

20mph Speed Limit Pilot – Year One Interim Evaluation

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Background

- City Council Motion in support of 20mph speed limits was passed in 2012 – with cross party support
- This policy position was reaffirmed in 2014 with approval for phased approach to implementation, commencing with a pilot scheme
- Signs and lines only scheme covering:
 - Residential Streets
 - Local Centres
- 2016: 20mph speed limits introduced in first three pilot areas. Fourth and final pilot area currently being implemented (20mph speed limits in this area become enforceable from 12th November)



20mph Slower is Safer: Behaviour Change Campaign

- More than just a speed limit – changing driver attitudes and behaviour. Social norms theory – people’s behaviour influenced by others
- Change of this scale can only be delivered when partners, residents, communities, employers and schools work together.
- Package of measures delivered, including roadside education events, 20mph themed bike rides and ‘Kids Court’ driver education initiative. Also developed series of toolkits
- Change in behaviour won’t be immediate but longer term process



Enforcement

- Enforceable in same way as other speed limits – the Police are supportive
- Take an Education/enforcement approach – ‘Talking Heads’ played to drivers at roadside
- Central Motorway Police Group take lead, with support from Local Policing Units at community level – coordinated via Birmingham Road Safety Partnership
- Police active in publicising prosecutions – important people see speed limits are continuing to be enforced



Environmental Impact

- Greatest environmental benefit comes from unlocking the potential for walking or cycling for shorter distances
- 20mph limits can also encourage smoother driving styles. No physical measures as part of scheme – which can increase acceleration and braking related emissions
- Mixed evidence with regard to whether driving at lower speeds causes increase or decrease in local pollutant emissions
- Studies tend to agree that locations where traffic flows are low, the impact of 20mph is not detrimental to local air quality
- Diffusion tubes will measure air quality in specific locations as part of final 3 year evaluation study

Monitoring of Vehicle Speeds

Area – roads included	Average Before 85 th %tile Speed in mph	Average After 85%tile Speed in mph	Change in Speed in mph
All new 20mph speed limits	27.7	26.3	- 1.4
A1 – 20mph roads	27.9	26.1	- 1.8
A1 – all roads (including 30mph)	27.8	26.6	- 1.2
A2 – 20mph roads	27.3	27.2	- 0.1
A2 – all roads (including 30mph)	27.6	27.5	- 0.1
A3 – 20mph roads	27.3	25.6	- 1.7
A3 – all roads (including 30mph)	27.6	26.1	- 1.5
20mph zone scheme	33.8	26.8	- 7.1
A1 – existing 20mph road	28.0	28.2	+ 0.2
30mph roads (20mph area)	29.0	29.1	+ 0.1
30mph roads (other areas)	32.1	32.3	+ 0.2
30mph roads (all areas)	31.0	31.1	+ 0.1

Average Speed Reduction on roads where 20mph speed limit introduced:
-1.4mph

Decreases in average vehicle speeds varied across areas:

- A1: -1.8mph
- A2: -0.1mph
- A3: -1.7mph

69.1% of 20mph roads saw speed reduction, compared to 50% roads in control group

Monitoring of Road Traffic Collision Data

Area		Before 20mph speed limit (annual average for Oct '13 – Sep '16)				After 20mph speed limit (annual figures for Nov '16 – Oct '17)			
		Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total
A1	Number	0.7	17.3	105.3	123.3	0	8	85	93
		% change:				-100%	-53.8%	-19.3%	-24.6%
A2	Number	0.7	16.0	113.3	130.0	1	9	85	95
		% change:				-50%	-43.8%	-25%	-26.9%
A3	Number	0.7	12.7	76.0	89.3	1	8	66	75
		% change:				-50%	-36.8%	-13.2%	-16.0%
City wide	Number	6.3	149.3	872.3	1,028.0	4	99	655	758
		% change:				-36.8%	-33.7%	-24.9%	-26.3%

Total collisions decreased at roughly the same rate in areas A1 (-24.6%) and A2 (-26.9%) as the city wide figure (-26.3%)

KSI collisions in areas A1 (-55.6%) and A2 (-40.0%) decreased at a higher rate than the city wide figure (-33.8%)

In areas where collision numbers were higher, KSI figures have decreased at a higher percentage than the city as a whole.

Comparison with other 20mph schemes

Some encouraging results from other local authorities:

- **Bristol's** 20mph limit three year evaluation study (Feb '18) saw reduction of 2.7mph in average traffic speeds, as well as a reduction in the number of road traffic collisions (RTCs) – estimated cost saving of over £15million per year
- **Calderdale** Council's Director of Public Health presented on a 30% reduction in RTCs in a three year period since the introduction of area-wide 20mph limit in this West Yorkshire district

Further evidence on the impact of 20mph limits

20mph limits may not achieve the same extent of speed reduction as 20mph zones however:

- a reduction in average speed of just 1mph means that the “accident” rate falls by approximately 5% (Finch et al, 1994)
- It is estimated that a 20mph limit can be introduced at just 1/6th of the cost of implementing a 20mph zone
- The cost of a fatality (in 2016) was estimated at £1,841,315, while the figure for a serious injury was £206,912

An average reduction of 1.4mph in Birmingham may initially seem insignificant, however financial and human benefits resulting from this are considerable. cost of implementing 20mph limits are likely to be much lower than the cost benefits that reduced speeds bring

Interim Conclusions

It is still very early to fully assess the impact of the introduction of 20mph speed limits in parts of Birmingham, however there are promising early indications from this policy:

- The average speed on roads where a 20mph speed limit was introduced decreased by 1.4mph, from 27.7mph before implementation to 26.3mph afterwards;
- In areas where collision numbers were higher, KSI figures have decreased at a higher percentage than compared to the city as a whole.

Recommendations

- Possible need for additional signage, entry treatments in some locations, and further physical measures in collision hotspots?
- There have been concerns about poor compliance. Need to consider whether changes to the speed limit here will have the desired impact, or whether there is a need for further physical traffic calming measures at certain locations
- Full evaluation study to be carried out after three years of implementation, which may well offer even stronger evidence
- Review implementation plan to inform future implementation
- Identify budget for further roll-out of 20mph limits – the cost of this would be significantly reduced if the Department for Transport introduced default 20mph speed limit in urban areas.
- Birmingham is keen to explore the opportunity to pilot this approach.



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