

EXECUTIVE DIRECTOR, PLACE

REPORT TO CABINET HIGHWAYS COMMITTEE

8<sup>th</sup> JULY 2010

REPORT ON TWO SEPARATE PETITIONS, ONE REQUESTING A REDUCTION IN THE SPEED LIMIT TO 20 MPH WITHIN THE CITY CENTRE, AND THE OTHER TO INTRODUCE 20 MPH IN ALL RESIDENTIAL AREAS WITHIN THE CITY BOUNDARY.

## 1.0 SUMMARY

1.1 This report sets out a response to two petitions requesting area wide 20 mph speed limits in the City Centre and all residential areas. The report recommends developing innovative 20 mph speed limit schemes across the City driven by local people and the Community Assemblies. Such less engineered, sign only measures will be supported by a “hearts or mind” campaign to change attitude to speed in residential areas, backed by greater enforcement.

## 2.0 WHAT DOES THIS MEAN FOR THE PEOPLE OF SHEFFIELD

2.1 The proposals would meet “City of Opportunity” priorities by ‘protecting and enhancing the environment’ by creating safer roads and ‘putting the customers first and achieving better value for money’.

## 3.0 OUTCOME AND SUSTAINABILITY

3.1 The implementation of innovative 20 mph speed limit schemes would have the potential to reduce speed and the number and severity of the road traffic collisions in Sheffield.

## 4.0 THE PETITIONS

4.1 Two petitions have been received requesting the introduction of 20 mph speed limits on:

- All residential roads in Sheffield, with 166 signatories;
- All city centre roads contained within the inner ring road, with 168 signatories.

4.2 Both petitions were received by the Central Community Assembly on 6<sup>th</sup> November 2009. The first petition states that ‘there were over 200 casualties in terms of vehicle accidents on residential roads across the City, and that research had shown that the introduction of a 20 mph speed limit would drastically reduce this figure’. The second petition requests ‘a default 20 mph speed limit on all roads contained within the inner ring road’.

4.3 Driver speeds in residential areas have been a concern for many members of the public. This is shown in the large volumes of individual requests and petitions received by the Council for road safety engineering schemes aimed at reducing driver speeds across the City.

#### 5.0 UK POLICY REGARDING 20 MPH SPEED LIMITS

5.1 There has been extensive research and debate around the issue of speed management and casualty reduction in the UK over the past 10 to 15 years, and it remains an evolving area of policy and practice. Government policy wants to positively encourage Local Authorities to introduce 20 mph speed limits in urban areas.

5.2 In addition to recommending that all new residential developments are designed in a way that naturally encourages drivers to keep with the 20 mph speed limits, the Department for Transport (DfT) has changed its 20 mph speed limit policy to encourage highway authorities to introduce, over time, 20 mph zones or limits into streets which are primarily residential in nature and into town or city streets where pedestrian and cyclist movements are high, such as around schools, shops, markets, playgrounds and other areas, where these are not part of any major through route.

5.3 The introduction of DfT guidelines are key to the implementation of 20 mph speed limits, as they provide advice obtained from widespread research findings. This guidance has typically concluded that the introduction of sign-only 20 mph limits will generally only achieve a speed limit reduction of approximately 1 or 2 mph, although Portsmouth City Council has found greater reductions, as discussed in Section 7. Government guidance sets out two main ways of legally implementing sign-only 20 mph speed limits and 20 mph speed limits with physical measures across an area, and these are known as:

20mph zone - Across the area, engineering measures such as humps are installed, at frequent intervals. The spacing between these measures has to comply with national standards. There are 20mph signs at each entrance to the area. These schemes can be expensive, but are effective in reducing accidents, particularly involving children. They are 'self enforcing'. The measures tend to cap speeds to around the speed limit, without the need for enforcement by the Police. In Sheffield there are eight such zones. There are many '20mph zones' across the country. Sheffield Council's specific budget for 20mph zones finishes in 2010/11, as responsibility for introducing them has been passed to the Community Assemblies.

20mph speed limit - Few, if any, engineering measures are installed within the area. Some engineering measures might be provided at certain locations where speeds may be particularly higher than 20mph. There are 20mph signs at each entrance to the area. 20mph repeater signs also have to be installed across the area. These schemes are relatively cheap, but tend to be less effective in reducing speeds and

accidents. They are sometimes referred to as 'signs-only' schemes. Sheffield has previously trialled a 20 mph speed limit scheme, but with no significant change in speeds. This type of scheme is novel for this country, and only a few Local Authorities have installed them to date. This would be the type of scheme that might be applied across large areas of Sheffield.

- 5.4 It is widely acknowledged that 20mph zones achieve much higher speed reductions, for example from 30 mph to 20 mph. Although more costly initially, self-enforcing 20 mph zones result in much greater reductions in accidents, with consequent economic benefits. There can also be other significant benefits such as a reduction in through-traffic and an overall calmer environment for local residents. This may also encourage other forms of travel in the area, namely cycling and walking, with associated health benefits.
- 5.5 Recent research published in the British Medical Journal, found that the introduction of well-designed 20 mph zones in London, is associated with a 42% reduction in road casualties. The percentage reduction was greatest amongst younger children and greater for the category of killed or seriously injured casualties than for minor injuries. There was no evidence of casualty migration to areas adjacent to 20 mph zones, where casualties also fell slightly by an average of 8%.
- 5.6 To date, the outcomes and successes of signed only 20 mph speed limit are not as well established as limited information is available given the timescale involved. An interim evaluation of the Portsmouth City Council sign only 20 mph speed limit scheme (discussed in Section 7) has suggested positive results in terms of speed reductions, and there is scope for Sheffield to learn from other highway authorities' experiences, when developing the 20 mph speed limit implementation.
- 6.0 SHEFFIELD CITY COUNCIL'S CURRENT 20 MPH POLICY
- 6.1 Sheffield City Council's current overall Road Safety Policy is to prioritise the introduction of speed management measures to locations where there is a high casualty record. However, speed management measures are also considered at locations where there is a perceived road safety problem, such as Danger Reduction Schemes and School related schemes.
- 6.2 Although the Council currently has no policy on the implementation of signed-only 20 mph speed limits, it does have a programme of 20mph zones (referred to as Child Safety Zones, as the emphasis has been on a reduction of child pedestrian casualties). A plan illustrating all existing 20mph zones is available in Appendix A.
- 6.3 One of Government's new accident reduction targets is the reduction of 50% of children and young adults up to the age of 17yrs, who are killed or seriously injured, by the year 2020. Research carried out by Transport Research Laboratory (TRL) after analysing 250 20 mph zones, indicates that well

designed self-enforcing 20 mph zones achieve a reduction of approximately 60% of all accidents; 67% of child accidents and 29% of cycle accidents. Within a carefully designed 20 mph zone, drivers are encouraged to hold a steady speed, which can result in lower emissions and less noise.

- 6.4 A budget allocation of approximately £500,000 was identified annually for Child Safety Zones up to the end of the 2009/10 financial year, and £200,000 has been identified in the 2010/11 financial year to complete the final Child Safety Zone – Southey Green East. To provide an increase in local choice, the Child Safety Zones budget has been amalgamated with the budget for Community Assembly transport schemes in 2010/11. Responsibility for undertaking 20mph zones / 20mph speed limits has been passed to the Assemblies.
- 6.5 The Council is therefore pursuing alternative and innovative road safety techniques that are more cost effective, more widespread, less engineered, more likely to be supported by residents and motorists, and which have a positive effect on casualty reduction. 20 mph limits offer a new way forward. This process should be driven by local communities particularly to change the climate of opinion about speed on residential roads.

## 7.0 LEARNING FROM OTHER LOCAL HIGHWAY AUTHORITIES

- 7.1 Portsmouth City Council is the first local authority in England to implement on an extensive area-wide 20 mph speed limit scheme covering the majority of its residential roads, and using terminal and speed limit signing, coupled with other minor measures. Portsmouth has introduced 20 mph speed limits on 410km of its 438km road network, totalling 94% of its roads.
- 7.2 Although this scheme has only comparatively recently been implemented, an interim evaluation has been published. The average speed after the 20 mph speed limits were imposed was reduced by approximately 1 mph. However, at sites where the average 'before' speed was greater than 24 mph, the average speed reduced by 7mph, which is statistically significant.
- 7.3 In terms of safety, the analysis showed the total accident reduction was 13%, and the number of casualties fell by 15%, although it is too early to draw firm conclusions.
- 7.4 Sheffield City Council officers visited Portsmouth City Council on the 19<sup>th</sup> May 2010, to learn from their positive experience of 20 mph speed limit implementation. Portsmouth has developed a peninsula surrounded by the sea on three sides, and residential streets are nearly all narrow terraced streets and in a grid pattern, where speeds are already lower than average. There are no through routes. There are similar urban areas in Sheffield such as Woodseats and Greystones and other areas which are quite different.

7.5 20mph areas are being trialled in some London boroughs, and these will be followed with interest, to glean information which could be helpful to Sheffield's 20 mph proposals.

7.6 Numerous other Local Highway Authorities in England such as Warrington, Oxford and Newcastle have either introduced or are planning to introduce 20 mph speed limits to their highway network to reduce casualties. Sheffield Council Officers are currently liaising with several of these authorities, to learn from their experiences, and will incorporate all beneficial findings to 20 mph initiatives.

## 8.0 ACCIDENT ANALYSIS

8.1 A five year accident analysis (01/01/05 to 31/12/09), specifically examining collisions related to speed within the City boundary has revealed that 249 occurred on A-roads, 104 on B-roads, and 71 on C-roads. A total of 165 collisions relating to speed occurred on unclassified roads in the City. This makes a total of 589 over the five-year period.

8.2 Given that a key objective for speed management is casualty reduction, it is notable that most accidents in the Sheffield City boundary 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 lower severity and occur in fewer numbers. A plan illustrating this five year accident trend is provided in Appendix B, which emphasises the above findings. One of the trials could potentially take place on a classified road, so that we can evaluate whether a lower speed limit is as effective as on residential roads within the city.

8.3 Within the City Centre there have been numerous pedestrians injured in road accidents, especially through being hit by taxis and buses. Road safety education is being carried to help address this problem, and a 20mph speed limit would complement this work.

## 9.0 LOCATION ASSESSMENT FOR 20 MPH LIMITS

9.1 Traditional speed management policies aim to achieve a 'safe' distribution of speeds that reflect the function of the road, and the impact on the community which it serves. The development of 20 mph speed limits would require a number of different factors to be considered particularly in promoting roll out of schemes.

Others will give Community Assemblies advice on:-

- Accident analysis (collision rates, severity);
- Road function (according to the hierarchy);
- Road geometry (width, bends, junctions etc);
- Road environment (rural, urban, community facilities);
- Traffic composition (vulnerable road users).
- Impact on emergency services

9.2 The mapping of accident data across the City will allow Council Officers to identify and react to relevant assessment criteria, which will assist Community Assemblies advised by officers to develop 20 mph speed limits in areas that have the worst road safety problems. This process will go hand in hand with the County wide Worst First Initiative which will target various measures (engineering, enforcement and education) on the main traffic routes.

## 10.0 PROPOSALS

10.1 The Department for Transport (DfT) is currently consulting on proposals to encourage Local Authorities to introduce 20 mph schemes into residential streets and other roads where cycle and pedestrian traffic is high, such as around schools, shops and parks. In the past, Councils wanting to implement 20 mph schemes on groups of roads have had to do so in 'zones' which require traffic calming measures such as speed humps. 20 mph limits without traffic calming were only recommended on individual roads. Recent ministerial announcements about sign only 20 mph limits have been very positive.

10.2 After considering the experiences of other Local Highway Authorities, particularly the encouraging results from Portsmouth, coupled with published research literature on the effectiveness of 20 mph speed limits, the City Council is keen to deliver innovative 20 mph speed limits which are not over engineered with vertical traffic calming measures. The initiative would use experimental speed limit orders to implement a number of separate 20 mph speed limits, on roads/ areas with differing characteristics within the City Boundary, without the usually associated physical traffic calming measures. Community Assemblies advised by officers would decide where and when 20 mph speed limits would be developed. Such sites would include City Centre Streets (to encourage more sustainable commuting practices in terms of walking and cycling), a single carriageway with an existing history of collisions and a large residential area, with a history of vulnerable road user casualties. The physical measures will be backed up by hearts and minds campaign to change driver and residents attitudes to create a climate of slower speeds in residential areas.

10.3 Although the majority of locations will not require engineering measures, there may be some locations, such as on long straights where it may be necessary to compliment the 20 mph speed limit with physical engineering measures. It would not be appropriate to reduce the speed limit on major distributor roads to 20mph, otherwise this could result in undue congestion and delays.

10.4 The aim of this initiative is to work in partnership with the Community Assemblies to identify areas and develop schemes in different locations. This initiative will present the opportunity to carry out extensive monitoring as described in section 11, and ultimately develop City wide 20mph speed limits.

10.5 A 20 mph speed limit in the City centre would be considered to complement the ongoing regeneration of the City centre. Vulnerable road users currently cross over main roads in the City, to access centrally based attractions such as the Winter Gardens and the Peace Gardens. Lower speeds will enable this pedestrian activity in a safer environment.

## 11.0 MONITORING

11.1 In evaluating the effects of introducing 20 mph speed limits within Sheffield, it is essential to know typical average speeds on different residential streets, and on roads contained within the City Boundary. It is important for the provision of new speed limits and measures to be monitored and reviewed following their implementation.

11.2 Monitoring will involve regularly collecting and recording important information that will definitively give us key indicators to evaluate whether the scheme is working or not. The monitoring process will involve:

- 'Before' and 'after' speed and traffic flow data
- 'Before' and 'after' accident and casualty analysis; and
- 'Before' and 'after' public perception responses

## 12.0 CONSULTATION

12.1 Public information about this scheme would be disseminated via the media and community involvement, and may include:

- Consultations with Neighbourhood forums, residents' associations and Community Assemblies;
- Publishing statutory advertisements in the local press;
- Placing articles in the local press;
- Television and radio interviews locally;
- Website link to road safety website;
- Exhibition of plans and posters in all local schools and public buildings;
- Sending each school pupil home with a leaflet; and
- Distributing plans and leaflets at Council Offices.

12.2 It is vital that community engagement techniques effectively involve the local communities, so that it empowers local residents to feel part of the initiative. Without full engagement of the public and relevant bodies, there could be some difficulty in gaining general acceptance of the scheme, which could also lead to problems in the longer term. Engagement with the Community Assemblies will be a fundamental part of this process.

12.3 Consultation would also be carried out with the emergency services and the South Yorkshire Passenger Transport Executive.

### 13.0 PARTNERSHIP WORKING AND SPEED LIMIT REVIEW

13.1 Road safety initiatives are most effectively delivered through a multi agency approach. The Speed Management Plan for South Yorkshire encompasses a combined approach to road safety, to include all stakeholders, and was approved and adopted by the South Yorkshire Casualty Reduction Partnership in 2009. This plan states that the introduction of 20 mph speed limits would be most appropriate to be introduced on lengths of highway where vehicles speeds are low and additional traffic management measures are not necessary.

13.2 South Yorkshire Police supports the implementation of 20 mph speed limits, however, they would not carry out any specific speed enforcement to supplement 20 mph speed limit signs. New technological advances to enforce speed limits are available in the UK. This equipment consists of video cameras that continuously capture images of vehicles as they pass through the field of view of the camera. Their number plates are read using Automatic Number Plate Recognition and the average speed of the vehicle is calculated between the linked cameras, over the known baseline distance. If this exceeds the Police speed threshold, an offence record is created and violation images and data are logged. However, this sort of equipment is very expensive and may not be economical to enforce 20 mph speed limits.

13.3 Further to the publishing of DfT Circular 01/ 2006, Sheffield City Council is in the process of reviewing and setting appropriate speed limits on all 'A' and 'B' classified roads within its boundary, and will implement any required changes by 2011. This is the subject of a separate report on the agenda. This does not include 20 mph speed limits.

### 14.0 ENVIRONMENTAL IMPLICATIONS

14.1 The proposals are intended to reduce speeds at various locations in the City, which would improve the living environment for local residents, who often perceive a sense of danger and annoyance at times from excessive speeding and vehicle noise.

### 15.0 PROPERTY IMPLICATIONS

15.1 There are no property implications arising from this report.

### 16.0 EQUAL OPPORTUNITY IMPLICATIONS

16.1 The measures proposed are aimed at improving driver awareness and reducing speeds, which would be particularly beneficial to vulnerable road users.



## 17.0 FINANCIAL IMPLICATIONS

- 17.1 The aim would be to carry out the preliminary development and design work in 2010/11, funded from the Innovative Traffic Calming allocation. The implementation and hearts and mind campaign will be funded by a combination of resources from the LTP Innovative Traffic Calming budget and Community Assembly contributions in the 2011/12 financial year.
- 17.2 The cost of implementing the 20 mph speed limits in Portsmouth was just over £600,000. Based on this, the experience of other Authorities and the size and nature of Sheffield, the cost of implementing 20 mph speed limits across residential area in the City would be in region of 2 to 3 million pounds.

## 18.0 RECOMMENDATIONS

- 18.1 To support the development of 20 mph innovative schemes by Community Assemblies across the City supported by a hearts and minds campaign to change attitudes about speed on residential streets.
- 18.2 To discuss with the Community Assemblies about developing and delivering 20 mph schemes in their areas.
- 18.3 To bring a further report to the Highways Committee on the outcome and discussions with Community Assemblies and choices of potential schemes.
- 18.4 To advise the two lead petitioners of Committee's decision and to pass on Committee's thanks for submitting the petitions to the Council.

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8<sup>th</sup> July 2010