

**Report to** Norwich Highways Agency committee  
16 March 2017  
**Report of** Head of city development services  
**Subject** Guidance on the use of 20mph speed restrictions

**Item**  
**5**

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### **Purpose**

To agree a policy for when 20mph speed restrictions should be implemented and under what circumstances physical traffic calming measures are needed to reinforce the restriction.

### **Recommendation**

The committee is asked to approve the following policy for implementing 20mph restrictions in residential areas:

- (1) 20mph should be considered the default speed restriction for all residential C and U class roads and these should be rolled out as and when funding is available.
- (2) In areas where the existing average speeds are 23mph or less then a signed only speed restriction with repeater signs at 200m intervals should be implemented. 20mph roundels may be used at the entry points from a 30mph road.
- (3) In areas where the existing average speeds are between 23mph and 26 mph a 20mph speed restriction with repeater signs at 100m intervals should be implemented. 20mph roundels should be used at the entry points from a 30mph road and may be repeated at appropriate intervals across the area
- (4) In areas where existing average speeds are between over 26mph consideration can be given to also using physical traffic calming and / or interactive signs, if it is considered necessary to augment widespread static signing and the use of roundels.

### **Corporate and service priorities**

The report helps to meet the corporate priority a safe, clean and low carbon city

### **Financial implications**

The adoption of this framework has no direct financial implications.

**Ward/s:** All Wards

**Cabinet member:** Councillor Bremner - Environment and sustainable development

**Contact officers**

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**Background documents**

None

# Report

## Background

1. In 1991 Norwich became one of the first 4 cities in the UK to implement a 20mph speed restriction, as part of the extensive road safety improvements in the North Earham estate. Since that time 20mph speed restrictions, in the form of both 20mph limits and 20mph zones have been introduced in many areas of the city. In 2012 Norwich City Council made it a corporate priority to advocate that 20mph restrictions should be introduced in all residential areas and in 2015 a target was introduced in the corporate plan to increase the number of households living in a street that was subject to a 20mph restriction.
2. The original 20mph restrictions that were introduced in the 1990's and early 2000's relied very heavily on traffic calming measures to physically reduce speeds. At the time the use of 20mph zones was promoted by the Department of Transport (DfT) and these required that there were physical traffic calming features every 60m – 80m on all the streets that were within the zone, along with the 20mph signs at the entry points to the zone.
3. Traffic calming is very expensive to provide, and increases the maintenance liabilities for a street once it is installed. With growing pressures on budgets and a desire to speed up the expansion of the 20mph areas in Norwich the city council explored other options for implementing 20mph restrictions. In 2008 a trial of signed only 20mph speed limits in 3 areas of the city was introduced. At the time of the trial signed only 20 mph speed limits required that 600mm diameter signs were placed at the entry points to a limit, with 300mm repeater signs at 200m-400m intervals along the route.
4. As evidenced in the committee reports at the time (September 2009 & May 2010) these 20mph limits proved popular with residents but had limited effects in reducing speeds, with an average of 1mph reductions in mean speeds being achieved. This committee at the time resolved not to commit to rolling out signed only 20mph restrictions but to look at other options. However given the 80% cut in the integrated transport grant following the 2010 election, this work was put on hold due to lack of funding.

## Current situation

5. In 2013 the Department for Transport (DfT) published updated guidance on for local councils to use when determining speed limits in their area in a document entitled Setting Local Speed Limits, circular 01/2013. Under priorities for action in the introduction “Traffic authorities are asked...to consider the introduction of more 20mph limits in urban areas and built up villages that are primarily residential, to ensure greater safety for pedestrians and cyclists”, thus signalling a very clear message to local authorities.
6. As part of the updated guidance the DfT have removed the requirement for physical traffic calming measures to be implemented at 60m-80m intervals within a zone and instead have permitted the use of 20mph signs and 20mph roundels painted on the road, to complement or replace physical traffic calming. This significantly reduces the cost of implementing 20mph zones.

7. In recent years the city council has been able to progress the implementation of 20mph restrictions through the money it has received as part of the Cycle Ambition funding. To complement the pedalway network and encourage people to use them all residential roads within 400m of the pedalway routes are having their speed limit reduced from 30mph if they are not already 20mph.
8. The first tranche of funding secured 20mph restrictions around the western end of The Avenues, the Heartsease estate and Gurney Road, as well as contributing to the global 20mph restriction within the inner ring road. The second tranche of funding has completed the city centre zone and will be looking to extend further the 20mph areas around the blue and yellow pedalways, as indicated on the plans attached as appendices 1a and 1b.
9. With only a finite budget available to implement the 20mph areas, officers have worked on the basis that in streets where the mean speed is 24mph or less upright signing is adequate to support the 20mph restriction. Where speeds are in excess of 25mph then physical traffic calming measures are deployed to influence driver behaviour.
10. The table below shows the effects of 20mph restrictions that have been implemented in the city over recent years. It is clear to see that physical traffic calming measures do have a significant impact on vehicle speeds on streets where the speeds were at the higher end of the scale.

Street	Zone /Limit	Traffic calming	Road class	Mean Pre 20mph	Mean Post 20mph	Change in mean	85% pre 20mph	85% post 20mph	Change in 85%
Ber Street	Zone	Buildouts & humps	C	24.6	20.5	-4.1	28.9	23.7	-5.2
Borrowdale Drive	Limit	Signed only	U	26.6	24.3	-2.3	31.5	28.4	-3.1
Duke Street (1 way)	Zone	Cushions	C	27.9	21.0	-6.9	31.6	24.9	-6.7
Elm Grove Lane	Zone	Cushions	U	26.0	20.6	-5.4	30.5	24.2	-6.3
George Borrow Road	Zone	Cushions	U	27.9	22.5	-5.4	30.4	27.4	-3
Jex Road	Limit	Signed only	U	21.1	22.8	1.7	26.9	26.8	-0.1
Mount Pleasant	Limit	Signed only	U	24.0	23.0	-1	27.2	27.4	0.2
Rouen Road	Zone	Buildouts & cushions	C	28.5	23.9	-4.6	33.6	27.7	-5.9
Watling Road	Zone	Signed only	U	25.3	23.1	-2.2	29.3	27.3	-2
Westwick Street	Zone	Cushions	C	27.5	21.3	-6.2	31.9	25.1	-6.8
Whitefriars	Zone	Speed humps	C	27.0	20.2	-6.8	30.5	22.7	-7.8

11. However physical measures are expensive and for example the construction costs only for the Duke Street, Ber Street, Rouen Road and Westwick Street that made up the traffic calming in the city centre was in excess of £400k

### **Issues to consider**

12. **Cost** - The budget for implementing the 20mph areas associated with the blue and yellow pedalways outside of the city centre is £600k. It is therefore clear that wide spread use of traffic calming is not affordable and will need to be targeted to the areas with the more significant speeding issues and where there are a high concentration of vulnerable users such as around shops and schools. Aside from the installation costs, physical traffic calming methods are costly to maintain and can lose their effectiveness if a road is surface dressed

13. **Use of roundels** - To date the city council has not made much use of the relaxation in the rules around the placement of 20mph roundels on the carriageway. Prior to 2013 these could only be used immediately adjacent to an upright sign. Limited use was made of them at the entry points to 20mph zones at junctions, but these tended to wear away quickly as the vehicle tyres drove over them. Now it is possible to set the roundels away from the junction and the associated entry sign. This means they can be positioned in a way that they will fall between the wheel tracks resulting in less wear. They can also be used at intervals throughout the zone to remind drivers of the restriction, and it can be argued that these may well be more visible to drivers than a 300mm repeater plate on a lamp column.

14. It is proposed that moving forward more use is made of 20mph roundels. While it is accepted this may result in a minor increase in the maintenance costs in refreshing carriageway markings, if this approach is adopted in tandem with a commitment to reviewing the need for existing road markings within residential areas, such as give-way markings at minor junctions, the effect could be neutral.

15. **Visibility of upright signs** - Criticism has also been received that the 20mph upright signs are not particularly visible and can get lost in the street scape. To date officers have worked on using the maximum spacing between signs and minimum sign size to reduce costs and street clutter. However placing signs on existing lamp columns is very significantly less expensive than constructing speed cushions and speed humps, and the cost of maintenance is also far less.

16. **Effect on cyclists** - Feedback from cycling groups show that while they welcome speed reductions for motor vehicles sometime the physical measures used to achieve that reduction can be a hindrance. For example traditional speed humps and tables make them lose momentum and speed cushions can force them to cycle in the gutter. This is reflected in London's cycling level of service toolkit that assesses the suitability of routes for cyclists; both vertical and horizontal deflections in a street are scored negatively. Achieving better compliance with 20mph restrictions without the need for traffic calming would benefit cyclists.

17. **Traffic calming** - In certain circumstances there will be a need for physical traffic calming. This includes in higher speed areas where there are significant numbers of pedestrians and cyclists. Primarily these will be in the vicinity of locals shops, schools, play areas and parks. However the use of physical traffic calming should be considered as a last resort.

18. **Main road network** - The advice given in Setting Local Speed Limits, circular 01/2013, is that 20mph are unlikely to be suitable for the majority of main traffic carrying routes. This approach has already been adopted by the city where the presumption is that 20mph speed restrictions should only be implemented on the A&B road network by exception, when there is a proven history of speed related injury collisions. An example of such an exception is the 20mph zone on Plumstead Road.

### **Proposed policy for implementing 20mph restrictions**

19. Given the issues outlined above and the being mindful of the cost effectiveness and value for money of 20mph restrictions, it is proposed that this committee adopts the following policy for implementing 20mph restrictions across the city.

- a) 20mph should be considered the default speed restriction for all residential C and U class roads and these should be rolled out as and when funding is available.
- b) In areas where the existing average speeds are 23mph or less then a signed only speed restriction with repeater signs at 200m intervals should be implemented. 20mph roundels may be used at the entry points from a 30mph road.
- c) In areas where the existing average speeds are between 23mph and 26 mph a 20mph speed restriction with repeater signs at 100m intervals should be implemented. 20mph roundels should be used at the entry points from a 30mph road and may be repeated at appropriate intervals across the area
- d) In areas where existing average speeds are between over 26mph consideration can be given to also using physical traffic calming and / or interactive signs, if it is considered necessary to augment widespread static signing and the use of roundels.

## Integrated impact assessment



**NORWICH**  
City Council

### Report author to complete

<b>Committee:</b>	Norwich Highways Agency committee
<b>Committee date:</b>	16 March 2017
<b>Director / Head of service</b>	Head of city development
<b>Report subject:</b>	Guidance on the use of 20mph speed restrictions
<b>Date assessed:</b>	28 February 2017
<b>Description:</b>	

	Impact			
<b>Economic (please add an 'x' as appropriate)</b>	<b>Neutral</b>	<b>Positive</b>	<b>Negative</b>	<b>Comments</b>
Finance (value for money)	x	<input type="checkbox"/>	<input type="checkbox"/>	
Other departments and services e.g. office facilities, customer contact	x	<input type="checkbox"/>	<input type="checkbox"/>	
ICT services	x	<input type="checkbox"/>	<input type="checkbox"/>	
Economic development	x	<input type="checkbox"/>	<input type="checkbox"/>	
Financial inclusion	x	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Social (please add an 'x' as appropriate)</b>	<b>Neutral</b>	<b>Positive</b>	<b>Negative</b>	<b>Comments</b>
Safeguarding children and adults	x	<input type="checkbox"/>	<input type="checkbox"/>	
<u>S17 crime and disorder act 1998</u>	x	<input type="checkbox"/>	<input type="checkbox"/>	
Human Rights Act 1998	x	<input type="checkbox"/>	<input type="checkbox"/>	
Health and well being	<input type="checkbox"/>	x	<input type="checkbox"/>	Slower vehicle speeds encourage more people to walk and cycle



	Impact			
Equality and diversity (please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Relations between groups (cohesion)	x	<input type="checkbox"/>	<input type="checkbox"/>	
Eliminating discrimination & harassment	x	<input type="checkbox"/>	<input type="checkbox"/>	
Advancing equality of opportunity	x	<input type="checkbox"/>	<input type="checkbox"/>	
Environmental (please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Transportation	<input type="checkbox"/>	x	<input type="checkbox"/>	Lower vehicle speeds encourage more people to work and cycle and is therefore in line with the Norwich Area Transportation strategy which encourages the use of sustainable transport options
Natural and built environment	x	<input type="checkbox"/>	<input type="checkbox"/>	
Waste minimisation & resource use	x	<input type="checkbox"/>	<input type="checkbox"/>	
Pollution	<input type="checkbox"/>	x	<input type="checkbox"/>	Lower vehicle speeds encourage more people to work and cycle and is therefore in line with the Norwich Area Transportation strategy which encourages the use of sustainable transport options. By encouraging the use of signed only 20mph restrictions the problem of drivers frequently accelerating and braking between physical measures in a 20mph area is reduced.
Sustainable procurement	x	<input type="checkbox"/>	<input type="checkbox"/>	

	Impact			
<b>Energy and climate change</b>	<input type="checkbox"/>	x	<input type="checkbox"/>	Lower vehicle speeds encourage more people to walk and cycle and is therefore in line with the Norwich Area Transportation strategy which encourages the use of sustainable transport options
<b>(Please add an 'x' as appropriate)</b>	<b>Neutral</b>	<b>Positive</b>	<b>Negative</b>	<b>Comments</b>
<b>Risk management</b>	x	<input type="checkbox"/>	<input type="checkbox"/>	

Recommendations from impact assessment	
<b>Positive</b>	
None	
<b>Negative</b>	
None	
<b>Neutral</b>	
None	
<b>Issues</b>	
None	



AIRPORT



OLD CATTON

SPROWSTON



FIDDLEWOOD

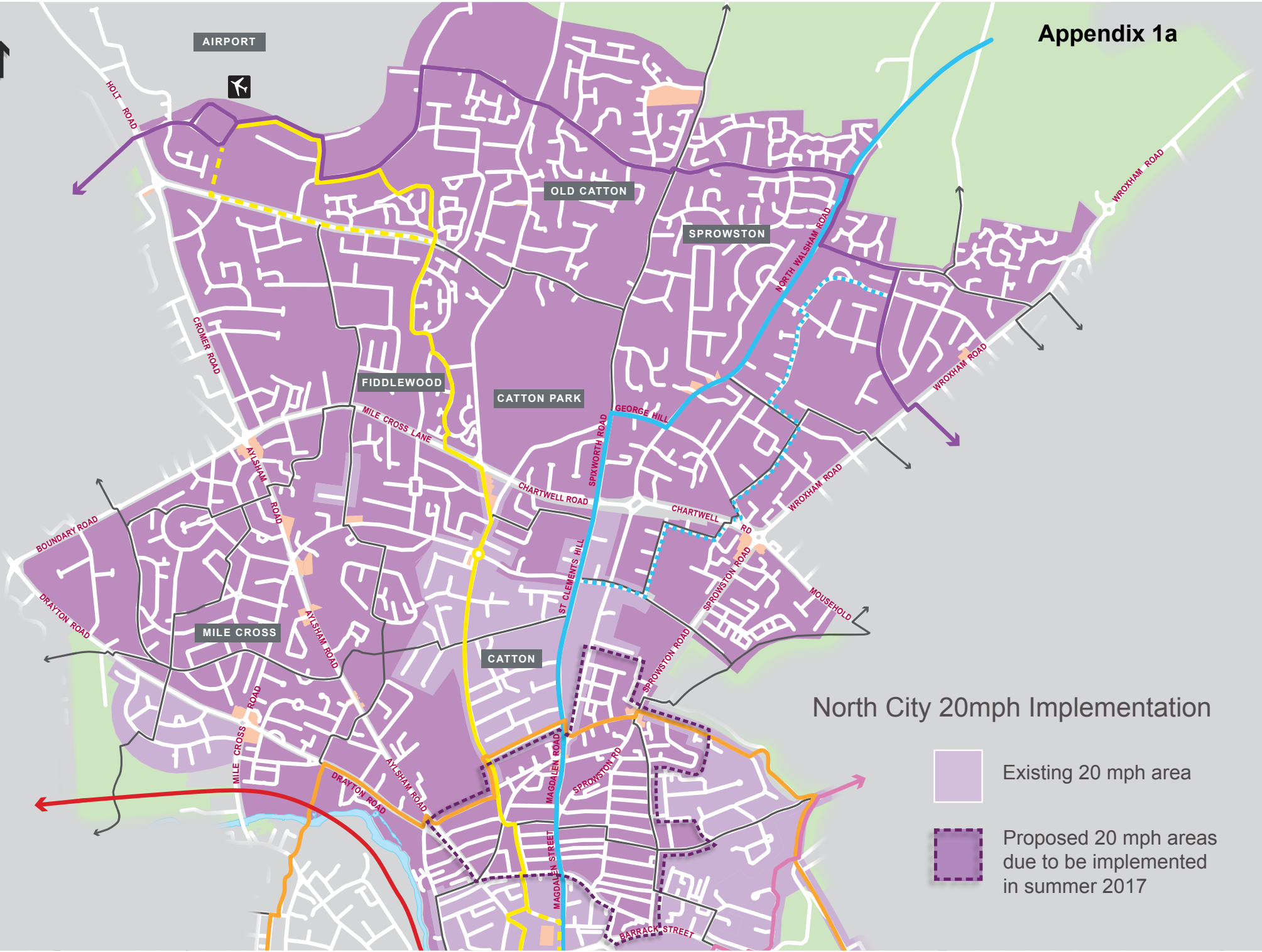
CATTON PARK

MILE CROSS

CATTON

### North City 20mph Implementation

-  Existing 20 mph area
-  Proposed 20 mph areas due to be implemented in summer 2017



# Appendix 1b

## South City 20mph Implementation

- Existing 20 mph area
- Proposed 20 mph areas

