

Report for Resolution

Report to Norwich Highways Agency Committee
22 May 2008

Report of Head of Transportation and Landscape

Subject Results of the Feasibility Study into the Possibility of a
20mph Speed Limit for Norwich

Item
7

Purpose

To inform members of results of investigations into the possible introduction of 20mph speed limits in all residential areas in Norwich and seek agreement for next steps.

Recommendations

Members are recommended to:

- (1) note the City Council motion which aspires for the adoption of a 20 mph speed limit as the norm for all residential areas of the city by 2009;
- (2) note that introduction of a speed limit alone is unlikely to reduce all average speeds to 20 mph;
- (3) note that average speeds in residential areas could be reduced to 20 mph if widespread traffic calming was also introduced;
- (4) note that a hybrid solution comprising of speed limits and traffic calming applied across the City is likely to take many years to introduce and that other initiatives may achieve greater value for money;
- (5) continue to support the introduction of schemes to reduce speeds to 20 mph where the achievement of casualty reduction and other objectives and rates of return on investment are significant;
- (6) ask the Norfolk Accident Reduction Partnership to consider whether and how education and publicity initiatives could be used to bring about a behavioural change amongst drivers to reduce their speed to 20 mph or less in residential streets.

Financial Consequences

The financial consequences of introducing measures to reduce speeds in residential areas to no more than 20 mph are discussed in the report. A comprehensive speed management solution applied to all unclassified roads in the City is likely to cost between £8 to 10 million. There would also be additional maintenance cost liabilities.

Strategic Objective/Service Priorities

The report helps to achieve the corporate objective to make Norwich safe and secure, building strong and proud local communities and the service plan priority of improving safety on roads and providing realistic sustainable transport options

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Background Documents

Member Scrutiny – Pilot 20mph limits, Planning, Transportation, Environment, Waste and Economic Development Review Panel, 23 January 2003, Norfolk County Council

Speed Limit review, Report by Director of Planning and Transportation, Cabinet, Norfolk County Council, 10th September 2007

Department for Transport, Highways Economic Note 1~
2005 Valuation of the Benefits of Prevention of Road Accidents and Casualties

Department for Transport, DfT Circular 01/2006. Setting Local Speed Limits; 2006

Department for Environment, Transport and Regions, DETR Circular 05/99.
“20mph speed limits”, 1999

PACTS, Beyond 2010 – a holistic approach to road safety in Britain; PACTS 2007

Report

Introduction

1. Traffic speeds in residential areas of Norwich is a concern for many members of the public. This is shown in opinion surveys and the number of queries and petitions for safety and speed reducing measures across the City.
2. In response to this concern, the City Council agreed a motion on 27 June 2006 calling for the implementation of 20mph speed limits in the Norwich City Council area. The motion has a number of aims to reduce accidents, improve air quality and promote walking and cycling; outcomes that successful speed management could help achieve. A full transcript of the motion is provided in appendix 1.
3. The petition recognises that such an aspiration could only be met with the full cooperation of Norfolk County Council as highway authority and Norfolk Constabulary who are responsible for the enforcement of speed limits. This report considers how a 20 mph speed limit could be implemented, enforced and how much it would cost, as well as how much it would save through the prevention of accidents. The report draws on evidence from elsewhere.

Policy and Practice around 20mph speed limits

4. There has been extensive research and debate around the issue of speed management and casualty reduction in the UK over the past 10 -15 years and it remains an evolving area of policy and practice. Government policy is largely in favour of lower speed limits in residential streets and for example all new residential development is designed to limit vehicle speeds to 20 mph.
5. Key to the introduction of 20 mph speed limits are the Government Circulars which give guidance on when such limits can be practically introduced. An important element in the guidance is the widespread research findings which show that the introduction of speed limits alone will typically reduce average vehicle speeds by only 1 to 2 mph.
6. The guidance therefore sets out two approaches:
 - Option 1: Introduce a 20 mph speed limit alone where average speeds are already no higher than 24 mph (average) and there would be a reasonable expectation that the speed limit alone would therefore reduce speeds to 20 mph; or
 - Option 2: Introduce a 20 mph zone where as well as the speed limit traffic calming or other engineering measures are also introduced to physically reduce vehicle speeds to a 20 mph average.
7. Zones can achieve much higher speed reductions (e.g. from 30 to 20 mph) and although more costly they can result in much greater benefits because of the much greater reduction in speed. Due to the physical reduction in speed 20 mph zones are in effect self enforcing.
8. The success of signed only speed limits is less clear. Local pilots conducted by Norfolk County Council in five residential locations demonstrated that

compliance with the 20mph speed limit was poor and generated significant demands for enforcement and engineered traffic calming to be installed retrospectively.

9. The current County policy position (see also appendix 2) is firstly to prioritise the introduction of all speed management measures to locations where there is a high casualty record or other problem (e.g. to promote more cycling and walking to school) which could be solved by a lower speed limit. Secondly the County's policy is not to implement 20mph speed limits using signs alone where the speed limit cannot already be self enforcing (i.e. it is in accordance with Government guidance).
10. Application of this policy in Norwich has enabled some city centre shared streets and terraced streets with to have had 20 mph speed limits introduced. Elsewhere in the City, the 20 mph has been generally achieved using the zone approach. In the latter case whilst a 20 mph outcome may have been achieved a formal 20 mph speed regulation order may not have been introduced. This is quite often the case with new residential developments.
11. Given that a key driver for speed management is casualty reduction it is notable that most accidents in Norwich occur on the main road network of A, B and C class roads. While accidents do occur on quieter residential streets in the City they tend to be of relatively of lower severity and occur in fewer numbers.
12. Against the above background there has been some movement towards the implementation of blanket 20 mph speed limits in residential areas. For example it has been discussed by the Parliamentary Advisory Council for Transport Safety and was being promoted in London by the former Mayor, Ken Livingstone.
13. In Portsmouth a 20 mph speed limit has been introduced. Its introduction is very recent, however, and therefore it is too early to ascertain the success or otherwise of the initiative. The Department of Transport are keeping it under review.
14. Also whilst it is tempting to draw parallels between Portsmouth and elsewhere the geography of Portsmouth is quite unusual. The town is a peninsula and residential streets are nearly all narrow terraced streets where speeds are already lower than average. Also notably the police have asked that engineering measures be introduced if the speed limit alone does not prove effective.
15. Therefore whilst there is interest in 20 mph blanket speed limits and one example of its introduction, within the current policy and prioritisation frameworks it would not be possible to implement 20mph for residential areas in Norwich. It would require a departure from established policy and practice.

Implementation 20mph in Norwich

16. Within Norwich there are approximately 240 km of unclassified roads¹ which are mainly residential in nature. These are taken to be the City's residential streets identified in the motion and for the purposes of the following discussion.

Effect

17. In assessing the practicality of introducing 20 mph it is important to know typical average speeds on different residential streets. Whilst it might be tempting to introduce a 20 mph speed limit on a road with 30 mph average speeds as already stated the speed reducing effect will be limited (see paragraphs 4 to 8 above). Therefore such an option is not recommended.

18. For the period Feb 2005 to Jan 2008 there were 247 injury accidents on unclassified roads in Norwich. National guidance advises that on average injury accidents (Fatal, Serious, and Slight) have a cost to society of £77,820. This would indicate that the overall cost of injury accidents for the past three years can be valued at some £19.2 million

19. Research has shown that 20 mph zones can achieve a 60% reduction in casualties. Such a figure has been achieved locally with the Park Lane Area Traffic Action Plan². However this has been in circumstances with relative high casualty rates. Such a reduction is less likely with a blanket approach; as in many streets there are no or very few casualties meaning none or very few casualties could be saved. Interestingly where attempts have been made to introduce traffic calming where the accident record is better than elsewhere, local residents have been much less keen for it to be introduced and this Committee has generally steered away from implementation of the proposal. The reduction, however, provides an **upper limit** on what could potentially be achieved.

20. Applying this percentage reduction suggests that a reduction from 247 to 99 accidents could be achieved, i.e. a saving of 148 accidents over 3 years. The economic saving would be equivalent to some £3.8 million per annum.

21. The motion also describes other potential benefits of a 20 mph speed limit such as more walking and cycling and social benefits. Traffic speed is often cited as a deterrent to cycling for example and it seems logical that lower traffic speeds would be likely to yield such benefits. However one study into the effect of area wide traffic calming saw no change in walking and cycling activity. In reality there appears to be little research on these effects and such benefits cannot therefore be readily quantified.

22. Equally there are potential disbenefits in the traffic calming required as part of 20 mph zones. For example there are reports of increased pollution and

¹ The unclassified road network has been used as the proxy definition of residential streets. In the subsequent calculations consideration has not been given to introducing 20 mph speed limits on main roads (A, B and C class) even though they may also have mainly residential frontage

² This scheme 'treated' all the streets between Earlham Road, Unthank Road and the two ring roads with a mixture 20 mph zone (achieved with traffic calming) and 20 mph speed limit

delayed response times for the emergency services. However good design can minimise these effects and in any case they are again difficult to quantify.

Costs and Value For Money

23. It is estimated that the cost of implementation of a “signed only” 20mph speed limit for Norwich residential areas would be in the region of £300,000. A solution based on the Park Lane Area Traffic Action Plan is estimated to cost £8 million and £12 million.
24. Taking the average at £10 million, such investment would yield an economic saving of £3.8 million per annum or a First Year Rate of Return (FYRR) of 38%. In contrast local safety schemes (including those centred on speed management) achieve much better FYRR values of 200% or more. Members are also reminded that the predicted FYRR is a maximum likely estimate (see paragraph 20).
25. The blanket application of 20 mph therefore does not necessarily achieve particularly good value for money. This is particularly significant where funding for local transport is limited.
26. Norwich receives £2.0 to £2.5 million per annum from the Local Transport Plan each year for transport funding. This is for all schemes including pedestrian crossings, local safety schemes bus priority measures etc. Therefore at such levels of funding a 20 mph limit could take 4 to 6 years to deliver without any other improvements being made during the period. There would also be increased maintenance costs that are currently unknown. Therefore the costs of an effective 20mph speed limit treatment to all residential roads are currently prohibitive within current funding sources.

Other Issues

27. The key concern from the police is the ability to secure compliance with a 20mph speed limit within available resources. For this reason the police would have major concerns if asked to enforce 20 mph speed limits where steps had not been taken to make them self-enforcing. A secondary concern is the need to police with the consent of the travelling public. Speed limits that appear unwarranted or arbitrary may be widely flouted and extensive enforcement with penalty charge notices, points on driving licenses and court action may appear excessively punitive and against the public interest. The police have suggested, however, that the aspiration of 20 mph speeds could potentially be examined as an education and publicity initiative.
28. At present speed limit enforcement is a matter for the police or is carried out via the Norfolk Safety Camera partnership. There are potential technological developments that could result in further enforcement opportunities including use of average speed cameras and vehicle speed limiters. They would be worth examining in due course (they are not available at the present time), although there might remain concerns over the degree of public consent to such enforcement.

Conclusion and Next Steps

29. Officers have concluded that a city wide “signed only” 20mph speed would not be feasible. The effect on speeds is likely to be modest and hence its benefits would be limited. Whilst potentially affordable it would be likely to generate widespread calls for police enforcement which would be very difficult to sustain or traffic calming. This does not mean that 20 mph speed limits could not be introduced on certain streets where mean speeds are below 24mph, although members would need to be satisfied of the objectives and value for money being achieved.
30. Officers consider that a hybrid solution along the lines of the Park Lane Area Traffic Action Plan consisting of 20mph speed limits and zones has much clearer benefits. However such an approach would be very costly and under present funding it cannot be realistically considered as anything but an extremely long term initiative. Furthermore the lack of support for traffic calming in certain streets, particularly where problems are not considered to be great, could frustrate a comprehensive approach.
31. For these reasons Members are recommended to focus speed management initiatives on those locations likely to achieve good rates of return (i.e. the current policy) and as part of a balanced programme alongside pedestrian, cycle, public transport and junction improvements, etc.
32. In the longer term there may be technological developments which could help deliver the Council's ambition. This includes average speed camera enforcement and vehicle speed limits. Such approaches would overcome the perceived and other problems associated with traffic calming. However at present they are not available.
33. Returning to the shorter term, alongside focussed speed management initiatives the role of education and publicity could be further examined. The analogy drawn in the motion with the decline in drink driving is powerful. If drivers' behaviours can be changed then coercion is avoided and there is less need for costly engineering. To look into this further it is proposed that it be referred to the Norfolk Accident Reduction Partnership for their consideration.

Appendix 1

“This Council will take all possible and reasonable action for the adoption of a 20 mph speed limit as the norm for all residential areas of the city by 2009.

This Council calls on the Highways Authority/Norfolk County Council

- To support the scheme through the commitment of funds through the Highways Agency Agreement in order to implement Traffic Regulation Orders and 20 mph signs.

Calls on the Police Authority:

- To support the scheme

And notes:

In reducing the speed limit from 30 to 20mph in residential areas there would be a reduction in road traffic accidents especially amongst children and other vulnerable groups such as the elderly.

There would be an improvement in the environment including a reduction in noise and an improvement in air quality

There would be an increase in cycling and walking with the physical and psychological health benefits that they bring

There would be an increase in the sense of community with more people on the streets also making them safer.

That the introduction of a blanket 20 mph speed limit will for some years yield an ongoing need for enforcement. This should be implemented by means of a judicious combination of road design, traffic calming measures, citizen vigilance and police action. Council asks the Joint Highways Agency Committee to produce a report for the City and County Councils on how such a scheme would best be enforced and how much this would cost, as well as how much it would save through the prevention of accidents. The report should be based upon evidence from elsewhere.

That in introducing a blanket 20 mph speed limit there would be a change in people's attitudes to speed and gradually bring about community disapproval for those not obeying the speed limit, the same way as drink driving is now unacceptable.

Appendix 2

Norfolk County Council

Speed Limit Review

10 Sept 2007 Committee Report

- 2.7 **20 mph speed limits:** Current practice in Norfolk is to use 20 mph limits on non-link roads in new residential areas, spine roads outside shops, or a specific hazard and cul-de-sacs in existing residential areas, i.e. where they are self-enforcing. Other than these situations we do not impose these limits. In larger areas and where speeds are close to 20 mph we install 20 mph zones e.g. in town centres, larger residential developments and home zones. These are expected to be self-enforcing by design.

The new guidance suggests that successful 20 mph zones and 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 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. Traffic authorities, are therefore expected to consult the Police. NCC does for all traffic schemes, including considering possible 20 mph zones, and as part of the formal consultation process.

2.7.1 **Potential Impact:** Moderate

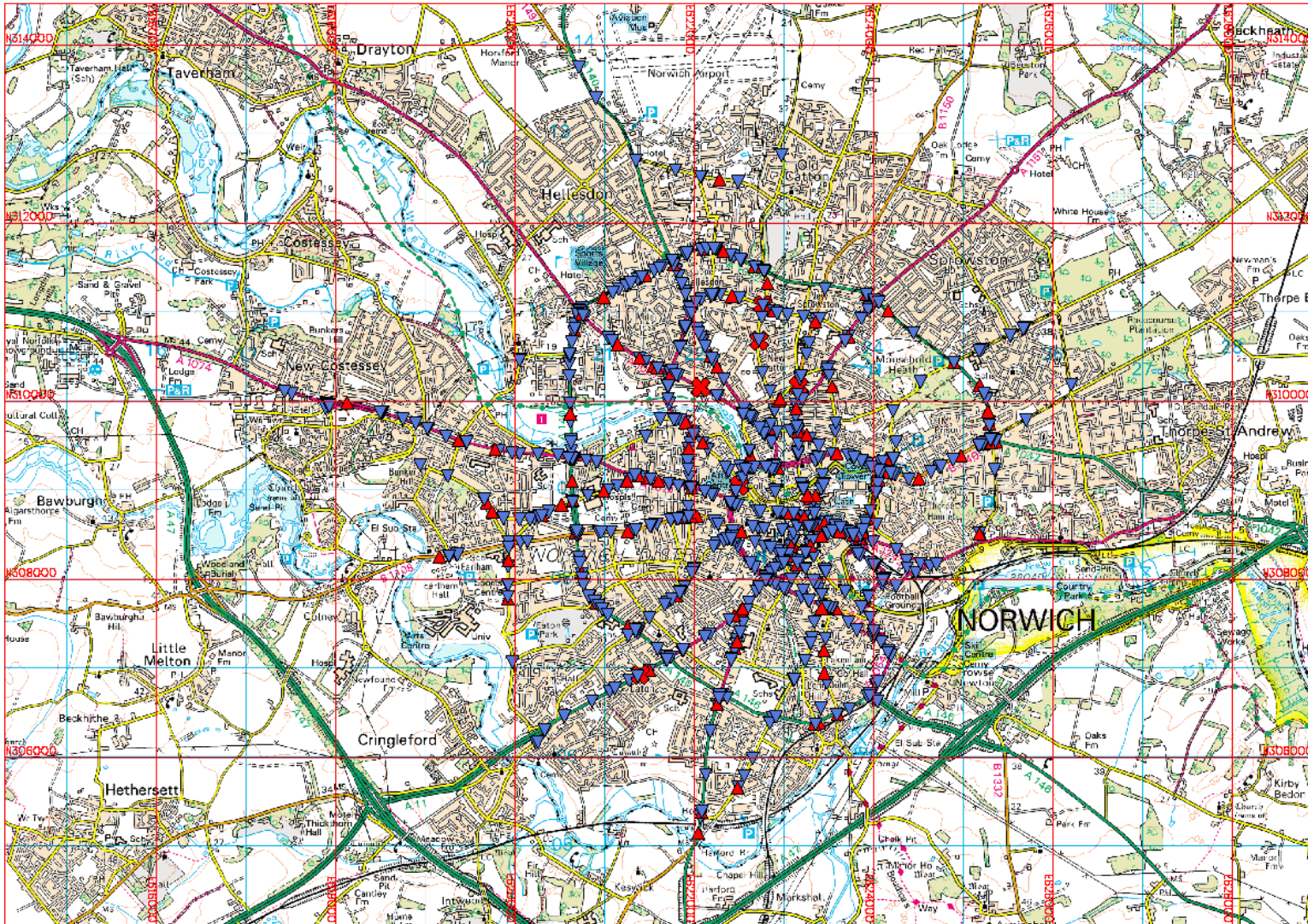
2.7.2 **Officer Comment:**

- Some media reporting of the DfT guidance has led to a perception that local authorities will be introducing blanket 20mph speed limits around schools and that this will bring a significant reduction in speed and improve safety. Conservative estimates to introduce this in Norfolk are £1.76m for mandatory speed limits or £441,000 for advisory speed limits.
- In Norfolk over the past five years there were 9 killed and 255 seriously injured children. Of these totals, outside schools there were no fatalities and 7 seriously injured. While any injury can cause great distress and is deeply regrettable the figures suggest expenditure would not be the most effective way of reducing casualties.
- In addition, TRL have carried out a review of low speed-limit zones in this country and abroad, where physical measures have not been used extensively to influence speed, and reliance is placed primarily on signing. The results of this review are reported in TRL Report 363 - "Urban Speed Management Methods". The review has indicated that using 20 mph speed limit signs alone, without supporting traffic calming features, led to reductions in 'after' speeds, on average, of 1 mph.
- Therefore it is proposed not to introduce any new 20mph speed limits without physical measures however; 20mph speed limits zones will still be introduced in accordance with existing criteria.

- 20mph measures outside schools must not be seen in isolation but seen as a partnership between the school the parents, and the Highway Authority.
- Where mean speeds are already low (24mph or below), especially where a reduction in peak time parking has been achieved, advisory peak time 20mph signs with amber flashing lights should be used to remind drivers they are entering a different environment and therefore need to modify their behaviour and speed.

Appendix 3: Injury accident locations on classified roads in Norwich (Feb 2005 and Jan 2008)

Downtoned triangle: Slight Injury accident location. Uprturned triangle: Serious Injury accident location Cross: Fatal accident



Appendix 4: Injury accident locations on unclassified roads in Norwich (Feb 2005 and Jan 2008)

Downtoned triangle: Slight Injury accident location. Uprturned triangle: Serious Injury accident location Cross: Fatal accident

