

**REPORT TO: PLANNING AND TRANSPORTATION COMMITTEE
28 APRIL 2003**

REPORT ON: 20MPH SPEED LIMITS

REPORT BY: DIRECTOR OF PLANNING AND TRANSPORTATION

REPORT NO: 286-2003

1 PURPOSE OF REPORT

- 1.1 The purpose of this report is to inform the Committee of recent Scottish Executive guidance on the implementation of 20mph speed limits and to inform Committee of the recommended selection process.

2 RECOMMENDATIONS

The Committee is asked to

- 2.1 Note the extension for the three 20 mph sites in Dundee to the year 2007.
- 2.2 Request that the Director of Planning & Transportation examines all the current "Traffic Calmed" areas in the City to determine the feasibility and cost effectiveness of introducing 20 mph speed limits to these areas and report back to Committee with the funding implications.
- 2.3 Reaffirm the commitment to the existing policy of prioritising the pedestrian accident injury sites for analysis and treatment prior to any consideration of further 20 mph sites.

3 FINANCIAL IMPLICATIONS

- 3.1 There are no direct financial implications for the Council as a result of this report.

4 LOCAL AGENDA 21 IMPLICATIONS

- 4.1 The procedures recommended within this report will promote a safer environment in local areas and as a result will encourage walking and cycling particularly in residential areas.

5 EQUAL OPPORTUNITIES IMPLICATIONS

- 5.1 The procedures recommended within this report will promote safety for the vulnerable road users such as child pedestrians and the elderly, thus ensuring that the local road network meets the transport needs of all road users.

6 BACKGROUND

Introduction

- 6.1 In the past, government regulations have required 20mph speed limits to be self-enforcing necessitating expensive heavy engineering measures such as road

humps, chicanes, raised tables etc. During this time local communities throughout Dundee, and indeed Scotland have been requesting 20mph limits in residential areas. However, due to limited finance, there is no prospect of introducing expensive widespread self-enforcing 20mph limits.

- 6.2 It was this lack of prospect that led SCOTS (Society of Chief Officers of Transportation in Scotland), in conjunction with the majority of Scottish local authorities, to undertake a pilot advisory 20mph speed limit project where compliance was secured through road signs and markings and local publicity.
- 6.3 The SCOTS pilot project (in which Dundee City Council took part) has now been completed and evaluated and in Autumn 2001 the Scottish Executive issued revised guidance (Circular No 6/2001) on 20mph speed limits. There are now three recommended ways of implementing 20mph speed limits:
- a **20mph zones** – must be self-enforcing using engineering measures, ie road humps chicanes etc, to ensure speeds are 20mph or less.
 - b **Mandatory 20mph speed limit** – usually indicated by terminal and repeater signs alone, and legally enforceable by the Police.
 - c **Advisory 20mph speed limit** – usually indicated by terminal signs and repeater roundel road markings alone. Cannot be enforced by the police and relies on the support of local residents.
- 6.4 Although Advisory and Mandatory 20mph speed limit areas do not usually incorporate physical speed reducing measures, it is possible to construct speed reducing features within such areas. However, any road hump would require adequate illumination and it may be necessary to erect warning signs indicating road humps or other traffic calming features.

Recommendations for 20mph Speed Limits

- 6.5 Circular No 6/2001 and other Scottish Executive and DETR (now DfT) guidance regarding Traffic Calming and 20mph speed limits provide guidance on the criteria for implementation.

General Recommendation

20mph limit (zones, mandatory and advisory) should be imposed over an area consisting of several roads and not just an individual road unless it is at least 500m in length.

a) **20mph Zones**

- A significant accident history should be evident.
- Average speed after introduction of speed reducing engineering measures should be 20mph or less.
- Emergency services must approve scheme.
- No part of 20mph zone should be more than 1km from any boundary road and an alternative route should be available.
- Should be prioritised alongside other traffic calming sites.

b) **Mandatory 20mph Speed Limits**

- No significant accident history.
- Self-enclosed residential area used mainly by local residents and with little or no through traffic.
- Existing 85th percentile speed (ie the speed only exceeded by 15% of cars) should be no more than 24mph.
- Realistic expectation that speed limit is enforceable without excessive use of police resources ie only if police are able to give an undertaking to provide an effective level of enforcement.
- Emergency services must approve scheme.

c) **Advisory 20mph Speed Limits**

- No significant accident history.
- Self-enclosed residential area used mainly by local residents and with little or no through traffic.
- Existing 85th percentile speed (ie the speed only exceeded by 15% of cars) should be between 25mph and 30mph. (For 24mph or less a mandatory speed limit should be considered).
- Legally enforceable speed limit must be 30mph.
- No part of 20mph speed limit area should be more than 600m from any boundary road.
- No straight roads over 400m long.
- Majority of local residents must support implementation of advisory 20mph speed limit.
- Emergency services approve scheme.

Selection Process

6.6 For any residential area being considered for the introduction of a 20mph speed limit the process set out in Appendix A should be adhered to. As can be seen in Appendix A, the key points/questions on the process can be summarised as

- What is the accident history?
- Is the area enclosed with little or no through traffic?
- Does the introduction of a 20mph limit have support of local residents?
- Are the existing speeds appropriate? and
- After monitoring and review, is the speed limit still appropriate?

6.7 Although the process as set out in the flow chart in Appendix A is fairly self explanatory there are a few points that may require clarification.

a) **Accident History**

If at the first step in the selection process it is evident that an accident history is apparent, then it does not automatically follow that a self-enforcing 20mph zone will be implemented without it being prioritised. Dundee City Council has a procedure in place to prioritise sites for traffic calming purposes and this should be retained for sites with significant accident records. Such that when a request for a 20mph speed limit is received from whatever source, if there is a

significant accident record, then the site should be assessed and prioritised alongside other traffic calming sites that have been identified.

b) Local Residents Support

The success or failure of a Mandatory or Advisory 20mph speed limit is dependent upon the support of the local residents and before investigating further the Council will need to have clear evidence that there is widespread support for their introduction.

c) Mandatory 20mph Speed Limit

The criteria for Mandatory 20mph speed limits state that there must be a realistic expectation that the speed limit is enforceable without excessive use of police resources (ie only if police are able to give an undertaking to provide an effective level of enforcement). Following initial discussions Tayside Police have indicated that they will continue to target their resources at the most hazardous locations and therefore are unlikely to enforce speed limits where there is no accident history. Therefore, although mandatory 20mph speed limits are shown as an outcome in Appendix A, without Police support for enforcement they cannot be implemented.

d) Monitoring and Review

Mandatory and Advisory 20mph speed limits require to be monitored and evaluated at periods of no more than three years, with speeds and accidents being taken into account. On the basis of the information obtained each scheme should be re-assessed following the criteria set out above. This can result in compulsory removal of a 20mph speed limit if the monitoring results are not favourable.

Comparison of Costs and Benefits

- 6.8 In considering implementation of 20mph speed limits it is necessary not only to consider the criteria for implementation, but also the costs and benefits of the various options available. Appendix B gives a comparison of the costs and benefits of the options available and also gives a comparison with Home Zones.
- 6.9 As can be seen from Appendix B, 20mph Zones/Traffic Calming and Home Zones are expensive, but achieve significant speed reductions (9mph) and accident savings (60-70%). Mandatory and Advisory 20mph speed limits are relatively inexpensive by comparison but achieve little in the way of speed reduction (1mph) or accident savings (5% reduction in accidents in areas where, by necessity of the selection criteria, there are very few accidents to begin with). However, although achieving little actual benefit, they are generally well perceived by local residents and may encourage them to feel safer and walk and cycle.
- 6.10 Dundee City Council has a dedicated annual capital budget for Traffic Calming Schemes. This dedication to accident reduction has contributed towards achieving a 39% reduction in the number of people Killed or Seriously Injured (KSI) in Dundee compared to the average annual casualties in 1994-98. This reduction increased to 43% when considering child KSI casualties. It can therefore be seen that, although

expensive, Traffic Calming measures in Dundee have provided great benefit to its citizens.

- 6.11 It should be noted that although Home Zones are expensive, the cost quoted is for re-designing an existing road. For new developments, if a Home Zone is 'designed in' at the outset, the cost would be far less and therefore more viable and would be borne by the developer.

Detailed Costs and Benefits of Advisory 20mph Speed Limits

- 6.12 An initial estimate of the financial cost and staff resources required to implement Advisory 20mph speed limits throughout Dundee as per the criteria has been made, as has an estimate of the accident savings likely to be achieved. From this initial assessment it was estimated that up to 124 areas with a combined total of 191km of residential roads may be applicable for Advisory 20mph speed limits.
- 6.13 The physical cost of implementing advisory 20mph speed limits on this scale would be of the order of £250,000. The staffing resources required to assess these areas would be 50 person weeks for the initial speed measurements and 16 person weeks per annum for monitoring speed measurements. There would also be additional staff time required for assessing the results of the speed measurements. Future costs would also include additional maintenance not only in maintaining the additional signing and lining, but also the additional cost to surface treatments of replacing roundels (road markings), estimated at £1,000 per km.
- 6.14 The benefit from this expenditure through likely accident savings has also been assessed for the 191km of residential roads that may be applicable for advisory 20mph speed limits. The average number of people killed or seriously injured annually over the latest available three year period is five per year within the identified 191km of residential roads. As can be seen in Appendix B, the expected reduction in accidents is estimated at 5% for every 1mph speed reduction. Therefore an average 1.1mph speed reduction can be expected, leading to 0.27 fewer KSI casualties per annum.

Conclusion

- 6.15 There are three recommended methods of introducing 20mph speed limits. Firstly, 20mph zones which should be considered alongside the current Traffic Calming schemes prioritising procedure. Secondly, mandatory 20mph speed limits which should not be introduced in Dundee due to a lack of guaranteed police enforcement. Thirdly, advisory 20mph speed limits achieve little in the way of casualty reduction and should not be implemented at the expense of targeted road safety casualty reduction schemes.
- 6.16 Given the foregoing all existing "traffic calmed" areas in the City should be reviewed and monitored to determine if 20 mph speed limits can be introduced.
- 6.17 The following points are worthy of further emphasis;
- The Traffic Calming budget dedicated to casualty reduction schemes has been instrumental in achieving significant casualty reductions in Dundee and must continue.

- The success of advisory 20mph speed limit schemes are dependent upon the residents themselves and any failure of speeds to remain below the required level should result in the schemes being removed. They should not be 'upgraded' to full traffic calming schemes.
- As a result of monitoring if schemes do not achieve the required speeds they should be removed.
- Dundee currently has three advisory 20mph speed limit sites that were part of the SCOTS trial. The original legal authorisation for these three sites expires in 2003. The Scottish Executive has now extended that to 2007.

7 CONSULTATIONS

- 7.1 The Chief Executive, Director of Finance, Director of Support Services, Director of Corporate Planning and the Chief Constable, have been consulted and are in agreement with the contents of this report.

8 BACKGROUND PAPERS

- 8.1 Scottish Executive Development Department Circular No 6/2001.
- 8.2 Traffic Advisory Leaflet 9/99, Department of the Environment, Transport and the Regions, (June 1999).

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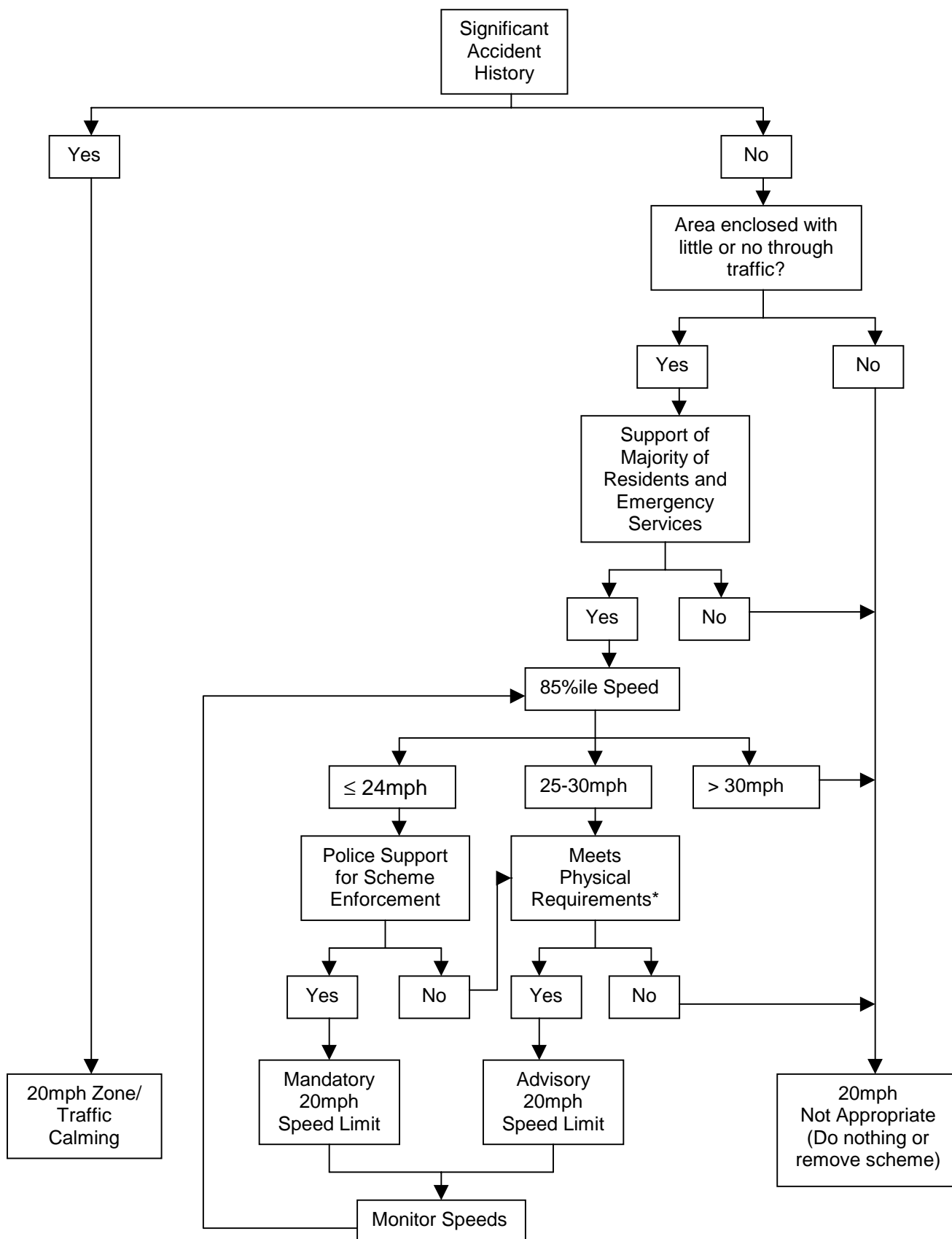
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IFS/NG/EES

17 April 2003

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20mph Speed Limits and Traffic Calming



* Physical requirements

No roads with a straight more than 400m long.
 Driver never more than 600m from an exit point

Comparison of Costs and Benefits

	20mph Zone/ Traffic Calming	Mandatory 20mph Speed Limit	Advisory 20mph Speed Limit	Home Zones
Cost (per km)	<ul style="list-style-type: none"> £50,000 - £100,000 	<ul style="list-style-type: none"> £3,000 - £7,000 	<ul style="list-style-type: none"> £1,300 per km + £350 publicity cost per area 	<ul style="list-style-type: none"> £460,000
Accident Savings	<ul style="list-style-type: none"> 60% reduction in average annual frequency. 70% reduction in Child Pedestrian Accidents 	<ul style="list-style-type: none"> 20mph zones using signs only do <u>not</u> achieve accident reductions 	<ul style="list-style-type: none"> 1mph reduction in average speed brings a 5% reduction in number of accidents 	<ul style="list-style-type: none"> Similar to Traffic Calming
Speed	<ul style="list-style-type: none"> 9.3mph average speed reduction Average after speed 18mph 	<ul style="list-style-type: none"> 1mph average speed reduction Average speed remains above 20mph 	<ul style="list-style-type: none"> 1.1mph average speed reduction Average after speed 22.2mph 85%ile after speed 28.3mph 	<ul style="list-style-type: none"> Aim for speeds of 10mph
Other Benefits	<ul style="list-style-type: none"> Redresses balance between residents needs and traffic Improved environment through safer conditions, thereby encouraging walking and cycling. 	<p>The public perception is:</p> <ul style="list-style-type: none"> whilst residents tend to be enthusiastic about the proposed imposition of 20mph mandatory speed limits, they become less supportive following implementation if speed limit is not observed 	<p>The public perception is:</p> <ul style="list-style-type: none"> Residents believe speeds reduce with introduction of scheme, but increase over time. Resident drivers consider that they reduce their speed, but visitors do not. Almost 75% of residents consider twenty's plenty trial to be 'very' or 'partly' successful 	<ul style="list-style-type: none"> Better quality of life – opens up public space and strengthens community links Safer and healthier – encourages children to exercise and assists their physical and social development Environmentally sustainable – encourages children and adults to walk and cycle.