NEIGHBOURHOOD SERVICES SCRUTINY FORUM AGENDA

HARTLEPOOL BOROUGH COUNCIL

Wednesday 10th November 2010

at 4.30 pm

in Committee Room B,
Civic Centre, Hartlepool

Councillors Barclay, Cook, Fleet, Flintoff, Gibbon, Griffin, McKenna, Richardson and Thomas.

Resident Representatives: John Cambridge, Brenda Loynes and Iris Ryder.

1. APOLOGIES FOR ABSENCE

2. TO RECEIVE ANY DECLARATIONS OF INTEREST BY MEMBERS

3. MINUTES

3.1 To confirm the minutes of the meeting held on 27th October 2010 *(to follow)*

4. RESPONSES FROM THE COUNCIL, THE EXECUTIVE OR COMMITTEES OF THE COUNCIL TO FINAL REPORTS OF THIS FORUM

No items.

5. CONSIDERATION OF REQUEST FOR SCRUTINY REVIEWS REFERRED VIA SCRUTINY CO-ORDINATING COMMITTEE

No items.

6. CONSIDERATION OF PROGRESS REPORTS/BUDGET AND POLICY FRAMEWORK DOCUMENTS

No items.

7. ITEMS FOR DISCUSSION

Investigation into '20's Plenty – Traffic Calming Measures':-

7.1 Feedback from the Neighbourhood Consultative Forums and site visit to Newcastle City Council:-

(a) Covering Report – *Scrutiny Support Officer*

(b) Written feedback from the Neighbourhood Consultative Forums

(c) Verbal feedback from the site visit to Newcastle City Council – *Members of the Forum*

7.2 Current and future budgetary restrictions:-

(a) Covering Report – *Scrutiny Support Officer*

(b) Presentation – *Officers from the Regeneration and Neighbourhoods Department*

8. ISSUES IDENTIFIED FROM FORWARD PLAN

9. ANY OTHER ITEMS WHICH THE CHAIRMAN CONSIDERS ARE URGENT

ITEMS FOR INFORMATION

i) Date of Next Meeting Wednesday 19th January 2011, commencing at 4.30 pm in Committee Room B

NEIGHBOURHOOD SERVICES SCRUTINY FORUM

MINUTES

27 October 2010

The meeting commenced at 4.30 pm in the Civic Centre, Hartlepool.

Present:

Councillor: Stephen Thomas (In the Chair)

Councillors: Allan Barclay, Rob Cook, Steve Gibbon, Sheila Griffin and Carl Richardson.

Resident Representatives: John Cambridge, Brenda Loynes and Iris Ryder.

Also Present:Inspector Mick Little, Cleveland Police
Gordon Goodison, Cleveland Fire Brigade
Ian Jess, High Tunstall College of Science
Rod King, 20's Plenty for Us

Officers: Alastair Smith, Assistant Director (Transport and Engineering)
Peter Frost, Traffic Team Leader
Laura Stones, Scrutiny Support Officer
David Cosgrove, Democratic Services Team

21. Apologies for Absence

Councillor Flintoff.

22. Declarations of interest by Members

None.

23. Minutes of the meeting held on 15 September 2010

Confirmed.

Members had raised a series of issues at the previous meeting and the Assistant Director (Transport and Engineering) indicated that the points in relation to traffic-light maintenance and utilities works would be followed up by officers. A resident representative questioned if any feedback on the meeting between the Mayor and Van Dalen and when the report from Dr Kelly was to be considered. The Chair commented that further reports would be brought forward to Members when available.

In relation to the implementation of 20mph zones around schools, the Chair commented that it was clear that a much more robust criteria was required for the implementation of such schemes and that needed to include a detailed consultation process with the school and local residents.

24. Responses from the Council, the Executive or Committees of the Council to Final Reports of this Forum

No items.

25. Consideration of request for scrutiny reviews referred via Scrutiny Co-ordinating Committee

No items.

26. Consideration of progress reports/budget and policy framework documents

No items.

27. Investigation into '20's Plenty – Traffic Calming Measures – Presentation from 20's Plenty for Us Campaign Group (*Scrutiny Support Officer*)

The Scrutiny Support Officer introduced Rod King from the 20's Plenty for Us campaign group which was a national voluntary organisation supporting communities who wanted lower speeds for residential streets. Mr King first showed the Forum a short video from the 20's Plenty for Us campaign website before outlining the main aspects of the voluntary organisation's work in promoting 20 mph speed limits for residential areas.

In the presentation Mr King highlighted the following points: -

- The 20's Plenty for Us campaign organisation works with many other Road Danger Reduction organisations including RoadPeace, CTC and Living Streets.
- The organisation is a member of the Parliamentary Advisory Committee on Road Safety and the European Transport Safety Council.
- The organisation had also provided evidence to UK Transport Select Committee, London Assembly, National Audit Office, and recently Roads Service on their consultation on setting Local Speed Limits for Northern Ireland.
- The UK has a good overall safety record and when the number of road deaths per 100,000 population was measured, we were second lowest behind the Netherlands.

- However, the same statistic for the number of child deaths per 100,000 population the UK was way behind many countries.
- Based on the EU CARE database figures from 2005, pedestrian fatalities as a percentage of totals road fatalities was 20% for the British Isles against an average of 11.7% for northern Europe and 14.2% for southern Europe. The percentage of pedestrian deaths was also increasing in the UK.
- The Health Development Agency estimated that the reduction in children's deaths and injuries if 20 mph was the speed limit on residential roads could be as high as 67%.
- The Sunflower report compared the Road Safety in Sweden, United Kingdom and Netherlands. This was done by comparing the fatalities per 10 billion kilometres travelled thus measuring the exposure to risk of fatality for various transport modes. This showed that while car fatalities per 10 billion kilometres was lower in the UK (2.9) than Sweden (4.27) and the Netherlands (3.35), the figures for cyclist fatalities were double in the UK (31.75) when compared to Sweden (15.67) and the Netherlands (13.11).
- When the statistics for deprived areas were examined it showed that when the 10% least deprived areas were compared with the 10% most deprived areas all pedestrians in deprived areas were 3 times more likely to be a casualty and children under 16 were 4 times more likely.
- The 20's plenty for Us Organisation's views were that –
    - In the UK we have the poorest record in Western Europe
    - We have failed to engineer our roads for cyclists or pedestrians
    - We maintain speed limits in residential and urban roads 60% higher than our neighbours in N. Europe
    - We are failing in either obtaining or setting conditions for modal shift, and
    - We must question the morality of modal shift encouragement without changing risks for vulnerable road users.
- The Department for Transport was now changing its advice on 20 mph zones and endorsing their use in residential areas.

After the presentation, Members questioned Rod King on aspects of the presentation and the 20's Plenty for Us campaign. Members raised the following questions / comments: -

- How long had the '20's Plenty for Us' organisation been in existence? Since 2007, though Mr King commented that he had been a campaigner on 20 mph limits since he had visited Germany in 2004.
- Were there statistics showing the benefits of 20 mph zones? Portsmouth had implemented 20 mph zones over a very large area. They had reported a 20% reduction in causalities. On narrower roads there had been little reduction in overall speeds, though average speeds on larger roads had shown a 6.5 mph reduction, which was a large reduction. Warrington had estimated an 800% return on their expenditure to introduce 20 mph limits on 197 streets. The reductions in speed also allowed people to take avoiding action much easier

- How had other authorities met the costs of implementing these restrictions? They had been funded from transport budgets though the benefits needed to be seen as wider than that as these schemes had major health benefits as well. There was also reduced pollution and noise.
- Is '20's Plenty for Us' advocating that 20 mph limits in residential areas don't need other traffic calming measures in order to be affective? The Council has experience at school locations where both have worked well together. Mr King commented that in isolation 20 mph limits did frequently need accompanying physical measures. When done over a large residential area, they did tend to be self-enforcing.
- The Police representative commented that whatever measures can be introduced to reduce accidents and casualties had to be welcomed, though some of the data quoted did conflict with that the Police had. It had to be acknowledged that the roads in Cleveland were now the safest that they had ever been. There was the issue that the Police could not enforce the 20 mph limits, though the public would expect to see them doing so. At best fixed penalty notices could be given to offenders. This would not have the benefit of the potential referral under the Endorse Scheme for offenders to attend speed safety courses.
- Members asked for feedback from the Local Authority areas that had introduced the 20 mph limits across wide residential areas.
- Members commented that one of the main issues around schools was not speeding vehicles but parked vehicles.
- Members commented that perhaps these speed limits should be applied across the country; the smoking ban had worked because it had been applied that way.
- Department for Transport figures showed that the costs of road accident casualties for Hartlepool were £16m a year. This proposal would save on that cost by reducing the number and severity of road accident casualties in residential areas. Portsmouth had estimated their saving against their road accident costs were 22%.
- The Assistant Director commented that the presentation had raised many points that he would look to explore further through the Road Safety Partnership. The issue of fixed penalty notices and the Endorse scheme would also need to be discussed further. If this was to work in Hartlepool it would have to be a blanket application with the roads excluded – primary routes and main feeder roads – being the easier to define. Many of the town's streets were already quite congested creating their own natural traffic calming. There was the issue of street ownership; for too long it had been the car that was king and now communities needed to take greater ownership and responsibility for the roads in their neighbourhoods. The Council may have to consider being more radical in its approach to this and if necessary seek government support for the enforcement of 20 mph speed limits.

The Chair thanked Rod King for his informative presentation and responding to the questions and comments from members.

Recommended

That Rod King from '20's Plenty for Us' be thanked for his informative presentation and that the information presented and the comments of members be used to inform the Forum's final report.

28. Investigation into '20's Plenty – Traffic Calming Measures – Evidence from Partner Organisations

(*Scrutiny Support Officer*)

Inspector Mick Little, Cleveland Police and Gordon Goodison, Cleveland Fire Brigade were present at the meeting and commented from their organisations perspective on the Forum's investigation.

Inspector Little indicated that he supported the initiatives that had been implemented in Hartlepool to support road safety and speed reduction. On the issue of blanket 20 mph speed limits, he indicated that he probably on balance didn't support their implementation due to the difficulties in enforcement. Knowledge of the costs of all the appropriate signage that had to be instigated may also inform Members' debate.

Members commented on the designation of arterial roads that would retain their current speed limits under any such proposal. Some, such as Catcote Road had already been redesigned following serious accidents. There was a concern expressed by the Police and officers that taking cars off roads tended to encourage the remaining traffic to travel faster.

It had been commented that around some schools, those on Catcote Road being highlighted, 20 mph limits may only be needed for limited times during the school day. The representative from High Tunstall College of Science commented that the school day was now much longer. The past experience of needing restrictions only for the 20 minutes at the start and end of the day to accommodate children arriving and leaving was no longer the case. Children were arriving at school for breakfast clubs and staying for a whole range of after school clubs and schemes. It was also highlighted that there were still issues of road crossings for children walking regular routes to school to be addressed. Not all common crossing points had any form of protected crossing; the top of Grange Road was highlighted as such a point.

The Fire Brigade representative commented that the brigade would welcome any future consultation on traffic calming measures in the town. For the Fire Brigade response times were their main concern. Any measures that reduced the number of serious accidents would be welcomed.

Recommended

That the comments of the Police and Fire Brigade be welcomed and noted.

29. Investigation into '20's Plenty – Traffic Calming Measures – Feedback from Forum's Site Visit (*Scrutiny Support Officer*)

The Scrutiny Support Officer reported that Members had attended a site visit on 11 October to look at the variety of traffic calming measures used across Hartlepool. It was noted that the more successful schemes had involved extensive consultation with local communities. Members were also informed that a site visit to Newcastle City Council was planned for 28 October.

Recommended

That the feedback from the site visit be noted.

30. Investigation into '20's Plenty – Traffic Calming Measures – Presentation by Traffic Team Leader (*Scrutiny Support Officer*)

The Traffic Team Leader, Peter Frost, gave a presentation to the Forum on the Council's current approach to traffic calming. It was highlighted that traffic calming schemes including 20 mph zones had been applied around 22 of the town's 35 schools. Works were currently on-going at St Helen's School as part of the programme. In relation to 20 mph limits, these had previously had to rely on being self-enforcing, though the Department for Transport was now encouraging councils to use these measures.

Any traffic calming scheme had to go through a process of assessment, funding identification and consultation prior to implementation. This process included traffic assessments, reviewing accidents statistics and, sometimes, pedestrian assessments. There were various forms of traffic calming used – road humps, speed cushions, raised junctions, raised zebra crossings, priority build outs, central hatching/pedestrian islands, vehicle activated signs and speed cameras. Which measure was implemented depended very much on the locations and what was to be achieved. Some very rough estimates of the costs of the various types of traffic calming were display for Members information, but the Traffic Team Leader indicted that these costs were very dependent on the location.

The Traffic Team Leader circulated for Members information details of the safety scheme priority list, the school schemes that had been implemented to date and all the 20 mph schemes that had been implemented in the town.

Members commented that in most cases, the council did get the right measures implemented at the right location, though there was concern that the 20 mph limit on Davison Drive outside West View Primary School should have been extended to the whole of the road.

The Chair commented that some of the cost estimates showed that some of the measures would be the exception rather than the rule due to cost. The Traffic Team Leader indicated that the physical measures did slow people

down but the 20's plenty approach was worth exploring as it may change attitudes rather than just behaviour. These measures did need to be explored thoroughly with the community so they were done in conjunction with people rather than just implemented in isolation.

Recommended

That the Traffic Team Leader be thanked for his informative presentation and that the comments and issues raised be noted.

31. Investigation into '20's Plenty – Traffic Calming Measures – Written Evidence from Schools (*Scrutiny Support Officer*)

The Forum received feedback from four schools in the town on traffic calming measures – St John Vianney's School and Children's Centre, West View Primary School, Holy Trinity C of E Primary School and Kingsley Primary School. Members noted that all the schools referred to parking problems mainly due to parents dropping off and picking up children. It was highlighted that the congestion did in itself slow traffic down. The Chair considered that the traffic problems around schools were still a sign of the amount of education of parents that was still needed and may be an issue the Forum will have to consider when formulating its recommendations.

Recommended

That the feedback from the schools be noted.

32. Landlord Accreditation Scheme (*Scrutiny Support Officer*)

The Scrutiny Support Officer reported that the Forum had discussed the possibility of including the Landlord Accreditation Scheme as one of the topics for investigation this year. However, members agreed that there wasn't the capacity to include the subject in the work plan but did request a progress/update report and it was proposed that this would be submitted to the meeting in March with a view that Members may wish to include the topic as an item in the 2011/12 work programme. It was now suggested that the topic and update report may be widened in remit to include selective licensing and a good tenant scheme.

Recommended

That the remit of the progress / update report on the Landlord Accreditation Scheme be widened to include selective licensing and a good tenant scheme and that this form a suggested work programme topic for 2011/12.

33. Issues Identified From The Forward Plan

No items.

34. Any Other Items which the Chairman Considers are Urgent

No items.

The meeting concluded at 6.25 p.m.

CHAIR

NEIGHBOURHOOD SERVICES SCRUTINY FORUM

10 November 2010

HARTLEPOOL BOROUGH COUNCIL

Report of: Scrutiny Support Officer

Subject: 20'S PLENTY – TRAFFIC CALMING MEASURES – FEEDBACK FROM THE NEIGHBOURHOOD CONSULTATIVE FORUMS AND SITE VISIT TO NEWCASTLE CITY COUNCIL: COVERING REPORT

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1. PURPOSE OF THE REPORT

1.1 To facilitate a discussion amongst Members of this Forum in relation to the feedback from the Neighbourhood Consultative Forums and the site visit to Newcastle City Council.

2. BACKGROUND INFORMATION

2.1 Members will recall that at the meeting of this Forum on 4 August 2010, the Terms of Reference and Potential Areas of Inquiry / Sources of Evidence for this Scrutiny investigation were approved by the Forum.

2.2 As part of the evidence gathering process for the undertaking of the investigation into '20's Plenty – Traffic Calming Measures', the Chair of the Forum along with the Scrutiny Support Officer recently attended the North, Central and South Neighbourhood Consultative Forums. The feedback received from each Forum is included as item 7.1 (b) of today's agenda.

2.3 Members of the Forum also attended a site visit on 28 October 2010 to look at how Newcastle City Council approaches traffic calming. Newcastle is into its second year of delivering 20mph zones as part of its three year rolling city wide programme. In line with good practice, Members of this Forum who were in attendance are requested to share / discuss their findings at today's meeting.

2.4 Members of the Forum at the meeting of 27 October 2010 requested information from several other Local Authorities (Portsmouth City Council, Warrington Borough Council, Oxford City Council and North Lanarkshire Council) on how they approached the implementation of 20mph in all their

residential streets along with the cost and how the limits are enforced. This information will be circulated in advance of the meeting.

3. RECOMMENDATIONS

3.1 That the Neighbourhood Services Scrutiny Forum:-

(a) note the content of the feedback received from each of the Consultative Forums; and

(b) discuss findings from the site visit held on 28 October 2010 to Newcastle City Council

Contact Officer:- Laura Stones – Scrutiny Support Officer
Chief Executive's Department - Corporate Strategy
Hartlepool Borough Council
Tel: 01429 523 087
Email: laura.stones@hartlepool.gov.uk

BACKGROUND PAPERS

The following background paper was used in preparation of this report:-

(a) Scrutiny Investigation into '20's Plenty – Traffic Calming Measures' - Scoping Report (Scrutiny Support Officer) – 04.08.10

(b) Minutes of the Neighbourhood Services Scrutiny Forum – 04.08.10

Written feedback from the Neighbourhood Consultative Forums

North Neighbourhood Consultative Forum – 20 October 2010

(a) 10 years ago Glasgow implemented 20's Plenty in residential areas, which is adhered to and is very successful. Would suggest that all residential streets be 20mph and outside of schools to improve road safety;

(b) Is not about enforcement but more a change of mindset; and

(c) The most successful traffic calming measures are the ones which have the biggest involvement of the local community in putting it together

Central Neighbourhood Consultative Forum – 21 October 2010

(a) The Council is currently consulting about extending 20mph zones. Would ask that signage is improved to clearly define an area that is 20mph and make start and finish clear. The pilot signage is not right but you make mistakes in pilot exercises;

(b) As a resident 20mph limits are a good thing. Will cause problems because might slow traffic down, although don't think it will slow it down that much;

(c) Always advocate for 20mph around schools, need to look at this as some of the previous schemes have been wrong (speed humps etc);

(d) Would urge Forum to look at the implementation of 20mph from a geographical perspective, for example, York Road or other major roads should not be 20mph. Geography is a big part of it. 20mph signage reduces speed but there will be areas where the only way to do it is with physical traffic calming measures. Need to be brave enough to say that to residents. Have got away from the fact that these are residential streets, residents have lost their streets to motorists. Should come from the perspective of what makes this better for residents. Don't want to remove signs and write on road.

(e) What if you live in a long street and vehicles move up and down. In the past the Council would meet the emergency services who would say that there should not be physical traffic calming in a particular area because of the amount of traffic. Residents might not want physical traffic calming measures;

(f) If you put signage up it will make people think and not go over 30mph and is the cheapest option to implement. Ambulances use certain routes all the time and they can't keep going over humps and chicanes;

(g) Each area will have different remedies, can't put some restrictions on some roads;

(h) Really good if the Forum could look at practice around the country to physical prevention which doesn't stop emergency vehicles. There must be a type of speed hump that wouldn't impact on emergency vehicles;

(i) Will the 20mph signage be LED? This will have more impact than a sign that just says 20mph. When it is an LED sign everyone breaks. Is more expensive but could be one method. Physical measures cause damage;

(j) Main problems are plastering area with signs. Need to alter entrance and narrow down so people realise that it is a different scheme; and

(k) Different methods need looking at. In the USA they put grit or paving on the road and it really slows traffic down.

South Neighbourhood Consultative Forum – 22 October 2010

(a) Concerns raised about how you enforce 20mph limits;

(b) Some traffic calming restrictions do not make any difference including 30mph limits;

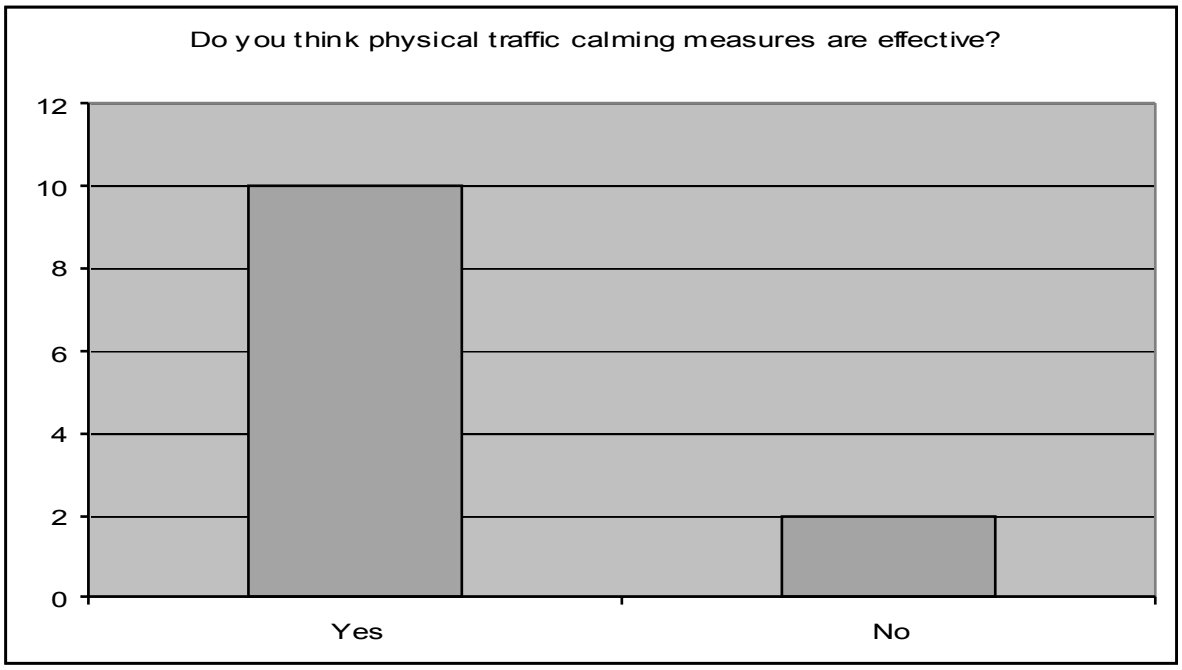
(c) Look at how Scotland have introduced 20mph zones / limits. In some places in Scotland 20mph zones / limits have been implemented for at least 10 years without physical traffic calming measures being involved; and

(d) In some places where traffic calming is proposed, it would result in a loss of parking for houses.

Questionnaire

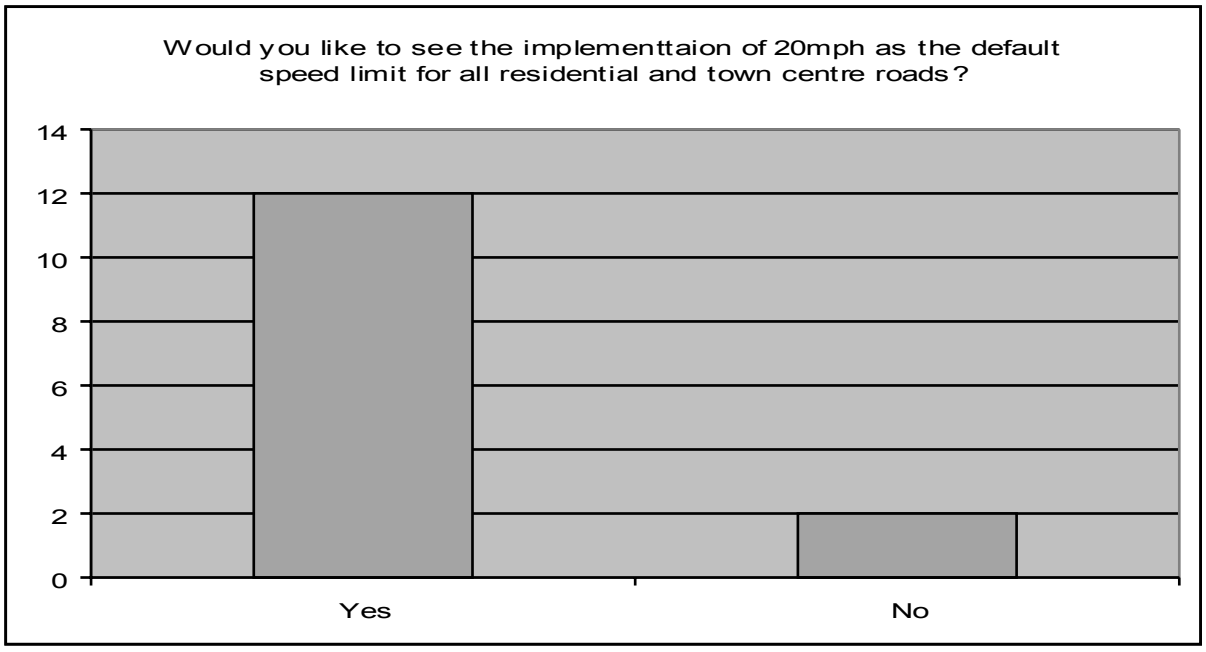
A short questionnaire was distributed at each of the meetings and people were asked to complete the questionnaire. 14 questionnaires were completed and returned. The following graphs show the responses to each question:-

Question 1



(Two people said some physical traffic calming measures are effective. Out of these two people, one said humps are effective but not unenforced restrictions)

Question 2



(one person who answered yes to the above question said if enforced and only on appropriate residential and town centre roads; and
one person who answered no said only in residential streets not all town centre roads)

Question 3

How do you think the Council should be approaching traffic calming issues in light of the budgetary restrictions:-

(a) 20mph outside schools only;

(b) Priority streets first including high volume usage streets and taxi 'rat runs';

(c) Any signage, good value, if enforced – waste of money if not;

(d) 20's plenty a good idea in certain areas. Will always need some physical calming measures on long, straight roads etc.

(e) As I am part of Scrutiny I would rather comment on this after the Newcastle visit to see their traffic calming measures;

(f) More signage rather than physical calming;

(g) As a safety issue this needs to be a priority. Anything done needs to be things that do not require resourcing and a large amount of policing;

(h) Make it priority, life is more important than money;

(i) To install the best they can afford;

(j) As soon a possible before the funds run out (e.g. 20 mph) (remember speed kills);

(k) Tarnston Road could do with a censor on the passing vehicles. There are school children walking along this road on their way to and back from High Tunstall School. Residents also have difficulty crossing this road. Also getting cars out of their driveways. The traffic lights at the end of Tarnston Road have turned this road into a rat run, cars travel along this road from as far as Catcote Road onto A179; and

(l) With a 20 mph limit if possible. Remember speed kills. We would like if possible to have a 20 mph in Tarnston Road due to the increase of traffic and there is also children walking to and from High Tunstall School and residents have a problem coming and going from minor roads into Tarnston Road. 20mph signs would be cheapest.

NEIGHBOURHOOD SERVICES SCRUTINY FORUM

10 November 2010

HARTLEPOOL BOROUGH COUNCIL

Report of: Scrutiny Support Officer

Subject: 20'S PLENTY – TRAFFIC CALMING MEASURES – CURRENT AND FUTURE BUDGETARY RESTRICTIONS - COVERING REPORT

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1. PURPOSE OF THE REPORT

1.1 To inform Members of the Forum that Officers from the Council's Regeneration and Neighbourhoods Department have been invited to attend this meeting to provide evidence in relation to the ongoing investigation into '20's Plenty – Traffic Calming Measures'.

2. BACKGROUND INFORMATION

2.1 Members will recall that at the meeting of this Forum on 4 August 2010, the Terms of Reference and Potential Areas of Inquiry / Sources of Evidence for this Scrutiny investigation were approved by the Forum.

2.2 Consequently, Officers from the Council's Regeneration and Neighbourhoods Department will be in attendance at today's meeting to deliver a presentation, as part of this Forum's investigation into 20's Plenty – Traffic Calming Measures in relation to the following issues:

(a) The impact of current and future budget pressures on the way in which traffic calming is provided in Hartlepool;

(b) How traffic calming could be provided in the future, giving due regard to:-

(i) improving the effectiveness and efficiency of the way in which the service is currently provided;

(ii) If / how the service could be provided at a reduced financial cost (within the resources available in the current economic climate)

(c) The cost of converting all appropriate residential streets to 20mph limits.

3. RECOMMENDATIONS

3.1 That the Neighbourhood Services Scrutiny Forum:-

(a) Note the content of the presentation, seeking clarification on any relevant issues from the officers in attendance; and

(b) Identify suggestions for improvements to improve the effectiveness and efficiency of the way in which traffic calming is delivered in Hartlepool, including how the service could be provided at a reduced financial cost.

Contact Officer:- Laura Stones – Scrutiny Support Officer
Chief Executive's Department - Corporate Strategy
Hartlepool Borough Council
Tel: 01429 523 087
Email: laura.stones@hartlepool.gov.uk

BACKGROUND PAPERS

The following background paper was used in preparation of this report:-

(a) Scrutiny Investigation into '20's Plenty – Traffic Calming Measures' - Scoping Report (Scrutiny Support Officer) – 04.08.10

(b) Minutes of the Neighbourhood Services Scrutiny Forum – 04.08.10

Appendix A

Costs / Enforcement of 20mph limits – Comments received from other Local Authorities

WARRINGTON COUNCIL

ENFORCEMENT: The Police have no objections to the Town Centre Scheme becoming permanent due to the high volume of pedestrians in this area.

Neither do they have objections to the Orford or Park Road area schemes becoming permanent, with the exception of Park Road and A50 Long Lane themselves, which the Police suggest should be set at 30 mph limits.

This view is based on the fact that these are local distributor roads and bus routes. Long Lane is also a key distributor route avoiding the town centre, especially when there are closures on the local Motorway network.

The Police report that the nature and usage of these routes does not indicate a logical 20 mph limit to road users, which leads to confusion and driver frustration, with associated incidents of aggressive overtaking and tailgating. For these reasons the Police have stated that they could not justify enforcement of a 20mph limit on these roads.

COSTS: The trial study for the three areas assessed cost £118,000, including the extension of the Park Road area and advertising and legal costs. It has been estimated that it would require £1449 per km to introduce 20mph limits on all Warrington's residential roads assuming that all signs were to be erected on existing posts and lighting columns (with the exception of Terminal Signage that would require posts with foundations).

If an Authority wide 20mph blanket were to be introduced on all of the current urban 30mph limit roads the total cost for signage provision with legal and advertising costs would be approximately £740,000 for 510.7km of Warrington's urban roads, not including advertising and legal costs to make associated Traffic Regulation Orders.

A cost saving to the community can be applied to ascertain a monetary value in relation to the First Year Rate of Return. The DfT (at the time of this report) estimate the average cost of a collision occurrence to be £104,900. This includes costs incurred by the Police, Ambulance Service, Fire and Rescue Service, NHS, Highway Maintenance, Vehicle Insurance and several other areas that incur cost.

At an annual reduction of 9 injury collisions the cost saving to the community would be £944,100 if this reduction level could be sustained. This would indicate that during the 18 months of the trials being undertaken there has been a cost saving to the community of £1,435,032 through injury collision reduction.

(see appendix B for further information on Warrington's 20mph scheme)

Appendix A

Costs / Enforcement of 20mph limits – Comments received from other Local Authorities

ISLINGTON COUNCIL

COSTS: 1.6 million, which is higher than intended. Majority of the cost is through illuminating the signs, as is recommended by guidance. There is also the on going cost of maintenance and electricity.

ENFORCEMENT: Police will enforce

(see appendix C for further information on Islington's 20mph scheme)

PORTSMOUTH COUNCIL

COSTS: The overall cost of the scheme was £572,988. This was broken down into 4 sections:

- Consultation - £20,626
- Preparation & Supervision - £117,089
- Traffic Surveys - £14,535
- Implementation - £420,738

The scheme covers over 1,200 roads within Portsmouth which is 94% of the total road length. The scheme covers 410km of the 438km road length.

ENFORCEMENT: The Police do not enforce the speed limit on a day to day basis although they would stop anyone who is driving in a inconsiderate manor. However the Police work alongside ourselves and Hampshire Fire & Rescue in Education & Enforcement days where they enforce roads that have a speed issue and give the driver the choice of accepting the fixed penalty notice and 3 points or attend an education event that shows the motorist the potential harm dangerous driving can cause through videos, talks, and demonstrations.

(see appendix D for further information on Portsmouth's 20mph scheme)

OXFORD COUNCIL

COSTS: Overall around £330,000. Around £200,000 was for the signing works, with the balance being design etc. and consultation costs

ENFORCEMENT: With limited police resources the speed limit is expected to be self enforcing although enforcement will be carried out where there are exceptional problems. Main concern of the police is that without the

Costs / Enforcement of 20mph limits – Comments received from other Local Authorities

widespread use of physical calming measures, compliance with a 20mph limit will be low, which not only will reduce the safety and wider benefits but also lead to demands for enforcement which could place a severe strain on police resources.

(see appendix E for further information on Oxford's 20mph scheme)

NORTH LANARKSHIRE COUNCIL

INFORMATION ON COST HAS NOT BEEN RECEIVED

ENFORCEMENT: Predominantly self enforcing but some police activity taking place due to Scottish Police forces not being subject to Association of Chief Police Officers guidance

(see appendix F for further information on North Lanarkshire's 20mph scheme)

Appendix B

Warrington Council

20mph speed limits have stemmed from the Department for Transport circular document 1/06 'Setting of local speed limits', where 20mph speed limits are 'supported and encouraged' by the DfT. In addition to this, the circular notes that they should generally be self enforcing e.g. not require the usually associated traffic calming measures.

In addition to the above, it is widely appreciated in the industry that reduced speeds can have wider benefits, predominately in the form of:

- Reduced number and severity of accidents
- More cycle friendly environment
- More pedestrian friendly environment
- Wider travel options
- Greater ownership of streets and public space

All of the above linked into the council's objectives through the local transport plan and as a result, three trial areas were established, each to determine different outcomes.

The first area, the Town Centre, was introduced to determine if a reduction in vehicle speeds would encourage greater use of sustainable forms of travel and commuting practices e.g. walking and cycling.

The second area, Orford (a large residential area), was chosen due to its history of vulnerable road user casualties. The council wanted to determine if these numbers could be reduced.

The third area, Great Sankey (initially one road only, Park Road, this was later extended to surrounding roads due to motorists 'bypassing' the 20mph restriction), was chosen due to its history of pedal cyclist collisions; again, the council wished to determine if the previous disproportionately high numbers could be reduced.

The differing nature of the roads enabled us to determine how suitable certain road types are for the introduction of a 20mph speed limit.

We developed and agreed a monitoring framework prior to implementation to establish how the scheme would be managed throughout the 18 months. We are now approaching the end of the trials and are presently collecting all the required data so that we may take a view in relation to the future of 20mph speed limits, this will be passed on to the council's Executive Board to make a final decision on.

Executive Board Decision:-

The Executive Board considered a report of Councillor A Litton, Executive Board Member, Environment and Transport that detailed the outcome of

Appendix B

20mph speed limit trials undertaken in 3 areas: Warrington Town Centre; Orford and; Great Sankey. The report described outcomes of investigations into the feasibility and potential benefits of extending 20mph speed limits to all residential streets within the Borough in order to encourage an attitudinal change in drivers.

Decision – That the Executive Board agree –

(1) to note the positive results from the 20 mph pilot schemes and agree to the principle of a long-term roll-out of 20mph limits subject to the availability of funding and outcomes of LTP3 prioritisation;

(2) To authorise officers to progress the consultation on individual schemes, to include ward members and neighbourhood boards, with a view to advertising Traffic Regulation Orders for the 20 mph speed limits, to be determined by the Traffic Committee, within the pilot areas, with the exception of Park Road and A50 Long Lane.

(3) To undertake further work to develop road hierarchy and assessment criteria; a prioritisation process; refined cost estimates and; to provide a report to the Environment and Housing Overview & Scrutiny Committee on the outcomes prior to a further report to the Executive Board.

Reason for Decision:

To maximise the potential benefits of introducing 20 mph speed limits on residential streets in Warrington.

20mph Pilot Speed Surveys Vehicle Speed and Flow

			Survey Date June 2008			Survey Date April 2009			
Pilot scheme	Monitoring Station	Direction	Flow	Mean	85%ile	Flow	Mean	85%ile	Flow
Orford Area	Long Lane	WB	44518	26.1	30.6	44992	24.1	29.5	474.0
	Long Lane	EB	45305	27.8	32.4	46617	25.7	31.3	1312.0
	Orford Green	WB	34579	23.3	28.4	34620	22.6	28.0	41.0
	Orford Green	EB	37426	26.2	29.3	38082	25.6	29.1	656.0
	Northway	NB	13101	24.1	29.5	14809	24.6	30.0	1708.0
	Northway	SB	18325	27.1	32.2	18376	26.1	32.0	51.0
	Statham Road	WB	22422	24.7	28.6	22396	24.1	28.4	-26.0
	Statham Road	EB	17481	26.6	31.3	17854	25.1	29.8	373.0
	Sandy Ln	WB	20568	27.3	32.0	21389	25.9	34.0	821.0
	Sandy Ln	EB	19390	26.8	31.5	19905	24.9	29.8	515.0
Park Road	Park Rd / Lingley Rd	WB	13500	25.5	30.2	13036	24.3	28.9	-464.0
	Park Rd / Lingley Rd	EB	15705	26.3	30.6	15174	24.6	29.1	-531.0
	Park Road/Norfolk Drive	WB	15211	28.4	32.7	13557	26.4	31.8	-1654.0
	Park Road/Norfolk Drive	EB	16301	28.9	34.0	14412	26.3	32.0	-1889.0
Town Centre	Academy Way	WB	36038	24.9	29.5	36240	24.3	29.1	202.0
	Academy Way	EB	11984	23.6	29.8	12420	22.6	28.4	436.0
	Bold Street	SB	26105	18.0	22.1	26238	18.0	22.1	133.0
	Buttermarket Street	WB	28467	23.7	29.1	28957	23.3	28.6	490.0
	Buttermarket Street	EB	27865	23.5	28.4	28583	23.4	28.2	718.0
	Sankey Street	WB	6429	22.1	26.8	7839	22.3	26.4	1410.0
	Sankey Street	EB	45994	21.1	27.3	46616	21.9	28.0	622.0
	Scotland Road	NB	10064	20.9	26.2	10523	20.5	25.7	459.0
	Scotland Road	SB	35595	21.0	25.7	34981	20.8	25.5	-614.0
	Winmarleigh Street	NB	31014	22.1	26.2	30732	21.8	25.7	-282.0
	Winmarleigh Street	SB	2248	19.1	23.0	2403	19.6	23.7	155.0
		Average	23825.4	24.4	29.1	24030.0	23.6	28.6	204.6

20 MPH SPEED LIMIT REVIEW – KEY MILESTONES

Stage - Scheme Inception	Approximate date	Milestone
SCHEME FEASIBILITY		
Review of Current Guidance (as a result of Warrington's Cycle forum)	February/ March 2008	The Road Traffic Regulations Act (Amendment) Order 1999 (SI 1999 No. 1608) gives authorities the powers to introduce both 20 mph speed limits and 20 mph zones without obtaining consent from the Secretary of State.
Defining Trial Locations (Scheme justification)	March 2008	To make the pilot study more robust, different types of roads have been selected by geographical feature (i.e. Park Rd: long straight, Orford Area: large residential area and Town Centre: business area, coupled with the accident rate justifications as below: • Park Road – High frequency of accidents involving pedal cydists • Orford area – High frequency of accidents involving vulnerable road users • Town Centre – to encourage more sustainable commuting practices.
Portsmouth Experience	June/July 2008	An examining of Portsmouth's policies on the implementation of 20 mph limits has proved beneficial. Portsmouth City Council has implemented blanket 20 mph speed limits in six areas and after implementation accident studies have proved successful in both the reduction in speeds and casualty numbers and severity.
Monitoring Framework (Before scheme implementation surveys include)	August/ September 2008	This includes utilising Automatic Traffic Counts (ATC) to establish traffic flows, mean speeds, 85th percentage and percentage over the current speed limit. Coupled with the ATC data, vulnerable road user surveys concentrating on cycle flows have also been examined. This information is needed in order to assess the effectiveness of the 20 mph speed limits in terms of speed reduction and cycle flows.
Members consultation	9th October 2008	This scheme was presented to Council members at the Gateway, which gave Council Members the knowledge to answer queries on this scheme.
Delegated Approvals	11 November 2008	Delegated approvals for scheme implementation were confirmed, so that scheme could move from the feasibility stage to detailed design.

SCHEME IMPLEMENTATION		
Scheme Design completion	November 2008	Detailed design to Construction Design Regulations 2007 and adheres to other highway design legislation
Making of Experimental Traffic Regulation Orders	November 2008	This process has been finalised by the Councils Legal Team and the Traffic Order has been sealed – this order will be advertised on 15th January 2008 in the Warrington Guardian
Area Committee consultation –Park Road	9th October 2008	Informing Local Residents about the scheme face to face. This formal process gives local residents the chance to get feedback.
Area Committee Consultation -Orford Area	14th January 2009	Informing Local Residents about the scheme face to face. This formal process gives local residents the chance to get feedback.
Area Committee Consultation -Town Centre	15th January 2009	Informing Local Residents about the scheme face to face. This formal process gives local residents the chance to get feedback.
Public Consultation	20th January 2009	Leaflets will be distributed to 7500 households within the Borough: • Park Road Area, Great Sankey - (1,725) • Orford Green Area, Orford – (4,433) • Town Centre – (953)
Communications Strategy	29th January 2009	Half page spread in the Warrington Guardian
Scheme start date	2nd February 2009	Scheme will be fully operational
MONITORING FRAMEWORK		
After implementation Surveys	2nd March 2009	Automatic Traffic Counts (ATC) to establish traffic flows, mean speeds, 85th percentage and percentage over the current speed limit. Coupled with the ATC data, vulnerable road user surveys concentrating on cycle flows have will be used make comparisons with pre scheme implementation data
After implementation Area Committee consultations	August 2009	To ask local residents for feedback on whether the scheme is working or not
Police Enforcement	November 2009	High Police presence to issue drivers with ticket who break the 20 mph speed limit in all three areas
After implementation Surveys	November 2009 Oct 09	Automatic Traffic Counts (ATC) to establish traffic flows, mean speeds, 85th percentage and percentage over the current speed limit. Coupled with the ATC data, vulnerable road user surveys concentrating on cycle flows have will be used make comparisons with pre scheme implementation data Perception surveys

Accident Analysis	May 2010	Detailed accident analysis of all three areas
After implementation Surveys	July 2010	Automatic Traffic Counts (ATC) to establish traffic flows, mean speeds, 85th percentage and percentage over the current speed limit. Coupled with the ATC data, vulnerable road user surveys concentrating on cycle flows have will be used make comparisons with pre scheme implementation data
End of Pilot	August 2010	

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20mph Zone Schemes

Research shows that excessive speed is a major factor in a third of all road deaths. If a vehicle travelling at 40mph hits a pedestrian or cyclist there is only a 15% chance of survival. At 20mph however, the chance of survival jumps to 95%. Accidents have fallen by over 65% in areas in Islington where 20mph zones have been introduced.

All 20mph zones must be self-enforcing. This means using physical measures such as speed humps, entry treatments, kerb build-outs etc., to slow down drivers. Research has shown 20mph zones reduce speeds by an average of 9mph, where a 20mph limit on its own only reduces speed by 3mph and relies on driver discretion.

A map showing all of Islington's 20mph zones can be found below.

Current programme of works

Hanley Road Area 20mph Zone

This scheme is aimed at reducing the number of road traffic related accidents in the Hanley Road area. Funding for this scheme has been provided by Transport for London. The scheme should be completed by the end of March 2010, subject to the outcome of consultation. Further details of the scheme can be found in the consultation document below. If you require any further information on this scheme, please contact Natalie Jantjies on 020 7527 2323 or email **mailto:public.realm@islington.gov.uk%20**

Downloadable Documents

Download Hanley Road Consultation Document (pdf - 5.2MB)
Download 20mph zones and limit map (pdf - 2.4MB)
To download and read pdf documents, you will need Adobe Acrobat Reader

Get Adobe Reader

Page Last Updated: 08 December 2009

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Hanley Road Area 20mph scheme

Questionnaire - Your views count

Please ensure your comments get to us by **Friday 5 June 2009**.

Name: _____

Address: _____

_____

_____ Postcode: _____

Do you live or own a business in the Hanley Road area (please tick correct box):

☐ Resident ☐ Business

Please let us know whether or not you support a 20mph scheme, and if so which of the two options you prefer.

☐ **Yes**, I support the introduction of a 20mph scheme

☐ **No**, I do not support the introduction of a 20mph scheme

If you would like a 20mph scheme which option would you prefer?

☐ **Option 1** – 20mph zone with traffic calming and signage

☐ **Option 2** – 20mph speed limit with signs only

If you have any comments please write them in the box below:

If you would like us to keep you updated on this scheme by email, please give us your email address below:

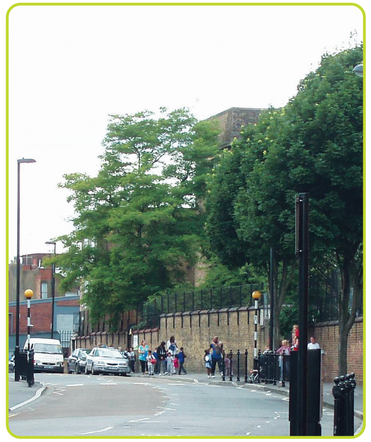
How and when we will decide on the options

Please tell us which option you would prefer by giving us your feedback by **5 June 2009**

The results of the consultation will be presented on a road by road basis to the council's North Area Committee on 17 July 2009. This is a public meeting where local issues are considered.

If one of the options is approved, we will aim to complete it by the end of March 2010.

The options set out may change following consultation and detailed design.



How to give your feedback

Please give us your feedback **by 5 June**. You can either:

- Fill in the attached form and send it back to us in the FREEPOST envelope supplied; or
- Go to **www.islington.gov.uk/consultation** and complete the questions online.

You must give us your address details for your views to be counted. We can only accept one reply per household.

If you would like this document in large print or Braille, audiotape or in another language, please contact 020 7527 2000.

If you would like further information on these proposals, please contact:
Michael Fletcher or Natalie Jantjies

E public.realm@islington.gov.uk
T 020 7527 2000
Minicom: 020 7527 1900
W www.islington.gov.uk

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About your personal details

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www.islington.gov.uk

ISLINGTON

In partnership with

Transport for London

Would you like to see a **20mph scheme** in the Hanley Road area?

Please tell us your views by 5 June 2009

This leaflet explains the options for your area. Please tell us which one you prefer.

More information and feedback form inside.

Why the council is reducing the speed in your area?

The council is committed to making your roads safer. This is why we are proposing to change the maximum speed along Hanley Road and the residential streets around it.

Why 20mph?

It's simple – if you are hit by a car when out walking or cycling, your chances of surviving are greater the slower the car is moving.

Speed of car	Chance of surviving
20mph	**95%**
30mph	80%
40mph	10%

Your options

We would like you to tell us if you agree in principle to reducing the speed and, if so, which of the two options you prefer for enforcing it. Neither option will result in any loss of parking.

Option one

20mph zone with traffic calming and signage

How this option would be enforced

- by changing the layout of the road to make drivers slow down.

This will involve building the kerb out, installing special raised pedestrian crossings and road humps.

The proposed road humps will be new, lower impact 'sinusoidal' humps. These are as effective in reducing traffic speeds as traditional road humps but are preferred by cyclists as they are smoother to ride over. They also reduce road noise and vibration as vehicles travel over the hump.

Similar style road humps have been used for the 20mph zone in the Whittington and St George's areas.

Speeding is a criminal offence. If you are caught breaking the speed limit, you will be prosecuted.

Option two

20mph speed limit with signs only

How this option would be enforced

- by encouraging drivers to slow down using road signs and road markings
- by limited monitoring and enforcement of the speed limit.

This option mainly relies on drivers observing the speed limit on the signs.

Metropolitan Police, including Safer Neighbourhood Teams, will monitor and enforce speeds using mobile equipment. We hope this will deter drivers from speeding.

Speeding is a criminal offence. If you are caught breaking the speed limit, you will be prosecuted.

Surveys will also be carried out before and after the new speed limits are introduced. If we find that the new speed limit isn't making a difference, we need to consider additional funding to carry out further consultation on traffic calming measures.

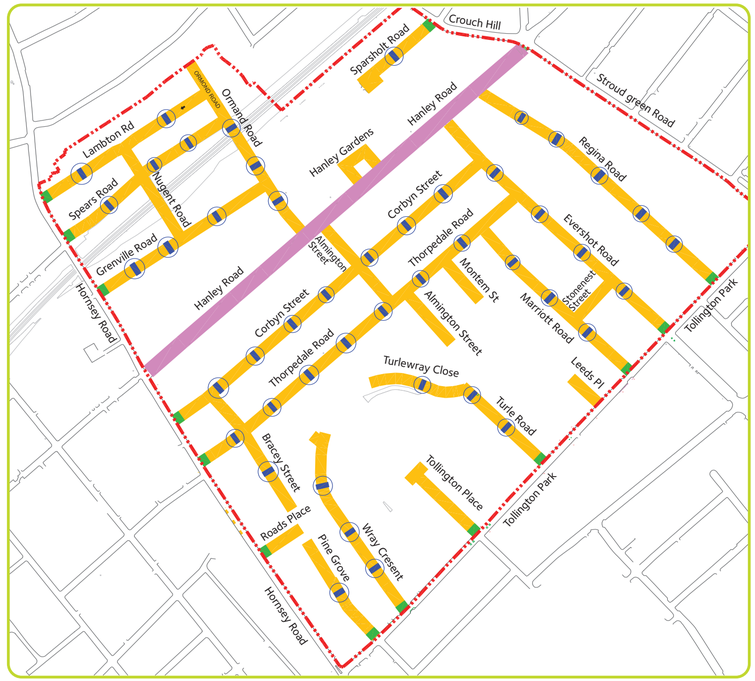
Which roads will be included in options one or two?

Because it is a main road, we would not install road humps on Hanley Road, but still intend to reduce the speed limit to 20mph (with road signs and markings) whichever of the two options is chosen.

The chosen option would then be implemented on the following roads, which are also indicated on the map opposite.

Almington Street, Bracey Street, Corbyn Street, Evershot Road, Grenville Road, Lambton Road, Marriott Road, Montem Street, Nugent Road, Ormond Road, Pine Grove, Regina Road, Thorpedale Road, Sparsholt Road, Spears Road, Stonenest Street, Tollington Place, Turle Road, Turlewray Close, Wray Crescent.

Map showing proposed 20mph scheme in the Hanley Road area



Key

Zone boundary

Proposed road humps

Proposed raised entry

Proposed 20mph zone/limit

Proposed 20mph limit only

Appendix D

Department for Transport

Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth

Final Report - September 2010

Portsmouth CITY COUNCIL

ATKINS

Department for Transport

Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth

September 2010

Notice

Document History

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Executive Summary

Portsmouth City Council (PCC) is the first local authority in England to implement an extensive area-wide 20 mph Speed Limit scheme – that is introducing signed 20 mph limits largely without traffic calming, covering most of its residential roads which previously had a 30 mph speed limit. This is therefore an important scheme which can be compared to more traditional 20 mph Zones, which involve extensive traffic calming.

This document results from an interim evaluation of the impact of the scheme, focusing on early monitored results. It reports on monitored changes in traffic speeds, traffic volume and road casualties, comparing data for 'Before' and 'After' scheme implementation as well as resident perception of impacts through qualitative surveys. The document is intended to provide an early transfer of information to other local highway authorities on the effectiveness of implementing speed limits through use of signs alone and without providing any accompanying traffic calming measures.

The implementation of the 20 mph Speed Limit scheme was carried out using a combination of post-mounted terminal and repeater signs. 20 mph speed limit roundel road markings were also provided at street entry points on the carriageway adjacent to the terminal post-mounted signs. In some cases of limited visibility, they were also provided adjacent to the repeater signs.

For ease of installation the city was divided into six sectors: Central East, Central West, South East, South West, North East and North West. This amounted to 94% of road length (410 km of the 438 km of road length) in PCC.

On most of the roads where the speed limit signs and road markings were installed, the average speeds before installation were less than or equal to 24 mph. The relatively low speeds before the scheme implementation were because of narrow carriageways and on-street parking, which further reduces effective width of the carriageways. 20 mph signs were also provided on roads with average speeds greater than 24 mph in order to avoid inconsistencies in the signed speed limits in Portsmouth. One of the aims of the scheme was to be self-enforcing (avoid the need of extra Police enforcement) and partly to support the low driving speeds, and encourage less aggressive driving behaviour.

Overall there was an increase in the number of sites that demonstrated speeds of 20 mph or less after the implementation of the scheme. Many sites already had low average speeds of 20 mph or less before the scheme was implemented. At the sites monitored with higher average speeds before the scheme was introduced, there were significant reductions in average speeds. For example for the group of sites monitored with average speeds of 24 mph or more before the scheme was introduced, the average speed reduction was 6.3 mph. The average reduction in mean speeds on all roads was 1.3 mph.

There is insufficient data to comment about the effects of the scheme on traffic routes and volumes. The expectation is that because most roads had fairly slow average speeds before the scheme was implemented, that the changes are likely to have been modest.

Comparing the 3 years before the scheme was implemented and the 2 years afterwards, the number of recorded road casualties has fallen by 22% from 183 per year to 142 per year. During that period casualty numbers fell nationally – by about 14% in comparable areas.

There are no large apparent disparities between the casualty changes for different groups of road users (for example pedestrians compared to motorists) or between crashes with different causes. The number of deaths and serious injuries rose from 19 to 20 per year. Because the total numbers of deaths and serious injuries and of casualties by road user type and cause are relatively low, few inferences about the scheme's impacts should be drawn from these figures.

Qualitative surveys indicate that the scheme was generally supported by residents, although most of the respondents would like to see more enforcement of the 20 mph speed limits. The survey suggests that the introduction of the scheme has made little difference to the majority of respondents in the amount they travelled by their chosen mode. Levels of car travel stayed similar, whilst the level of pedestrian travel, pedal cyclist travel and public transport usage had increased for a small number of respondents.

In conclusion, early figures suggest that the implementation of the 20 mph Speed Limit scheme has been associated with reductions in road casualty numbers. The scheme has reduced average speeds and been well-supported during its first two years of operation.

1. Introduction

General

The Department for Transport (DfT) commissioned Atkins Transport Planning and Management (Atkins) to carry out an Interim Evaluation of the Portsmouth City Council (PCC) area-wide 20 mph Speed Limit scheme using signing alone i.e. terminal and repeater signs. PCC is the first local authority in England to implement such an extensive scheme covering most of its residential roads.

This report presents the early findings of the study based on available data, covering the time periods between June 2004 and February 2008 for the 'Before' period; and between June 2007 and November 2009 for the 'After' period. For ease of installation the city was divided into six sectors: Central East, Central West, South East, South West, North East and North West. The first sector (South East) to have the scheme implemented went live in June 2007 and the last sector (South West) went live in March 2008.

This document reports on monitored changes in traffic speeds, traffic volume and road accidents/casualties, comparing data for 'Before' and 'After' scheme implementation in the six PCC sectors as well as resident perception of impacts through qualitative surveys. The document is intended to provide an early transfer of information to other local highway authorities on the effectiveness of implementing speed limit signs without providing any accompanying traffic calming measures[1].

Scope of this Report

The evaluation process has been limited to the data collected and supplied by PCC prior to and after scheme implementation. The data supplied by PCC included:

- Traffic speed data;
- Accident data;
- Travel to school data; and
- Traffic volume data on PCC cordon/strategic roads.

A qualitative survey was also undertaken as part of the evaluation process to assist in assessing the anticipated qualitative impacts of the scheme.

In addition, consultation was carried out with Hull and London Local Highway Authorities that have implemented the more traditional 20 mph zones on an area-wide scale in order to assist with the comparison of the effects of the 20 mph Speed Limit scheme in Portsmouth.

Introduction

Since July 1999, traffic authorities have had the powers to introduce 20 mph speed limits without obtaining the consent of the Secretary of State[2]. Guidance on how to implement 20 mph speed limits had also been released (Traffic Advisory Leaflet 09/99, "20 mph Speed Limits and Zones" and DfT Circular 01/06, "Setting Local Speed Limits"). DfT Circular 1/06 states that:

> "*Successful 20 mph zones and 20 mph speed limits should be generally self-enforcing. Traffic authorities should take account of the level of police enforcement required before installing either of these measures. 20 mph speed limits are unlikely to be complied with*

[1] Initial Summary Report published on DfT website:
http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme4/interimeval20mphspeedlimits.pdf

[2] The Road Traffic Regulation Act 1984 (Amendment) Act Order 1999 (S.I. 1999/1608)

on roads where vehicle speeds are substantially higher than this and, unless such limits are accompanied by the introduction of traffic calming measures, police forces may find it difficult to routinely enforce the 20 mph limit.

In 20 mph zones, speeds are kept generally low by installing traffic calming measures such as speed humps and chicanes.'

DfT Circular 1/06 also discusses other published studies on 20 mph speed limits, stating that:

'Research into 20 mph speed limits carried out by TRL (Mackie, 1998) showed that, where speed limits alone were introduced, reductions of only about 1 mph in 'before' speeds were achieved. 20 mph speed limits are, therefore, only suitable in areas where vehicle speeds are already low (the Department of Transport would suggest where mean vehicle speeds are 24 mph or below), or where additional traffic calming measures are planned as part of the strategy.'

Thus the two different means of implementing 20 mph speed limits are:

- "20 mph Speed Limits" - indicated by use of terminal and repeater signs alone, without traffic calming measures; and
- "20 mph Zones" - indicated by use of terminal signs with prescribed (TSRGD 2002) traffic calming measures provided to ensure that the measures are self-enforcing.

DfT Circular 01/06 also states that *'20 mph Speed Limits should be used for individual roads, or for a small number of roads'*. As an innovative design it is noted that the PCC scheme does not comply with this advice, but the advice is not related to any statutory requirement. The PCC design is also consistently applied and avoids mixing and matching between 20 mph Zones and sign-only limits thereby avoiding potential confusion for road users.

Background

The 20 mph speed limit signs in Portsmouth have been mounted on lamp columns along approximately 94% of roads on the PCC road network (410 km of the 438 km of road length) that had a previous 30 mph speed limit.

The city has three strategic entry and exit routes and a number of primary roads, interlinked by a network of primary and secondary distributor roads, many of which pass through residential areas. A great number of the city's residential streets form a closely packed network of terraced housing, developed in the 19th Century or earlier, with little or no off-street parking. As a consequence of high volume of on-street parking, the available carriageway space is often narrowed to a point where the roads operate as informal one-way streets. Standoff situations often arise when drivers fail to give way to each other. Thus the layout of Portsmouth's roads was considered to lend itself well to the provision of speed limit signs alone without the need for complementary, additional physical traffic calming measures.

The area-wide implementation of the 20 mph Speed Limit signing scheme was a result of four years development work:

- In 2004, PCC carried out a Traffic Calming Review which divided the city into ten potential **20 mph Zones**, prioritised on the basis of weighted road casualty data to emphasise vulnerable road users. The Council agreed to implement two 20 mph Zones per year over a five year period at a cost of approximately £200,000 per Zone or £2 million to complete the programme. The strategy was intended to address the high number of randomly located person injury accidents in residential streets.
- Whilst consultation on the first 20 mph Zone was being undertaken, a triple fatality led to the need to react swiftly to public demand for the speeds on one of the city's routes to be lowered. An experimental **20 mph Speed Limit** scheme was therefore installed. In addition, measurement of the speed and volume of traffic on the surrounding roads showed that

existing speeds on these roads were sufficiently low for them to be included in the Traffic Order. At the same time, consultation on a 'Safer Routes to School' scheme indicated a public wish for a 20 mph speed limit outside the school and in the surrounding estate roads. In this way, the area-wide 20 mph Speed Limit scheme was born which resulted in a shift from the originally envisaged ten 20 mph Zones.

- Following consultation with the Police, six sectors were then identified for funding over two years to focus on residential roads, most of which had existing speeds equal to or less than 24 mph.
- A comprehensive programme of surveying the identified roads in each sector was carried out. The implementation (including the consultation process) of the 20 mph Speed Limit scheme started in April 2006 following various consultations with relevant stakeholders, seeking public support. The implementation was completed in March 2008 for all the six sectors.
- The relatively low speeds before the scheme implementation on these roads are mainly the result of narrow carriageways and on-street parking, which reduces the effective carriageway width. The scheme was implemented partly to support the low driving speeds adopted previously by many motorists and partly to encourage less aggressive driving behaviour from those who drove at inappropriate speeds. The aim was to ensure that the scheme was self-enforcing so as to avoid the need for extra Police enforcement.
- The implementation of the 20 mph Speed Limit scheme was carried out using a combination of post-mounted terminal and repeater signs (see Figure 1.1 below) on roads with existing speeds equal to or less than 24 mph. 20 mph speed limit roundel road markings were also provided on the carriageway coincident with the terminal post-mounted sign locations at street entries. However, 20 mph signs were also provided on roads through residential areas with speeds greater than 24 mph in order to provide consistency in the signing and road user perception.

Figure 1.1 – 20 mph terminal signs on Lyndhurst Road, Portsmouth

- The scheme cost was wholly funded using capital from the Council's Local Transport Plan capital settlement. Table 1.1 shows the costs of implementation on 410km of PCC (six sectors) road length.

Table 1.1 – Scheme Costs

Task	Cost (£)
Consultation	20,626
Preparation & Supervision	117,089
Traffic Surveys	14,535
Implementation	420,738
Total	**572,988**

Anticipated benefits and causal chain of impacts

Area-wide 20 mph Speed Limit schemes have the potential to play an important role in delivering local authorities' Local Transport Plans (LTPs) and wider policy objectives. For many local authorities, achieving further reductions in casualty numbers is becoming increasingly difficult as site specific problems and localised accident clusters are addressed. Some local authorities are therefore refocusing their road safety strategies on more innovative area-wide solutions, such as 20 mph Speed Limit schemes.

In addition, such schemes could:

- play an important role in creating a safer environment for walking and cycling;
- form an important part of a strategy designed to encourage modal shift and tackle congestion;
- improve air quality; and
- support local authorities in their new duty to tackle climate change.

Area-wide 20 mph Speed Limit schemes could also play a role in delivering wider policy benefits, which authorities may be promoting through their Local Transport Plans. This might involve working with schools to encourage greater use of walking and cycling for the journey to school, working with town planners and urban designers to incorporate urban realm improvements, and joint working with the Police to tackle crime and vandalism in the area.

The Portsmouth scheme was designed to address actual and perceived safety issues associated with busy residential areas and inappropriate vehicle speeds. It represents a major component of the Council's Road Safety Plan, and is intended to deliver the LTP2[3] objective to *'improve the levels of safety beyond the national 2010 targets for all road users especially children and other vulnerable groups'*. The scheme is also intended to give a greater priority to cyclists and pedestrians, and encourage greater use of these modes.

Therefore the vision for developing this approach to the 20 mph speed limit signing scheme was to ensure that the city's residents enjoy a safer and healthier environment and that the streets outside their houses revert to community areas as opposed to 'hostile' traffic corridors.

Figure 1.2 shows the anticipated causal chain of impacts for Portsmouth's area-wide 20 mph speed limit initiative on residential roads at the time of inception. It illustrates links between the immediate anticipated outcomes such as maintaining average speeds at less than or equal to 24 mph, increasing the number of vehicles travelling at 20 mph or less, reducing aggressive driving; a safer (actual and perceived) environment for walking and cycling; fewer and less severe casualties; less through-traffic in residential areas; and an increase in walking and cycling

[3] Portsmouth City Council Local Transport Plan 2006-11

(including modal shift from car); associated quality of life benefits; and links with Portsmouth's wider LTP and Community Strategy objectives.

The potential increase in walking and cycling in residential areas was anticipated to result from a general modal shift from the car, corresponding to a reduction in traffic on PCC 20 mph Speed Limit residential roads.

Noise and local air quality effects were not monitored by PCC as no negative effects were envisaged.

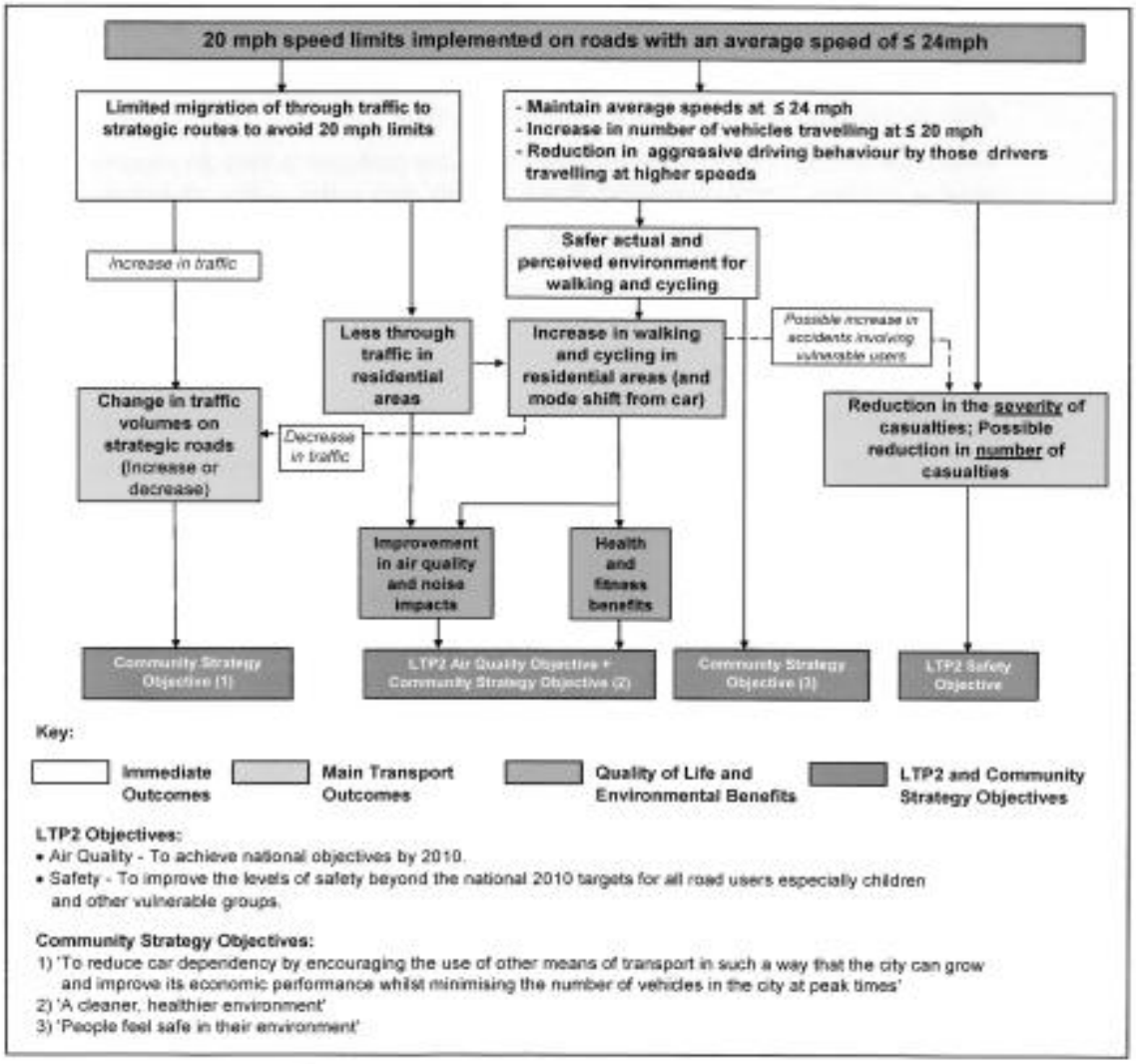


Figure 1.2 - Anticipated causal chain of impacts

2. Implementation

Stakeholder Engagement

Public information about the scheme was disseminated via the media and community involvement, as opposed to relying on notices published on-street. This proactive approach received positive feedback from the public and did not generate complaints about a lack of information.

In summary, the stakeholder engagement process included:

- consultations with Neighbourhood Forums and residents' associations;
- publishing statutory advertisements in The News;
- placing articles in the body of The News;
- recording television and radio interviews both locally and nationally;
- application of news flashes on the PCC website and PCC's intranet site;
- including the FAQ website link in the Traffic Regulation Order (TRO);
- exhibition of plans and posters in all schools and public buildings;
- sending each school pupil home with a leaflet for the 20 mph sector being advertised; and
- distributing plans and leaflets at the Civic Offices.

Community engagement involved close liaison with the local schools. Each child was sent home with a publicity leaflet showing which roads in their sector would be affected, responses to Frequently Asked Questions (FAQs), and contact details. This was supported by large posters placed in school halls. Posters and leaflets were also placed in doctors' surgeries, libraries, and shopping centres, etc. At the same time, the scheme received considerable publicity in the local press and the local radio which interviewed members of the council. A dedicated answer line was set up to answer queries on the scheme. Within the Council, cross party member support was received early which enabled a coordinated approach to seeking public support.

The Police supported the scheme as it would be self-enforcing without the need for direct enforcement using fixed time / distance cameras or mobile spot speed safety cameras. Other consultees, that included PCC Cycle Forum, Hampshire Fire & Rescue service, utility companies, public transport operators, Freight Transport Association, Road Haulage Association, Central Ambulance control, and the Royal Mail, did not have any objection to the scheme.

Implementation of Signs

The 20 mph Speed Limit scheme implementation by signs alone was introduced on PCC residential roads where the average speeds were already low (24 mph or less) and therefore neither required the provision of additional traffic calming features nor enforcement. However, 20 mph signs were also provided on roads through residential areas with average speeds greater than 24 mph in order to provide consistency in the signing and road user perception.

The guidance stated in the Traffic Advisory Leaflet 09/99 - 20 mph Speed Limits and Zones, DfT Circular 01/06, Setting Local Speed Limits, as well as the Traffic Signs Manual, was followed in the scheme implementation *(see 'Bibliography & References' section for other relevant documents)*. However, although the DfT Circular 01/06 also states that *"20 mph Speed Limits should be used for individual roads, or for a small number of roads"*, the 20 mph limits in Portsmouth were applied to a large number of roads covering 94% of Portsmouth's road network.

Terminal signs (diameter 600mm) to TSRGD[4] diagram 670 were provided at junctions, on both sides of the carriageway, in accordance with the advice of TSM[5] Chapter 3 (Section 14). Repeater signs (diameter 300mm) to TSRGD diagram 670 were provided on the lamp columns at a spacing of 200m if provided on alternate sides of the road, or at a spacing of 300m if provided on the same side of the road.

At junctions, a 30m clear visibility distance is required to the terminal signs and speed limit carriageway roundel road markings to TSRGD diagram 1065 (Height 4300mm) were also provided (see Figure 2.1 below) to reinforce the low speed limit message irrespective of whether the required clear visibility distance was available or not. The terminal signs were mounted on posts behind the boundary line so as to remove the need for lighting.

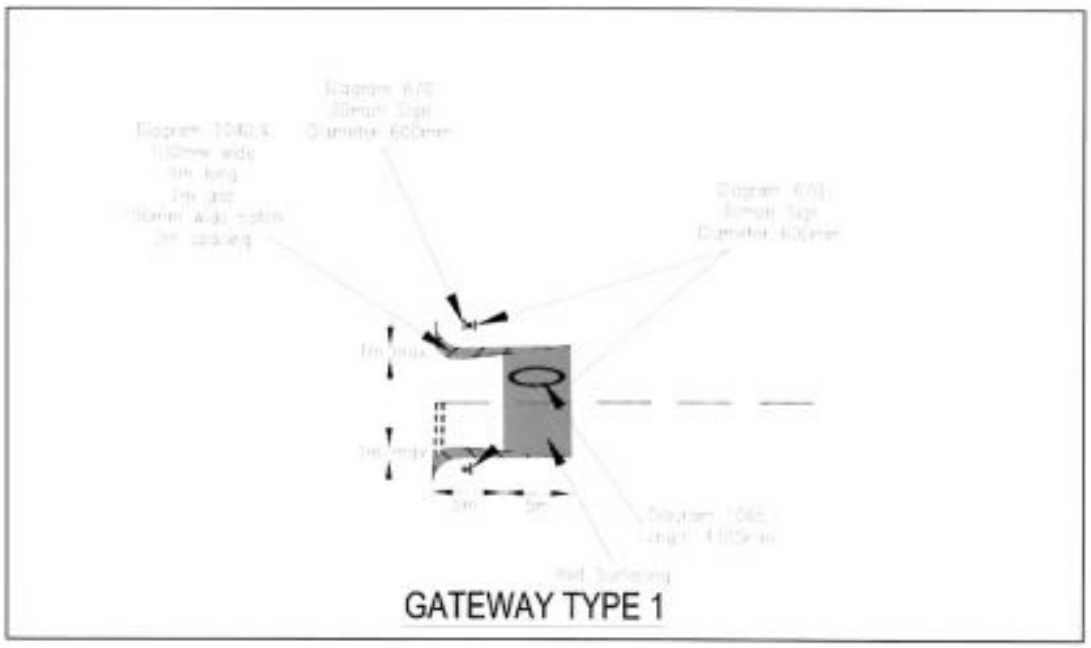


Figure 2.1 – Entry Treatment to 20 mph residential road in PCC

Along the stretches of the road where the required visibility distance could not be achieved and at street entry points where terminal signs had been provided, speed limit roundel road markings to TSRGD diagram 1065 (Height 4300mm) were provided on the carriageway surface. Where provided, on stretches of the road, the speed limit roundel road markings were positioned adjacent to the existing lighting columns to which the repeater signs were attached.

As illustrated in Figure 2.1 above, red surfacing, and/or hatching to TSRGD diagram 1040.4, to ensure right-angled approaches to the junction, was provided at some junctions to improve on the conspicuousness of the change in road character. However, the majority of junctions did not require this treatment.

[4] TSRGD – Traffic Signs Regulations and General Directions 2002
[5] TSM – Traffic Signs Manual

3. Traffic Speeds

Introduction

Average 'Before' and 'After' spot speed data was provided by PCC for all the six sectors of Portsmouth. This data was monitored at 47 sites in the Central West sector, 60 in the South East sector, 52 in the Central East sector, 20 in the North East sector, 31 in the South West sector and 13 in the North West sector, a total of 223 monitored sites.

The speed data provided included the average spot speed for each direction of the road before and after the implementation of the 20 mph speed limit scheme.

Traffic Speed Changes

Table 3.1 below indicates the change in average speed at the 223 monitored sites within the six sectors of Portsmouth following implementation of the 20 mph speed limit scheme.

Table 3.1 – Average Traffic speed changes after 20 mph speed limit implementation

Sector	Average Before Speed (mph)	Average After Speed (mph)	Speed Change (mph)
Central West	20.2	19.1	-1.1
South East	19.6	18.6	-1.0
Central East	18.5	17.9	-0.6
North East	18.2	16.4	-1.8
South West	18.4	16.9	-1.5
North West	23.9	22.2	-1.7
All Sectors	**19.8**	**18.5**	**-1.3**

Table 3.1 shows that average speeds reduced in all sectors even though, it was already close to the 20 mph posted speed limit before implementation of the scheme. The average overall speed for the six sectors before the scheme implementation was 19.8 mph. This reduced to an average of 18.5 mph after implementation of the scheme; a reduction of 1.3 mph. Although the average speeds for each sector were close to 20 mph, there were individual sites within the sectors that had speeds greater than 20 mph. The average speed measured in the combined western sectors was higher than that in the corresponding eastern sectors (which was also the case after the scheme was implemented).

Table 3.2 – Number of monitored sites by specified average speed range in all PCC sectors

Sector	'Before' Average Speed	'After' Average Speeds			
		≤20 mph	21 to 24 mph	>24 mph	Total
All Sectors	≤20 mph	124	15	2	141
	21 to 24 mph	23	21	6	50
	>24 mph	12	9	11	32
	Total	***159***	***45***	***19***	***223***

Table 3.2 shows the number of monitored sites by specified speed ranges in the six PCC sectors. It shows that surveyed speeds decreased at 35 sites, in all the six sectors, from above 20 mph to 20 mph or below. However, speeds increased at 17 sites from below 20 mph to above 20 mph. It is important to note that the speed surveys took place over a single day. This means that the larger the number of sites that is considered, the more likely it is that a systematic change will be apparent and statistically significant.

Table A.1 of Appendix A shows the number of monitored sites by specified average speed range and PCC sector. The South East and the North West sectors had the most sites that were above 24 mph after the implementation of the scheme i.e. 7 and 5 monitored sites respectively.

Table A.2 of Appendix A shows that most of the monitored sites had recorded average speed reductions of between 1-5 mph in all the specified speed ranges. There was an overall reduction of 1.4 mph in average speed at sites with before average speeds less than or equal to 24 mph. However, there was an average reduction of 6.3 mph at sites with speeds greater than 24 mph.

Two monitored sites, one in the Central East sector and the other in the Central West sector, had an increased speed from below 20 mph to above 24 mph. There was a reduction in average speeds at 28 of the 32 monitored sites in the six sectors where before speeds were above 24 mph, with one site having similar before and after average speed recordings and three other sites recording an increase. Speeds reduced to below 20 mph at 12 of these sites. Within the over 24 mph subset, the average speed (before implementation) exceeded 30 mph at 10 of the 32 sites, with an actual average of 33.8 mph. After the scheme was implemented, the average speed at 7 of the 10 sites had reduced to 22 mph; a speed reduction of 11.8 mph.

Figure 3.1 below shows a representational map of speed reductions in the South East sector of PCC.

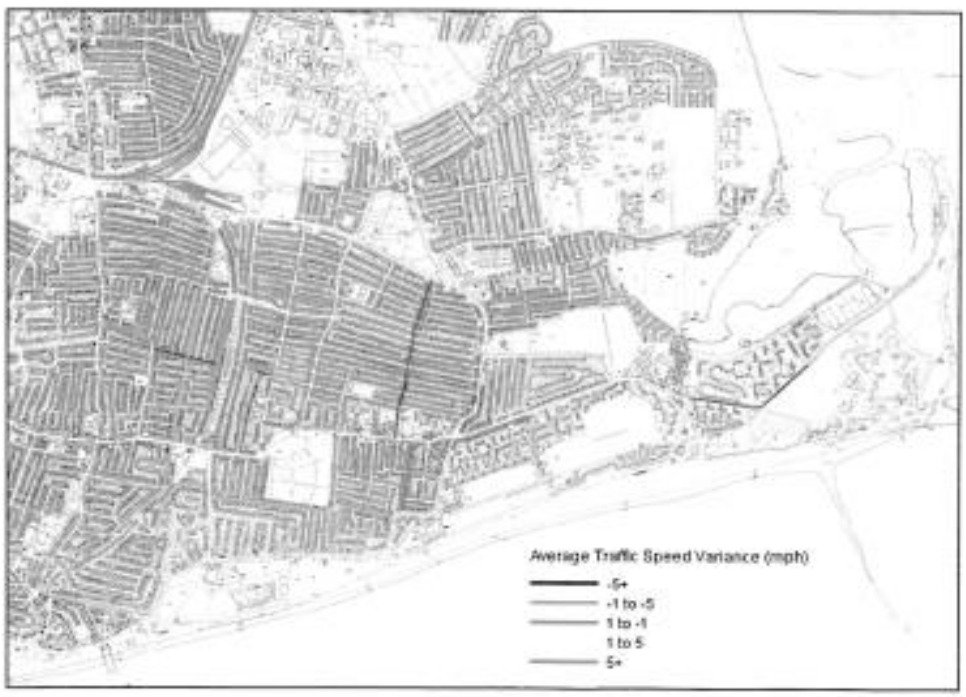


Figure 3.1 – Average speed reductions in the South East sector

Despite a reduction in the number of sites with average speeds above 24 mph, 19 sites were found to still have average speeds between 24 mph and 29 mph after the scheme was implemented.

There were also increases of greater than 5 mph at 11 monitored sites, all of which had 'Before' average speeds of less than 22 mph, although the speeds remained below 24 mph for 9 of the

sites. However, two of the 11 sites had a recorded speed of above 24 mph. In all the six sectors, the number of sites with speeds of 30 mph or more (10 sites) was reduced to zero. However, a number of sites (19 sites), seven of which were in the South East sector, still had average 'after' speed recordings of between 24-29 mph.

The overall results show that there has generally been an average decrease of 1.3 mph in average traffic speeds following the introduction of the 20 mph Speed Limit scheme.

Statistical Significance

The Mann-Whitney U statistic test has been carried out to determine the statistical significance of any reduction in speeds. The test determines whether the 'Before' and 'After' average speeds are from two independent samples, which would indicate that there is a statistically significant difference in the measurements as a result of the 20mph Speed Limit scheme. If the test is not found to be statistically significant, the 'Before' and 'After' speed measurements are considered to be from the same population, and therefore the 20mph Speed Limit scheme will have had little statistical impact on the speed of cars in the area.

The two-tailed version of this test uses a hypothesis of assessing any difference between the two samples. The one-tailed test, used in this analysis, uses a hypothesis of a statistically significant decrease in the 'After' average speed measurements compared to the 'Before' measurements as a result of the 20mph Speed Limit scheme.

This statistical test has been performed on several subsets of the data:

- Overall results measured in the six sectors,
- Central West sector;
- South East sector;
- Central East sector,
- North East sector,
- South West sector, and
- North West sector.

In addition to performing the analysis on a sector basis, separate calculations have also been performed on those roads that had an average speed of over 21 mph, 21-24mph and over 24mph before the introduction of the scheme, to test the impact of the scheme on those sites where speeds were at their highest before the 20mph Speed Limit scheme was implemented.

Statistically, the data has large confidence intervals due to the small sample size compared to the overall population (223 measurements in the six 20 mph sectors). However, the measurements were taken in a controlled way along the same routes both 'Before' and 'After' the scheme implementation to draw robust conclusions on the data. Table 3.3 below provides detail on the 'Before' and 'After' measurements for each subset, along with the results of the statistical significance testing.

Table 3.3 – Mann-Whitney U statistic on average traffic speeds in Portsmouth

Sector	No.	Speed						Mann Whitney Significance		
		Before Scheme			After Scheme					
		Min	Max	Average	Min	Max	Average	2-tailed[1] (1-tailed[2]) significance value	Significant at 95% confidence level*	Significant at 90% confidence level**
Central West	47	12	40	20.2	13	27	19.1	0.53 (0.265)	No	No
South East	60	11	31	19.6	8	29	18.6	0.22 (0.111)	No	No
Central East	52	10	35	18.5	8	27	17.9	0.82 (0.411)	No	No
North East	20	11	25	18.2	9	21	16.4	0.16 (0.079)	No	No
South West	31	9	26	18.4	6	24	16.9	0.15 (0.075)	No	No
North West	13	11	34	23.9	15	26	22.2	0.42 (0.209)	No	No
All sectors	223	9	40	19.8	6	29	18.5	**0.05 (0.025)**	No	**Yes**
21-24mph	50	21	24	22.1	12	27	20.2	**0.006 (0.003)**	**Yes**	**Yes**
Over 20 mph	63	22	40	25.7	12	29	21.1	**0.00 (0.000)**	**Yes**	**Yes**
Over 24 mph	32	25	40	28.5	17	29	22.2	**0.00 (0.000)**	**Yes**	**Yes**

1 For the 2-tailed test a significance value of less than 0.10 would indicate a change
2 For the 1-tailed test a significance value of less than 0.05 would indicate whether the change is statistically significant
** A statistically significant decrease in speeds is noted between the before and after recordings at the 95% confidence level if the 1-tailed test has a significance value of less than 0.025.*
*** A statistically significant decrease in speeds is noted between the before and after recordings at the 90% confidence level if the 1-tailed test has a significance value of less than 0.05*

The results showed average speed reductions in each of the six sectors, but because only some roads were surveyed the reductions in each sector are not statistically significant.

However, when the results are added together across all six sectors they demonstrate a statistically significant reduction in average speeds of 1.3 mph. For sites with speeds in excess of 20 mph, it averages 4.6 mph; and for sites with speeds in excess of 24 mph, it averages 6.3 mph.

4. Traffic Volume

In each of the years from 2004 to 2007, overall motorised traffic levels in Portsmouth have been estimated as being varying between 1,274 and 1,292 million vehicle kilometres per year, before falling to 1,243 million vehicle kilometres in 2008. The fall of 3% in the volume of traffic between 2007 and 2008 in Portsmouth is higher than the national average reduction. It is however not exceptional – for example reported traffic volumes in Southampton fell by 4% then.

Traffic cordon counts in Portsmouth also indicate an average reduction in traffic of about 3%. This suggests traffic has not re-routed systematically from the roads subject to 20 mph limits to the main roads on the cordon.

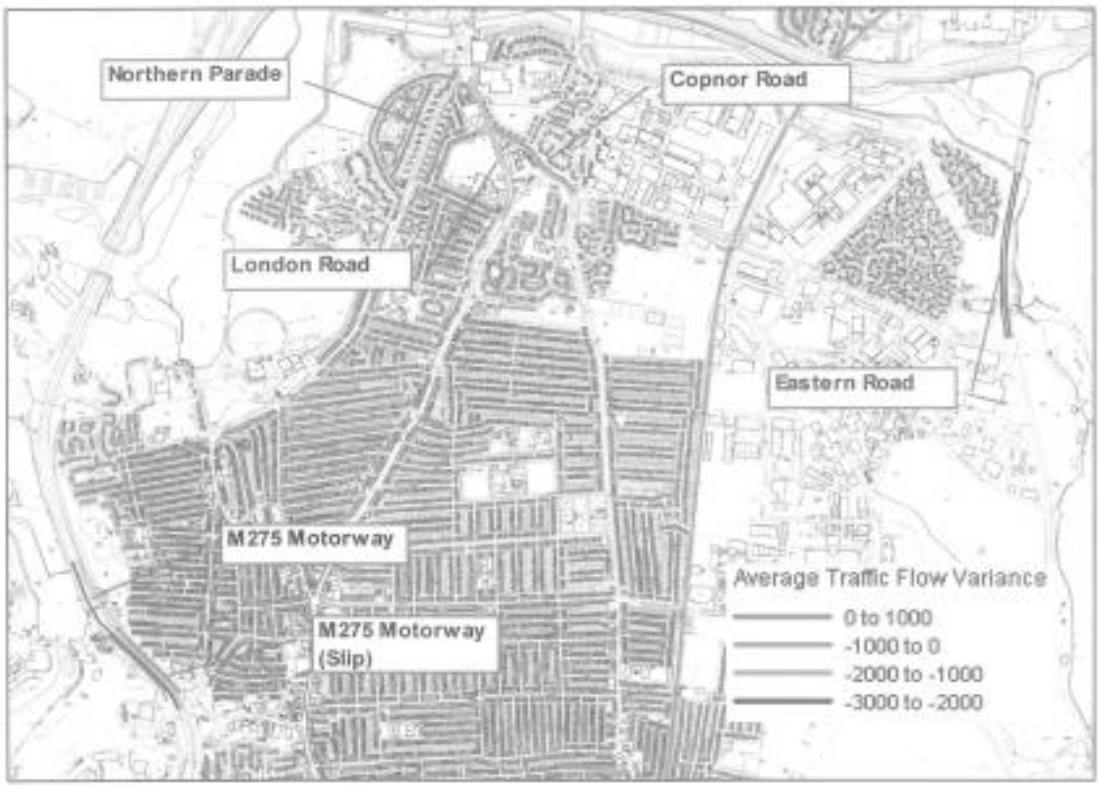


Figure 4.1 – Traffic Volume changes on PCC cordon roads

5. Safety

Introduction

'Before' and 'After' road traffic accident and casualty data was provided for all six PCC sectors. In each case, the 'Before' period was 36 months with the "After" period covering 24 months for all but one sector, the South West which had 21 months of accident and casualty data available. There was no gap in the accident/casualty data to separate the implementation period; consequently the implementation period is included in the 'Before' study period. This is justified because the implementation period involved erecting signs off running lanes, with the signs being covered until implementation day. The before and after study periods for the six sectors are shown in Table 5.1 below.

Table 5.1 – PCC 20 mph sector study periods

Sectors	Before Period		After Period	
	From	To	From	To
Central East	01 Dec 04	30 Nov 07	01 Dec 07	30 Nov 09
Central West	13 Oct 04	12 Oct 07	13 Oct 07	12 Oct 09
North East	13 Oct 04	12 Oct 07	13 Oct 07	12 Oct 09
North West	01 Dec 04	30 Nov 07	01 Dec 07	30 Nov 09
South East	22 Jun 04	21 Jun 07	22 Jun 07	21 Jun 09
South West	01 Mar 05	28 Feb 08	01 Mar 08	30 Nov 09

Given that the 'Before' and 'After' data was available for different lengths of time periods, the data was averaged to provide comparative one year baseline periods. The study has used proportional occurrences in either period when assessing trends and comparisons, to determine any changes in the accident trends and causation factors as a result of the scheme implementation.

Change in accident numbers

Table 5.2 below shows the change in accident numbers by accident severity within each sector. Overall, in the six sectors, there was a reduction in the number of accidents of about 34 per year (21%).

The total number of KSI accidents increased by about 1.5 per year. However, the total numbers of KSI accidents are small across all sectors and are therefore susceptible to variations.

Table 5.2 – Change in accident numbers by accident severity

Sectors	Before (Average of 3 year data)			After (Average of 2 year data)			%change	
	KSI	Slight	Total	KSI	Slight	Total	KSI	Total
Central East	6.0	30.7	36.7	4.5	27.0	31.5	-25%	-14%
Central West	3.0	21.0	24.0	4.0	17.5	22.0	33%	-8%
North East	2.3	24.0	26.3	3.5	11.5	15.0	50%	-43%
North West	1.7	13.7	15.3	1.0	11.0	12.0	-40%	-22%
South East	2.3	29.7	32.0	4.0	22.0	26.0	71%	-19%
South West	3.0	26.3	29.3	2.9	20.0	22.9	-5%	-22%
All Sectors	**18.3**	**145.3**	**163.7**	**19.9**	**109.0**	**129.4**	**8%**	**-21%**

Change in casualty numbers

Table A.3 in Appendix A shows variations in casualty numbers by injury and class within each of the six sectors in Portsmouth.

Table 5.3 shows that, overall, there was an average reduction of 41 per year (22%) in the number of casualties after scheme implementation.

Table 5.3 – Change in casualty numbers by road user type and injury severity

Sector	Casualty Class	Before (Average of 3 year data)			After (Average of 2 year data)			%change	
		KSI	Slight	Total	KSI	Slight	Total	KSI	Total
All Sectors	Pedestrian	6.3	39.0	45.3	8.7	29.4	38.1	38%	-16%
	Passenger	1.0	25.3	26.3	0.0	18.1	18.1	-100%	-31%
	Driver/Rider	11.3	100.0	111.3	11.1	75.0	86.1	-2%	-23%
	Total	**18.7**	**164.3**	**183.0**	**19.9**	**122.5**	**142.4**	**6%**	**-22%**

The number of pedestrian casualties reduced by 7 per year, although the number of pedestrian KSI casualties increased by 2.5 per year. Pedestrian counts are not available and as such no allowance for exposure to risk has been made in the analysis.

On average, there was an increase in the number of killed and seriously injured (KSI) casualties of about 1 per year.

Table A.4 in Appendix A shows further breakdown of casualties amongst Pedestrians, Passengers and Drivers /riders across the age ranges.

Table 5.4 – Change in number of vehicles involved in accidents by vehicle type & accident severity

Sector	Vehicle Type	Before (Average of 3 year data)			After (Average of 2 year data)			%change	
		KSI	Slight	Total	KSI	Slight	Total	KSI	Total
All Sectors	Pedal Cycle	5.0	34.7	39.7	5.6	28.2	33.8	11%	-15%
	PTW	5.7	21.0	26.7	5.1	15.4	20.4	-11%	-23%
	Car/Taxi	18.7	180.3	199.0	20.8	136.1	156.9	11%	-21%
	Other	1.0	22.0	23.0	1.5	12.6	14.1	50%	-39%
	Total	**30.3**	**258.0**	**288.3**	**32.9**	**192.2**	**225.1**	**9%**	**-22%**

'Other' represents all buses, minibuses, goods vehicles, other motor vehicles, other non-motor vehicles and unknown vehicle types.

Table 5.4 shows that there has been an overall decrease of 22% in the number of vehicles involved in accidents in the six sectors. However, Table A.5 in Appendix A shows that there was wide variation amongst the sectors; the greatest reduction was in the North East (49%) whilst the Central West recorded the smallest decrease of 10%. There was a 9% reduction in number of vehicles involved in KSI accidents across the six sectors.

Table A.5 in Appendix A shows the breakdown of accidents by type and severity. Accordingly, the number of pedal cyclists involved in accidents decreased by 15%, with wide variations within the sectors. Overall, there was an 11% increase in the number of KSI pedal cyclists although the results vary between sectors from a 100% reduction in the North West to a 7% increase in the Central East.

Figure 5.1 below provides a graphical representation of the accident locations by severity in the Central West sector of PCC.

Figure 5.1 – Central West 20 mph Speed Limit PCC sector accident locations

**The 'Before' period shows locations of accidents over a three year period whilst the 'After' period shows locations of accidents over a one year period.*

The number of PTW users involved in accidents reduced by 23%, with a corresponding reduction of 11% in the number of KSI accidents involving PTW users. The number of cars/taxis involved in accidents reduced by 21%, with a corresponding increase of 11% in the number of cars/taxis involved in KSI accidents.

The provisional casualty data provided directly by the DfT (from 2004 to 2009) shows an underlying trend of decrease in national casualties (14% reduction in the number of casualties on Great Britain (GB) roads based on previous three year results and two year after results of the same study period as the PCC sectors, with a 12% reduction in KSI casualties). Whilst not directly comparable due to differences in time period, the total casualty reduction of 22% for the roads within the 20mph Speed Limits in Portsmouth is greater than the total GB casualty reduction.

The overall reduction of 16% in pedestrian casualties in Portsmouth is also greater than the national average of reduction of 13%.

Although there was a 12% average reduction in KSI casualties nationally, Portsmouth recorded a 6% increase in the small number of KSI casualties.

A detailed examination of the accident trends as well as the accident causation factors (refer to Appendix B for details) did not show any noteworthy change in patterns, in particular those related to inappropriate speeds and aggressive driving.

6. Qualitative Survey Findings

The scheme was anticipated to have an impact on the following qualitative aspects (see also figure 1.2):

- Play an important role in creating a safer environment for walking and cycling;
- Form an important part of a strategy designed to encourage modal shift and tackle congestion;
- Improve air quality; and
- Support authorities in their new duty to tackle climate change.

In order to assess the anticipated qualitative impacts of the scheme, a qualitative survey[5] was undertaken. The survey aimed to obtain residents' views of the scheme and any subsequent changes to travel behaviour. A series of face-to-face interviews were conducted with residents who were randomly approached on streets in areas affected by the scheme (see Appendix C for the format of the questionnaire form used).

Survey Methodology

Interviews were conducted across the six 20mph sectors in Portsmouth as shown in Figure 6.1, to enable examination of any differences in opinions between residents from different sectors. The survey included a screening question, '*Are you a Portsmouth resident living within the area shown on this map?*', and hence only those responding positively to the screening question were fully interviewed. The home locations of participants who provided sector postcode data are shown in Figure 6.1.

In total 1,445 interviews took place on the days of 27th & 29th October, 2009 (regular working days i.e. days outside the school holidays) and the 31st October 2009 (Saturday), in order to obtain a mixed representation of residents. The sample of residents was stratified by age, gender and ethnicity, to ensure that a representative sample of residents was interviewed from the study area. The interviews, lasting approximately 15 minutes, asked residents 15 predominantly closed questions about how they travelled around the area to access work, education, healthcare, shopping and visit friends / family.

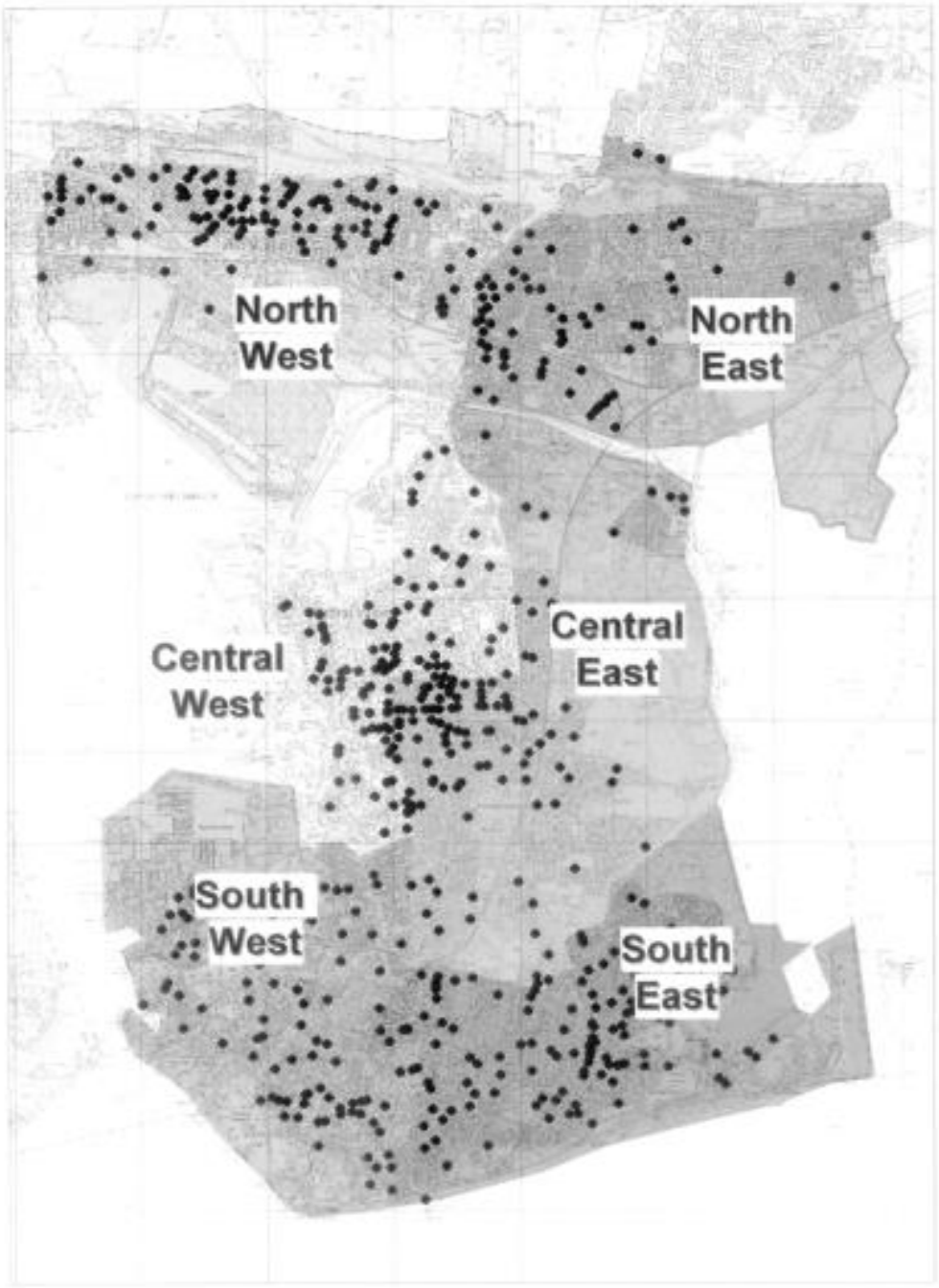
The number of residents interviewed from each sector is shown in Table 6.1. The aim was to complete 250 interviews in each sector, however the sector in which the interview took place wasn't necessarily the same as a resident's home sector, hence the variance in frequency between sectors.

Table 6.1 – Number of respondents living in each sector

	North West (NW)	North East (NE)	Central West (CW)	Central East (CE)	South West (SW)	South East (SE)	Total
Frequency	262	216	233	200	238	268	**1,417**
Percent	18.5%	15.2%	16.4%	14.1%	16.8%	18.9%	**100%**

Note: 28 respondents did not disclose their home location and these are excluded from Table 6.1

[5] Detailed findings of the Qualitative Survey were presented in a separate report produced as part of the Phase 2 Evaluation process



Note: Multiple respondents may be represented by a single dot

Figure 6.1 – Location of respondents and sectors

Key Survey Findings

Findings from the survey demonstrate the significance of car travel for nearly half of all respondents residing within the six 20mph sectors. The car is more commonly used to access employment and drop off/pick up children at school, with convenience, journey time and comfort stated as key reasons for choosing the car (see Table 6.2).

Table 6.2 – Reason for mode choice

Mode	Reasons provided
Car	Convenience (517 respondents, 83%)
	Comfort (460 respondents, 74%)
	Better journey time (257 respondents, 57%)
Walking	Convenience (396 respondents, 51%)
	Health benefits (192 respondents, 49%)
	Cost (396 respondents, 46%)
Bicycle	Cost (125 respondents 76%)
	Health benefits (106 respondents, 65%)
	Convenience (99 respondents, 60%)
Public Transport	No alternative (303 respondents, 60%)
	Convenience (297 respondents, 59%)
	Cost (168 respondents, 33%)
Motorbike	Better journey time (4 respondents, 29%)
	Cost (4 respondents, 29%)
	Difficulty / cost of parking (4 respondents, 29%)

The last two years have seen little change in travel behaviour for the majority of respondents (84%); however the 16 - 19 year olds group were more likely to state a change, which is most likely to be as a response to gaining driving licences for private vehicles (cars, mopeds and motorcycles).

That said, of those stating a change in travel behaviour over the last two years, just fewer than 30% of respondents (47 respondents) made a change from car to more sustainable modes of transport either walking or using public transport. The reasons given for such changes included traffic levels, could no longer drive or moved house/job (see Table 6.3).

Table 6.3 - How and why respondents have changed the way they travel around the local area

% of Respondents that changed travel behaviour	How they have changed	Reasons provided for stated change
12.3%	From car to foot	• Moved house • Changed job • Can no longer drive
11.7%	From car to public transport	• Too much traffic • Health reasons • Can no longer drive
11.0%	Increased use of public transport	• Retired – free bus pass • Convenience
9.2%	Increased amount of walking	• Environmental benefits • To save costs
8.0%	Increased amount of cycling	• Convenience • Parking problems
7.4%	From public transport to car	• Reliability
5.5%	From public transport to foot	• Reliability
4.9%	From car to bicycle	• Retired
4.9%	Travel more / longer distance	• Moved job
3.1%	Travel less / shorter distance	• Moved job

Base: 168 respondents with a change in travel behaviour that provided a reason to the 'open question'

Some of these changes support the wider strategy to reduce congestion through encouraging modal shift and improving the air quality in the local areas as a result of fewer cars.

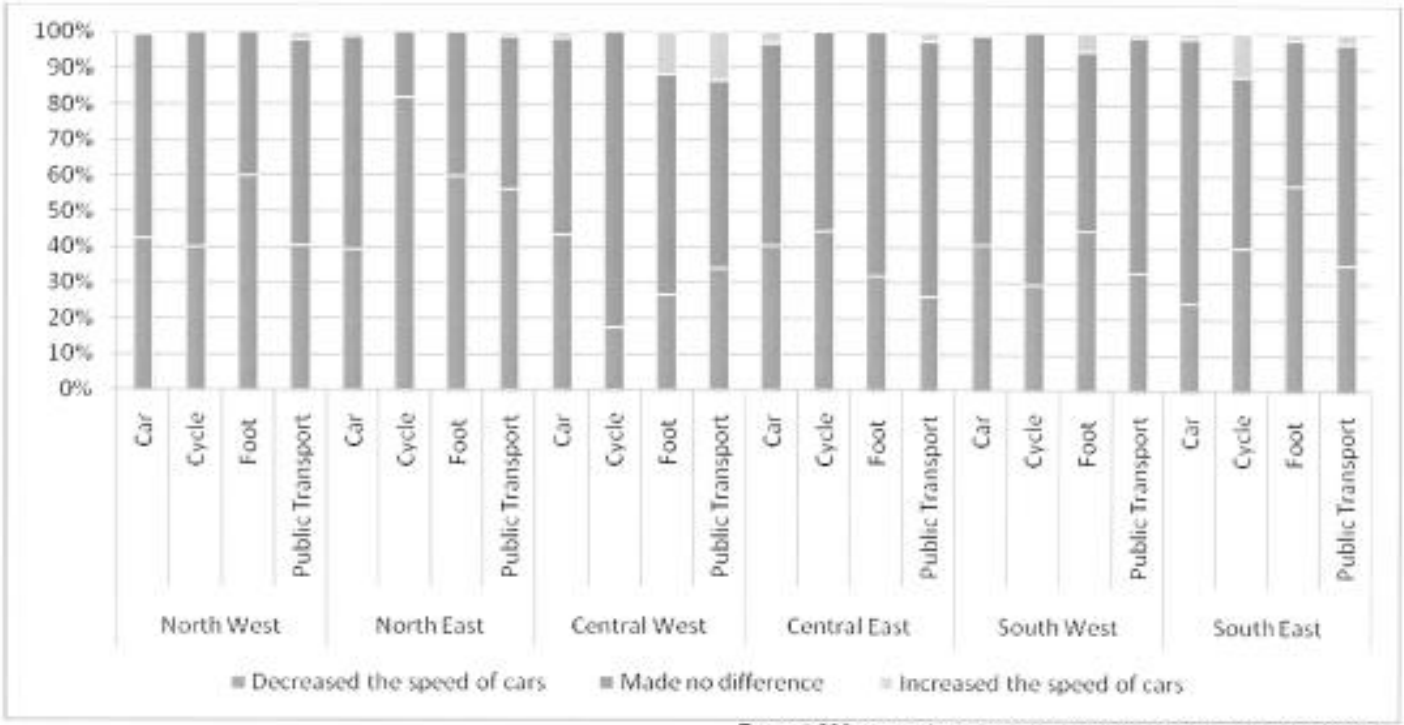
Mode Shift

The survey suggests that the introduction of the 20mph Speed Limit scheme made little difference to the majority of respondents in the amount they travelled by their chosen mode. Encouragingly the level of pedestrian travel, pedal cyclist travel and public transport usage had increased for a small number of respondents.

Impact on traffic Speed

When respondents were asked to consider the impact of the scheme on traffic speeds in the area (see Figure 6.2), just under 40% believed that the scheme had decreased the speed of cars, and over half (54%) considered the scheme to have made no difference.

The impact of the scheme on residents' perception of car speeds in the area varied widely by age group. 44% in the 40-49 age group agreed the speed of cars had been reduced by the scheme whereas the respondents aged 70+ showed the lowest levels of support that the scheme had decreased speeds in the area. Nearly half of all respondents travelling by foot believed the 20mph speed scheme to have reduced traffic speeds in the area. This demonstrates the support for the main objective of the scheme to 'play an important role in creating a safer environment for walking and cycling'.



Base: 1,288 respondents (excludes those that answered 'don't know')

Figure 6.2 – Respondents perceived impact on the speed of cars (by most common mode of transport and sector)

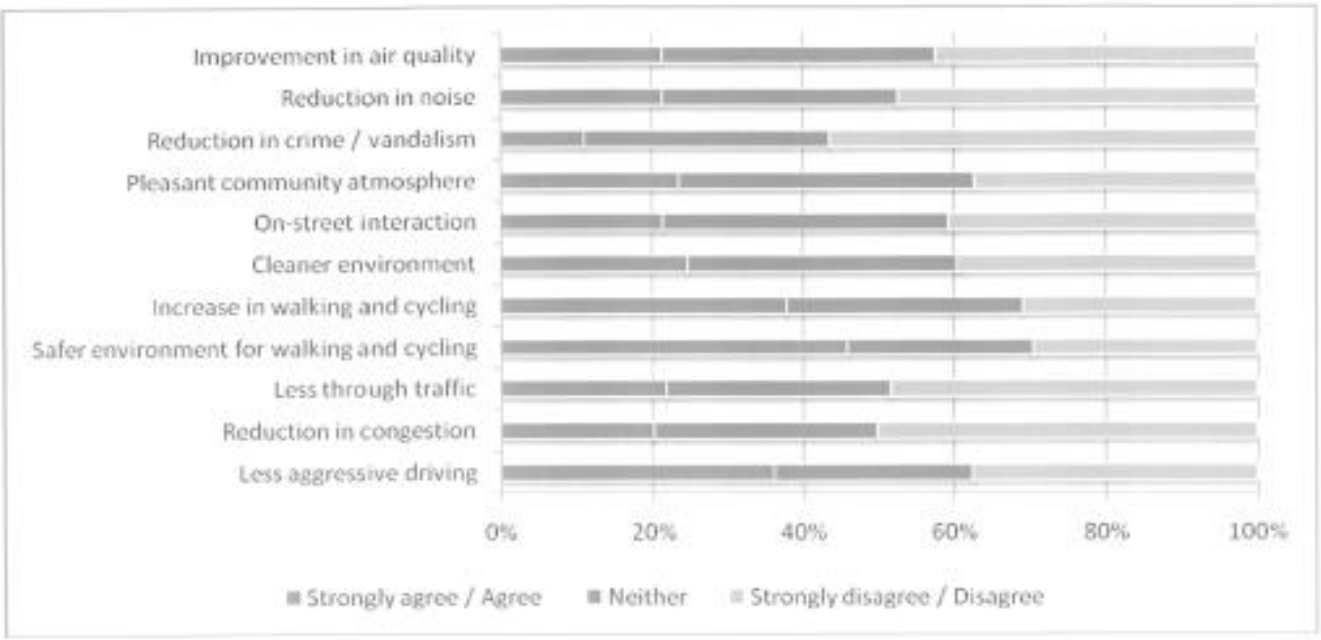
Residents in the North East and North West sectors showed the highest levels of support that the scheme had resulted in a decrease in car speeds in the area.

Wider Benefits and behavioural change

In terms of wider benefits (see Figure 6.3), over 40% of respondents stated that since the introduction of the scheme, there has been a safer environment for walking and cycling; and as a result, around a third of respondents felt that there had been an increase in pedestrian and cyclist activities in the local areas.

Despite this, around half of respondents disagreed that there had been a reduction in congestion, and also disagreed that there was less through traffic. This implies that although the scheme may have created a perception of a safer environment for walking and cycling and encouraged more pedestrian and cycling activities, it had not discouraged car use around the areas.

In terms of driver behaviour and how this may have changed, nearly 40% of respondents viewed there to have been less aggressive driving since the introduction of the scheme. This suggests that although car use has not decreased significantly, people are now perceived to be driving in a more sensible manner within the study area, which should improve overall safety for all.



Base: 1,390 respondents

Figure 6.3 – Impact of scheme on anticipated wider benefits

Generally, the wider benefits of the scheme were noted more in the North East sector, as a higher proportion of residents within this sector showed agreement with the suggested wider benefits of the scheme than in any other sector in the study area. This sector also had the highest proportion of residents agreeing that the scheme had reduced the speed of cars in the area.

Overall, just under half of respondents stated that they were satisfied with the introduction of the scheme (see Figure 6.4), and only just fewer than 15% were dissatisfied. Although older residents showed the least agreement that the scheme had reduced speeds in the area, they did show the highest overall level of satisfaction with the scheme (55%), suggesting that they have noted wider benefits of the scheme. Despite respondents' views that the scheme had created a safer environment for walking and cycling, those who travelled by foot or bicycle showed the lowest levels of satisfaction with the scheme (38%) compared to those that travelled by car (43%) or public transport (51%).

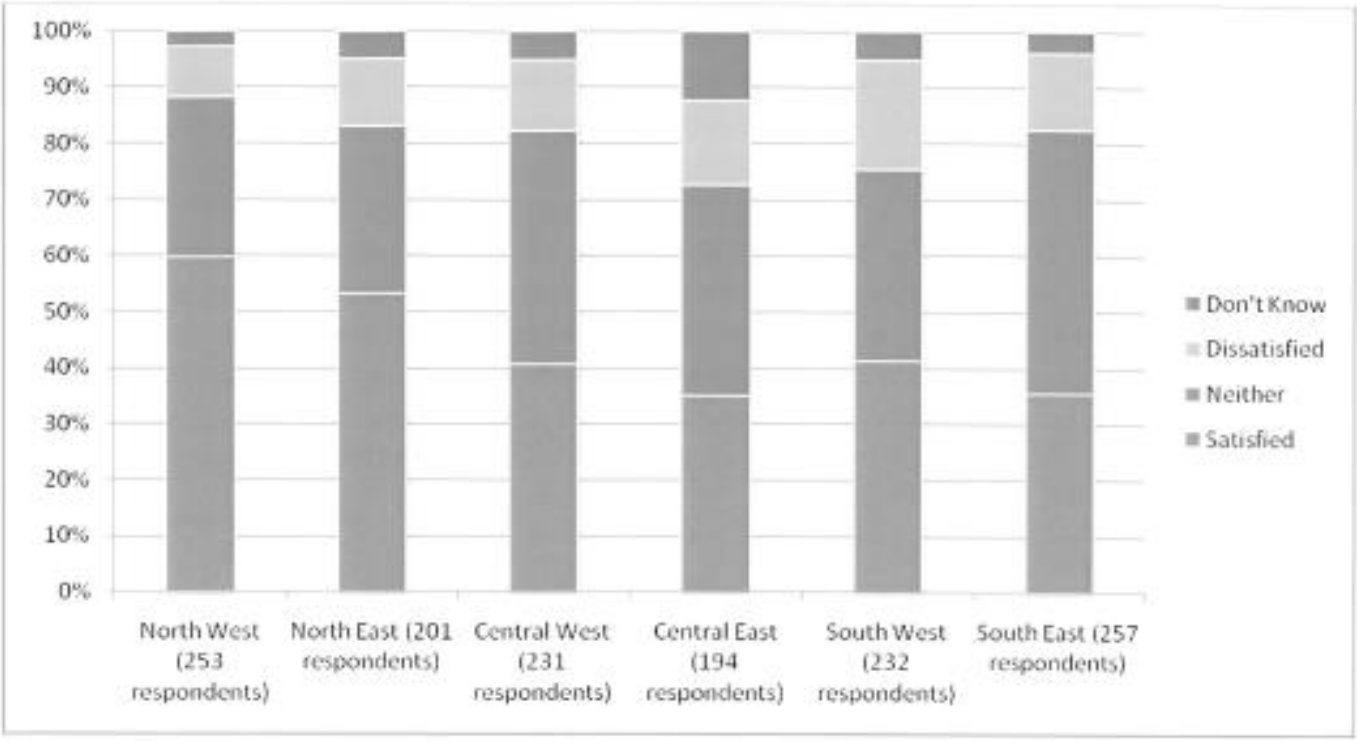


Figure 6.4 - Level of Satisfaction with the 20mph Speed Limit (by Sector)

Residents that had responded to the question relating to the level of satisfaction with the scheme were also asked to provide details on why they were satisfied or dissatisfied with the 20mph Speed Limit scheme. In total, 743 respondents chose to provide a reason and the key points were (in order of popularity):

Satisfied with scheme

- Speed Limit has improved safety (27%) – "People are driving safer, it's a very good idea"
- The scheme was needed and works well (9%) – "Keep to 20 mph. It is a good idea"
- Slower drivers result in fewer accidents (8%) – "Should be fewer accidents. More awareness due to travelling at low speed".

Residents in the North East and North West sectors overall were the most satisfied with the introduction of the scheme. Respondents in these areas also showed the highest levels of support for the scheme reducing car speeds and providing wider benefits, therefore it appears that the greatest perceived impact of the scheme in the study area has been in these two sectors.

Dissatisfied with scheme

- Drivers are exceeding the Speed Limit (31%) – "Cars are still speeding down the roads and take no notice of signs"
- Needs controlling / enforcing (9%) – "Think it is a good idea but nobody enforces it so there's no point"

When asked to provide comments on the 20mph Speed Limit, generally comments received (185 respondents) defended the implementation of the scheme in the area. The common themes were as follows:

- Positive comments about the scheme (24%) – *"There should be more 20mph limits around Portsmouth"*;
- Requests for the Speed Limit to be enforced, with greater police presence (25%) – *"Install cameras or enforce the policy, then the community will start to benefit"*;
- Concerns that some drivers were exceeding the Speed Limit (16%) – *"20mph is obeyed when the driver can see a speed camera / police car, otherwise it is ignored"*;
- Comments that the scheme has not made a difference (12%) – *"good idea in theory but seems to make no difference"*;
- Some respondents suggested that implementation of speed humps may slow down drivers (10%) – "*Road humps would help keep speed down"*;
- There were comments from some respondents that the scheme had been a waste of money (9%) – "*Pointless and expensive exercise"*.

Summary

Findings from the survey demonstrate mixed outcomes when assessing the level of impact of the 20mph Speed Limit scheme on the anticipated qualitative aspects.

Whilst survey evidence suggests that the scheme has provided a safer environment for walking and cycling and hence viewed as encouraging such modes of travel, this view was not wholly supported by those who currently walk and cycle. These pedestrian and cyclist respondents stated the lowest levels of satisfaction with the scheme.

However, the evidence strongly supports the objectives to create a safe environment for such activities. This outcome also indirectly supports the other objectives by seeking modal shift, reducing car use and hence helping improve local air quality and tackle climate change.

The survey evidence also suggests that the scheme has made a perceived impact on car speeds in the area which will further encourage residents to walk and cycle in the area and support this key scheme objective.

The scheme is generally supported by the residents who responded although many of the respondents would like to see the implemented Speed Limit being enforced.

7. Travel to School

In order to determine the likely impact of the 20 mph Speed Limit on travel to school trips, the study has drawn on findings from the qualitative survey, the school census data as collected by PCC and the recorded accident patterns.

Background to Perceived Travel Patterns in Portsmouth

The responses from the qualitative survey (see Figure 7.1) showed that when taking a dependent to school, car or van is the most common mode of transport used (39%), followed by on foot (29%). When travelling for education purposes, bus or coach was listed as the most common mode of transport used (38%), followed by on foot (25%) and car or van (23%) (See figure 7.1).

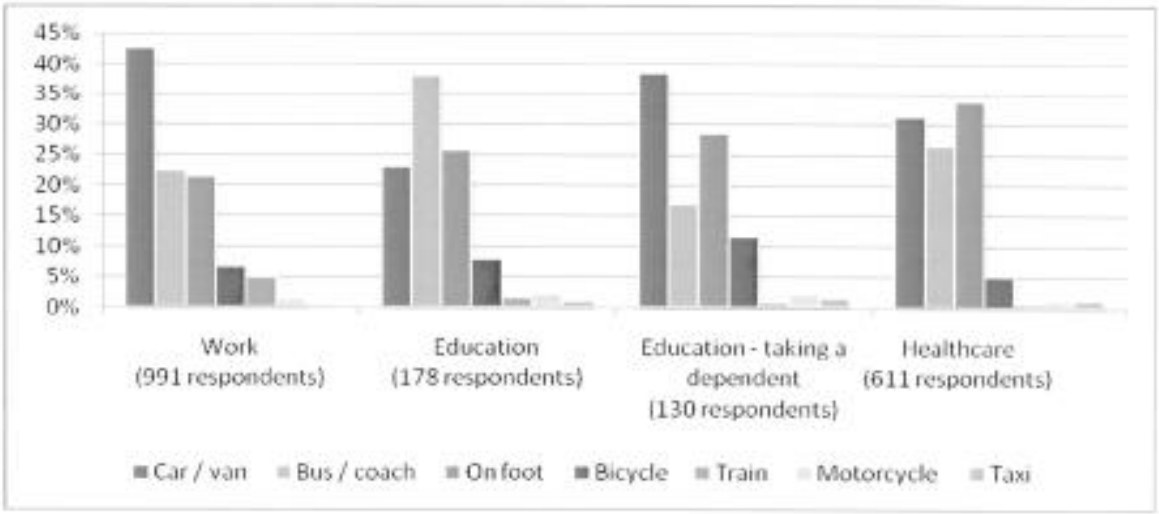


Figure 7.1 – Choice of Travel Mode by Journey Purpose in Portsmouth

Respondents in the survey were asked if they have changed how they have travelled around the local area over the last two years. Of the 1,422 respondents that answered this question, the majority of 1,193 respondents (84%) stated that they have not changed how they travelled around the local area. A change in travel behaviour was reported by 201 respondents (14%), while 28 respondents (2%) did not know. It was more common for someone in a younger age group to report a change in their travel behaviour. Out of 191 who reported a change (and provided age details) in travel behaviour, 24% were in the 16 - 19 age group and 19% in the 20 - 29 age group. In the 30+ age groups, between 9% and 12% reported a change in travel behaviour.

The change in mode of travel (115 respondents with a change in travel pattern and provided a reason) was most commonly away from car use and onto more sustainable modes of travel. The main reasons given were due to moving house or job, convenience and due to costs relating to the economic downturn and the increased cost of petrol.

When the respondents were given details about the 20mph speed limit scheme and then asked about any changes in travel behaviour most, again, did not report a change. 8% of car drivers (of 775 responses) reported that they drove a lot less or a little less. However 11% of car drivers reported that they drove more. 17% of pedestrians, cyclists and public transport users (of 1,662 responses) reported that they had increased the amount that they travelled on foot, bicycle and public transport since the introduction of the scheme.

The scheme was reported to have had no real effect on travel mode choice for the majority of respondents on travel to school / college (83% of the 178 interviewed residents that travelled to school/college) and to work (88% of the 991 interviewed residents that travelled to work).

There was an increase in the number of people walking and cycling, with 17 respondents (7%) answering that they walk more frequently to school / college since the introduction of the scheme, whilst 12 (5%) cycle more frequently.

43% of the 1,390 residents that responded agreed that since the introduction of the scheme there has been a safer environment for walking and cycling. 36% believe there has been an increase in the amount of walking and cycling.

50% of the 1,390 residents that responded disagreed that there had been a reduction in congestion and that the scheme had created less through traffic, suggesting the scheme has not discouraged car use around the area.

School Census data

Portsmouth City Council has collected data on the mode of transport used to travel to school; this data is for 5 to 16 year old pupils.

The school census data (see Figures 7.2 & 7.3) demonstrates that between 2007 and 2009, fewer pupils were travelling to school by car or van and more were travelling on foot or by bicycle. This was evident for Portsmouth as a whole, and on all roads irrespective of whether the road had a 20mph speed limit or not.

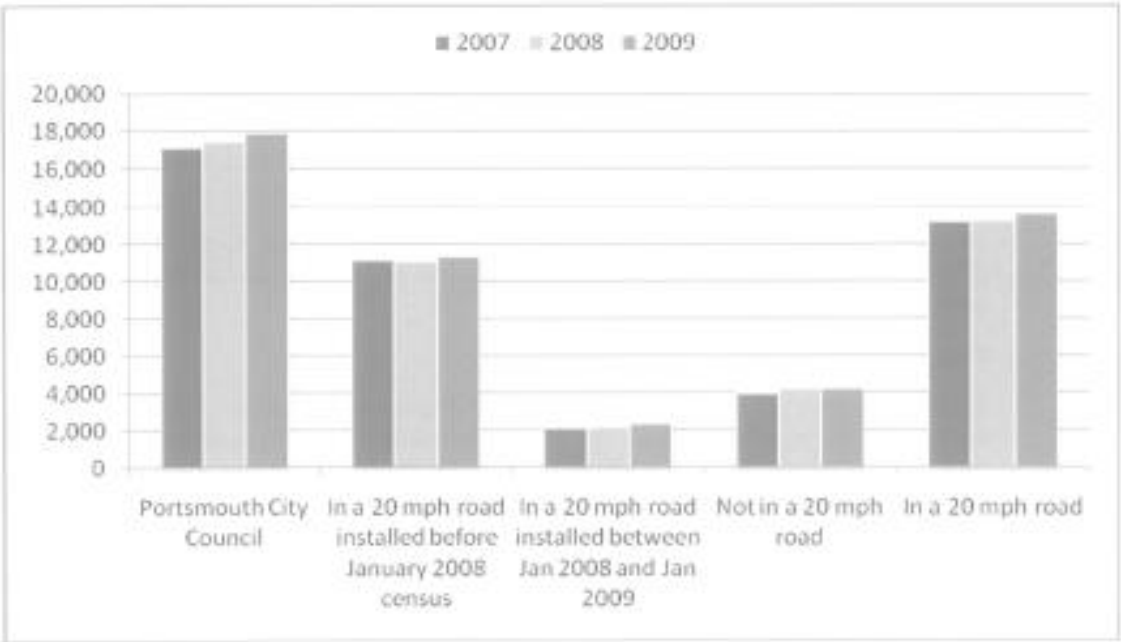


Figure 7.2 – Numbers of pupils (aged 5 to 16) walking or cycling to school (from school census data)

** 'In a 20 mph road' implies that the school the pupil travelled to was located on a 20 mph road*

Since 2007, there has been a decrease in proportion of pupils travelling by car or van to school on roads with 20mph limits, with a similar increase in those walking or cycling to school. However, there has been a steady decline in the proportion of pupils cycling to school which corresponded to a steady increase in those walking to school since 2007.

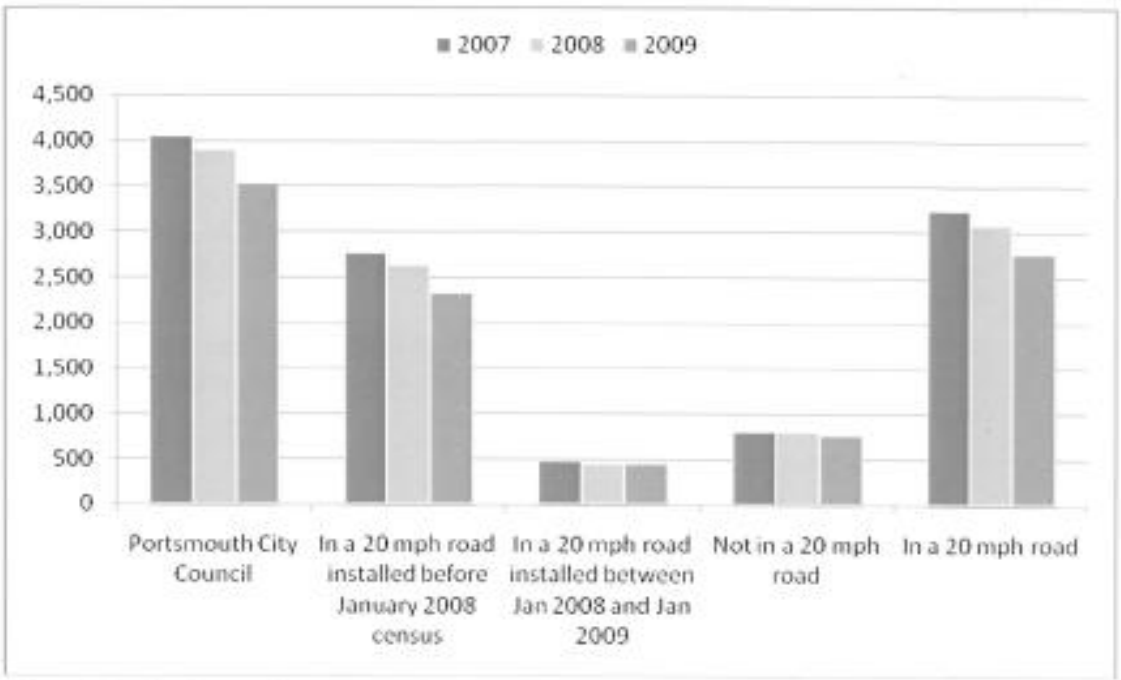


Figure 7.3 – Numbers of pupils (aged 5 to 16) travelling to school by car or van (from school census data)

** 'In a 20 mph road' implies that the school the pupil travelled to was located on a 20 mph road*

When looking at the percentage of pupils that travelled to school by bike and on foot separately (see Table A.6 in Appendix A), there is little change in the proportion of cyclists which varies around 3% between 2007 and 2009; whereas pupils walking to school increased from 67.5% in 2007 to 72.5% in 2009.

Therefore there is no clear trend, from the available evidence, to demonstrate how much of an effect the 20mph speed limit scheme has had on influencing the mode of travel used to travel to school.

Casualty analysis

Table 7.1 shows the average annual number of pupil casualties on a journey to or from school at the time of the accident. Before the 20mph speed limit scheme was implemented, there were on average five school pupil casualties annually (2.7% of the total casualties) and afterwards there were seven (5.0% of the total casualties). This is a 40% increase in the number of these casualties, compared to a 22% decrease for all casualties.

The Chi Squared test was carried out to find out the chance that the change in the number of casualties was as a result of the scheme or simply random variation. The results of the test showed that there is a high probability that the change was due to random fluctuation in the casualty numbers.

Table 7.1 – Average annual number of casualties 'Before' and 'After' scheme implementation

	Before	After	Change (%)
School pupil on journey to or from school	5	7	+40.0
All other casualties	178	133	-25.6
Total	**183**	**140**	**-23.5**

Table A.7 in Appendix A gives the severity of the school pupil casualties. In the three years before the scheme was implemented, there were two seriously injured pupils giving an average of 0.7 per year and with a resultant KSI ratio of 0.14. In the year after scheme implementation, all casualties received slight injures thereby resulting in a reduced KSI ratio of 0.0.

Figure 7.4 shows the proportion of school pupil casualties that were from each age group. Before scheme implementation most casualties were in the 12 to 13 age group (8, 53%), followed by four in the 10 to 11 age group (27%). In the after period there is a greater distribution of casualties into the 8 to 15 age groups, although this change could be due to the overall small number of casualties.

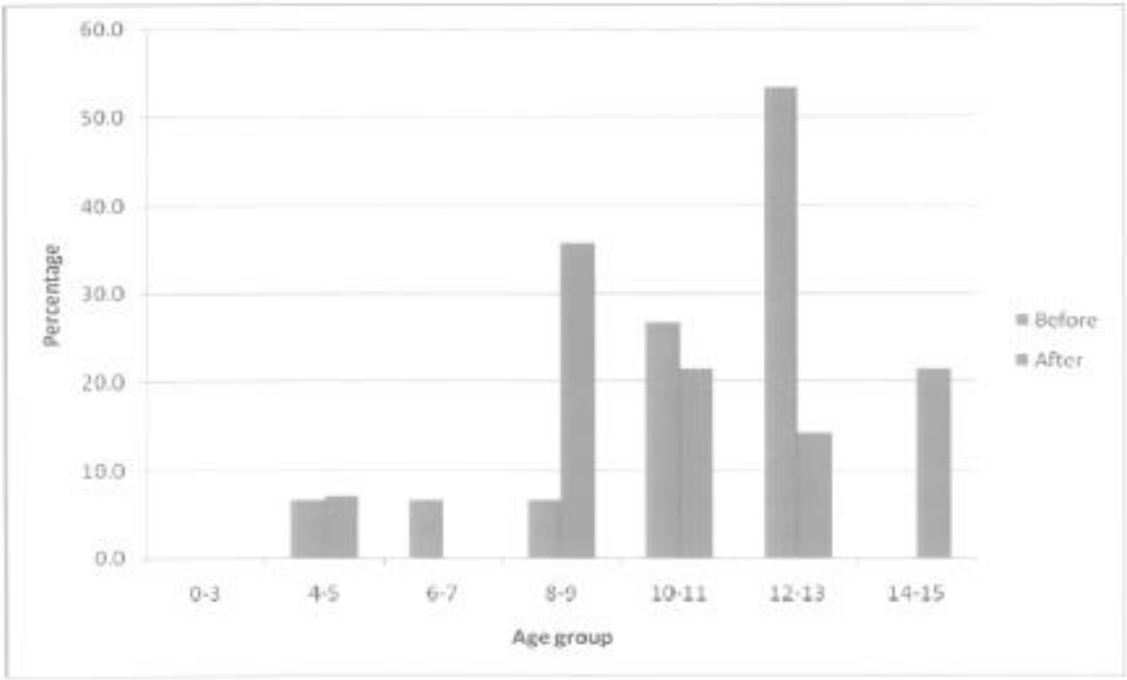


Figure 7.4 – Proportion of casualties from each age group before and after scheme introduction

Table 7.2 shows that most school pupil casualties in both the 'Before' and 'After' periods were pedestrians, and that there was an increase in the number of pedestrian and passenger school pupil casualties. There was a small decrease in the number of driver/ rider school pupil casualties.

Table 7.2 – Annual average school pupil casualties by casualty class

Sector	Casualty Class	Before (Average of 3 year data)	After (Average of 2 year data)	Total
All Sectors	Pedestrian	3.6	5.5	9.1
	Passenger	0.7	1.0	1.7
	Driver/Rider	0.7	0.5	1.2
	Total	**5.0**	**7.0**	**12.0**

Table A.8 in Appendix A shows that the Central West and North East had the most casualties in the 'Before' period (1.3 per year). Both of these sectors experienced a reduction in the number of casualties by 23% and 62% respectively. In all other sectors, there was an increase in the number of casualties ranging from 43% (South East) to 150% (Central East).

A detailed accident analysis, focussing on the accident descriptions and contributory factors (which were recorded for 25 of the 27 accidents involving school pupil casualties), showed that most accidents occurred partly or mainly due to a pedestrian failing to look properly; a contributory factor in 14 of the 25 accidents (5 accidents in the 'Before' period and 9 accidents in the 'After' period, giving an annual increase of 170%). All pedestrian casualties were recorded as being located in the carriageway, crossing 'elsewhere' i.e. not at a formal crossing point. In most instances the school pupil was described as either running into the carriageway or stepping into the carriageway.

The other common contributory factors were: pedestrian failed to judge vehicles path or speed (5 accidents); pedestrian crossing road masked by stationary vehicle (5 accidents); driver failed to judge other persons path or speed (3 accidents); pedestrian careless, reckless or in a hurry (3 accidents) and driver failed to look properly (2 accidents). Speeding was not quoted as being a contributory factor in any cases.

When comparing the 'Before' contributory factors to the 'After' contributory factors, it is evident that a greater proportion of the causes of accidents were attributed to pedestrians. In particular, there was an increase in the number of accidents for which the following factors were recorded: pedestrian crossing road masked by stationary vehicle, pedestrian failing to look properly and pedestrian careless, reckless or in a hurry. However the numbers are low.

The pedal cyclist accidents involved a cyclist hitting a parked car, a car leaving a school car park and colliding with a cyclist, a cyclist moving out from between parked cars and a vehicle overtaking a cyclist too close.

Summary

A comparison of the recorded travel patterns in the school census data and the perceived travel patterns from the qualitative survey to school in Portsmouth indicated that:

- 8% of drivers in the qualitative survey reported that they drive less or a lot less since the installation of the scheme. This is supported by the census data which shows that on 20mph roads between 2007 and 2009, 15% fewer pupils travelled to school by car or van, this is in comparison to just a 5% reduction on roads without a 20mph limit.
- 17% of pedestrians, cyclists and public transport users reported, in the qualitative survey, that they had increased the amount that they travelled on foot, bicycle and public transport.
- 7% of respondents in the qualitative survey answered that they walk more frequently to school or college. The census data showed that on 20mph roads, there was an increase of only 3% in the number of pupils who walk or cycle to school between 2007 and 2009. Interestingly the increase in pupils walking or cycling to school on roads that are not covered by 20mph limits was greater at 8%.
- From the qualitative survey, 5% of respondents cycle more frequently to school or college. However, the school census data, when broken down to show cyclists and pedestrians, shows that there has actually been a decrease in the numbers of pupils travelling to school by bicycle.

From the census data and the qualitative survey, it is not evident that the introduction of the 20mph speed limit scheme has had a demonstrable effect on how school pupils get to school. This is summarised in Table 7.3. It is noted that it is not possible to fully demonstrate any cause and effect and any changes may have been due to factors external to the 20mph signing scheme.

Table 7.3 – Summary of effects of travel to school data

Is there evidence to suggest:	Qualitative survey	Census data
Fewer pupils travelling to school by car or van?	✓	✓
More pupils are travelling to school on foot or by bicycle?	✓	✓
More pupils are travelling to school on foot?	✓	? (change is very small)
More pupils are travelling to school by bicycle?	✓	✗

There also appears to have been no demonstrable impact on school pupil casualty numbers or trends following the introduction of the 20mph speed limit scheme.

There were more casualties annually in the two years following the introduction of the 20mph speed limit scheme than the annual average for the three years before. This could be due to increased numbers of people walking and cycling to school, as demonstrated by the qualitative survey and census data thereby increasing the exposure to risk.

However the chi squared test demonstrated that there is a high probability that the change in casualty numbers was due to random variation and therefore not as a result of the implementation of the 20mph speed limit signing scheme.

The observed decrease in the KSI ratio of school pupil casualties may also be simply due to random variation.

An assessment of accident contributory factors showed that there was an increase in the number of accidents which were attributed to pedestrian error mainly where the pedestrian was considered to have 'ran out' or 'stepped out' in front of a car.

8. Comparison with 20 mph Zones

The monitored impacts in PCC were compared with those from London and Hull where 20 mph schemes have been implemented on an area-wide scale. It should however be noted that the road length and environment with 20 mph zones or limits as well as the funding for the various schemes varied in the three areas.

Table 8.1 shows a qualitative comparison between Portsmouth, Hull and London. TfL[7] provides approximately £10 million per year to the London Boroughs to fund the implementation of 20 mph Zones whilst Hull uses approximately £0.75 million per year on its 20 mph Zone implementation from its Local Transport Plan (LTP) capital programme. PCC spent £0.57 million from its LTP capital expenditure programme to implement the 20 mph Speed Limit scheme covering all the six sectors.

In all the three areas, 20 mph speed limits have been implemented in residential areas, with a focus on safer routes to school initiatives. Hull also provides electronic 20 mph signs (vehicle activated signs) where there is no history of accidents near a school.

The criteria for implementing the scheme varies between the three areas: TfL bases its decision on the potential casualty savings with a First Year Rate of Return (FYRR) greater than 100%, although some areas of deprivation are given special consideration; Hull bases its decision on the recorded personal injury accidents attributed to a speed problem; and PCC's decision was based on public requests and a desire to implement a mass action scheme over a very wide area at low cost.

Table 8.1 – Qualitative comparison between Portsmouth, London & Hull

	TfL 20 mph Zone	Hull 20 mph Zone	PCC 20 mph Speed Limit
Source of Funding	TfL (£10m/year)	LTP (£0.75m/year) + small contributions from local ward funds	LTP (£0.57m)
Funding criteria	>100% FYRR – special consideration given to deprived areas	4 PIAs in 3 years or 3 PIAs in 1 year & speed is main cause	Public requests
Average Speeds before implementation	>25 mph	29 -33 mph	≤24mph
Average Speeds after implementation	17 mph	17 -21 mph	19 mph
Public support	Yes but some opposition from emergency services	Yes but some opposition from bus operators	Yes
Areas of application	Residential areas – majority containing schools	Residential areas, mainly council estates. Recent applications relate to safer routes to school initiatives	Residential areas

[7] TfL – Transport for London

Table 8.2 compares the early results of the 20 mph Speed Limit scheme in PCC with the results observed in the London and Hull areas where 20 mph Zones (a combination of signing and traffic calming measures spaced between 50 and 95m apart) have been implemented.

Table 8.2 – Comparison of Portsmouth results with TfL and Hull results

	TfL 20 mph Zone	Hull 20 mph Zone	PCC 20 mph Speed Limit
Change in traffic speeds	-9 mph	-10.5 mph	-1.3 mph
Change in injury accidents	-43%	-56%	-21%
Change in KSI accidents	-56%	-90%	+8%
Change in casualties	-45%	-	-22%
Change in KSI casualties	-54%	-	+6%
Change in pedestrian casualties	-36%	-54%	-16%
Change in pedestrian KSI casualties	-39%	-	+38%
Change in child casualties	-42%	-64%	-20%
Change in child pedestrian casualties	-45%	-74%	-12%

Table 8.2 shows that 20 mph Zones are more effective than 20 mph Speed Limit signed only schemes for casualty and speed reduction. The larger casualty reductions in 20 mph zones may be attributable to the corresponding larger speed reductions of about 9 mph.

Research carried out by TRL Ltd for Transport for London (TfL) as well as observed traffic speeds in some areas in Hull (in 1998) showed that the implementation of 20 mph Speed Limit schemes, with signing alone, only results in about a 1 mph reduction in speed. This is similar to the reduction in speed observed in Portsmouth.

Hull also started an initiative, derived from consultations with bus operators, which limited speeds of buses to 20 mph on bus routes which in turn slowed down traffic using the bus routes to between 22-25 mph without the need for traffic calming measures. However, this is not likely to work effectively in situations where the bus frequency on the route is low.

There appears to be limited agreement over the effects of traffic calming on vehicle emissions. Area-wide studies (in a number of countries) have shown a decrease in N_2O (Nitrous Oxide) emissions as a result of traffic calming. N_2O emissions are part of the National Air Quality Strategy and hence arguably the most important form of exhaust emission. Area-wide studies were less conclusive on the effects on CO (Carbon Monoxide) and HC (Hydro Carbon) emissions. Studies (TRL Report 482) based on single sections of road have shown a wide range of results with a wide variation in the changes of N_2O and CO levels. They did, however, show a reasonably consistent increase in fuel consumption and HC emissions due to traffic calming, albeit with only a small number of studies covering the latter. The quality of local air depends upon the number of vehicles using a road, as well as other sources of pollution in the vicinity. It is therefore possible that in some situations the amount of traffic using a particular road could be reduced following the introduction of a traffic calming scheme.

9. Knowledge Transfer

Although there is a general perception of wide spread public support for the 20 mph schemes, only Hull and Portsmouth have carried out satisfaction surveys using feedback questionnaires. The responses to these questionnaires showed high levels of satisfaction with the 20 mph schemes. In Hull, over 80% of respondents to the survey were in favour of 20 mph Zones; around 75% would recommend implementation of the scheme in other areas; and over 70-95% of respondents were in favour of humps/cushions. Response rates varied from 10% to 40% in individual Zones.

Research undertaken in 2000 *(Kirby, 2000)* identified a range of non-casualty benefits for 20 mph Zones:

- over 25% of respondents said that they walked or cycled more following implementation of the 20 mph Zone;
- over 50% of respondents felt that the 20 mph Zone had made the area a more pleasant place in which to live; and
- 60% of respondents felt that more children played in the street.

In Portsmouth, those that were satisfied with the scheme and provided a reason (51% of the 1,445 respondents) felt that:

- The 20 mph Speed Limit had improved safety (27%) – "People are driving safer, it's a very good idea"
- The scheme was needed and works well (9%) – "Keep to 20 mph. It is a good idea"
- Slower drivers result in fewer accidents (8%) – "Should be fewer accidents. More awareness due to travelling at low speed".

Although there are high levels of satisfaction with the 20 mph schemes, all the three areas have received complaints about continuing high speeds on a minority of roads. The authorities have always followed up the complaints although it is still not clear if it is a genuine problem or just perception of high speeds. This was also evident in the qualitative survey findings that indicated that respondents in Portsmouth who were not satisfied with the 20 mph Speed Limit scheme felt that the scheme needed enforcing as drivers were still exceeding the Speed Limit.

Obstacles faced in Portsmouth

PCC has been faced with a number of obstacles during the scheme implementation process. These included:

- Limited resources to design and supervise the scheme's implementation;
- Illegal removal of signs since implementation. However, the use of secure torque bolts to fix the signs in position may have addressed this problem and is likely to prove to be cost effective in the long term; and
- Sign clutter at junctions has been a problem at some locations. In other locations, roads have very narrow carriageways due to the presence of on-street parking (which obstructs visibility to the signs) and as such it has been difficult to find a suitable location for signs. As a result, some signing has been found to be unlawful (due, for example, to a lack of repeater signs or poor visibility), and has resulted in costly challenges to enforcement activity where the police have responded to speeding concerns.

Lessons learnt

Lessons learnt from the 20 mph Speed Limit scheme implementation have included:

- Publicity, using community engagement and the media, is pivotal to gaining public acceptance/support for the scheme;
- Carrying out a survey and design of each road separately by staff with knowledge of the relevant legislation is key to ensuring suitability of the road environment for implementing 20 mph Speed Limits;
- A comprehensive checking or sign review process should be put in place following implementation, to ensure that signs have been correctly installed and meet legal requirements;
- Local authorities should ensure that appropriate governance arrangements are in place, for the robust management of the scheme. A Project/ Stakeholder Board should be set up at the outset to guide and direct the implementation of the scheme;
- Engagement of stakeholders through the design and implementation of the scheme in order to gain public support and acceptance. For instance better engagement of bus operators and emergency services in order to identify key routes for a coordinated approach is encouraged which would in turn promote closer working relationships;
- The scheme should be based on robust evidence of casualty saving benefits that should be outlined in the early stages of scoping the scheme; and
- There should be a plan for facilitating post-implementation feedback for 20 mph Limit only roads where initial speeds are high.

Transferability

Outside London, PCC considers itself as the most densely populated city in Great Britain. The majority of residential streets are narrow, with terraced housing and cars parked on both sides. As such, the provision of the 20 mph Speed Limit scheme on such roads only formalised an existing practice and possibly helped to reduce the incidences of aggressive driving. It is possible that such a scheme would be ineffective if implemented on an area-wide scale in many other locations without providing complimentary traffic calming measures. However, there are likely to be individual clusters of streets where such an approach could be applied. PCC is considering implementing 20 mph Zones (i.e. adding traffic calming measures and the associated appropriate signage) on roads that have had speed related complaints raised or where average speeds are still in excess of 24 mph since the implementation of the 20 mph Speed Limit scheme. This is likely to add significantly to the costs, but is also expected to improve the safety benefits of the scheme.

Experience from London and Hull suggests that significant safety benefits can be obtained by implementing a targeted area-wide implementation of 20 mph zones in combination with 20 mph speed limit signs, depending on the character and function of each road in the area.

In summary, and considering the fact that the scheme was implemented to formalise the existing average speeds, the effects of implementing the 20 mph Speed Limit scheme (use of signing alone) are as follows:

- The average speed reduction achieved by installing speed limit signs alone is less than that achieved by the introduction of 20 mph zones partly because 20 mph Speed Limits are implemented where existing speeds are already low;
- Within an area-wide application of 20mph sign only limits, those roads with average speeds higher than 24 mph may benefit from significant speed reductions, but not to the extent that the 20mph speed limit is self enforcing;

- Based on the available data for two years after scheme implementation, casualty benefits greater than the national trend have not been demonstrated; and
- The evaluation of area-wide schemes relies on good quality data and an appropriate evaluation design.

Following the analysis of the available data, it is recommended that an evaluation study that takes account of 3 years of 'After' data to monitor the long-term impacts of the 20 mph scheme in PCC would offer stronger evidence of outcomes.

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Appendix A

Table A.1 - Number of monitored sites by specified average speed range and PCC sector

Sector	'Before' Average Speed	'After' Average Speeds			
		≤20 mph	21 to 24 mph	>24 mph	Total
Central West	≤20 mph	22	4	1	27
	21 to 24 mph	6	7	1	14
	>24 mph	4	1	1	6
	Total	***32***	***12***	***3***	***47***
South East	≤20 mph	34	3	-	37
	21 to 24 mph	6	6	2	14
	>24 mph	1	3	5	9
	Total	***41***	***12***	***7***	***60***
Central East	≤20 mph	31	6	1	38
	21 to 24 mph	3	3	2	8
	>24 mph	4	1	1	6
	Total	***38***	***10***	***4***	***52***
North East	≤20 mph	15	1	-	16
	21 to 24 mph	2	1	-	3
	>24 mph	1	-	-	1
	Total	***18***	***2***	***-***	***20***
South West	≤20 mph	20	-	-	20
	21 to 24 mph	5	3	-	8
	>24 mph	2	1	-	3
	Total	***27***	***4***	***-***	***31***
North West	≤20 mph	2	1	-	3
	21 to 24 mph	1	1	1	3
	>24 mph	-	3	4	7
	Total	***3***	***5***	***5***	***13***
All Sectors	≤20 mph	124	15	2	141
	21 to 24 mph	23	21	6	50
	>24 mph	12	9	11	32
	Total	***159***	***45***	***19***	***223***

Table A.2 – Number of monitored sites by average speed changes, specified speed range and sector

Before Speeds	Average speed change	Speed Change Band	After Speeds			
			≤20 mph	21 to 24 mph	>24 mph	Total
≤20 mph	-0.7 mph	Decrease 11-15 mph	2	-	-	2
		Decrease 6 -10 mph	4	-	-	4
		Decrease 1-5 mph	47	-	-	47
		No change	23	-	-	23
		Increase 1-5 mph	45	10	-	55
		Increase >5 mph	3	5	2	10
21 to 24 mph	-2.3 mph	Decrease 11-15 mph	1	-	-	1
		Decrease 6 -10 mph	11	-	-	11
		Decrease 1-5 mph	11	7	-	18
		No change	-	6	-	6
		Increase 1-5 mph	-	8	5	13
		Increase >5 mph	-	-	1	1
>24 mph	-7.4 mph	Decrease >15 mph	2	-	-	2
		Decrease 11-15 mph	3	-	-	3
		Decrease 6 -10 mph	6	2	3	11
		Decrease 1-5 mph	1	7	4	12
		No change	-	-	1	1
		Increase 1-5 mph	-	-	3	3

Table A.3 - Change in casualty numbers in PCC sectors by road user type and injury severity

Sector	Casualty Class	Before (Average of 3 year data)			After (Average of 2 year data)			%change	
		KSI	Slight	Total	KSI	Slight	Total	KSI	Total
Central East	Pedestrian	1.7	8.7	10.3	1.0	8.0	9.0	-40%	-13%
	Passenger	0.3	2.7	3.0	0.0	3.0	3.0	-100%	0%
	Driver/Rider	4.0	21.3	25.3	3.5	18.5	22.0	-13%	-13%
	Total	**6.0**	**32.7**	**38.7**	**4.5**	**29.5**	**34.0**	**-25%**	**-12%**
Central West	Pedestrian	1.0	6.0	7.0	1.5	4.5	6.0	50%	-14%
	Passenger	0.3	3.3	3.7	0.0	4.0	4.0	-100%	9%
	Driver/Rider	1.7	15.7	17.3	2.5	12.0	14.5	50%	-16%
	Total	**3.0**	**25.0**	**28.0**	**4.0**	**20.5**	**25.0**	**33%**	**-11%**
North East	Pedestrian	0.0	4.7	4.7	1.0	2.0	3.0	N/A	-36%
	Passenger	0.0	4.3	4.3	0.0	2.5	2.5	N/A	-42%
	Driver/Rider	2.7	18.7	21.3	2.5	9.0	11.5	-6%	-46%
	Total	**2.7**	**27.7**	**30.3**	**3.5**	**13.5**	**17.0**	**31%**	**-44%**
North West	Pedestrian	0.3	3.7	4.0	0.0	3.0	3.0	-100%	-25%
	Passenger	0.3	1.7	2.0	0.0	1.5	1.5	-100%	-25%
	Driver/Rider	1.0	10.7	11.7	1.0	6.5	7.5	0%	-36%
	Total	**1.7**	**16.0**	**17.7**	**1.0**	**11.0**	**12.0**	**-40%**	**-32%**
South East	Pedestrian	1.3	7.7	9.0	3.5	4.5	8.0	163%	-11%
	Passenger	0.0	8.7	8.7	0.0	2.5	2.5	N/A	-71%
	Driver/Rider	1.0	18.3	19.3	0.5	17.0	17.5	-50%	-9%
	Total	**2.3**	**34.7**	**37.0**	**4.0**	**24.0**	**28.0**	**71%**	**-24%**
South West	Pedestrian	2.0	8.3	10.3	1.7	7.4	9.1	-14%	-12%
	Passenger	0.0	4.7	4.7	0.0	4.6	4.6	N/A	-2%
	Driver/Rider	1.0	15.3	16.3	1.1	12.0	13.1	14%	-20%
	Total	**3.0**	**28.3**	**31.3**	**2.9**	**24.0**	**26.9**	**-5%**	**-14%**
All Sectors	Pedestrian	6.3	39.0	45.3	8.7	29.4	38.1	38%	-16%
	Passenger	1.0	25.3	26.3	0.0	18.1	18.1	-100%	-31%
	Driver/Rider	11.3	100.0	111.3	11.1	75.0	86.1	-2%	-23%
	Total	**18.7**	**164.3**	**183.0**	**19.9**	**122.5**	**142.4**	**6%**	**-22%**

Table A.4 – Change in casualty numbers by casualty age, injury severity and user type

Casualty Class	Casualty age	Before (Average of 3 year data)			After (Average of 2 year data)			%change	
		KSI	Slight	Total	KSI	Slight	Total	KSI	Total
Pedestrian	0 - 15	4.7	20.0	24.7	2.5	19.3	21.8	-46%	-12%
	16 - 19	0.0	2.7	2.7	0.5	2.2	2.7	N/A	2%
	20 - 69	1.0	14.3	15.3	4.1	6.4	10.4	307%	-32%
	70+	0.7	2.0	2.7	1.6	1.6	3.2	146%	21%
	Total	**6.3**	**39.0**	**45.3**	**8.7**	**29.4**	**38.1**	**38%**	**-16%**
Passenger	0 - 15	0.7	7.0	7.7	0.0	5.6	5.6	-100%	-26%
	16 - 19	0.3	2.3	2.7	0.0	3.7	3.7	-100%	39%
	20 - 69	0.0	14.7	14.7	0.0	7.2	7.2	N/A	-51%
	70+	0.0	6.0	6.0	0.0	6.1	6.1	N/A	1%
	Total	**1.0**	**22.3**	**23.3**	**0.6**	**14.1**	**14.6**	**-43%**	**-37%**
Driver/Rider	0 - 15	2.3	12.7	15.0	1.0	9.6	10.6	-57%	-29%
	16 - 19	4.3	30.0	34.3	2.5	25.8	28.3	-42%	-18%
	20 - 69	4.3	52.0	56.3	6.6	37.5	44.1	52%	-22%
	70+	1.3	19.0	20.3	1.6	13.5	15.1	23%	-26%
	Total	**13.3**	**113.0**	**126.3**	**12.9**	**87.0**	**99.9**	**-4%**	**-21%**
All casualties	0 - 15	7.7	39.7	47.3	3.5	34.6	38.1	-54%	-20%
	16 - 19	4.7	35.0	39.7	3.0	31.7	34.7	-36%	-12%
	20 - 69	5.3	81.0	86.3	10.6	51.1	61.7	100%	-29%
	70+	2.0	27.0	29.0	3.3	21.1	24.4	64%	-16%
	Total	**20.7**	**174.3**	**195.0**	**22.1**	**130.5**	**152.6**	**7%**	**-22%**

Table A.5 - Change in no. of vehicles involved in accidents in PCC by vehicle type & severity

Sector	Vehicle Type	Before (3 year av.)			After (2 year av.)			%change	
		KSI	Slight	Total	KSI	Slight	Total	KSI	Total
Central East	Pedal Cycle	2.3	8.0	10.3	2.5	7.5	10.0	7%	-3%
	PTW	1.7	4.7	6.3	1.0	4.5	5.5	-40%	-13%
	Car/Taxi	6.7	40.0	46.7	4.5	34.5	39.0	-33%	-16%
	Other	0.0	3.0	3.0	0.5	3.0	3.5	N/A	17%
	Total	**10.7**	**55.7**	**66.3**	**8.5**	**49.5**	**58.0**	**-20%**	**-13%**
Central West	Pedal Cycle	1.0	4.3	5.3	1.0	4.0	5.0	0%	-6%
	PTW	0.7	3.0	3.7	1.0	2.0	3.0	50%	-18%
	Car/Taxi	3.3	26.0	29.3	3.5	21.0	24.5	5%	-16%
	Other	0.0	3.0	3.0	1.0	3.5	4.5	N/A	50%
	Total	**5.0**	**36.3**	**41.3**	**6.5**	**30.5**	**37.0**	**30%**	**-10%**
North East	Pedal Cycle	0.0	5.3	5.3	1.0	3.0	4.0	N/A	-25%
	PTW	1.7	6.3	8.0	1.5	2.0	3.5	-10%	-56%
	Car/Taxi	2.7	29.0	31.7	3.5	13.0	16.5	31%	-48%
	Other	0.0	5.0	5.0	0.0	1.5	1.5	N/A	-70%
	Total	**4.3**	**45.7**	**50.0**	**6.0**	**19.5**	**25.5**	**38%**	**-49%**
North West	Pedal Cycle	0.3	2.7	3.0	0.0	2.5	2.5	-100%	-17%
	PTW	1.3	1.7	3.0	0.5	0.5	1.0	-63%	-67%
	Car/Taxi	1.0	16.0	17.0	3.5	14.0	17.5	250%	3%
	Other	0.3	2.7	3.0	0.0	1.5	1.5	-100%	-50%
	Total	**3.0**	**23.0**	**26.0**	**4.0**	**18.5**	**22.5**	**33%**	**-13%**
South East	Pedal Cycle	0.7	5.7	6.3	0.5	5.5	6.0	-25%	-5%
	PTW	0.0	3.3	3.3	0.5	3.5	4.0	N/A	20%
	Car/Taxi	2.3	38.3	40.7	3.5	29.0	32.5	50%	-20%
	Other	0.3	6.3	6.7	0.0	2.5	2.5	-100%	-63%
	Total	**3.3**	**53.7**	**57.0**	**4.5**	**40.5**	**45.0**	**35%**	**-21%**
South West	Pedal Cycle	0.7	8.7	9.3	0.6	5.7	6.3	-14%	-33%
	PTW	0.3	2.0	2.3	0.6	2.9	3.4	71%	47%
	Car/Taxi	2.7	31.0	33.7	2.3	24.6	26.9	-14%	-20%
	Other	0.3	2.0	2.3	0.0	0.6	0.6	-100%	-76%
	Total	**4.0**	**43.7**	**47.7**	**3.4**	**33.7**	**37.1**	**-14%**	**-22%**
All Sectors	Pedal Cycle	5.0	34.7	39.7	5.6	28.2	33.8	11%	-15%
	PTW	5.7	21.0	26.7	5.1	15.4	20.4	-11%	-23%
	Car/Taxi	18.7	180.3	199.0	20.8	136.1	156.9	11%	-21%
	Other	1.0	22.0	23.0	1.5	12.6	14.1	50%	-39%
	Total	**30.3**	**258.0**	**288.3**	**32.9**	**192.2**	**225.1**	**9%**	**-22%**

'Other' represents all buses, minibuses, goods vehicles, other motor vehicles, other non-motor vehicles and unknown vehicle types.

Table A.6 – Percentage of Pupils cycling or walking to school

	Cycling (%)	Walking (%)
2007	3	67.5
2008	3.1	69.2
2009	2.75	72.5

Table A.7 – Average annual severity of school pupil casualties before and after scheme implementation

	Before	After	Total
Fatal	0	0	0
Serious	0.7	0	0.7
Slight	4.3	7	11.3
KSI ratio	0.14	0.00	0.06
Total	**5**	**7**	**12**

Table A.8 - Annual average school pupil casualties by casualty class

Sector	Before	After	Change (%)
Central East	1.0	2.5	150.0
Central West	1.3	1.0	-23.1
North East	1.3	0.5	-61.5
North West	0.0	1.0	100.0
South East	0.7	1.0	42.9
South West	0.7	1.1	57.1
Total	**5.0**	**7.0**	**40.0**

Appendix B

B.1 Accident Trends and Causation factors

Trends

Time of Day & Day of Week

Figure B.1 shows that the total number of accidents by time of day is very similar in the 'Before' and 'After' periods.

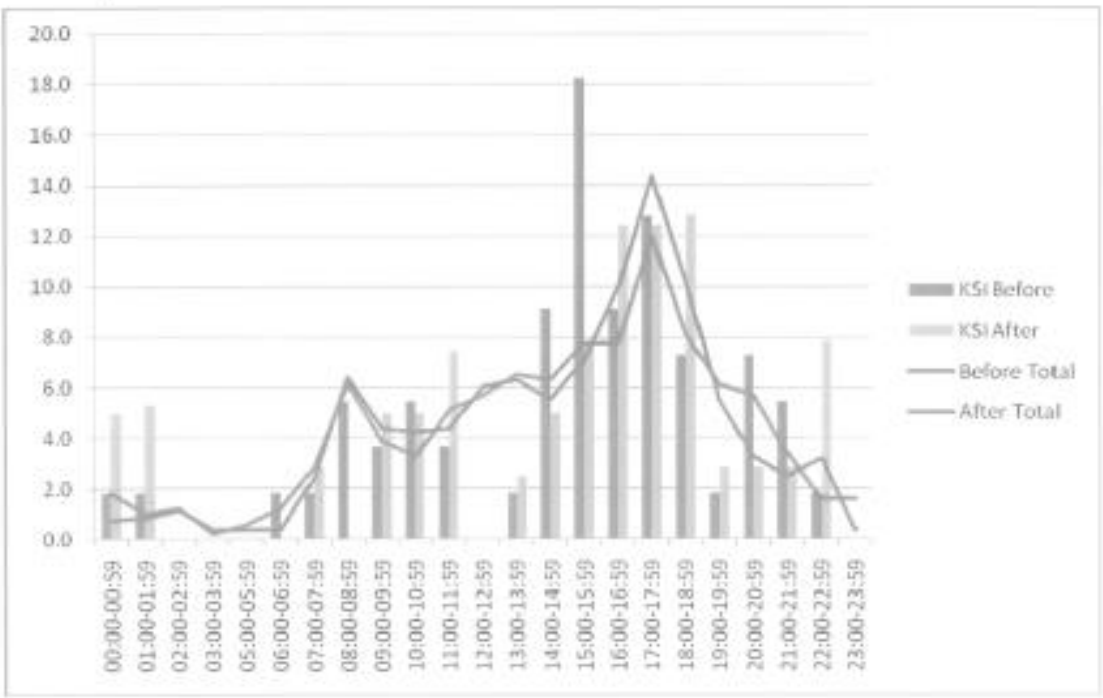


Figure B.1 – Accidents in PCC 20 mph sectors by time of day and severity

The distributions of accidents by time of day are similar before and after the scheme's implementation. There are some changes for the smaller numbers of KSI accidents, although they may be random variations.

In the 'Before' period, there was a large proportion of KSI accidents occurring between 14:00-15:59 whilst in the after period there was a greater proportion of KSI accidents in the periods 11:00-11:59, 18:00-18:59, 22:00-22:59 and 00:00-01:59.

There was no evident change in trend in the distribution of the accidents on 20 mph roads by day of week. Although the proportion of KSI accidents is highest on Mondays, this is unaffected by the scheme.

Journey Purpose

Table B.1 shows that there has not been any significant reduction in the proportion of vehicles undertaking school related journeys in accidents.

The largest increase in accident involvement was in the proportion of vehicles commuting to/from work although this proportion was small. Given the small numbers involved, these figures are susceptible to variations.

Table B.1 - Proportional split of vehicles by Journey Purpose and severity of accident

Severity	Journey Purpose	Before (3 years)	After (2 years)	% change
KSI	Other/Unknown	7.9% (68)	12.7% (56)	4.8%
	Journey as part of work	1.4% (12)	0.9% (4)	-0.5%
	Commuting to/from work	1.0% (9)	1.1% (5)	0.1%
	Taking school pupil to/from school	0.1% (1)	0.0% (0)	-0.1%
	Pupil riding to/from school	0.1% (1)	0.0% (0)	-0.1%
Slight	Other/Unknown	71.8% (621)	62.8% (277)	-9.0%
	Journey as part of work	10.1% (87)	11.1% (49)	1.0%
	Commuting to/from work	6.6% (57)	9.5% (42)	2.9%
	Taking school pupil to/from school	0.6% (5)	1.6% (7)	1.0%
	Pupil riding to/from school	0.5% (4)	0.2% (1)	-0.3%

Causation factors

A detailed investigation into the accident causation factors, as recorded on STATS19 forms and taking into consideration both probability A and B contributory factors[8], indicated that there was generally no significant change in the proportion of all accident severities influenced by speed related contributory factors in the 20 mph PCC sectors. Table B.2 indicates relatively small changes in the proportion of accidents where 'Careless, reckless or in a hurry', 'Aggressive driving', 'Driver failing to judge another person's speed or direction' and 'Disobeying a 'Given Way' or 'Stop' sign or markings' were recorded as possible causation factors. There was also a small change in the proportion of accidents influenced by the 'passing too close to cyclist/pedestrian' causation factor. Other than for the 'Aggressive driving', 'Driver careless, reckless or in a hurry' and 'pedestrian failed to judge other person's path or speed', all the changes were increases in the proportion of accidents influenced by the perceived speed related causation factors.

The influence of the causation factors on the occurrence of KSI accidents was also seemingly limited with no clear observable trend in the realised relatively small changes. For instance although there was a 4% reduction in the proportion of KSI accidents influenced by the 'Aggressive driving' factor, there was an increase of 3% in the proportion of accidents influenced by the 'Passing too close to cyclist, horse rider or pedestrian' factor which may also be attributed to aggressive driving. The proportion of KSI accidents influenced by the 'Exceeding speed limit' factor increased by 3% whereas those influenced by the 'Travelling too fast for conditions' reduced by 1%.

There are also notable small increases in the proportion of KSI accidents attributed to 'Disobeyed Give Way or Stop sign or markings' (4%), 'Driver failed to look properly' (4%) and 'driver impaired by alcohol' (3%) causation factors.

In pedal cycle accidents, there was no change in the proportion of KSI accidents attributed to 'cyclist entering road from pavement' factor although there was an overall increase of 1% in the influence of this factor in accident occurrence.

[8] The contributory factors recorded on STATS19 forms are based on the subjective judgement of the recording police officer and hence should be treated with caution.

Table B.2 - Proportional split* in PCC 20 mph sectors accident contributory factors by severity

Contributory factor	Before (3 years)			After (2 years)			Change (%)	
	KSI	Slight	Total	KSI	Slight	Total	KSI	Total
Slippery road (due to weather)	1%	0%	0%	1%	2%	2%	0%	1%
Road layout (e.g. bend, hill, narrow carriageway)	0%	0%	0%	0%	1%	1%	0%	1%
Disobeyed 'Give Way' or 'Stop' sign or markings	0%	2%	2%	4%	4%	4%	4%	3%
Disobeyed pedestrian crossing facility	1%	0%	0%	0%	0%	0%	-1%	0%
Exceeding speed limit	0%	1%	1%	3%	2%	2%	3%	2%
Travelling too fast for conditions	1%	1%	1%	0%	3%	2%	-1%	1%
Following too close	0%	0%	0%	0%	2%	1%	0%	1%
Cyclist entering road from pavement	4%	1%	1%	4%	2%	2%	0%	1%
Junction overshoot	2%	2%	2%	3%	2%	2%	1%	0%
Junction restart (moving off)	1%	1%	1%	3%	0%	1%	2%	0%
Poor turn or manoeuvre	4%	4%	4%	6%	4%	5%	3%	1%
Driver failed to look properly	10%	15%	14%	14%	20%	19%	4%	5%
Driver failed to judge other person's path or speed	5%	6%	6%	5%	9%	8%	1%	2%
Passing too close to cyclist, horse rider or pedestrian	0%	1%	1%	3%	2%	2%	3%	1%
Sudden braking	3%	1%	1%	0%	1%	1%	-3%	0%
Swerved	1%	0%	0%	0%	0%	0%	-1%	0%
Loss of control	2%	2%	2%	3%	1%	1%	1%	0%
Driver impaired by alcohol	0%	2%	1%	3%	1%	1%	3%	0%
Not displaying lights at night or in poor visibility	0%	0%	0%	1%	0%	1%	1%	0%
Aggressive driving	4%	2%	2%	0%	1%	1%	-4%	-1%
Driver careless, reckless or in a hurry	6%	5%	5%	3%	3%	3%	-4%	-2%
Vision affected by stationary or parked vehicles	3%	3%	3%	1%	3%	2%	-1%	0%
Vision affected by vehicle blind spot	1%	0%	1%	0%	0%	0%	-1%	0%
Pedestrian crossing road masked by stationary or parked vehicle	8%	2%	3%	4%	4%	4%	-4%	1%
Pedestrian failed to look properly	12%	6%	6%	10%	7%	7%	-2%	1%
Pedestrian failed to judge other person's path or speed	2%	2%	2%	4%	0%	1%	2%	-1%
Other	8%	12%	12%	12%	11%	11%	3%	-1%
Unknown	24%	30%	29%	15%	15%	15%	-8%	-14%

**The proportional split takes into consideration both probability A & B contributory factors recorded for each accident in PCC. The severity split is within a particular severity category whilst the Total split is proportional split in all the 20 mph sectors.*
Contributory factors in bold represent those factors that ought to have been directly affected by the 20 mph speed limit scheme.

In pedestrian accidents, there was no significant change in the proportion of pedestrian causation factors in all accidents. Although there was an increase of 1% in the proportion of accidents influenced by; 'pedestrian failed to look properly' and 'pedestrian crossing road masked by

stationary or parked vehicle', there were reductions of 2% and 4% respectively in their influence in KSI accident occurrence.

It is important not to make strong inferences from this data as it is affected by random variations and the numbers of crashes with some of the contributory factors are relatively low.

Appendix C

C.1 Survey Questionnaire

Introduction: Good morning/afternoon/evening. My name is ..... and I work for the market research company Count-On-Us. I'm conducting some research on behalf of Portsmouth City Council gathering people's experiences and opinions of their travel in the local area. Please can you spare some time to take part?

I'd like to ask you some questions about how you usually travel around the area (over the last 2 years) to access services such as work, education, healthcare, shopping and visiting friends and family.

SCREENING:

Are you a Portsmouth resident living within the area shown on this map? *Interviewer – show map.*

☐1 Yes (note which zone) _____

☐2 No

*If **Yes**, continue to Q1.*
*If **No**, thank respondent for their time, and terminate interview.*

Q1. Can you tell me how you usually travel for each of the following purposes? *Interviewer – present show card*

	Work	Education	Education (taking a dependent)	Healthcare
Train	☐1	☐1	☐1	☐1
Bus or coach	☐2	☐2	☐2	☐2
Motorcycle, scooter or moped	☐3	☐3	☐3	☐3
Car or van	☐4	☐4	☐4	☐4
Taxi/minicab	☐5	☐5	☐5	☐5
Bicycle	☐6	☐6	☐6	☐6
On foot	☐7	☐7	☐7	☐7
Other (specify)	☐8	☐8	☐8	☐8
Do not travel for this purpose	☐9	☐9	☐9	☐9

Q2. I would now like you to think about you're most typical or common journey (the one you make most frequently in a week). Please can you tell me how you travel for this journey and why you chose to travel in this way?. [*Interviewer – Code as appropriate.]*

	Car	Foot	Cycle	Public Transport	Other (please specify)
1) Better journey time	☐1	☐1	☐1	☐1	☐1
2) Better reliability	☐2	☐2	☐2	☐2	☐2
3) Bus priority measures	☐3	☐3	☐3	☐3	☐3
4) Comfort	☐4	☐4	☐4	☐4	☐4
5) Convenience	☐5	☐5	☐5	☐5	☐5
6) Cost	☐6	☐6	☐6	☐6	☐6
7) Difficulty / cost of parking a car	☐7	☐7	☐7	☐7	☐7
8) Habit/Always used this mode	☐8	☐8	☐8	☐8	☐8
9) Health benefits	☐9	☐9	☐9	☐9	☐9
10) Less stressful	☐10	☐10	☐10	☐10	☐10
11) Need for car at destination	☐11	☐11	☐11	☐11	☐11
12) Reduced speed limit in the area	☐12	☐12	☐12	☐12	☐12
13) No alternative	☐13	☐13	☐13	☐13	☐13
14) Other (please specify)	☐14	☐14	☐14	☐14	☐14

Q3. Have you changed how you have travelled around the local area over the last two years? This can be for any of the journeys you have mentioned previously - for work, education, or healthcare.

Yes	☐1
No	☐2
Don't know	☐3

If Yes – go to Q4
If No – go to text and Q5

Q4. Can you please describe how you have changed your travel habits during the last 2 years (e.g. travelling further by car) and why these have changed (changed jobs, moved house, bought a car?)

How have they changed	Why have they changed

Portsmouth City Council implemented a 20mph speed limit in six residential sectors between June 2007 and March 2008, one of which we are located in at the moment. The following set of questions aims to understand if and how your travel habits have changed as a result of this intervention.

Q5. Since the introduction of the 20mph scheme, has the amount you travel by the following methods increased, decreased, or stayed the same? *Interviewer – present show card and code one option as appropriate. In the case that the respondent is unable to walk / cycle, or does not walk/cycle as a mode of transport (i.e. around the study area, implying a further distance than simply walking to a car etc), both before and after the implementation of the scheme, please select – 'have never used this mode of transport']*

	Car	Foot	Bicycle	Public transport	Other (please specify)
Increased a lot	☐1	☐1	☐1	☐1	☐1
Increased a little	☐2	☐2	☐2	☐2	☐2
Made no difference	☐3	☐3	☐3	☐3	☐3
Decreased a little	☐4	☐4	☐4	☐4	☐4
Decreased a lot	☐5	☐5	☐5	☐5	☐5
Don't know	☐8	☐8	☐8	☐8	☐8
Have never used this mode of transport	☐7	☐7	☐7	☐7	☐7

Q6. In your opinion, what impact has the implementation of 20mph speed limit made on the speed of cars in your area? *[Interviewer – select one response only]*

Decreased speeds a lot	☐1
Decreased speeds a little	☐2
Made no difference	☐3
Increased speeds a little	☐4
Increased speeds a lot	☐5
Don't know	☐8

Q7. Please tell me whether you agree with the following, using a scale of strongly agree to strongly disagree. Since the introduction of the 20mph speed limit in this area there has been:
[Interviewer, go through each in turn and code as appropriate]

	Strongly agree	Agree	Neither	Disagree	Strongly disagree	Don't know
a) Less aggressive driving	☐1	☐2	☐3	☐4	☐5	☐6
b) A reduction in congestion	☐1	☐2	☐3	☐4	☐5	☐6
c) Less through traffic	☐1	☐2	☐3	☐4	☐5	☐6
d) A safer environment for walking and cycling	☐1	☐2	☐3	☐4	☐5	☐6
e) An increase in the number of people walking and cycling	☐1	☐2	☐3	☐4	☐5	☐6
f) A cleaner environment	☐1	☐2	☐3	☐4	☐5	☐6
g) More on-street social interaction (i.e. talking to neighbours, children playing in street etc)	☐1	☐2	☐3	☐4	☐5	☐6
h) A more pleasant community atmosphere	☐1	☐2	☐3	☐4	☐5	☐6
i) A reduction in crime and vandalism	☐1	☐2	☐3	☐4	☐5	☐6
j) A reduction in noise levels	☐1	☐2	☐3	☐4	☐5	☐6
k) Improvements in air quality	☐1	☐2	☐3	☐4	☐5	☐6

If respondent stated they travel to school or college in Q1, ask Q8, else go to Q9:

Q8. What impact has the introduction of the 20mph speed limit had on your travel to school/college? *[Interviewer – DO NOT PROMPT. Allow respondent to answer and code as necessary. If needed, probe using the following.]*

20mph speed limit has had **no** real effect on how I travel to school/college	☐1
I walk / walk with my children more frequently	☐2
I cycle / cycle with my children more frequently	☐3
I now walk / walk with my children to the school/college,	☐4
I now cycle / cycle with my children to the school/college	☐5
I now let my children walk to school on their own	☐6
I now let my children cycle to school on their own	☐7
I drive / drive my children more frequently	☐8
Other (please specify)_____	☐9

If respondent stated they travel to work in Q1, ask Q9, else go to Q10:

Q9. What impact has the introduction of the 20mph speed limit had on your travel to work? *[Interviewer – DO NOT PROMPT. Allow respondent to answer and code as necessary. If needed, probe using the following.]*

20mph speed limit has had **no** real effect on how I travel to work	☐1
I walk more frequently to work	☐2
I cycle more frequently to work	☐3
I drive more frequently to work	☐4
I have reduced the amount I drive to work	☐5
I use public transport more frequently to get to work	☐6
Other (please specify)_____	☐7

Q10. How satisfied are you with the implementation of a 20 mph speed limit in your area?

Very satisfied	☐1
Fairly satisfied	☐2
Neither satisfied or dissatisfied	☐3
Fairly dissatisfied	☐4
Very dissatisfied	☐5
Don't know	☐6

Q11. Can you tell me why you are *[satisfied / dissatisfied]* with the 20mph speed limit? *[Interviewer – note respondents comments on scheme]*

Now I would just like to ask you some classification questions:

Q12. Which of the following age groups do you fall under?
Interviewer: ask age group and complete gender.

	Male	Female
16-19	☐2	☐2
20-29	☐3	☐3
30-39	☐4	☐4
40-49	☐5	☐5
50-59	☐6	☐6
60-69	☐7	☐7
Over 70	☐8	☐8

Q13. Which of the following ethnic backgrounds describes you? *[Interviewer – show card and code as necessary]*

White (White British, White Irish, or any other white background)	☐1
Mixed (White and Black Caribbean, White and Black African, White and Asian, Any other mixed background)	☐2
Asian or Asian British (Indian, Pakistani, Bangladeshi, any other Asian background)	☐3
Black or Black British (Caribbean, African, any other black background)	☐4
Chinese or other ethnic group (Chinese, or any other ethnic group)	☐5
Refused	☐6

Q14. Please could you provide me with your home postcode? This will only be used to map the geographical representation of respondents taking part in the survey and for no other purposes.

Refused ☐99

Q15. Finally, do you have any further comments regarding the 20mph Limit scheme in your area?

Those are all of our questions, thank you for taking the time to participate in our research.

Details of Interview:

Location Zone		*Date*	

Oxford Council

- **Identified the roads to be included within the programme**

  The roads included were all the minor residential roads, together with all roads in the city centre and radial routes at suburban shopping centres (and also where there were other land uses resulting in high levels of pedestrian activity - including for example outside Oxford Brookes university in Headington

- **How they consulted with members/stakeholders/residents on the proposals**

  Consultation was in two parts - an informal consultation in the autumn of 2008 which included the distribution of the attached leaflet and attendance at meetings of the Oxford City Council's Area committees etc. Public awareness of the project was also maintained by quite active coverage in the local newspaper. Formal consultation was carried out in the early part of 2009 and approval given at the cabinet member meeting in April (copy of report attached)

- **How the scheme was advertised**

  Hopefully the above covers this! the speed limit order was of course published in the local press as part of the formal consultation (copy of made order attached)

- **How much the scheme cost to implement**

  Overall around £330,000 - around £200,000 was for the signing works, with the balance being design etc. and consultation costs

- What monitoring is being undertaken and how successful the schemes introduction has been in reducing speeds

  We are in the process of analysing before and after speed surveys at around 75 locations - and also the injury accident data, although it will some years before we can draw reliable conclusions on this.

Division(s): All

CABINET MEMBER FOR TRANSPORT – 23 APRIL 2009

OXFORD: PROPOSED 20 MPH SPEED LIMITS

Report by Head of Transport

Introduction

1. On 17 July the Cabinet Member for Transport approved consultation on proposals to introduce 20mph speed limits on the majority of residential roads in Oxford (and the adjacent area of North Hinksey / Botley) as well as on city centre roads, in suburban shopping areas, and on sections of more major routes (**See Annex 1**).

2. The proposals recognise that 20mph speed limits can contribute to Local Transport Plan (LTP) objectives and wider Council and community objectives including:

   - Improved road safety by reducing the number and severity of accidents
   - Encouraging the use of walking and cycling with benefits including reduced congestion, lower carbon and other vehicle emissions as well as wider health benefits such as reducing obesity.
   - Meeting Council Corporate Plan objectives, for example on providing stronger and safer communities.

3. The emphasis at informal consultation was firmly on ascertaining whether the proposals were welcomed in principle and this was confirmed with almost 2/3 of respondents supportive. Formal consultation stressed that with acceptance of the scheme in principle the next stage was to seek comments on the detail such as which minor roads should be included and on which sections of more major roads lower limits should apply. Despite this emphasis very few responses recognised it and most mirrored informal consultation in expressing comments on the general principle.

Responses to Informal Consultation

4. A comprehensive informal consultation was carried out in September and October 2008. This revealed much support with approximately 61% of 574 responses received within the consultation period in favour (**see Annex 2**). In recognition of North Hinksey and Botley communities not giving majority support for extending 20 mph limits into their regions the formal consultation proposals were amended with this omission emphasised to ensure residents

were aware of the changes. Amended proposals were formally advertised in February 2009.

Responses to Formal Consultation

5. While far fewer responses (146) were received compared to the informal stage 69% supported the proposals.

6. Responses to the formal consultation (2 February to 6 March 2009) are summarised in **Annex 3** which includes responses received after the closing date as far as these could be accommodated.

7. Comments by those not supportive mainly related to the following concerns:

   - cost / cost effectiveness
   - increased vehicle emissions
   - increased sign clutter
   - adverse impact on bus services due to longer journey times

   Responses to these concerns are set out below:

8. **Cost / cost effectiveness** – the estimated works cost of implementing the scheme as advertised is approximately £233,000; additional costs for supporting measures and on-going maintenance will be incurred and estimates for these are given later in this report (see paragraphs 25-27).

9. It is expected that over time a 20mph limit would result in a reduction in speeds and accidents and would encourage increased walking and cycling, especially when integrated with the many other projects planned to deliver local transport objectives within Oxford.

10. Nevertheless it is recognised that, in the short term, any such changes are unlikely to be substantial. However on safety grounds alone even a relatively small percentage reduction in accidents (of say between 5% and 10%) would provide worthwhile benefits when evaluating the scheme using standard cost benefit methods for road safety projects given that around 200 accidents are reported each year in the roads included in the proposals.

11. **Vehicle emissions** – optimum efficiency and minimum pollutant emissions are typically obtained when vehicle speeds are in the region of 40 to 50mph. While pollution levels rise sharply at very low speeds (below 10-15mph) there is comparatively little difference in emission levels between a vehicle travelling at 20 or 30mph.

12. Existing average speeds on the majority of roads induded in the proposals are typically already in the region of 20 to 24mph, and the so the actual level

of additional emissions – which would come from those vehicles which are currently travelling substantially faster than this average – would be relatively modest. It is hoped that over time greater use of walking and cycling in place of the use of private cars for shorter journeys in particular would substantially offset any increase in emissions.

13. **Sign clutter** – the project will unavoidably require additional (repeater) signing, but this will be mitigated as far as possible by using existing poles and lamp columns. Most of the terminal signs will however require new poles to be provided.

14. **Impact on bus services** – the proposals are primarily for residential roads and only a very limited proportion of the radial roads are induded which are where the bus services are generally operating.

Response of Thames Valley Police

15. The response of Thames Valley Police is shown in **Annex 4**. Their main concern is that without the widespread use of physical calming measures, compliance with a 20mph limit will be low, which not only will reduce the safety and wider benefits but also lead to demands for enforcement which could place a severe strain on police resources.

16. Although these concerns are noted, it is important to stress that the great majority of the roads included in the proposals are minor residential roads. Speed surveys have been carried out on a sample of these (it would be impractical to survey all of them) which show that average speeds are typically at or below 24mph, and therefore the Department for Transport guidance (Department for Transport Circular 1/2006 para 82) is likely to be already met in such roads.

17. For those roads where average speeds are currently above 24mph, provision is made in the project to monitor speeds should the proposals be approved, and for supporting measures to be investigated and funded as appropriate. Feasibility studies have been commissioned for physical improvements in 3 locations on major routes where the current accident rate is high. Designs will reduce speeds and enhance the environment for vulnerable road-users by seeking a better balance between the needs of different users in a similar vein to the successful Cowley Road Mixed Priority measures.

18. Other supporting measures will be designed for locations where monitoring identifies significant non-compliance with the 20mph to help obtain the maximum benefit from any reduced limit. Such measures will possibly include some form of narrowing with priority given to roads with an accident history, and / or those which are important routes for pedestrians and cyclists, and in particular those well used by children (to support particular objectives

in relation to child injuries and achieving greater use of walking and cycling for school journeys).

19. It is recognised that the police will not have resources to enforce the proposed limit and this has been stressed in both stages of consultation to help avoid unrealistic expectations. In practice, if approved, the introduction of the limit should result in very little change to the enforcement burden (and it is worth mentioning that there does not appear to be any significant demand from those areas already subject to a 20mph restriction).

Other Responses

20. All 6 City Council Area Committees support the proposals with 3 asking for more of the major roads to be included (see **Annex 5**).

21. Some of the responses, although supportive of the proposals, also requested that the 20mph limit be applied on all of the length of the radial routes, making the point that these roads – as the main arteries of movement into and out of the city and which typically had the highest numbers of accidents – were by definition those where it is most important to improve safety for cyclists and pedestrians.

22. Many of these routes have provision for cyclists (for example cycle lanes and tracks, and in some cases parallel routes on quiet roads) and also a good standard of pedestrian crossing provision which have been provided to help mitigate these problems. While it is accepted that these are not always a full answer to the problems, the setting of speed limits inevitably requires balance between several competing objectives. Including significant lengths of such roads would not be in accordance with current County Council or Department for Transport advice.

Implementation

23. If the scheme is approved, the ordering of the work and noticing under the Traffic Management Act would take place as soon as the call-in period has expired, as it is proposed that the new limit would come into effect from the beginning of August and there is a lead-in time of 3 months required. As the scheme is extensive, poles would be erected over a period beforehand and signs then added or uncovered when the Order comes into force. The introduction of the limits would be accompanied by appropriate publicity and supporting activity such as deployment of the Council's Speed Indicator Device signs at key locations.

How the Proposal Supports LTP Objectives

24. In the medium term the scheme would support the core LTP objective of reducing casualties; in the longer term it would also improve accessibility and air quality as well as reducing congestion.

Financial and Staff Implications

25. The estimated cost for signing the proposed scheme is £233,000.

26. Additional costs will be incurred where supporting measures are identified as being required, both for their design and any consultation required, and then for implementation; it is difficult in advance of the limit being introduced (assuming it is approved) to estimate the overall costs, as only then will it be possible to identify where average speeds are judged to be sufficiently excessive as to require intervention. However, the types of measures envisaged (for example compact vehicle activated signs, limited use of additional road markings) would be lower cost both in terms of provision and maintenance; an initial cost of £75,000 is probably realistic.

27. On-going maintenance costs including the maintenance of the speed limit signs, supporting measures, and periodic updating of the speed limit order to reflect for example newly adopted streets – can only be estimated, but could amount to between £7500 and £15,000 per year.

28. In addition to the capital costs associated with physical measures, revenue-funded support would also be required, including an extensive publicity campaign on the introduction of the limit, (estimated cost of approximately £5000) and ongoing costs for monitoring the effectiveness of the scheme, and in particular speed surveys (these would be modest, unlikely to exceed £5000 over a three year period).

29. Works would be funded from within the capital and revenue programmes for 2009/10.

RECOMMENDATION

The Cabinet Member for Transport is RECOMMEDED to authorise implementation of the proposals as advertised at formal consultation.

Steve Howell
Head of Transport

Background papers: None

Contact Officer: Geoff Barrell
Telephone: 01865 810450

March 2009

Annex 4

Response of Thames Valley Police

Richard,

I write in connection to the draft order that was received from Richard Luxton of Oxfordshire County Council regarding proposals to impose 20mph limits over the majority of roads within the city of Oxford. The order was received with a plan of the affected roads

The order was received with a plan, but no supporting documentation listing current speeds along any of the roads contained within the order. There are also no plans listing any supporting engineering measures to bring speeds down to the limit.

The position of Thames Valley Police on 20mph limits is that they should be self-enforcing. This is in line with current guidance from the Association of Chief Police Officers and the Department for Transport.

Paragraph 81 of Department for Transport Circular Roads 1-2006 states that "20 mph speed limits should be used for individual roads, or for a small number of roads". Clearly, the use of a 20mph limit across the whole of Oxford ignores this advice.

Paragraph 82 of Circular Roads 1-2006 states "Research into 20 mph speed limits carried out by TRL (Mackie, 1998) showed that, where speed limits alone were introduced, reductions of only about 2 mph in 'before' speeds were achieved. 20 mph speed limits are, therefore, only suitable in areas where vehicle speeds are already low (the Department would suggest where mean vehicle speeds are 24 mph or below), or where additional traffic calming measures are planned as part of the strategy." There is no information provided stating which roads have been surveyed and show speeds in the indicated range and there is no supporting information of any strategy at all to introduce traffic calming measures. Since the statement of reasons supplied by Oxfordshire County Council gives as part of its justification 'because lower speeds have been found to appreciably reduce the number and severity of road accidents' the failure to provide the supporting measures to ensure that the reduction of speed is achieved makes it unlikely that the aim of the council will be achieved.

DETR Circular 05/99 states in paragraph 10 that "Extreme caution should be exercised when considering making 20 mph limits using speed limit signs with no supporting speed reducing features. The weight of evidence points strongly to signed only 20 mph limits having little or no effect on traffic speeds. The Transport Research Laboratory assessed the effectiveness or otherwise of 20 mph limits that were not self-enforcing (TRL Report 363 Urban Speed Management Methods). While they found that 20 mph zones using engineering measures achieved mean and 85th percentile speed reductions of around 10 mph, the use of static signs in 20 mph limits achieved average speed reductions of about 1 mph and did not significantly reduce accidents" which again suggests that the council's aim will not be achieved.

A report by the Head of Transport to the Council Member for Transportation dated 17th July 2008 and posted on the Oxfordshire County Council website states in paragraph 4 that "both County Council policy and Department for Transport (DfT) advice recognises that 20mph restrictions should be realistic and that they are unlikely to be appropriate where existing average speeds are above 24mph, unless supporting measures to help reduce speed are introduced." That no supporting measures are proposed in support of the limits flies in the face of the council's own policy as stated in this report.

Traffic Management Officers have received verbal confirmation from officers of OCC that further measures will be placed on roads where high speeds continue to be a problem after implementation of the limits however the report to the Council Member goes on to state (paragraph 8) that the 20mph zone in the Oxford Central Area "is not currently compliant with regulations due to the absence of traffic calming measures". Considering the failure to implement measures where it is a legal requirement, confidence cannot be high that measures will be put in place where there is no legal compulsion.

Paragraph 20 of the report states Thames Valley Police's position on the self-enforcing nature of 20mph limits, but then goes on to state that "subject to agreement with the Police and the Thames Valley Safer Roads Partnership, some targeted enforcement would be planned focusing on particular roads where self-enforcement would be more difficult to achieve and/or average speeds are likely to be higher". This indicates that the primary manner by which speeds would be brought in line with the limits is by enforcement and not the appropriate engineering measures, thus placing an unacceptably high burden of enforcement on Thames Valley Police.

DETR Circular 05/99 states in paragraph 11 that "Attention should be paid to the provisions of the Crime and Disorder Act 1998 (c.37) which requires local authorities and the police, with other key agencies and the community, to work together in partnership at district level to develop and implement strategies for reducing crime and disorder in their areas. The Act places a legal obligation on police authorities, probation committees and health authorities to co-operate fully in this work. It is therefore vital within the terms of that Act that local traffic authorities and Highways sub-committees liaise with the local police early in order to agree in advance that the making of a 20 mph speed limit is a practical and effective proposition." No such agreement has been reached.

Whilst potentially popular with residents, the imposition of a 20mph limit across the city is likely to be unpopular amongst drivers and the enforcement of those limits by TVP would also be unpopular if that is to be the sole tactical option used to achieve compliance.

A visual scan of the AccsMap system view of personal injury collisions within the Oxfordshire area for the three years to December 31st 2009 shows that the majority of collisions occur along the main feeder roads into and through the city. As these are to be excluded from the limits (with the exception of the heart of the city) the potential for casualty reductions as

greatly reduced and its validity as justification for a city wide limit also reduced.

Thames Valley Police are committed to meeting the concerns of our communities and we are very conscious that many neighbourhoods' place speeding as a key issue for them. We do believe that, together with the Safer Roads Partnership, we should develop a sustainable strategy for the enforcement of 20mph zones, **but this cannot be based on police enforcement activity alone.**

In summary I would wish to emphasise the following points;

- No data has been provided by Oxfordshire County Council to show that the roads in question are subject to speeds in the region of 20mph currently.
- There is no evidence of planned engineering measures that will bring speeds down to those expected within a 20mph limit.
- The proposals ignore current and previous DfT advice and without engineering measures the limits will be routinely contravened.
- There will be calls for TVP to make the limits work through enforcement once they are in place leading to an unacceptable burden of enforcement to the organisation.
- The limits are unlikely to meet the Council's given safety justification without engineering measures.

I have also sent a hard copy of this response.

Regards,

FOR OXFORD

A 20 mph limit is proposed for most parts of Oxford. Please let us know your views.

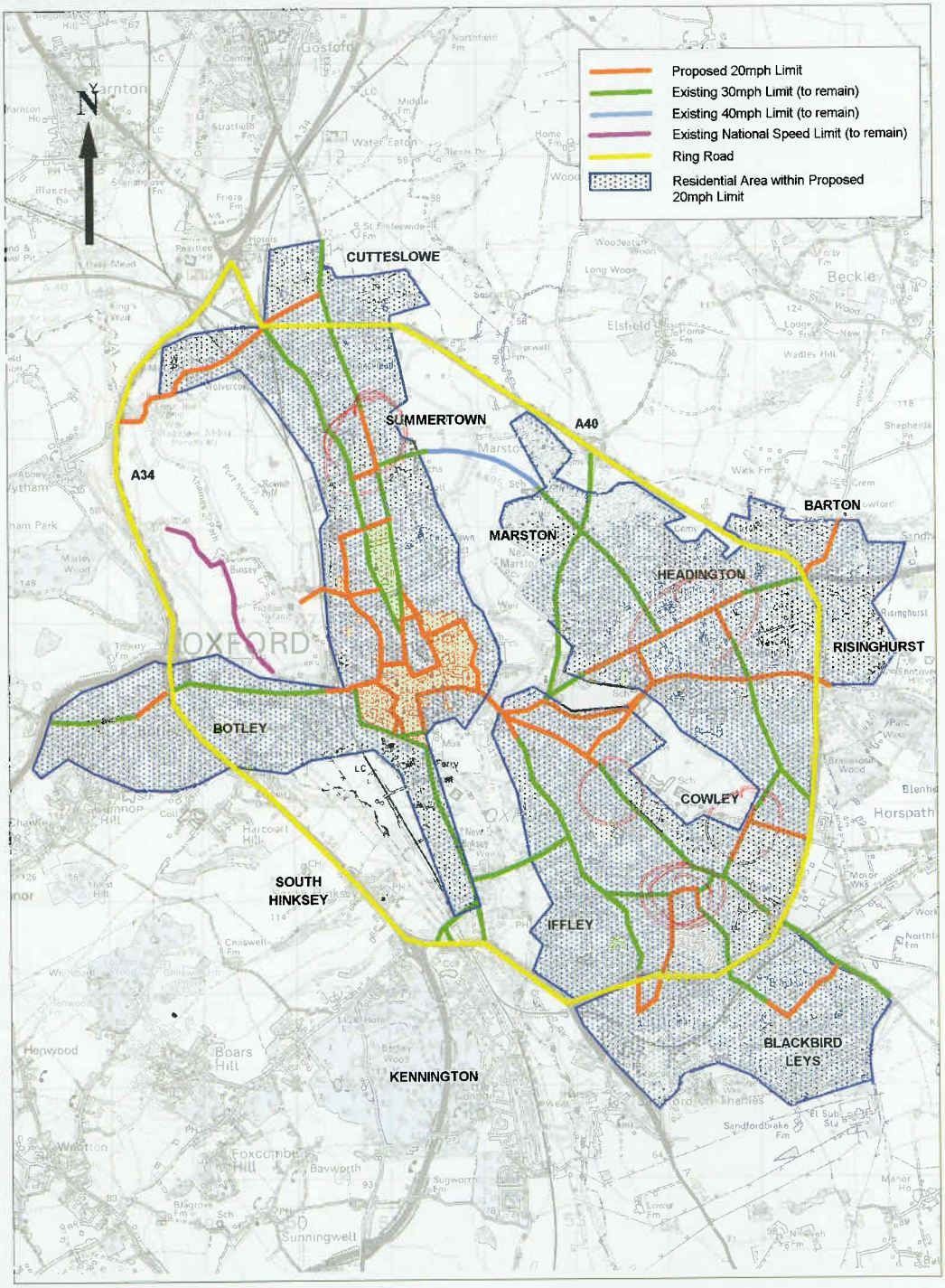
Visit www.oxfordshire.gov.uk/20limits to find out where and when your nearest public meeting is being held and how you can comment.

You can also use the feedback form at the back of this leaflet to tell us what you think.

Please ensure we have your views by 17 October 2008

OXFORDSHIRE COUNTY COUNCIL
www.oxfordshire.gov.uk

Plan of Oxford and outlying areas shaded to show where 20mph limits are proposed and with the major route proposals shown in the coloured key.



"Now is the time for you to have your say on the county council's proposal for 20mph speed limits in Oxford.

"The idea behind these proposals is to increase safety levels and quality of life for residents, pedestrians and motorists in our Oxford communities. At this stage we are open to your suggestions on how and where 20mph speed limits should be introduced in to your area. Please fill in a feedback form, attend a meeting, send us an email or write us a letter to tell us what you think."

Councillor Ian Hudspeth, Oxfordshire County Council's Cabinet Member for Transport

A 20mph limit is proposed for most of Oxford to reduce accidents and improve the quality of life. The proposals include all minor residential roads (including North Hinksey/Botley) and some major ones particularly in the city centre. Most major roads would remain 30mph to keep the limits realistic as they are unlikely to be obeyed without extensive traffic calming measures. Supporting measures will probably be required at some minor road locations to get speeds to an acceptable level. No options have been ruled out and we want to ensure all views are considered at an early stage to shape the final consultation proposals.

You can give your views by:

- Visiting our website www.oxfordshire.gov.uk/20limits and filling in an online form
- Returning a feedback form to Oxfordshire County Council, 20 Limit Consultation, Speedwell House, Speedwell Street, FREEPOST OF260, Oxford, OX1 1BR
- Attending one of the public meetings to be held across Oxford

Oxford City Area Committee Public Meetings:

- 7pm September 3: John Bunyan Church Hall, Crowell Road.
- 5.30pm September 9: St Matthew's Parish Centre, Marlborough Road.
- 6pm September 16: St Andrew's Primary School, London Road.
- 6.30pm September 17: Larkrise Primary School, Boundary Brook Road.
- 5pm October 2: North Oxford Community Association, Diamond Place.
- 6pm October 13: Blackbird Leys Community Centre, Blackbird Leys Road.

Oxfordshire County Council Public Meeting

- 6.30 pm October 8: County Hall, New Road.

- You can also write to the Speedwell House address above or email 20@oxfordshire.gov.uk

For queries please contact the council by telephone on 01865 810450 or email 20@oxfordshire.gov.uk

Whatever proposals emerge from this informal consultation will be subject to a formal statutory consultation process. The outcomes of which will be presented to Councillor Ian Hudspeth for a final decision in Spring 2009.

FOR OXFORD

Frequently asked questions

Why are you proposing a 20 limit for most of Oxford?
To reduce accidents and improve the quality of life. It should also encourage walking and cycling, for trips to school for example, and provide wider health benefits like reducing obesity. It will also help to meet county council objectives such as providing stronger and safer communities.

How much will it cost?
Around £250,000 - £300,000 for signing although further work is required to estimate the extra cost of supporting measures where these are likely to be needed to reduce speeds.

Which roads are to be included?
The proposals include all minor residential roads in Oxford (including North Hinksey/Botley), most unnumbered through roads (with a few exceptions) and some sections of A and B numbered roads, particularly in the city centre. Most A and B numbered radial routes in the city would remain as 30mph.

Why doesn't it include all roads?
While no options have been ruled out the current proposals reflect the need for limits to be realistic. 20mph limits are unlikely to be appropriate where existing average speeds are above 24mph unless supporting measures to help reduce speed are introduced such as traffic calming, signing/information, publicity or education.

Is my street included?
Our current proposals include all minor residential roads, most through roads, and some sections of major roads. At this stage we want to discuss broad principles rather than have detailed debate over specific streets. There will however be an opportunity to consider individual streets at the formal consultation stage planned for early next year.

What about enforcement?
With limited police resources the speed limit is expected to be self enforcing although enforcement will be carried out where there are exceptional problems.

Will there be lots more signs?
There will be entry signs wherever the limit changes (i.e. double-sided signs wherever a side road limit is different to the major route) and smaller repeater signs within the limit. Clutter will be minimised by, for example, placing repeater signs on lamp columns. Also, where 20 limits cover parts of some major roads, entry signs for associated side roads would not be needed.

Hasn't it already been decided?
No - we want to ensure all views are considered in this informal consultation before finalising our proposals. We are then legally required to carry out a formal consultation process before making a final decision.

OXFORDSHIRE COUNTY COUNCIL
www.oxfordshire.gov.uk

Appendix F
North Lanarkshire

Twenty's Plenty initiative

Half of all road injuries occur on urban roads within 30mph speed limits.

North Lanarkshire is the only council in Scotland to have introduced the 20's Plenty scheme in all residential areas.

These engineering works are now being supported regularly by publicity campaigns, organised to remind drivers of the need for lower speeds in housing areas, particularly when children are around. There are resource packs available as part of the publicity campaign and have been designed to assist individuals or local community groups organise a publicity campaign to support the 20's Plenty initiative.

Although we are trying to get speeds in housing areas down to 20mph it is worth remembering that even a 1mph reduction in speed can result in a 5% reduction in casualties.

These notes are a brief guide to help organising a local 20's Plenty publicity campaign.

Organising a campaign
A campaign can be organised either by a concerned individual or a group of people working together as a team. There is more chance of success where a small group works together, sharing ideas and responsibilities for different aspects of the campaign.

An existing local committee may wish to organise a campaign, and in this case a small sub committee can be set up. You may wish to seek assistance or guidance from others in the community such as the police, schools, churches, business contacts etc.

Geographic area
First of all, thought should be given to the area to be targeted. The campaign is more likely to be effective if it is confined to a small area.

Where there are concerns about vehicle speed covering a wide area, consideration should perhaps be given to a number of smaller campaigns. The main aim of the campaign is to target local drivers who regularly use the local roads.

Timing
Plan your activities well in advance. Consider an appropriate time of the year when those involved in organising the campaign are free from holidays and other major commitments. If you wish to involve the school, keep in mind the school holidays. The school staff need plenty of warning where the children are to be involved. Set out a simple time planner of what you will do and when.

Campaign plan
A campaign can be as simple as a leaflet drop through the door of every household. However there are many other activities that could be included and you may wish to consider some of the following ideas:

- Look at the support materials available - which do you wish to use?
- Where will these materials be used?
- Could youth organisations or other volunteers distribute materials?
- Which community groups can support the campaign?
- Should the local school[s] be involved?
- Inform the local councillor about your plans and seek support.
- Should the local press be involved?

Resources
The packs include:

- Posters
- Stickers
- Headed paper
- Leaflets
- Window stickers
- Keyrings

Are there any other people who could support you by sponsorship?

Schools
Consider inviting local schools to participate. Meet with the Head Teacher or School Board to discuss proposals. The distribution of stickers and other small activities could be issued through the schools.

Suggest a 20's Plenty theme for a foyer display, parents evening, gala day or similar activity.

Launch
Consider whether there should be a formal or informal launch. This can be as simple as an on-street photograph with the press. 20 children would be quite a good idea. Invite the local press, local radio or Thistle television. Invite local community/council representatives e.g. councillors, police, road safety officer.

Distribution of materials
Decide who will do what - this could include the following:-

- Household leaflet drop
- Posters to shops, community centre, churches, etc
- Stickers to school children

Please use the 'contact us' box if you have any questions.

Print This Page
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Last Updated: 10 September 2009

From: LITTLE, Michael (P0905) [mailto:Michael.Little@cleveland.pnn.police.uk]
Sent: 03 November 2010 08:27
To: Laura Stones
Subject: 20mph speed limits

Laura

As discussed, the collision and casualty data for Hartlepool is below along with the number of drivers who were caught exceeding the speed limit.

	Collisions			Casualties	
	Fatal	Serious	Slight	Fatal	Serious	Slight
Whole of 2008	4	20	121	5	24	209
Whole of 2009	4	19	127	5	20	191
Up to 30/9/2010	0	21	82	0	22	116

Contributory Factor 306 "Exceeding the speed limit" involved in the above collisions:

Whole of 2008 = 6
Whole of 2009 = 5
Up to 30/9/2010 = 3

Just to explain the above contributory factor 306. When an officer submits a collision report (a report is required for every injury collision ranging from slight to fatal) the officer is asked to give the main causation factor for the collision along with other factors that may be relevant. As you can see from the low number above in comparison to the total number of collisions it is very difficult for an officer to attribute excess speed as the main causation factor.

Speeding offences detected by the Safety Camera Team on Hartlepool only sites:

Whole of 2008 = 2020
Whole of 2009 = 1494
Up to 30/9/2010 = 1277

All of the above offences have been detected on 30mph speed restricted roads, these figures would be greatly reduced if the 20mph limit was introduced across a high percentage of roads, (excluding main arterial and distributor routes).

I have also discussed enforcement issues with the following 4 police forces who have towns/cities within their area where a Local Authority has introduced 20mph speed limits.

Thames Valley Police/Oxford L.A.

The view from TVP is that the 20mph speed limits are self enforcing only, this is due to two reasons. Firstly the enforcement of 20mph limits is contrary to the Association of Chief Police Officers (ACPO) advice and secondly that they seem to have a big problem with the speed restriction signs not being installed correctly therefore making them illegal.

Hampshire Police/Portsmouth L.A.

Self enforcing and additional road calming measures put in place in problematic areas, i.e. speed humps, chicanes and other physical measures.

Cheshire Police/Warrington L.A.

Self enforcing in the main but see attached report.

Strathclyde Police/North Lanarkshire L.A.

Predominantly self enforcing but some police activity taking place due to Scottish Police forces not being subject to ACPO guidance.

In conclusion with the exception of the Scottish Force it would appear that police enforcement of the 20mph speed limits does not take place in the other Local Authority areas canvassed. The reliance in these areas is that the 20mph speed limits are self enforcing and are often accompanied by additional road calming/physical measures.

The Department of Transport guidance is as follows –

"Successful 20mph speed limits should generally be self enforcing. 20mph speed limits are unlikely to be complied with on roads where vehicle speeds are substantially higher, (than an average of 24mph), and, unless such limits are accompanied by the introduction of traffic calming measures, police forces may find it difficult to routinely enforce the 20mph limit."

The guidance specifically states that 20mph speed limits should be used for individual roads, or for a small number of roads, and that they are only suitable where:

- Vehicle speeds are already low (average 24mph or below); or
- Where additional traffic calming measures are planned as part of a strategy.

What needs to be considered by the Local Authority is not only the cost of signing all of the roads but also the additional cost of traffic calming measures that will be needed on some of the more problematic roads. I also feel that full public consultation needs to take place.

The report from Warrington L.A. also contains some good advice and guidance.

Despite the problems around enforcement, (technical and ACPO guidance), I am fully supportive of any measures that will reduce the number of road casualties. Statistics show that a 1% drop in average speed limits will bring about a 6% drop in road casualties which can only be positive.

Hope this helps to inform you're report/the debate and if you require any explanation of the above or any other matter please let me know.

Mick

Appendix G

Agenda Item
(Note 1)

WARRINGTON BOROUGH COUNCIL

EXECUTIVE BOARD - 18 October 2010

Report of Executive Board Member:	Alan Litton – Environment and Transport	
Director :	Andy Farrall, Executive Director, Environment & Regeneration	
Report Authors:	Jamie Fisher, Mark Tune	
Contact Details:	**Email Address:** jfisher@warrington.gov.uk mtune@warrington.gov.uk	**Telephone : 01925 443248**
Key Decision No.	015/10	
Ward Members:	All	

TITLE OF REPORT: 20MPH SPEED LIMIT TRIAL ASSESSMENT

1. PURPOSE

1.1 The purpose of this report is to describe the outcomes of 20mph speed limit trials undertaken in 3 areas: Warrington Town Centre; Orford and; Great Sankey.

1.2 The report describes outcomes of investigations into the feasibility and potential benefits of extending 20mph speed limits to all residential streets within the Borough in order to encourage an attitudinal change in drivers.

2. CONFIDENTIAL OR EXEMPT

2.1 This paper does not fall into the realms of confidential and is not exempt from the public domain.

3. INTRODUCTION AND BACKGROUND

3.1 It has been established that for every 1mph average speed reduction in an urban area, a 6% reduction in collision frequency can be expected (Taylor, Lynam and Baruya, 2000). Reductions in average vehicle speeds could therefore deliver significant benefits across the transportation, environmental and health agendas.

3.2 Reducing average speeds can also deliver benefits to quality of life, as well as encouraging healthier and more sustainable transport modes such as walking and cycling. There may also be environmental benefits, as driving more slowly and at a steady pace can improve fuel consumption and reduce particulate and carbon dioxide emissions.

3.3 The introduction of 20mph speed limits may deliver average speed reductions by influencing driver behaviour. 20mph speed limit trials were therefore introduced in Warrington to gauge whether both speed and collision reduction benefits could be gained.

3.4 The Department for Transport (DfT) has previously issued guidance on the use of 20mph speed limits in the UK. Their guidance stated that 20mph limits 'have little to no effect on traffic speeds without complimentary physical measures". DfT therefore advised that lower speed limits should be self-enforcing through use of physical traffic calming measures such as road humps or chicanes. Areas with 20mph limits supported by traffic calming have been introduced in Warrington and across the country and are known as "20mph Zones".

3.5 DfT revised their previous guidance by the issue of Circular 01/06 - Setting local Speed Limits. The revised guidance encourages local authorities to consider implementing 20mph speed limits where appropriate. The guidance states that "successful 20mph speed limits should be generally self enforcing" and that. "20mph speed limits are unlikely to be complied with on roads where vehicle speeds are substantially higher and, unless such limits are accompanied by the introduction of traffic calming measures, police forces may find it difficult to routinely enforce the 20mph limit."

3.6 The guidance specifically states that 20mph speed limits should be used for individual roads, or for a small number of roads, and that they are only suitable where:

- Vehicle speeds are already low (average 24mph or below); or
- Where additional traffic calming measures are planned as part of a strategy.

3.7 An interim report commissioned by the DfT concluded that "roads with average speeds higher than 24 mph may show a reduction in speeds after the 20mph limit's introduction, however these reductions may not be sufficient to result in a self enforcing site".

3.8 Taking account of DfT guidance and experience from elsewhere, on 9 October 2008 members gave their approval to trial the use of 20mph speed limits in Warrington. Three trial areas were identified and Cheshire Police and Cheshire Fire & Rescue leant their support through the Warrington Road Safety Partnership. Plans of the 3 pilot areas are attached in Annex A.

3.9 The pilots were launched on 14th February 2009 and were to run for an 18 month period, the maximum length of time permitted for the 'experimental' Traffic Regulation Orders (TRO) required to make the 20mph speed limits enforceable.

4. EXPERIENCE FROM ELSEWHERE

4.1 Portsmouth City Council was the first local authority in the country to deliver a "blanket" 20mph speed limit on approximately 410kms of its 438km residential road network (c94%). The majority of these roads had a mean speed of 24mph or less prior to implementation, as per DfT Guidance.

4.2 Warrington Council officers have consulted with Portsmouth City Council, who confirmed that a trial was undertaken in one of the 20mph limit areas prior to a city-wide roll-out.

4.3 Monitoring results are available following 1 year of Portsmouth's blanket 20mph limits. These results indicate varying degrees of success, although there is only limited "after" data, which means that results cannot be considered conclusive at this time. However, initial outcomes were positive, showing that:

- Mean speeds reduced 0.9 mph overall;
- 9% of monitoring sites continued to have mean speeds greater than 24mph;
- Where before speeds were greater than 24mph, recorded speeds reduced by an average 7mph;
- Total collision reduction was 13% and casualty numbers fell by 15%; and
- KSI accidents and casualties increased by 2%.

4.4 Results are therefore encouraging, although further time and monitoring is needed to ensure the sustainability of these benefits.

4.5 During the preparation of this report the Department for Transport published the 'Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth' which shows slight changes to the statistics quoted above.

4.6 The report does show that the trends held within the statistics noted in paragraph 4.3 are sustained and are sufficient in assisting to make an informed decision at this time.

5. WARRINGTON TRIAL OUTCOMES

5.1 The trial included 140 roads within the 3 areas. An additional 43 streets were included during the course of the trial to address community concerns regarding a potential increase in "rat running" to avoid affected streets. The trial period ended on 2nd August 2010 and all streets have now reverted to a 30mph limit pending a decision on the future of 20mph speed limits in the Borough.

5.2 Monitoring and evaluation has been based on data captured at fixed times during the trial period. It was impractical to capture data from all roads; therefore 25 fixed monitoring "stations" were identified as a consistent focus for data collection. Monitoring stations were also used as locations for engagement/enforcement activity during October and November 2009, so as to measure impact on road user behaviour.

5.3 There were 4 stages of data capture;

Stage	**Reason**
Stage 1 - Before	establish the baseline for measurement of change
Stage 2 - three months into the pilot	To reflect a change in behaviour that may be due to the change in environment and significant level of publicity. Also to provide an understanding at project end if any changes had been sustained.

Stage 3 – 9 to10 months into the pilot	To understand if any initial reductions had been sustained along with further changes as a result of an enforcement threat. Undertaken in conjunction with increased Police activity and engagement days run by WBC Road Safety Officers, Cheshire Fire and Rescue, and Cheshire Constabulary.
Stage 4 - immediately prior to the pilot end in July2010	To understand if any changes in road user behaviour were still evident after a significant period of limited supporting activity to the 20mph speed limits.

MONITORING RESULTS

5.6 A significant amount of data has been collected and analysed to assess the trial's outcomes. A full report is available for review, which compares data collected in June 2008 with data collected during 2009 and July2010.

5.7 In summary, the results show that traffic flow reduced by an average of 2678 vehicles per week per road throughout the 3 trial areas; average speeds reduced by 1.45 mph and; a reduction of injury collision occurrence of 25.5%.

5.8 Each of the trial areas saw increases in average speeds during the final monitoring stage. However, it is not possible to say whether speeds will increase to their original levels without undertaking further assessment in 2011.

5.9 A summary of speed data has been attached in Annex B and changes in collisions and casualties in Annex C.

6. SURVEYS AND OPINIONS

6.1 It is important to establish whether Warrington road users, communities and key stakeholders perceive 20mph speed limits to be viable and effective.

PUBLIC OPINION

6.2 Qualitative data was captured through formal and informal channels of the public debate generated by the launch of 20 mph speed limits. In addition, a formal public perception survey was undertaken at 100 random addresses in each of the study areas. Surveys were sent out to each address in three stages:

1. Immediately before the launch of the pilots in February 2009;
2. During the study in November 2009; and
3. In August 2010, at the end of the pilot.

A comprehensive report on consultation feedback is available from the Road Safety Unit.

6.3 In summary, the results suggest a change in perception occurred during the pilot study, with an 86% increase in positive feedback since the pilot began. Overall, support for 20mph speed limits continued throughout the 3 survey stages.

6.4 However, the final survey, close to the end of the pilot period, indicated that perception had changed significantly, as people believed that additional measures such as traffic calming and/or Police enforcement would now be necessary for the speed limits to be effective.

BUS OPERATORS

6.7 Warrington Borough Transport supports the ethos behind 20mph speed limits, but there is a concern that a blanket introduction may have a detrimental impact on the operation of Bus Services.

6.8 In particular, adhering to lower speeds means longer journey times, which may impact on the cost and practicality of operating a viable bus service. However, no specific studies or reviews have been undertaken to quantify whether problems might be created, therefore it is difficult to confirm whether bus service provision would be unduly impacted by a blanket order.

CHESHIRE POLICE

6.9 An official view from Cheshire Constabulary was sought on the Borough-wide delivery of 20mph limits. A formal statement has not been received to date. However, specific concerns have been raised and the following comments obtained.

6.9 The Police have no objections to the Town Centre Scheme becoming permanent due to the high volume of pedestrians in this area.

6.10 Neither do they have objections to the Orford or Park Road area schemes becoming permanent, with the exception of Park Road and A50 Long Lane themselves, which the Police suggest should be set at 30 mph limits.

6.11 This view is based on the fact that these are local distributor roads and bus routes. Long Lane is also a key distributor route avoiding the town centre, especially when there are closures on the local Motorway network.

6.12 The Police report that the nature and usage of these routes does not indicate a logical 20 mph limit to road users, which leads to confusion and driver frustration, with associated incidents of aggressive overtaking and tailgating. For these reasons the Police have stated that they could not justify enforcement of a 20mph limit on these roads.

20's PLENTY FOR US

6.13 "20's Plenty For Us" campaigns for the implementation of 20 mph as the default speed limit on residential roads in the UK. They consider '20mph to be the correct

speed for residential and urban streets unless it is otherwise decided that a higher limit is justified'.

6.14 20s Plenty actively support the introduction of trial 20mph limit areas in Warrington and are campaigning for lower limits to be rolled-out throughout the Borough. They are therefore active in the media and are in regular contact with the Council.

6.15 The core aim of this group is to make roads safer for all, particularly vulnerable users. Warrington Council shares this goal and is keen to explore ways in which roads can be made safer.

7. CONCLUSIONS

7.1 The trial of 20mph speed limits in Warrington has demonstrated some undoubted benefits in terms of collision and average speed reduction. Public opinion is also generally supportive, although there is concern that enforcement will not be as rigorous following the trial, with a very high proportion stating that physical measures would now be needed to continue to benefit from speed reductions.

7.2 Monitoring results also indicate that average speeds may be increasing again, and this could have a detrimental impact on collision reduction benefits. However, there is sufficient evidence to suggest that the current trials should be made permanent, with the exception of the local distributor routes Park Road and Long Lane.

7.3 The benefits that have been gained from the trial are notable, and there could be significant benefits gained through a wider roll-out. However, financial implications must be taken into account, particularly given the financial pressures that will be experienced over coming years.

7.4 Budget costs for introducing a "blanket" limit are difficult to estimate without a comprehensive review of the Borough. However, an outline budget estimate of c£740k has been calculated, which is a significant sum and a major potential commitment during LTP3.

7.5 Careful consideration will need to be given to the nature and usage of individual roads, as lower speed limits may impact on bus operations, freight haulage and strategic travel within the Borough. It will therefore be necessary to develop and agree a policy for identifying which roads might be appropriate for 20mph speed limits; which areas and streets might benefit most from a reduction and; the associated costs and benefits that would be gained.

7.6 The programme will be highly dependant on Warrington's Integrated Capital Block settlement. LTP3 is currently in development, with various transport policies and proposed interventions being prioritised to determine which would merit funding during the LTP3 period. The proposed use of 20mph limits on residential streets could form part of this process and it is recommended that consideration

be given to including this proposal and its associated costs within the LTP cost/benefit appraisal process.

8. FINANCIAL CONSIDERATIONS

8.1 A 20mph blanket limit on all of the current urban 30mph limit roads has been estimated to cost approximately £740k to introduce.

8.2 The process of making the 20mph speed limits permanent with the removal of Long Lane and Park Road will cost in the region of £19,000 and can be met from the 2010/11 capital programme.

8.3 The areas directly affected by the 20mph pilots study will be informed of the decision of the Executive Board by direct letter drop which is estimated to cost within the region of £1500 and will be met 2010/11 capital allocation to Traffic Management and Safety.

9. RISK ASSESSMENT

9.1 Analysis of vehicle speed data has shown slight increases in the final stage of monitoring during the pilot study. This raises concerns that the significant positive results may not be sustainable. There is a risk of committing to introducing additional 20mph schemes using limited capital resources with little confidence in the potential of delivering benefits.

9.2 The making of pilot 20 mph speed limits into permanent Traffic Regulation Orders to enable further analysis may prove sensitive and may be difficult to remove in the future should additional study determine that the speed limits have been ineffective.

10. EQUALITY AND DIVERSITY / EQUALITY IMPACT ASSESSMENT

10.1 The use of 20mph speed limits has a neutral impact on the race, sexual orientation, religious/belief, and 'other' target groups.

10.2 A reduction in average speed in residential areas will prevent the frequency of road traffic collisions. The use of 20mph speed limits will specifically assist vulnerable road user groups, including young and elderly pedestrians and pedal cyclists. Reducing average speed through the use of 20 mph speed limits will therefore has a positive impact on the age target group.

10.3 Reducing average speeds can also deliver benefits to quality of life, as well as encouraging healthier and more sustainable transport modes such as walking and cycling. There may also be environmental benefits, as driving more slowly and at a steady pace can improve fuel consumption and reduce particulate and carbon dioxide emissions.

Agenda Item
(Note 1)

11. CONSULTATION

11.1 For the provision of this report consultation has been undertaken with the following individuals / organisations.

Organisation / Individual	Outcome
Portsmouth City Council – Angela Gill	Provision of additional trial details
Cheshire Constabulary	Details recorded in report
Institute of Advanced Motorists	Comments received
Rod King – 20s Plenty for US	Comments received
Residents – random selection for Perception Survey	Comments received
Brake	20s plenty for the UK Campaign Information
Assoc. of Directors of Public Health UK	Active Travel Initiative Report
Knowsley Council	Comments received
Bury Council	Comments received
GMTU and Stockport Council	Comments received
Halton Borough Council	Comments received
Great Sankey North Community Action Group	Residents comments received
Warrington and National Guardian Newspaper	Resident and action group views / comments
Oxford Mail	Review of Oxford 20mph provisions

12. REASONS FOR RECOMMENDATION

12.1 To maximise the potential benefits of introducing 20 mph speed limits on residential streets in Warrington.

13. RECOMMENDATIONS

13.1 To note the positive results from the 20 mph pilot schemes and agree to the principle of a long-term roll-out of 20mph limits subject to the availability of funding and outcomes of LTP3 prioritisation;

13.2 To authorise officers to progress the consultation on individual schemes, to include ward members and neighbourhood boards, with a view to advertising Traffic Regulation Orders for the 20mph speed limits, to be determined by the Traffic Committee, within the pilot areas, with the exception of Park Road and A50 Long Lane.

13.3 To undertake further work to develop road hierarchy and assessment criteria; a prioritisation process; refined cost estimates and; to provide a report to the Environment and Housing Overview & Scrutiny Committee on the outcomes prior to a further report to the Executive Board.

Agenda Item
(Note 1)

14. BACKGROUND PAPERS

- Warrington Borough Council 20mph Pilots full report
- Warrington Borough Council 20mph Perception Survey Report
- Leicestershire CC Highways Forum for Harborough Agenda Item 11 of 10th March 2010
- Living Streets Policy Briefing 02/09 – 20mph brings streets to life
- DfT Circular 1/06 "Setting of Local Speed Limits"
- DfT Research Report Review of 20mph Zone and Limit Implementation in England
- Atkins Interim Evaluation of the Implementation of 20mph Speed Limits in Portsmouth
- Traffic Advisory Leaflet 9/99
- Transport Research Laboratory PPR353 Report Emission Factors 2009
- National Heart Forum Residential 20mph Health Benefits Report
- Road Safety Analysis Ltd Child Casualty Report 2010
- AECOM 20mph Zone and Limit Implementation in England Report

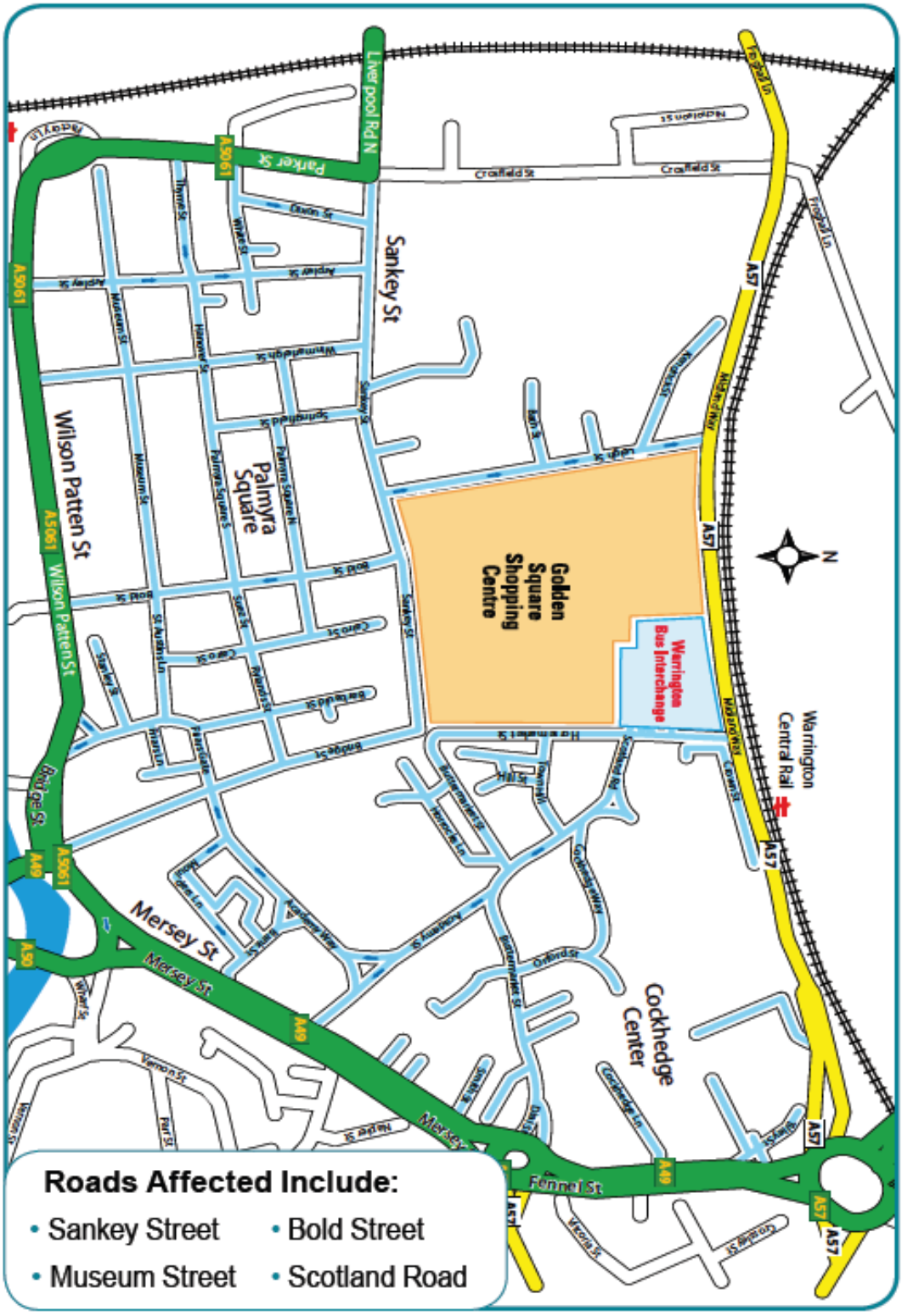
Contacts for Background Papers:

Name	E-mail	Telephone
Jamie Fisher	jfisher@warrington.gov.uk	01925 443248

14.	Clearance Details			
	Name	Consulted		Date
		Yes	No	Approved
Relevant Executive Board Member	Cllr Alan Litton	✓		16.9.10
SMB		✓		21.9.10
Relevant Executive Director	Andy Farrall	✓		16.9.10
Solicitor to the Council	Tim Date	✓		21.9.10
S151 Officer	Lynton Green	✓		21.9.10
Relevant Assistant Director	David Boyer	✓		16.9.10

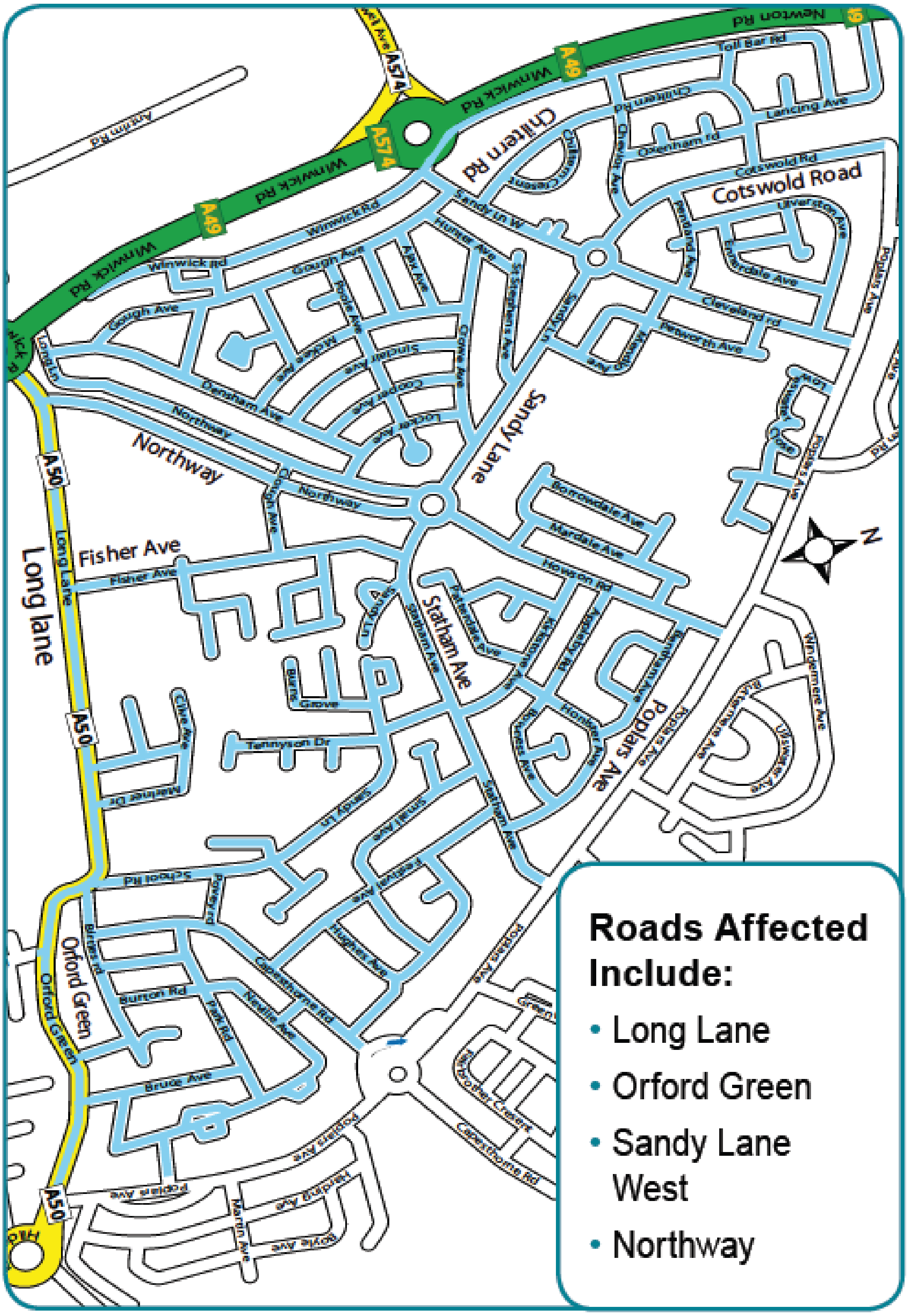
Agenda Item
(Note 1)

Annex A.1 – Town Centre Area



Agenda Item
(Note 1)

Annex A.2 – Orford Area

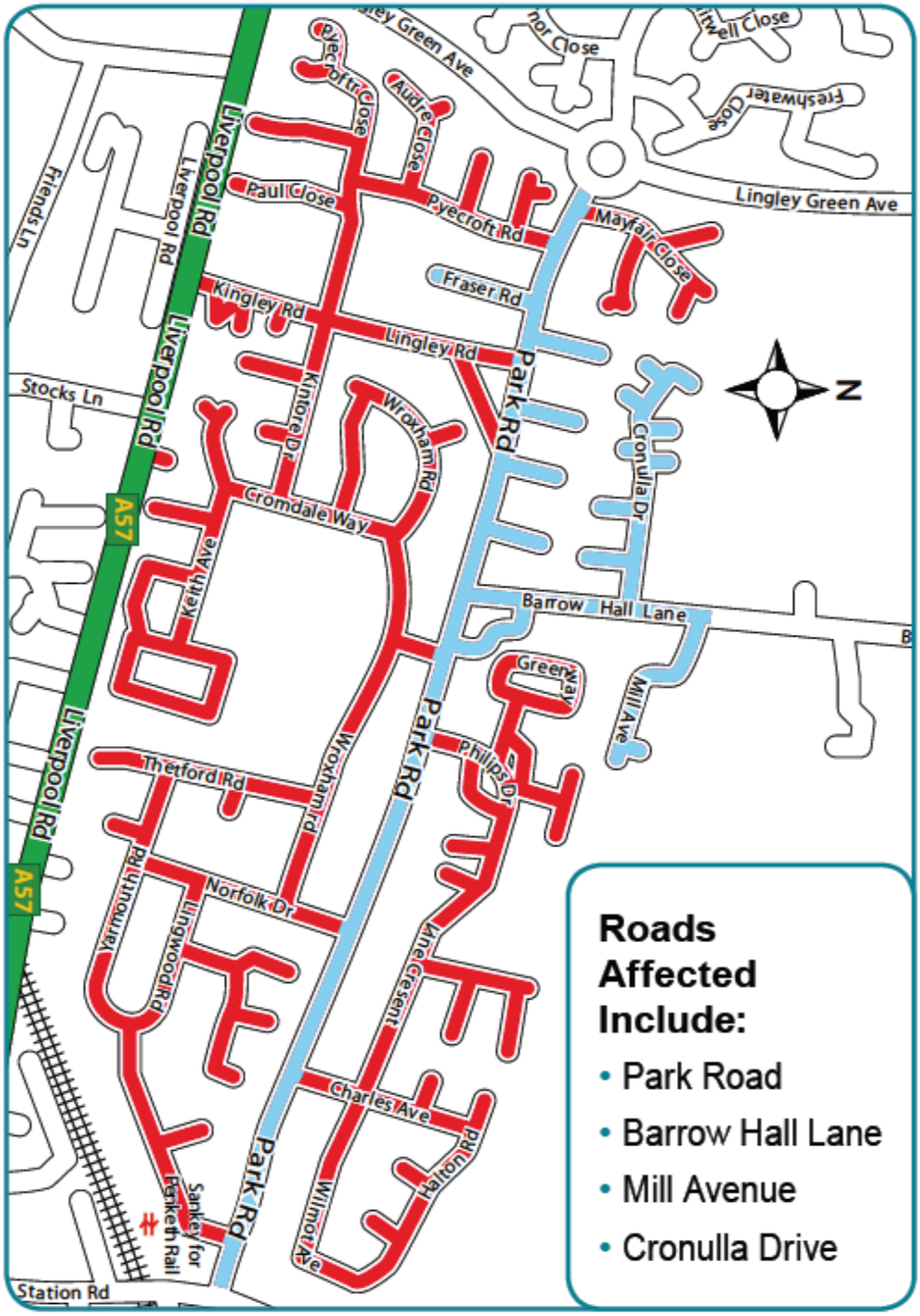


Roads Affected Include:

- Long Lane
- Orford Green
- Sandy Lane West
- Northway

Agenda Item
(Note 1)

Annex A.3 – Great Sankey (Park Road)



Red area indicates the extension of original scheme

Agenda Item

(Note 1)

Annex B - 20mph Pilot Speed Surveys Vehicle Speed and Flow

			Survey Date June 2008			Survey Date April 2009			Change			Survey Date July 2010			Change June 08 to July 10		
Pilot scheme	Monitoring Station	Direction	Flow	Mean	85%ile	Flow	Mean	85%ile	Flow	Mean	85%ile	Flow	Mean	85%ile	Flow	Mean	85%ile
Orford Area	Long Lane	WB	44518	26.1	30.6	44992	24.1	29.5	474	-2	-1.1	38685	24.50	29.30	-5833	-1.60	-1.30
	Long Lane	EB	45305	27.8	32.4	46617	25.7	31.3	1312	-2.1	-1.1	42703	25.50	30.90	-2602	-2.30	-1.50
	Orford Green	WB	34579	23.3	28.4	34620	22.6	28	41	-0.7	-0.4	30830	23.00	28.00	-3749	-0.30	-0.40
	Orford Green	EB	37426	26.2	29.3	38082	25.6	29.1	656	-0.6	-0.2	34508	25.60	29.10	-2918	-0.60	-0.20
	Northway	NB	13101	24.1	29.5	14809	24.6	30	1708	0.5	0.5	13583	23.40	29.30	482	-0.70	-0.20
	Northway	SB	18325	27.1	32.2	18376	26.1	32	51	-1	-0.2	16582	26.40	32.00	-1743	-0.70	-0.20
	Statham Road	WB	22422	24.7	28.6	22396	24.1	28.4	-26	-0.6	-0.2	20951	24.20	28.40	-1471	-0.50	-0.20
	Statham Road	EB	17481	26.6	31.3	17854	25.1	29.8	373	-1.5	-1.5	16383	25.00	29.50	-1098	-1.60	-1.80
	Sandy Ln	WB	20568	27.3	32	21389	25.9	34	821	-1.4	2	19873	25.60	30.20	-695	-1.70	-1.80
	Sandy Ln	EB	19390	26.8	31.5	19905	24.9	29.8	515	-1.9	-1.7	18681	24.50	29.10	-709	-2.30	-2.40
Park Road	Park Rd / Lingley Rd	WB	13500	25.5	30.2	13036	24.3	28.9	-464	-1.2	-1.3	14929	24.60	28.90	1429	-0.90	-1.30
	Park Rd / Lingley Rd	EB	15705	26.3	30.6	15174	24.6	29.1	-531	-1.7	-1.5	12778	24.30	29.10	-2927	-2.00	-1.50
	Park Road/Norfolk Drive	WB	15211	28.4	32.7	13557	26.4	31.8	-1654	-2	-0.9	12622	26.40	31.30	-2589	-2.00	-1.40
	Park Road/Norfolk Drive	EB	16301	28.9	34	14412	26.3	32	-1889	-2.6	-2	13492	26.20	31.30	-2809	-2.70	-2.70
Town Centre	Academy Way	WB	36038	24.9	29.5	36240	24.3	29.1	202	-0.6	-0.4	31633	24.20	28.90	-4405	-0.70	-0.60
	Academy Way	EB	11984	23.6	29.8	12420	22.6	28.4	436	-1	-1.4	11204	22.20	27.30	-780	-1.40	-2.50
	Bold Street	SB	26105	18	22.1	26238	18	22.1	133	0	0	20021	17.90	21.70	-6084	-0.10	-0.40
	Buttermarket Street	WB	28467	23.7	29.1	28957	23.3	28.6	490	-0.4	-0.5	27972	23.00	28.00	-495	-0.70	-1.10
	Buttermarket Street	EB	27865	23.5	28.4	28583	23.4	28.2	718	-0.1	-0.2	30324	22.90	27.70	2459	-0.60	-0.70
	Sankey Street	WB	6429	22.1	26.8	7839	22.3	26.4	1410	0.2	-0.4	3538	22.60	28.90	-2891	0.50	2.10
	Sankey Street	EB	45994	21.1	27.3	46616	21.9	28	622	0.8	0.7	28734	19.60	26.80	-17260	-1.50	-0.50
	Scotland Road	NB	10064	20.9	26.2	10523	20.5	25.7	459	-0.4	-0.5	1084	20.10	25.10	-8980	-0.80	-1.10
	Scotland Road	SB	35595	21	25.7	34981	20.8	25.5	-614	-0.2	-0.2	37898	20.30	24.80	2303	-0.70	-0.90
	Winmarleigh Street	NB	31014	22.1	26.2	30732	21.8	25.7	-282	-0.3	-0.5	27445	22.30	26.40	-3569	0.20	0.20
	Winmarleigh Street	SB	2248	19.1	23	2403	19.6	23.7	155	0.5	0.7	2221	19.70	23.90	-27	0.60	0.90

Agenda Item
(Note 1)

Annex C – Collision and Casualty Comparison Data

	Before		During Trial		Change of	
	Collisions	Casualties	Collisions	Casualties	Collisions	Casualties
Orford Area						
Fatal	0	0	0	0	0	0
Serious	3.52	3.52	2	2	-1.52	-1.52
Slight	24.64	25.52	15	21	-9.64	-4.52
Total	28.16	29.04	17	23	-11.16 (40%)	-6.04
Park Road Area						
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	4.4	5.28	2	2	-2.4	-3.28
Total	4.4	5.28	2	2	-2.4 (55%)	-3.28
Town Centre						
Fatal	0	0	0	0	0	0
Serious	1.76	1.76	3	3	1.24	1.24
Slight	19.36	22.88	18	34	-1.36	11.12
Total	21.12	24.64	21	37	-0.12 (0.5%)	12.36
Combined Total	53.68	58.96	40	62	-13.68 (25%)	3.04

Appendix H

Site Visit to Newcastle City Council – 28 October 2010

- Newcastle started with a pilot of 88 roads, which resulted in a decrease in speed and proved popular with residents.

- Following on from this pilot Newcastle started to roll out the 20mph scheme to all appropriate neighbourhood streets over a three year period, scheme to be completed November 2011. Funded from the Corporate Resource Pool.

- Cost of scheme 1.8 million but this has now been reduced to 1.4 million.

- 3000 streets are included in the scheme, rolled out over six phases.

- Minimum amount of signs used. Signs placed on entrance to streets, smaller signs used to keep costs down – 450mm used instead of 650mm. Existing street furniture used where ever possible. No illuminated signs.

- Don't put 20mph markings on the road due to the maintenance costs

- Only had one complaint to date.

- Try to change the mindset of people through publicity / advertising. It is about **education, then engineering, then enforcement.**

- Newcastle publicise the 20mph scheme through their Council magazine / newspapers / schools / TV etc.

- An accident map is also provided to all elected members, highlighting the accident areas and the severity of accidents.

- Police will enforce on request if certain area / street a problem for a specific period of time.

- No new physical traffic calming measures will be introduced until speed reviews are carried out. However, if a serious accident occurs and physical measures are required then these would be installed.

- Newcastle would like to see the regional local authorities working together on road safety.

- Newcastle is looking to review the speed limits on their rural roads and reduce them to 50mph.