned, which need to be taken forward as part of any future speed limit review programme.

Lessons learned from the approach adopted to date

6.2 As has been demonstrated above, the County Council has adopted an evidence based approach to its speed limit review work. The approach to the implementation of the speed limit review was very much 'top down', with officers identifying where speed limit reductions were appropriate and whether the limit should be introduced either by signing and lining alone or with engineering features. In the majority of instances this approach has not proven to be problematic, particularly where the speed limit reduction has been achieved with the introduction of signs and adjustments to lining. However, it has proven to be more problematic in instances where the need for supporting engineering measures has been required. In a number of cases the parish council and/or village residents have been receptive to the introduction of the reduced speed limit but resistant to the introduction of the features considered necessary to ensure the reduced limit is self enforcing. Even where early discussions were held with the parish council to explain the need for the engineering measures, there has still been resistance to the introduction of these features which are seen in some cases as 'urbanising' the village.

A number of key lessons have been learned which should influence the way in which the County Council approaches any speed limit review work in the future:

1. Communication – needs to be improved to ensure that the overall approach to speed limit reduction and 'rules for engagement' around roles and responsibilities are more clearly understood.
2. Ownership – there is a need to engender a greater sense of ownership amongst the local community of the speed management issues faced in their village through the possible adoption of a more 'bottom up' approach to speed management. As part of this, parish councils would take more of a lead role in the development and implementation of speed limit reduction schemes in the future.
3. Engagement – an increase in community engagement and participation activity particularly in the early stages of any new process to ensure a greater sense of ownership of both the perceived problem and the potential solutions.
4. Approach – where speed reducing features are required to ensure a limit is self enforcing adoption of a more 'minimal engineering' approach which relies less on hard engineering features such as central islands and build outs and more on 'natural' traffic calming features such as widening of verges to reduce road width and removal of centre lines.

A possible way forward: Gloucestershire County Council's 'Your community – Your Speed Limit' Initiative

6.3 Future constraints on funding mean that only those speed reduction schemes which will help achieve casualty reductions are likely to be taken forward. A number of other highway authorities have begun to explore more innovative and flexible ways of dealing with community concerns around speed with 'self help' becoming more important part of the approach to speed management.

6.4 Gloucestershire County Council has developed and adopted a Community Led Speed Reduction Process. This process gives the communities a set of options for meeting their speed limit change requests where the scheme does not meet their criteria or where funding is not available. Under this process parish, town or district councils can pursue speed limit reductions provided they are willing to fund the scheme, undertake the public consultation and take ownership of the outcomes. A copy of the information pack that has been put together by Gloucestershire County Council is contained in Annex A to this Appendix.

6.5 The adoption of a similar community led approach in East Sussex would be a clear demonstration of the County Councils commitment to the Localism agenda. The adoption of a community led approach would have ongoing resourcing implications for the County Council as resources would still need to be identified to oversee the development and implementation and ongoing management of any new initiative.

7. Conclusions

7.1 The following conclusions can be drawn about the County Council's approach to its rural speed limit review:

- the review has followed the approach to setting speed limits set out in the Government guidance and has taken account of the findings and recommendations of the Scrutiny board review of rural speed limits;
- all of the limits on the County's rural A and B roads have been reviewed and those villages where the introduction of a 30mph limit would be appropriate based on the County Councils speed limit policy have been identified;
- the implementation of the speed limit reductions identified as a result of the review is still ongoing and is due to be completed by March 2013;
- an analysis of before and after speed data collected at a sample of the sites where speed limit reductions have taken place shows that average speeds have gone down at the majority of these sites. Reductions have taken place at all of the sites where engineering measures have been introduced in support of the reduced limit;
- although the speed limit reductions were not specifically introduced as a casualty reduction measure, the results of before and after analysis of accident data collected at a sample of sites reveals that overall accident levels have decreased across the sites where speed limits have been introduced. Again, the reduction has been more marked at sites where engineering measures have been introduced, although the accident rate at these sites was higher before the introduction of the reduced limit. The accident reductions cannot be attributed directly to the reduced speed limits alone, as the accident reductions may have occurred as part of the on-going downward trend across the County.
- the implementation of the reduced limits at the majority of sites has gone very well, particularly where these have involved only the introduction of signing and lining. Issues have arisen with the introduction of reduced limits in some of the villages where there have been concerns about the extent of the proposed limit and/or the introduction or positioning of the speed controlling features that are needed to ensure that a lower speed limit is self enforcing.
- the current speed limit review programme is due to be completed by the end of 2012/13. A decision needs to be made about how the requests from local communities should be dealt with in the future. A community led approach to speed limit reduction may provide a suitable way forward.

Annex A – Gloucester County Councils Community Led Speed Limit Initiative

Gloucestershire Highways Community Offer Your Community – Your Speed Limit

Speeding and the perception of speeding is one of the most prominent issues raised by our local communities. As funding for schemes is limited, every scheme must compete for priority assessment and inevitably only those schemes where compliance with national speed limit setting guidance and accident casualty reduction criteria are met are likely to *succeed*. *This has left many communities* feeling disappointed that their local desire for lower speeds is not being met.



In addition, following the comprehensive spending review, the Council's strategy is very much focused on 'living within our means' and 'providing the basics'. As such a decision was taken last year that funding would be targeted on maintaining our current highway assets and that improvement schemes, such as speed limit changes, would only be funded when they are directly linked to identified accident hotspots assisting the authority in reducing killed and serious injury accidents.

Experience and research suggests that lowering an existing speed limit, by itself, will not necessarily achieve lower vehicle speeds or reduce accidents. However, some communities have challenged this and have called for greater flexibility when setting speed limits. A recent Scrutiny Task Group made recommendations for the development of a process allowing communities to get more involved in determining local speed limits.

Localism

The Highways Community Offer embraces the concept of localism in that local communities will have more say in the way that local highway services are delivered and prioritised. Therefore, the county has developed a Community Led Speed Limit Reduction process. The new process will give communities a set of options for meeting their speed limit change requests when the county is unable to do so as the scheme does not meet the county's criteria or when funding is not available.

However, whilst the county wants to allow more flexibility in local community decision making, it also expects that local communities will accept responsibility for any decisions it takes in the same way the council does when it spends public money.

How the new process will work

Under the new process, speed limit reduction schemes can be pursued by local groups such as resident associations, parish councils, town or district councils, provided they are prepared to fund the changes, are willing to undertake public consultation and take ownership of the outcomes. The new process encourages communities to carry out a self assessment and consider three options for meeting their desire for lower speeds:

- **Speed limit campaigns** - These campaigns are developed by the community with the aim of influencing drivers choice of speed and encourage a voluntary or self-enforced lower speed and usually involve temporary signs, posters, leaflets or other media. '20 is Plenty' or 'Kill your speed not a child' campaigns have been very successful in some communities.

20's Plenty



Where People Live

- **Use of advisory speed limits** - This is a new approach the county is exploring using more permanent yellow backed signs advising drivers of the speed limit the community would like to see motorists adhering to. The limits is not official and is unenforceable by police, but could be considered as a low cost option for some communities, especially where natural traffic calming such as narrow roads or parked cars is already encouraging drivers to adhere to the lower limit. The county will be looking to pilot a handful of advisory speed limit schemes in order to evaluate the effectiveness of this approach. One concern is that this approach may become confusing to drivers when the legal posted limit sign(s) are

adjacent to the desired limit signs, or that by removing or replacing the legal limit signs the road is left with an unenforceable speed limit.

- **Speed limit traffic regulation order** - involves a statutory process to officially change the speed limit, whereby interested parties need to be consulted and a draft speed limit order formally advertised. Costs of advertising the order, legal costs in making the order as well as any associated construction costs for changing signs, road markings or installing traffic calming will need to be funded by the community.

The flow chart at the end of this document shows how the process will work and the various options available to communities. Throughout the process, council officers will provide advice, guidance and support in developing the potential scheme. If the scheme involves a formal traffic regulation order, changes to signs or road markings, or the installation of traffic calming features, officers will assist the community in designing the scheme and provide estimates of the costs involved so that the local community is fully informed before making any decision.

The county will provide any historical information it has on traffic volumes and speeds along with accident history to support the development of schemes and the consultation process. Where data is not available, the county can help communities carry out their own surveys or can provide information on the cost of commissioning surveys from the county's Transport Monitoring Team.

Consultation, particularly with the local community, is a key requirement to ensure that there is genuine local support for any change and that the local community supports spending its own money on implementing the change, as well as to ensure that expectations over the outcomes are managed. Consultation with a range of statutory interest groups including the emergency services, police and bus operators will also be required.

The local community will be expected to consider the responses to consultation before deciding to commit to formal advertisement of a speed limit TRO, just as the county currently does.

If objections are received to any advertised speed limit orders, the county council has to consider the grounds for objection and determine whether to uphold or dismiss the objection. Local communities will be expected to consider any objections to the advertised orders and to make recommendations to the county. The county will then determine the final outcome; unless there are overriding safety or liability concerns it is expected that the county will follow the recommendation from the local community. It is important to note, that as the Highway Authority, the council must ultimately take responsibility for the decision to set a speed limit and as such, will not act irresponsibly outside of national guidance on setting speed limits (reference to guidance doc.....)



The council may seek further recommendations from a county councillor Traffic Regulation Order Committee over contentious orders or where objections cannot be suitably overcome before making a final order decision.

What are the likely costs involved?

The costs involved will vary greatly depending on the option the community has chosen and the nature and design of the speed limit reduction scheme. A speed limit campaign will obviously be the lowest cost solution with only the costs of temporary signs and the community's time and effort in promoting the campaign. The costs involved in making an official speed limit traffic regulation order will include advertising and legal costs as well as officer time in preparing the order. In addition, the costs will also include any changes to signs, road markings or the construction of any traffic calming features required to make the order legal and enforceable.

Information on the typical costs involved with various options is provided at the back of this document. Your local Stakeholder Manager will be able to assist your community in assessing what elements will be required in order to develop an achievable speed limit reduction scheme and be able to provide or obtain professional engineering advice in finalising the costs of the scheme.



Applications can also be made to the Highways Community Offer for match funding of schemes to assist with the cost of capital funded infrastructure such as traffic calming features and changes to signs and road markings.

Minimalistic approach

The county must maintain all infrastructure and assets on the highway network into the future. As such, it is in the county's interest to keep the number of signs, road markings or other traffic calming features to a minimum. County officers will endeavour to advise communities to only include those features in their schemes that are absolutely necessary to ensure a speed limit reduction scheme meets speed limit setting guidance. The county also has a sign decluttering policy in its Transport Asset Management Plan which commits the council to reviewing all signs within the boundaries of any construction scheme with an aim to reducing the number of signs on the network over time.

Ownership

Local communities are expected to be accountable for the outcomes when funding any speed limit reduction scheme, with the county acting as a facilitator rather than promoter. Local ownership of the outcomes is considered key to the success of this more flexible approach and any feedback the county receives will be passed onto the local community for a response to demonstrate local ownership.

20mph zones/limits

The county recognizes that many communities would like to promote 20mph zones or limits. 20mph zones/limits have not only been shown to reduce accidents but encourage more walking and cycling in communities through improved perceptions of safety. This also follows DfT's recommendations that 20mph speed limits combined with traffic calming should become the norm in residential and built up areas.



The new process allows 20mph limits to be implemented; however, the county will take additional criteria in account when making a final decision on the approval of 20mph schemes:

- DfT guidelines concerning 20mph speed limits must be met including:
 - The general nature of the location should create conditions in which drivers naturally drive at around 20mph or as a result of traffic calming measures being put in place
 - 20mph limits are only suitable (without traffic calming measures in place) where mean vehicle speeds are 24mph or below
- As A and B roads tend to be of strategic importance, it is unlikely that the county will support 20mph limits on these roads. In rare cases, such as where A or B roads pass through a town or village centre or become part of a pedestrianised high street, 20mph limits with significant traffic calming may be appropriate.

Who do I contact for information?

Local communities are encouraged to discuss their ideas for changing speed limits with their local Stakeholder Manager who will provide professional engineering advice and guidance to help inform the decision taken by the local community. (insert link to maps showing Stakeholder Manager contacts? Or list 0800 number?)

In addition to the information on this website, you can also find information about the setting of speed limits on a number of other national sites some of which are provided below:

Links to other Speed Limit setting information:

DfT Circular 01/2006; Setting Local Speed Limits:

<http://www2.dft.gov.uk/pgr/roadsafety/speedmanagement/dftcircular106/dftcircular106.pdf>

Setting speed limits in the UK- general information

http://en.wikipedia.org/wiki/Road_speed_limits_in_the_United_Kingdom

Transport Advice Portal:

<http://www.tap.ihl.org/en/topic/traffic-management/speed-limits/>

A Safer Way: Consultation on Making Britain's Roads the Safest in the World: DfT April 2009

<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/consultations/closed/roadsafetyconsultation/roadsafetyconsultation.pdf>

Streets ahead: safe and liveable streets for children:

<http://www.ippr.org/publications/55/1266/streets-ahead-safe-and-liveable-streets-for-children>

DfT – Road Safety Research Report: Review of 20mph zone and Limit Implementation in England:

<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme4/20mphzoneresearch.pdf>

Traffic Advisory Leaflet 9/99 June 1999: 20mph speed limits and zones

http://www2.dft.gov.uk/adobepdf/165240/244921/244924/TAL_9-991.pdf

Traffic Advisory Leaflet 7/91 May 1991: 20mph speed limits:

http://www2.dft.gov.uk/adobepdf/165240/244921/244924/TAL_9-991.pdf

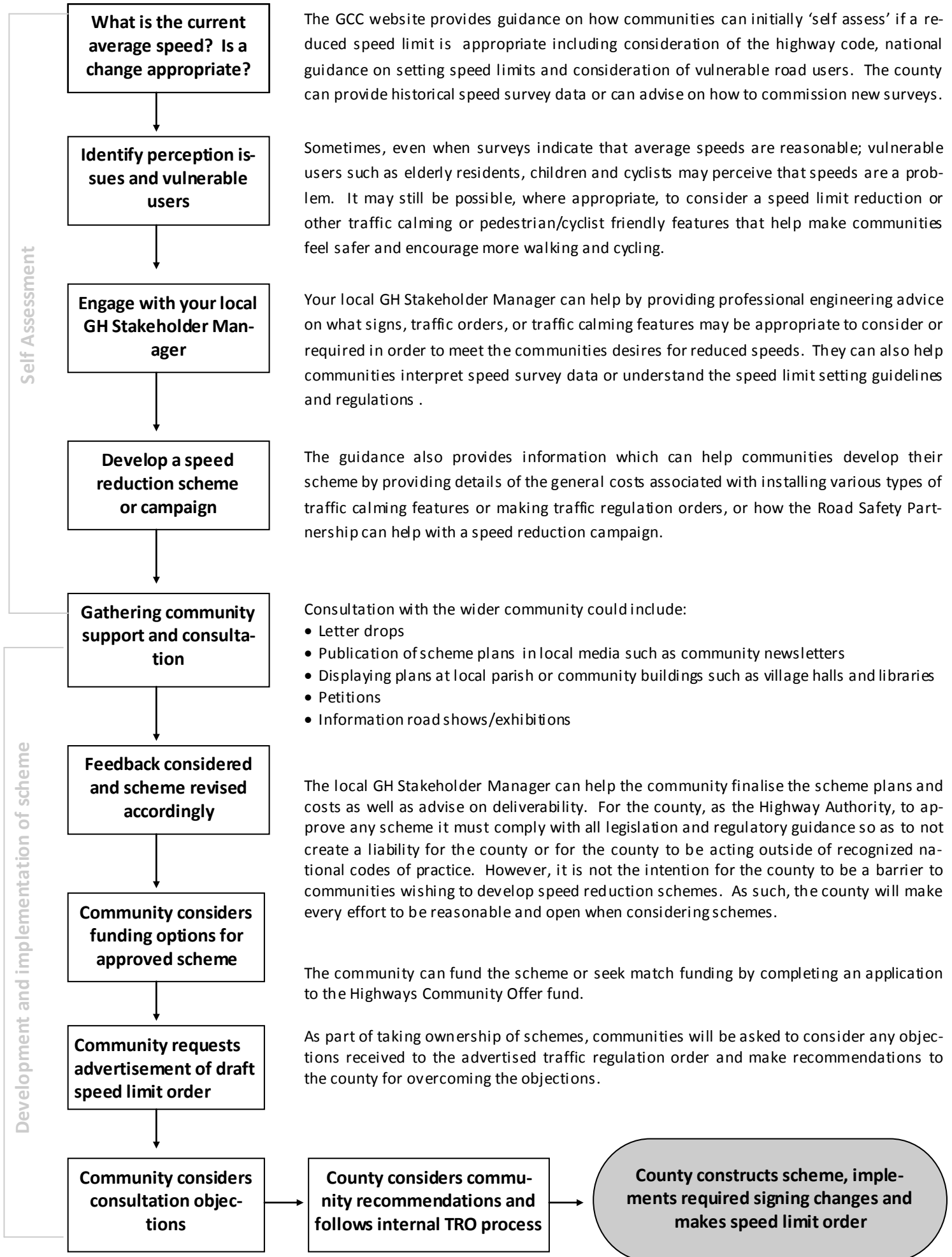
20's Plenty For Us:

<http://www.20splentyforus.org.uk/>

DfT – Evaluation of the implementation of 20 mph speed limits in Portsmouth, Sept 2010:

<http://www2.dft.gov.uk/pgr/roadsafety/speedmanagement/20mphPortsmouth/pdf/20mphzoneresearch.pdf>

Community Led Speed Limit Reduction Process



The GCC website provides guidance on how communities can initially ‘self assess’ if a reduced speed limit is appropriate including consideration of the highway code, national guidance on setting speed limits and consideration of vulnerable road users. The county can provide historical speed survey data or can advise on how to commission new surveys.

Sometimes, even when surveys indicate that average speeds are reasonable; vulnerable users such as elderly residents, children and cyclists may perceive that speeds are a problem. It may still be possible, where appropriate, to consider a speed limit reduction or other traffic calming or pedestrian/cyclist friendly features that help make communities feel safer and encourage more walking and cycling.

Your local GH Stakeholder Manager can help by providing professional engineering advice on what signs, traffic orders, or traffic calming features may be appropriate to consider or required in order to meet the communities desires for reduced speeds. They can also help communities interpret speed survey data or understand the speed limit setting guidelines and regulations .

The guidance also provides information which can help communities develop their scheme by providing details of the general costs associated with installing various types of traffic calming features or making traffic regulation orders, or how the Road Safety Partnership can help with a speed reduction campaign.

Consultation with the wider community could include:

- Letter drops
- Publication of scheme plans in local media such as community newsletters
- Displaying plans at local parish or community buildings such as village halls and libraries
- Petitions
- Information road shows/exhibitions

The local GH Stakeholder Manager can help the community finalise the scheme plans and costs as well as advise on deliverability. For the county, as the Highway Authority, to approve any scheme it must comply with all legislation and regulatory guidance so as to not create a liability for the county or for the county to be acting outside of recognized national codes of practice. However, it is not the intention for the county to be a barrier to communities wishing to develop speed reduction schemes. As such, the county will make every effort to be reasonable and open when considering schemes.

The community can fund the scheme or seek match funding by completing an application to the Highways Community Offer fund.

As part of taking ownership of schemes, communities will be asked to consider any objections received to the advertised traffic regulation order and make recommendations to the county for overcoming the objections.

County constructs scheme, implements required signing changes and makes speed limit order

Community Speed Limit Reduction Schemes

Options available to communities

1) Speed Limit Campaigns

The Road Safety Partnership can assist communities in developing a speed limit campaign. Campaigns usually last up to 6 months and include putting up correx signs and various information media including things like 'wheelie bin stickers' to help remind motorists of the appropriate speed. Many communities have successfully adopted "20 is Plenty" campaigns which encourage drivers to reduce their speeds even further in residential areas.

Advantages

Low cost
Potentially greater short term impact
Quick and easy to implement
Doesn't require TRO
Traffic calming features not required

Disadvantages

Short term (usually 6 months)
Temporary signs

2) Advisory Speed Limits (insert picture of advisory speed limit sign)

The county has the ability to use yellow backed advisory speed limit or warning signs to advise motorists when it is safer to travel at a speed lower than the posted speed limit. These types of signs are predominately used to advise motorists on higher speed carriageways to reduce speeds on the approaches to tight corners or to junctions where visibility may be impaired. In an effort to try to assist communities in meeting their desires for lower speeds, particularly where communities wish to implement 20mph zones/limits, the county will consider authorising the use of advisory speed limit signs. This is particularly useful in areas where average speeds are already below the posted limit and no additional traffic calming features are required in order for a lower speed limit to be introduced. The use of an advisory speed limit sign does not require a Traffic Regulation Order to be put in place, which means the cost of carrying out statutory consultation and making a legal order can be avoided; however, the advisory limit is not enforceable. It can also be confusing to drivers as some of the signs for the posted speed limit must remain in order for the existing speed limit to remain enforceable.

Advantages

Less costly than implementing a TRO
Community designs 'advisory' signs
Signs can be permanent
No end date

Disadvantages

Not legally enforceable
Statutory consultation process required
May make existing limit unenforceable
Can be confusing to drivers
Traffic calming features may be required

3) Speed Limit Change (traffic regulation order)

The normal process for changing a speed limit requires a Traffic Regulation Order (TRO). This involves a lengthy consultation process which includes an initial consultation followed by a statutory consultation and consideration of objections. If objections are received and can't be overcome, the approvals process can also involve a county councillor TRO Committee to review objections and make a recommendation concerning the order. Finally a legal order must be made and sealed by the county. Often the changing of signs or road markings as well as the construction of traffic calming features must also be completed in order for the county to meet national guidelines. Most speed limit schemes will only be acceptable to the police (as a statutory consultee) and meet regulatory guidance if they are 'self enforcing' meaning that the road layout or features encourages motorists to drive within the required speed limit. As such, most schemes involve some traffic calming or other features to be constructed.

Advantages

Limit is legally enforceable
Permanent change to signs

Disadvantages

Costs of required TRO
Costs of traffic calming and signs
Statutory consultation required
Length of time to implement

Speed Limit Reduciton Measures Estimated Costs

Example	Item
	<p>Traffic Regulation Order</p> <p>A traffic regulation order is the legal document required to make the restriction, speed limit or prohibition enforceable. In order to introduce, amend or remove a restriction it is necessary to follow a statutory process of consultation. Due to this, the timescales for introducing a TRO can vary from approx 6 months to 18 months or longer. The main reason for the extended timescale is usually associated with the number and/or type of objections raised. Early community engagement over proposals before entering the statutory process can help keep the number of objections to the minimum or none at all. Resolution of objections may require the officers to act under delegated authority or if this is not possible a Traffic Regulation Committee meeting will be called and a recommendation made to the Director of Environment</p> <p>Cost</p> <p>TRO costs can vary greatly with the complexity fo the order and the amount of consultation required, but typical TRO's cost between £5,000 and £10,000 which includes advertising costs, legal costs and officer time in preparing the orders, consultation and dealing with objections.</p>
 	<p>Speed limit and traffic signs</p> <p>The type and number of signs required varies greatly on the details of the speed reduction scheme, but must comply with national guidance (Traffic Sign Regulation Guidance TSRG). Where erected wthin street lit sections of road, speed limit signs do not generally have to be illuminated other than on A roads. Generally, terminal signs assemblies are required on both sides of the road at each terminal point. Your local Stakeholder Manager can give you professional advice on the requirements.</p> <p>Cost</p> <p>Typically £160 per sign to replace an existing sign on an existing post, £400 per sign with post and £1250 per illuminated sign (covers extra cost of cabling, excavation, and electricity connections); repeater signs (as pictured left) are typically £300 per sign (includes post) or £150 per sign without post or lighting column mounted)</p>
	<p>Village Gateways (Sign Entry Treatments)</p> <p>Usually used on the approaches to built up areas wehre the speed limit signs and town/village nameplates are incorporated to give maximum impact to approaching drivers. Usually consist of signing and lining but can be comined with build outs and regues. Used on entries to built up areas to raise awareness of the approaching speed limit change.</p> <p>Cost</p> <p>Typically between £2,500 and £5,000 per entry, dependent on extent of works.</p>
 	<p>Vehicle Activated Signs</p> <p>Generally, VAS will not be an option for purchase for community led speed reduction schemes unless they meet the requirements of the county's VAS Policy. Your local Stakeholder Manager can give you a copy of this policy and help a community to assess the criteria.</p> <p>VAS are electronic signs which display a symbol and/or message when triggered by vehicles travelling at excessive speed. They are normally intended to supplement rather than replace traditional signing and lining and are aimed at addressing specific road safety problems. VAS should be used strategically where they will have the maximum effect. To introduce them on a widespread basis as simply 'another traffic sign' would cause drivers to become used to them and their effect would diminish. The proliferation of the use of VAS is also a concern for the county as the maintenance costs for the equipment, particularly those on solar or wind power, is significant.</p> <p>Cost</p> <p>VAS cost between £5,000 and £10,000; costs and criteria for use are detailed in the county's VAS policy document. Costs may also include a commuted sum to cover future maintenance or replacement costs.</p>

	<p>Rumble Strips</p> <p>Normally a series of raised strips of different coloured surfacing set across the width of the road intended to cause drivers to reduce their speeds. Due to noise, these are not normally laid within 200 metres of residential properties. Typically used on higher speed rural roads at accident reduction sites.</p> <p>Cost</p> <p>A series of rumble strips typically costs around £2,500 to install depending on traffic management requirements.</p>
	<p>Bollards</p> <p>Normally used to highlight points where pedestrians may be crossing the road and to deter parking on footways and verges, but can also be used to assist with the visual narrowing of the carriageway which encourages slower speeds.</p> <p>Cost</p> <p>Installation costs can vary depending on traffic management requirements and utilities, but range from £250 to £500 per bollard</p>
	<p>Chicanes</p> <p>Usually involves various sets of carriageway narrowings which allow two way traffic flow or give priority to drivers travelling in a certain direction. Used to break traffic flow and reduce speeds.</p> <p>Cost</p> <p>A chicane with associated signing, bollards and road markings costs approximately £12,000</p>
	<p>Priority Narrowing</p> <p>Usually created by footway build-outs. Historically used as part of traffic calming schemes to reduce vehicle speeds. Motorists must slow down in order for drivers to 'perceive' the gap between them and on-coming traffic before negotiating the shared narrow carriageway. Street lighting and lit bollards are required.</p> <p>Cost</p> <p>A single priority narrowing with associated signing, lit bollards and road markings costs between £10,000 and £15,000 depending on complexity.</p>
	<p>Refuge/Traffic Island</p> <p>Refuges are designed to provide a safe harbour for pedestrians crossing the road. Refuges make the road appear narrower and consequently can result in a degree of speed reduction, particularly when introduced with a road widening which has the effect of deviating the flow of traffic. Traffic islands achieve the same effect but are used purely for the purpose of speed reduction without crossing facilities.</p> <p>Sites where refuges or island can be used are limited as they rely heavily on good forward visibility from approaching drivers and should not be placed across or very near to private drives or side roads. Narrow roads or the lack of opportunity for widening result in insufficient space to site a refuge.</p> <p>Cost</p> <p>A refuge with no associated carriageway widening may cost approximately £8,000. However, widening is often required to facilitate a refuge increasing costs to around £30,000.</p>



Pelican or Toucan Crossings

Used where pedestrian road crossings movements are particularly high and the road in question experiences high traffic volumes. Pelican crossings include zig zag road markings which prohibit parking and the a TRO to implement.

Cost

The cost of construction for pelican or toucan crossings varies greatly with the complexity of the design elements, but a basic crossing with associated anti-skid carriageway surfacing and street lighting costs between £40,000 to £75,000 and is often subject to road layout alterations which increases the costs.



Road Markings

White lines or hatching on the carriageway can be used to highlight specific situations and warn drivers to slow down or taken special care. Markings can be used to create a narrowing of the carriageway to encourage lower speeds or highlight pedestrians, cyclists or parked vehicles. Some road markings require a Traffic Regulation Order or have restricted use. Road markings are not likely to have a lasting impact on speed reduction when used in isolation and are usually used in conjunction with other traffic calming/speed reduction features.

Cost

Road markings are laid on a daily rate basis, typically £600 per day. Traffic management costs (ie temporary lights, stop/go boards) may also be required.



Roundels

Roundels are speed limits painted onto the road surface and can replace the need for some speed limit signs. Their use is regulated (see TSRG) but can form a useful traffic calming feature.

Cost

As with road markings, the painting costs are on a daily rate basis, typically £600 per day; however, some roundels involve coloured or anti-skidding road surfacings which will add costs.



Speed Cushions

Similar to speed tables, but take the form of small plateaux with a gap inbetween them. Whilst not as effective as a speed table, speed cushions reduce the speed of most vehicles but are more friendly to larger vehicles like buses and ambulances as they can 'straddle' them and reduce the jolting of passengers.

Cushions need to be located within regular intervals in order to reduce speeds consistently over a route. Cushions are typically around 1.6m wide and cost can increase if carriageway width has to be adjusted to accommodate them.

Cost

A set of 2 cushions is approximately £3,500 to construct without carriageway adjustments



Speed Tables or Humps

These take the form of a raised plateau set across the road. They achieve significant speed reduction and also make it easier and safer for pedestrians to cross the road on the top of the table where speeds are at their lowest.

Speed tables can cause a degree of noticeable traffic noise where there is a regular presence of certain types of goods vehicles and vehicles with trailers. Whilst such situations are relatively few, special consideration needs to be given to their siting and also the chosen profile of a speed table can have an effect on such matters.

Cost

Dependant upon site constraints and appropriate specification for a particular site, the cost of speed tables (usually including specific drainage facilities and adjusted surrounding footway levels) can vary dramatically from £6,000 to £30,000 where a table covers a whole junction. A general guideline cost would be in the region of £8,000. However, it should be noted that such traffic calming techniques are best adopted in the form of a series where speeds are contained over a length of road rather than at a single point.

	<p>Footway buildouts</p> <p>Widening of the footway into the carriageway can help reduce speeds and provide a better view point for pedestrians wanting to cross the road. Particularly useful in helping to create shelter parking areas or with other features like chicanes or priority narrowing.</p> <p>Also, very useful as part of gateway features to show a change in speed limit.</p> <p>Cost</p> <p>Costs vary greatly with road layout and traffic management requirements for construction, but a simple buildout with bollards and tactile paving would be between £10,000 and £15,000 to construct. If in a street-lit area, illuminated signs/bollards may also be required.</p>
	<p>Dropped kerbs</p> <p>Lower height kerbs can be used to create vehicle access points at private drives or provide easier movement for pedestrians, wheelchair, cyclists or buggy users who are crossing the road to and from the footway. Used with other features such as bollards they can form part of traffic calming.</p> <p>Cost</p> <p>Typically £2,000 for a set of 2 sections of dropped kerbs opposite one another.</p>
	<p>Tactile Paving</p> <p>Used with dropped kerbs at points in the carriageway where it is considered safer for pedestrians to cross the road. Tactile paving helps partially sighted pedestrians where the colour and texture of the surface improves the pedestrians awareness of the situation.</p> <p>Cost</p> <p>Tactile paving with dropped kerbs would cost around £2000 for 2 sections of dropped kerbs opposite one another.</p>
	<p>Zebra Crossing</p> <p>This is a formal pedestrian crossing point which is highlighted by flashing belisha beacons. Zebra crossings can be used as an alternative to pelican crossings where pedestrian crossing movements are not as frequent and where traffic is generally travelling at a lower speed. There still needs to be a recognised pedestrian demand for zebra crossings, however, their safe use does rely on the judgement of both motorist and pedestrians.</p> <p>Zebra crossings are introduced with zig zag road markings which prohibit parking near to the crossing point. It can therefore be inappropriate to introduce a zebra crossing where on-street parking demands are already a particular issue.</p> <p>Cost</p> <p>A Zebra Crossing with anti-skid carriageway surfacing, drainage works and associated Street Lighting can easily cost up to £25,000.</p>
	<p>Anti-Skid Coloured surfacing</p> <p>Specialist high friction surfacing applied to the road surface to provide greater skid resistance and deter vehicles from skidding on approaches to roundabouts to reduce loss of control accidents.</p> <p>Cost</p> <p>For a typical scheme, installing 50-55 metre section of anti skid surfacing, would cost in the region of £5000 to £10000.</p>
	<p>Pedestrian Guard Rails</p> <p>Usually used to help guide pedestrians to the safest crossing point or stop pedestrians or cyclists from entering the carriageway, but they can also form part of traffic calming features that help to reduce speeds.</p> <p>Cost</p> <p>One section 2m in length typically costs £350</p>