
**Manchester City Council
Report for Resolution**

Report to: Communities and Neighbourhoods Overview and Scrutiny
Committee – 6 March 2012
The Executive – 14 March 2012

Subject: 20mph speed limits on non-major residential roads

Report of: Vicky Rosin – Deputy Chief Executive (Neighbourhoods)

Summary

At the Meeting of the Council on 1st February 2012 a motion was passed for officers to produce a report to the Executive on the feasibility of installing a city-wide 20mph limit on residential roads, excluding major routes as appropriate.

In 2010 there were 166 Killed or Seriously Injured (KSI) casualties on Manchester Roads including 27 child KSI casualties. In total there were 1962 road casualties. Evidence suggests that lower vehicle speeds resulting from 20mph speed limits would contribute to a reduction in the number of casualties.

There are strong environmental and public health reasons to implement a city-wide 20mph speed limit.

Potential benefits include higher quality of life, stronger communities, and encouragement of healthier, greener travel such as by walking and cycling and boosting the green economy.

This is a relatively new policy area and there is not enough reliable evidence to make firm predictions of the impact in Manchester, though it is likely to be positive, and increasingly popular with the public.

A city-wide scheme would have greater impact and be better value-for-money than a series of local schemes. Reducing speed on main roads would be beneficial, particularly for accidents involving cars and cyclists.

Recommendations

The Executive is recommended:

1. Note the contents of the report
2. To investigate potential funding mechanisms to implement 20mph speed limits on all C and U classed roads in Manchester with a view to installing the proposed speed limits, subject to public consultation.
3. To commission further analysis of speed and accident data and preliminary consultation to determine which roads would be most appropriate for 20mph speed limits or 20mph zones. Data analysis and site surveys would inform which areas should be subject to the preliminary public consultation.

Wards Affected: All wards

Community Strategy Spine	Summary of the contribution to the strategy
Performance of the economy of the region and sub region	<p>The Third Greater Manchester Local Transport Plan (LTP3) identified the need for the transport system to facilitate active, healthy lifestyles and a reduction in the number of casualties. Also recognised was the need to minimise the impact of road traffic on residential areas and to improve the environment for pedestrians and cyclists on lightly trafficked streets.</p> <p>It says <i>“The prime function of Greater Manchester’s lightly trafficked residential streets should be for pedestrian and community activity and not as a focus for the movement of people and goods across the conurbation. The long term aspiration is for all lightly trafficked streets to have a pedestrian focus and lower speed limits. This would mean access for disabled people, pedestrians, cyclists, local bus services, service vehicles (such as refuse collection and ambulances) and residents’ own vehicles taking precedence over through vehicular movements. We therefore support the introduction of 20mph limits in residential areas as a way of encouraging more cycling, walking and community interaction.”</i></p> <p>The 20mph speed limits would discourage “rat-running” traffic through residential streets to avoid congested main routes, thereby contributing towards neighbourhoods of choice.</p>
Reaching full potential in education and employment	
Individual and collective self esteem – mutual respect	
Neighbourhoods of Choice	

Contact Officers:

Name: Kevin Gillham
 Position: Citywide Highways Manager
 Telephone: 0161 234 5148
 E-mail: k.gillham@manchester.gov.uk

Name: Rachel Christie
 Position: Strategic Area & Citywide Support Manager
 Telephone: 0161 234 4916
 E-mail: r.christie@manchester.gov.uk

Implications for:

Equal Opportunity Policy – The proposals will provide a suitable and safer environment for pedestrians and other road users and contribute to the corporate objectives of making the environment accessible to all.

Risk Management – A risk register would be developed and continually monitored to enable the Council to respond to the risks throughout the lifetime of the project concerned.

Legal Considerations – The 20mph speed limits would be the subject of a Traffic Regulation Order. The Traffic Regulation Order would be progressed in the normal manner in accordance with the relevant regulations and the council's delegated approval process.

FINANCIAL CONSEQUENCES FOR THE REVENUE BUDGET

Should the 20mph speed limits be implemented there will be ongoing maintenance costs associated with the replacement of damaged and worn out traffic signs and road markings.

FINANCIAL CONSEQUENCES FOR THE CAPITAL BUDGET:

The estimated cost for installing the proposed 20mph speed limits along all C class and Unclassified roads in Manchester is £2.8m. The estimated cost for installing 20mph zones including speed reducing features is £41m. The estimated cost for introducing 20mph speed limits on all C class and Unclassified roads, with traffic calming features on C class roads is £9.2m.

The estimated cost of speed and accident data analysis and preliminary consultation is £178,000.

This report recommends that funding mechanisms be sought to implement the proposed changes.

Background documents (available for public inspection):

Proposed 20mph maps.

1. INTRODUCTION

- 1.1. Following a resolution at the Meeting of the Council on 1st February 2012 this report considers the feasibility of installing a city-wide 20mph limit on residential roads, excluding major routes as appropriate.

2. BACKGROUND

- 2.1. The Manchester road network consists of approximately 1360km of highway, broken down by different classes of as shown in the table below.

Class	Length of roads (km)
Principal motorways	3.2
A roads	112.2
B roads	37.4
C roads	83.9
Unclassified roads	1120.4

For the purposes of this report it is assumed that C class and Unclassified roads are residential.

- 2.2. Manchester currently has approximately 225km of highway subject to 20mph speed limit orders, constituting approximately 18% of the residential roads in Manchester and 16% of the total highway network. Since 2003, 138 20mph speed limits have been installed outside schools as a part of the Council's commitment to achieving its LTP2 target of reducing child KSI collisions by 55%. All mandatory 20mph schemes in Manchester to date have been 20mph zones using traffic calming features so that the scheme is self enforcing. No 20mph speed limits relying only on signs have been installed.
- 2.3. The total cost of installing the 20mph schemes since 2003 is £8.3m. This was funded primarily from the Neighbourhood Renewal Fund, the Working Neighbourhoods Fund, SEMMMS and the Local Transport Plan.
- 2.4. 20mph speed limits can be implemented by installing area wide speed reducing measures or individual 20mph speed limits on a network of roads:
- 20mph zones use traffic calming measures such as road humps or build outs to reduce vehicle speeds, making the area self enforcing.
 - 20mph limits are roads where the speed limit has been reduced to 20 mph but there are no physical measures to reduce vehicle speeds within the areas. Drivers are alerted to the speed limit with 20mph speed limit by boundary signs and repeater signs. 20mph limits are most appropriate for roads where average speeds are already low (Department for Transport guidance suggests below 24mph).
- 2.5. In June 2011 the DfT announced its intention to make it easier for councils to introduce 20mph schemes and reduce the need for speed humps in 20mph zones by expanding the list of permitted traffic calming measures (as per 2.3).

- 2.6. LTP3 recommended the introduction of 20mph speed limits in residential areas as a way of encouraging more cycling, walking and community interaction.

3. COLLISION STATISTICS

- 3.1. In 2010 there were a total of 1962 casualties on Manchester roads, with 166 Killed or Seriously Injured casualties. The 1962 casualties were a result of 1425 accidents on Manchester roads.

- 236 of the casualties were children (0-15) with 27 KSI casualties
- 334 of the casualties were pedestrians, with 68 KSI casualties
- 261 of the casualties were cyclists, with 38 KSI casualties
- 33 of the accidents were along 20mph roads, resulting in 4 KSI casualties.

The 1425 accidents occurred on the road classes indicated in the table below.

Road Class	No of Accidents	Percentage of total (%)
Motorway	26	1.8
A	654	45.9
B	170	11.9
C*	273	19.2
U*	302	21.2

* Assumes C class and Unclassified roads are residential roads and have a speed limit of either 20mph or 30mph.

- 3.2. It can be seen that the number of accidents on 20mph roads represents a total 5.7% of all accidents on residential roads, whereas residential roads with a 30mph speed limit constitutes 94.3% of the accidents. Only 2.4% of all KSI casualties occurred on 20mph roads despite these roads forming 16% of the total Manchester highway network.

4. GREATER MANCHESTER CASUALTY REDUCTION PARTNERSHIP

- 4.1. The Greater Manchester Casualty Reduction Partnership largely welcomes initiatives to reduce speeds throughout the Greater Manchester conurbation. The Partnership support the introduction of 20mph zones and limits on the residential road network where the speed limit would be self-enforcing, in that the existing conditions of the road, together with any measures such as traffic calming or signing, should lead to the average traffic speeds being compliant with the speed limit.
- 4.2. The 20mph speed limits will rely on a change in driver behaviour and compliance of regulatory signs to be effective. In common with 20mph speed limits in other authorities, there should be no expectation on the police to provide additional enforcement beyond their routine activity to achieve compliance to the speed limit.
- 4.3. Schemes on the residential road network that provide a route for through traffic

would need special consideration for speed management as will roads with a high number of cyclists and pedestrians as the introduction of a limit could displace traffic and increase traffic flows along alternative residential roads.

- 4.4. The Greater Manchester Casualty Reduction Partnership considers the introduction of these schemes in residential areas should be implemented along with education, training and publicity interventions to ensure that public expectations of the likely outcomes are managed.

5. PORTSMOUTH 20MPH SPEED LIMIT SCHEME

- 5.1. Between 2004 and 2008 Portsmouth City Council became the first local authority to introduce a wide-spread 20mph speed limit on most of its residential roads, largely without traffic calming. The 20mph speed limit was indicated to motorists by means of signs at the point of entry and repeater signs mounted on street furniture at regular intervals. 20mph roundel road markings were also installed at each point of entry.

- 5.2. A Department for Transport report published in 2010 (Interim Evaluation of the Implementation of 20mph Speed Limits in Portsmouth) made the following key findings:

- The average reduction in mean speeds on all roads was 1.3 mph.
- Overall there was an increase in the number of sites that demonstrated speeds of 20 mph or less after the implementation of the scheme.
- 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.
- 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.
- 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.

6. ENVIRONMENTAL IMPACT

- 6.1. Better air quality is likely to be achieved mainly by cutting car use, through making it easier to walk and cycle. Changes in direct carbon emissions are difficult to model but are likely to be relatively small; the largest impact would be through behaviour change and driving styles.

- 6.2. Driving more slowly at a steady pace (less braking and accelerating) may save

fuel and carbon dioxide emissions, helping achieve the city's carbon reduction commitments, and reducing our dependence on imported oil.

- 6.3. Noise is likely to be reduced, as vehicles move more slowly and more people switch to walking and cycling.
- 6.4. Experience elsewhere suggests that walking and cycling increases by over 10%¹, and cyclist casualties fall by around 40%.
- 6.5. Improving the safety of the built environment, including the speed at which vehicles travel within built-up areas, will benefit the health of children and others through increased opportunities for physical activity (such as walking to school) and through a reduction in injuries and fatalities associated with road traffic.

7. PUBLIC HEALTH IMPACT

- 7.1. There is considerable support within public health for the implementation of broader 20 mph policies.
- 7.2. The balance of evidence² supporting the introduction of 20 mph limits in order to improve public health is substantial. Many studies indicate that such limits are highly successful in reducing casualties, particularly among children, with reductions of 42% in London boroughs. A modelling exercise carried out by the North West Public Health Observatory found that 140 killed or seriously injured child casualties across the North West could have been prevented per year between 2004 and 2008 if 20mph speed zones were introduced in residential areas that have 30mph limits (NWPHO 2011).
- 7.3. There is also evidence that lower traffic speeds help to encourage cycling and may encourage wider active travel patterns and other independent physical activity, again particularly among children. Increasing levels of physical activity is a national and local public health priority and has been described as a "best buy" for health improvement. Considerable evidence links reduced traffic speed to increases in social interaction and thereby to improved social cohesion, which impacts on mental health and wellbeing. And finally, while few studies have specifically investigated this factor, the reduced traffic emissions that should be generated due to lower speeds would also support the public health agenda both directly via their impact on respiratory problems and potentially through changing perceptions of the outdoor environment as a conducive place for physical activity.
- 7.4. In June 2009 Manchester City Council published its Streetscape Manual which complements the Department for Transport's "Manual for Streets". The Streetscape Manual sets out a series design parameters for new residential roads aimed at promoting Manchester as a walkable and cycle-friendly city, with direct, convenient and fully accessible streets. It achieves this by adopting design principals that encourage low vehicle speeds.

¹ Cycling City project and Active Bristol / Monitoring by Bristol City Council

² Conclusions of literature review on the public health impact of implementing 20mph policies (GM Public Health Practice Unit, September 2011)

7.5. From April 2013 the Council will have a statutory duty to improve public health. MCC will have to demonstrate how it is improving the outcomes set out in the recently-published Public Health Outcomes Framework. Within this framework, three outcomes in particular are relevant to the proposal for an area wide 20 mph limit:

- Reducing the number of people killed and seriously injured on England's roads;
- Proportion of active and inactive adults;
- Reducing air pollution.

8. PROPOSALS

8.1. Within Manchester, it is considered that primary and local distributor roads are the principal motorways, A roads and B roads. For the purposes of this report it has been assumed that all C roads and Unclassified roads are residential roads which are considered to be suitable for 20mph speed limits, however further speed surveys would be required to determine the appropriateness of 20mph speed limits on some of these routes. For the purposes of this report, it is also considered that all roads within the Inner Relief Route in the city centre should be subject to the 20mph speed limit.

8.2. 20mph zones and 20mph speed limits are both considered below.

- 20mph zones are the most effective method of reducing vehicle speeds by using physical measures to slow vehicles down. Current guidance states that physical measures should be installed on roads where the average speed is not below 24mph. 20mph zones in Manchester have been successful in reducing the number and severity of accidents on residential roads. The estimated cost of installing 20mph zones, including speed reducing features, on all residential roads where there is currently no 20mph speed limit is £41m.
- 20mph speed limits have been shown to reduce speeds, particularly where average speeds are over 24mph. In Portsmouth, for example, the average speed 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. To install 20mph speed limits on roads would require the installation of boundary signs and repeater signs in accordance with Traffic Signs Regulations and General Directions 2002. It is also recommended that 20mph roundel road markings be installed at each entry point to emphasise to the motorist that they are entering 20mph speed limit area. The proposed entry points to 20mph zones are shown on the plans which are available for public inspection as background documents. The estimated cost of installing 20mph speed limits with no physical measures on all C class and Unclassified roads is £2.8m. Speed surveys would be required to determine which roads might require additional traffic calming features.

- It can be seen that there is a large difference between the cost of installing speed reducing features on all C class and Unclassified Roads and installing no speed reducing features. For the purposes of this report it is assumed that the C class roads are the most likely to require traffic calming features as these are likely to have speeds of 24mph or over. The estimated cost of installing traffic calming features on all C-class roads and 20mph speed limits on all Unclassified roads is £9.2m. Speed and accident data analysis would determine whether the C class roads require traffic calming measures.

- 8.3. Speed and accident data analysis and local conditions would determine which roads should be considered for 20mph speed limits and which would require additional traffic calming features. Consultation and engagement with local communities and other stakeholders is of vital importance, to make sure that safer roads are prioritised where needed and that local communities have input into the schemes development. Early consultation with residents is therefore considered to be essential for the success of any proposals. The estimated cost of this initial data analysis and consultation is £178,000. This would help to form a framework for the future implementation of 20mph schemes across the city.
- 8.4. The proposed 20mph speed limits are shown in drawings provided as background documents and these could be grouped to form a number of zones of varying size. The cost estimates provided above assume the 20mph speed limits would be installed as part of one large programme. A phased approach could be adopted to install 20mph speed limits in either individual zones or groups of neighbouring zones, but this would incur additional costs.
- 8.5. The roads which it is proposed would not be subject to 20mph speed limits are listed in Appendix A. It should be noted that each road where 20mph speed limits are being proposed would need to be considered on its individual merits.

9. TIMESCALES

- 9.1. The timescales for introducing 20mph speed limits across Manchester would depend on the availability of funding and whether 20mph zones or 20mph speed limits are installed.
- 9.2. The minimum time to install 20mph speed limits as part on one programme on all non-major residential roads with no additional traffic calming features would be 1 year. It is possible to adopt a phased approach over a number of years depending on the availability of funding.

10. CONCLUSION

- 10.1 LTP3 supports the introduction of 20mph speed limits in residential areas as a means of encouraging cycling, walking and community interaction.
- 10.2 20mph speed limits are an effective way of reducing the number and severity of accidents. There are fewer accidents of less severity on roads in Manchester which are currently the subject of 20mph speed limits, though these are all self-

enforcing.

- 10.3 New guidance from the DfT in relation to 20mph schemes was issued in June 2011, meaning there are currently few schemes of its type, making it difficult to predict the effect such measures might have on Manchester's roads. However, early evidence from the Portsmouth scheme suggests that 20mph speed limits can contribute towards accident reduction and a healthier lifestyle and are popular with the public.

11. RECOMMENDATIONS

It is recommended that:

- 11.1 The contents of this report are noted.
- 11.2 Potential funding mechanisms to implement 20mph speed limits on all C class and Unclassified roads in Manchester is investigated with a view to installing the proposed speed limits, subject to public consultation.
- 11.3 Further analysis of speed and accident data and preliminary public consultation is commissioned to determine which roads would be most appropriate for 20mph speed limits or 20mph zones. Data analysis and site surveys would determine which areas should be subject to public consultation.

**Appendix A
Roads not subject to the proposed 20mph Speed Limit**

Road number	Road name
-	Ringway Road / Ringway Road West / Aviator Way / Manchester Airport Roads
-	Thorley Lane / Runger Lane / Hasty Lane / Avro Way / Argosy Drive / York Drive
-	Pinfold Lane / Sunbank Lane
-	Whitecarr Lane
-	Dobbinetts Lane
-	Wilmslow Old Road / Mill Lane
A34	Kingsway / Birchfields Road / Anson Road / Upper Brook Street
A5067	Chorlton Road
A5079	Kingsway / Slade Lane
A5103	Princess Road
A5145	High Lane / Barlow Moor Road / Wilmslow Road
A5184	Plymouth Grove
A538	Wilmslow Road
A56	Chester Road
A56	Bury New Road / Great Ducie Street
A560	Altrincham Road
A57	Hyde Road
A57(M)	Mancunian Way
A576	Middleton Road
A6	Stockport Road / Ardwick Green South / Downing Street
A6010	Wilbraham Road / Wilmslow Road / Dickenson Road / St John's Road / Pottery Lane / Alan Turing Way / Hulme Hall Lane / Queens Road / Elizabeth Street
A6104	Victoria Avenue / Victoria Avenue East / Hollinwood Avenue
A62	Oldham Road
A635	Ashton Old Road
A662	Ashton New Road / Pollard Street
A663	Broadway
A664	Rochdale Road
A665	Devonshire Street North / Chancellor Lane / Great Ancoats Street / Swan Street / Miller Street / Addington Street / Trinity Way / Cheetham Hill Road
B5093	Palatine Road / Wilmslow Road / Moseley Road / Albert Road
B5117	Wilmslow Road / Oxford Road

Road number	Road name
B5166	Sale Road / Church Road / Royle Green Road / Longley Lane / Styal Road
B5167	Palatine Road / Wythenshawe Road
B5168	Sharston Road
B5217	Barlow Moor Road / Manchester Road
B5218	Upper Chorlton Road / Chorlton Road
B5219	Moss Lane West / Moss Lane East
B6167	Reddish Lane
B6178	Mount Road / Broom Lane
B6180	Waterloo Road
B6393	Thorp Road / Lightbowne Road / Greengate