

Hamble Lane Speed Limit Review



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Technical Report

TRAFFIC MANAGEMENT
ENGINEERING SERVICES

EASTLEIGH
BOROUGH COUNCIL

HAMBLE LANE SPEED LIMIT REVIEW

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HAMBLE LANE SPEED LIMIT REVIEW

1. SUMMARY

- 1.1 A speed limit review has been undertaken on a section of Hamble Lane with a view to reducing the existing speed limit of 40mph to 30mph. The current conditions on Hamble Lane do not meet the criteria set by the Department for Transport for a speed limit reduction.
- 1.2 However, in view of the number of school children, the high traffic volumes and tankers using this road, it is recommended that speed-reducing features be implemented, if appropriate. This could coincide with the progression of a reduced speed limit of 30mph. A feasibility report will be required to investigate the various options to reduce vehicular speeds on this stretch of road.
- 1.3 Speeds on the existing 30mph speed limit at the northern end of Hamble Lane and on the section of Portsmouth Road to the west of Hamble Lane remain high, despite a lowered limit being introduced. As such, it is recommended that entry points to the limit be enhanced by means of coloured surfacing and '30' roundels.
- 1.4 Additional suggestions have been made to improve road safety at various locations along Hamble Lane.

2. INTRODUCTION

- 2.1 Following concern expressed by haulage companies on the Hamble Peninsula with regard to speed and road safety, a motion was tabled on 6th February 2003 at the Bursledon, Hamble-le-Rice and Hound Local Area Committee. This was to investigate the possibility of extending the 30mph speed limit on Hamble Lane from the existing terminal point to the south of the Hound corner roundabout to 100 metres north of Hound Corner roundabout. The motion was unanimously agreed and adopted.
- 2.2 A previous study undertaken in 1996 considered the feasibility of reducing this speed limit to 30mph, however, the data obtained did not comply with the requirements for a 30mph limit and the option was not pursued further.
- 2.3 This speed limit review considers the current speeds on Hamble Lane and identifies whether additional features would be required in order to reduce the limit to 30mph.
- 2.4 The existing 30mph speed limit further north on Hamble Lane (between Mallards Road and Jurd Way) and on Portsmouth Road (between Shop Lane and the junction with Hamble Lane) was introduced on 14 February 2003. Illuminated terminal signs are on all entry points.

- 2.5 Concern has been expressed that motorists are unaware of the change in limit, even several months on. This will therefore be investigated to determine whether the limit can be highlighted in any way to raise motorists' awareness.

3. **STUDY AREA**

- 3.1 Hamble Lane is a 'B' classified road numbered B3397. It is the major route into Hamble-le-Rice and connects via Windhover roundabout to junction 8 of the M27. Hamble Lane runs through a mixture of open undeveloped areas (including greenfield) and quite dense developments where many properties front onto the road.
- 3.2 The stretch of road considered within the speed limit review is approximately 1200 metres in length running from the existing terminal point of the 30mph speed limit (just north of the point where the railway crosses Hamble Lane) to 100 metres north of the Hound Corner roundabout as shown in Appendix 1.
- 3.3 In recent years, a roundabout has been introduced at the Hound Corner junction. A toucan crossing near the pedestrian access to Hamble Community School and another pedestrian crossing approximately 65 metres south of the vehicular entrance to Hamble Primary School (just south of the study area) have also been recently constructed. It is likely that all these features will have had some affect on reducing speeds along this stretch of road.
- 3.4 The speed limit on Hamble Lane, between its junction with Mallards Road and Jurd Way and the section on Portsmouth Road, between Shop Lane and the junction with Hamble Lane was reduced from 40mph to 30mph in February 2003. Yellow backed illuminated signs were erected as appropriate.

Figure 1: Hamble Lane/Mallards Road junction (facing north)



4. **DATA**

4.1 Locations of the speed measurement surveys, injury accidents and traffic flow counts are shown in Appendix 1.

VEHICULAR SPEED

4.2 Vehicle speed measurements using a laser 'speed gun' have been undertaken at four locations along Hamble Lane for the purpose of this speed limit review. These were carried out on 26th March 2003. The locations were selected to be within the section under consideration for reduction from a 40mph to 30mph speed limit and are shown in Table 1.

4.3 The 85th percentile is the standard used when analysing vehicle speeds and is the speed at or below which 85% of traffic travels under free flow conditions.

Table 1: Summary of 85th Percentile Vehicle Speeds

Site No.	Location	85 Percentile speed (mph)	
		Northbound	Southbound
1	North of Hound Road roundabout	37	42
2	Adjacent to The Broadway	42	37
3	South of Railway Bridge	42	40
4	Outside Police Training Centre	41	38

PERSONAL INJURY ACCIDENTS

4.4 Recorded personal injury accident data has been analysed over a three-year period ending 31st December 2002. A total of nine accidents were recorded over the section of Hamble Lane covered within this review and are summarised in Appendix 3. During this period there have been no fatal accidents, two serious and seven slight.

4.5 Three accidents occurred at the junction with Satchell Lane. Two of these involved northbound traffic waiting to turn right from Hamble Lane into Satchell Lane, both of which resulted in rear-end shunts due to the vehicles travelling too close to each other. The other occurred when a car turned right out of Satchell Lane, failing to give way and consequently struck a cyclist travelling southbound.

4.6 At the pedestrian crossing facility near the pedestrian access to Hamble Community School, one serious injury accident occurred. This resulted when a young pedestrian ran across the road in front of a northbound car.

- 4.7 At the southern junction with The Broadway three injury accidents have taken place on Hamble Lane. Two involved cars losing control in a northbound direction; one struck a tree and fence and the other hit an oncoming vehicle and the car in front. Both of these happened in light conditions, one on a dry road and the other when wet. The other accident involved a northbound vehicle that whilst slowing down, was overtaken by the following vehicle that subsequently collided with an oncoming car.
- 4.8 A southbound motorist lost control of their vehicle just south of the railway bridge.
- 4.9 One accident occurred to the south of the junction with the Police training centre when a southbound car slowed to turn left into a private driveway and was struck in the rear by a motorcycle.
- 4.10 A third of these incidents were partially attributable to motorists travelling at excessive speed for the prevailing road conditions.

Figure 2: Hamble Lane, junctions with Satchell Lane and Hound Road (facing north)



- 4.11 It should be noted that no HGVs have been involved in the recorded personal injury accidents.
- 4.12 In the three-year period to end of May 1996 when the previous speed limit review was undertaken, thirteen accidents had occurred within the area where a 40mph to 30mph speed limit was being assessed, compared to nine in the recent period. Four were at the Hound Road junction; where subsequently, a roundabout has been constructed. Two occurred at the Satchell Lane junction, four between Satchell Lane and the railway bridge and four in the vicinity of the railway bridge. Speed was not listed as a factor contributing to any of these accidents either.

- 4.13 When undertaking any road safety assessments, injury accident data is used as it tends to be more reliable and significant than damage only accident data which can be misleading. Not all accidents are reported to the Police. Those resulting in injury are more likely to be reported than those where damage only to a vehicle occurs. In general, the more serious the accident, the more likely it is to be reported.
- 4.14 Damage-only accident data has been provided by the Police and has been used for reference only. It does not form part of this speed limit review but has been used to determine where particular accidents are occurring and the contributory factors involved.
- 4.15 On the section of Hamble Lane referred to within this study, there were 15 damage only accidents in the three-year period to the end of 2002. Three of these occurred at the junction with Satchell Lane, three outside the Community School (not involving pedestrians), one near the Broadway and one in the vicinity of the railway bridge. These have all occurred at the locations of the injury accidents mentioned above. In addition there were two at the Hound Road junction and five others at various locations along the stretch of the road.
- 4.16 It is interesting to note that some of these damage-only accidents occurred as a result of the motorist overtaking improperly. If speed limits are set too low for the character of the road, this type of occurrence can increase as frustrations arise.

TRAFFIC FLOW

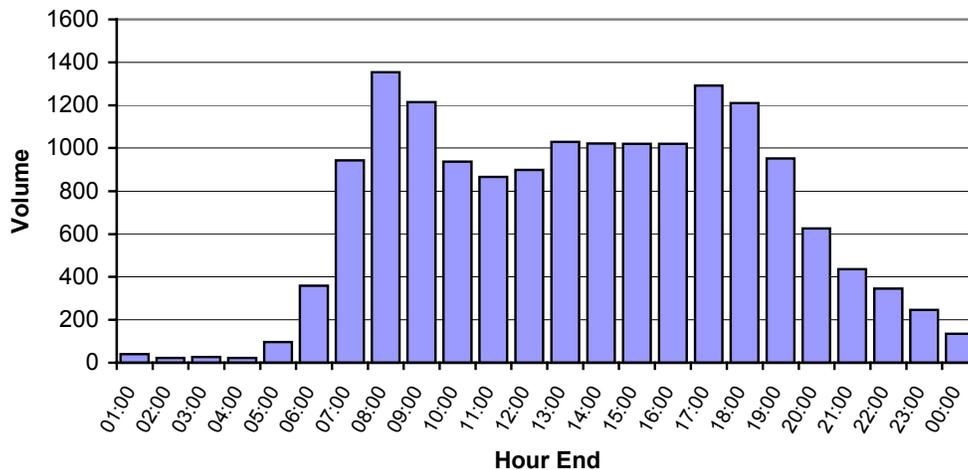
- 4.17 Vehicle flow data collected in March 2003 has been obtained using Automatic Traffic Counters (ATCs). Data is also available from 1992 and 1996, from the same sites, which has enabled a comparison to be undertaken to identify any changes in flows or vehicle classifications.
- 4.18 The following table summarises ATC flows from 1992, 1996 and 2003.

Table 2: Summary of ATC Data (24-hour, 5-day average two-way flows)

Location	Year	Cars, vans & light goods	Heavy Goods and buses	Unclassified	TOTAL
Site A	1992 (July)	10630 (87%)	1064 (9%)	504 (4%)	12198
	2003 (March)	14637 (90%)	1226 (8%)	369 (2%)	16232
Site B	1996 (March)	11947 (88%)	1138 (8%)	471 (4%)	13556
	2003 (March)	14710 (90%)	1290 (8%)	390 (2%)	16390

- 4.19 The data indicates that traffic has increased by 21% over the last seven years and by 33% over eleven years. This latter figure should be treated with some caution as the counts were carried out in different months when variations can and do occur. The increase in traffic from 1996 to the present appears to be higher than the higher national average growth rate of 19%. (Average growth rates over this period within Great Britain are 12%). The obvious explanation for this is that there are no alternative routes into and out of Hamble-le-Rice and development has taken place over the last few years on the Hamble peninsula.
- 4.20 Although tankers cannot be specifically identified by ATCs, heavy goods vehicles account for approximately 8% of the total flow. Despite the increase in vehicle flows, it is interesting to note that the number of HGVs as a proportion of all vehicle traffic has remained constant over the last ten years or so.
- 4.21 As illustrated in Figure 1, traffic flows in Hamble Lane (Monday to Friday) are tidal, with the two-way peak flow of 1,354 vehicles occurring in the morning between 07:00 and 08:00hrs. The afternoon peak flow of 1,293 vehicles occurs between 16:00 and 17:00. These peaks coincide with commuter traffic. The average 24-hour weekday two-way flow recorded was 16,311 vehicles.

Figure 3: Average 24-hour Traffic Flow (2003)



5. SPEED LIMIT REVIEW CRITERIA

- 5.1 Speed limits are assessed in terms of three main criteria as specified in guidelines set by the Department for Transport. These are visual appearance and character of the road and environment, measured vehicle speeds and personal injury accidents.

Visual Appearance / Character of the Road and Environment

- 5.2 How a road looks to a driver is one of the most important factors to consider when setting a speed limit. The road geometry i.e. width, sightlines, bends, frequency of crossings and the environment through which it passes, such as rural, residential, shop frontages and schools all influence a driver's choice of speed.
- 5.3 Hamble Lane is a relatively wide road, varying between approximately 6 and 7 metres in width. There are no significant bends and sightlines are good. However, there is a railway bridge at which the road narrows and sightlines are temporarily reduced. There is also a toucan crossing and a few highway junctions.

Figure 4: Hamble Lane (facing south)



- 5.4 The environment through which this road passes is mixed, although predominantly rural in nature.
- 5.5 There is very little development on the western side of the road. An access road to the Police Headquarters is present towards the southern section of the road under study.

- 5.6 Hamble Community School is located on the eastern side and pedestrian access is gained from Hamble Lane. Many school children use this section of road travelling both north and south from this access. To the south of this there are a few residential properties in the Broadway. Immediately south of the railway line there is no frontage whatsoever and a few more properties are located towards the southern section of the road under study including a business.
- 5.7 A shared-use off-road cycle and pedestrian facility is present on the eastern side of the road and also on the western side between the toucan crossing and Hound Road roundabout. Additional signing has recently been erected.
- 5.8 Traffic flows along this section of road are high at peak times in particular when its capacity is exceeded. High traffic volumes can lead to reduced speed owing to the associated congestion; however, at other times of the day speeds can still remain high.

Measured Vehicle Speeds

- 5.9 Another major factor to consider is measured speed. If 85th percentile speeds are more than 20% higher than a proposed speed limit, then evidence suggests that introducing the lowered limit will have little effect on actual vehicle speeds without considerable enforcement.
- 5.10 The purpose of setting realistic speed limits is so that they should be self-enforcing. They should be lowered only when a consequent reduction in vehicle speed can reasonably be expected. There is little point in establishing a limit, however desirable from an environmental or safety point of view, if it is not going to have any effect on actual vehicle speed. The introduction of unrealistic speed limits should be avoided as the effectiveness of speed limits in general can be compromised and consequently brought into disrepute.
- 5.11 As detailed in Section 4, measured vehicular speeds on Hamble Lane do not currently meet the required criteria to appropriately reduce the limit to 30mph. The 85th percentile speeds should ideally be at or below 37mph. If a 30mph limit were introduced on this stretch of road, with no additional physical measures introduced, the limit is likely to have little effect and would require considerable police enforcement.
- 5.12 Police enforcement is currently carried out on Hamble Lane, however this is currently under review.
- 5.13 The Safety Camera Partnership aims to reduce high numbers of casualties on roads with the most serious casualty and speed history. The process of identifying roads that require enhanced casualty reduction initiatives is ongoing. It is unlikely that Hamble Lane will be identified as one such route.

Personal Injury Accidents

- 5.14 Accidents are also a factor to consider in determining the necessity of imposing a limit. Limits may be introduced because of a poor accident record, however it is not an automatic assumption that a lowered speed limit is the best solution. In some instances a particular accident problem might be better met by a local safety scheme; conversely the lack of an accident history should not in itself rule out the introduction of a limit.
- 5.15 The number of injury accidents on Hamble Lane does not raise cause for concern. The accident rate is 46 accidents per 100 million vehicle kilometres. This compares to an average rate of 48 accidents per 100 million vehicle kilometres on all roads in Great Britain in 2001 (Reference: Road Accidents Great Britain 2001).
- 5.16 Hampshire County Council's Safety Engineering Team investigates sites where there are five injury accidents or more in a three-year period. Although the locations on Hamble Lane don't meet this condition, a request will be made that they investigate this length of road to confirm whether or not there are any additional measures that could be included.

6. OPTIONS FOR IMPROVEMENT

SPEED LIMIT

- 6.1 The review data does not meet the criteria set by the Department for Transport for a reduced speed limit of 30mph to be introduced on Hamble Lane.
- 6.2 However, the level of usage of this road by school children in conjunction with high volumes of other vehicles gives some cause for concern. As such, it is believed that a reduced limit would be beneficial. In order to consider a reduction of the speed limit, some speed-reducing features, in addition to those already existing, are required. Features that provide drivers with a perception of increased risk are likely to result in a reduction in their speed.
- 6.3 A reduction of the current 85th percentile speeds of between 1 and 5mph would be required to consider reducing the limit to 30mph.
- 6.4 The introduction of physical features to slow traffic such as build-outs or pinch-points would not be acceptable on Hamble Lane, owing to the nature of the road and the type of vehicles using it. Additional lining and coloured surfacing alone is likely to achieve a small reduction of speed, however it is recommended that consideration be given to the use of alternative measures in addition, such as speed limit roundels at the entry points to the limit and Vehicle Activated Signs.
- 6.5 If a reduction in speed limit along this stretch of road is to be pursued a feasibility study will be required to determine what measures could be considered and the approximate costs of implementing the proposed measures.
- 6.6 A study of this nature will cost in the region of £3,000.

ROAD SAFETY

- 6.7.1 Although the accident rate on Hamble Lane does not give cause for concern, there are two locations in particular where a number of injury accidents have occurred.
- 6.8 At the junction with Satchell Lane, two rear-end shunts have occurred for northbound traffic. The contributory factor for both these incidents was recorded by the Police as 'following too close'. In addition, the proximity of the junction with the roundabout may have had some bearing. Motorists can be looking out for directional signage and not be aware of the approaching junction and slowing traffic. It is therefore recommended that a warning sign be erected to bring attention to this particular junction.
- 6.9 In January 2003, a new access feasibility study was carried out on Broadway, off Hamble Lane. Existing accesses are at either end of the Broadway, entry at the northern access, exit only at the southern access.

- 6.10 Three injury accidents have occurred in the vicinity of the southern access, although none of these were directly related to this access and associated manoeuvres. Residents do, however, have safety concerns at the close proximity of this exit to the railway bridge. Visibility is poor and traffic approaches quickly.

Figure 5: Hamble Lane – approach to railway bridge (facing south)



- 6.11 The feasibility study assessed the provision of an alternative access in the central section of Broadway. The existing entry and exits could then be blocked off. The design and costs associated with this proposal have been considered, suggesting that if the scheme were to be progressed further, the scheme should be safety audited and consultation with residents carried out. Further funding of £500 has recently been allocated for the consultation exercise to be carried out.

CYCLIST SAFETY

- 6.12 Concern has also been expressed regarding the number of cyclists cycling in between the kerb and bollards erected on the off-road shared-use facility. A length of these have recently been removed to see if this improves safety and the situation will be monitored.

7. **EXISTING 30MPH SPEED LIMIT**

- 7.1 The stretch of 30mph speed limit on Hamble Lane further north and the limit on the adjoining section of Portsmouth Road has been raised as an area of concern, in that many motorists are unaware that the limit has changed (Appendix 2).
- 7.2 Speed surveys were undertaken on 6th August 2003 to determine the speeds motorists are travelling at within this limit. These can be compared against the speeds obtained in 2001 when the limit was originally 40mph.

Table 3: Summary of 85th Percentile Vehicle Speeds

Site	Location	Year	Speed Limit	85 Percentile speed (mph)	
				Eastbound	Westbound
X	Portsmouth Road (between Pound Road and Green Lane)	2001	40	36	35
		2003	30	39	38
Site	Location	Year	Speed Limit	85 Percentile speed (mph)	
				Northbound	Southbound
Y	Hamble Lane (between Pound Road and Portsmouth Road)	2001	40	31	35
		2003	30	35	35
Z	Hamble Lane (south of junction with Cunningham Gardens)	2001	40	36	36
		2003	30	40	38

- 7.3 It is apparent that speeds have increased since the introduction of the lowered limit. No reason for this can be given, other than the fact that motorists may not be aware that the limit is 30mph or believe that a higher speed is more appropriate for the character of the road.
- 7.4 In order to highlight this speed limit, it is recommended that '30' roundels be laid on the road at the entry points to the limit. This would consist of an area of red coloured road surfacing upon which a '30' within a circle will be marked in white. This should aim to remind motorists that they are entering a different and lower speed limit.
- 7.5 Since street lighting exists within this section of 30mph, no 'repeater' signs are permitted. This also applies to the use of roundels on the road.
- 7.6 Some vegetation is currently obscuring some of the terminal signs. A request will be made to for maintenance to be of the verges to be undertaken.
- 7.7 It is recommended that following the introduction of these improvements, speed surveys be undertaken again to determine whether they have been

effective. This issue will also be passed on to the Police with a request for enforcement to be undertaken as appropriate.

8. FINANCIAL IMPLICATIONS

- 8.1 If this Committee wishes the option of the reduced speed limit to be pursued further, a feasibility study is required, which will cost approximately £3,000.
- 8.2 This study would ascertain what features could be considered to reduce the existing vehicular speeds, whether they are practical and the approximate costs of doing so.
- 8.3 A warning sign for Satchell Lane would need to be illuminated and will cost approximately £1,000. If approved, this Committee should allocate the necessary funds for its provision and erection, in the event that Hampshire County Council are unable to fund the work.
- 8.4 In order to introduce coloured surfacing and a '30' roundel at the three entry points to the 30mph section to the north of Hamble Lane and on the eastern section of Portsmouth Road, £4,500 would need to be allocated by this Committee, in the event that Hampshire County Council are unable to fund the work.

10. CONCLUSIONS

- 9.1 A speed limit review has been carried out on Hamble Lane from the existing 30mph speed limit (just north of the point where the railway crosses Hamble Lane) to 100 metres north of the Hound Corner roundabout. This review determines whether a reduced speed limit of 30mph could be introduced.
- 9.2 ATCs were laid in two locations to obtain traffic flow data. Speed measurements were recorded at four locations. Injury (and damage-only) accident data have been analysed.
- 9.3 In order to achieve some uniformity of speed limits throughout the country, criteria set by the Department for Transport should be met when speed limits are reviewed. If unrealistic speed limits are set, they are unlikely to have any effect, can bring speed limits into disrespect and require considerable Police enforcement.
- 9.4 The data obtained as part of this review does not currently meet the requirements to reduce the speed limit from 40mph to 30mph. The character of the road and environment, measured vehicular speeds and injury accident data suggest that the existing limit of 40mph is appropriate.
- 9.5 However, in view of the number of school children, the high traffic flows and type of vehicles using the road, consideration should be given to implementing speed reducing measures in the form of lining, coloured surfacing and signing. A feasibility study is required to determine what measures could be considered to try to reduce the 85th percentile speeds sufficiently for this to be reconsidered.
- 9.6 Provided sufficient and appropriate speed-reducing features are implemented, a reduced speed limit of 30mph could be progressed and implemented simultaneously. Following discussions with Hampshire County Council, this view is supported.
- 9.7 It is recommended that a sign warning of the side road junction with Satchell Lane be erected on the northbound approach.
- 9.8 Consultation work associated with the revised access for the Broadway will now be pursued further.
- 9.9 Speeds on the northern section of Hamble Lane and the adjoining section of Portsmouth Road still remain high, despite a lowered limit of 30mph being introduced earlier this year. It is believed that speeds could be lowered further by enhancing the entry points to this limit by the use of coloured surfacing and '30' roundels.
- 9.10 A request will be made to the Police to undertake enforcement on this stretch of road and the issue regarding injury accidents will be raised with Hampshire County Council's Safety Engineering Team.

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LOCAL GOVERNMENT ACT 1972 SECTION 100D

The following documents disclose the facts or matters on which this report or an important part of it is based and have been relied on to a material extent in the preparation of this report.

- Circular Roads 1/93 (*Department of Transport*)
- Road Accidents Great Britain 2001 (*Department for Transport*)
- 'Traffic in Great Britain, 1st Quarter 2003' (*Department for Transport*)